



LED TV

Project : HJ470

Chassis : HNW80

Model : HG32NJ477NF
HG40NJ477MF
HG43NJ477MF
HG49NJ477MF

SERVICE Manual

Hospitality Displays



HG32NJ477NF

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

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3. Disassembly and Reassembly

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



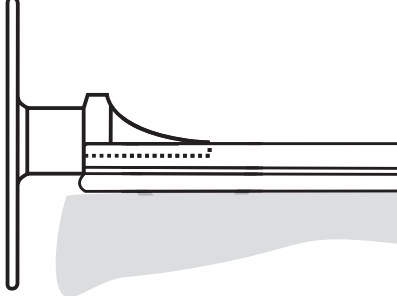

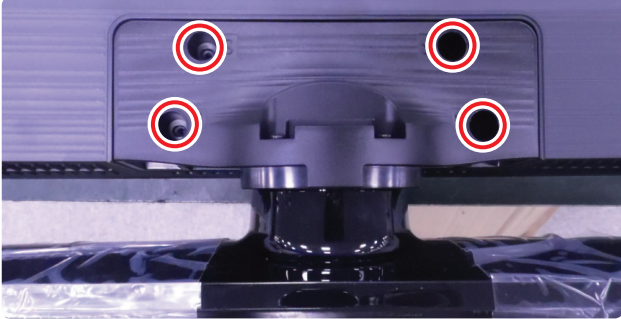

This LED TV contains electrostatically sensitive devices. Use caution when handling these components.

3-1. Disassembly and Reassembly




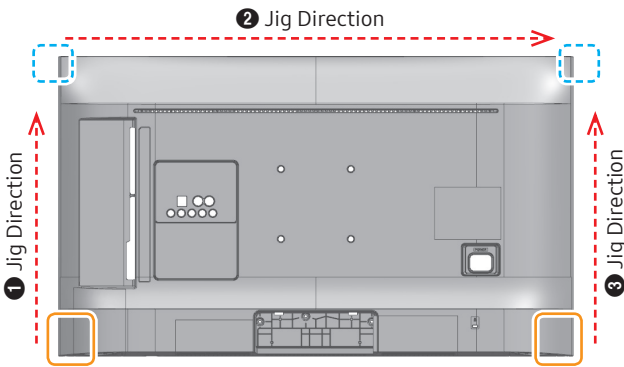
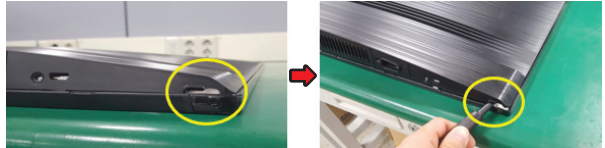
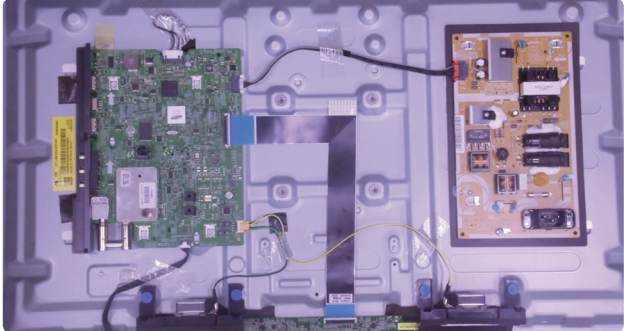

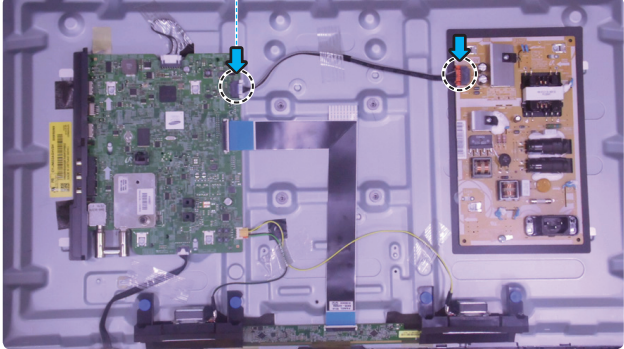


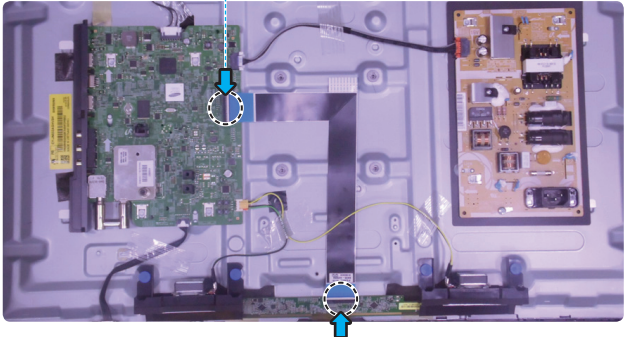
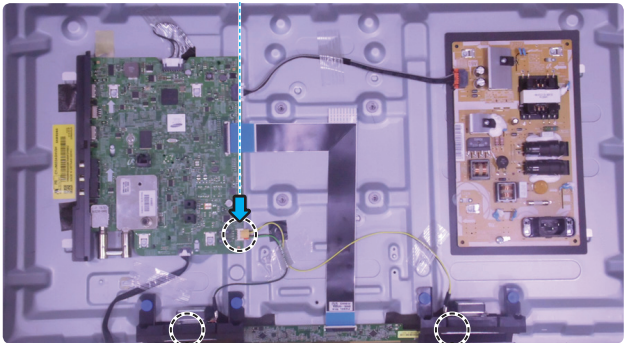

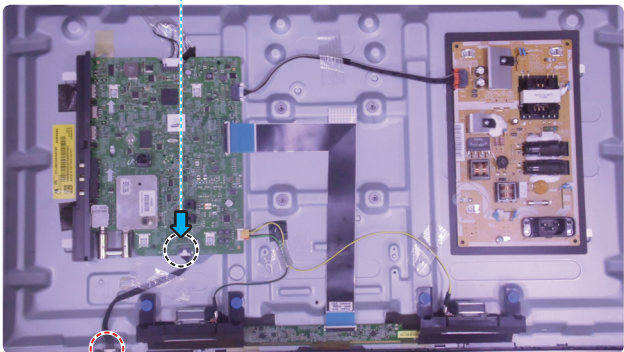
1. Disconnect the LED TV from the power source before disassembly.
2. Follow these directions carefully; never use metal instruments to pry apart the cabinet.
3. If there is no additional comment, it is same for all inches.

■ 32 inches




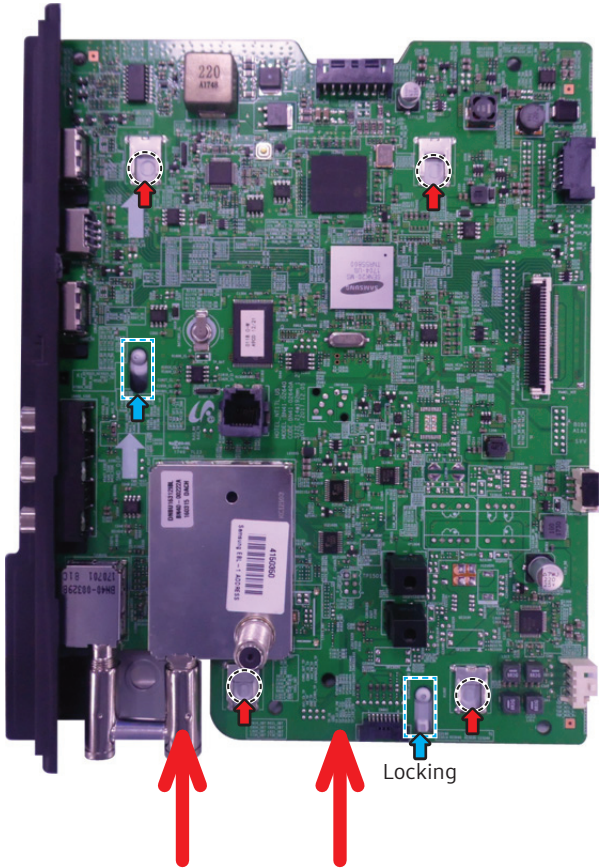
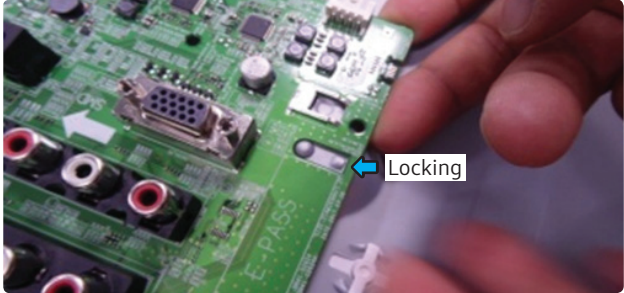
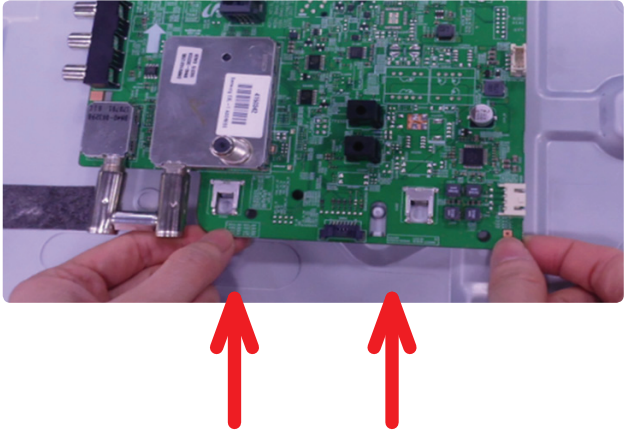
| Description & Screws | Picture Description |
|--|--|
| <p>1 Place TV face down on cushioned table.</p> |  |
| <p>2 Remove the screws from the ASSY STAND P-GUIDE.</p> <ul style="list-style-type: none"> • 4 EA <p>Screws</p> <p> 6003-001782 SCREW-TAPTYPE : M4 x L12, ZPC(BLK)</p> <ul style="list-style-type: none"> • COMMON |  |
| <p>3 Remove the ASSY STAND P-BOTTOM.</p> |  |


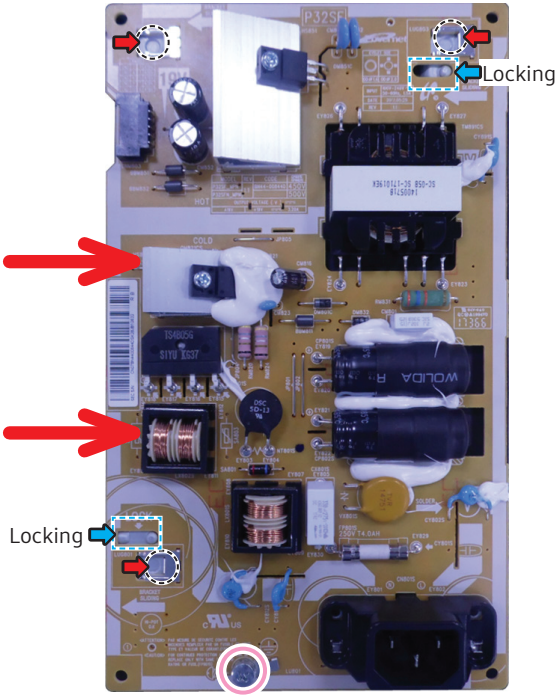
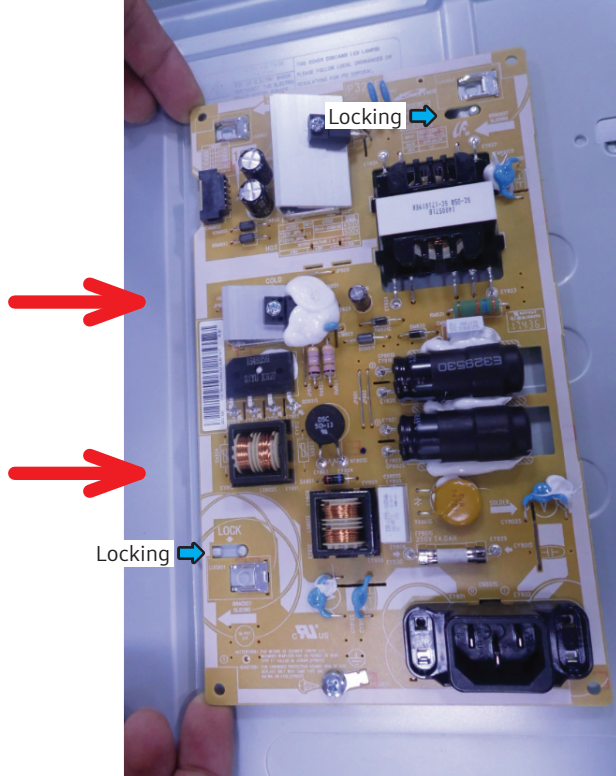
3. Disassembly and Reassemble

| Description & Screws | Picture Description |
|--|--|
| <p>4 Remove the ASSY COVER P-REAR.</p> <ul style="list-style-type: none"> Remove screws from the Cover and Insert the Opening-Jig at the indicated positions to release bottom left corners of the rear cover. 3 EA <p>Screws</p> <p> 6001-002755 SCREW-MACHINE : M3 x L6, ZPC(BLK) • C/R+CH/R</p> <p>Open Jigs</p> <p> BN81-12884A</p> | <p>Picture Description</p>    <p><Bottom Conner></p>  |
| <p>5 Remove the Cables.</p> <ul style="list-style-type: none">  LEAD CONNECTOR-POWER Cable | <p>LEAD CONNECTOR-POWER Cable</p>  |

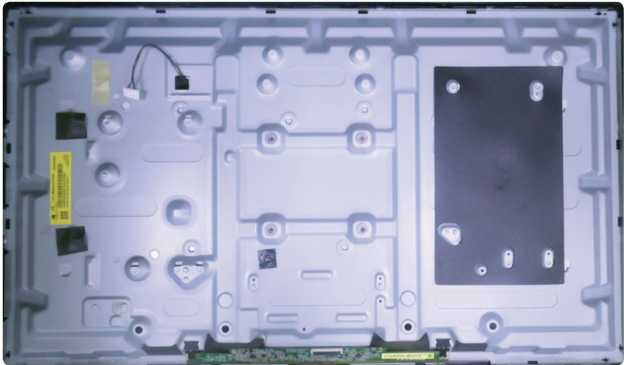
| Description & Screws | Picture Description |
|---|---|
| <ul style="list-style-type: none"> ➡ FFC CABLE | <p>FFC CABLE</p>  |
| <p>6 Remove the ASSY SPEAKER P-FRONT(R/L).</p> <ul style="list-style-type: none"> ➡ ASSY SPEAKER P-FRONT Cable | <p>ASSY SPEAKER P-FRONT Cable</p>  <p>ASSY SPEAKER P-FRONT(R/L)</p>  |
| <p>7 Remove the ASSY BOARD P-FUNCTION ONE KEY.</p> <ul style="list-style-type: none"> ➡ LEAD CONNECTOR-SUB ASSY (ASSY BOARD P-FUNCTION ONE KEY) | <p>LEAD CONNECTOR-SUB ASSY</p>  <p>ASSY BOARD P-FUNCTION ONE KEY</p> |

3. Disassembly and Reassemble

| Description & Screws | Picture Description |
|---|--|
| <p data-bbox="183 293 212 338">8</p> <p data-bbox="252 293 655 320">Remove the ASSY PCB MAIN BOARD.</p> <ul data-bbox="252 329 687 394" style="list-style-type: none"><li data-bbox="252 329 408 356">•  Locking<li data-bbox="252 365 687 394">•  Bottom chassis Guide Fixing Hole <ul data-bbox="252 1189 756 1559" style="list-style-type: none"><li data-bbox="252 1189 703 1252">• Gently lift up (Bottom Right corner) to release the  Locking. <li data-bbox="252 1503 756 1559">• Use both hands to hold the board and slide Up to release the board. |  <p data-bbox="1193 1066 1273 1093">Locking</p>  <p data-bbox="1193 1346 1273 1373">Locking</p>  <p data-bbox="1193 1794 1273 1821">Locking</p> <p>The 'Picture Description' column contains three images. The top image shows the main board assembly with red arrows pointing to four locking points and blue arrows pointing to two locking mechanisms. The middle image is a close-up of a hand lifting the board, with a blue arrow pointing to the locking mechanism. The bottom image shows the board being lifted from the chassis, with red arrows pointing to the bottom corners.</p> |

| Description & Screws | Picture Description |
|--|---|
| <p>9 Remove the DC VSS-PD BOARD.</p> <ul style="list-style-type: none"> ➡ Locking ➡ Bottom chassis Guide Fixing Hole <p>Remove the Screws.</p> <ul style="list-style-type: none"> 1 EA <p>Screws</p> <p> 6003-001439 SCREW-TAPTYPE : M4 x L8, ZPC(WHT)</p> <ul style="list-style-type: none"> SMPS+B/C |  <p>The image shows the top view of the DC VSS-PD board. Red arrows point to the bottom chassis guide fixing holes. Blue arrows labeled 'Locking' point to the locking tabs on the board. A red circle highlights a screw hole at the bottom right corner.</p> |
| <ul style="list-style-type: none"> Gently lift up (Bottom Right corner) to release the ➡ Locking. Use both hands to hold the board and slide Up to release. |  <p>The image shows the bottom view of the DC VSS-PD board being lifted from the chassis. Red arrows indicate the upward movement. Blue arrows labeled 'Locking' point to the locking tabs on the board.</p> |

