



LED TV

Chassis : U85A

Model : UE32F6400AW

UE40F6400AW

UE46F6400AW

UE55F6400AW

UE50F6400AW

UE65F6400AW

UE75F6400AW

SERVICE Manual

LED TV



UE**F6400AW

Contents

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

Contents

| | |
|---|------------|
| 1. Precautions | 1-1 |
| 1-1. Safety Precautions | 1-1 |
| 1-1-1. Warnings..... | 1-1 |
| 1-1-2. Servicing the LED TV | 1-1 |
| 1-1-3. Fire and Shock Hazard..... | 1-1 |
| 1-1-4. Product Safety Notices | 1-2 |
| 1-2. Servicing Precautions..... | 1-3 |
| 1-2-1. General Servicing Precautions | 1-3 |
| 1-3. Static Electricity Precautions | 1-4 |
| 1-4. Installation Precautions | 1-5 |
| 2. Product Specifications | 2-1 |
| 2-1. Product information | 2-1 |
| 2-2. Product specification | 2-4 |
| 2-2-1. Product specification | 2-4 |
| 2-2-2. Feature & Specifications..... | 2-8 |
| 2-3. Accessories | 2-16 |
| 2-4. Viewing the Functions | 2-17 |
| 2-4-1. Auto Motion Plus 120 Hz | 2-17 |
| 2-4-2. Supported Formats..... | 2-18 |
| 2-4-3. Smart Control | 2-21 |
| 2-4-4. IR Blaster | 2-25 |
| 2-4-5. SMART Interaction (The camera is sold separately.) | 2-26 |
| 2-4-6. SMART HUB..... | 2-28 |
| 2-4-7. 3D Display | 2-30 |
| 3. Disassembly and Reassembly | 3-1 |
| 3-1. Disassembly and Reassembly | 3-1 |
| 3-1-1. LED TV | 3-1 |
| 3-1-2. ASSY BOARD P-RF-MODULE..... | 3-10 |
| 3-1-3. NETWORK | 3-10 |
| 4. Troubleshooting | 4-1 |
| 4-1. Troubleshooting | 4-1 |
| 4-1-1. Previous Check | 4-1 |
| 4-1-2. Simple flow chart of malfunction..... | 4-3 |
| 4-2. How to Check Fault Symptom | 4-4 |
| 4-2-1. NO Power | 4-4 |
| 4-2-2. No Video (HDMI 1, 2, 3, 4 - Digital Signal) | 4-7 |
| 4-2-3. No Video (Tuner_CVBS) | 4-10 |
| 4-2-4. No Vido (Tuner DTV) | 4-13 |
| 4-2-5. No Video (Video AV) | 4-16 |
| 4-2-6. No Video (COMPONENT) | 4-19 |
| 4-2-7. No Sound (1.Speaker 2.Monitor_out 3.Optical)..... | 4-22 |

| | |
|--|------------|
| 4-3. Factory Mode Adjustments | 4-26 |
| 4-3-1. Detail Factory Option | 4-26 |
| 4-3-2. Entering Factory Mode | 4-28 |
| 4-3-3. Factory Data | 4-29 |
| 4-4. White Balance | 4-42 |
| 4-4-1. Calibration | 4-42 |
| 4-4-2. Service Adjustment | 4-42 |
| 4-4-3. Adjustment | 4-43 |
| 4-5. RS-232C | 4-44 |
| 4-6. AV Control Tab | 4-45 |
| 4-7. Software Upgrade | 4-51 |
| 4-7-1. How to Check the Software Version | 4-51 |
| 4-7-2. How to Upgrade Software | 4-52 |
| 5. Wiring Diagram | 5-1 |
| 5-1. Wiring Diagram | 5-1 |
| 5-2. Connector | 5-2 |
| 5-3. Connector Functions | 5-4 |





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2. Product Specifications

2-1. Product information

| Model | UE**F6400AW | | |
|---------------------------|--|---------------------------|---------------------------|
| Front View |  <p style="text-align: center;">* W : Width H : High D : Depth</p> | | |
| Detail View |  | | |
| Front Color | Clear / Black | | |
| Dimensions (W x H x D) | 32" | Set with Stand | 738.2 x 510.2 x 264.8 mm |
| | | Set without Stand | 738.2 x 437.0 x 49.5 mm |
| | 40" | Set with Stand | 928.2 x 543.8 x 49.6 mm |
| | | Set without Stand | 928.2 x 617.3 x 264.8 mm |
| | 46" | Set with Stand | 1059.8 x 704.6 x 306.9 mm |
| | | Set without Stand | 1059.8 x 617.7 x 49.6 mm |
| | 50" | Set with Stand | 1135.6 x 743.7 x 306.9 mm |
| | | Set without Stand | 1135.6 x 659.6 x 49.8 mm |
| 55" | Set with Stand | 1250.4 x 808.4 x 306.9 mm | |
| | Set without Stand | 1250.4 x 724.6 x 48.8 mm | |
| 65" | Set with Stand | 1470.1 x 935.8 x 375.3 mm | |
| | Set without Stand | 1470.1 x 848.2 x 55.9 mm | |

2. Product specifications

| Model | UE**F6400AW | | | |
|----------------|--|-------------------|---------|--|
| Weight | 32" | Set with Stand | 6.7 kg | |
| | | Set without Stand | 5.7 kg | |
| | 40" | Set with Stand | 10.4 kg | |
| | | Set without Stand | 9.3 kg | |
| | 46" | Set with Stand | 13.5 kg | |
| | | Set without Stand | 11.8 kg | |
| | 50" | Set with Stand | 15.1 kg | |
| | | Set without Stand | 13.4 kg | |
| | 55" | Set with Stand | 18.7 kg | |
| | | Set without Stand | 17.0 kg | |
| | 65" | Set with Stand | 29.5 kg | |
| | | Set without Stand | 26.9 kg | |
| | Panel Type | Black | | |
| | Internal Memory | 4 G | | |
| DDR | 1 G | | | |
| Feature | 3D / SMART GUIDE / USB HID / DLNA / Full browsing / Miracast | | | |

| Model | UE**F6400AW | | |
|---------------------------|---|-------------------|----------------------------|
| Front View |  <p style="text-align: right; margin-right: 50px;">* W : Width H : High D : Depth</p> | | |
| Detail View |  | | |
| Front Color | Clear / Black | | |
| Dimensions (W x H x D) | 75" | Set with Stand | 1678.8 x 1035.2 x 351.9 mm |
| | | Set without Stand | 1678.8 x 960.0 x 57.0 mm |
| Weight | 75" | Set with Stand | 29.6 kg |
| | | Set without Stand | 28.3 kg |
| Panel Type | Black | | |
| Internal Memory | 4G | | |
| DDR | 1G | | |
| Feature | 3D / SMART GUIDE / USB HID / DLNA / Full browsing / Miracast | | |



NOTE

Only applicable to S.W Asia.

2-2. Product specification

2-2-1. Product specification


NOTE

Design and specifications are subject to change without prior notice.

| Item | | UE**F6400AWXXH |
|----------------------------|---|--|
| General Information | Product | LED |
| | Series | 6 |
| | Country | HUNGARY |
| Display | Inch | 32" / 40" / 46" / 55" (50"/60"/65"/75") |
| | Resolution | 1,920 x 1,080 |
| | Ultra Clear Panel | No |
| Video | Clear Motion Rate | 200 |
| | Micro Dimming | No |
| | Precision Black (Local Dimming) | No |
| | Picture Engine | 3D HyperReal Engine |
| | Dynamic Contrast Ratio | Mega Contrast |
| | Motion Judder Canceller | N/A |
| | Wide Color Enhancer (Plus) | Yes |
| | Film Mode | Yes |
| | Natural Mode Support | Yes |
| Audio | 3D Sound | Yes |
| | Sound Output (RMS) | 10W x 2 |
| | Dolby | Dolby Digital Plus / Dolby Pulse |
| | SRS / DNSe+ | DTS Studio Sound |
| | dts 2.0 + Digital Out / DTS Premium Audio | DTS Premium Audio 5.1 |
| | Speaker Type | Down Firing + Full Range |
| | Sound Customizer | No |
| | Woofer | No |
| Smart TV 2.0 | Smart Hub | Yes |
| | On TV | Yes (AT,BE,CH,DE,DK,ES,FI,FR,UK,IR,IT,LU,NL,NO,PL,PT,SE) |
| | Movies & TV Shows | No |
| | Apps | Yes |
| | Social | Yes |
| | Photos, Videos & Music | Yes |
| | Fitness | Yes |
| | Kids | Yes |
| | ACR (Advertisement) | N/A |

| Item | | UE**F6400AWXXH |
|------------------------------|------------------------------------|--|
| Smart TV 2.0 | Samsung SMART View | Yes (Clone View only) |
| | Smart Appliance | N/A |
| | S Recommendation | Yes (AT,BE,CH,DE,DK,ES,FI,FR,UK,IR,IT,LU,NL,NO,PL,PT,SE) |
| | Prism Screen | No |
| | Web Browser | Yes |
| Smart Interaction 2.0 | Camera Built-in | No |
| | Face recognition | No |
| | Motion control | No |
| | Voice Control (Embedded) | No |
| | Voice Control (Server) | No |
| | Voice Interaction | No |
| | Camera App | No |
| | Samsung TV Apps supported | Yes |
| System | DTV Tuner | DVB-T/C |
| | Analog Tuner | Yes |
| | MHP / MHEG (version)/ ACAP / GINGA | N/A |
| | CI/CI+ | CI+ (1.3) |
| Input&Output | Audio Out (Mini Jack) | No |
| | Component In (Y/Pb/Pr) | 1 |
| | Composite In (AV) | 1 (Common Use for Component Y) |
| | Digital Audio Out (Optical) | 1 |
| | DVI Audio In (Mini Jack) | No |
| | Ethernet (LAN) | 1 |
| | HDMI | 4 |
| | PC Audio In (Mini Jack) | No |
| | PC In (D-sub) | No |
| | RF In (Terrestrial/Cable Input) | 1 |
| | RF In (Satellite Input) | No |
| | RS-232C (AV CONTROL) | No |
| | USB | 3 |
| | Headphone | 1 |
| | Scart | 1 |
| | CI Slot | 1 |
| | IR Out | 1 |
| Design | Design | One Design |
| | Slim Type | Slim |
| | Bezel Type | Narrow |
| | Front Color | Black |

2. Product specifications

| | Item | UE**F6400AWXXH |
|-------------------|--|--|
| Design | Light Effect (Deco) | No |
| | Swivel (Left/Right) | Yes |
| | Stand Type | Quad |
| | Push & Pull Camera | N/A |
| Feature | 3D Converter | Yes |
| | ConnectShare™ (USB 2.0) | Movie |
| | Samsung 3D | Yes |
| | History | Yes |
| | MultiTasking | N/A |
| | Smart Evolution Support | No |
| | Wireless LAN Built-in | Yes |
| | Wireless LAN Adapter Support | No |
| | OSD Language | 26 European Languages |
| | EPG | Yes |
| | HbbTV | Yes (CZ, PL, DE, AT, CH, BE, NL, LU, PT, FR, ES) |
| | HDMI 1.4 3D Auto Setting | Yes |
| | HDMI 1.4 A/Return Ch. Support | Yes |
| | Time Shift | Yes |
| | AllShare (Content Sharing, Screen Mirroring) | Yes |
| | Teletext (TTXT) | Yes |
| | InstaPort S (HDMI quick switch) | No |
| | Anynet+ (HDMI-CEC) | Yes |
| | Auto Channel Search | Yes |
| | Auto Power Off | Yes |
| | Auto Volume Leveler | Yes |
| | Caption (Subtitle) | Yes |
| | Clock&On/Off Timer | Yes |
| | Game Mode | Yes |
| | Sports Mode | Advanced |
| | Picture-In-Picture | Yes |
| | Sleep Timer | Yes |
| | Extended PVR | Yes |
| | Smart Phone Remote support | Yes |
| | WiFi Direct | Yes |
| ISP Bound Service | Yes | |
| BT HID Built-in | Yes | |
| USB HID Support | Yes | |

| Item | | UE**F6400AWXXH |
|------------------|---------------------------------|------------------|
| Feature | Network Speaker Support | N/A |
| | Sound Share | Yes |
| | Regional EQ | N/A |
| | MHL | No |
| | Twin Tuner | No |
| | BD Wise Plus | Yes |
| | Embedded POP | Yes |
| Eco | Eco Sensor | Yes |
| Accessory | 3D Active Glasses (Included) | 2 (SSG-5100GB) |
| | IR Extender Cable (Included) | Yes (Premium) |
| | Wireless LAN Adaptor (Included) | No |
| | Network Speaker (Included) | No |
| | MoIP Camera | No |
| | Wireless Keyboard | No |
| | Remote Controller Model | TM1360A, TM1240A |
| | Batteries (for Remote Control) | Yes |
| | Ultra Slim Wall Mount Supported | No |
| | Mini Wall Mount Supported | Yes |
| | Vesa Wall Mount Supported | Yes |
| | Slim Gender Cable | No |
| | Power Cable | Yes |
| | ANT-Cable | No |
| | User Manual | Yes |
| | E-Manual | Yes |
| | Floor Stand Support | No |

2-2-2. Feature & Specifications

| Model | UE32F6400AW |
|--|--|
| Feature | |
| <ul style="list-style-type: none"> • Digital-TV, RF, 4-HDMI, 1-Component, 1-A/V, 3-USB2.0(Media Play), LAN, WIFI • PIP(in HDMI 1, 2, 3, 4 Component and Sub picture is available only in TV mode(DTV/ATV)) • CMR(Clear Motion Rate) : 480(F64**) / 240(6330) • Dolby Digital Plus Pulse, DTS Premium Sound 5.1, DTS Studio Sound | |
| Specifications | |
| Item | Description |
| LCD Panel | 32 inch FHD 120 Hz |
| Display Colors | 1.07 B |
| Active Display (H x V)* * Horizontal x Vertical | 698.4 (H) X 392.85 (V) mm |
| Maximum Resolution | Horizontal : 1920 Pixels Vertical : 1080 Pixels |
| Input Signal | Analog 0.7 Vp-p \pm 5% positive at 75 Ω , internally terminated |
| Input Signal Frequency | Horizontal : 31 ~ 80 kHz Vertical : 56 ~ 75 Hz |
| Input Sync Signal | H/V Separate, TTL, P. or N. |
| Maximum Pixel Clock Rate | 138 MHz |
| AC Power Voltage & Frequency | AC 220 V ~ 240 V, 50/60 Hz |
| Power Consumption | 92 W (Under 0.1 W, Stand by) |
| Environmental Considerations | Operating Temperature : 50°F ~ 104°F (10°C ~ 40°C) Operating Humidity : 10% ~ 80%, non-condensing Storage Temperature : -4°F ~ 113°F (-20°C ~ 45°C) Storage Humidity : 5% ~ 95%, non-condensing |
| Audio Specifications | MAX Internal Audio Output Power : Each 10 W (Left/Right) Equalizer : 5 Band Output Frequency : RF : 20 Hz ~ 15.4 kHz AV/Componet/HDMI : 20 Hz ~ 20 kHz |
| Note : AllShare, SMART Guide, Web Browser, USB HID, IR Blaster, Smart Control | |

| Model | UE40F6400AW |
|---|--|
| Feature | |
| <ul style="list-style-type: none"> Digital-TV, RF, 4-HDMI, 1-Component,1-A/V, 3-USB2.0(Media Play), LAN, WIFI PIP(in HDMI 1, 2, 3, 4 Component and Sub picture is available only in TV mode(DTV/ATV)) CMR(Clear Motion Rate) : 480(F64**) / 240(6330) Dolby Digital Plus Pulse, DTS Premium Sound 5.1, DTS Studio Sound | |
| Specifications | |
| Item | Description |
| LCD Panel | 40 inch FHD 120 Hz |
| Display Colors | 1.07 B |
| Active Display (H x V)* * Horizontal x Vertical | 885.6 (H) x 498.15 (V) mm |
| Maximum Resolution | Horizontal : 1920 Pixels Vertical : 1080 Pixels |
| Input Signal | Analog 0.7 Vp-p \pm 5% positive at 75 Ω , internally terminated |
| Input Signal Frequency | Horizontal : 31 ~ 80 kHz Vertical : 56 ~ 75 Hz |
| Input Sync Signal | H/V Separate, TTL, P. or N. |
| Maximum Pixel Clock Rate | 138 MHz |
| AC Power Voltage & Frequency | AC 220 V ~ 240 V, 50/60 Hz |
| Power Consumption | 122 W (Under 0.1 W, Stand by) |
| Environmental Considerations | Operating Temperature : 50°F ~ 104°F (10°C ~ 40°C) Operating Humidity : 10% ~ 80%, non-condensing Storage Temperature : -4°F ~ 113°F (-20°C ~ 45°C) Storage Humidity : 5% ~ 95%, non-condensing |
| Audio Specifications | MAX Internal Audio Output Power : Each 10 W (Left/Right) Equalizer : 5 Band Output Frequency : RF : 20 Hz ~ 15.4 kHz AV/Componet/HDMI : 20 Hz ~ 20 kHz |
| Note : AllShare, SMART Guide, Web Browser, USB HID, IR Blaster, Smart Control | |

2. Product specifications

| Model | UE46F6400AW |
|---|--|
| Feature | |
| <ul style="list-style-type: none"> • Digital-TV, RF, 4-HDMI, 1-Component,1-A/V, 3-USB2.0(Media Play), LAN, WIFI • PIP(in HDMI 1, 2, 3, 4 Component and Sub picture is available only in TV mode(DTV/ATV)) • CMR(Clear Motion Rate) : 480(F64**) / 240(6330) • Dolby Digital Plus Pulse, DTS Premium Sound 5.1, DTS Studio Sound | |
| Specifications | |
| Item | Description |
| LCD Panel | 46 inch FHD 120 Hz |
| Display Colors | 1.07 B |
| Active Display (H x V)* * Horizontal x Vertical | 1018.08 (H) x 572.67 (V) mm |
| Maximum Resolution | Horizontal : 1920 Pixels Vertical : 1080 Pixels |
| Input Signal | Analog 0.7 Vp-p ± 5% positive at 75Ω, internally terminated |
| Input Signal Frequency | Horizontal : 31 ~ 80 kHz Vertical : 56 ~ 75 Hz |
| Input Sync Signal | H/V Separate, TTL, P. or N. |
| Maximum Pixel Clock Rate | 138 MHz |
| AC Power Voltage & Frequency | AC 220 V ~ 240 V, 50/60 Hz |
| Power Consumption | 128 W (Under 0.1 W, Stand by) |
| Environmental Considerations | Operating Temperature : 50°F ~ 104°F (10°C ~ 40°C) Operating Humidity : 10% ~ 80%, non-condensing Storage Temperature : -4°F ~ 113°F (-20°C ~ 45°C) Storage Humidity : 5% ~ 95%, non-condensing |
| Audio Specifications | MAX Internal Audio Output Power : Each 10 W (Left/Right) Equalizer : 5 Band Output Frequency : RF : 20 Hz ~ 15.4 kHz AV/Componet/HDMI : 20 Hz ~ 20 kHz |
| Note : AllShare, SMART Guide, Web Browser, USB HID, IR Blaster, Smart Control | |

| Model | UE55F6400AW |
|---|--|
| Feature | |
| <ul style="list-style-type: none"> • Digital-TV, RF, 4-HDMI, 1-Component,1-A/V, 3-USB2.0(Media Play), LAN, WIFI • PIP(in HDMI 1, 2, 3, 4 Component and Sub picture is available only in TV mode(DTV/ATV)) • CMR(Clear Motion Rate) : 480(F64**) / 240(6330) • Dolby Digital Plus Pulse, DTS Premium Sound 5.1, DTS Studio Sound | |
| Specifications | |
| Item | Description |
| LCD Panel | 55 inch FHD 120 Hz |
| Display Colors | 1.07 B |
| Active Display (H x V)* * Horizontal x Vertical | 1209.6 (H) x 680.4 (V) mm |
| Maximum Resolution | Horizontal : 1920 Pixels Vertical : 1080 Pixels |
| Input Signal | Analog 0.7 Vp-p \pm 5% positive at 75 Ω , internally terminated |
| Input Signal Frequency | Horizontal : 31 ~ 80 kHz Vertical : 56 ~ 75 Hz |
| Input Sync Signal | H/V Separate, TTL, P. or N. |
| Maximum Pixel Clock Rate | 150 MHz |
| AC Power Voltage & Frequency | AC 220 V ~ 240 V, 50/60 Hz |
| Power Consumption | 75 W (Under 0.1 W, Stand by) |
| Environmental Considerations | Operating Temperature : 50°F ~ 104°F (10°C ~ 40°C) Operating Humidity : 10% ~ 80%, non-condensing Storage Temperature : -4°F ~ 113°F (-20°C ~ 45°C) Storage Humidity : 5% ~ 95%, non-condensing |
| Audio Specifications | MAX Internal Audio Output Power : Each 10 W (Left/Right) Equalizer : 5 Band Output Frequency : RF : 20 Hz ~ 15.4 kHz AV/Componet/HDMI : 20 Hz ~ 20 kHz |
| Note : AllShare, SMART Guide, Web Browser, USB HID, IR Blaster, Smart Control | |

2. Product specifications

| Model | UE50F6400AW |
|---|--|
| Feature | |
| <ul style="list-style-type: none"> • Digital-TV, RF, 4-HDMI, 1-Component,1-A/V, 3-USB2.0(Media Play), LAN, WIFI • PIP(in HDMI 1, 2, 3, 4 Component and Sub picture is available only in TV mode(DTV/ATV)) • CMR(Clear Motion Rate) : 480(F64**) / 240(6330) • Dolby Digital Plus Pulse, DTS Premium Sound 5.1, DTS Studio Sound | |
| Specifications | |
| Item | Description |
| LCD Panel | 50 inch FHD 120 Hz |
| Display Colors | 1.07 B |
| Active Display (H x V)* * Horizontal x Vertical | 1099.0 (H) X 619.6 (V) mm |
| Maximum Resolution | Horizontal : 1920 Pixels Vertical : 1080 Pixels |
| Input Signal | Analog 0.7 Vp-p ± 5% positive at 75Ω, internally terminated |
| Input Signal Frequency | Horizontal : 31 ~ 80 kHz Vertical : 56 ~ 75 Hz |
| Input Sync Signal | H/V Separate, TTL, P. or N. |
| Maximum Pixel Clock Rate | 150 MHz |
| AC Power Voltage & Frequency | AC 220 - 240 V 50/60Hz |
| Power Consumption | 152 W (Under 0.1 W, Stand by) |
| Environmental Considerations | Operating Temperature : 50°F ~ 104°F (10°C ~ 40°C) Operating Humidity : 10% ~ 80%, non-condensing Storage Temperature : -4°F ~ 113°F (-20°C ~ 45°C) Storage Humidity : 5% ~ 95%, non-condensing |
| Audio Specifications | MAX Internal Audio Output Power : Each 10 W (Left/Right) Equalizer : 5 Band Output Frequency : RF : 20 Hz ~ 15.4 kHz AV/Componet/HDMI : 20 Hz ~ 20 kHz |
| Note : AllShare, SMART Guide, Web Browser, USB HID, IR Blaster, Smart Control | |

| Model | UE60F6400AW |
|---|--|
| Feature | |
| <ul style="list-style-type: none"> Digital-TV, RF, 4-HDMI, 1-Component,1-A/V, 3-USB2.0(Media Play), LAN, WIFI PIP(in HDMI 1, 2, 3, 4 Component and Sub picture is available only in TV mode(DTV/ATV)) CMR(Clear Motion Rate) : 480(F64**) / 240(6330) Dolby Digital Plus Pulse, DTS Premium Sound 5.1, DTS Studio Sound | |
| Specifications | |
| Item | Description |
| LCD Panel | 60 inch FHD 120 Hz |
| Display Colors | 1.07 B |
| Active Display (H x V)* * Horizontal x Vertical | 1329.12 (H) x 747.63 (V) mm |
| Maximum Resolution | Horizontal : 1920 Pixels Vertical : 1080 Pixels |
| Input Signal | Analog 0.7 Vp-p \pm 5% positive at 75 Ω , internally terminated |
| Input Signal Frequency | Horizontal : 31 ~ 80 kHz Vertical : 56 ~ 75 Hz |
| Input Sync Signal | H/V Separate, TTL, P. or N. |
| Maximum Pixel Clock Rate | 150 MHz |
| AC Power Voltage & Frequency | AC 220 - 240 V 50/60Hz |
| Power Consumption | 190 W (Under 0.1 W, Stand by) |
| Environmental Considerations | Operating Temperature : 50°F ~ 104°F (10°C ~ 40°C) Operating Humidity : 10% ~ 80%, non-condensing Storage Temperature : -4°F ~ 113°F (-20°C ~ 45°C) Storage Humidity : 5% ~ 95%, non-condensing |
| Audio Specifications | MAX Internal Audio Output Power : Each 10 W (Left/Right) Equalizer : 5 Band Output Frequency : RF : 20 Hz ~ 15.4 kHz AV/Componet/HDMI : 20 Hz ~ 20 kHz |
| Note : AllShare, SMART Guide, Web Browser, USB HID, IR Blaster, Smart Control | |

