



PDP-TELEVISION

Chassis: F30A(P_Europe_HD)_Lily
Model : PS42C96HDX/XEC
PS50C96HDX/XEC

SERVICE *Manual*

PDP-TELEVISION



PS-42C96HD
PS-50C96HD

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Refer to the service manual in the GSPN (see the rear cover) for the more information.

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2. Product Specification

2-1 Product Specification

| Features | | | |
|--------------------|--|------------------------------------|--------------|
| Block | Specification | Major IC | Remark |
| RF | Tuner | DNOS403MH261B(S) | SEMCO |
| PDP Module | Samsung SDI W2A | 42"HD/50"HD | SAMSUNG SDI |
| Power | Input Voltage: AC 100~240V, 50/60Hz | | |
| Video | Scaler | SVP-UX68 | |
| | Video Decoder | | |
| Sound | Sound AMP | NTP3000 | Neo Fidelity |
| | Audio CODEC | SGTV5810 | |
| Cabinet | C9 Design | | |
| Specification | | | |
| Model | PS-42C96HD | PS-50C96HD | |
| Screen Size | 42 Inches (16:9) | 50 Inches (16:9) | |
| Dimensions (WxHxD) | 1055 x 759 x 316 mm (With Stand) | 1231 x 848.5 x 316 mm (With Stand) | |
| Weight | 33.2 kg (With Stand) | 44 kg (With Stand) | |
| Voltage | AC 100~240V, 50/60Hz | | |
| Colour System | PAL, SECAM, NTSC4.43, NTSC 3.58 | | |
| Sound System | BG, DK, I, M | | |
| PC Resolution | 1024 x 768 @ 85Hz | 1365 x 768 @ 60Hz | |
| ANTENNA input | AIR IN (75Ω unbalanced) | | |
| VIDEO input | SCART1, SCART2 AV (Side), S-VIDEO (Side) COMPONENT IN (480i/P, 576i/P, 720P, 1080i) PC IN (MINI D-SUB 15P) HDMI1 HDMI2 (DVI IN) | | |
| AUDIO input | SCART1, SCART2 AV (Side), S-VIDEO (Side) Component PC DVI | | |
| Audio Output | AUDIO (L/R) | | |
| Speaker Output | 10W + 10W | | |

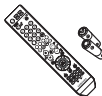






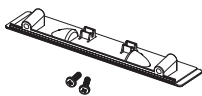


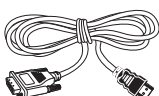


2-2 Specifications Analysis




※ ○: application, X: non-application

| Model | | PS-42C96HD (Lily-42HD) | PS-50C96HD (Lily-50HD) | PS-42P7HD (Alps-42HD) |
|-------------|------------------------|---|--|---|
| Design | |  |  |  |
| Basic | Display Type | PDP TV | PDP TV | PDP TV |
| | Built-In Tuner | O | O | O |
| | PC Resolution | 1024 x 768 @ 85Hz | 1365 x 768 @ 60Hz | 1024 x 768 @ 75Hz |
| | PDP Module | W2A | W2A | V5.1 |
| | Screen Size | 42 inches | 50 inches | 42 inches |
| | Aspect Ratio | 16 : 9 | 16 : 9 | 16 : 9 |
| | Dimensions (WxHxD) | 1055 x 759 x 316 mm (With Stand) | 1231 x 848.5 x 316 mm (With Stand) | 1055 x 775 x 341 mm (With Stand) |
| | Weight | 33.2 kg (With stand) | 44 kg (With stand) | 40.4 kg (With Stand) |
| Picture | Brightness | 1,500 Cd/m2 | 1,300 Cd/m2 | 1,100 Cd/m2 |
| | Contrast Ratio | 10000:1 | 10000:1 | 10000:1 |
| | Image Enhancer | FBE2X | FBE2X | FBE |
| Audio | Equalizer | O | O | O |
| | Auto Volume | O | O | O |
| | Surround Sound | SRS TruSurround | SRS TruSurround | SRS TruSurround |
| | Speaker Output | 10 W + 10 W | 10 W + 10 W | 15 W + 15 W |
| | Speaker | 2CH | 2.2CH (2Way) | Included |
| Features | PIP | O | O | O |
| | Double Screen | O | O | X |
| | Caption | X | X | X |
| | Still Image | O | O | O |
| | My Color Control | O | O | X |
| | Color Weakness | X | X | X |
| | Energy Saving | O | O | O |
| | Screen Burn Protection | O | O | O |
| Connections | Antenna | 1 Input | 1 Input | 1 Input |
| | CVBS | 1AV(Side) | 1AV(Side) | 1AV(Rear) |
| | S-Video | O | O | 1 Input |
| | Component(Y/PB/PR) | 1 Input | 1 Input | 1 Input |
| | PC(D-SUB) | 1 Input | 1 Input | 1 Input |
| | DVI | O | O | O |
| | HDMI | 2 Input | 2 Input | 2 Input |
| | Scart | 2 Input | 2 Input | 2 Input |
| | Optical | O | O | O |
| | Coaxial | X | X | X |