3. Disassembly and Reassemble

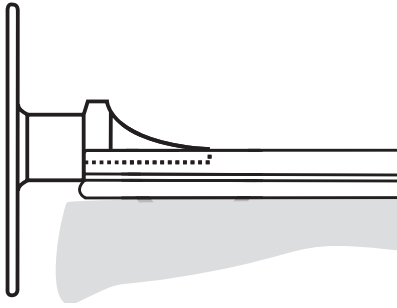

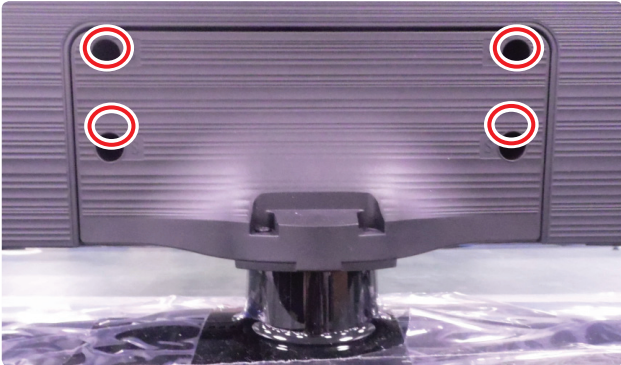
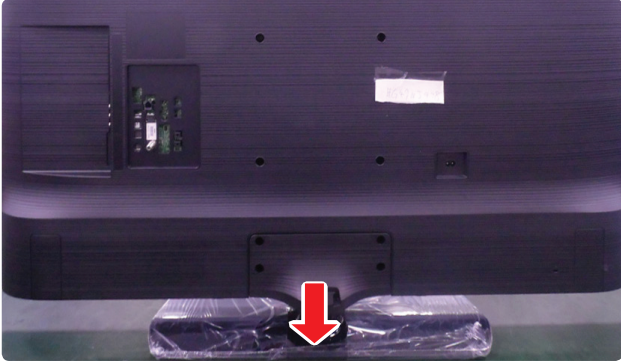

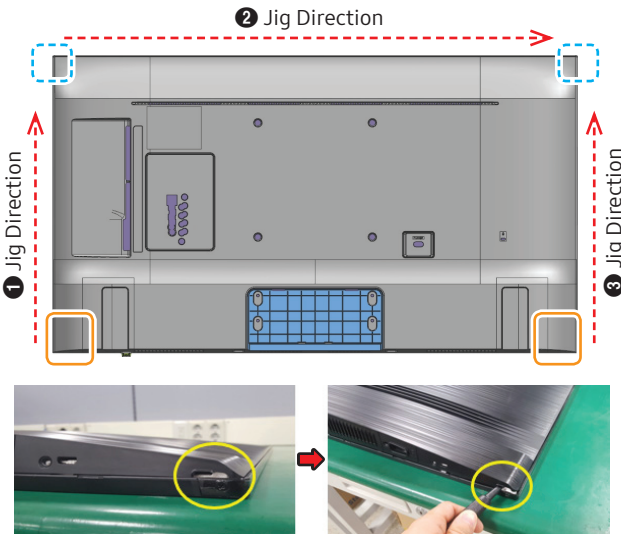
| Description & Screws | Picture Description |
|---|--|
| <p>10 Completed disassembly.</p> <ul style="list-style-type: none">• Panel |  A photograph showing the internal components of a device chassis. The chassis is a light-colored plastic frame with various mounting points and screws. A large black rectangular component, likely a display or sensor, is mounted on the right side. A green printed circuit board (PCB) is visible at the bottom edge. A yellow warning label is attached to the left side of the chassis. |



NOTE

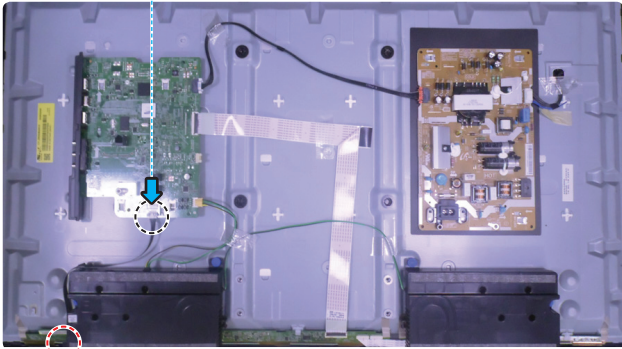
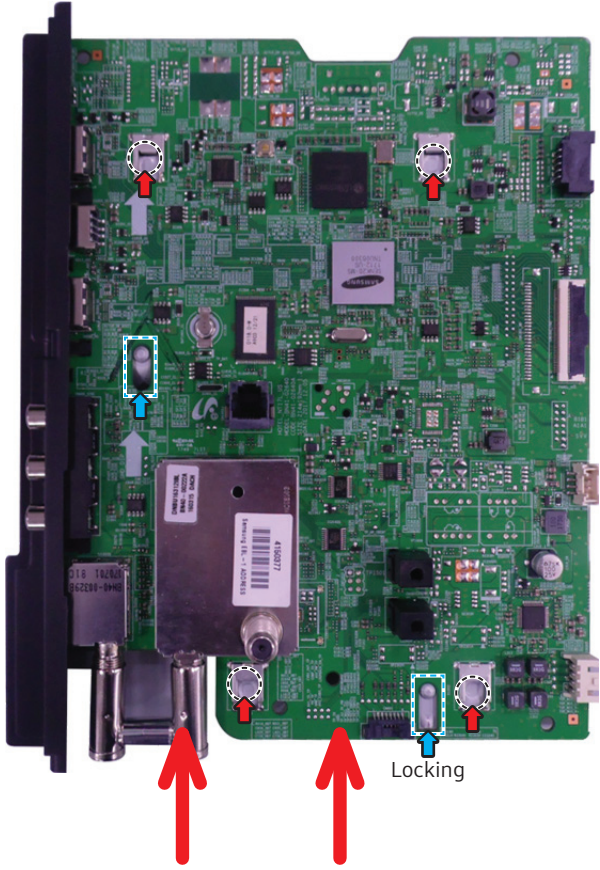
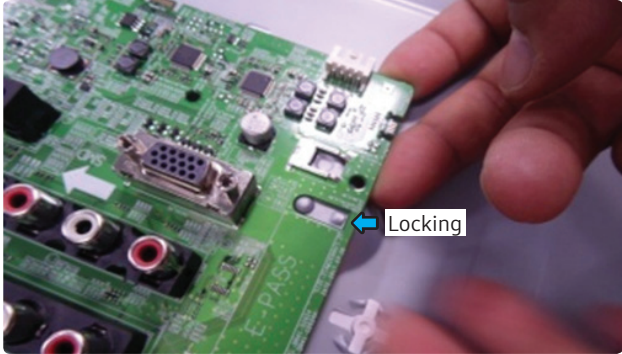
Reassembly procedures are in the reverse order of disassembly procedures.

■ 40/43/49 inches

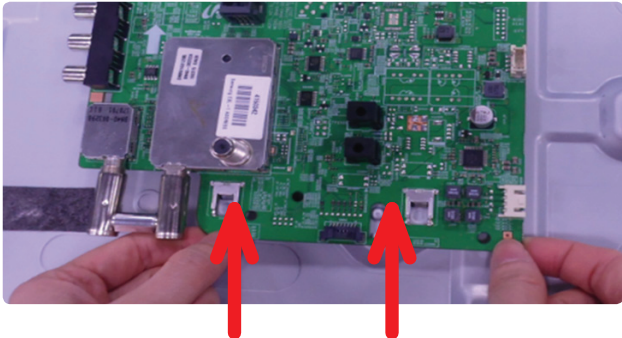
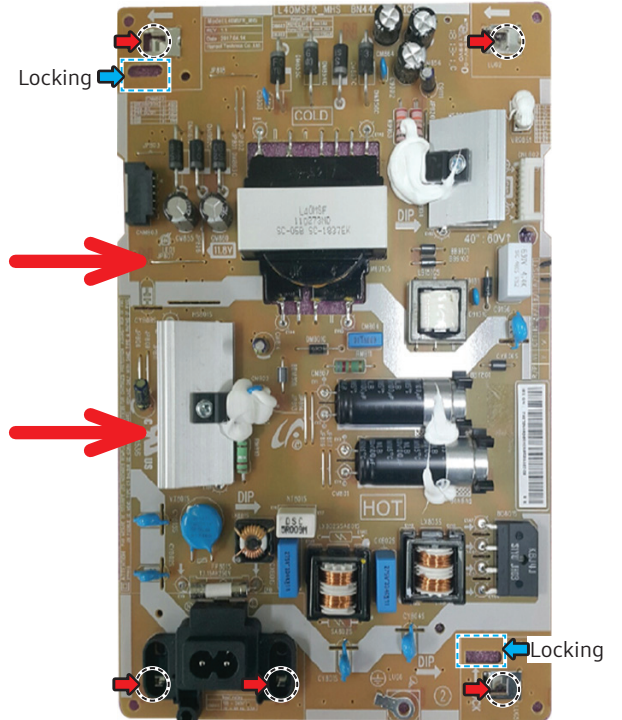
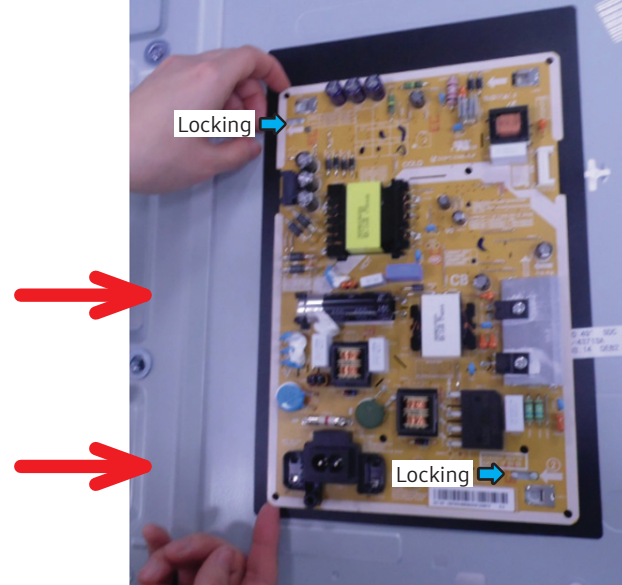
| Description & Screws | Picture Description |
|--|---|
| <p>1 Place TV face down on cushioned table.</p> |  |
| <p>2 Remove the screws from the ASSY STAND P-GUIDE.</p> <ul style="list-style-type: none"> • 4 EA <p>Screws</p> <p> 6003-001899 SCREW-TAPTTYPE : M4 x L14, ZPC(BLK)</p> <ul style="list-style-type: none"> • SET+STAND |  |
| <p>3 Remove the ASSY STAND P-BOTTOM.</p> |  |
| <p>4 Remove the ASSY COVER P-REAR.</p> <ul style="list-style-type: none"> • Remove screws from the Cover and Insert the Opening-Jig at the indicated positions to release bottom left corners of the rear cover. <p>Open Jigs</p> <p> BN81-12884A</p> |  <p style="text-align: center;"><Bottom Conner></p> |

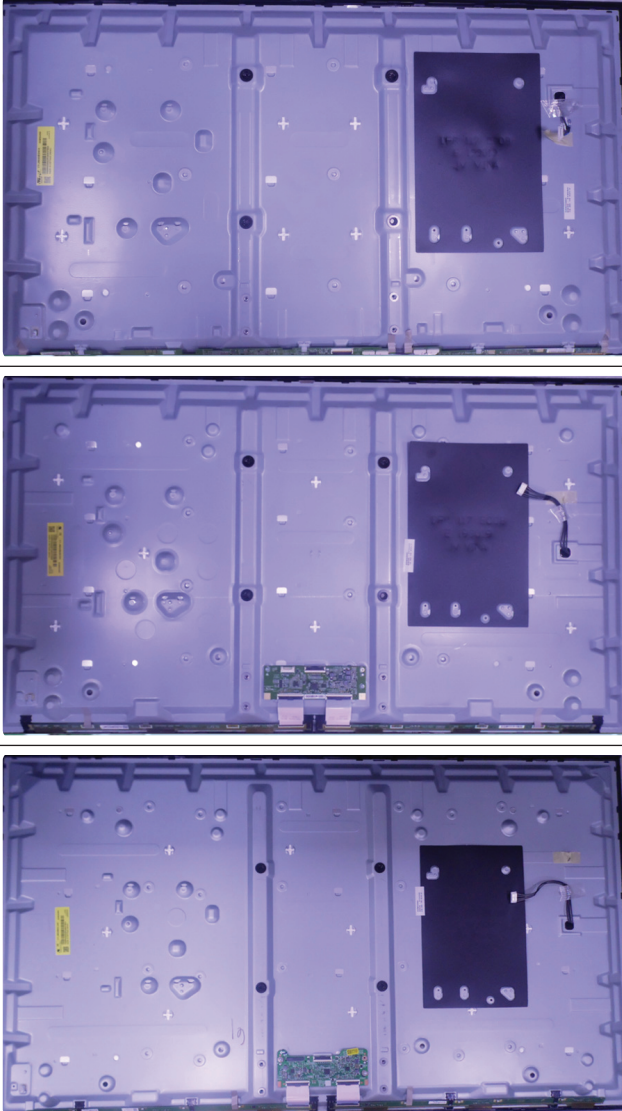
3. Disassembly and Reassemble

| Description & Screws | Picture Description |
|--|--|
| |  |
| <p>5 Remove the Cables.</p> <ul style="list-style-type: none"> ➡ LEAD CONNECTOR-POWER Cable ➡ FFC CABLE | <p>LEAD CONNECTOR-POWER Cable</p>  <p>FFC CABLE</p>  |
| <p>6 Remove the ASSY SPEAKER P-FRONT(R/L).</p> <ul style="list-style-type: none"> ➡ ASSY SPEAKER P-FRONT Cable | <p>ASSY SPEAKER P-FRONT Cable</p>  <p>ASSY SPEAKER P-FRONT(R/L)</p>  |

| Description & Screws | Picture Description |
|---|---|
| <p>7 Remove the ASSY BOARD P-FUNCTION ONE KEY.</p> <ul style="list-style-type: none"> ➡ LEAD CONNECTOR-SUB ASSY (ASSY BOARD P-FUNCTION ONE KEY) | <p>LEAD CONNECTOR-SUB ASSY</p>  <p>ASSY BOARD P-FUNCTION ONE KEY</p> |
| <p>8 Remove the ASSY PCB MAIN BOARD.</p> <ul style="list-style-type: none"> ➡ Locking ➡ Bottom chassis Guide Fixing Hole <ul style="list-style-type: none"> Gently lift up (Bottom Right corner) to release the ➡ Locking. |  <p>Locking</p>  <p>Locking</p> |

3. Disassembly and Reassemble

| Description & Screws | Picture Description |
|---|--|
| <ul style="list-style-type: none"> Use both hands to hold the board and slide Up to release the board. |  |
| <p>9 Remove the DC VSS-PD BOARD.</p> <ul style="list-style-type: none"> ➡ Locking ➡ Bottom chassis Guide Fixing Hole |  |
| <ul style="list-style-type: none"> Gently lift up (Bottom Right corner) to release the ➡ Locking. Use both hands to hold the board and slide Up to release. |  |

| Description & Screws | Picture Description |
|---|---|
| <p>10 Completed disassembly.</p> <ul style="list-style-type: none">• 40" • 43" • 49" |  |

**NOTE**

Reassembly procedures are in the reverse order of disassembly procedures.

1. Precautions

1-1. Safety Precautions

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

1-1-1. Warnings



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

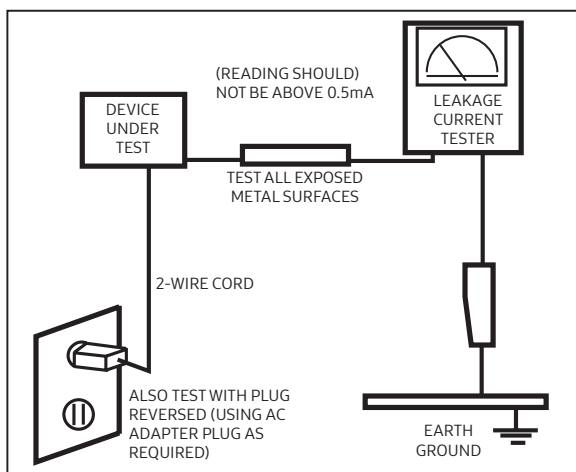
1-1-2. Servicing the LED TV

1. When servicing the LED TV, Disconnect the AC line cord from the AC outlet.
2. It is essential that service technicians have an accurate voltage meter available at all times. Check the calibration of this meter periodically.

1-1-3. Fire and Shock Hazard

Before returning the monitor to the user, perform the following safety checks:

1. Inspect each lead dress to make certain that the leads are not pinched or that hardware is not lodged between the chassis and other metal parts in the monitor.
2. Inspect all protective devices such as nonmetallic control knobs, insulating materials, cabinet backs, adjustment and compartment covers or shields, isolation resistor/capacitor networks, mechanical insulators, etc.
3. Leakage Current Hot Check:




Do not use an isolation transformer during this test.

Use a leakage current tester or a metering system that complies with American National Standards Institute (ANSI C101.1, Leakage Current for Appliances), and Underwriters Laboratories (UL Publication UL1410, 59.7).

4. With the unit completely reassembled, plug the AC line cord directly into a 120V AC outlet. With the unit's AC switch first in the ON position and then OFF, measure the current between a known earth ground (metal water pipe, conduit, etc.) and all exposed metal parts, including: metal cabinets, screwheads and control shafts. The current measured should not exceed 0.5 milliamp. Reverse the power-plug prongs in the AC outlet and repeat the test.