2. Product specifications

| Model | UE65F6400AW |
|---|--|
| Feature | |
| <ul style="list-style-type: none"> • Digital-TV, RF, 4-HDMI, 1-Component,1-A/V, 3-USB2.0(Media Play), LAN, WIFI • PIP(in HDMI 1, 2, 3, 4 Component and Sub picture is available only in TV mode(DTV/ATV)) • CMR(Clear Motion Rate) : 480(F64**) / 240(6330) • Dolby Digital Plus Pulse, DTS Premium Sound 5.1, DTS Studio Sound | |
| Specifications | |
| Item | Description |
| LCD Panel | 65 inch FHD 120 Hz |
| Display Colors | 1.07 B |
| Active Display (H x V)* * Horizontal x Vertical | 1431.6 (H) X 806.7 (V) mm |
| Maximum Resolution | Horizontal : 1920 Pixels Vertical : 1080 Pixels |
| Input Signal | Analog 0.7 Vp-p \pm 5% positive at 75 Ω , internally terminated |
| Input Signal Frequency | Horizontal : 31 ~ 80 kHz Vertical : 56 ~ 75 Hz |
| Input Sync Signal | H/V Separate, TTL, P. or N. |
| Maximum Pixel Clock Rate | 150 MHz |
| AC Power Voltage & Frequency | AC 220 - 240 V 50/60 Hz |
| Power Consumption | 235 W (Under 0.1 W, Stand by) |
| Environmental Considerations | Operating Temperature : 50°F ~ 104°F (10°C ~ 40°C) Operating Humidity : 10% ~ 80%, non-condensing Storage Temperature : -4°F ~ 113°F (-20°C ~ 45°C) Storage Humidity : 5% ~ 95%, non-condensing |
| Audio Specifications | MAX Internal Audio Output Power : Each 10 W (Left/Right) Equalizer : 5 Band Output Frequency : RF : 20 Hz ~ 15.4 kHz AV/Componet/HDMI : 20 Hz ~ 20 kHz |
| Note : AllShare, SMART Guide, Web Browser, USB HID, IR Blaster, Smart Control | |

| Model | UE75F6400AW |
|---|--|
| Feature | |
| <ul style="list-style-type: none"> Digital-TV, RF, 4-HDMI, 1-Component,1-A/V, 3-USB2.0(Media Play), LAN, WIFI PIP(in HDMI 1, 2, 3, 4 Component and Sub picture is available only in TV mode(DTV/ATV)) CMR(Clear Motion Rate) : 480(F64**) / 240(6330) Dolby Digital Plus Pulse, DTS Premium Sound 5.1, DTS Studio Sound | |
| Specifications | |
| Item | Description |
| LCD Panel | 75 inch FHD 120 Hz |
| Display Colors | 1.07 B |
| Active Display (H x V)* * Horizontal x Vertical | 1653.2 (H) X 931.3 (V) mm |
| Maximum Resolution | Horizontal : 1920 Pixels Vertical : 1080 Pixels |
| Input Signal | Analog 0.7 Vp-p \pm 5% positive at 75 Ω , internally terminated |
| Input Signal Frequency | Horizontal : 31 ~ 80 kHz Vertical : 56 ~ 75 Hz |
| Input Sync Signal | H/V Separate, TTL, P. or N. |
| Maximum Pixel Clock Rate | 150 MHz |
| AC Power Voltage & Frequency | AC 220 - 240 V 50/60 Hz |
| Power Consumption | 309 W (Under 0.1 W, Stand by) |
| Environmental Considerations | Operating Temperature : 50°F ~ 104°F (10°C ~ 40°C) Operating Humidity : 10% ~ 80%, non-condensing Storage Temperature : -4°F ~ 113°F (-20°C ~ 45°C) Storage Humidity : 5% ~ 95%, non-condensing |
| Audio Specifications | MAX Internal Audio Output Power : Each 10 W (Left/Right) Equalizer : 5 Band Output Frequency : RF : 20 Hz ~ 15.4 kHz AV/Componet/HDMI : 20 Hz ~ 20 kHz |
| Note : AllShare, SMART Guide, Web Browser, USB HID, IR Blaster, Smart Control | |




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.
- Design and specifications are subject to change without prior notice.

| Product | Code. No | Product | Code. No |
|-----------------------|-------------|-----------------------------|-------------|
| • Smart Touch Control | AA59-00773A | • Samsung 3D Active Glasses | BN96-25614A |
| • Remote Control | AA59-00786A | • Warranty Card | BN68-03548J |
| • Batteries (AAA x 2) | 4301-000103 | • User Manual | BN68-04778D |
| • Power Cord | 3903-000849 | | |

| Image | Product | Code. No |
|---|---------------------|-------------|
|  | • Holder-Wire stand | BN61-08370A |
|  | • Holder-Ring | BN61-07295A |
|  | • IR Extender Cable | BN96-26652B |

2-4. Viewing the Functions

2-4-1. Auto Motion Plus 120 Hz

■ Function Naming

- 120 Hz FRC + MJC : Auto Motion Plus 120 Hz

■ Detail Specifications

| Function (OSD) | 120 Hz FRC | Judder reduction (only 24p source) | Blur reduction |
|----------------|--------------------------|---------------------------------------|----------------|
| Off | Off (repeat) | Off | Off |
| Clear | ON (interpolation) | Off | High |
| Standard | ON (interpolation) | Medium | Medium |
| Smooth | ON (interpolation) | High | High |
| Custom | Level variable (0~10) | | |
| Demo | Demo (Standard / Off) | | |

■ 120Hz Motion Enhancement



Off



Low / Medium / High



Demo

2-4-2. Supported Formats

■ Supported Subtitle Formats

Exterminal

| Name | File Extension |
|---------------------------|----------------|
| MPEG-4 Timed text | .txt |
| SAMI | .smi |
| SubRip | .srt |
| SubViewer | .sub |
| Micro DVD | .sub or .txt |
| SubStation Alpha | .ssa |
| Advanced SubStation Alpha | .ass |
| Powerdivx | .psb |

Internal

| Name | File Extension |
|---------------------------|----------------|
| Xsub | AVI |
| SubStation Alpha | MKV |
| Advanced SubStation Alpha | MKV |
| SubRip | MKV |
| MPEG-4 Timed text | MP4 |

■ Supported Music File Formats

| File Extension | Type | Codec | Comments |
|-----------------|-------|---------------------|---|
| *.mp3 | MPEG | MPEG1 Audio Layer 3 | |
| *.m4a | MPEG4 | AAC | |
| *.mpa | | | |
| *.aac | | | |
| *.flac | FLAC | FLAC | Supports up to 2 channel |
| *.ogg | OGG | Vorbis | Supports up to 2 channel |
| *.wma | WMA | WMA | WMA 10 Pro supports up to 5.1 channel. WMA lossless audio is not supported. Supports up to M2 profile (except LBR mode) |
| *.wav | wav | wav | |
| *.mid *.midi | midi | midi | type 0, type 1 are supported. |
| *.ape | ape | ape | |

■ Supported Video Formats

| File Extension | Container | Video Codec | Resolution | Frame rate (fps) | Bit rate (Mbps) | Audio Codec | | |
|--|---|-----------------------|--------------------------|------------------|-----------------|---|----------|----|
| *.avi *.mkv *.asf *.wmv *.mp4 *.3gp *.vro *.mpg *.mpeg *.ts *.tp *.trp *.mov *.flv *.vob *.svi *.m2ts *.mts | AVI MKV ASF MP4 3GP MOV FLV VRO VOB PS TS SVAF | Divx 3.11 / 4 / 5 / 6 | 1920 x 1080 | 6~30 | 30 | AC3 LPCM ADPCM(IMA, MS) AAC HE-AAC WMA DD+ MPEG(MP3) G.711(A-Law, μ -Law) | | |
| MPEG4 SP/ASP | | | | | | | | |
| H.264 BP/MP/HP | | | | | | | | |
| | | | Motion JPEG | | 640 x 480 | | 8 | |
| | | | Microsoft MPEG-4 v3 | | 1280 x 720 | | | |
| | | | Window Media Video v7,v8 | | 1920x1080 | | 30 | |
| | | | Window Media Video v9 | | | | | |
| | | | MPEG2 | | | | | |
| | | | MPEG1 | | 640 x 480 | | 24/25/30 | 60 |
| | | | MVC | | | | | |
| *.divx | | | VP6 | | | | 6~30 | 4 |
| *.webm | | WebM | VP8 | | 1920 x1080 | | | 20 |

■ Other Restrictions

Codecs may not function properly if there is a problem with the content data. 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 wrong, the Seek (Jump) function does 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 player.

■ Video Decoders

- Supports up to H.264, Level 4.1 (does not support FMO/ASO/RS)
- VC1 AP L4 is not supported.
- All video codecs excluding WMV v7, v8, MSMPEG4 v3, MVC, and VP6:
 - Below 1280 x 720: 60 frame max
 - Above 1280 x 720: 30 frame max
- GMC is not supported.
- Supports SVAF top/bottom and left/right only.
- Supports Blu-ray/DVD MVC specs only.

■ Audio Decoders

- WMA 10 Pro supports up to 5.1 channels. Supports up to M2 profile. (Excluding M0 LBR mode)
- WMA lossless audio is not supported.
- Vorbis is supported for up to 2 channels.
- DD+ is supported for up to 5.1 channels.

2-4-3. Smart Control

The Smart Touch Control makes it easier and more convenient to use the TV. For example, you can use the remote control's built-in touchpad to move the focus and make selections as you would on a computer using a mouse. In addition, you can use the virtual control panel displayed on the screen to change channels, play media files, and access favorites.

■ Connecting to the TV

In order to operate the TV using a Smart Touch Control unit, you must first pair it to the TV via Bluetooth.

1. To turn on the TV, point the Smart Touch Control at the remote control receiver of the TV and press the TV button. The remote control receiver's location may vary depending on the model.
2. A Bluetooth icon will appear at the bottom left of the screen as shown below. The TV will then attempt to connect to the Smart Touch Control unit automatically



<Attempting to connect and completion icons>

■ Reconnecting the Smart Touch Control Unit

If you need to reestablish the connection between the TV and the Smart Touch Control unit, press the pairing button at the back of the Smart Touch Control unit.



<The Smart Touch Control unit's pairing button>

The pairing button can be accessed by removing the control unit's battery cover. Pressing the pairing button automatically reestablishes the connection between the control unit and the TV.













■ Buttons and Descriptions



Touchpad

Drag your finger on the touchpad as you would on the touchpad of a laptop to move the focus displayed on the screen. To select item, press the touchpad.

<The Smart Touch Control>

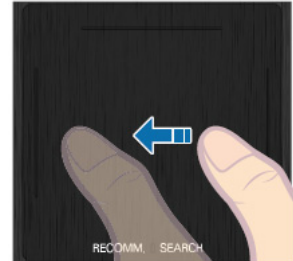
| | |
|--|--|
|  TV Turns the TV on/off. |  ^ P v Changes the channel. |
|  SOURCE Changes the source. |  MORE Displays a virtual remote control on the screen. The virtual remote control consists of a number panel, a playback control panel, and a quick access panel. Use the touchpad to select numbers and buttons. |
|  STB Turns on and off the satellite or cable set-top box connected to the TV. For this, the Smart Touch Control must be configured as a universal remote control. |  The colour buttons work differently, depending on the function that the TV is currently performing. |
|  VOL Adjusts the volume. |  RETURN/EXIT Returns to the previous menu. |
|  VOICE Run Voice Recognition. To speak a voice command, press and hold the VOICE button and say a voice command. |  SMART HUB Launch Smart Hub. While an application is running, pressing the Smart Hub button terminates the application. |
|  MUTE / AD Turns the TV sound on/off. |  GUIDE Check the digital channel broadcasting schedule. |

■ Reconnecting the Smart Touch Control Unit

Use the touchpad to perform various commands. Navigate to Guide (**System** → **Device Manager** → **Smart Touch Control Settings** → **Guide**) to view an on-screen guide to using the Smart Touch Control.

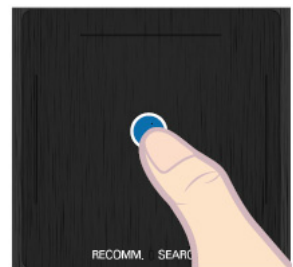
- Dragging

Drag on the touchpad in the desired direction. Move the focus or the pointer in the direction the finger is dragging.



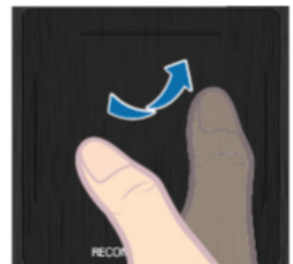
- Tap

Tap on the touchpad. This selects the focused item.



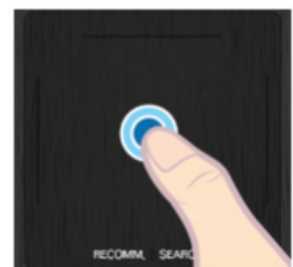
- Flicking

Flick on the touchpad in the desired direction. This moves the focus or scrolls the screen based on the direction and speed of the flick.



- Tapping and Holding

Tap and hold on the touchpad for at least 3 seconds. This gives you access to hidden features included in certain applications.



- Tapping and Dragging

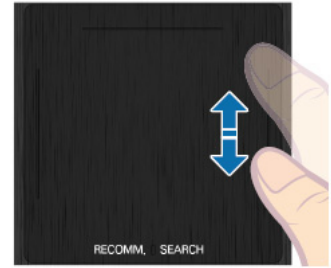
Tap on the touchpad, drag and release. This moves the selected web item in a webpage or your current location on a map.



2. Product specifications

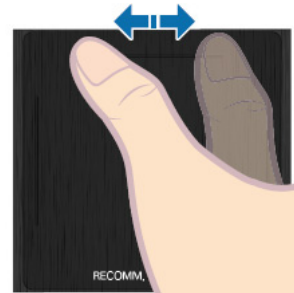
- Scrolling Up/Down

Scroll up/down the line on either the left or right edge of the touchpad. This scrolls a webpage or a list up/down. This scrolling feature easily accommodates both right-handed and left-handed users.



- Scrolling Left/Right

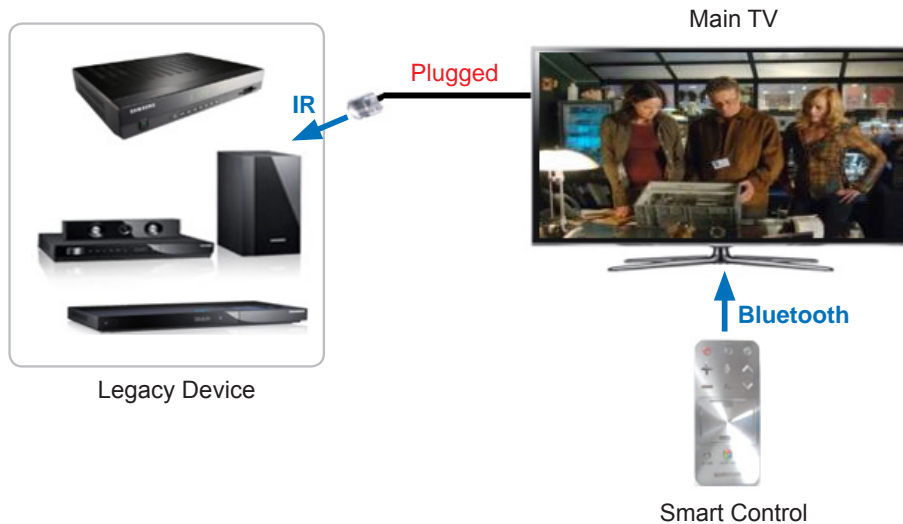
Scroll left/right on the line at the top or bottom edge of the touchpad. This scrolls a horizontal webpage or the Smart Hub panel to the left/right.



2-4-4. IR Blaster

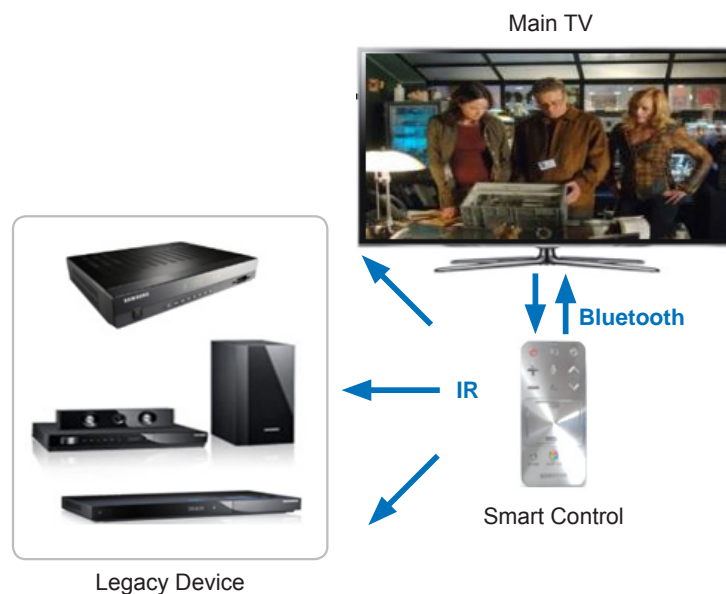
■ Using wired IR Blaster

1. Push the Smart Control Key.
 - Key Data is transmitted to the TV. (Bluetooth)
2. Key Data is transmitted to the IR Blaster MCU.
 - Uart (the internal communication of TV)
3. External Device is operated.
 - IR Transmit . (IR blaster → Device)



■ Not using wired IR Blaster

1. Push the Smart Control Key.
 - Key Data is transmitted to the TV. (Bluetooth)
2. Key Data is transmitted to the Smart Control.
 - Bluetooth
3. External Device is operated.
 - IR Transmit (Smart Control → Device)



2-4-5. SMART Interaction (The camera is sold separately.)

This Smart TV is enabled with SMART Interaction, a facial- and movement-recognition feature that allows users to control the TV without the need for a remote control. To use SMART Interaction, you will need to purchase and install a separate camera. SMART Interaction makes it possible to configure settings and access features with ease. It takes approximately 15 seconds for motion recognition to come online after turning on the TV.

■ Face Recognition

This product saves thumbnail images of users' faces for use during the Face Login. Logging into the Smart Hub via face recognition may be less secure than logging in using an ID and password.

Users can register their faces and log into their Smart Hub accounts through Face Recognition. One face may be registered per account. Depending on the ambient brightness level and the user's skin tone, the TV may have difficulty recognizing the user's face.

- **Face Registration**

A Smart Hub login is required to register a face. Log into the Smart Hub. Create a new account if you do not already have one.

- **Face Recognition Login**

Select Face Recognition Mode from the login window. The TV automatically recognizes a user's face. If recognition fails, try again. If the password entry option has been enabled under Change account information, you need to enter your password as well in order to log into the Smart Hub.

■ TV Camera Use

Under some circumstances and under certain legal conditions, the use/misuse of the TV camera may result in legal liability. There may be obligations under local privacy laws regarding the protection of individuals concerning personal data and on the free movement of such data, and possibly other laws including criminal laws, regulating camera surveillance both in the workplace and elsewhere.

By using the TV camera, users agree that it will not be used (i) in locations where cameras are generally prohibited (such as bathrooms, locker rooms or changing rooms), (ii) in any manner that will result in an invasion of a person's privacy or (iii) in violation of any applicable laws, regulations or statutes.

If you are using a camera, first check the back for a sticker. Remove the sticker cover before adjusting the TV camera angle. When you are no longer using the camera, rotate the lens downward and secure it in place. This prevents any inadvertent or unintentional camera operation,

■ Motion Control Environment Test

Screen Menu → Smart Features → Motion Control

Use Motion Control to change the channel, adjust the volume, move the pointer, and control other TV functions. Some applications may not support Motion Control.

Operating Environment

Users should be located between 1.5m and 4m from the camera. The actual recognition range may vary depending on the camera angle and other factors.

Motion Control relies on the TV camera and therefore will not function if the camera is pointed up or down. Adjust the camera to the correct angle. Do not point the camera directly at the sun or any other light source or obstruct its view.

In order for the camera to recognize movement, the user has to stand out from the background.

The appropriate ambient brightness is between 50 to 500 lux.

Avoid direct sunlight when using Motion Control.

Run Motion Control Environment Test before using Motion Control to determine the camera's recognition range.

Motion Control Environment Test

Screen Menu → Smart Features → Motion Control → Motion Control Environment Test

Run this test before using Motion Control to ensure proper functionality

1. Run Motion Control Environment Test and select Start within 4.9ft and 13.1ft of the TV. If light reflects on the TV
2. Adjust the camera angle so that you appear inside the square displayed on the screen. Once you have finished

Motion Control Options

Motion Control: Activates/deactivates Motion Control.

Animated Motion Guide: Displays an animated guide when user motion is detected.

Motion Control Activation

Raise your hand with the palm facing the TV. Hold it for a moment and slowly wave your arm and hand from side to side three or four times. When your hand is successfully recognized, the Motion Control is activated and an arrow cursor is displayed on the screen.

Using the Basic Motion Controls

The following basic motion control commands are available:

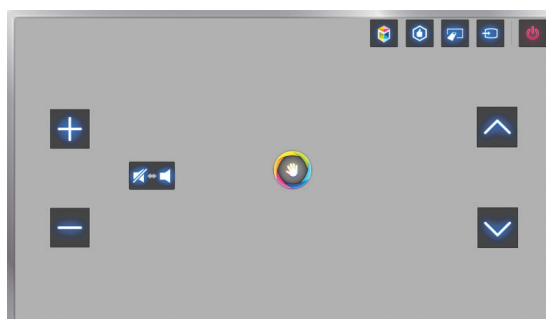


This action moves the cursor to the desired position.

Make a fist to select an option or execute a command. Keeping your fist clenched is like holding down a remote control button.

Make a circle with your hand in the counterclockwise direction to return to the previous menu.

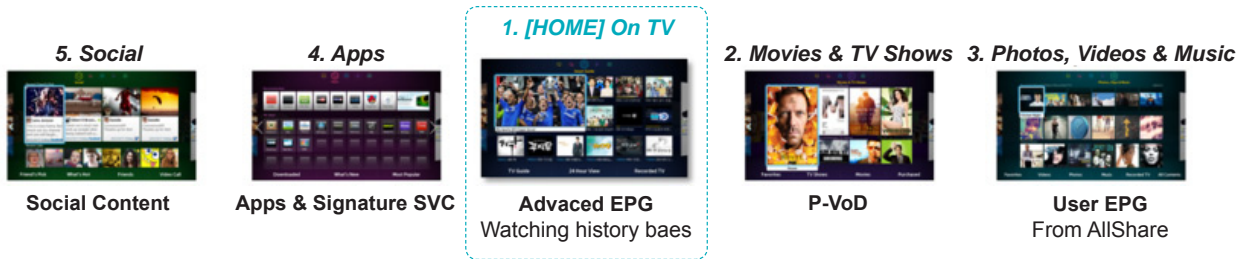
Motion Control Screen



| Screen Icons | Explanation |
|--------------|--|
| | Adjust the volume. |
| | Turns the TV sound on/off. |
| | Changes the channel. |
| | Launch Smart Hub. |
| | Check the recommended program information and air times. Select a program from the list to view detailed information about that program. |
| | Enter a channel number using the number panel to jump to the channel. Use the playback control panel with the on-screen color buttons to control a media file that is currently playing. |
| | Change the source. |
| | Turn off the TV. |

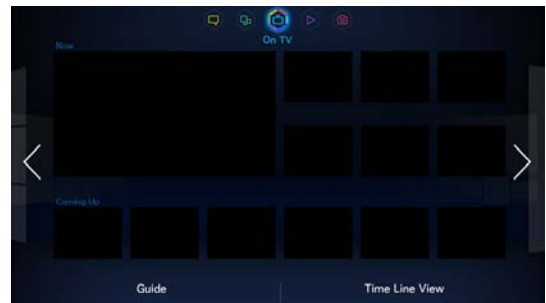
2-4-6. SMART HUB

This TV features Smart Hub, a multi-purpose entertainment and family center. With Smart Hub, users can surf the web, download applications, and stay in touch with family and friends through social networking services. In addition, you can enjoy photo, video, and music files stored on external storage devices.



On TV

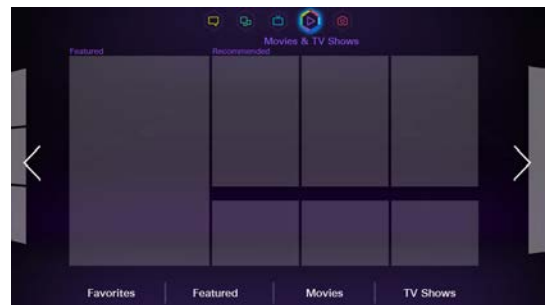
This functions is only available on U.S and Canada. While you watch TV, a list of recommended programs on other channels appears on the screen. You can use this list to change the channel and find out more information about the recommended programs including how much time is left until they air.



Movies & TV Shows

Purchase and watch movies and series without a separate external device.

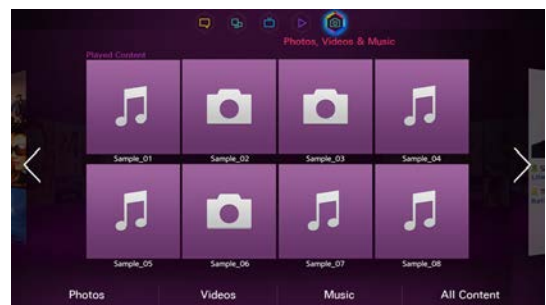
This functions is only available on U.S and Canada. Users can buy movies and TV shows online. Open Smart Hub and select Movies & TV Shows. This service may be not available depending on the country or region.



Movies & TV Shows

Play back photo, video, and music files from an external storage device.

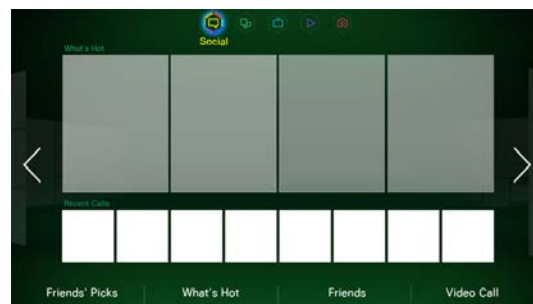
Open Smart Hub and select Photos, Videos & Music. Enjoy photo, video and music files from an external storage device directly on your TV. Back up important files before connecting an external storage device to the TV. Samsung will not be held responsible for damaged or lost files.