※ For the power supply and power consumption, refer to the label attached to the product.

2-3 Accessories

| Accessories | | Item | Item code | Remark |
|--|---|---|---|--|
| Supplied Accessories |  | Remote Control Batteries | BN59-00611A 4301-000103 | Samsung Service center |
| |  | Power Cord | 3903-000145 | |
| |  | Owner's Instructions | BN68-01171B | |
| |  | Warranty Card Registration Card Safety Guide Manual | BN68-00514C AA68-03575A AA68-03242E | |
| |  | Cloth-Clean | BN63-01798A | |
| |  | Ferrite Core for Earphone/Power Cord | 3301-001110 | |
| |  | Ferrite Core for S-VIDEO/Power Cord | 3301-001305 | |
| |  | Cover-Bottom Screws (2ea) | BN63-03055A 6003-001621 | |
| Accessories that can be purchased additionally |  | S-VIDEO Cable 1200mm | BN39-00149A | Electronics Store/ Internal shopping mall |
| |  | HDMI Cable 3000mm | BN39-00641A | |
| |  | HDMI/DVI cable 3000mm | BN39-00643A | |
| |  | Component Cables (RCA) 1500mm | BN39-00279A | |
| |  | Scart Cable | None | |

| Accessories | | Item | Item code | Remark |
|--|---|--------------------------|-------------|--|
| Accessories that can be purchased additionally |  | PC Cable 1830mm | BN39-00115A | Electronics Store/ Internal shopping mall |
| |  | PC Audio Cable 2000mm | BN39-00061B | |
| |  | Antenna Cable 3000mm | BN39-00333A | |






3. Disassembly & Reassembly

3-1 Overall Disassembly & Reassembly

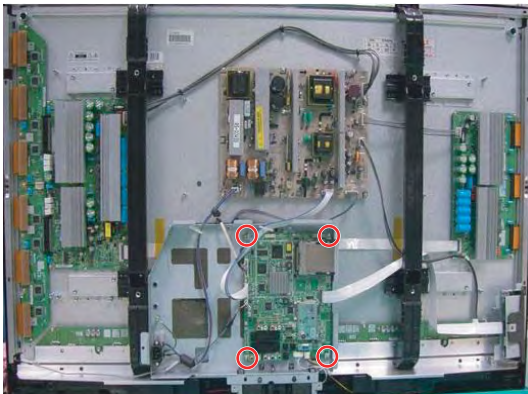

△ Notice

- Be sure to separate the power cord before disassembling the unit.
- Discharge the capacitors first when separating PCB's with high capacity capacitors such as SMPS, X Main Board, Y Main Board, etc. (A spark may be generated by the electric charge, and there is danger of electronic shock.)
- Check that the cables are properly connected referring to the circuit diagram when disassembling or assembling the unit taking care not to damage the cables.
- Take care not to scratch the Glass Filter in the front.
- Assemble the boards in the reverse order of the disassembly.
- The plasma must be layed down on a flat padded surface for disassembly and reassembly.