1-1-4. Product Safety Notices

Some electrical and mechanical parts have special 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 | HG**NJ477*F | | |
|---------------------------|--|---------------------------|--------------------------|
| Front View |  <p>* W : Width H : High D : Depth</p> | | |
| Detail View |  | | |
| Color | Front : CHARCOAL BLACK / Stand : BLACK | | |
| Dimensions (W x H x D) | 32" | Body | 737.4 x 74.1 x 438.0 mm |
| | | With Stand | 737.4 x 192.6 x 484.6 mm |
| | 40" | Body | 917.1 x 77.0 x 527.7 mm |
| | | With Stand | 917.1 x 226.5 x 578.3 mm |
| | 43" | Body | 979.9 x 77.3 x 571.9 mm |
| | | With Stand | 979.9 x 226.5 x 623.4 mm |
| 49" | Body | 1112.8 x 78.3 x 646.5 mm | |
| | With Stand | 1112.8 x 226.5 x 698.0 mm | |
| Weight | 32" | Without Stand | 4.0 kg |
| | | With Stand | 5.6 kg |
| | 40" | Without Stand | 7.0 kg |
| | | With Stand | 10.0 kg |
| | 43" | Without Stand | 8.0 kg |
| | | With Stand | 11.0 kg |
| 49" | Without Stand | 10.3 kg | |
| | With Stand | 13.4 kg | |

2-2. Product specification



NOTE

Design and specifications are subject to change without prior notice.

Last Update Date : 2018.08.07

| Item | | HG32NJ477NFXZA |
|----------------------------|--------------------------------|--------------------------|
| General Information | Product | LED |
| | Country | UNITED STATES |
| | Platform(TV) | Novatek NT17L |
| Display | Backlight | LED |
| | Screen Size | 32 |
| | Resolution | 1,366 x 768 |
| Video | Picture Engine | Hyper Real |
| | Micro Dimming | N/A |
| | Auto Motion Plus | N/A |
| | Film Mode | Yes |
| Audio | Dolby Digital Plus | Yes |
| | DTS Codec | N/A |
| | Sound Output (RMS) | 10W(L:5W, R:5W) |
| | Speaker Type | 2CH |
| | Woofer | N/A |
| Smart TV | Samsung SMART TV | N/A |
| Convergence | TV to Mobile - Mirroring | N/A |
| | Mobile to TV - Mirroring, DLNA | N/A |
| General Feature | Processor | N/A |
| | Accessibility | Voice Guide |
| | Digital Clean View | Yes |
| | Auto Channel Search | Yes |
| | Auto Power Off | Yes |
| | Caption (Subtitle) | Yes |
| | Connect Share™ (HDD) | N/A |
| | ConnectShare™ (USB 2.0) | Yes |
| | EPG | Yes |
| | Game Mode | Yes |
| | OSD Language | English, Spanish, French |
| | Picture-In-Picture | Yes |
| | BT HID Built-in | N/A |
| | USB HID Support | N/A |
| | Teletext (TTX) | N/A |

| | Item | HG32NJ477NFXZA |
|----------------------------|--|----------------|
| System | Digital Broadcasting | ATSC/ClearQAM |
| | Analog Tuner | Yes |
| | CI (Common Interface) | N/A |
| | Data Broadcasting | N/A |
| Hospitality Feature | Samsung LYNK™ HMS Compatibility | No |
| | H.Browser Compatibility | No |
| | Samsung LYNK™ REACH (IP) | No |
| | Samsung LYNK™ REACH (RF) | REACH 4.0 |
| | Hospitality Home Menu | Home Menu 2015 |
| | Bluetooth Music Player (Mobile → TV) | No |
| | Hospitality Plug&Play (Easy Set-up) | Yes |
| | Auto Source Mode | Yes |
| | Power On Mode | Yes |
| | Hotel Channel List | Yes |
| | Channel Menu Display | Yes |
| | Mixed Channel List (ATSC, DVB-T/T2/C/S2, Analog) | Yes |
| | My Channel | Yes |
| | Energy Saving Mode (BLU Control) | Yes |
| | Logo Display with Time Out Setting (BMP/Movie) | Yes |
| | Welcome Message | Yes |
| | RJ12/IR Pass Through | Yes |
| | External Clock Compatibility | No |
| | Clock Back Up Supply | Yes |
| | External Clock Dimming Control | No |
| | Software Clock | Yes |
| | Multi Code Remote Control | Yes |
| | Screwed Remote Battery Cover | Yes |
| | Soundbar Compatibility | Yes |
| | Music Mode (Input: PC/AV/Component/HDMI) | Yes |
| | Music Mode Backlight on/off | Yes |
| | TTX Clock Update (Analogue) | No |
| | USB Cloning | Yes |
| | Smovie Compatibility | Yes |
| | Soft AP | No |
| On/Off Timer (Schedule) | Yes | |
| Wake-up Timer (Alarm) | Yes | |
| Samsung LYNK™ DRM | Yes | |
| Pro:Idiom | Yes | |

2. Product specifications

| | Item | HG32NJ477NFXZA |
|----------------------------|---|-----------------------------------|
| Hospitality Feature | bLAN | No |
| | Security Mode | Yes |
| | S/W EPG (Solution EPG) | Yes |
| | IP Over Coax | No |
| Input & Output | USB (Side/Rear) | 1 |
| | Composite In (AV) (Side/Rear) | 1/0 |
| | RF In (Terrestrial / Cable input) (Side/Rear) | 1/1(Common Use for Terrestrial)/0 |
| | Ex-Link (RS-232C) | 1 |
| | CI Slot (Side/Rear) | N/A |
| | HDMI A / Return Ch. Support | Yes |
| | Wireless LAN Built-in | N/A |
| | Anynet+ (HDMI-CEC) | Yes |
| | Pillow Speaker Jack (Side/Rear) | No |
| | Variable Audio Out (Side/Rear) | No |
| | Variable Audio Out Volume Control (Side/Rear) | No |
| | Video Out (Side/Rear) | No |
| | RJ12 (Side/Rear) | 0/1 |
| | RJP (Remote Jackpack) (Side/Rear) | 0/1 |
| | Headphone ID (Side/Rear) | No |
| | Door-Eye Control (Side/Rear) | No |
| | Door-Eye Video In (Side/Rear) | No |
| | PC In (D-sub) (Side./Rear) | No |
| | PC/DVI Audio In (Mini Jack) (Side./Rear) | No |
| | Ethernet Bridge (LAN-Out) | N/A |
| Design | Front Color | Black Hairline |
| | Stand Type | Square |
| | Swivel (Left/Right) | 90/90 |
| Eco | ENERGY STAR (Latest effective version) | Yes |
| | Eco Sensor | N/A |
| Power | Power Supply (V) | AC110-120V 50/60Hz |
| | Power Consumption (Max) | 60 W |
| | Power Consumption (Stand-by) | 0.50 W |
| | Power Consumption (Typical) | 28.0 W |

2. Product specifications

Last Update Date : 2018.07.20

| | Item | HG40NJ477MFXZA |
|----------------------------|---------------------------------|--------------------------|
| General Information | Product | LED |
| | Country | UNITED STATES |
| | Platform(TV) | Novatek NT17L |
| Display | Backlight | LED |
| | Screen Size | 40 |
| | Resolution | 1,920 x 1,080 |
| Video | Picture Engine | Hyper Real |
| | Micro Dimming | N/A |
| | Auto Motion Plus | N/A |
| | Film Mode | Yes |
| Audio | Dolby Digital Plus | Yes |
| | DTS Codec | N/A |
| | Sound Output (RMS) | 20W(L:10W, R:10W) |
| | Speaker Type | 2CH |
| | Woofers | N/A |
| Smart TV | Samsung SMART TV | N/A |
| Convergence | TV to Mobile - Mirroring | N/A |
| | Mobile to TV - Mirroring, DLNA | N/A |
| General Feature | Processor | N/A |
| | Accessibility | Voice Guide |
| | Digital Clean View | Yes |
| | Auto Channel Search | Yes |
| | Auto Power Off | Yes |
| | Caption (Subtitle) | Yes |
| | Connect Share™ (HDD) | N/A |
| | ConnectShare™ (USB 2.0) | Yes |
| | EPG | Yes |
| | Game Mode | Yes |
| | OSD Language | English, Spanish, French |
| | Picture-In-Picture | Yes |
| | BT HID Built-in | N/A |
| | USB HID Support | N/A |
| | Teletext (TTX) | N/A |
| System | Digital Broadcasting | ATSC/ClearQAM |
| | Analog Tuner | Yes |
| | CI (Common Interface) | N/A |
| | Data Broadcasting | N/A |
| Hospitality Feature | Samsung LYNK™ HMS Compatibility | No |

2. Product specifications

| | Item | HG40NJ477MFXZA |
|----------------------------|--|----------------|
| Hospitality Feature | H.Browser Compatibility | No |
| | Samsung LYNK™ REACH (IP) | No |
| | Samsung LYNK™ REACH (RF) | REACH 4.0 |
| | Hospitality Home Menu | Home Menu 2015 |
| | Bluetooth Music Player (Mobile → TV) | No |
| | Hospitality Plug&Play (Easy Set-up) | Yes |
| | Auto Source Mode | Yes |
| | Power On Mode | Yes |
| | Hotel Channel List | Yes |
| | Channel Menu Display | Yes |
| | Mixed Channel List (ATSC, DVB-T/T2/C/S2, Analog) | Yes |
| | My Channel | Yes |
| | Energy Saving Mode (BLU Control) | Yes |
| | Logo Display with Time Out Setting (BMP/Movie) | Yes |
| | Welcome Message | Yes |
| | RJ12/IR Pass Through | Yes |
| | External Clock Compatibility | No |
| | Clock Back Up Supply | Yes |
| | External Clock Dimming Control | No |
| | Software Clock | Yes |
| | Multi Code Remote Control | Yes |
| | Screwed Remote Battery Cover | Yes |
| | Soundbar Compatibility | Yes |
| | Music Mode (Input: PC/AV/Component/HDMI) | Yes |
| | Music Mode Backlight on/off | Yes |
| | TTX Clock Update (Analogue) | No |
| | USB Cloning | Yes |
| | Smovie Compatibility | Yes |
| | Soft AP | No |
| | On/Off Timer (Schedule) | Yes |
| | Wake-up Timer (Alarm) | Yes |
| | Samsung LYNK™ DRM | Yes |
| Pro:Idiom | Yes | |
| bLAN | No | |
| Security Mode | Yes | |
| S/W EPG (Solution EPG) | Yes | |
| IP Over Coax | No | |
| Input & Output | USB (Side/Rear) | 1 |

| | Item | HG40NJ477MFXZA |
|---------------------------|---|-----------------------------------|
| Input & Output | Composite In (AV) (Side/Rear) | 1/0 |
| | RF In (Terrestrial / Cable input) (Side/Rear) | 1/1(Common Use for Terrestrial)/0 |
| | Ex-Link (RS-232C) | 1 |
| | CI Slot (Side/Rear) | N/A |
| | HDMI A / Return Ch. Support | Yes |
| | Wireless LAN Built-in | N/A |
| | Anynet+ (HDMI-CEC) | Yes |
| | Pillow Speaker Jack (Side/Rear) | No |
| | Variable Audio Out (Side/Rear) | No |
| | Variable Audio Out Volume Control (Side/Rear) | No |
| | Video Out (Side/Rear) | No |
| | RJ12 (Side/Rear) | 0/1 |
| | RJP (Remote Jackpack) (Side/Rear) | 0/1 |
| | Headphone ID (Side/Rear) | No |
| | Door-Eye Control (Side/Rear) | No |
| | Door-Eye Video In (Side/Rear) | No |
| | PC In (D-sub) (Side./Rear) | No |
| | PC/DVI Audio In (Mini Jack) (Side./Rear) | No |
| | Ethernet Bridge (LAN-Out) | N/A |
| Design | Front Color | Black Hairline |
| | Stand Type | Square |
| | Swivel (Left/Right) | 90/90 |
| Eco | ENERGY STAR (Latest effective version) | Yes |
| | Eco Sensor | N/A |
| Power | Power Supply (V) | AC110-120V 50/60Hz |
| | Power Consumption (Max) | 100 W |
| | Power Consumption (Stand-by) | 0.50 W |
| | Power Consumption (Typical) | 36.0 W |

2. Product specifications

Last Update Date : 2018.0719

| | Item | HG43NJ477MFXZA |
|----------------------------|--------------------------------|--------------------------|
| General Information | Product | LED |
| | Country | UNITED STATES |
| | Platform(TV) | Novatek NT17L |
| Display | Backlight | LED |
| | Screen Size | 43 |
| | Resolution | 1,920 x 1,080 |
| Video | Picture Engine | Hyper Real |
| | Micro Dimming | N/A |
| | Auto Motion Plus | N/A |
| | Film Mode | Yes |
| Audio | Dolby Digital Plus | Yes |
| | DTS Codec | N/A |
| | Sound Output (RMS) | 20W(L:10W, R:10W) |
| | Speaker Type | 2CH |
| | Woofers | N/A |
| Smart TV | Samsung SMART TV | N/A |
| Convergence | TV to Mobile - Mirroring | N/A |
| | Mobile to TV - Mirroring, DLNA | N/A |
| General Feature | Processor | N/A |
| | Accessibility | Voice Guide |
| | Digital Clean View | Yes |
| | Auto Channel Search | Yes |
| | Auto Power Off | Yes |
| | Caption (Subtitle) | Yes |
| | Connect Share™ (HDD) | N/A |
| | ConnectShare™ (USB 2.0) | Yes |
| | EPG | Yes |
| | Game Mode | Yes |
| | OSD Language | English, Spanish, French |
| | Picture-In-Picture | Yes |
| | BT HID Built-in | N/A |
| | USB HID Support | N/A |
| | Teletext (TTX) | N/A |
| System | Digital Broadcasting | ATSC/ClearQAM |
| | Analog Tuner | Yes |
| | CI (Common Interface) | N/A |
| | Data Broadcasting | N/A |

| | Item | HG43NJ477MFXZA |
|------------------------|--|----------------|
| Hospitality Feature | Samsung LYNK™ HMS Compatibility | No |
| | H.Browser Compatibility | No |
| | Samsung LYNK™ REACH (IP) | No |
| | Samsung LYNK™ REACH (RF) | REACH 4.0 |
| | Hospitality Home Menu | Home Menu 2015 |
| | Bluetooth Music Player (Mobile → TV) | No |
| | Hospitality Plug&Play (Easy Set-up) | Yes |
| | Auto Source Mode | Yes |
| | Power On Mode | Yes |
| | Hotel Channel List | Yes |
| | Channel Menu Display | Yes |
| | Mixed Channel List (ATSC, DVB-T/T2/C/S2, Analog) | Yes |
| | My Channel | Yes |
| | Energy Saving Mode (BLU Control) | Yes |
| | Logo Display with Time Out Setting (BMP/Movie) | Yes |
| | Welcome Message | Yes |
| | RJ12/IR Pass Through | Yes |
| | External Clock Compatibility | No |
| | Clock Back Up Supply | Yes |
| | External Clock Dimming Control | No |
| | Software Clock | Yes |
| | Multi Code Remote Control | Yes |
| | Screwed Remote Battery Cover | Yes |
| | Soundbar Compatibility | Yes |
| | Music Mode (Input: PC/AV/Component/HDMI) | Yes |
| | Music Mode Backlight on/off | Yes |
| | TTX Clock Update (Analogue) | No |
| | USB Cloning | Yes |
| | Smovie Compatibility | Yes |
| | Soft AP | No |
| | On/Off Timer (Schedule) | Yes |
| | Wake-up Timer (Alarm) | Yes |
| | Samsung LYNK™ DRM | Yes |
| Pro:Idiom | Yes | |
| bLAN | No | |
| Security Mode | Yes | |
| S/W EPG (Solution EPG) | Yes | |
| IP Over Coax | No | |

2. Product specifications

| | Item | HG43NJ477MFXZA |
|---------------------------|---|-----------------------------------|
| Input & Output | USB (Side/Rear) | 1 |
| | Composite In (AV) (Side/Rear) | 1/0 |
| | RF In (Terrestrial / Cable input) (Side/Rear) | 1/1(Common Use for Terrestrial)/0 |
| | Ex-Link (RS-232C) | 1 |
| | CI Slot (Side/Rear) | N/A |
| | HDMI A / Return Ch. Support | Yes |
| | Wireless LAN Built-in | N/A |
| | Anynet+ (HDMI-CEC) | Yes |
| | Pillow Speaker Jack (Side/Rear) | No |
| | Variable Audio Out (Side/Rear) | No |
| | Variable Audio Out Volume Control (Side/Rear) | No |
| | Video Out (Side/Rear) | No |
| | RJ12 (Side/Rear) | 0/1 |
| | RJP (Remote Jackpack) (Side/Rear) | 0/1 |
| | Headphone ID (Side/Rear) | No |
| | Door-Eye Control (Side/Rear) | No |
| | Door-Eye Video In (Side/Rear) | No |
| | PC In (D-sub) (Side./Rear) | No |
| | PC/DVI Audio In (Mini Jack) (Side./Rear) | No |
| | Ethernet Bridge (LAN-Out) | N/A |
| Design | Front Color | Black Hairline |
| | Stand Type | Square |
| | Swivel (Left/Right) | 90/90 |
| Eco | ENERGY STAR (Latest effective version) | Yes |
| | Eco Sensor | N/A |
| Power | Power Supply (V) | AC110-120V 50/60Hz |
| | Power Consumption (Max) | 105 W |
| | Power Consumption (Stand-by) | 0.50 W |
| | Power Consumption (Typical) | 40.0 W |