Social



Watch the latest YouTube videos and you and your friends' video posts on Facebook and Twitter. You can also make video calls to friends by connecting the TV to a camera (sold separately).

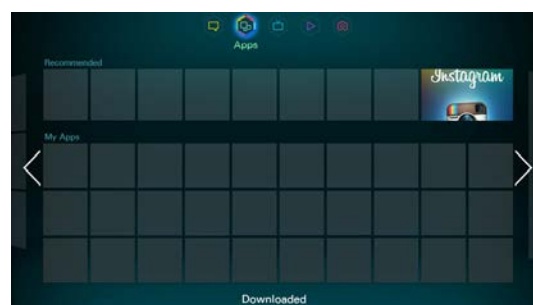


Apps



Download and install applications such as WebBrowser and Family Tree.

Samsung Apps offers an extensive collection of free and paid news, sports, weather, and gaming content you can directly download to and enjoy on your TV. First, check the network and make sure the TV is connected to the Internet. Your TV needs to be connected to the Internet in order to use Apps.



- Samsung Apps

Samsung Apps offers various free and paid news, sports, weather, and gaming applications. Samsung Apps lets you search for applications and install them directly on your TV. Read and agree to the terms and conditions of use and then browse through the categories or directly search for applications.

- Fitness

Fitness is an application that helps you stay fit. Create a profile, set up an exercise plan, and start exercising according to a structured regimen. Read and agree to the terms and conditions before using Fitness.

- Kids

This is a quick launcher and recommended list for applications and content that is suitable for children and even provides services not currently installed on your TV. Using Kids, you can download applications and content for your children to your TV. Certain services, however, are fee-based.

- WebBrowser

WebBrowser is a web-browsing application. Using WebBrowser, you can browse the Internet on your TV as you would on your computer and even watch TV while you surf the web. The browsing experience, however, may not be the same as it is on your computer. Use a keyboard and mouse for a more convenient web browsing experience.

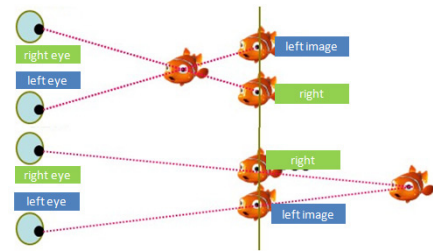
- Social Networks

Share your thoughts and comments about a program on the air through social networking services. Social Networks displays social network services such as Twitter, Facebook, Google Talk, and NateOn on a single screen. You can even post messages and comments in the same manner as you would using a computer. You must first link your Samsung account to the respective SNS accounts before you can access them using Social Networks.

2-4-7. 3D Display

■ What is 3D Display?

This mode is to enable users to view images on the TV/Monitor in 3D by receiving the video signal in 3D format from sources such as 3D games and titles. The human brain constructs a 3 dimensional image from the two images entering both eyes. The depth of a 3 dimensional images is determined by the horizontal difference between the images from both the left and right eyes. 3D is displayed two images alternately on screen equivalent to left and right at TV, and embodied by doing to see each relevant image in left eye and right eye through shutter glasses.



■ 3D Function of Model Series

| LCD / LED / PDP TV | | LED | |
|--------------------|-----------------------------------|--|--------------------------|
| Items | Sub Items | 120 Hz | |
| | Platform (Main) | X12 | |
| | Platform (FRC / Formatter) | Fox-FT1 (SDC) Fox-FT2 (AUO / CMI) Echo-Fs (Sharp 3D) NT7231 2 (Sharp 2D) | |
| 3D Feature | 2D → 3D Conversion | O | |
| | 3D → 2D | O | |
| | 3D Perspective | O | |
| | 3D Depth | O | |
| | Auto View (Auto Format Detection) | X | |
| | 3D Optimize | O | |
| FRC Feature | Auto Motion Plus | O | |
| 3D Input Format | ATV / AV, PC | 2D → 3D | O |
| | Component | 2D → 3D | O |
| | | SS, TB | O |
| | HDMI | 2D → 3D | O |
| | | SS, TB | O |
| | | FP 1080P 24 / 25 / 30 FP 720P 50 / 60 FP 1080i 50 / 60 | O |
| | | HDMI (PC / DVI) | LL, VS, Check ker BD, FS |
| | HDMI (PC / DVI) | 2D → 3D | O |
| | | SS, TB | O |
| | | MPO | O |
| | | SVAF IES (SS, BT) | O |
| | | MVC 1080P 24 / 25 / 30 MVC 720P 50 / 60 MVC 1080i 50 / 60 MVC 720P 24 / 25 / 30 | O |
| | | DTV | 2D → 3D |
| | SS, TB | | O |
| | DVB_Phase1 (SS, BT) | | O |
| | ATSC_KR30 | | O |

■ Supported 3D Resolutions

These specifications apply to a display ratio of 16:9 only.

- 3D Format: L/R, T/B

| Resolution | Frequency (Hz) |
|--------------|--------------------------------------|
| 1280 x 720p | 59.94 / 60 |
| 1920 x 1080i | 59.94 / 60 |
| 1920 x 1080p | 23.98 / 24 / 29.97 / 30 / 59.94 / 60 |

- 3D Format: Frame Packing

| Resolution | Frequency (Hz) |
|--------------|-------------------------|
| 1280 x 720p | 59.94 / 60 |
| 1920 x 1080i | 59.94 / 60 |
| 1920 x 1080p | 23.98 / 24 / 29.97 / 30 |

- Component

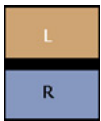


| Resolution | Frequency (Hz) |
|--------------|--------------------------------------|
| 1280 x 720p | 59.94 / 60 |
| 1920 x 1080i | 59.94 / 60 |
| 1920 x 1080p | 23.98 / 24 / 29.97 / 30 / 59.94 / 60 |

- Digital Channel

| Resolution | Frequency (Hz) |
|--------------|----------------|
| 1280 x 720p | 59.94 / 60 |
| 1920 x 1080i | 59.94 / 60 |

■ 3D Format Test

3D Format : There are several 3D formats existing on how to merge Left and Right images.

| Format | Input images | Test Method |
|----------------------------|---|--|
| Frame Packin (HDMI 1.4) |  | Able to test only by HDMI 1.4 BD Player or MSPG-4600MT(Master Device) |
| Top & Bottom |  | Using Format_test.bmp <ul style="list-style-type: none"> • Check in the PC(HDMI) source. PC resolution and format resolution must be same • Wearing 3D glass, left eye sees only 'L' letter, right eye sees only 'R' letter (close your eyes one by one) |
| Side by Side |  | Using Format_test.bmp <ul style="list-style-type: none"> • Check in the PC(HDMI) source. PC resolution and format resolution must be same • Wearing 3D glass, left eye sees only 'L' letter, right eye sees only 'R' letter (close your eyes one by one) |
| 2D → 3D | | Check in the normal 2D source. Check not in the test pattern but in the actual video. <ul style="list-style-type: none"> • Left/Right black region will grow more and more as the depth goes higher. |

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.

WARNING

3-1. Disassembly and Reassembly


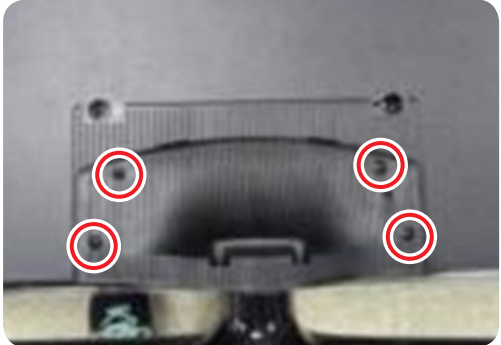

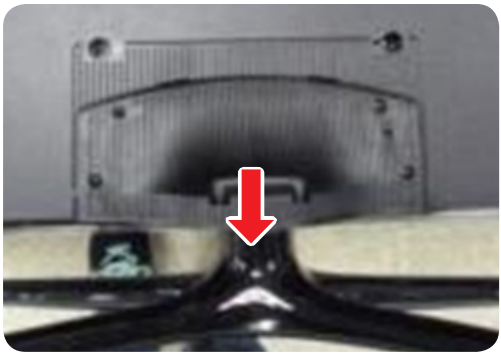


CAUTION

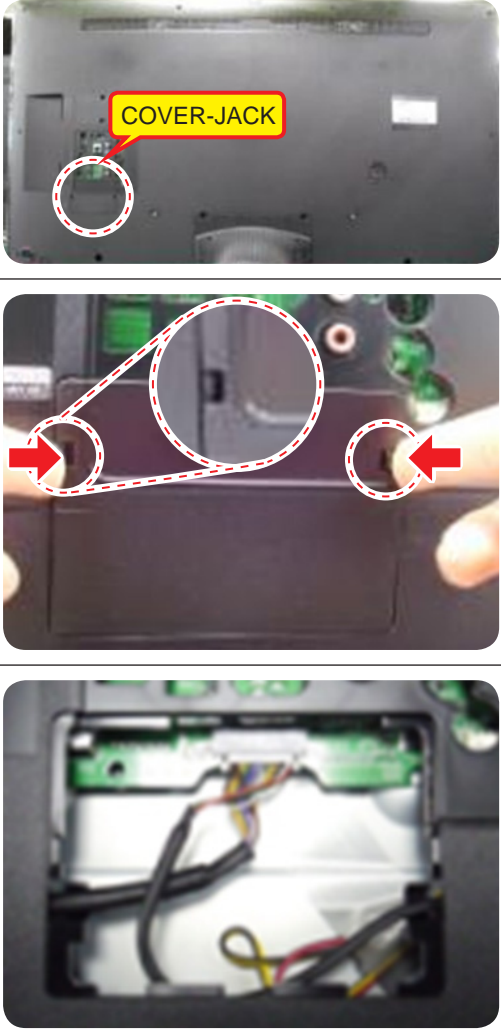
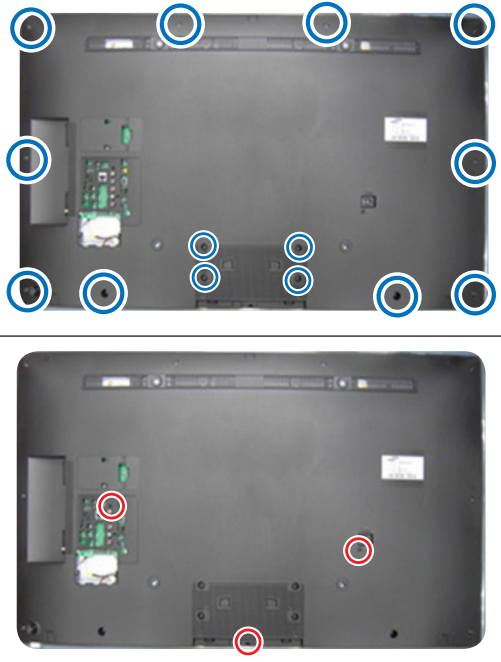


1. Disconnect the LED TV from the power source before disassembly.
2. Follow these directions carefully; never use metal instruments to pry apart the cabinet.
3. If there is no additional coment, it is same for all inches.


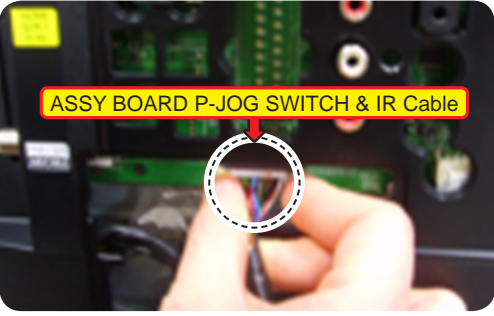
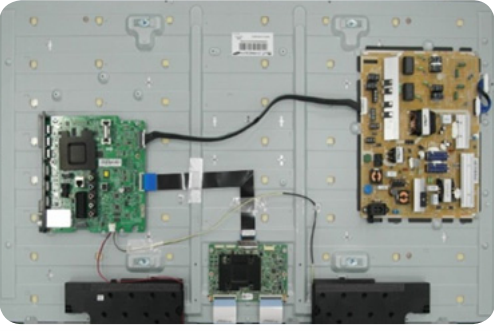

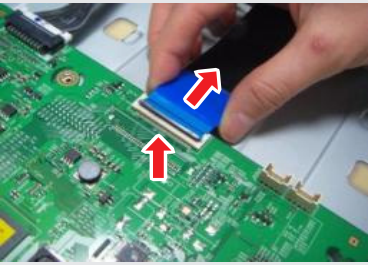
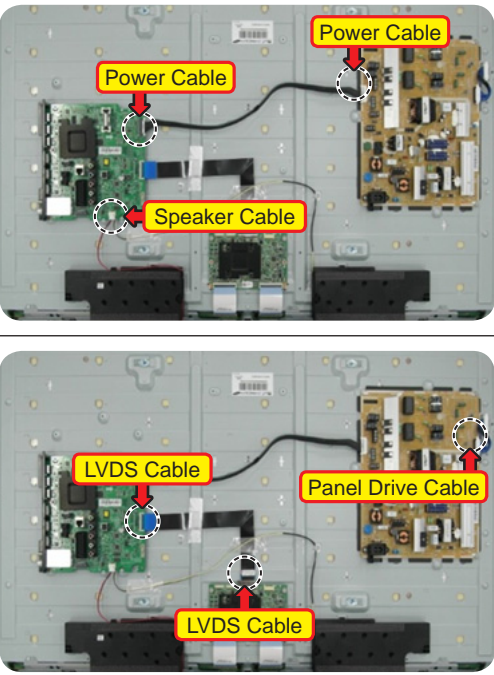


3-1-1. LED TV

■ 32 / 40 / 46 Inches



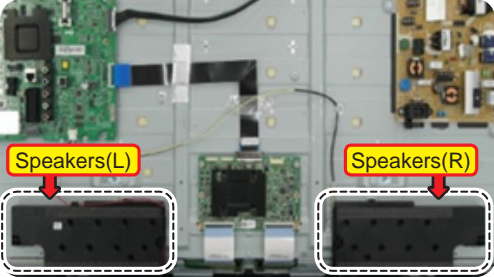
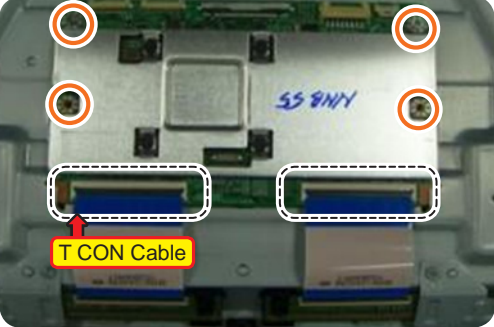


| Description | Picture Description | Screws |
|--|--|---|
| <p>1 Place TV face down on cushioned table.</p> |  | |
| <p>2 Remove 4 screws from the ASSY GUIDE P-STAND.</p> |  | <p>Torque : 9~11Kgf.cm. 128~156psi</p>  <p>6003-001782 SCREW-MACHINE M4.0, L12.0 BLK</p> |
| <p>3 Remove STAND.</p> |  | |

3. Disassembly and Reassemble

| Description | Picture Description | Screws |
|--|--|--|
| <p>4 Remove the COVER-JACK after push the locking in both sides.</p> |  | |
| <p>5 Remove screws of ASSY COVER P-MIDDLE, REAR.</p> <ul style="list-style-type: none"> • 32 inch : 9 EA • 40 inch : 14 EA • 46 inch : 14 EA <ul style="list-style-type: none"> • 32 inch : 2 EA • 40 inch : 2 EA • 46 inch : 3 EA |  | <div style="display: flex; flex-direction: column; align-items: center;"> <div style="text-align: center;">  <p>Torque : 7-8Kgf.cm. 100-113psi</p> </div> <div style="text-align: center;"> <p>6001-002755 SCREW-MACHINE M3.0, L6.0 BLK</p> </div> <div style="text-align: center; margin-top: 20px;">  <p>Torque : 9-11Kgf.cm. 128-156psi</p> </div> <div style="text-align: center;"> <p>6003-001782 SCREW-MACHINE M4.0, L12.0 BLK</p> </div> </div> |

| Description | Picture Description | Screws |
|---|---|---|
| <p>6 Disconnect the ASSY BOARD P-JOG SWITCH & IR Cable.</p> <p> NOTE First remove the cable before you remove the ASSY COVER P-MIDDLE, REAR.</p> |  <p>ASSY BOARD P-JOG SWITCH & IR Cable</p> | |
| <p>7 Remove the ASSY COVER P-MIDDLE, REAR.</p> |  | |
| <p>8 Remove the Power Cables and Speaker Cables. Remove the LVDS Cable and Panel Drive Cable.</p> <p> NOTE Applied to Double locking.</p> <ol style="list-style-type: none"> 1. Flip up the locking tab on top of the connector. 2. Squeeze the edge of the connector to release the second tab lock and gently pull the connector away.  |  <p>Power Cable</p> <p>Power Cable</p> <p>Speaker Cable</p> <p>LVDS Cable</p> <p>Panel Drive Cable</p> <p>LVDS Cable</p> | |
| <p>9 Remove the screws of ASSY PCB MAIN.</p> |  | <p>Torque : 7-8Kgf.cm. 100-113psi</p>  <p>6001-002756 SCREW-MACHINE M3.0, L6.0 WHT</p> |


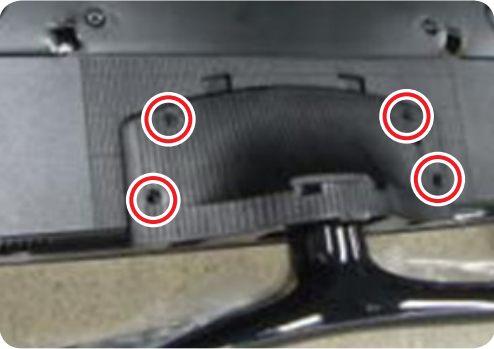






3. Disassembly and Reassemble

| Description | Picture Description | Screws |
|--|--|---|
| <p>10 Remove the screws of DC VSS-LED TV PD BD.</p> |  | <p>Torque : 7-8Kgf.cm. 100-113psi</p>  <p>6001-002756 SCREW-MACHINE M3.0, L6.0 WHT</p> |
| <p>11 Remove the ASSY SPEAKER (L/R).</p> |  | |
| <p>12 Remove the 4 screws of ASSY T CON and unlock the locking of T CON Cable.</p> |  | <p>Torque : 7-8Kgf.cm. 100-113psi</p>  <p>6001-002756 SCREW-MACHINE M3.0, L6.0 WHT</p> |
| <p>13 Completed disassembly.</p> <ul style="list-style-type: none"> Panel. |  | |

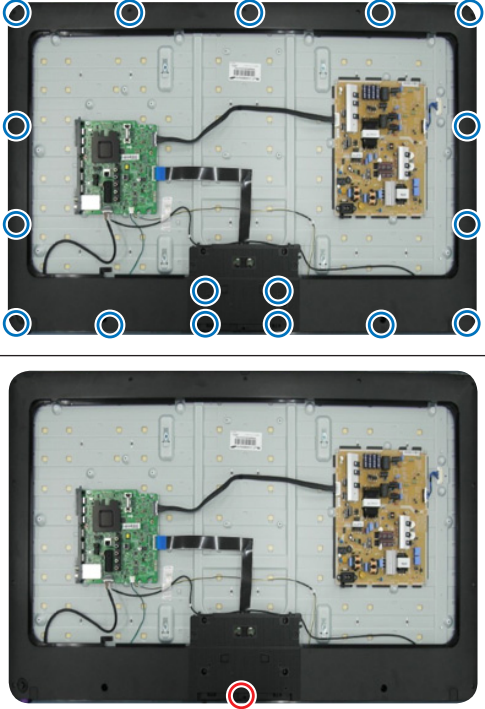


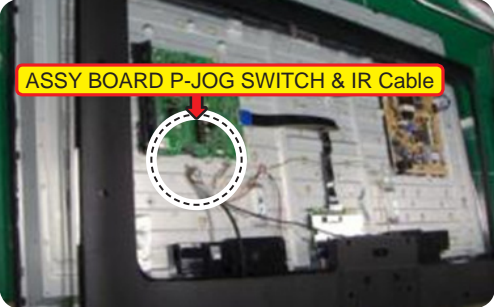


 **NOTE**


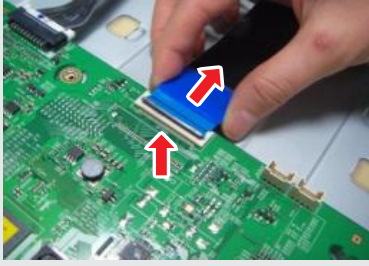
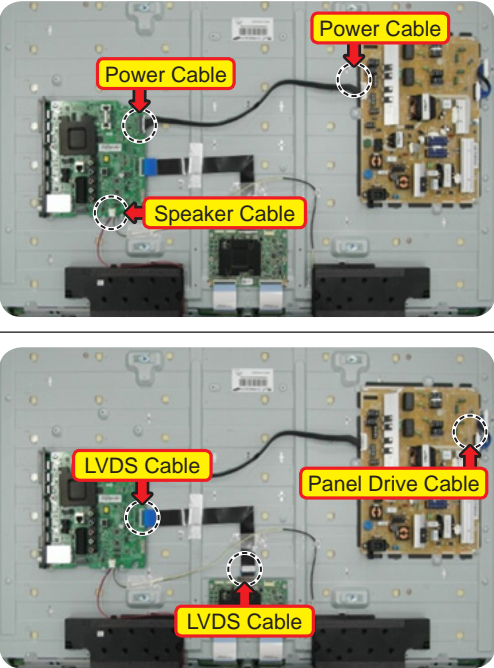




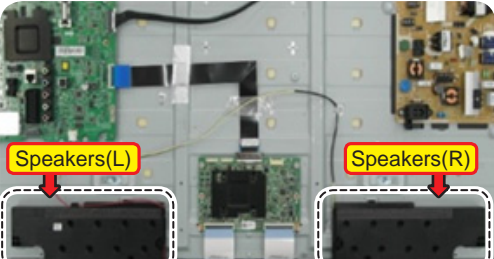
Reassembly procedures are in the reverse order of disassembly procedures.