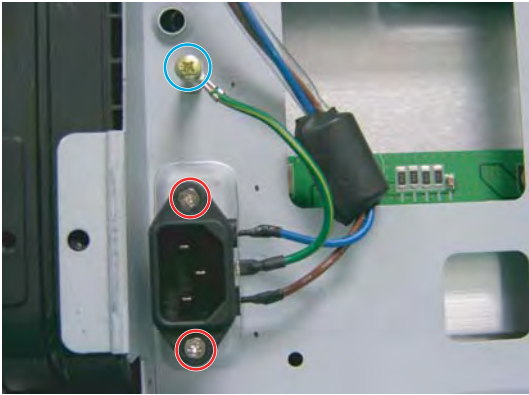


3-1-1 Separation of ASSY COVER P-REAR

| Part Name | Description | Description Photo |
|------------|---|--|
| Cover Rear | <p>① Remove 4 screws. (□) : M8,L16,ZPC(BLK),SWRCH18A,WP</p> <p>② Remove 15 screws. (○) : BH,+,B,M4,L3,ZPC(BLK)</p> <p>③ Remove 4 screws. (○) : PH,+,WSP,S,M4,L35,ZPC(BLK)</p> <p>④ Remove the 2 Hex nuts for the PC input. (□) : #4-40,L6,NI PLT,C3601,-</p> <p>⑤ Remove the Cover Rear.</p> <p>△: Please lay the PDP unit face down on a soft surface when removing the stand.</p> |      |



3-1-2 Separation of ASSY PCB MISC-MAIN

| Part Name | Description | Description Photo |
|------------|---|--|
| Main Board | <p>① Detach all connectors from the Main Board.</p> <p>② Remove 4 screws. : PH,+,WWP,M3,L8,NI PLT</p> <p>③ Remove the Main Board.</p> |   |

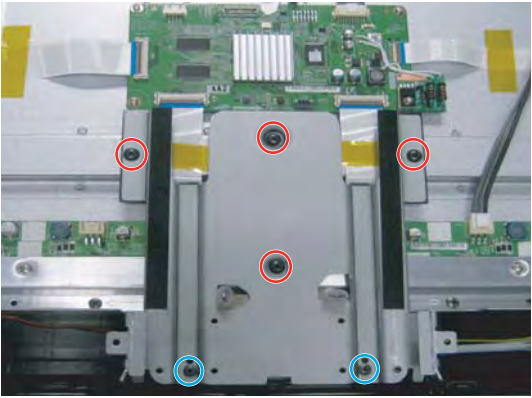




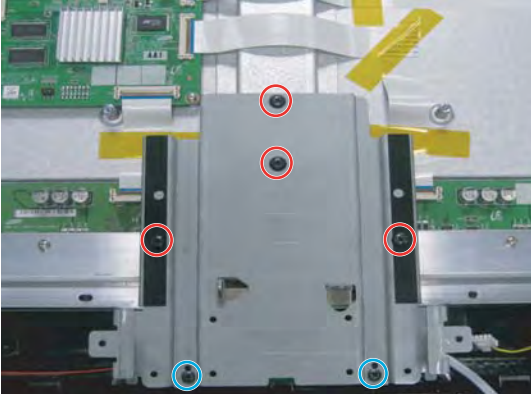




3-1-3 Separation of FILTER-EMI AC LINE

| Part Name | Description | Description Photo |
|--------------------|--|--|
| FILTER-EMI AC LINE | <ol style="list-style-type: none"> ① Detach connector from Main SMPS. ② Remove 2 screws. (○) : PH,+,WWP,M3,L8,NI PLT ③ Remove a screw. (○) : BH,+,S,M4,L10,ZPC(BLK) ④ Remove FILTER-EMI AC LINE. |    |

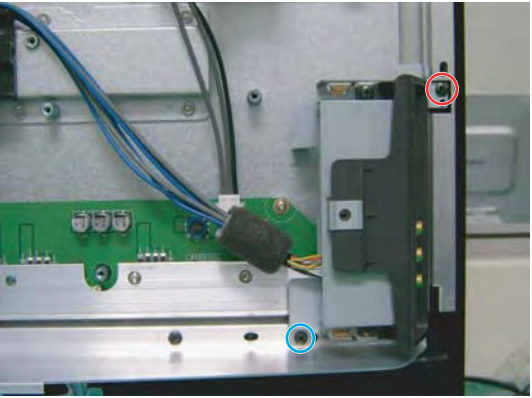




3-1-4 Separation of BRACKET-PCB

| Part Name | Description | Description Photo |
|-------------|---|---|
| Bracket PCB | <ol style="list-style-type: none"> ① Remove a screw. : BH,+,S,M4,L10,ZPC(BLK) ② Remove the BRACKET-PCB. |   |