2. Product specifications

Last Update Date : 2018.0719

| | Item | HG49NJ477MFXZA |
|----------------------------|--------------------------------|--------------------------|
| General Information | Product | LED |
| | Country | UNITED STATES |
| | Platform(TV) | Novatek NT17L |
| Display | Backlight | LED |
| | Screen Size | 49 |
| | Resolution | 1,920 x 1,080 |
| Video | Picture Engine | Hyper Real |
| | Micro Dimming | N/A |
| | Auto Motion Plus | N/A |
| | Film Mode | Yes |
| Audio | Dolby Digital Plus | Yes |
| | DTS Codec | N/A |
| | Sound Output (RMS) | 20W(L:10W, R:10W) |
| | Speaker Type | 2CH |
| | Woofers | N/A |
| Smart TV | Samsung SMART TV | N/A |
| Convergence | TV to Mobile - Mirroring | N/A |
| | Mobile to TV - Mirroring, DLNA | N/A |
| General Feature | Processor | N/A |
| | Accessibility | Voice Guide |
| | Digital Clean View | Yes |
| | Auto Channel Search | Yes |
| | Auto Power Off | Yes |
| | Caption (Subtitle) | Yes |
| | Connect Share™ (HDD) | N/A |
| | ConnectShare™ (USB 2.0) | Yes |
| | EPG | Yes |
| | Game Mode | Yes |
| | OSD Language | English, Spanish, French |
| | Picture-In-Picture | Yes |
| | BT HID Built-in | N/A |
| | USB HID Support | N/A |
| | Teletext (TTX) | N/A |
| System | Digital Broadcasting | ATSC/ClearQAM |
| | Analog Tuner | Yes |
| | CI (Common Interface) | N/A |
| | Data Broadcasting | N/A |

2. Product specifications

| | Item | HG49NJ477MFXZA |
|------------------------|--|----------------|
| Hospitality Feature | Samsung LYNK™ HMS Compatibility | No |
| | H.Browser Compatibility | No |
| | Samsung LYNK™ REACH (IP) | No |
| | Samsung LYNK™ REACH (RF) | REACH 4.0 |
| | Hospitality Home Menu | Home Menu 2015 |
| | Bluetooth Music Player (Mobile → TV) | No |
| | Hospitality Plug&Play (Easy Set-up) | Yes |
| | Auto Source Mode | Yes |
| | Power On Mode | Yes |
| | Hotel Channel List | Yes |
| | Channel Menu Display | Yes |
| | Mixed Channel List (ATSC, DVB-T/T2/C/S2, Analog) | Yes |
| | My Channel | Yes |
| | Energy Saving Mode (BLU Control) | Yes |
| | Logo Display with Time Out Setting (BMP/Movie) | Yes |
| | Welcome Message | Yes |
| | RJ12/IR Pass Through | Yes |
| | External Clock Compatibility | No |
| | Clock Back Up Supply | Yes |
| | External Clock Dimming Control | No |
| | Software Clock | Yes |
| | Multi Code Remote Control | Yes |
| | Screwed Remote Battery Cover | Yes |
| | Soundbar Compatibility | Yes |
| | Music Mode (Input: PC/AV/Component/HDMI) | Yes |
| | Music Mode Backlight on/off | Yes |
| | TTX Clock Update (Analogue) | No |
| | USB Cloning | Yes |
| | Smoovie Compatibility | Yes |
| | Soft AP | No |
| | On/Off Timer (Schedule) | Yes |
| | Wake-up Timer (Alarm) | Yes |
| | Samsung LYNK™ DRM | Yes |
| | Pro:Idiom | Yes |
| bLAN | No | |
| Security Mode | Yes | |
| S/W EPG (Solution EPG) | Yes | |
| IP Over Coax | No | |

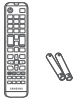




| | Item | HG49NJ477MFXZA |
|---------------------------|---|-----------------------------------|
| Input & Output | USB (Side/Rear) | 1 |
| | Composite In (AV) (Side/Rear) | 1/0 |
| | RF In (Terrestrial / Cable input) (Side/Rear) | 1/1(Common Use for Terrestrial)/0 |
| | Ex-Link (RS-232C) | 1 |
| | CI Slot (Side/Rear) | N/A |
| | HDMI A / Return Ch. Support | Yes |
| | Wireless LAN Built-in | N/A |
| | Anynet+ (HDMI-CEC) | Yes |
| | Pillow Speaker Jack (Side/Rear) | No |
| | Variable Audio Out (Side/Rear) | No |
| | Variable Audio Out Volume Control (Side/Rear) | No |
| | Video Out (Side/Rear) | No |
| | RJ12 (Side/Rear) | 0/1 |
| | RJP (Remote Jackpack) (Side/Rear) | 0/1 |
| | Headphone ID (Side/Rear) | No |
| | Door-Eye Control (Side/Rear) | No |
| | Door-Eye Video In (Side/Rear) | No |
| | PC In (D-sub) (Side./Rear) | No |
| | PC/DVI Audio In (Mini Jack) (Side./Rear) | No |
| | Ethernet Bridge (LAN-Out) | N/A |
| Design | Front Color | Black Hairline |
| | Stand Type | Square |
| | Swivel (Left/Right) | 90/90 |
| Eco | ENERGY STAR (Latest effective version) | Yes |
| | Eco Sensor | N/A |
| Power | Power Supply (V) | AC110-120V 50/60Hz |
| | Power Consumption (Max) | 138 W |
| | Power Consumption (Stand-by) | 0.50 W |
| | Power Consumption (Typical) | 48.0 W |

2-3. Accessories



NOTE

- Please make sure the following items are included with your LED TV. If any items are missing, contact your dealer.
- The items' color and shape may vary, depending on the model.
- The parts for the stand are listed under Stand Components on the following page.

| Image | Product | Code. No |
|---|--|--|
|  | <ul style="list-style-type: none"> • Samsung Smart Remote / Batteries (AAA x 2) | <p>AA59-00817A 4301-000121</p> |
|  | <ul style="list-style-type: none"> • Power Cord | <p>32" : 3903-001086 40"/43"/49" : 3903-001117</p> |
|  | <ul style="list-style-type: none"> • Data Cable | <p>BN39-00865B / BN39-01011E</p> |
|  | <ul style="list-style-type: none"> • Quick Setup Guide | <p>BN68-09107G</p> |
|  | <ul style="list-style-type: none"> • Safety Guide | <p>AA68-03242L</p> |
|  | <ul style="list-style-type: none"> • Regulatory Guide | <p>BN68-04972G</p> |
|  | <ul style="list-style-type: none"> • Cable Guide | <p>BN61-08370A</p> |
|  | <ul style="list-style-type: none"> • Hotel Mount Kit | <p>BN96-23066A</p> |

4. Troubleshooting

4-1. Previous Check

■ Check list for initial operation

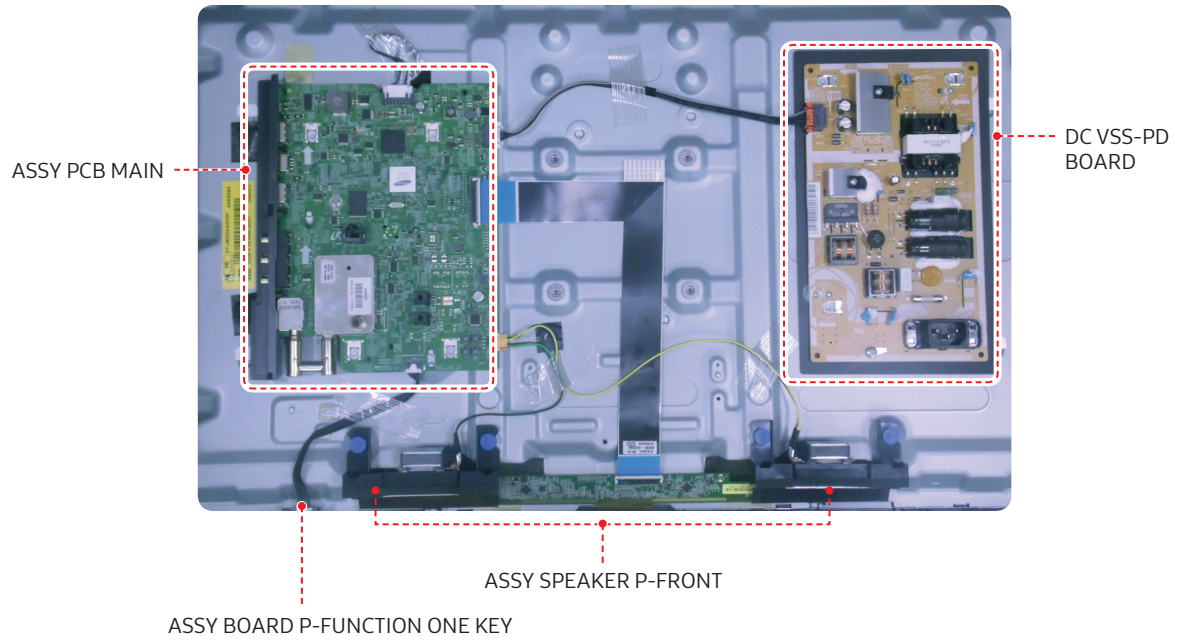
- AC Power Cord connected to the TV and the wall receptacle.
- Standby Power/IR Indicator LED is turned On.
- If Power/IR Indicator is not on check 10p power cable is connected and for correct Standby Voltage from SMPS to Main. Also check Jog Function Cable.
- Power turned On with Jog Function or Remote.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

4. Troubleshooting

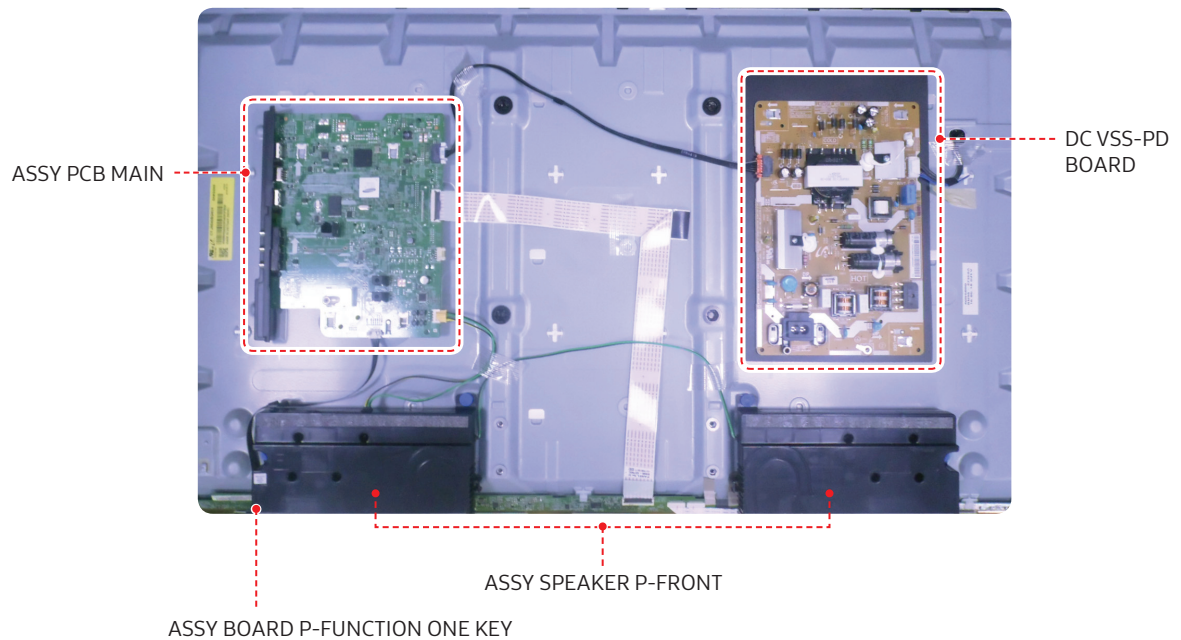
■ Inner View

- T-CON and Main Board all in one

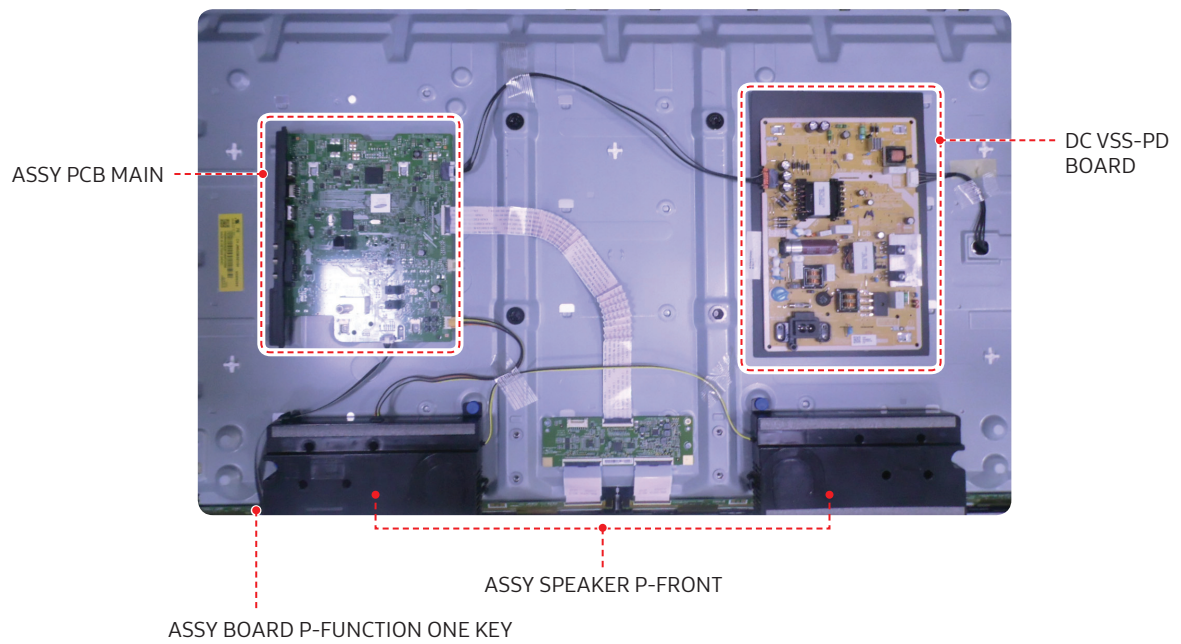
- 32 inches



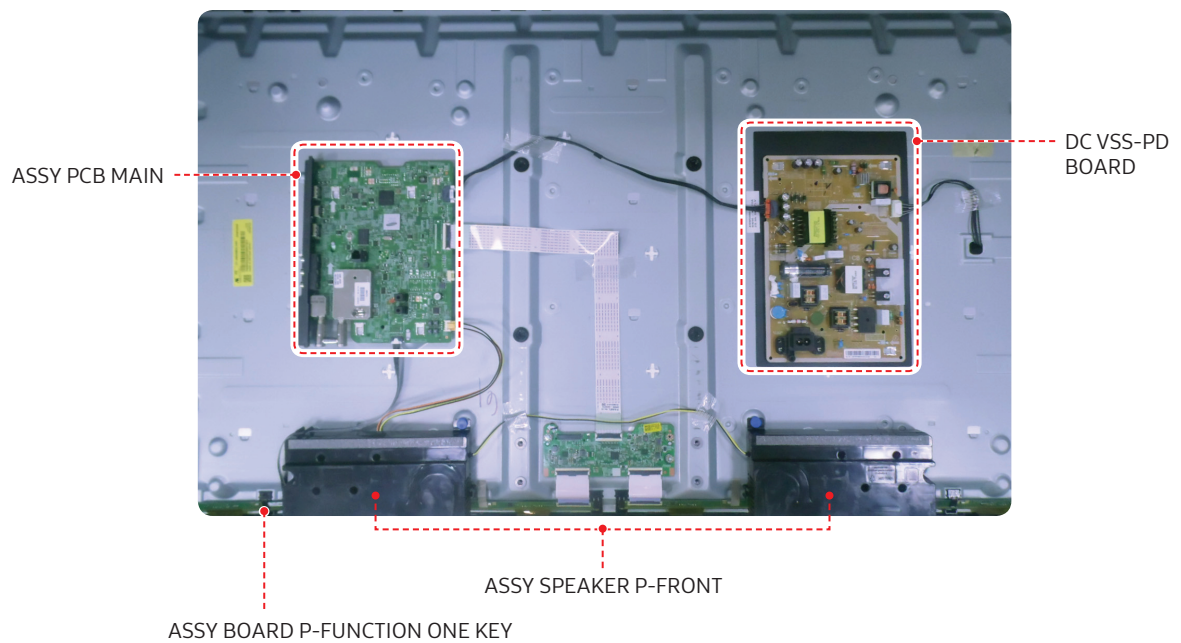
- 40 inches



• 43 inches



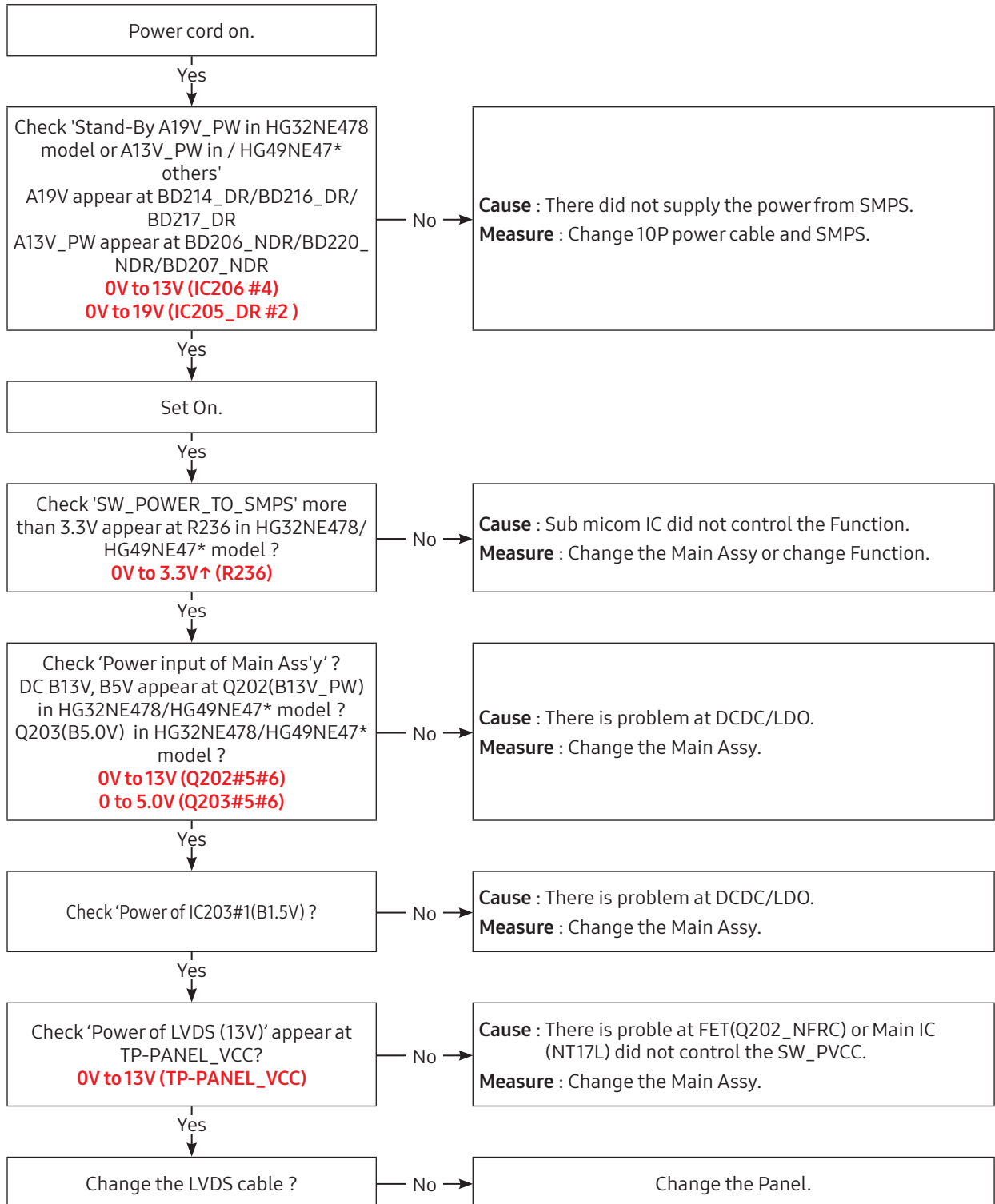
• 49 inches



| CN202 (to Power board) | | | | | | | | | |
|------------------------|---------|---|---------|---|---------|----|---------|----|---------|
| 1 | A19V_PW | 2 | DGND | 3 | A19V_PW | 4 | DGND | 5 | A19V_PW |
| 7 | DGND | 8 | A19V_PW | 9 | DGND | 10 | A19V_PW | 11 | DGND |