■ 55 Inches

| Description | Picture Description | Screws |
|--|--|--|
| <p>1 Place TV face down on cushioned table.</p> |  | |
| <p>2 Remove 4 screws from the ASSY GUIDE P-STAND.</p> |  | <p>Torque : 9~11Kgf.cm. 128~156psi</p>  <p>6003-001782 SCREW-MACHINE M4.0, L12.0 BLK</p> |
| <p>3 Remove STAND.</p> |  | |
| <p>4 Remove screws of ASSY COVER P-REAR.</p> <ul style="list-style-type: none"> • 55 inch : 4 EA <ul style="list-style-type: none"> • 55 inch : 4 EA |   | <p>Torque : 7~8Kgf.cm. 100~113psi</p>  <p>6001-002755 SCREW-MACHINE M3.0, L6.0 BLK</p> <p>Torque : 9~11Kgf.cm. 128~156psi</p>  <p>6003-001782 SCREW-MACHINE M4.0, L12.0 BLK</p> |

3. Disassembly and Reassemble



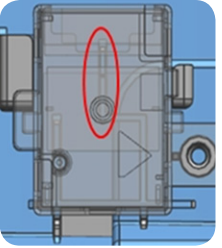
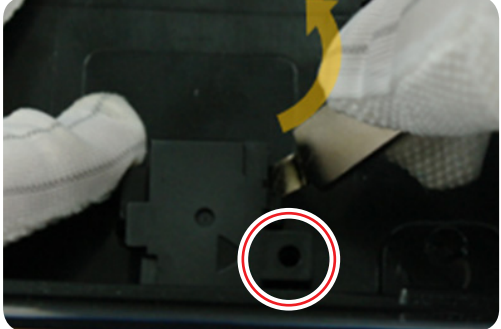

| Description | Picture Description | Screws |
|---|--|---|
| <p>5 Remove 17 screws of ASSY COVER P-MIDDLE.</p> <p>Remove 1 screws of ASSY COVER P-MIDDLE.</p> <p>! CAUTION Be careful when you lift up the ASSY COVER P-MIDDLE, It's really sharp.</p> |  | <p>Torque : 7~8Kgf.cm. 100~113psi</p>  <p>6001-002755 SCREW-MACHINE M3.0, L6.0 BLK</p> <p>Torque : 9~11Kgf.cm. 128~156psi</p>  <p>6003-001782 SCREW-MACHINE M4.0, L12.0 BLK</p> |
| <p>6 Disconnect the ASSY BOARD P-JOG SWITCH & IR Cable.</p> <p>NOTE First remove the cable before you remove the ASSY COVER P-MIDDLE.</p> |  | |
| <p>7 Lift up the ASSY COVER P-MIDDLE.</p> |  | |
| <p>8 Remove the ASSY COVER P-MIDDLE.</p> |  | |

| Description | Picture Description | Screws |
|---|--|---|
| <p>9 Remove the Power Cables and Speaker Cables. Remove the LVDS Cable and Panel Drive Cable.</p> <p> NOTE Applied to Double locking.</p> <ol style="list-style-type: none"> 1. Flip up the locking tab on top of the connector. 2. Squeeze the edge of the connector to release the second tab lock and gently pull the connector away.  |  | |
| <p>10 Remove the screws of ASSY PCB MAIN.</p> |  |  <p>Torque : 7~8Kgf.cm. 100~113psi</p> <p>6001-002756 SCREW-MACHINE M3.0, L6.0 WHT</p> |
| <p>11 Remove the screws of DC VSS-LED TV PD BD.</p> |  |  <p>Torque : 7~8Kgf.cm. 100~113psi</p> <p>6001-002756 SCREW-MACHINE M3.0, L6.0 WHT</p> |
| <p>12 Remove the ASSY SPEAKER (L/R).</p> |  | |

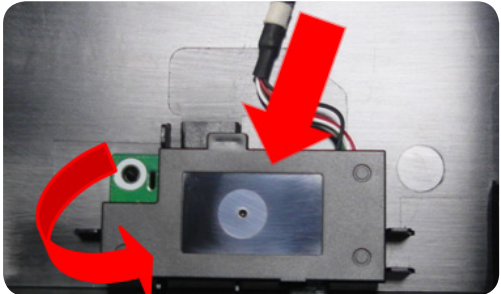
Screw Size

| Code No. | COLOR | A (mm) | B (mm) | C (mm) | D (mm) | E (mm) | Screw Image |
|-------------|-------|-----------|-----------|-----------|-----------|---------|---|
| 6003-001782 | BLACK | 7.80~8.20 | 1.85~1.95 | 3.81~3.91 | 11.4~12.0 | - | <p>CROSS #2(3.56) RECESS B 8.0R * C 0.6 ± 0.1 M4.0 x 1.8 TAPPING Δ B-TYPE</p> |
| 6001-002755 | BLACK | 7.1~7.5 | 1.9~2.0 | 2.98~3.02 | 5.7~6.0 | 4.4~5.4 | <p>CROSS #2(3.08) 母寸 Punch D:7.5 M3 x 0.5 PITCH SCALOCK TRAP 드로</p> |
| 6001-002756 | WHITE | 5.6~6.0 | 1.15~1.25 | 2.92~2.98 | 3.7~4.0 | 4.4~5.4 | <p>CROSS #2(★M3.0F) RECESS M3 x 0.5 PITCH SCALOCK TRAP 드로</p> |

3-1-2. ASSY BOARD P-RF-MODULE

| Description | Picture Description | Refer |
|--|--|---|
| <p>1 Preparation : BN81-00001A (Registered in Jig material)</p>  |  |  |
| <p>2 Twist the jig after inserting ASSY BOARD P-RF-MODULE(B/T module) and ASSY COVER P-MIDDLE,REAR.</p> |  | |
| |  | |

3-1-3. NETWORK

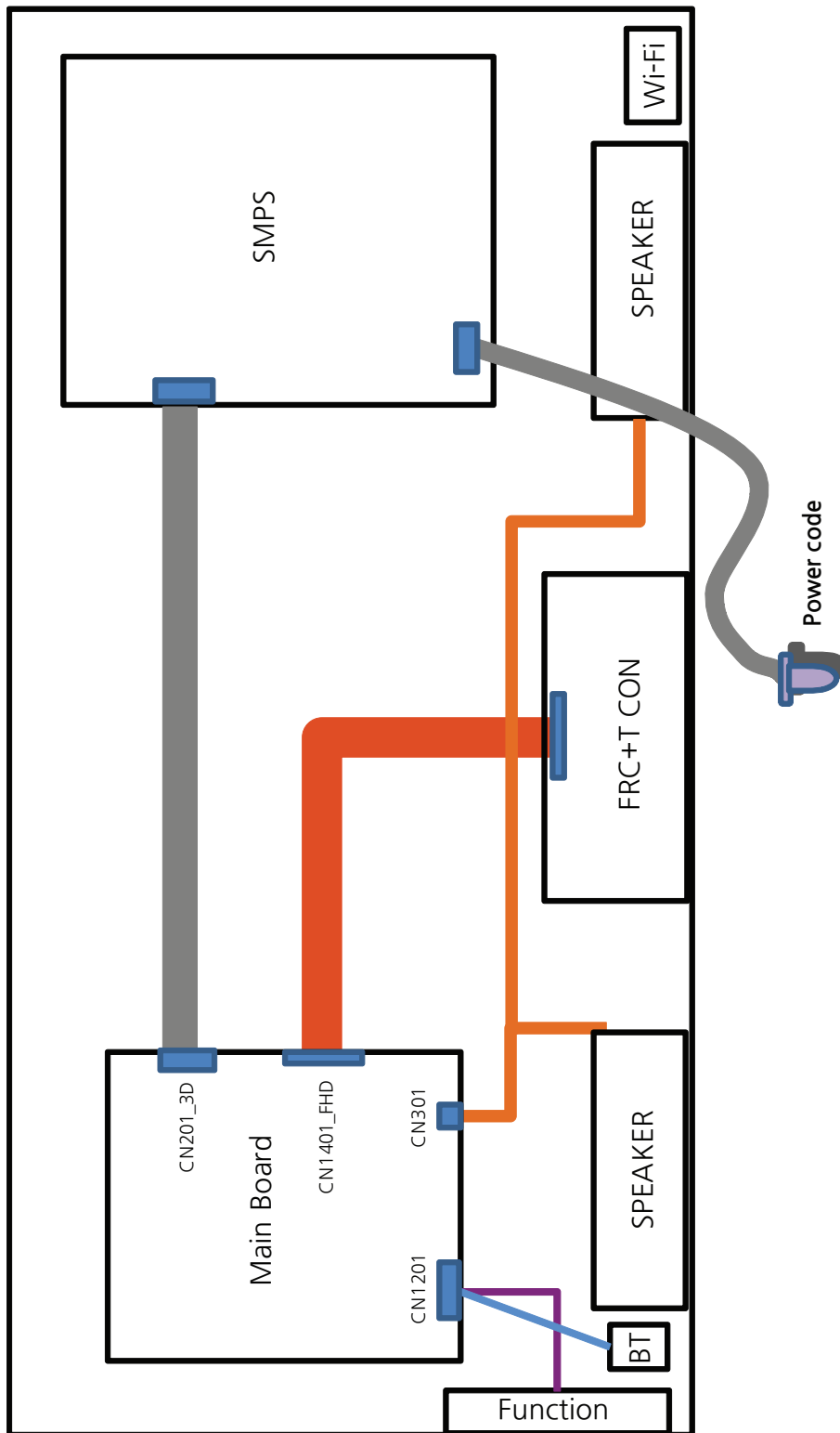
| Description | Picture Description | Refer |
|---|--|-------|
| <p>1 Remove the NETWORK(Wi-Fi module).</p> |  | |

 **NOTE**

Reassembly procedures are in the reverse order of disassembly procedures.

5. Wiring Diagram

5-1. Wiring Diagram



5-2. Connector

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

| CN601(to HDMI1) | | | |
|-----------------|--------------|----|----------------|
| 1 | HDMI1_RX2+ | 11 | GND |
| 2 | GND | 12 | HDMI1_RXCLK- |
| 3 | HDMI1_RX2- | 13 | CEC |
| 4 | HDMI1_RX1+ | 14 | NC |
| 5 | GND | 15 | HDMI1_SCL_DDC |
| 6 | HDMI1_RX1- | 16 | HDMI1_SDA_DDC |
| 7 | HDMI1_RX0+ | 17 | GND |
| 8 | GND | 18 | HDMI1_5V |
| 9 | HDMI1_RX0- | 19 | HDMI1_HOT_PLUG |
| 10 | HDMI1_RXCLK+ | | |

| CN602(to HDMI2) | | | |
|-----------------|--------------|----|----------------|
| 1 | HDMI2_RX2+ | 11 | GND |
| 2 | GND | 12 | HDMI2_RXCLK- |
| 3 | HDMI2_RX2- | 13 | CEC |
| 4 | HDMI2_RX1+ | 14 | ARC2_SIGLE |
| 5 | GND | 15 | HDMI2_SCL_DDC |
| 6 | HDMI2_RX1- | 16 | HDMI2_SDA_DDC |
| 7 | HDMI2_RX0+ | 17 | GND |
| 8 | GND | 18 | HDMI2_5V |
| 9 | HDMI2_RX0- | 19 | HDMI2_HOT_PLUG |
| 10 | HDMI2_RXCLK+ | | |

| CN603(to HDMI3) | | | |
|-----------------|--------------|----|----------------|
| 1 | HDMI3_RX2+ | 11 | GND |
| 2 | GND | 12 | HDMI3_RXCLK- |
| 3 | HDMI3_RX2- | 13 | CEC |
| 4 | HDMI3_RX1+ | 14 | NC |
| 5 | GND | 15 | HDMI3_SCL_DDC |
| 6 | HDMI3_RX1- | 16 | HDMI3_SDA_DDC |
| 7 | HDMI3_RX0+ | 17 | GND |
| 8 | GND | 18 | HDMI3_5V |
| 9 | HDMI3_RX0- | 19 | HDMI3_HOT_PLUG |
| 10 | HDMI3_RXCLK+ | | |

| CN604(to HDMI4) | | | |
|-----------------|--------------|----|----------------|
| 1 | HDMI4_RX2+ | 11 | GND |
| 2 | GND | 12 | HDMI4_RXCLK- |
| 3 | HDMI4_RX2- | 13 | CEC |
| 4 | HDMI4_RX1+ | 14 | NC |
| 5 | GND | 15 | HDMI4_SCL_DDC |
| 6 | HDMI4_RX1- | 16 | HDMI4_SDA_DDC |
| 7 | HDMI4_RX0+ | 17 | GND |
| 8 | GND | 18 | HDMI4_5V |
| 9 | HDMI4_RX0- | 19 | HDMI4_HOT_PLUG |
| 10 | HDMI4_RXCLK+ | | |

| CN302(to Speaker) | | | |
|-------------------|----|---|----|
| 1 | R+ | 3 | L+ |
| 2 | R- | 4 | L- |

| OP301(to Optical Jack) | | | |
|------------------------|-----------|---|-----|
| 1 | SPDIF_OUT | 3 | GND |
| 2 | B5V_DC_PW | | |

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

| CN1502(USB2) | | | |
|--------------|-------------|---|---------|
| 1 | B5V_USB2_PW | 3 | USB2_DP |
| 2 | USB2_DM | 4 | GND |

| CN1503(USB3) | | | |
|--------------|-------------|---|---------|
| 1 | B5V_USB3_PW | 3 | USB3_DP |
| 2 | USB3_DM | 4 | GND |

| CN1402_LAN | | | |
|------------|----------|---|----------|
| 1 | LAN_TXD+ | 5 | B2.5V |
| 2 | B2.5V | 6 | LAN_RXD- |
| 3 | LAN_TXD- | 7 | NC |
| 4 | LAN_RXD+ | 8 | GND |

| CN1201(to Function/IR) | | | |
|------------------------|---------------|----|-----------|
| 1 | IR | 14 | A5.3V |
| 2 | GND | 15 | LED_STB |
| 3 | GND | 16 | BT_WAKE |
| 4 | FRAME_SYNC_IN | 17 | IR_GND |
| 5 | A3.3V | 18 | POWER_DET |
| 6 | BT_SYNC | 19 | NC |
| 7 | MSCL | 20 | BT_RESET |
| 8 | GND | 21 | NC |
| 9 | MSDA | 22 | NC |
| 10 | USB_BT_DP | 23 | GND |
| 11 | KEY_INPUT1 | 24 | WIFI_DP |
| 12 | USB_BT_DM | 25 | WIFI_DM |
| 13 | KEY_INPUT2 | 26 | B5V_DC_PW |

| CN502(to Component&AV) | | | |
|------------------------|---------------|----|--------------|
| 1 | GND | 9 | COMP2_PR |
| 2 | COMP2_Y_CVBS | 10 | COMP2_PR |
| 3 | INDENT_VIEDO2 | 11 | GND |
| 4 | GND | 12 | COMP2_PB |
| 5 | COMP2_PB | 13 | INDENT_COMP2 |
| 6 | INDENT_COMP2 | 14 | GND |
| 7 | GND | 15 | COMP2_Y_CVBS |
| 8 | COMP2_PR | | |

| CN304_NIRB_1~7 (to Headpune&LR OUT) | | | |
|-------------------------------------|----------------|---|----------|
| 1 | GND | 5 | TEST_SR |
| 2 | HP_LINE_SL_OUT | 6 | IDENT_HP |
| 3 | HP_LINE_SR_OUT | 7 | GND |
| 4 | TEST_SL | | |

| CN303_IBR_1~14 | | | |
|----------------|----------------|----|-------------|
| 1 | GND | 5 | TEST_SR |
| 2 | HP_LINE_SL_OUT | 6 | IDENT_HP |
| 3 | HP_LINE_SR_OUT | 7 | GND |
| 4 | TEST_SL | 8 | GND |
| 9 | IRB | 12 | NC |
| 10 | IRB | 13 | IPR_JACK_ID |
| 11 | NC | 14 | GND |

| CN201(to Power board) | | | |
|-----------------------|--------------|----|------------|
| 1 | B5.3V_PW | 11 | B13V_PW |
| 2 | SW_POWER_OUT | 12 | ECO_ON |
| 3 | B5.3V_PW | 13 | B13V_PW |
| 4 | A5.3V_PW | 14 | CPLD_PWM1 |
| 5 | GND | 15 | GND |
| 6 | GND | 16 | CPLD_PWM2 |
| 7 | B12VS_PW | 17 | OVD_ON_OFF |
| 8 | GND | 18 | CPLD_PWM3 |
| 9 | GND | 19 | OVD_LEVEL |
| 10 | SW_INVERTER | 20 | CPLD_PWM4 |

5-3. Connector Functions

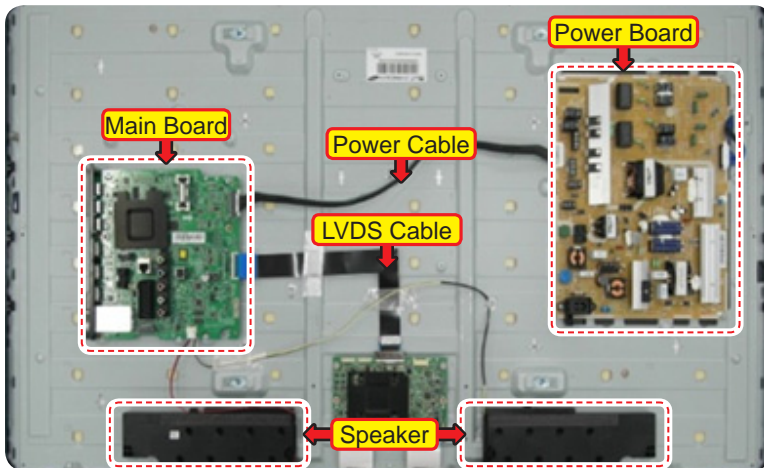
| Connector | Function |
|------------------------|---|
| CN201_3D ↔ IP CNM803 | Supply main power and dimming signal from IP Board to Main Board. |
| CN1401_FHD ↔ FRC+T-CON | The LVDS signal transferred from Main Board to Panel. |

4. Troubleshooting

4-1. Troubleshooting

4-1-1. Previous Check

1. Check the various cable connections first.
 - Check to see if there is a burnt or damaged cable.
 - Check to see if there is a disconnected or loose cable connection.
 - Check to see if the cables are connected according to the connection diagram.
2. Check the power input to the Main Board.



3. How to distinguish if the problem is caused by **Main Board** or **T CON**

- No Video

If the problem is No Video but BLU is on and Indication LED is blinking repeatedly and faster than normal booting, replace the T-CON board.

- Distorted Picture

Check the inner patterns.

- For All mode

| X12 | FOX_FT1 FRC Post | Picture | Problem |
|-----|------------------|---------|--|
| OK | OK | NG | Main Board or Signal Source |
| NG | OK | NG | Main Board |
| NG | NG | NG | Main Board or LVDS cable or T CON or Panel |

- Only for HDMI mode (additional check)

| HDMI | Picture | Problem |
|------|---------|---|
| OK | NG | There is no problems after HDMI IC check HDMI source or HDMI jack. |
| NG | NG | There is no problems before HDMI IC check X10+ pattern or LVDS cable or T CON |

■ How to check inner pattern?

1. Enter the service mode → Choose 'SVC' → Check the 'internal pattern.'

2. Enter 'Service Mode.'

- If you do not have Factory remote control



- If you have Factory remote control

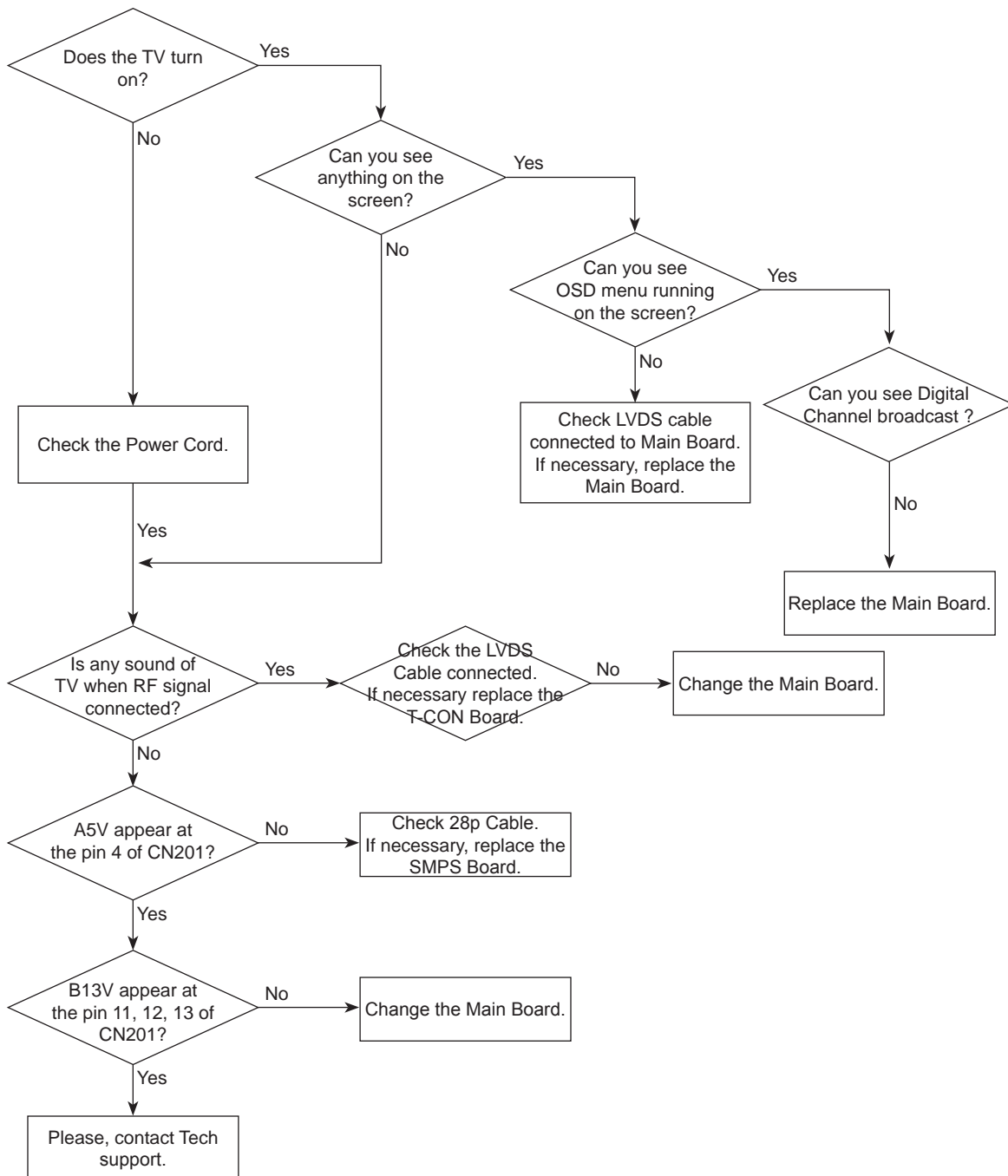


3. Choose 'SVC → Test pattern'.



4. Check inner patterns.

4-1-2. Simple flow chart of malfunction



4-2. How to Check Fault Symptom

4-2-1. NO Power



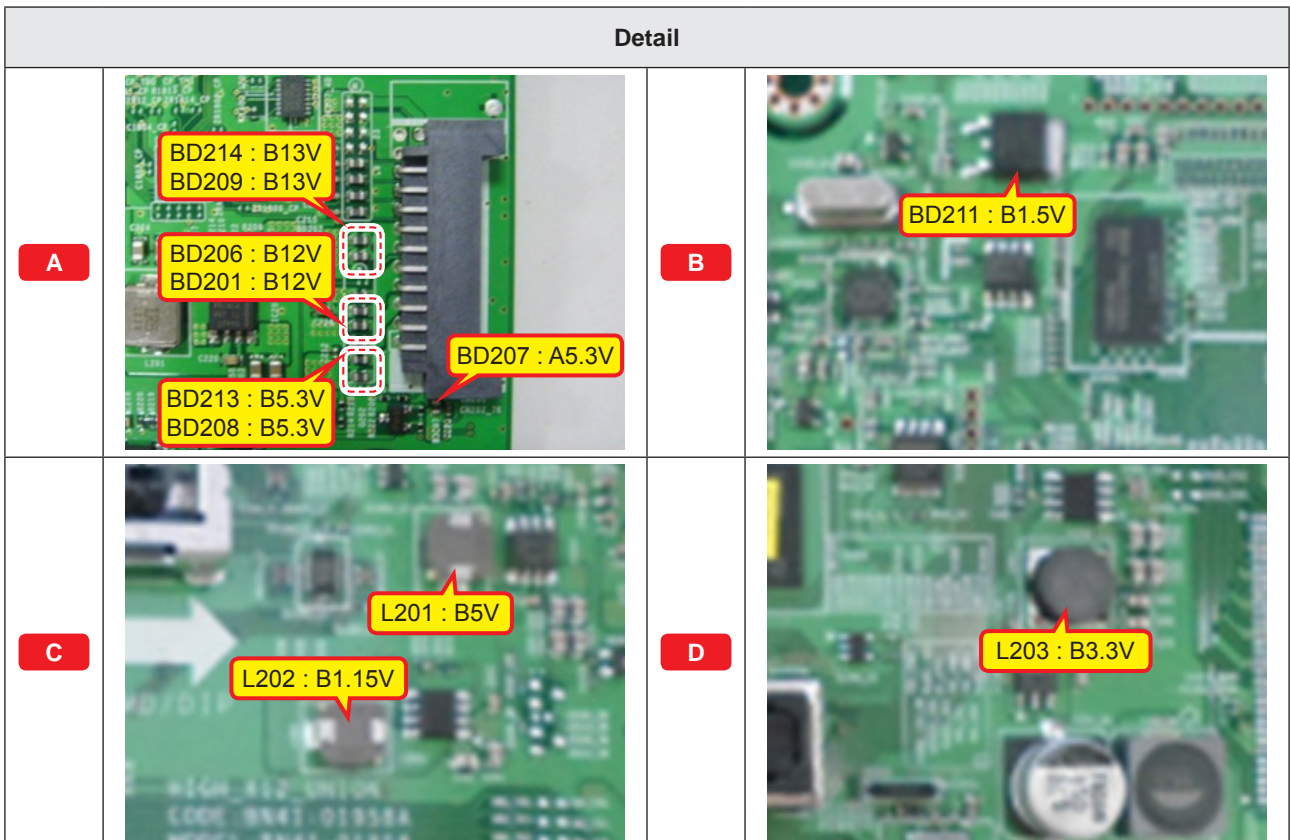
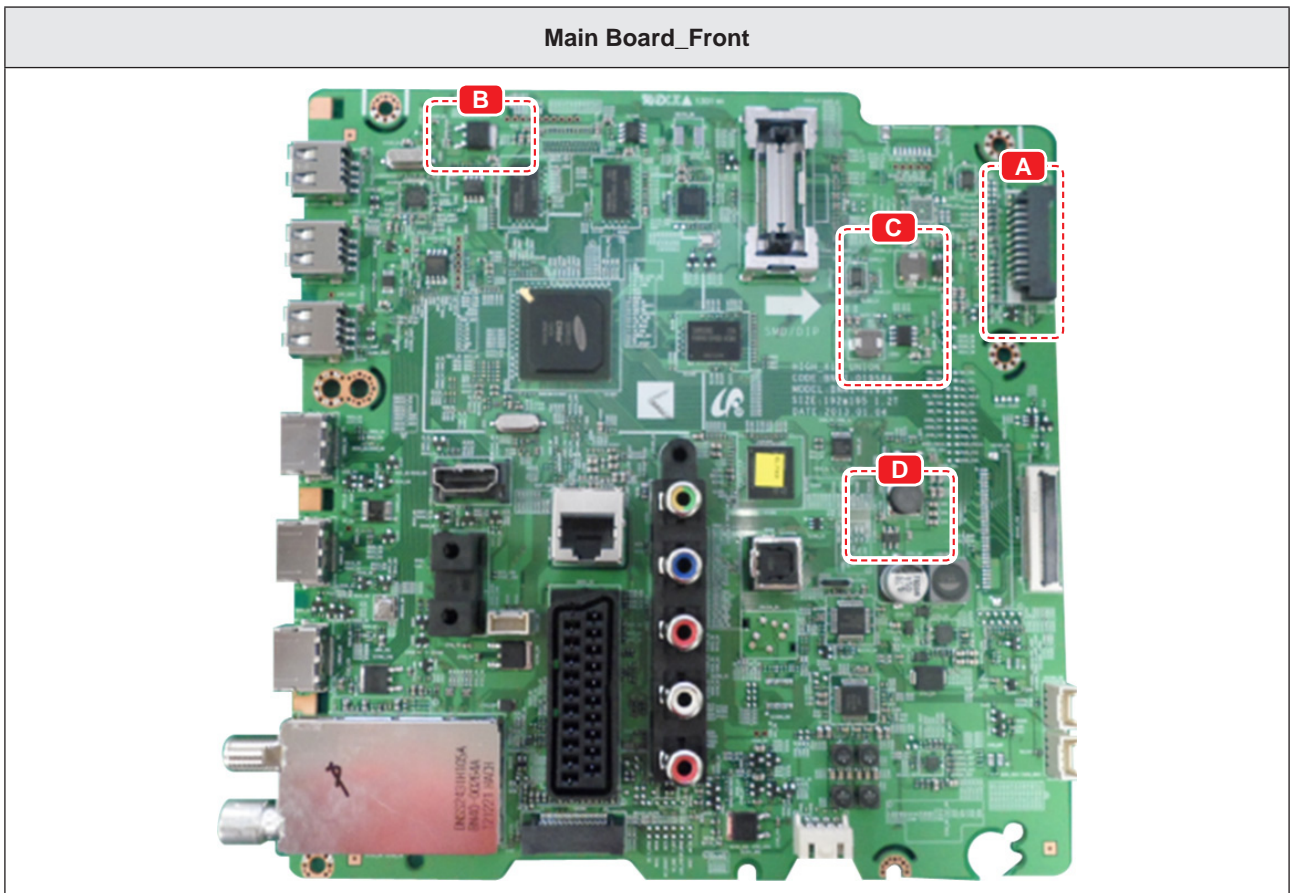
Note