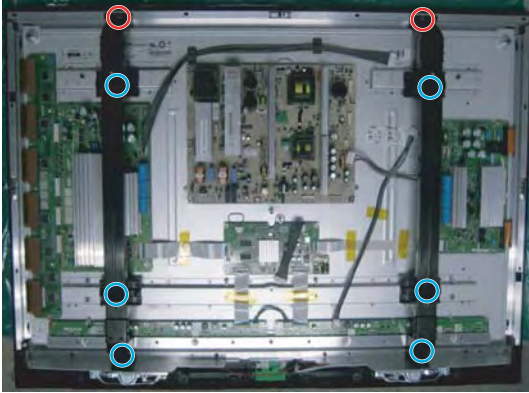


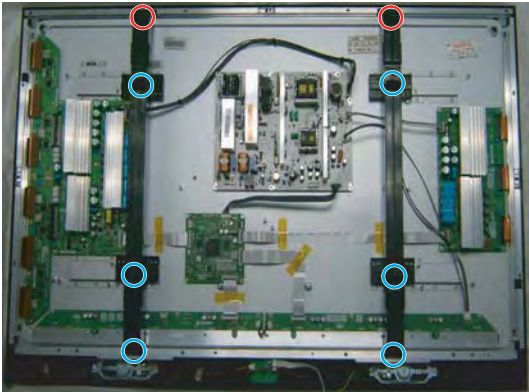


3-1-5 Separation of ASSY BRACKET

| Part Name | Description | Description Photo |
|-------------|--|--|
| 42" Bracket | ① Remove 4 screws. (○) : BH,+,S,M4,L10,ZPC(BLK) ② Remove 2 screws. (○) : BH,+,B,M4,L3,ZPC(BLK) ③ Remove Bracket. |  <div>     </div> |
| 50" Bracket | ① Remove 4 screws. (○) : BH,+,S,M4,L10,ZPC(BLK) ② Remove 2 screws. (○) : BH,+,B,M4,L3,ZPC(BLK) ③ Remove Bracket. |  <div>     </div> |

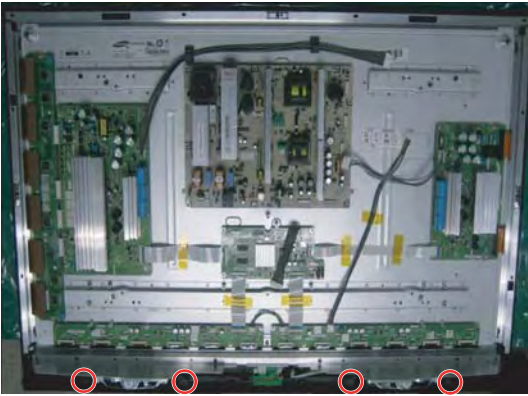

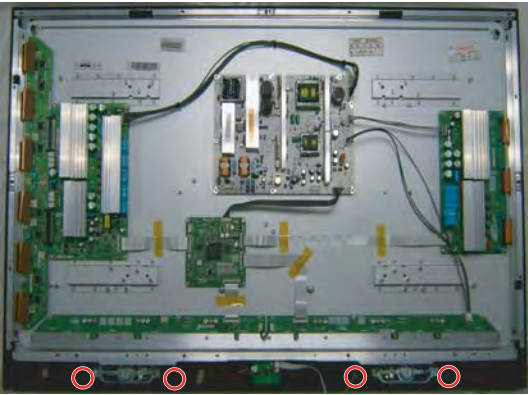

3-1-6 Separation of ASSY BOARD P-SIDE AV

| Part Name | Description | Description Photo |
|-----------|--|---|
| Side AV | ① Remove a screw. (○) : BH,+,B,M4,L3,ZPC(BLK) ② Remove a screw. (○) : BH,+,S,M4,L10,ZPC(BLK) ③ Remove the Side AV. |  <div>     </div> |