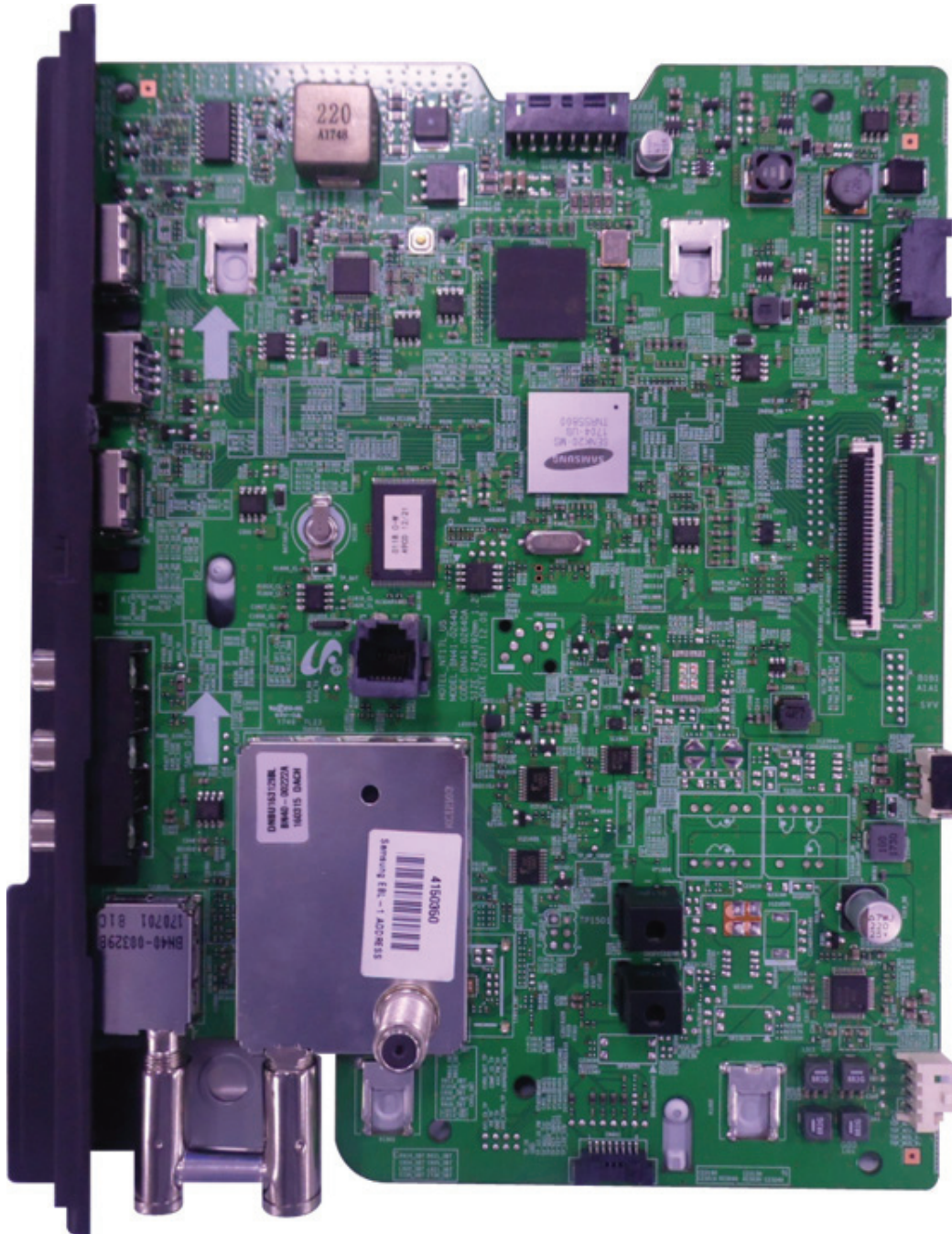
4-2. How to Check Fault Symptom

■ No Power and No Video



■ Main Board

- 32 inches



4. Troubleshooting

- 40/43/49 inches



4-3. Factory Mode Adjustments

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

- If you do not have Factory remote control



- If you have Factory remote control



- If you don't have Factory remote control, can't control some menus. (Expert, Advanced menu)

MODE : CATV, RES : NOSIGNAL

| Option | Value | Testing Items |
|----------|--------------------------------|-------------------|
| Option | T-NT17LAKUCB-xxxx | ✓ Main SW Version |
| Control | T-NT17LAKUSB-xxxx | ✓ Sub SW Version |
| Debug | EDID SUCCESS | |
| SVC | HDCP SUCCESS | |
| ADC/WB | CALIB : AV/COMP/PC/HDMI/ | |
| Advanced | Option : 32S6AH0JN,US,477,NONE | |
| | Factory Reset In Production:- | |
| | NSP-SDAL-SENK20-HTV_ xxx | |
| | RFS:"NT17L 0015"K/xxxx-xx-xx | |
| | KERNEL:x.xxxx, /Onboot:xxxx | |
| | TCON Version:---- | |
| | NSP-DTVTD-HTV-xxxx | |
| | Model: HG32NJ477NF | |
| | DRM CRC : ---- | |
| | Factory Data Ver:xxx | |
| | EERC Version: xxx | |
| | NSP-BP-HAL-xxxx | |
| | NSP-AP-CNC-xxxx | |
| | NSP-AP-MM-xxxx | |
| | NSP-BP-MW-xxxx | |
| | NSP-BP-APP-xxxx | |
| | Date of purchase:-/-/---- | |

4-3-1. Detail Factory Option



NOTE

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

■ **HG32NJ477NFXZA**

- **PANEL / SMPS / MAIN Information**

| Side Version | CA01 | | | | | |
|--------------|------------------|-----------|-------------|-----------|--------------|---------------|
| PANEL | | | SMPS | | MAIN | |
| Vendor | CSOT | | Vendor | POWER | ASSY CHASSIS | ASSY PCB MAIN |
| Code | Spec | Type | Code | Spec | | |
| BN95-04930C | CY-JN032AGHV3V/H | 32S6AH0JN | BN44-00844D | P32SF_MPN | BN91-20345D | BN94-12919G |

- **MAIN Factory Option**

| Local Set | BOM Model | Front Color | S/W Model |
|-----------|-----------|-------------|-----------|
| US | 477 | N/A | HJ477 |

■ HG40NJ477MFXZA

- PANEL / SMPS / MAIN Information

| Side Version | DA01 | | | | | | |
|--------------|-----------------|-----------|-------------|-------------|-------------|--------------|---------------|
| PANEL | | | SMPS | | MAIN | | |
| Vendor | INX | | Vendor | HANSOE | | ASSY CHASSIS | ASSY PCB MAIN |
| Code | Spec | Type | Code | Spec | | | |
| BN95-04925E | CY-JN040BGNV4/H | 40D6AF0JN | BN44-00851C | L40MSFR_MHS | BN91-19974V | BN94-13318A | |

- MAIN Factory Option

| Local Set | BOM Model | Front Color | S/W Model |
|-----------|-----------|-------------|-----------|
| US | 477 | N/A | HJ477 |

■ HG43NJ477MFXZA

• PANEL / SMPS / MAIN Information

| Side Version | BA01 | | | | | |
|--------------|-----------------|-----------|-------------|-------------|--------------|---------------|
| PANEL | | | SMPS | | MAIN | |
| Vendor | BOE | | Vendor | DYREL | ASSY CHASSIS | ASSY PCB MAIN |
| Code | Spec | Type | Code | Spec | | |
| BN95-04928C | CY-JN043BGEV3VH | 43B6AF0JN | BN44-00852F | L48MSFR_MDY | BN91-19974Y | BN94-13318D |

• MAIN Factory Option

| Local Set | BOM Model | Front Color | S/W Model |
|-----------|-----------|-------------|-----------|
| US | 477 | N/A | HJ477 |

■ HG49NJ477MFXZA

- PANEL / SMPS / MAIN Information

| Side Version | FA01 | | | | | |
|-----------------------------|------------------|------------------|-----------------------------|-------------|--------------|-----------------------------|
| PANEL | | | SMPS | | MAIN | |
| Vendor | SDC | | Vendor | DYREL | ASSY CHASSIS | ASSY PCB MAIN |
| Code | Spec | Type | Code | Spec | | |
| BN95-04926E | CY-JN049BGLV4V/H | 49A6AF0JN | BN44-00856C | L50MSFR_MDY | BN91-20345G | BN94-13318G |

- MAIN Factory Option

| Local Set | BOM Model | Front Color | S/W Model |
|-----------|-----------|-------------|-----------|
| US | 477 | N/A | HJ477 |

4-3-2. Factory Data

■ Option

| Factory Menu Name | | Data | Range |
|----------------------|-----|-----------|-----------|
| Factory Reset | | - | |
| Type | 32" | 32S6AH0JN | |
| | 40" | 40D6AF0JN | |
| | 43" | 43B6AF0JN | |
| | 49" | 49A6AF0JN | |
| Local set | | US | |
| SW Model | | HJ477 | |
| BOM Model | | 477 | |
| TUNER | | - | NTSC/ATSC |
| Ch Table | | NONE | |
| MRT Option | | | |
| Front color | | N/A | |
| Lvds Format | | JEIDA | |
| Language_Arabic | | US | |
| Region | | USA | |
| PnP Language | | ENG_US | |
| OTN Support | | OFF | |
| TTX | | OFF | |
| China HD | | OFF | |
| NT Conversion | | OFF | |
| Num of DTV | | 1 | |
| Num of AV | | 1 | |
| Num of COMP | | 0 | |
| Num of HDMI | | 2 | |
| Num of SCART | | 0 | |
| Num of USB Port | | 1 | |
| Num of RVU | | 0 | |
| Num of Display | | 2 | |
| Num of IPTV | | 0 | |
| Num of RUI | | 0 | |
| TOOLS Support | | 313 | |
| LNA Support | | 0 | |
| Data Service Support | | OFF | |
| BD Wise support | | OFF | |
| CI Support | | OFF | |

| Factory Menu Name | Data | Range |
|---------------------------|-------------|-------|
| OTA Support | OFF | |
| LEDMotionPlus Support | OFF | |
| Natural Mode Support | OFF | |
| Relax Mode Support | OFF | |
| HDMI/DVI SEL | 2 | |
| HV Flip | HV Flip | |
| e-Pop Default | OFF | |
| NETWORK Support | Not support | |
| EcoSensor Support | OFF | |
| BT SUPPORT | OFF | |
| BT ADDRESS | Not support | |
| HP LINE | Lineout | |
| Capture Recording Support | OFF | |
| Engineer Option | | |
| Type Of Panel Key | ONE KEY | |
| 5 Way Function Key | R_BOTTOM | |
| Contents Bar | 0 | |
| Cable Modulation | Error | |
| Standby Led on/off | OFF | |
| Recognition Support | OFF | |
| IF AGC | 0 | |
| D AGC | 0 | |
| PH BW | 3 | |
| FQ BW | 3 | |
| PH RATE | 4 | |
| PD EN | 1 | |
| PEQ Inx | 214/501 | |
| WF Scale | | |
| Num of Network Stream | 0 | |
| DPV Size | 1 | |
| Backend Device | ECHO_FS | |
| BT_AUDIO_ON_OFF | OFF | |
| Config_AV_PATH | | |
| V_HDMI IDENT TYPE | 1234 | |
| V_HDMI PATH TYPE | BACD | |
| V_EDID TYPE | LCD_HD | |
| V_ATV | CVBS_PORT_2 | |
| V_AV1 | AV_COMP_G1 | |

4. Troubleshooting

| Factory Menu Name | Data | Range |
|-------------------|---------|-------|
| V_AV2 | None | |
| V_COMP1 | None | |
| V_COMP2 | None | |
| V_PC | None | |
| V_SCART1_CVBS | None | |
| V_SCART1_RGB | None | |
| V_SCART2_CVBS | None | |
| V_SCART2_RGB | None | |
| A_ATV | SIF | |
| A_DTV | DECODER | |
| A_AV1 | AUIN1 | |
| A_AV2 | None | |
| A_COMP1 | None | |
| A_COMP2 | None | |
| A_PC | None | |
| A_SCART1 | None | |
| A_SCART2 | None | |
| A_DVI | None | |
| A_HDMI | None | |
| A_Media | DECODER | |
| USING_PSI_UPDATE | | |
| Fast Logo Delay | | |
| Num of PANEL KEY | | |

■ Control

| Factory Menu Name | Data | Range |
|-------------------|------|-------|
| EDID | | |
| EDID ON/OFF | OFF | |
| EDID WRITE ALL | ... | |
| EDID WRITE HDMI | ... | |
| EDID WRITE HDMI1 | ... | |
| EDID WRITE HDMI2 | ... | |
| EDID WRITE HDMI3 | ... | |
| EDID WRITE HDMI4 | ... | |
| EDID Ver | ... | |
| EDID Port | ... | |
| EDID WRITE DVI | ... | |

| Factory Menu Name | Data | Range |
|-------------------------|-----------|-------|
| Sub Option | | |
| RS-232 Jack | UART | |
| Serial Log On/Off | ON | |
| Watchdog | OFF | |
| Checksum | 0x0000 | |
| Fast Boot in Production | OFF | |
| USB Serial | OFF | |
| Eeprom Reset | | |
| ECO IC TYPE | MC8121 | |
| Info Link Server Type | operating | |
| Info Link Country | None | |
| TTX Group | ... | |
| Visual Test | ... | |
| MediaPlay DB | ... | |
| OPTION_SWU | | |
| OTN Server Type | operating | |
| OTN Test Server | OFF | |
| SWU Reset | | |
| SWU Duration | OFF | |
| SWU Fail Test | OFF | |
| SWU_Diag_Code | | |
| OPTION_NUM | | |
| Num of ATV | 1 | |
| Num of SVIDEO | 0 | |
| Num of PC | 0 | |
| Num of DVI | 0 | |
| Num of OPTICAL Link | 0 | |
| Num of MEDIA | 1 | |
| Num of Tuner | 1 | |
| Num of PVR RECORD | 0 | |
| RF Remocon Support | OFF | |
| CDD mode | ... | |
| DPMS Support | OFF | |
| Num of IPTV CIP | 0 | |
| Num of CI | 0 | |
| Num of DECODER | 0 | |
| T-CON Device | | |

4. Troubleshooting

| Factory Menu Name | Data | Range |
|-----------------------|------------|-------|
| BOARD CONTROL | OFF | |
| RM | | |
| PSA | | |
| LMK threshold | 0 | |
| Low threshold | 0 | |
| High threshold | 0 | |
| CSB | ON | |
| CLB | ON | |
| EEPG Enable | OFF | |
| Fanet Thread | 5 | |
| UNIQUE TRIPLET | ON | |
| HOTEL Option | | |
| Hospitality Mode | Standalone | |
| SI Vendor | OFF | |
| Power On | ... | |
| Channel | ... | |
| Menu OSD | | |
| Clock | | |
| Music Mode | ... | |
| Remote Jack Pack | | |
| External Source | | |
| Eco Solution | ... | |
| Logo/Message | ... | |
| Cloning | ... | |
| Security | | |
| DRM | | |
| System | ... | |
| Shop Option | | |
| Shop Mode | ... | |
| Exhibition Mode | OFF | |
| 3D Cube | OFF | |
| Asia Option | | |
| Sepco 120Hz | OFF | |
| Unbalance | OFF | |
| FMTransmitter Support | OFF | |
| FMTransmitter Carrier | OFF | |
| AF Level adjust | 3 | |

| Factory Menu Name | Data | Range |
|-------------------------|-----------------------|-------|
| TX Power Level | 0 | |
| Mono Last Memory | OFF | |
| H Shaking | OFF | |
| SOUND | | |
| High Devi | OFF | |
| Carrier Mute | ON | |
| Speaker Delay Normal | 0 | |
| Wiselink Delay Menu | 0 | |
| Pilot Level High Thld | 0x0Fh | |
| Pilot Level Low Thld | 0x08h | |
| Pilot_Phase_diff_on_THR | OFF | |
| FM Prescale | 0X17h | |
| AM Prescale | 0x1Ah | |
| NICAM Prescale | 0x1Dh | |
| Amp Model | TAS5747 | |
| Amp Volume | 0XC9 | |
| Amp Scale | 0X25 | |
| Amp Check Sum | 0x00321A73/0x00D2ACAD | |
| SubWoofers Support | 0 | |
| Woofers Type | 0 | |
| Woofers Volume | 0xcbh | |
| Woofers Scale | 0x8ah | |
| Woofers Check Sum | NONE | |
| Woofers Local Check Sum | NONE | |
| Amp Local Check Sum | NONE | |
| Speaker EQ | ON | |
| PEQ Test | Ready | |
| Speaker cut-off Freq | 5 | |
| SPDIF PCM Gain | -9dB | |
| FM M Prescale | 0 | |
| BTSC Mono Prescale | 15 | |
| BTSC stereo Prescale | 29 | |
| SAP Prescale | 29 | |
| A2 Ident High Thld | 11 | |
| A2 Ident Low Thld | 5 | |
| Carrier2 Amp High Thld | 4 | |
| Carrier2 Amp Low Thld | 2 | |