Refer to the next page to check the location such a CN201 or IC201 SVC Manual mentioned.

| | |
|--------------------------|---|
| Symptom | <ul style="list-style-type: none"> The LEDs on The front panel do not work when connecting The power cord. The SMPS relay does not work when connecting The power cord. The units appears to be dead. |
| Major checkpoints | <p>The IP relay or the LEDs on the front panel does not work when connecting the power cord if the cables are improperly connected or the Main Board or SMPS is not functioning. In this case, check the following:</p> <ul style="list-style-type: none"> Check the internal cable connection status inside the unit. Check the fuses of each part. Check the output voltage of SMPS. Replace the Main Board. |
| Diagnostics | <pre> graph TD Q1[Power indicator LED is on?] -- No --> A1[Check the power cord connection.] Q1 -- Yes --> Q2[Check the backlight on, when 20 PIN cable unconnected ?] Q2 -- No --> A2[Change 20p cable. Change Main Power Ass'y.] Q2 -- Yes --> Q3[Check 'Stand-By 5V' ? BD207 : A5.3V] Q3 -- No --> A2 Q3 -- Yes --> Q4[Check 'Power input of Main Ass'y' ? - BD206 / BD201 : B12VS - BD214 / 209 : B13V - BD208 / BD213 : B5V] Q4 -- No --> A2 Q4 -- Yes --> Q5[Check 'Power IC output of Main Ass'y' ? - IC202 : A3.3V - L202 : B1.15V / L201 : B5V - L203 : B3.3V / BD211 : B1.5V] Q5 -- No --> A3[Change the Main Ass'y.] Q5 -- Yes --> Q6[Check Input power of 'T CON Board' ? - F1(T CON) : B13V] Q6 -- No --> A4[Reconnect or Change. the LVDS cable.] Q6 -- Yes --> Q7[Check Power of 'T CON Board'. - BD1(T CON) : Panel_12V - B1.1V(T CON-TP) : FT1_1.1V_PW] Q7 -- No --> A5[Change the T CON Board.] </pre> |

| | |
|--------------------|--|
| Diagnostics | <p style="text-align: center;">↓ Yes ↓</p> <div style="border: 1px solid black; padding: 5px; margin: 0 auto; width: fit-content;">Please, Contact tech support.</div> |
| Caution | Make sure to disconnect the power before working on the IP Board. |

■ Location of Parts



4-2-2. No Video (HDMI 1, 2, 3, 4 - Digital Signal)

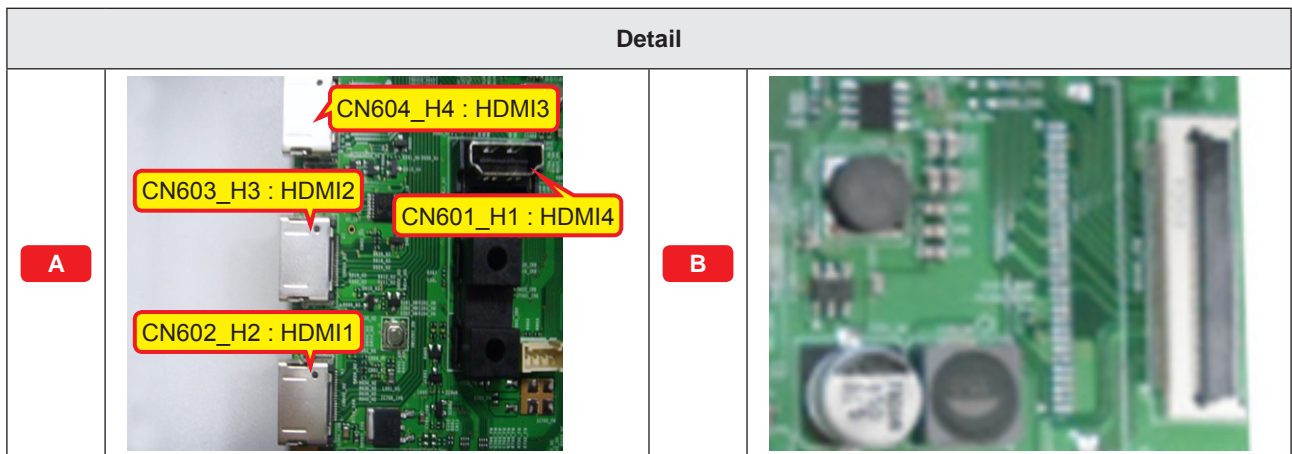
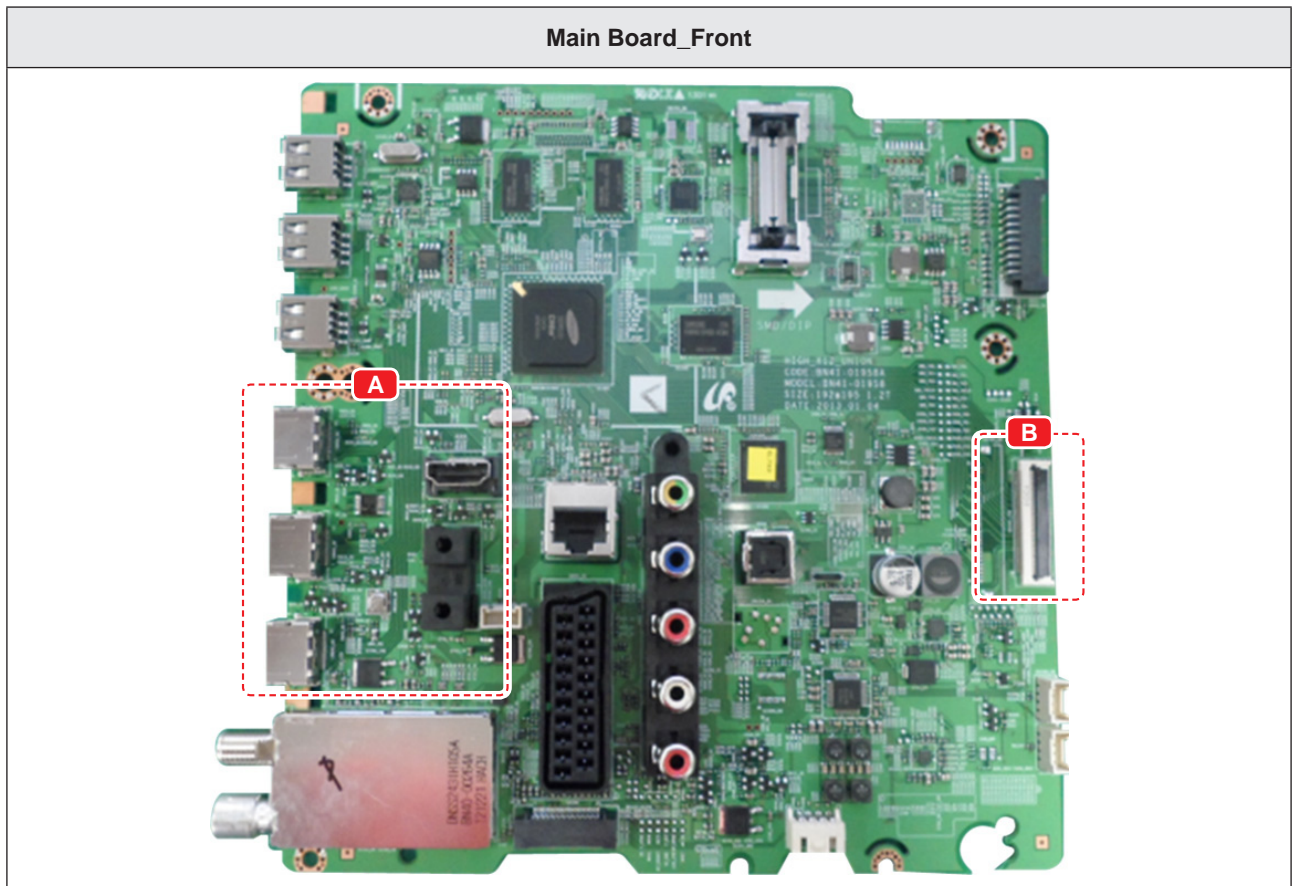


Note

Refer to the next page to check the location such a CN201 or IC201 SVC Manual mentioned.

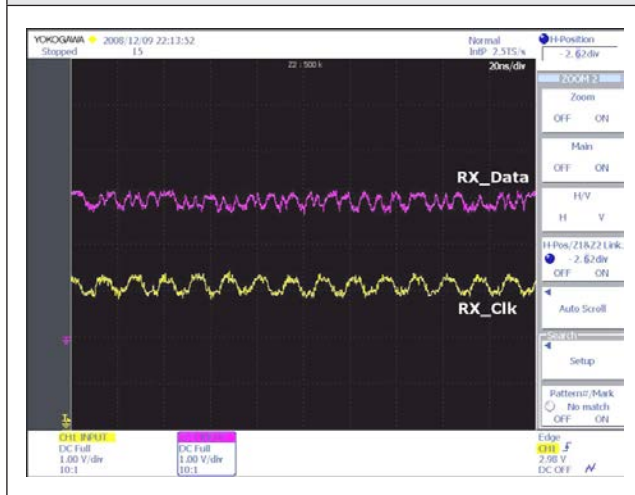
| | |
|--------------------------|---|
| Symptom | <ul style="list-style-type: none"> • Audio is normal but no picture is displayed on the screen. |
| Major checkpoints | <ul style="list-style-type: none"> • Check the HDMI source. • Check the HDMI switch. • This may happen when the LVDS cable connecting the Main Board and the Panel is disconnected. |
| Diagnostics | <div style="border: 1px solid black; padding: 10px;"> <p style="text-align: center;">Power indicator LED is off. Lamp(Backlight) on, no video ?</p> <p style="text-align: center;">No → Check a set in the 'Stand-by mode'.</p> <p style="text-align: center;">Yes ↓</p> <p style="text-align: center;">Check the HDMI source and check the connection of HDMI cable ?</p> <p style="text-align: center;">No → Input the HDMI signal properly.</p> <p style="text-align: center;">Yes ↓</p> <div style="display: flex; justify-content: space-between;"> <div style="width: 60%;"> <p>Check the signal at Input of Main Board ?</p> <ul style="list-style-type: none"> - HDMI1 Clk Pin #10, #12 of CN602_H2 <ul style="list-style-type: none"> • DATA Pin #7, #9, #4, #6, #1, #3 of CN602_H2 - HDMI2 Clk Pin #10, #12 of CN603_H3 <ul style="list-style-type: none"> • DATA Pin #7, #9, #4, #6, #1, #3 of CN603_H3 - HDMI3 Clk Pin #10, #12 of CN604_H4 <ul style="list-style-type: none"> • DATA Pin #7, #9, #4, #6, #1, #3 of CN604_H4 - HDMI4 Clk Pin #10, #12 of CN601_H1 <ul style="list-style-type: none"> • DATA Pin #7, #9, #4, #6, #1, #3 of CN601_H1 <p style="text-align: center;">Yes ↓</p> <p>Check the LVDS clk signal at output of Main Board. (TX)</p> <ul style="list-style-type: none"> - TX2_CLK : ODD_TXCLK_DN/DP - TX4_CLK : EVEN_TXCLK_DN/DP <p style="text-align: center;">Yes ↓</p> <p>Check the LVDS cable? Replace the T CON / LCD panel?</p> <p style="text-align: center;">No → Please, Contact tech support.</p> </div> <div style="width: 35%; border: 1px solid black; padding: 10px; margin-top: 20px;"> <p style="text-align: center;">Check CN601~4. Check HDMI cable. Change the Main Ass'y. or Check IC1001(X12). Change the Main Ass'y.</p> </div> </div> <p style="text-align: center;">No →</p> </div> |
| Caution | Make sure to disconnect the power before working on the IP Board. |

■ Location of Parts

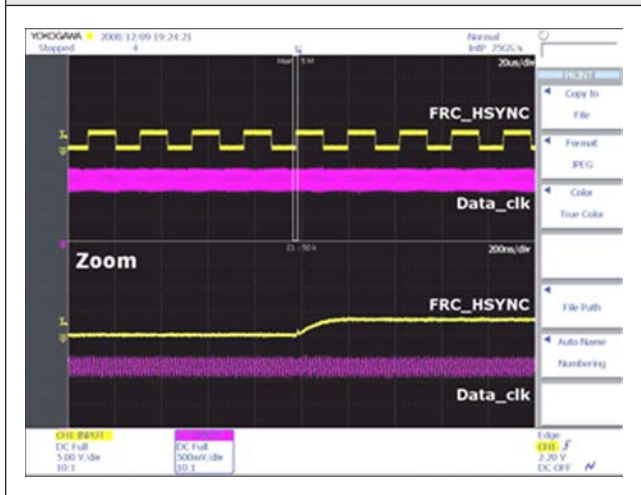


■ Waveforms

① HDMI input (RX_Data, RX_Clk)



② LVDS output



4-2-3. No Video (Tuner_CVBS)

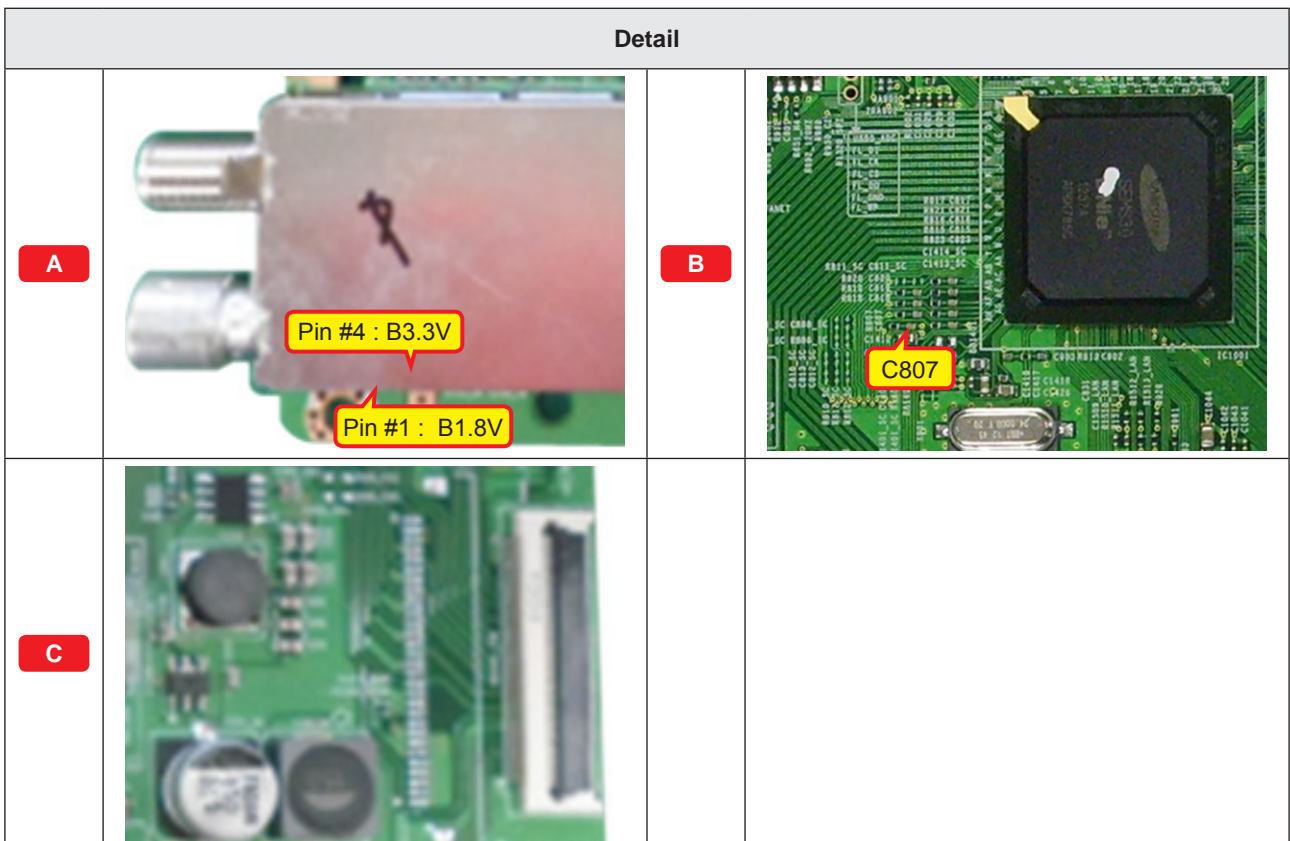
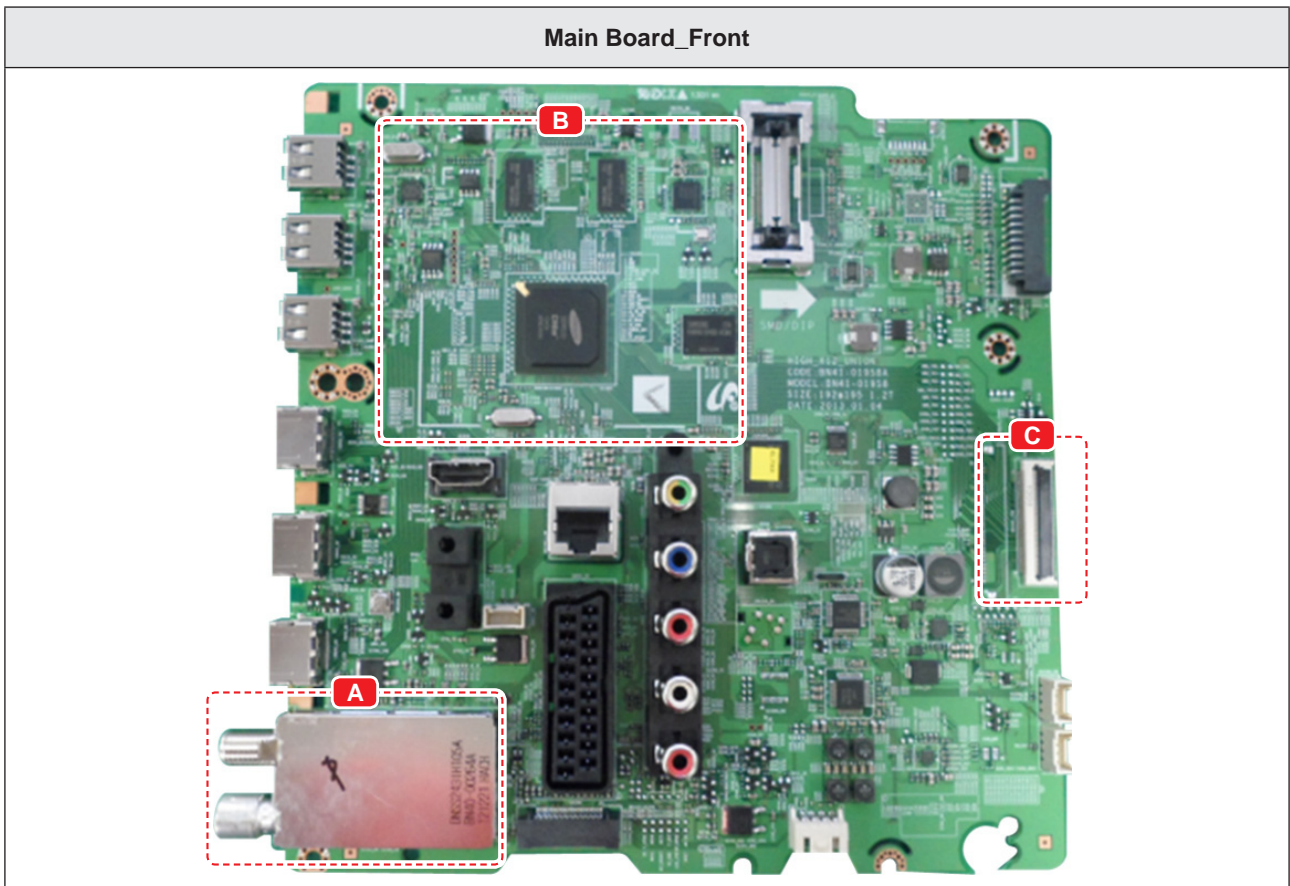


Note

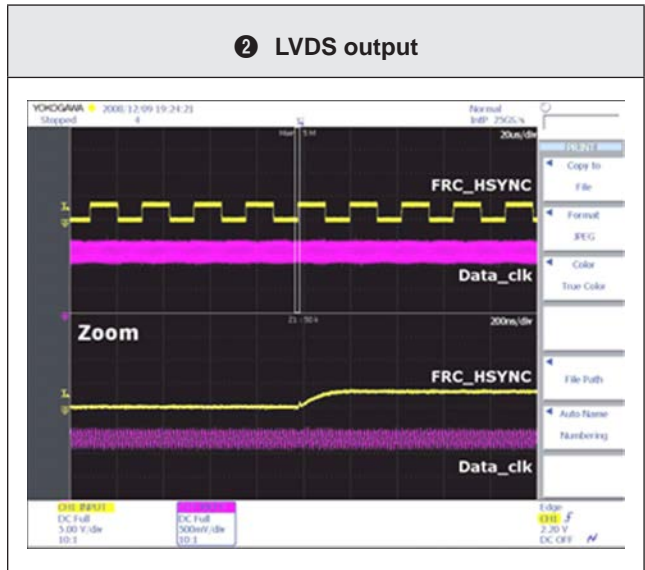
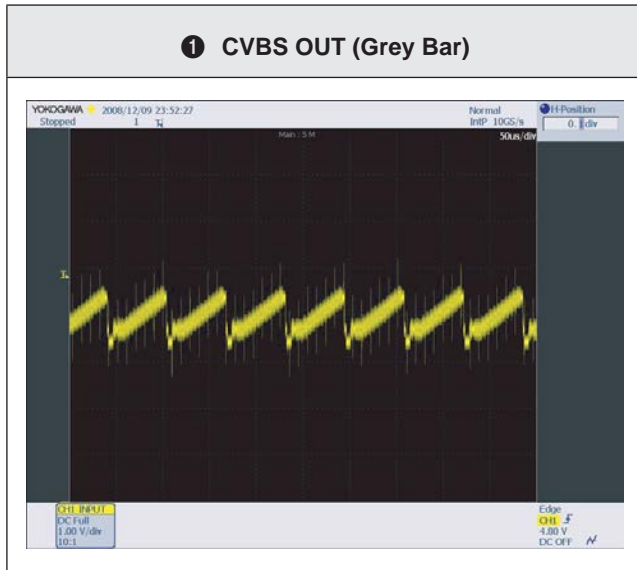
Refer to the next page to check the location such a CN201 or IC201 SVC Manual mentioned.

| | |
|--------------------------|--|
| Symptom | <ul style="list-style-type: none"> • Audio is normal but no picture is displayed on the screen. |
| Major checkpoints | <ul style="list-style-type: none"> • Check the Tuner CVBS source. • Check the Tuner. • This may happen when the LVDS cable connecting the Main Board and the Panel is disconnected. |
| Diagnostics | <pre> graph TD Q1[Power indicator LED is off. Lamp(Backlight) on, no video ?] -- No --> A1[Check a set in the 'Stand-by mode'.] Q1 -- Yes --> Q2[Check the RF source and check the connection of RF cable.] Q2 -- No --> A2[Input the RF source properly.] Q2 -- Yes --> Q3[1 Check the Power of Tuner ? - Pin #4 of Tuner : B3.3V_Tuner - Pin #1 of Tuner : B1.8V_Tuner] Q3 -- No --> A3[Change the Main Ass'y.] Q3 -- Yes --> Q4[2 Check the CVBS data out of IC1001 ? C807 : Tuner CVBS] Q4 -- No --> A4[Check IC1001(X12). Change the Main Ass'y.] Q4 -- Yes --> Q5[2 Check the LVDS clk signal at output of Main board. (TX) - TX2_CLK : ODD_TXCLK_DN/DP - TX4_CLK : EVEN_TXCLK_DN/DP] Q5 -- No --> A5[Check IC1001(X12). Change the Main Ass'y.] Q5 -- Yes --> Q6[Check the LVDS cable? Replace the T CON / LCD panel?] Q6 -- No --> A6[Please, Contact tech support.] </pre> |
| Caution | <p>Make sure to disconnect the power before working on the IP Board.</p> |

■ Location of Parts



■ Waveforms



4-2-4. No Vido (Tuner DTV)