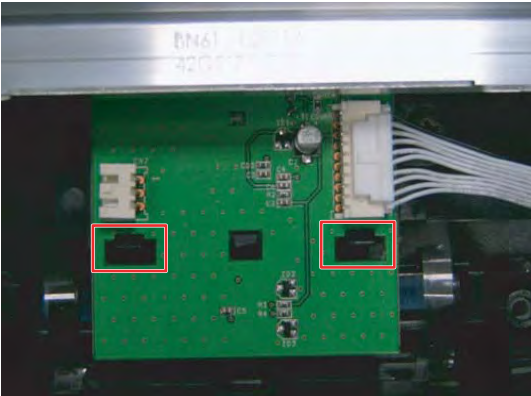
3-1-7 Separation of ASSY BRACKET P-WALL

| Part Name | Description | Description Photo |
|------------------------|--|---|
| 42" Wall Bracket | <p>① Remove 2 screws. (○) : BH,+,B,M4,L3,ZPC(BLK)</p> <p>② Remove 6 screws. (○) : BH,+,S,M4,L10,ZPC(BLK)</p> <p>③ Remove Wall Bracket.</p> <p>⚠: Please lay the PDP panel face down on a soft surface when separating front cover.</p> |    |
| 50" Wall Bracket | <p>① Remove 2 screws. (○) : BH,+,B,M4,L3,ZPC(BLK)</p> <p>② Remove 6 screws. (○) : BH,+,S,M4,L10,ZPC(BLK)</p> <p>③ Remove Wall Bracket.</p> <p>⚠: Please lay the PDP panel face down on a soft surface when separating front cover.</p> |    |

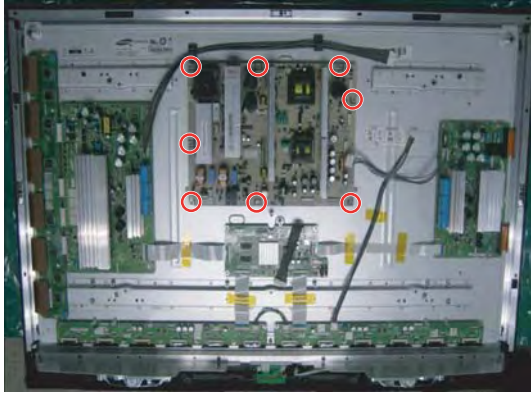

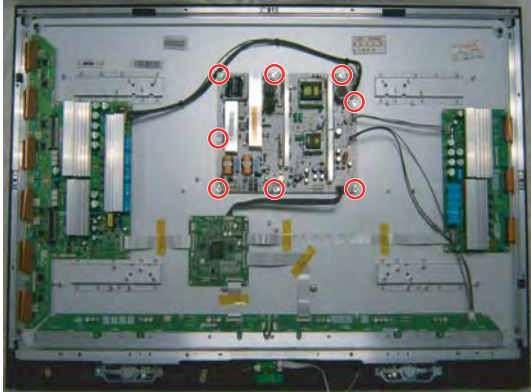

3-1-8 Separation of ASSY SPEAKER P

| Part Name | Description | Description Photo |
|-------------|--|---|
| 42" Speaker | ① Remove 4 screws. : BH,+,WP,B,M4.0,L3,ZPC(BLK), SWRCH18A ② Remove the Speaker. |   |
| 50" Speaker | ① Remove 4 screws. : BH,+,WP,B,M4.0,L3,ZPC(BLK), SWRCH18A ② Remove the Speaker. |   |

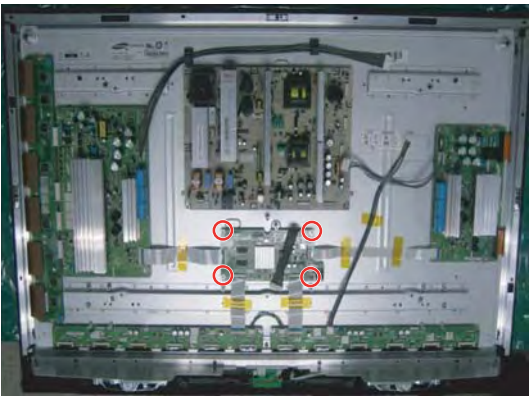

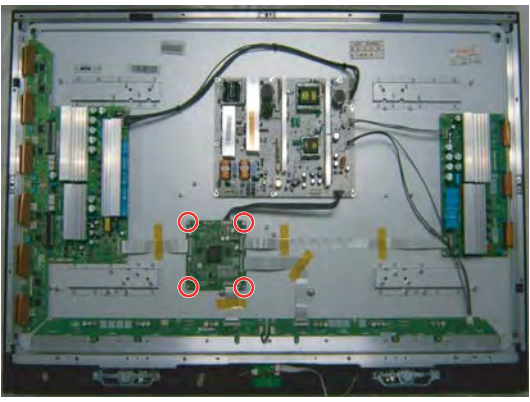

3-1-9 Separation of ASSY BOARD P-POWER&IR

| Part Name | Description | Description Photo |
|------------------|--|--|
| Power & IR Board | ① Detach all connectors from the Power&IR Board. ② Remove the Power&IR PCB unlocking the 2 holders. |  |