4. Troubleshooting

| Factory Menu Name | Data | Range |
|-----------------------|-------|-------|
| Carrier2 SNR High THR | 32 | |
| Carrier2 SNR Low THR | 15 | |
| Audio-IP Test | Ready | |
| SRS Tuning Param | 4 | |
| TruBass CheckSum | 0 | |
| Mic Scale | 0 | |
| India Sound | OFF | |
| Wall Filter Type | 0 | |
| SAP High Thld | 9 | |
| SAP Low Thld | 7 | |
| Bottom CheckSum | 0 | |
| Bottom Local CheckSum | 0 | |

■ Debug

| Factory Menu Name | Data | Range |
|--------------------------|-------|-------|
| Spread Spectrum | | |
| LVDS Amplitude | 2 | |
| DDR Margin | | |
| ND SDJ Support | 0 | |
| MICOM POWER OFF | 0 | |
| RF Mute Time | 6ms | |
| CI+1.3 | 0 | |
| FRC | | |
| Tuner Margin | 0 | |
| MPEG Margin | 1000 | |
| H.264 Margin | 8 | |
| CAM Wait Time | 0 | |
| TS Clock delay | 0 | |
| TCON_TEMP READ | 0.00 | |
| TEMPP LAST | 60.00 | |
| DCC VERSION | 0x0 | |
| DCC CHK SEL | 0 | |
| DCC CHECK LOCAL | 0x0 | |
| DCC CHECK TOTEL | 0x0 | |
| MultiACC Checksum | 0 | |
| IIC Bus Stop | OFF | |

| Factory Menu Name | Data | Range |
|---------------------|------|-------|
| Tuner Status | | |

■ SVC

| Factory Menu Name | Data | Range |
|------------------------------|---------|---|
| Test Pattern | | <ul style="list-style-type: none"> the Output of test pattern from each IC |
| Panel Display Time | 1Hr | |
| SVC Info | 0 | |
| Delete S/N | Failure | |
| Upgrade | | |
| Smart Hub Reset | 0 | |
| ER Count | | |
| LOG | | |
| Self Diagnosis | | |
| IPERF | Stopped | |
| OPTION_HDMI | | |
| DVB CI | | |
| CAL Data Backup_Copy | | |
| CAL Data Restore_Copy | 0 | |
| Expert | | |
| ATV IF AGC SPEED | 0 | |
| Reset | | |
| Auto Power | MEMORY | |

■ ADC/WB

| Factory Menu Name | Data | Range |
|-------------------|------|-------|
| ADC | | |
| AV Calibration | / | |
| Comp Calibration | / | |
| PC Calibration | / | |
| HDMI Calibration | / | |
| ADC Result | | |
| 1st_Y_GH | 128 | |
| 1st_y_GL | 128 | |
| 1st_Cb_BH | ... | |
| 1st_Cb_BL | ... | |

4. Troubleshooting

| Factory Menu Name | Data | Range |
|----------------------|------|-------|
| 1st_Cr_RH | ... | |
| 1st_Cr_RL | ... | |
| 2nd_R_L | 133 | |
| 2nd_G_L | 133 | |
| 2nd_B_L | 133 | |
| 2nd_R_H | 70 | |
| 2nd_G_H | 70 | |
| 2nd_B_H | 70 | |
| 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 | 158 | |
| WB_W2_B_Gain | 68 | |
| WB_N_R_Offset | 128 | |
| WB_N_B_Offset | 128 | |
| WB_N_R_Gain | 146 | |
| WB_N_B_Gain | 107 | |
| MGA | | |
| MGA On/Off | OFF | |
| R1_Gain | 512 | |
| G1_Gain | 512 | |
| B1_Gain | 512 | |
| R2_Gain | 512 | |
| G2_Gain | 512 | |
| B2_Gain | 512 | |
| R3_Gain | 512 | |
| G3_Gain | 512 | |
| B3_Gain | 512 | |
| R4_Gain | 512 | |
| G4_Gain | 512 | |
| B4_Gain | 512 | |

| Factory Menu Name | Data | Range |
|-------------------|------|-------|
| R5_Gain | 512 | |
| G5_Gain | 512 | |
| B5_Gain | 512 | |
| R6_Gain | 512 | |
| G6_Gain | 512 | |
| B6_Gain | 512 | |
| R7_Gain | 512 | |
| G7_Gain | 512 | |
| B7_Gain | 512 | |
| R8_Gain | 512 | |
| G8_Gain | 512 | |
| B8_Gain | 512 | |
| R9_Gain | 512 | |
| G9_Gain | 512 | |
| B9_Gain | 512 | |
| R10_Gain | 512 | |
| R10_Gain | 512 | |
| R10_Gain | 512 | |

■ Advanced

4-4. White Balance

4-4-1. Calibration

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

| | |
|---------------|------------------|
| Option | AV Calibration |
| Control | Comp Calibration |
| Debug | PC Calibration |
| SVC | HDMI Calibration |
| ADC/WB | |
| Advanced | |

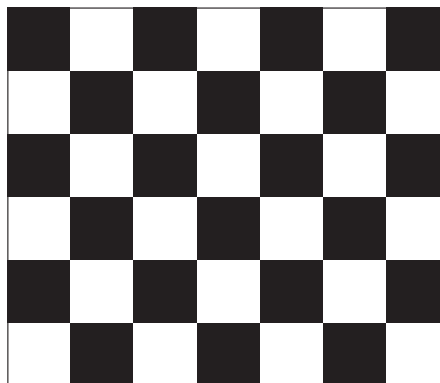
4-4-2. Service Adjustment

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

■ Color Calibration

- Adjust Specification

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



(Chess Pattern)

- Use other equipment only after comparing the result with that of the Master equipment.

| Input mode | Calibration | Pattern |
|--------------------------|--|---------|
| CVBS IN (Model_#1) | Perform in NTSC B&W Pattern #24 | Lattice |
| Component IN (Model_#6) | Perform in 720p B&W Pattern #24 | Lattice |
| PC Analog IN (Model_#21) | Perform in VESA XGA (1024x768) B&W Pattern #24 | Lattice |
| HDMI IN | Perform in 720p B&W Pattern #24 | Lattice |

Method of Color Calibration (AV)

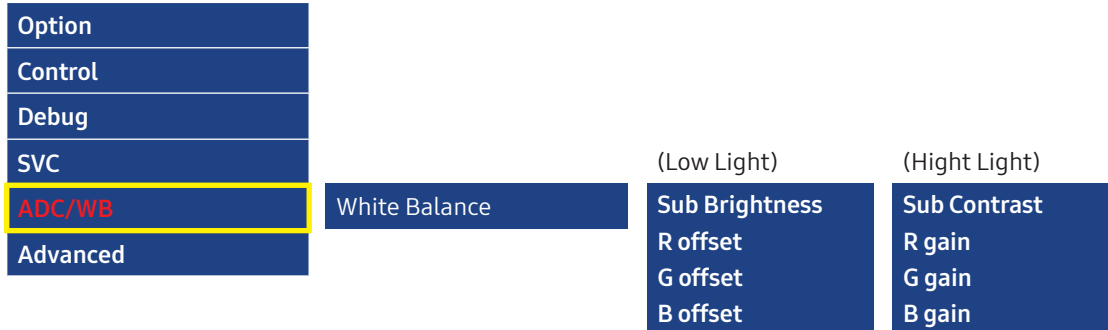
1. Apply the NTSC Lattice (NO. 3) pattern signal to the AV IN 1 port.
2. Press the Source key to switch to "AV1" mode.
3. Enter Service mode.
4. Select the "ADC" menu.
5. Select the "AV Calibration" menu.
6. In "AV Calibration Off" status, press the "▶" key to perform Calibration.
7. When Calibration is complete, it returns to the high-level menu.
8. You can see the change of the "AV Calibration" status from Failure to Success.

Method of Color Calibration (HDMI)

1. Apply the 720p Lattice (NO. 6) pattern signal to the HDMI1/DVI IN port.
2. Press the Source key to switch to "HDMI1" mode.
3. Enter Service mode.
4. Select the "ADC" menu.
5. Select the "HDMI Calibration" menu.
6. In "HDMI Calibration Off" status, press the "▶" key to perform Calibration.
7. When Calibration is complete, it returns to the high-level menu.
8. You can see the change of the "HDMI Calibration" status from Failure to Success.

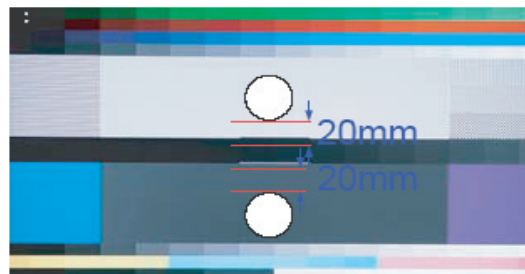
4-4-3. Adjustment

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



4-5. White Ratio (Balance) Adjustment

1. You can adjust the white ratio in factory mode (1:Calibration, 3:White-Balance).
2. Since the adjustment value and the data value vary depending on the input source, you have to adjust these in CVBS, Component 1 and HDMI 1 modes.
3. The optimal values for each mode are configured by default. (Refer to Table 1, 2) It varies with Panel's size and Specification.
 - Equipment : CS-210
 - Pattern: MIK K-7256 #92 "Flat W/B Pattern" as standard
 - Use other Equipment only after comparing the result with that of the Master equipment.
 - Set Aging time : 60min
 - Calibration and Manual setting for WB adjustment.



HDMI : Calibration at #24 Chessboard Pattern Manual adjustment #92 pattern (720p)

COMP : Calibration at #24 Chessboard Pattern Manual adjustment at #92 pattern (720p)

CVBS : Calibration at #24 Chessboard Pattern Manual adjustment at #92 pattern (NTSC)



NOTE

- If finishing in HDMI mode, adjustment coordinate is almost same in AV mode.
- White Balance Manual adjustment.



4-6. Updating the TV's Software

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. We recommend you clone the TV's settings so that you can easily reset them after the upgrade.

- For more information about the USB cloning function, refer to page 40.

■ Updating through a USB device

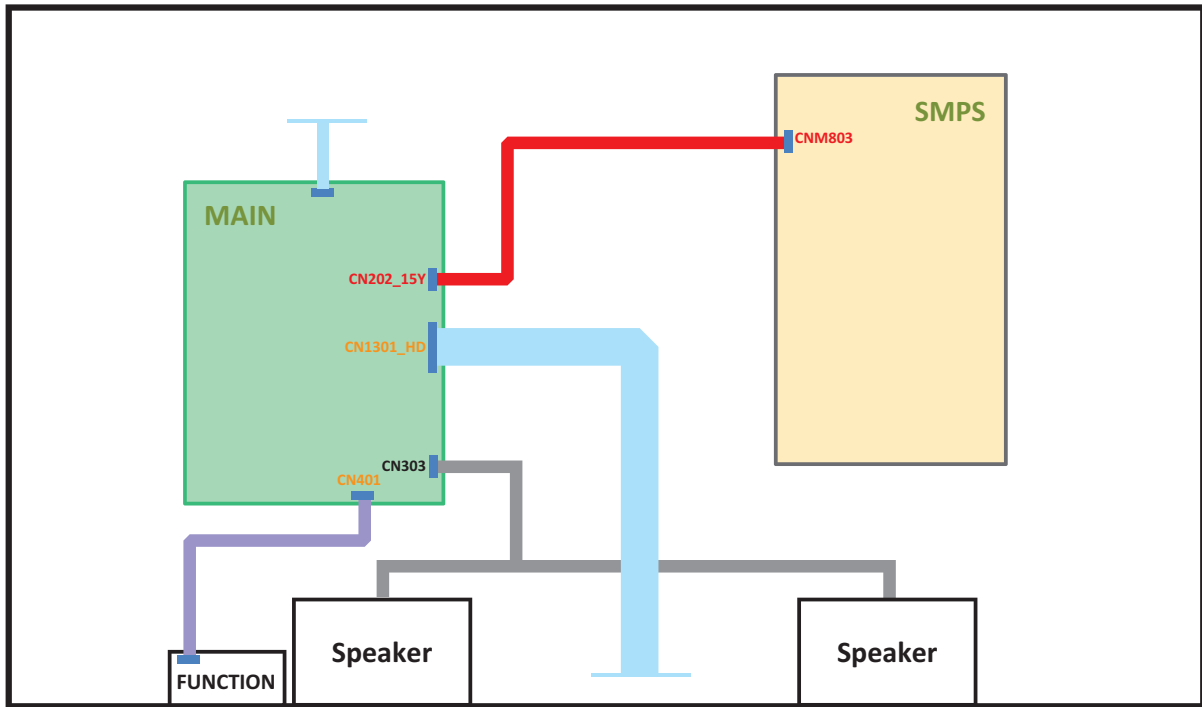
To update the TV's software, follow these steps:

1. Insert a USB flash drive containing the software update file into the USB port of the TV.
2. Run **Update Now**. (MENU  > Support > Software Update > Update Now)
3. The TV displays a pop-up message that checks for the updated version.
4. Move the focus to **OK**, and then press the **Select**  button on the remote control.
 - Please be careful to not disconnect the power or remove the USB flash drive while upgrades are being applied. The TV will turn off and turn on automatically after completing the SW upgrade. Please check the SW version after the upgrades are complete.