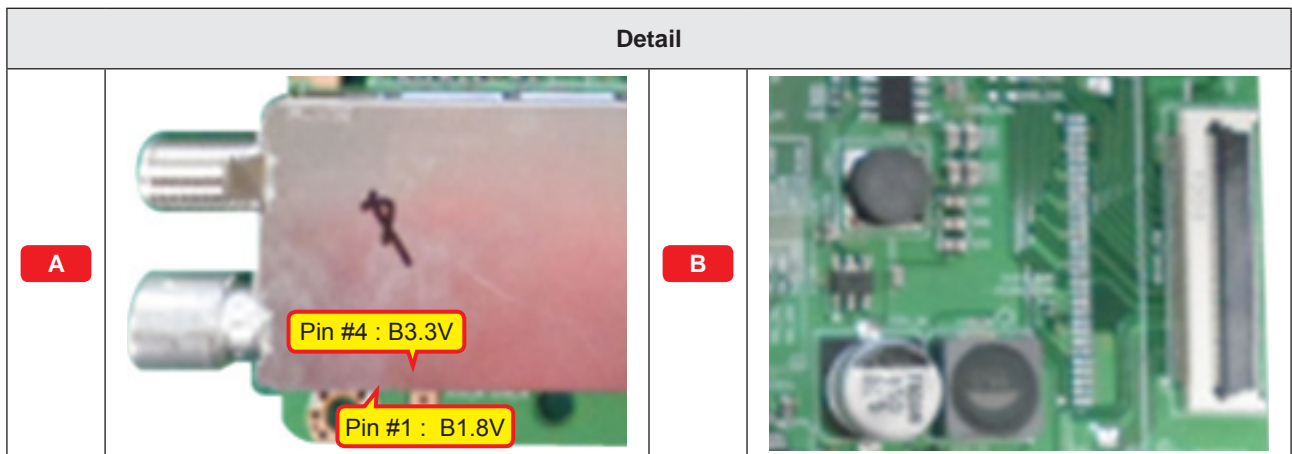
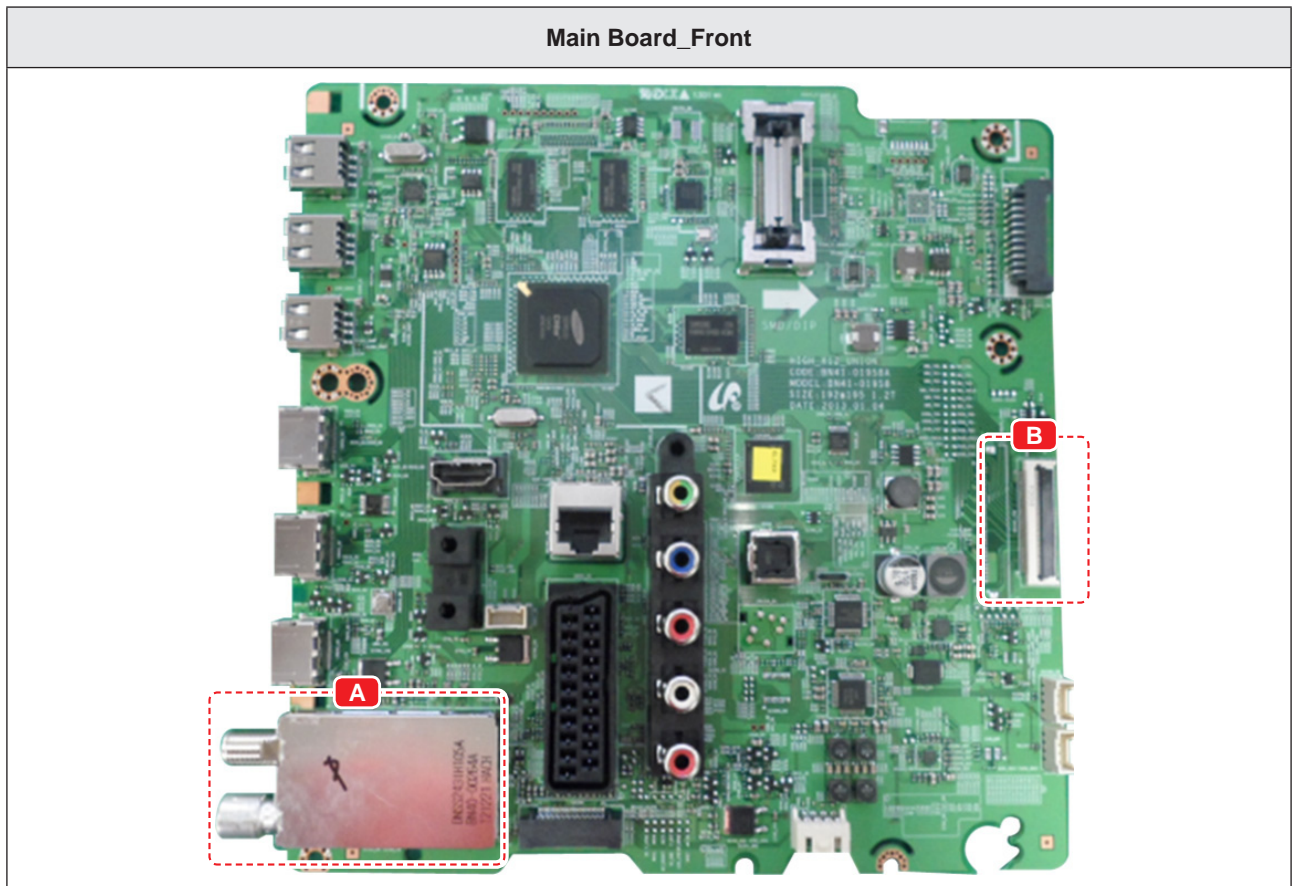


Note

Refer to the next page to check the location such a CN201 or IC201 SVC Manual mentioned.

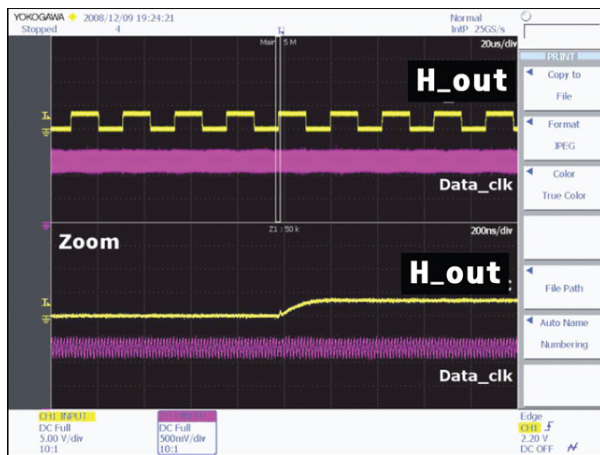
| | |
|--------------------------|--|
| Symptom | <ul style="list-style-type: none"> • Audio is normal but no picture is displayed on the screen. |
| Major checkpoints | <ul style="list-style-type: none"> • Check the DTV source. • Check the Tuner. • This may happen when the LVDS cable connecting the Main Board and the Panel is disconnected. |
| Diagnostics | <pre> graph TD Q1[Power indicator LED is off. Lamp(Backlight) on, no video ?] -- No --> A1[Check a set in the 'Stand-by mode'.] Q1 -- Yes --> Q2[Check the RF source and check the connection of RF cable.] Q2 -- No --> A2[Input the RF source properly.] Q2 -- Yes --> Q3[1 Check the 'signal strength' in Self Diagnosis menu Strength is enough ?] Q3 -- No --> A3[Check the D-TV source.] Q3 -- Yes --> Q4[2 Check the Power of Tuner ? - Pin #4 of Tuner : B3.3V_Tuner - Pin #1 of Tuner : B1.8V_Tuner] Q4 -- No --> A4[Change the Main Ass'y.] Q4 -- Yes --> Q5[2 Check the LVDS clk signal at output of Main board. (TX) - TX2_CLK : ODD_TXCLK_DN/DP - TX4_CLK : EVEN_TXCLK_DN/DP] Q5 -- No --> A5[Check IC1001(X12) Change the Main Ass'y.] Q5 -- Yes --> Q6[Check the LVDS cable? Replace the T CON / LCD panel?] Q6 -- No --> A6[Please, Contact tech support.] </pre> |
| Caution | <p>Make sure to disconnect the power before working on the IP Board.</p> |

■ Location of Parts

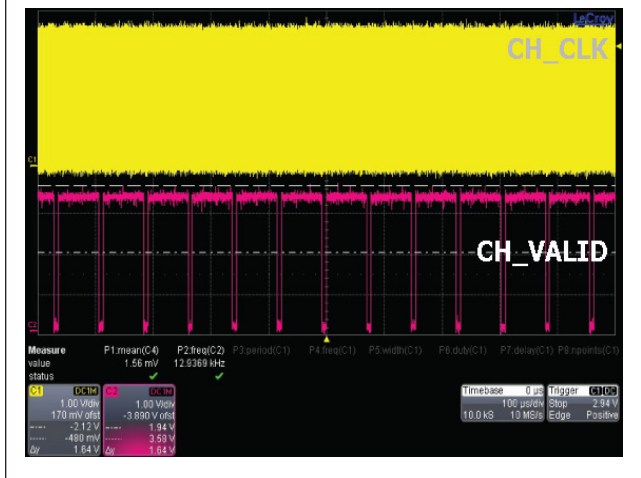


■ Waveforms

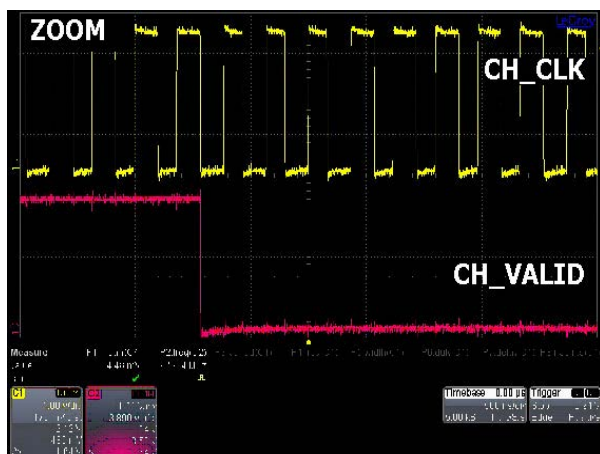
① CVBS OUT (Grey Bar)



② CH_CLK, CH_VALID



② CH_CLK, CH_VALID



4-2-5. No Video (Video AV)

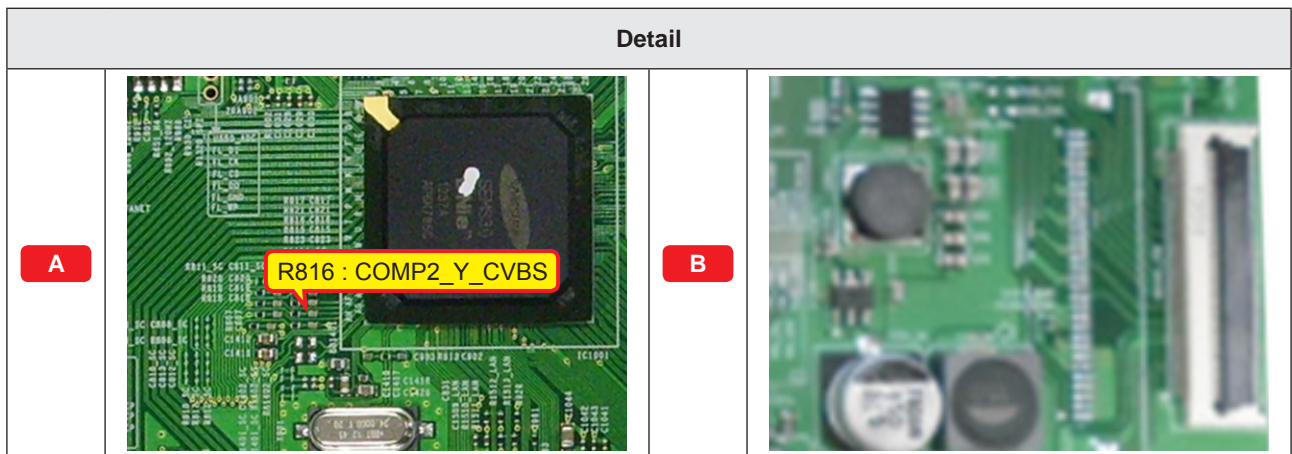
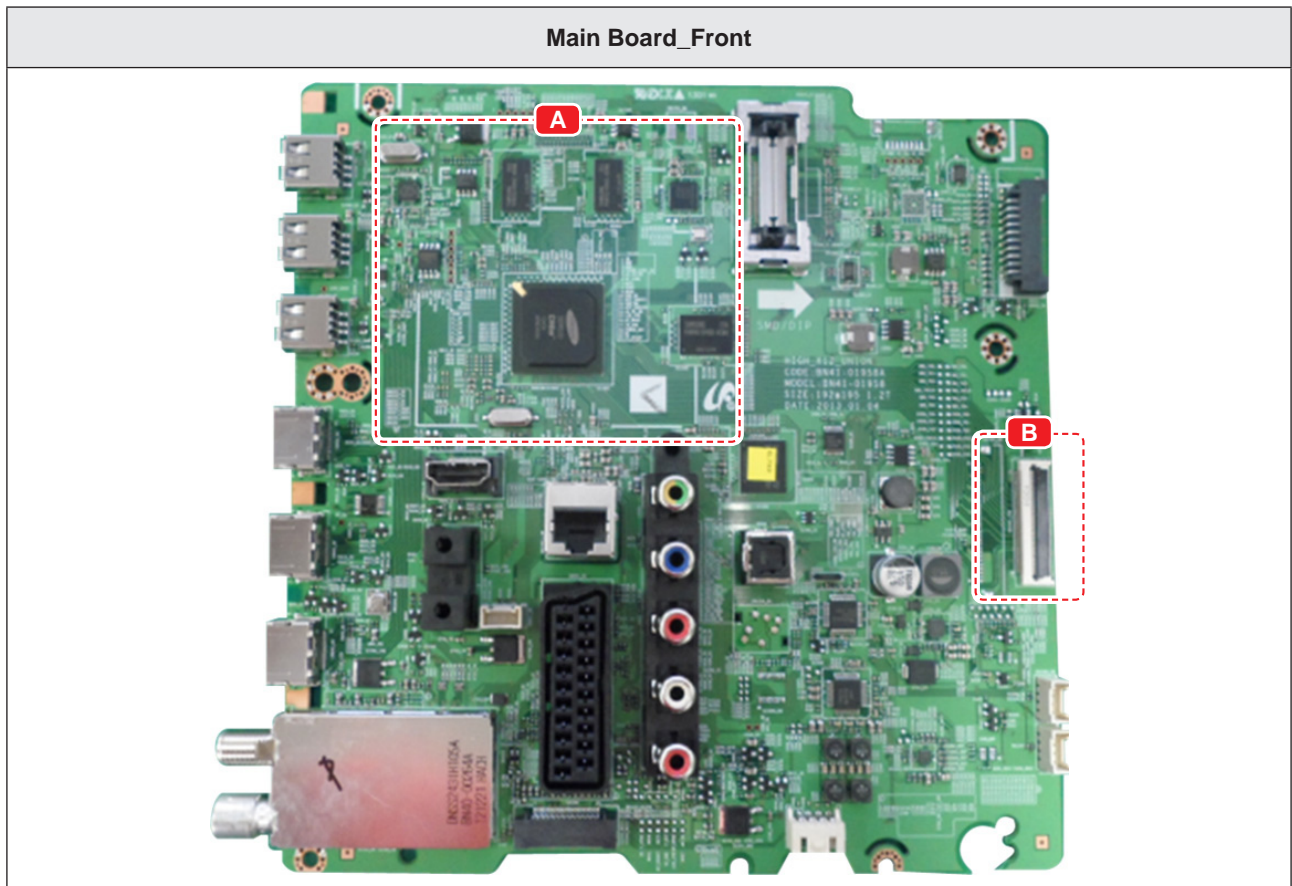


Note

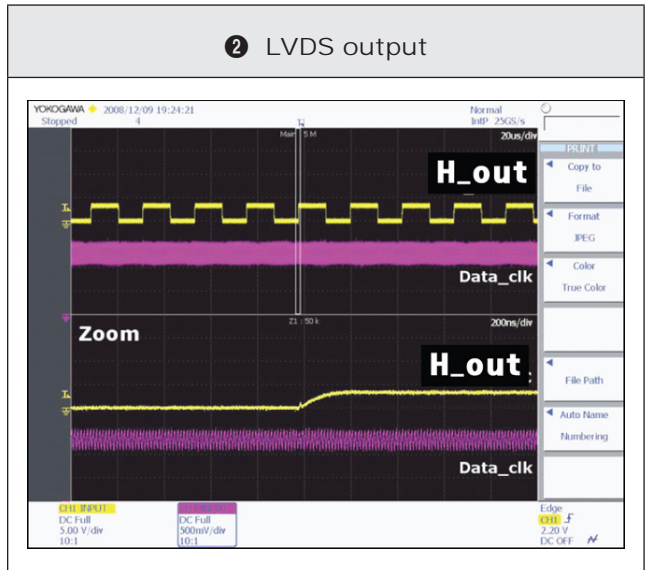
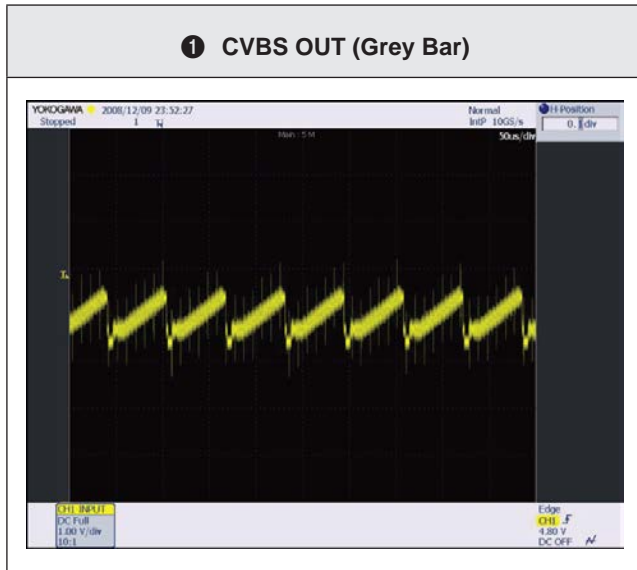
Refer to the next page to check the location such a CN201 or IC201 SVC Manual mentioned.

| | |
|--------------------------|---|
| Symptom | <ul style="list-style-type: none"> • Audio is normal but no picture is displayed on the screen. |
| Major checkpoints | <ul style="list-style-type: none"> • Check the Video CVBS source. • This may happen when the LVDS cable connecting the Main Board and the Panel is disconnected. |
| Diagnostics | <pre> graph TD Q1[Power indicator LED is off. Lamp(Backlight) on, no video?] -- No --> A1[Check a set in the 'Stand-by mode'.] Q1 -- Yes --> Q2[Check the video source and check the connection of video cable?] Q2 -- No --> A2[Input the video source properly.] Q2 -- Yes --> Q3[Check the LVDS clk signal at output of Main board. (TX) ② - TX2_CLK : ODD_TXCLK_DN/DP - TX4_CLK : EVEN_TXCLK_DN/DP] Q3 -- No --> A3[Check IC1001(X12) Change the Main Ass'y.] Q3 -- Yes --> Q4[Check the LVDS cable? Replace the T CON / LCD panel?] Q4 -- No --> A4[Please, Contact tech support.] </pre> |
| Caution | <p>Make sure to disconnect the power before working on the IP Board.</p> |

■ Location of Parts



■ Waveforms



4-2-6. No Video (COMPONENT)

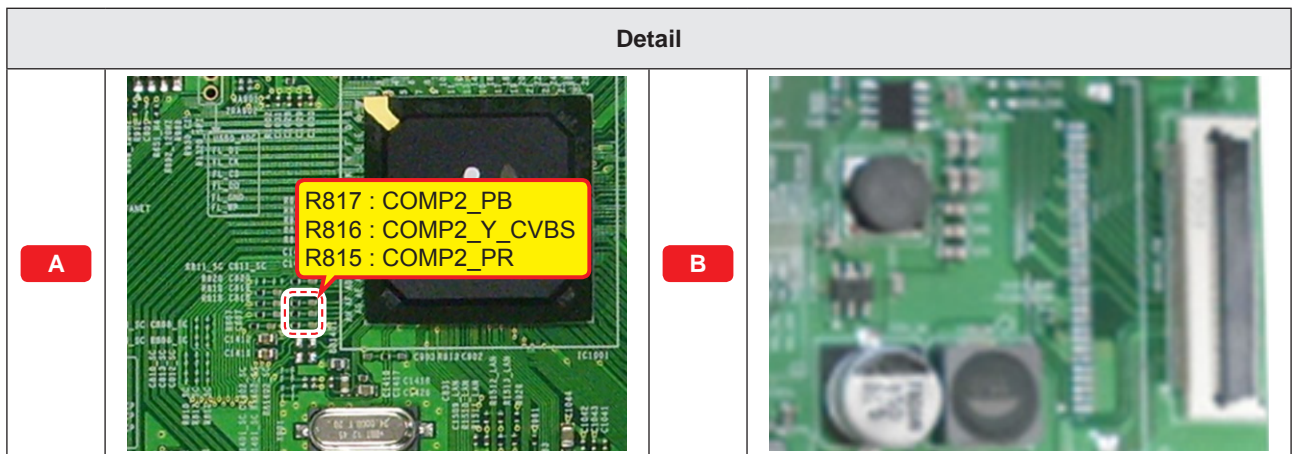
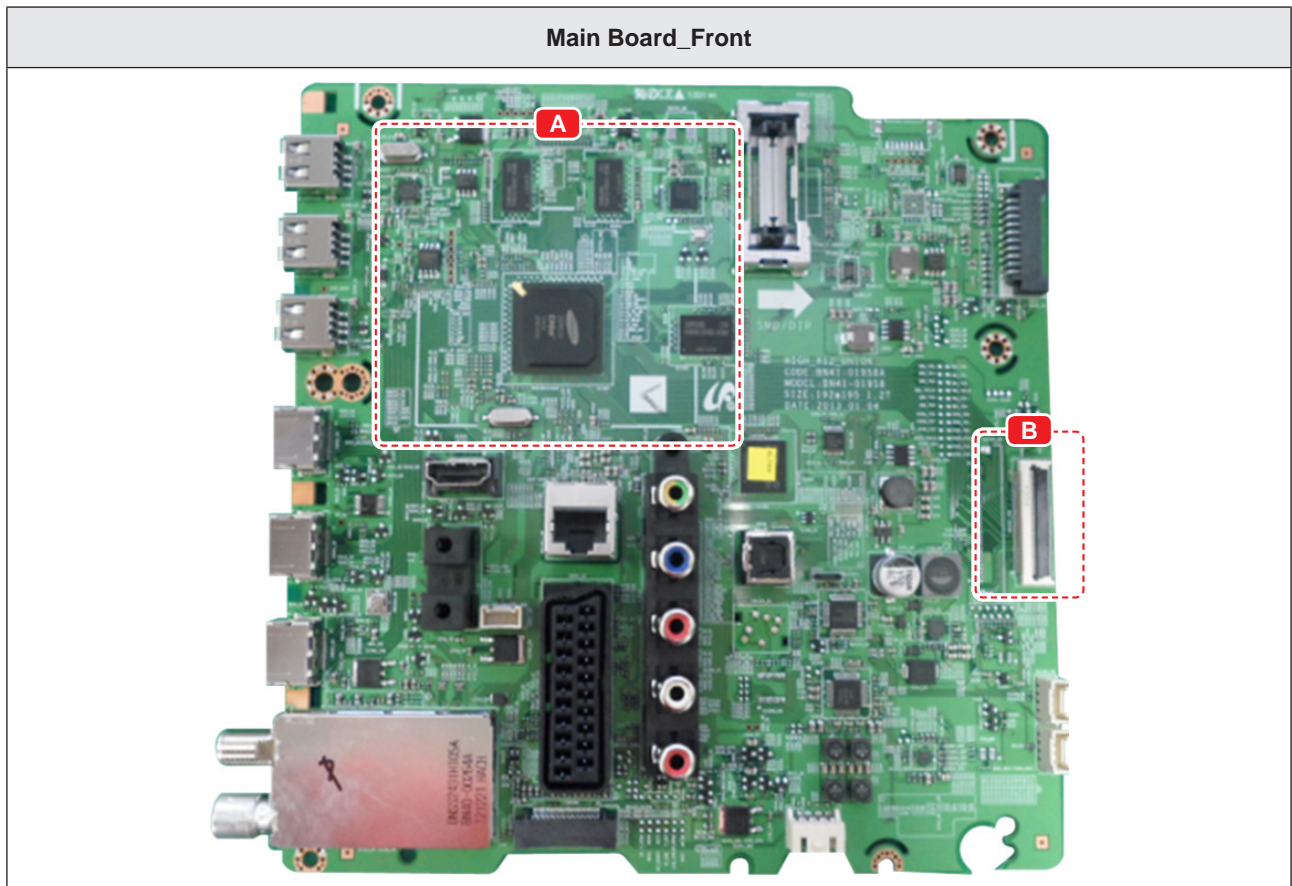


Note

Refer to the next page to check the location such a CN201 or IC201 SVC Manual mentioned.

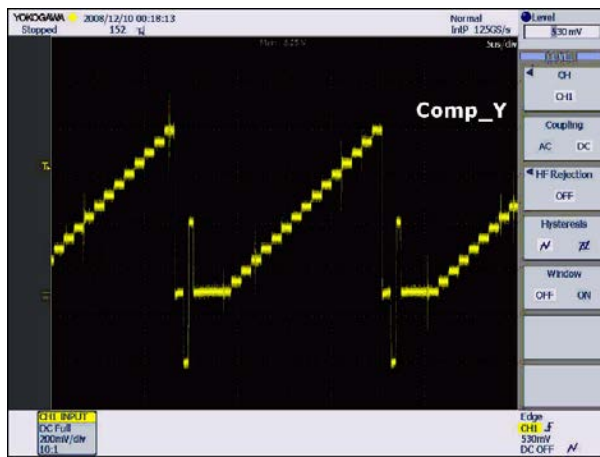
| | |
|--------------------------|--|
| Symptom | <ul style="list-style-type: none"> • Audio is normal but no picture is displayed on the screen. |
| Major checkpoints | <ul style="list-style-type: none"> • Check the Component source • This may happen when the LVDS cable connecting the Main Board and the Panel is disconnected. |
| Diagnostics | <pre> graph TD Q1[Power indicator LED is off. Lamp(Backlight) on, no video ?] -- No --> A1[Check a set in the 'Stand-by mode'.] Q1 -- Yes --> Q2[Check the component source and check the connection of component cables ? Y, Pb, Pr] Q2 -- No --> A2[Input the component source properly.] Q2 -- Yes --> Q3[Does the component data appear at ? - COMP2_Y_CVBS : R816 - Pb : R817 - Pr : R815] Q3 -- No --> A3[Check CN502. Change the Main Ass'y.] Q3 -- Yes --> Q4[Check the LVDS clk signal at output of Main Board. (TX) - TX2_CLK : ODD_TXCLK_DN/DP - TX4_CLK : EVEN_TXCLK_DN/DP] Q4 -- No --> A4[Check IC1001(X12). Change the Main Ass'y.] Q4 -- Yes --> Q5[Check the LVDS cable? Replace the T CON / LCD panel?] Q5 -- No --> A5[Please, Contact tech support.] </pre> |
| Caution | <p>Make sure to disconnect the power before working on the IP Board.</p> |

■ Location of Parts

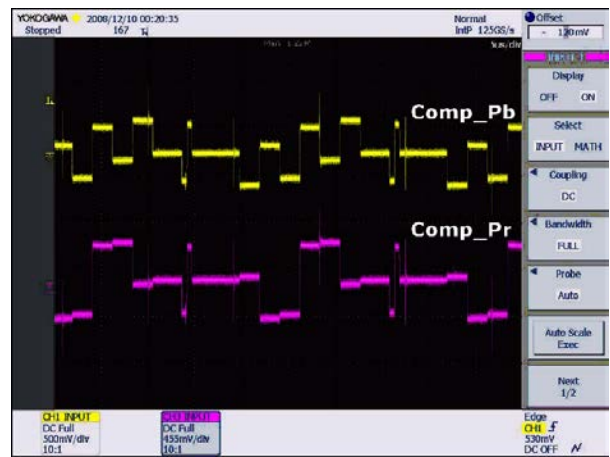


■ Waveforms

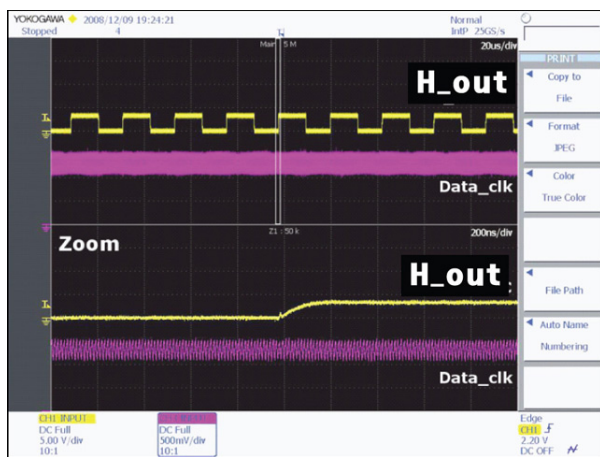
① Component_Y (Gray scale) / Pb / Pr (Color bar)



① Component_Y (Gray scale) / Pb / Pr (Color bar)



② LVDS output



4-2-7. No Sound (1.Speaker 2.Monitor_out 3.Optical)

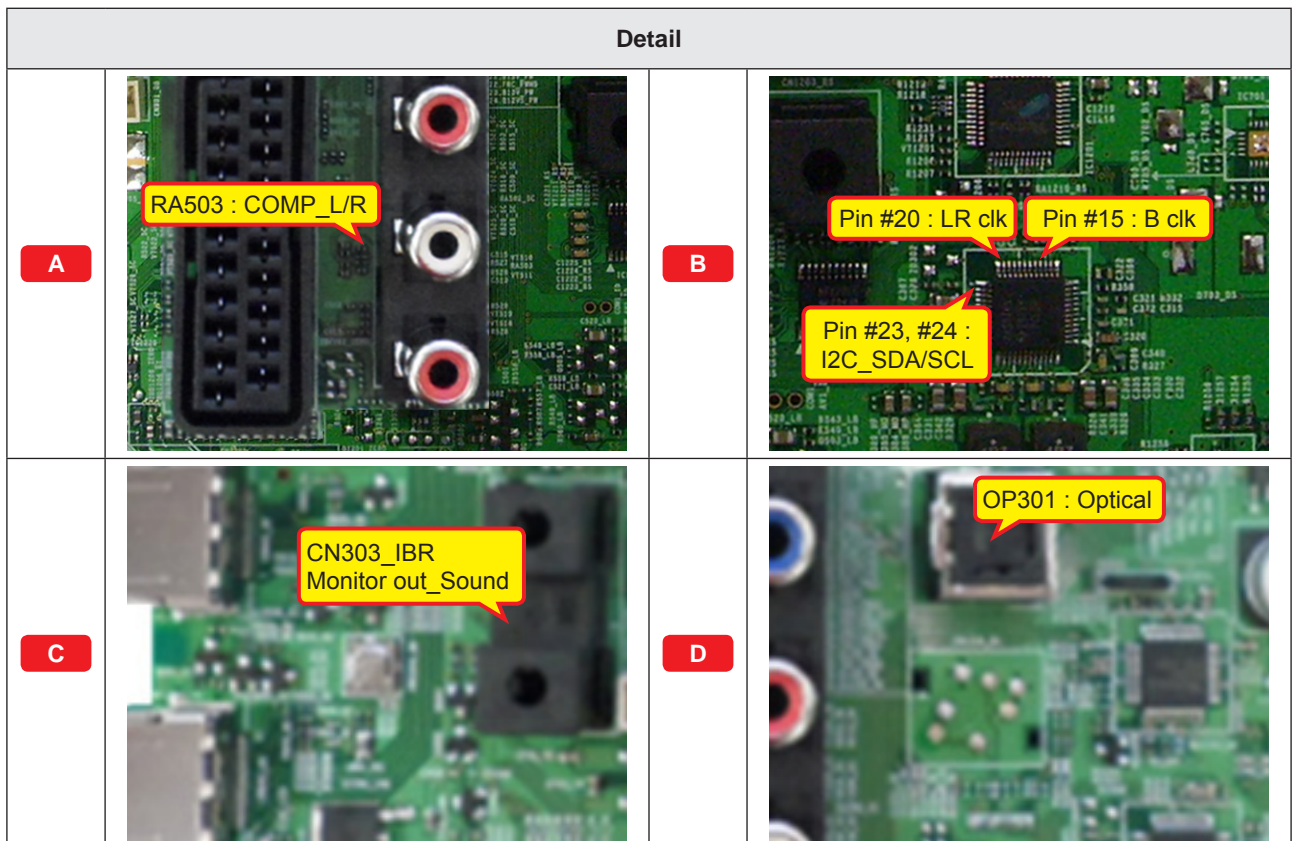
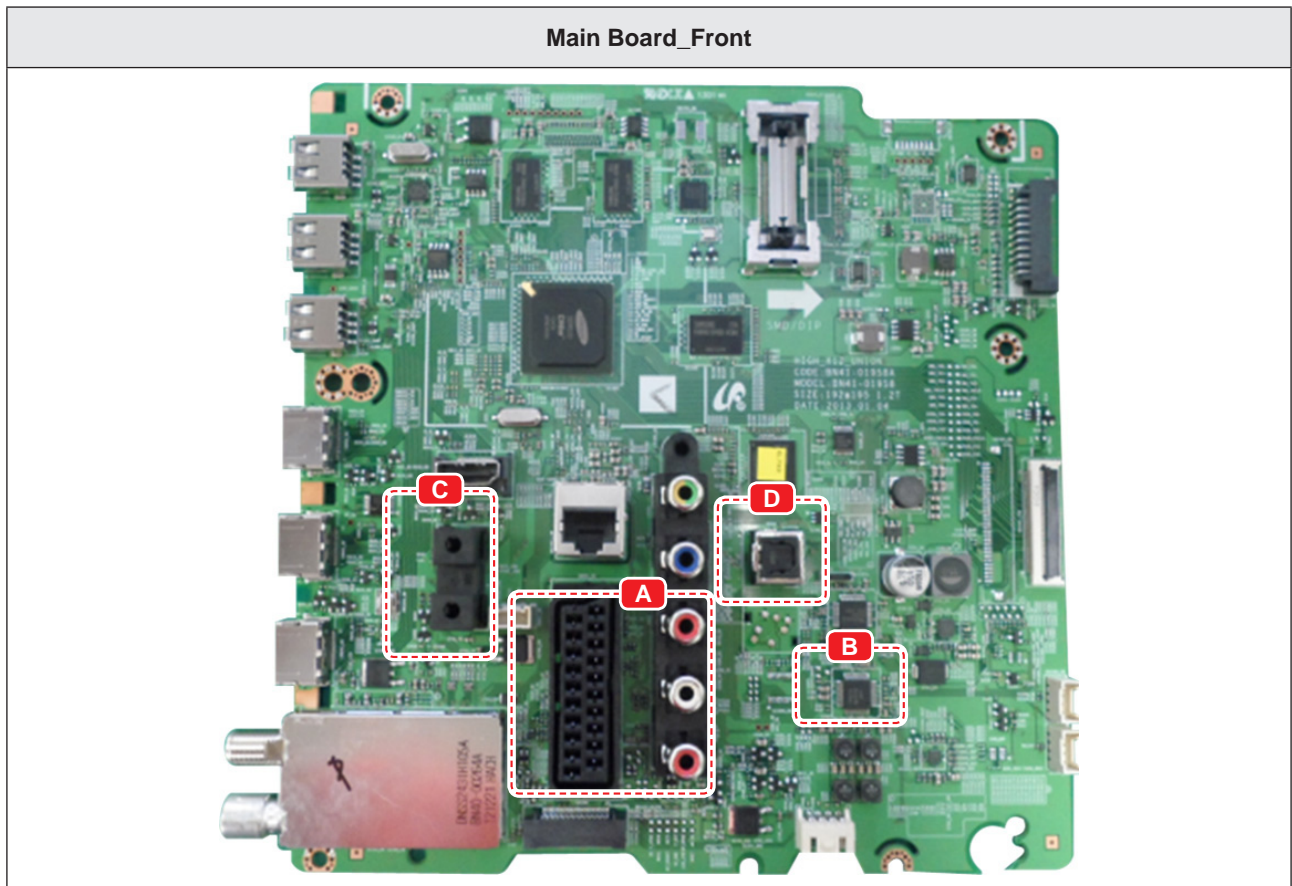


Note

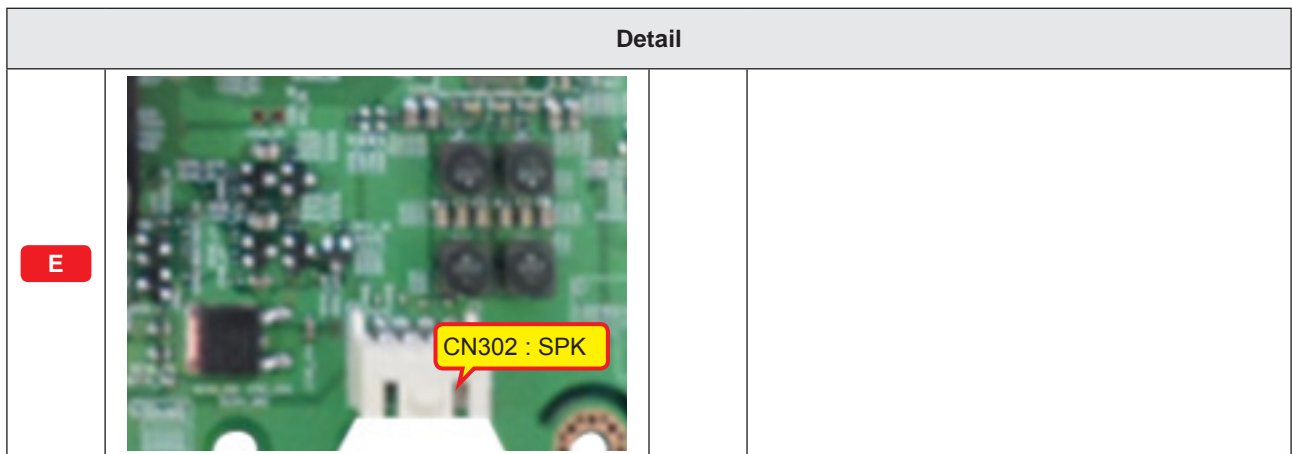
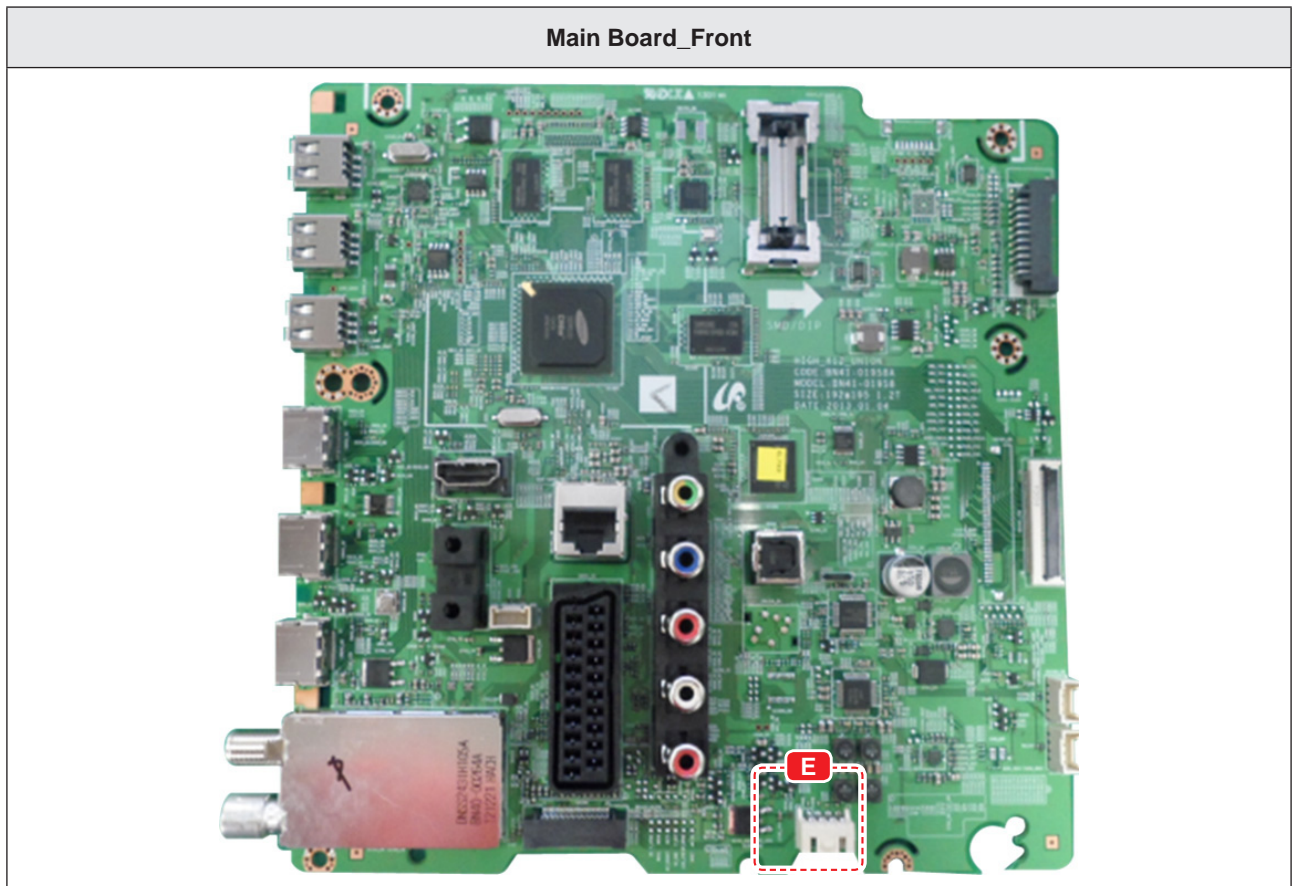
Refer to the next page to check the location such a CN201 or IC201 SVC Manual mentioned.

| | |
|--------------------------|--|
| Symptom | <ul style="list-style-type: none"> • Video is normal but there is no sound. |
| Major checkpoints | <ul style="list-style-type: none"> • When the speaker connectors are disconnected or damaged. • When the sound processing part of the Main Board is not functioning. • Speaker defect. |
| Diagnostics | <div style="border: 1px solid black; padding: 10px;"> <p style="text-align: center;">Check the source and check the connection of sound cable ? COMP</p> <p style="text-align: center;">No → Input the sound source properly.</p> <p style="text-align: center;">Yes ↓</p> <p style="text-align: center;">Check the signal at input of Main Board? AV, COMP L/R : RA503</p> <p style="text-align: center;">No → Check CN502. Change the Main Ass'y.</p> <p style="text-align: center;">Yes ↓</p> <p style="text-align: center;">1 Check the DATA between the Audio IC's ? - Pin #15 of IC301 : B clk - Pin #20 of IC301 : LR clk - Pin #23, #24 of IC301 : I2C_SDA/ SCL</p> <p style="text-align: center;">No → Check IC301. Change the Main Ass'y.</p> <p style="text-align: center;">Yes ↓</p> <p style="text-align: center;">2 1. Check the Speaker sound data at ? - CN302 2. Check the Monitor out sound data at ? - CN303_IBR 3. Does the SODIF OUT sound data appear at ? - OP301</p> <p style="text-align: center;">No → Change the Main Ass'y.</p> <p style="text-align: center;">Yes ↓</p> <p style="text-align: center;">Replace speaker ?</p> <p style="text-align: center;">No → Please, Contact Tech support.</p> </div> |
| Caution | Make sure to disconnect the power before working on the IP Board. |

■ Location of Parts



■ Location of Parts

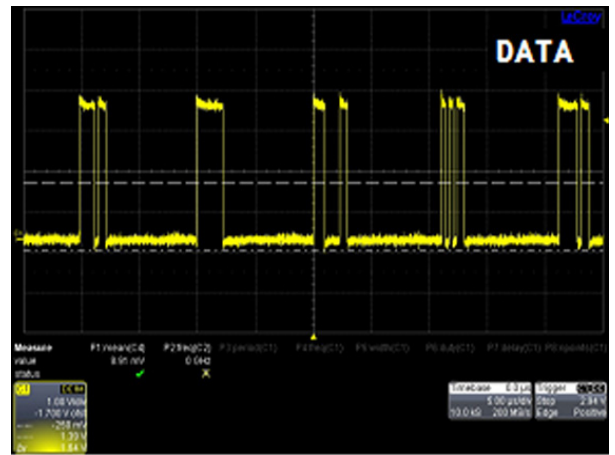


■ Waveforms

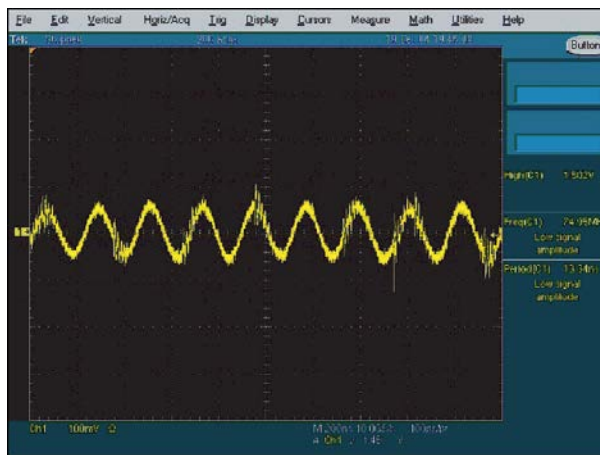
① MCLK / LRCLK / PCM_I2C_DATA



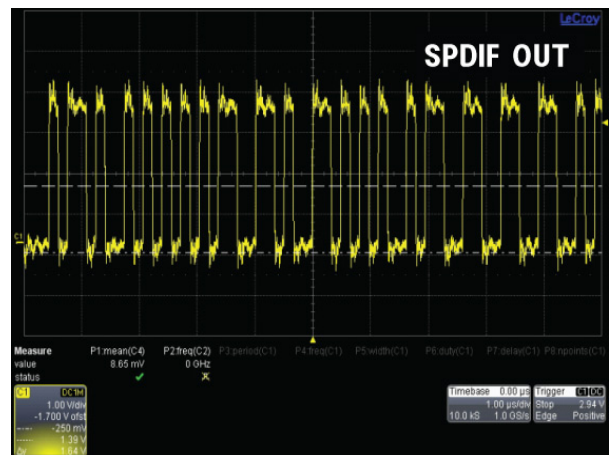
① MCLK / LRCLK / PCM_I2C_DATA



② Speaker / Monitor OUT , SPDIF OUT



② Speaker / Monitor OUT , SPDIF OUT



4-3. Factory Mode Adjustments

4-3-1. Detail Factory Option



NOTE

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

■ UE**F6400AWXXH

| Inches | | 32" | 40" | 46" | 55" |
|------------|---------------|------------------|------------------|------------------|------------------|
| PANEL | Vendor | SDC | SDC | SDC | SDC |
| | Code | BN95-00885A | BN95-00889A | BN95-00893A | BN95-00895A |
| | Spec. | CY-HF320CSLV1H/V | CY-HF400CSLV1H/V | CY-HF460CSLV1H/V | CY-HF550CSLV1H/V |
| SMPS Board | Vendor | SEM | HANSOE | HANSOE | SEM |
| | Code | BN44-00620A | BN44-00622B | BN44-00623B | BN44-00625A |
| | Spec. | L32X1QP_DSM | L42X1Q_DHS | L46X1Q_DHS | L55X1Q_DSM |
| MAIN Board | Chassis Ass'y | BN91-10304Y | BN91-10304Z | BN91-10329A | BN91-10329B |
| | PBA Ass'y | BN94-06715Z | BN94-06717A | BN94-06717B | BN94-06717D |
| Byte | Item | | | | |
| 0 | Factory Reset | - | - | - | - |
| 1 | Type | 32A1AF0S | 40A1AF0S | 46A1AF0S | 55A1AF0S |
| 2 | Local set | EU | EU | EU | EU |
| 3 | SW Model | F6400 | F6400 | F6400 | F6400 |
| 4 | BOM Model | 6400 | 6400 | 6400 | 6400 |
| 5 | Tuner | TC | TC | TC | TC |
| 6 | Ch table | NONE | NONE | NONE | NONE |

| Inches | | 50" | 65" | 75" |
|------------|---------------|-------------|------------------|----------------|
| PANEL | Vendor | AUO | SDC | SDC |
| | Code | BN07-01279A | BN95-00879A | BN95-00886A |
| | Spec. | - | CY-HF650CSAV1H/V | CY-GF750CSLV1V |
| SMPS Board | Vendor | DYREL | HANSOE | HANSOE |
| | Code | BN44-00624A | BN44-00627A | BN44-00621A |
| | Spec. | L50X1Q_DDY | L65X1Q_DHS | L75X1Q_DHS |
| MAIN Board | Chassis Ass'y | BN91-10505N | BN91-10505P | BN91-10505Q |
| | PBA Ass'y | BN94-06717C | BN94-06717E | BN94-06717F |
| Byte | Item | | | |
| 0 | Factory Reset | - | - | - |
| 1 | Type | 50R1AF0S | 65L1AF0S | 75A1UF0S |
| 2 | Local set | EU | EU | EU |
| 3 | SW Model | F6400 | F6400 | F6400 |
| 4 | BOM Model | 6400 | 6400 | 6400 |
| 5 | Tuner | TC | TC | TC |
| 6 | Ch table | NONE | NONE | NONE |

4-3-2. Entering Factory Mode

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

- If you do not have Factory remote control



- If you have Factory remote control



Buttons operations within Service Mode

| | |
|--------------------|---|
| Menu | Full Menu Display / Move to Parent Menu |
| Direction Keys ▲/▼ | Item Selection by Moving the Cursor |
| Direction Keys ◀/▶ | Data Increase / Decrease for the Selected Item |
| Source | Cycles through the active input source that are connected to the unit |

HOW to enter the Advanced menu (Picture)

❶ Cursor move to 'Advanced'. → ❷ Push the '0' button 4 times. → ❸ You can see the 'Picture' menu.