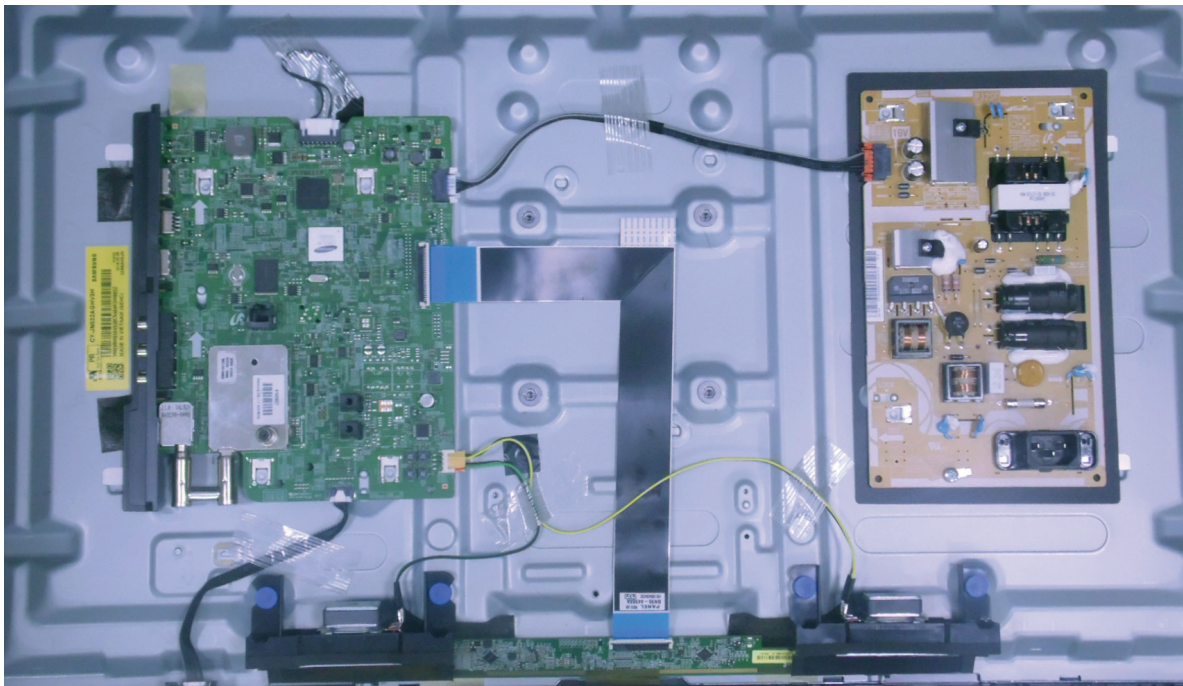
5. Wiring Diagram

5-1. Wiring Diagram

- 32 inches

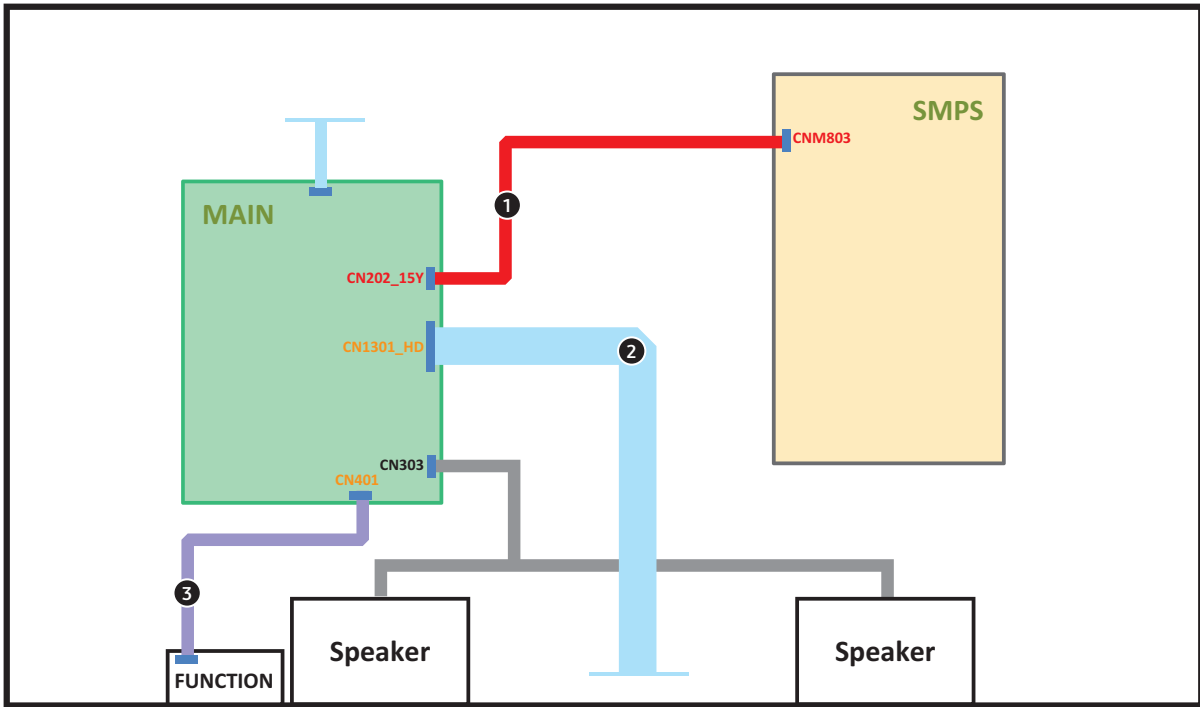


- 32 inches



■ Cables

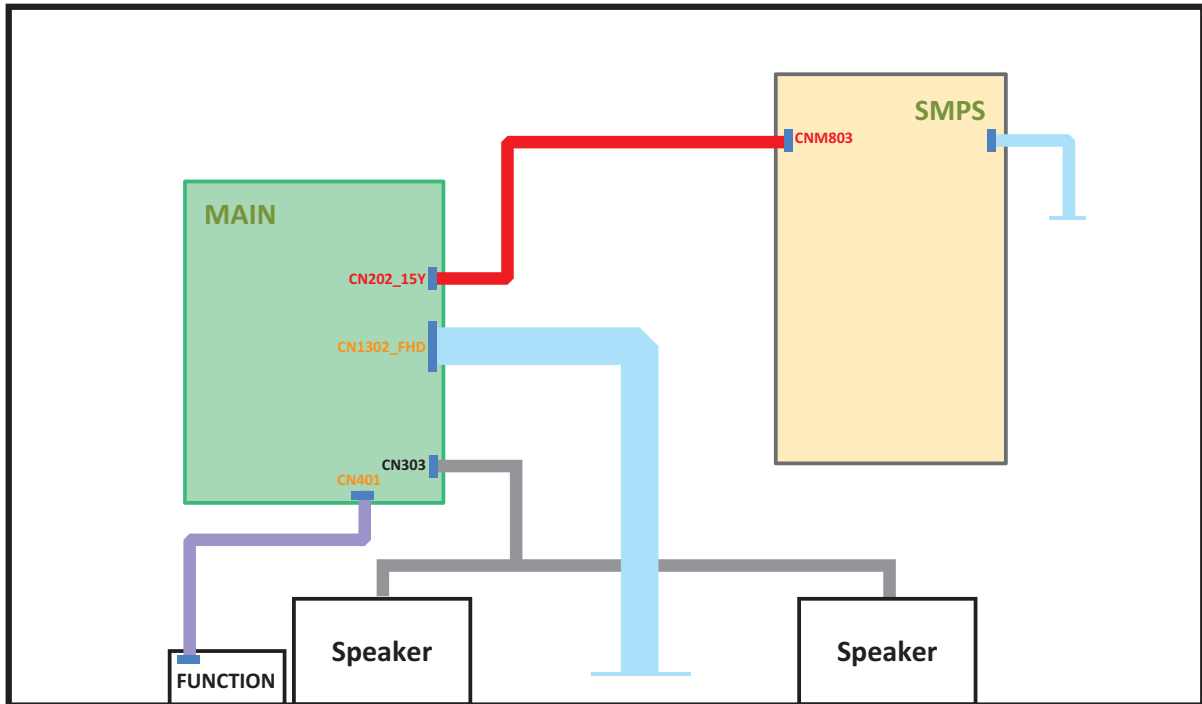
- 32 inches



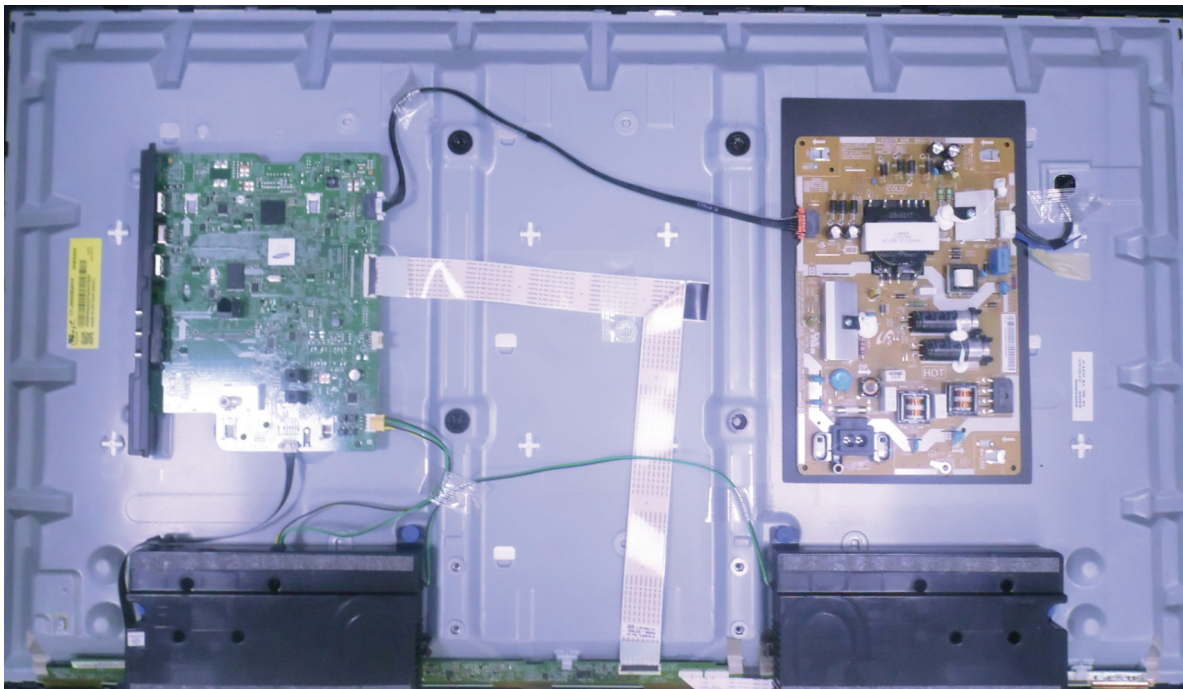
■ Cable Information

| Part Name & Connection | | Part Spec | | Code No. | |
|------------------------|--|---|-----------|----------|-------------|
| ① | LEAD CONNECTOR-POWER SMPS - MAIN |  | 10P/250mm | 32" | BN39-02275F |
| ② | FFC CABLE Main - Source |  | 30P/L400 | 32" | BN96-44988A |
| ③ | LEAD CONNECTOR-SUB ASSY MAIN - FUNCTION |  | 8P/150mm | 32" | BN39-02223D |