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

| | |
|----------|---|
| Option | T-MST12DEUC-xxxx |
| Control | T-MST12DEUS-xxxx |
| Debug | BT Version : xxxx |
| SVC | E-Manual : xxxx |
| ADC/WB | Camera Version : xxxx |
| Advanced | Blaster-version : --- |
| | EDID SUCCESS |
| | CALIB : AV/COMP/PC/HDMI/ |
| | Option : xxxx,UE,6400,NONE |
| | USB RS232C : OFF |
| | SDAL-X12-MAIN-xxxx-xxxx |
| | RFS : "X12 0071" KER/201x-xx-xx |
| | KERNEL : 8.0837, D / Onboot :xxxx.x |
| | Backend IC[x], Data Ver : xxxx |
| | TCON Version : xxxx |
| | DTP-DTVTD-xxxx |
| | Model : UE46F6400 |
| | Wired MAC SUCCESS |
| | Wireless MAC SUCCESS |
| | DRM : Crt O, Nf O, Wv O, Hc O, Dc O, Mx O, MI O |
| | Factory Data Ver : 97 |
| | EERC Version : 51 |
| | DTP-BP-HAL-3183 |
| | DTP-AP-CNC-3151 |
| | DTP-AP-MM-3145 |
| | DTP-AP-WP-3148 |
| | DTP-BP-MW-3156 |
| | DTP-BP-APP-3156 |
| | POP-FLA-13-TEMP |
| | Date of purchase : mm/dd/yyyy |

4-3-3. Factory Data

■ Option

| Factory Menu Name | Data | Range |
|-------------------|--|-------|
| Factory Reset | - | |
| Type | 32A1AF0S 40A1AF0S 46A1AF0S 55A1AF0S 50R1AF0S 65L1AF0S 75A1UF0S | |
| Local Set | | |
| SW Model | | |
| BOM Model | | |
| TUNER | | |
| Ch Table | NONE | |
| MRT Option | | |
| Front Color | | |
| LVDS FORMAT | JEIDA | |
| Language_Arabic | US | |
| Region | USA | |
| PnP Language | ENG_US | |
| WIFI REGION | S | |
| OTN Support | ON | |
| OTA Support | OFF | |
| TTX | OFF | |
| China HD | OFF | |
| NT Conversion | OFF | |
| Num of DTV | 1 | |
| Num of AV | 1 | |
| Num of COMP | 1 | |
| Num of HDMI | 4 | |
| Num of SCART | 0 | |
| Num of USB Port | 3 | |
| Num of HeadPhone | 0 | |
| Num of RVU | 1 | |
| Num of Display | 2 | |
| Num of IPTV | 0 | |
| Num of RUI | 0 | |
| Num of PVR RECORD | 0 | |

4. Troubleshooting

| Factory Menu Name | Data | Range |
|-----------------------|--------|------------------------|
| TOOLS Support | 40 | |
| LNA Support | OFF | |
| 24Px4 Support | OFF | |
| BD Wise Support | ON | |
| Data Service Support | OFF | |
| PVR Support | OFF | |
| CI Support | OFF | |
| LEDMotionPlus Support | ON | |
| Natural Mode Support | ON | |
| Relax Mode Support | OFF | |
| HDMI/DVI SEL | 4 | |
| Select LCD/PDP | LCD | |
| Wall Mount | OFF | |
| HV Flip | | HV Flip / H Filp / OFF |
| Light Effect | OFF | |
| e-Pop Default | 1 | |
| CAMERA Support | OFF | |
| NETWORK Support | 3 | |
| EcoSensor Support | ON | |
| 3D Support | ON | |
| BT Support | ON | |
| BT ADDRESS | | |
| Engineer Option | | |
| Auto Power | MEMORY | |
| Type Of PANEL KEY | None | |
| 5 Way Function Key | R BACK | |
| Contents Bar | OFF | |
| Cable Modulation | QAM | |
| Standby led on/off | OFF | |
| Recognition Support | | |
| IF AGC | 0 | |
| D AGC | 0 | |
| PH BW | 0 | |
| FQ BW | 0 | |
| PH RATE | 0 | |
| PD EN | 0 | |
| PEQ Inx | 0 | |

| Factory Menu Name | Data | Range |
|----------------------|---------|-------|
| WF Scale | | |
| WF Type | 0 | |
| Nu of Network Stream | 1 | |
| DP V Size | 0 | |
| Backend Device | FOX-FT1 | |
| BT_AUDIO_ON_OFF | OFF | |
| Config_AV_PATH | | |
| ECO Standby | OFF | |
| Fast Logo Delay | 0 | |
| Num of PANEL KEY | 6 | |

■ Control

| Factory Menu Name | Data | Range |
|-------------------------|-------------|------------|
| EDID | | |
| EDID ON/OFF | OFF | |
| EDID WRITE ALL | ... | |
| EDID WRITE HDMI | ... | |
| EDID Ver | ... | |
| EDID Port | | |
| Sub Option | | |
| RS-232 Jack | UART | Debug/UART |
| Watchdog | OFF | |
| Checksum | 0x0000 | |
| Fast Boot in Production | OFF | |
| USB Serial | OFF | |
| Eeprom Reset | | |
| ECO IC TYPE | NONE | |
| Info Link Server Type | development | |
| Info Link Country | None | |
| TTX Group | - | |
| Visual Test | - | |
| MediaPlayDB | - | |
| OPTION_SWU | | |
| OTN Server Type | operating | |
| OTN Test Server | OFF | |
| SWU Reset | | |
| SWU Duration | OFF | |

4. Troubleshooting

| Factory Menu Name | Data | Range |
|---------------------|-----------|-------|
| SWU Fail Test | OFF | |
| OPTION_NUM | | |
| Num of ATV | 1 | |
| Num of SVIDEO | 0 | |
| Num of PC | 0 | |
| Num of DVI | 0 | |
| Num of OPTICAL Link | 1 | |
| Num of MEDIA | 1 | |
| Num of Tuner | 1 | |
| Num of ISP | 1 | |
| 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 | | |
| BOARD CONTROL | OFF | |
| HP LINE | LineOut | |
| RM | | |
| Server Type | Operating | |
| RTS Mode | OFF | |
| PSA | | |
| FKP Download1 | 0 | |
| FKP Download2 | 0 | |
| LMK threshold | 3 | |
| Low threshold | 10 | |
| High threshold | 15 | |
| CSB | ON | |
| CLB | ON | |
| PDP Option | | |
| Pixel Shift Test | OFF | |
| Logic SW | 0 | |
| Panel Temperature | 0 | |
| LOGIC Waveform Day | 0 | |
| Logic CheckSum | 0 | |
| MRT | 0 | |

| Factory Menu Name | Data | Range |
|-----------------------|-------|-------|
| SAPC Timer | | |
| APC Speed | | |
| Hotel Option | | |
| Hospitality Mode | OFF | |
| Power On | ... | |
| Menu OSD | ... | |
| Operation | ... | |
| Music Mode | ... | |
| External Source | ... | |
| Eco Solution | ... | |
| Cloning | ... | |
| Shop Option | | |
| Shop Mode | OFF | |
| Exhibition Mode | OFF | |
| 3D Cube | OFF | |
| Asia Option | | |
| Unbalance | OFF | |
| AF Level adjust | 3 | |
| TX Power Level | 0 | |
| Mono Last Memory | OFF | |
| H Shaking | OFF | |
| SOUND | | |
| Carrier_Mute | OFF | |
| High Devi | OFF | |
| Speaker Delay Normal | 0x6Eh | |
| SPDIF PCM Gain | -9dB | |
| FM M Prescale | 0x30h | |
| FM Prescale | 0x00h | |
| AM Prescale | 0x32h | |
| NICAM Prescale | 0x48h | |
| BTSC Mono Prescale | 0x19h | |
| BTSC stereo Prescale | 0x2Fh | |
| BTSC SAP Prescale | 0x2Bh | |
| A2Ident High THID | 31 | |
| A2Ident Low THID | 0 | |
| Pilot Level High Thld | 0x28h | |
| Pilot Level Low Thld | 0x10h | |

4. Troubleshooting

| Factory Menu Name | Data | Range |
|--------------------------|------------|-------|
| Carrier2 Amp High THID | 4 | |
| Carrier2 Amp Low THID | 3 | |
| Carrier2 SNR High THR | 16 | |
| Carrier2 SNR Low THR | 80 | |
| Sig Error On | 35 | |
| Sig Error Off | 41 | |
| Amp Model | TAS5745 | |
| Amp Volume | 0xcbh | |
| Amp Scale | 0x35h | |
| Amp Check Sum | 0x000821B2 | |
| Woofer Type | 0 | |
| Woofer Scale | 0 | |
| Woofer Check Sum | 0x8ah | |
| Woofer Local EQ Checksum | 0 | |
| Speaker EQ | ON | |
| PEQ Test | Ready | |
| Local Speaker EQ | 0 | |
| Local EQ Checksum | 0 | |
| Speaker cut-off Ferq | 4 | |
| Audio-IP Test | | |
| SRS Tuning Parm | 0 | |
| TruBass-CheckSum | 0 | |
| Mic Scale | 0 | |
| Subwoofer Support | 0 | |
| India Sound | OFF | |
| AudioDock BT delay | 50 | |
| Wall Filter Type | 0 | |
| Wiselink Delay Menu | 90 | |

■ Debug

| Factory Menu Name | Data | Range |
|-------------------|---------------|-------|
| Spread Spectrum | | |
| LVDS Spread | ON | |
| DDR Spread | 1.0% Spectrum | |
| Period | 30K | |
| Amplitude | 1 | |
| HD SSC ON/Off | ON | |

| Factory Menu Name | Data | Range |
|-------------------------|------|-------|
| HD SSC Value | 1 | |
| LVDS SSC ON/Off | ON | |
| LVDS SSC Value | 0 | |
| DDR SSC ON/Off | ON | |
| DDR SSC Value | 1 | |
| FRC LVDS SSC ON/OFF | ON | |
| FRC LVDS SSC MRR | 10 | |
| FRC LVDS SSC MFR | 1 | |
| FRC LVDS SSC Period | 1 | |
| FRC LVDS SSC Modulation | 1 | |
| FRC DDR SSC ON/OFF | ON | |
| FRC DDR SSC MRR | 15 | |
| FRC DDR SSC MFR | 1 | |
| FRC DDR SSC Period | 1 | |
| FRC DDR SSC Modulation | 1 | |
| DDR Margin | | |
| A CTRL_OFFSET_0_3 | 0x0 | |
| A CTRL_OFFSET_D | 0x0 | |
| B CTRL_OFFSET_0_3 | 0x0 | |
| B CTRL_OFFSET_D | 0x0 | |
| ND ADJ Support | OFF | |
| MICOM POWER OFF | OFF | |
| RF Mute Time | 6ms | |
| CI+1.3 | OFF | |
| FRC | | |
| FRC FDISPLAY ON/OFF | 0 | |
| 3D FDISPLAY ON/OFF | OFF | |
| PC Mode ON/OFF | OFF | |
| Tuner Margin | 10 | |
| MPEG Margin | 1000 | |
| H.264 Margin | 8 | |
| CAM Wait Time | | |
| TS Clock deldy | 0 | |
| TCON_TEMP READ | 0 | |
| TEMP LAST | 60 | |
| DCC VERSION | 0x0 | |
| DCC CHK SEL | 0 | |

4. Troubleshooting

| Factory Menu Name | Data | Range |
|-------------------|------|-------|
| DCC CHECK LOCAL | 0x0 | |
| DCC CHECK TOTAL | 0x0 | |
| MultACC Checksum | 0 | |
| IIC Bus stop | OFF | |
| Tuner Status | | |
| DVB | | |
| SNR | | |
| BER | | |
| Signal Strength | | |
| Bandwidth | | |
| Frequency | | |
| LNA Status | | |
| FFT | | |
| Modulation | | |
| Code Rate | | |
| GI | | |
| Hier Modulation | | |
| Frequency offset | | |
| Timing offset | | |
| AGC | | |
| UCB | | |
| PLL Type | | |
| DEMOD Type | | |
| TPS Lock | | |
| RS Lock | | |
| SSI | | |
| SQI | | |
| Firmware Version | | |
| ISDB-T | | |
| FFT Size_1 | | |
| Guard Interval_1 | | |
| Freq. Offset_1 | | |
| SNR_1 | | |
| IF AGC_1 | | |
| TMCC Lock_1 | | |
| TS Packer_1 | | |
| Master Lock_1 | | |

| Factory Menu Name | Data | Range |
|----------------------|------|-------|
| A_Modulation_1 | | |
| A_Code Rate_1 | | |
| A_Timer InterLeave_1 | | |
| A_Segments Num_1 | | |
| A_BER_1 | | |
| B_Modulation_1 | | |
| B_Code Rate_1 | | |
| B_Timer InterLeave_1 | | |
| B_Segments Num_1 | | |
| B_BER_1 | | |
| C_Modulation_1 | | |
| C_Code Rate_1 | | |
| C_Timer InterLeave_1 | | |
| C_Segments Num_1 | | |
| C_BER_1 | | |

■ SVC

| Factory Menu Name | Data | Range |
|-------------------------|------|-------|
| Test Pattern | | |
| Pattern Sel | OFF | |
| Logic Pattern Sel | ... | |
| Logic Level Sel | ... | |
| FRC Pre Test Pattern | 0 | |
| FRC Post Test Pattern | 0 | |
| FRC3D Fdisplay | OFF | |
| FRC3D PC Mode | OFF | |
| SOC TCON Test Pattern | 0 | |
| SOC TCON Pattern Level | 255 | |
| SOC TCON FRC Pattern | 0 | |
| HDMI WB Pattern | OFF | |
| HDMI Pattern Sel | 0 | |
| Parma Pre Test Pattern | 0 | |
| Parma Post Test Pattern | 0 | |
| Panel Display Time | 0Hr | |
| SVC Info | 0 | |
| Delete S/N | 0 | |
| Upgrade | | |

4. Troubleshooting

| Factory Menu Name | Data | Range |
|--------------------|---------|-------|
| T-CON Usb Download | Failute | |
| T-CON CheckSum | Error | |
| Logic Usb D/L | ... | |
| SUBMICOM UPGRADE | Failute | |
| BT UPGRADE | | |
| BT FREPAIRING | ON | |
| Function Upgrade | Failute | |
| FRC3D FW Upgrade | | |
| Camera Upgrade | | |
| Mic Upgrade | | |
| CPLD USB Download | | |
| JP MICOM UPGRADE | Failute | |
| DP MICOM UPGRADE | Failute | |
| Jump Upgrade | Failute | |
| Smart Hub Reset | 0 | |
| ER Count | | |
| WD Count | 0 | |
| AR Count | 0 | |
| WIFI ER Count | 0 | |
| BT ER Count | 0 | |
| HDMI Err Cnt | 0 | |
| Camera ER Count | 0 | |
| LOG(View Log) | | |
| Select Log Type | NVRAM | |
| Log View | 0 | |
| Delete Log | | |
| Debug Log Down | | |
| Emergency Log Copy | | |
| Self Diagnosis | | |
| Loop Back | | |
| LAN Test | | |
| AV Audio Test | | |
| DVIN Audio Test | | |
| CVBS Test | | |
| COMP Test | | |
| USB HUB Test | | |
| HDMI Test | | |

| Factory Menu Name | Data | Range |
|--------------------------|---------|-------|
| SCART Audio Test | | |
| SCART CVBS Test | | |
| SCART RGB Test | | |
| CPU | | |
| DDR | | |
| FLASH | | |
| EEPROM | | |
| Sound AMP | | |
| HDMI Switch IC | | |
| USB HUB IC | | |
| WIFI | | |
| LVDS | | |
| T-CON/FRC | | |
| PCB Test | | |
| MOIP | | |
| App Self Test | | |
| Device self Test | | |
| Voltage | | |
| EcoSensor | | |
| BT | | |
| EXT Sound Inspection | | |
| Woofers Sound Inspection | NONE | |
| ATV CH Inspection | | |
| DTV CH Inspection | | |
| Satellite CH Inspection | | |
| IPERF | Stopped | |
| OPTION HDMI | | |
| Expert | | |
| DVB CI | | |
| CAL Data Backup | ... | |
| CAL Data Restore | ... | |

■ ADC/WB

| Factory Menu Name | Data | Range |
|-------------------|---------|-------|
| ADC | | |
| AV Calibration | Success | |
| Comp Calibraion | Success | |

4. Troubleshooting

| Factory Menu Name | Data | Range |
|-------------------|---------|-------|
| PC Calibration | Success | |
| HDMI Calibration | Success | |
| ADC Result | | |
| 1st_Y_GH | 258 | |
| 1st_Y_GL | 128 | |
| 1st_Cb_BH | ... | |
| 1st_Cb_BL | ... | |
| 1st_Cr_RH | ... | |
| 1st_Cr_RL | ... | |
| 2nd_R_L | 132 | |
| 2nd_G_L | 132 | |
| 2nd_B_L | 132 | |
| 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 | 164 | |
| WB_W2_B_Gain | 63 | |
| WB_N_R_Offset | 128 | |
| WB_N_B_Offset | 128 | |
| WB_N_R_Gain | 151 | |
| WB_N_B_Gain | 108 | |
| MGA | | |
| MGA On/Off | OFF | |
| R1_Gain | ... | |
| B1_Gain | ... | |
| G1_Gain | ... | |
| R2_Gain | ... | |
| B2_Gain | ... | |

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

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 | HDMI Calibration |
| SVC | |
| ADC/WB | |
| Advanced | |

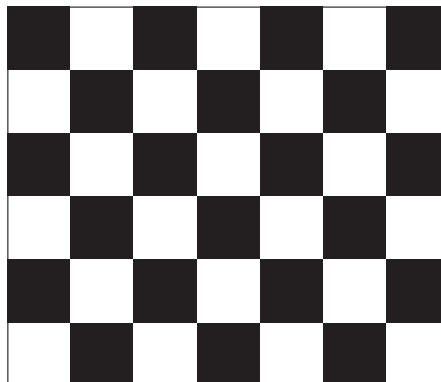
4-4-2. Service Adjustment

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 |
| HDMI IN | Perform in 720p B&W Pattern #24 | Lattice |

Method of Color Calibration (AV)

1. Apply the NTSC Lattice (N0. 3) pattern signal to the AV IN 1 port.
2. Press the Source key to switch to "AV1" mode.
3. Enter Service mode.
4. Select the "ADC" menu.
5. Select the "AV Calibration" menu.
6. In "AV Calibration Off" status, press the "▶" key to perform Calibration.
7. When Calibration is complete, it returns to the high-level menu.
8. You can see the change of the "AV Calibration" status from Failure to Success.

Method of Color Calibration (Component)

1. Apply the 720p Lattice (N0. 6) pattern signal to the Component IN 1 port.
2. Press the Source key to switch to "Component1" mode.
3. Enter Service mode.
4. Select the "ADC" menu.
5. Select the "Comp Calibration" menu.
6. In "Comp Calibration Off" status, press the "▶" key to perform Calibration.
7. When Calibration is complete, it returns to the high-level menu.
8. You can see the change of the "Comp Calibration" status from Failure to Success.

Method of Color Calibration (HDMI)

1. Apply the 720p Lattice (N0. 6) pattern signal to the HDMI1/DVI IN port.
2. Press the Source key to switch to "HDMI1" mode.
3. Enter Service mode.
4. Select the "ADC" menu.
5. Select the "HDMI Calibration" menu.
6. In "HDMI Calibration Off" status, press the "▶" key to perform Calibration.
7. When Calibration is complete, it returns to the high-level menu.
8. You can see the change of the "HDMI Calibration" status from Failure to Success.

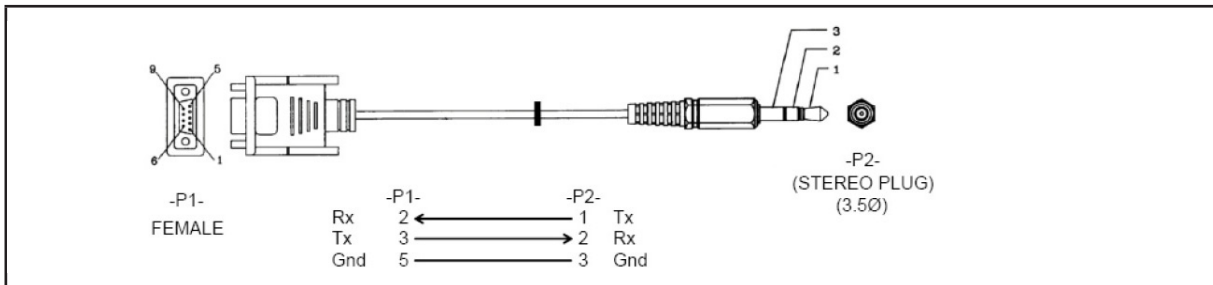
4-4-3. Adjustment

9. Into the Factory Mode.
10. Select **ADC/WB** menu.
11. Select **White Balance** menu.

| | | | |
|---------------|---------------|---|--|
| Option | | | |
| Control | | | |
| Debug | | | |
| SVC | | | |
| ADC/WB | White Balance | (Low Light) Sub Brightness R offset G offset B offset | (High Light) Sub Contrast R gain G gain B gain |
| Advanced | | | |

4-5. RS-232C

- **RS232C Control**
 - Port : COM#(Serial)
 - Bit rate : 115200
 - Data Bit : 8 bit
 - Parity : None
 - Stop Bits : 1
 - Flow Control : None



- Description of RS232C

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

4-6. AV Control Tab

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

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

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

4. Troubleshooting

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

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

4. Troubleshooting

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

New function of 12" (only DVB TV)

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

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

4. Troubleshooting

| Control Item | | | Cmd1 | Cmd2 | Cmd3 | Value |
|--------------|-----------------------------|------|------|------|------|----------------|
| KEY | Key Generation | | 0x0d | 0x00 | 0x00 | refer to 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 | |

New function of 12"

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

4-7. Software Upgrade

Software Upgrade can be performed by downloading the latest firmware from samsung.com to a USB memory device.

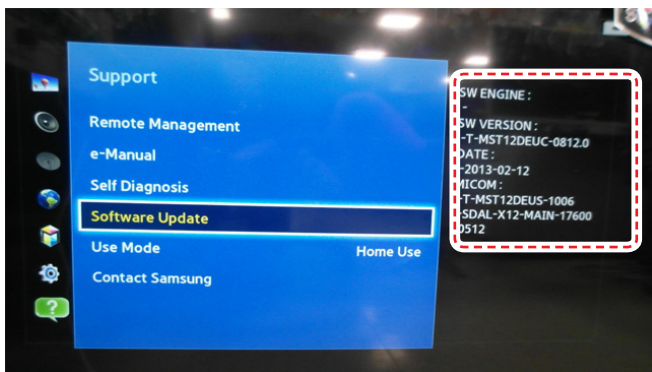
- Current Version - The software already installed in the TV.

Software is represented as 'Year/Month/Day_Version'.

4-7-1. How to Check the Software Version

■ Use the Main Menu

1. Click the "MENU" key in remote controller.
2. Select "Support" menu.
3. Locate the menu cursor "Software Upgrade" menu.
4. Click the "INFO" key.
 - Check the Main SW and Micom version.



■ Use the Factory Mode

| |
|----------|
| Option |
| Control |
| Debug |
| SVC |
| ADC/WB |
| Advanced |

```

T-MST12DEUC-xxxx
T-MST12DEUS-xxxx
BT Version : xxxx
E-Manual : xxxx
Camera Version : xxxx
Blaster-version : ----

EDID SUCCESS
CALIB : AV/COMP/PC/HDMI/
Option : xxxx,UE,6400,NONE
USB RS232C : OFF

SDAL-X12-MAIN-xxxx-xxxx
RFS : "X12 0071" KER/201x-xx-xx
KERNEL : 8.0837, D / Onboot :xxxx.x
Backend IC[x], Data Ver : xxxx
TCON Version : xxxx
DTP-DTVTD-xxxx
  
```

4-7-2. How to Upgrade Software

1. Insert a USB drive containing the firmware upgrade downloaded from samsung.com into the TV.



NOTE

Please be careful not to disconnect the power or remove the USB drive while upgrades are being applied.

2. The TV will turn off and turn on automatically after completing the firmware upgrade.
3. Please check the firmware version after the upgrades are complete.
 - the new version will have a higher number than the older version.



NOTE

- When software is upgraded, video and audio settings you have made will return to their default (factory) settings.
- We recommend you write down your settings before beginning firmware update.

4. After update is completed, restore your previous settings.

■ Main Software Upgrade

1

Store the sw program named "**T-MST12UABC**" in USB memory stick.

2

Click the "**MENU**" key in Remote Controller.

3

Select "**Support - Software Update - Update Now**" menu.

4

- Click the "**ENTER**" key.
- Wait for upgrade complete.
 - Check the Software Version.

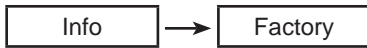
■ Sub Software Upgrade

USB Download

1. After Main Software upgrade, Enter the Factory menu by below method.

– Factory Remocon

- Click the Remocon button continuedly. (Info key+ Factory key)



– Nomal Remocon

- ① Turn off the TV. → ② Click the Remocon button continuedly.



2. Select the “SVC”.

| |
|------------|
| Option |
| Control |
| SVC |
| Expert |
| ADC/WB |
| Advanced |

3. Select the “SUBMICOM UPGRARADE”.

| | | | |
|-------------------------|------------|-------------------|-------|
| Test pattern | | DCC CHK SEL | 0 |
| Panel Display Time | 1Hr | DCC CHECK LOCAL | 0x0 |
| Tuner Status | | DCC CHECK TOTAL | |
| T-CON Usb Download | Failure | Fuction Upgrade | off |
| T-CON CheckSum | Error | Smart Hub Reset | off |
| Tuner Margin | 10 | WIFI ER COUNT | 0 |
| TS Clock delay | 0 | BT ER COUNT | 0 |
| SUBMICOM UPGRADE | off | Debug Log Down | |
| BT ADDRESS | 0000 | MulitACC Checksum | Error |
| BT UPGRADE | | SVC Info | |
| BT FREEPAIRING | ON | TS Clock delay TC | 0 |
| SVC Reset | | TS Clock delay S | 0 |
| TCON_TEMP READ | 0.00 | CAL Data Backup | |
| TEMP LAST | 60.00 | CAL Data Restore | |
| DCC VERSION | 0x0 | | |

4. Click the “→” remocon key.

| | |
|-------------------------|-------------|
| SUBMICOM UPGRADE | Wait |
|-------------------------|-------------|

- Wait for upgrade complete.
- Check the Software version.