- 40/43/49 inches

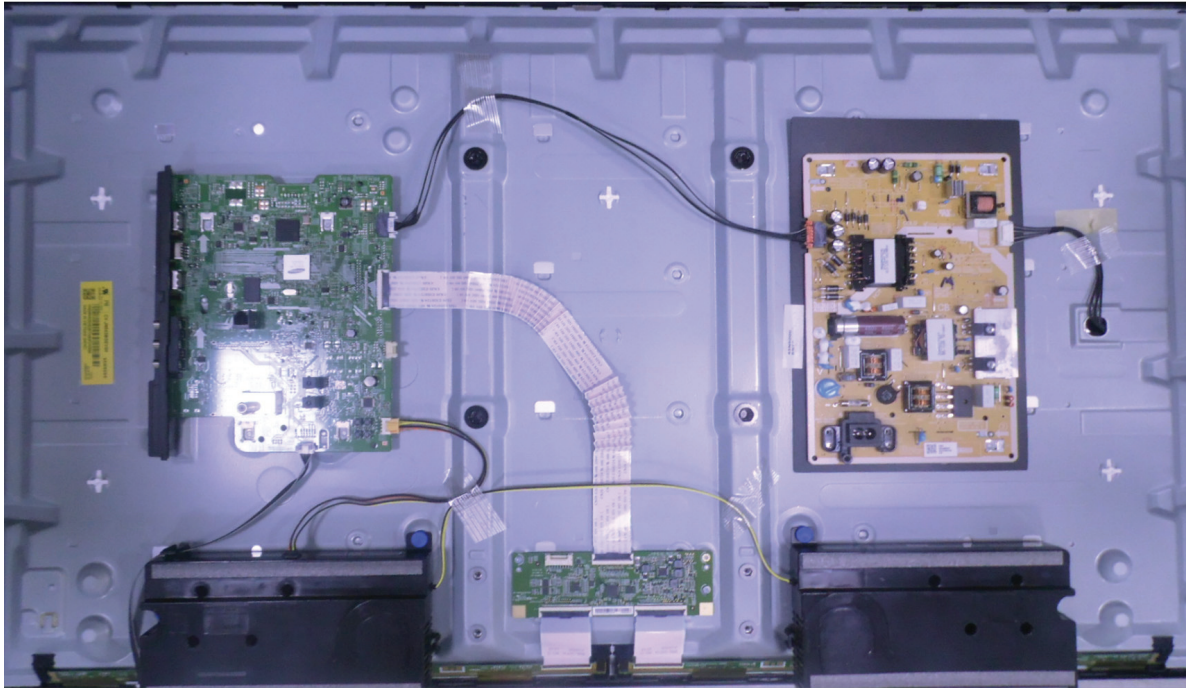


- 40 inches

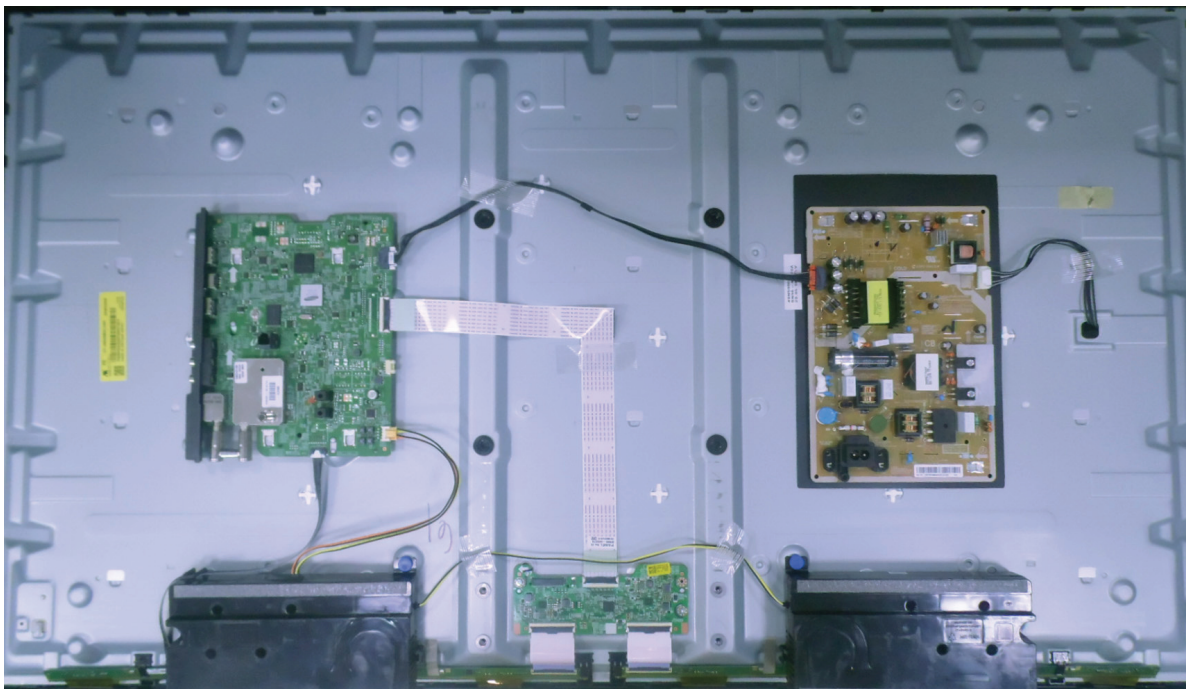


5. Wiring Diagram

- 43 inches

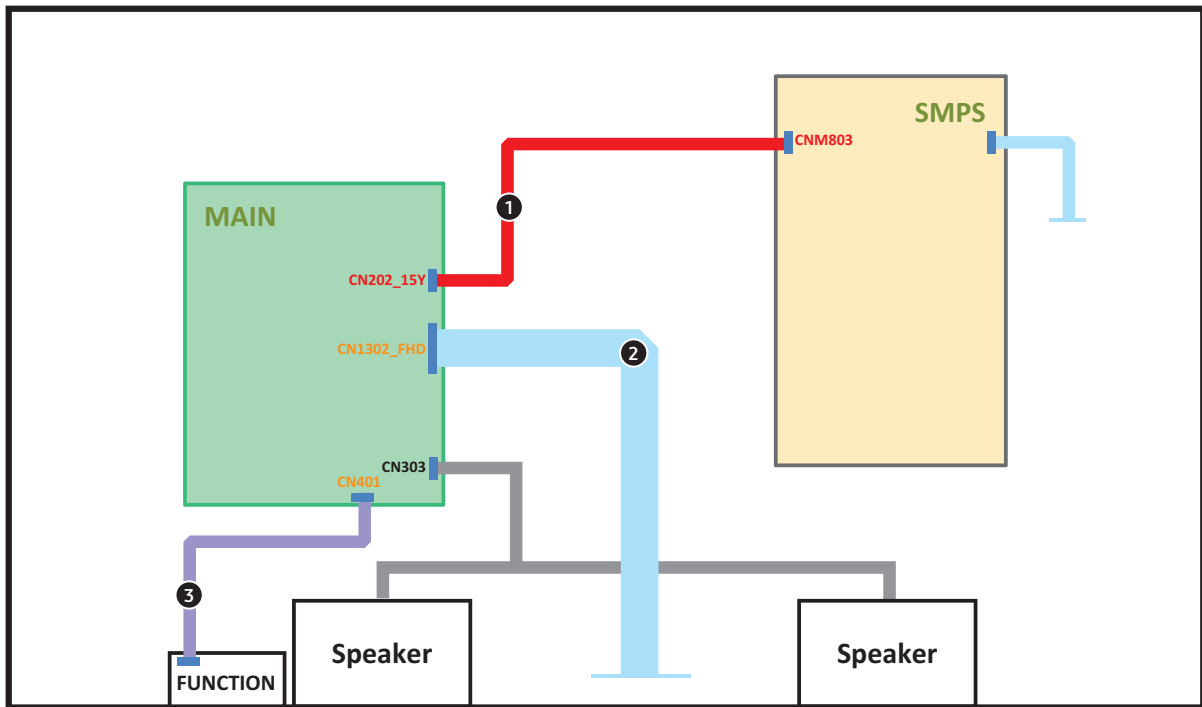


- 49 inches



■ Cables

- 40/43/49 inches



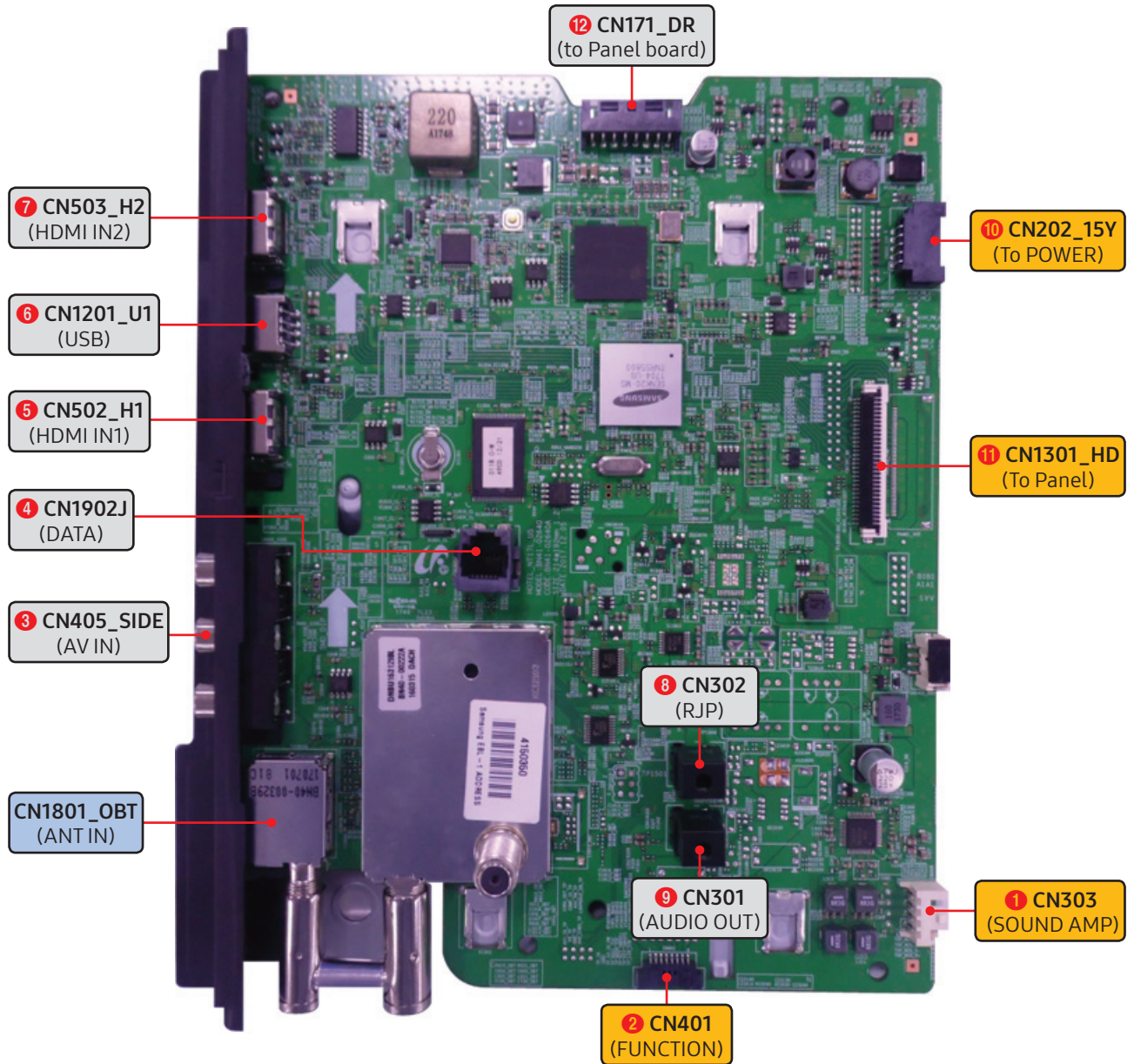
■ Cable Information

| Part Name & Connection | | Part Spec | | Code No. | | |
|------------------------|--|---|----------|----------|-----------------------------|-----------------------------|
| ① | LEAD CONNECTOR-POWER SMPS - MAIN |  | 10P/L400 | 40" | BN39-02275B | |
| | | | | 43" | BN39-02275B | |
| | | | | 49" | BN39-02275B | |
| ② | FFC CABLE Main - Source |  | 51P/L550 | 40" | BN96-43790C | |
| | | | | 51P/L400 | 43" | BN96-40209C |
| | | | | 51P/L450 | 49" | BN96-44987A |
| ③ | LEAD CONNECTOR-SUB ASSY MAIN - FUNCTION |  | 8P/250mm | 40" | BN39-02223A | |
| | | | | 43" | BN39-02223A | |
| | | | | 8P/300mm | 49" | BN39-02223C |

5-2. Connector

■ Main Board

- 32 inches



■ Main Board Pin Map

| 1 CN303 (SOUND AMP) | | | |
|---------------------|----|---|----|
| 1 | R+ | 2 | R- |
| 3 | L+ | 4 | L- |

| 2 CN401 (FUNCTION) | | | |
|--------------------|------------|---|------------|
| 1 | IR | 2 | GND |
| 3 | A3.3V_PW | 4 | MSCL_I2C |
| 5 | MSDA_I2C | 6 | KEY_INPUT1 |
| 7 | KEY_INPUT2 | 8 | LED_STB |

| 3 CN405_SIDE (AV IN) | | | |
|----------------------|-----------|---|-----------|
| 1 | DGND | 2 | IDENT_AV2 |
| 3 | AV2_CVBS | 4 | DGND |
| 5 | TEST_SL | 6 | AV2_SL_IN |
| 7 | DGND | 8 | TEST_SR |
| 9 | AV2_SR_IN | | |

| 4 CN1902J (DATA) | | | |
|------------------|-------------|---|---------|
| 1 | DGND | 2 | RJ12_IR |
| 3 | PIL_A12V_PW | 4 | RJ12_TX |
| 5 | RJ12_CLK | 6 | RJ12_RX |

| 5 CN502_H1 (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_RXCLK+_HDMI |
| 11 | GND | 12 | HDMI1_RXCLK-_HDMI |
| 13 | CEC | 14 | GND |
| 15 | HDMI1_SCL_DDC | 16 | HDMI1_SDA_DDC |
| 17 | IDENT_HDMI1 | 18 | HDMI1_5V_PW |
| 19 | HDMI1_HOT_PLUG | | |

| 6 CN1201_U1 (USB) | | | |
|-------------------|--------------|---|--------------|
| 1 | B5V_USB1_PW | 2 | USB0_DM-_USB |
| 3 | USB0_DP+_USB | 4 | DGND |

| 7 CN503_H2 (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_RXCLK+_HDMI |
| 11 | GND | 12 | HDMI2_RXCLK-_HDMI |
| 13 | CEC | 14 | GND |
| 15 | HDMI2_SCL_DDC | 16 | HDMI2_SDA_DDC |
| 17 | IDENT_HDMI2 | 18 | HDMI2_5V_PW |
| 19 | HDMI2_HOT_PLUG | | |

| 8 CN302 (RJP) | | | |
|---------------|-------------|---|-------------|
| 1 | GND | 2 | TP_FANET_TX |
| 3 | TP_FANET_RX | 4 | NC |
| 5 | NC | 6 | NC |
| 7 | NC | | |

| 9 CN301 (AUDIO OUT) | | | |
|---------------------|-----------|---|-------------|
| 1 | DGND | 2 | MO_SL_OUT |
| 3 | MO_SR_OUT | 4 | TEST_SL |
| 5 | TEST_SR | 6 | IDENT_HP_MO |
| 7 | DGND | 8 | |

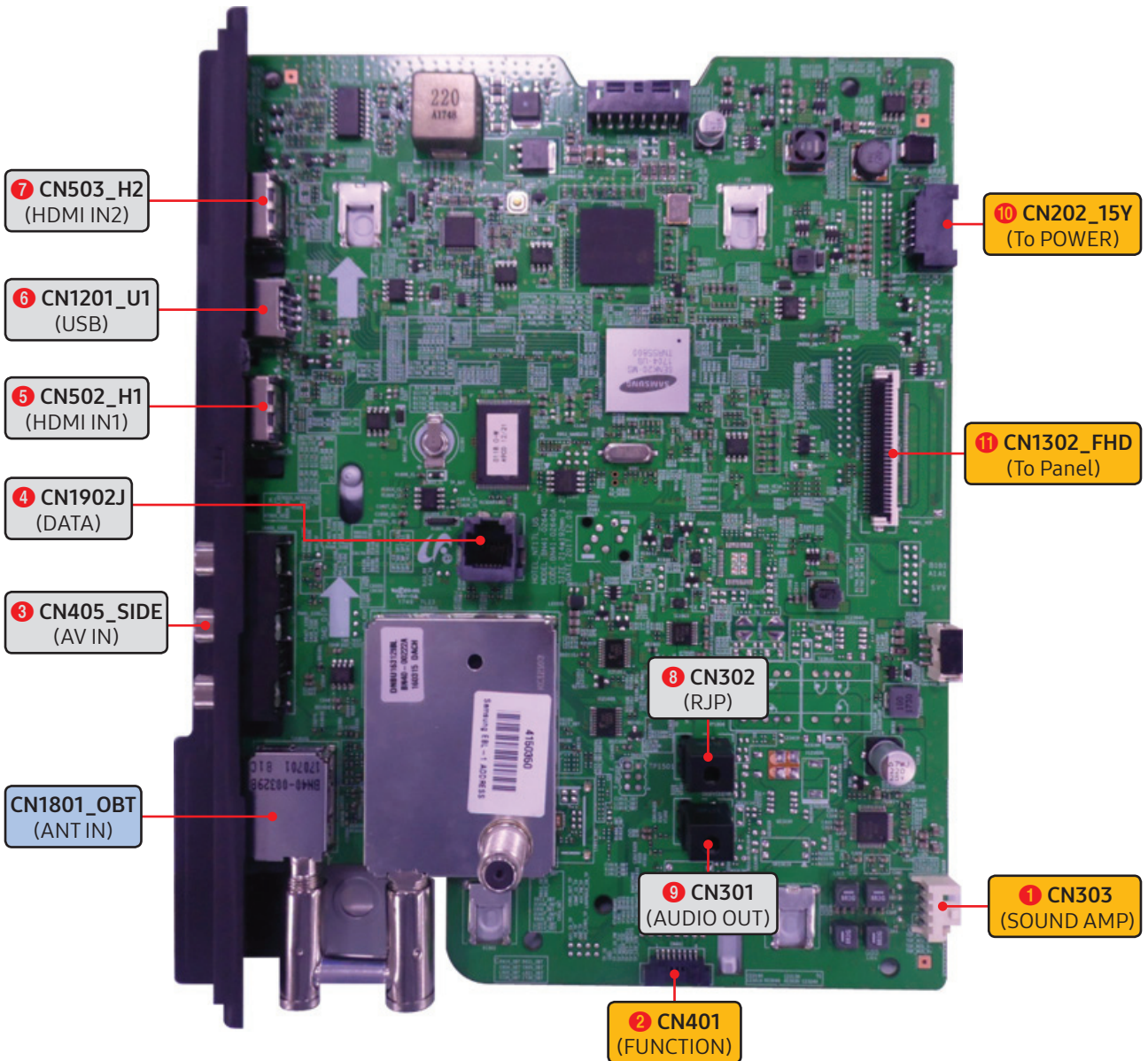
| 10 CN202_15Y (to Power) | | | |
|-------------------------|---------|----|------|
| 1 | A19V_PW | 2 | DGND |
| 3 | A19V_PW | 4 | DGND |
| 5 | A19V_PW | 6 | DGND |
| 7 | A19V_PW | 8 | DGND |
| 9 | A19V_PW | 10 | DGND |

| 11 CN1403_NMOB (BT/WIFI) | | | |
|--------------------------|------------------|----|------------------|
| 1 | NC | 2 | GND |
| 3 | FRC_SDA_I2C | 4 | PWM_DIM1_FRC |
| 5 | FRC_SCL_I2C | 6 | FRC_RESET |
| 7 | LVDS_FORMAT | 8 | TCON_SDA_I2C |
| 9 | TCON_WP | 10 | NC |
| 11 | UPDATE_CHECK | 12 | TCON_SCL_I2C |
| 13 | GND | 14 | EVEN_TX4+_LVDS |
| 15 | EVEN_TX4-_LVDS | 16 | EVEN_TX3+_LVDS |
| 17 | EVEN_TX3-_LVDS | 18 | GND |
| 19 | EVEN_TXCLK+_LVDS | 20 | EVEN_TXCLK-_LVDS |
| 21 | GND | 22 | EVEN_TX2+_LVDS |
| 23 | EVEN_TX2-_LVDS | 24 | EVEN_TX1+_LVDS |
| 25 | EVEN_TX1-_LVDS | 26 | EVEN_TX0+_LVDS |
| 27 | EVEN_TX0-_LVDS | 28 | GND |
| 29 | ODD_TX4+_LVDS | 30 | ODD_TX4-_LVDS |
| 31 | ODD_TX3+_LVDS | 32 | ODD_TX3-_LVDS |
| 33 | GND | 34 | ODD_TXCLK+_LVDS |
| 35 | ODD_TXCLK-_LVDS | 36 | GND |
| 37 | ODD_TX2+_LVDS | 38 | ODD_TX2-_LVDS |
| 39 | ODD_TX1+_LVDS | 40 | ODD_TX1-_LVDS |
| 41 | ODD_TX0+_LVDS | 42 | ODD_TX0-_LVDS |
| 43 | GND | 44 | GND |
| 45 | GND | 46 | NC |
| 47 | PANEL_13V_PW | 48 | PANEL_13V_PW |
| 49 | PANEL_13V_PW | 50 | PANEL_13V_PW |
| 51 | PANEL_13V_PW | | |

| 12 CN171_DR (To Panel) | | | |
|------------------------|------|---|------|
| 1 | NC | 2 | LED- |
| 3 | NC | 4 | NC |
| 5 | NC | 6 | NC |
| 7 | LED+ | 8 | NC |

5. Wiring Diagram

- 41/43/49 inches



■ Main Board Pin Map

| 1 CN303 (SOUND AMP) | | | |
|---------------------|----|---|----|
| 1 | R+ | 2 | R- |
| 3 | L+ | 4 | L- |

| 2 CN401 (FUNCTION) | | | |
|--------------------|------------|---|------------|
| 1 | IR | 2 | GND |
| 3 | A3.3V_PW | 4 | MSCL_I2C |
| 5 | MSDA_I2C | 6 | KEY_INPUT1 |
| 7 | KEY_INPUT2 | 8 | LED_STB |

| 3 CN405_SIDE (AV IN) | | | |
|----------------------|-----------|---|-----------|
| 1 | DGND | 2 | IDENT_AV2 |
| 3 | AV2_CVBS | 4 | DGND |
| 5 | TEST_SL | 6 | AV2_SL_IN |
| 7 | DGND | 8 | TEST_SR |
| 9 | AV2_SR_IN | | |

| 4 CN1902J (DATA) | | | |
|------------------|-------------|---|---------|
| 1 | DGND | 2 | RJ12_IR |
| 3 | PIL_A12V_PW | 4 | RJ12_TX |
| 5 | RJ12_CLK | 6 | RJ12_RX |

| 5 CN502_H1 (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_RXCLK+_HDMI |
| 11 | GND | 12 | HDMI1_RXCLK-_HDMI |
| 13 | CEC | 14 | GND |
| 15 | HDMI1_SCL_DDC | 16 | HDMI1_SDA_DDC |
| 17 | IDENT_HDMI1 | 18 | HDMI1_5V_PW |
| 19 | HDMI1_HOT_PLUG | | |

| 6 CN1201_U1 (USB) | | | |
|-------------------|--------------|---|--------------|
| 1 | B5V_USB1_PW | 2 | USB0_DM-_USB |
| 3 | USB0_DP+_USB | 4 | DGND |

| 7 CN503_H2 (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_RXCLK+_HDMI |
| 11 | GND | 12 | HDMI2_RXCLK-_HDMI |
| 13 | CEC | 14 | GND |
| 15 | HDMI2_SCL_DDC | 16 | HDMI2_SDA_DDC |
| 17 | IDENT_HDMI2 | 18 | HDMI2_5V_PW |
| 19 | HDMI2_HOT_PLUG | | |

| 8 CN302 (RJP) | | | |
|---------------|-------------|---|-------------|
| 1 | GND | 2 | TP_FANET_TX |
| 3 | TP_FANET_RX | 4 | NC |
| 5 | NC | 6 | NC |
| 7 | NC | | |

| 9 CN301 (AUDIO OUT) | | | |
|---------------------|-----------|---|-------------|
| 1 | DGND | 2 | MO_SL_OUT |
| 3 | MO_SR_OUT | 4 | TEST_SL |
| 5 | TEST_SR | 6 | IDENT_HP_MO |
| 7 | DGND | 8 | |

| 10 CN202_15Y (to Power) | | | |
|-------------------------|---------|----|------|
| 1 | A19V_PW | 2 | DGND |
| 3 | A19V_PW | 4 | DGND |
| 5 | A19V_PW | 6 | DGND |
| 7 | A19V_PW | 8 | DGND |
| 9 | A19V_PW | 10 | DGND |

| 11 CN1403_NMOB (BT/WIFI) | | | |
|--------------------------|------------------|----|------------------|
| 1 | NC | 2 | GND |
| 3 | FRC_SDA_I2C | 4 | PWM_DIM1_FRC |
| 5 | FRC_SCL_I2C | 6 | FRC_RESET |
| 7 | LVDS_FORMAT | 8 | TCON_SDA_I2C |
| 9 | TCON_WP | 10 | NC |
| 11 | UPDATE_CHECK | 12 | TCON_SCL_I2C |
| 13 | GND | 14 | EVEN_TX4+_LVDS |
| 15 | EVEN_TX4-_LVDS | 16 | EVEN_TX3+_LVDS |
| 17 | EVEN_TX3-_LVDS | 18 | GND |
| 19 | EVEN_TXCLK+_LVDS | 20 | EVEN_TXCLK-_LVDS |
| 21 | GND | 22 | EVEN_TX2+_LVDS |
| 23 | EVEN_TX2-_LVDS | 24 | EVEN_TX1+_LVDS |
| 25 | EVEN_TX1-_LVDS | 26 | EVEN_TX0+_LVDS |
| 27 | EVEN_TX0-_LVDS | 28 | GND |
| 29 | ODD_TX4+_LVDS | 30 | ODD_TX4-_LVDS |
| 31 | ODD_TX3+_LVDS | 32 | ODD_TX3-_LVDS |
| 33 | GND | 34 | ODD_TXCLK+_LVDS |
| 35 | ODD_TXCLK-_LVDS | 36 | GND |
| 37 | ODD_TX2+_LVDS | 38 | ODD_TX2-_LVDS |
| 39 | ODD_TX1+_LVDS | 40 | ODD_TX1-_LVDS |
| 41 | ODD_TX0+_LVDS | 42 | ODD_TX0-_LVDS |
| 43 | GND | 44 | GND |
| 45 | GND | 46 | NC |
| 47 | PANEL_13V_PW | 48 | PANEL_13V_PW |
| 49 | PANEL_13V_PW | 50 | PANEL_13V_PW |
| 51 | PANEL_13V_PW | | |

5-3. Connector Functions

| Connector | Function |
|---|---|
| • CN202_15Y → CNM803 | Supply main power and dimming signal from IP board to Main Board. |
| • CN1301_HD → T-CON (32) • CN1302_FHD → T-CON (40/43/49) | The LVDS signal transferred from Main Board to Panel. |