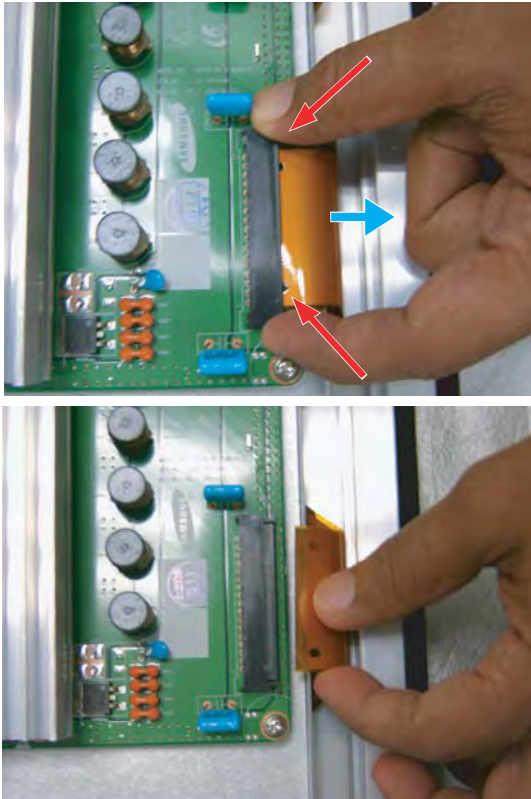
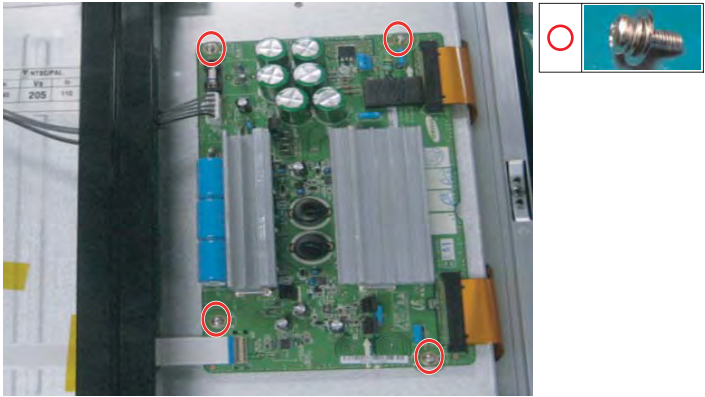
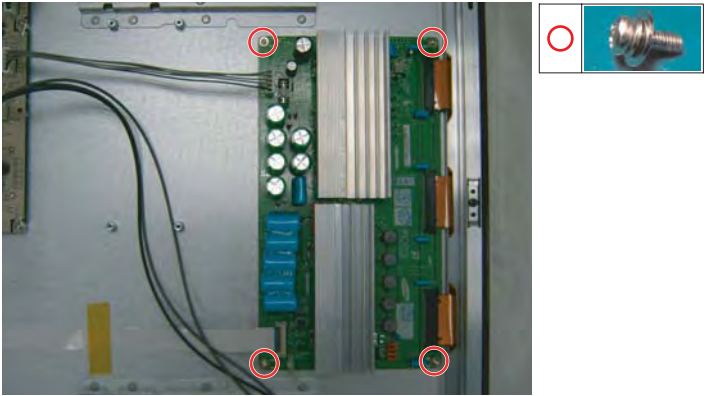
3-1-10 Separation of SMPS-PDP TV

| Part Name | Description | Description Photo |
|-----------|--|---|
| 42" SMPS | <p>① Detach all connectors from the SMPS.</p> <p>② Remove 8 screws. : PH,+,WWP,M3,L8,NI PLT</p> <p>③ Remove the SMPS.</p> <p>⚠: Wear gloves when handling the power board as there may be some remaining electrical charge in the capacitor. Specifically, avoid touching any part of the capacitor.</p> |   |
| 50" SMPS | <p>① Detach all connectors from the SMPS.</p> <p>② Remove 8 screws. : PH,+,WWP,M3,L8,NI PLT</p> <p>③ Remove the SMPS.</p> <p>⚠: Wear gloves when handling the power board as there may be some remaining electrical charge in the capacitor. Specifically, avoid touching any part of the capacitor.</p> |   |

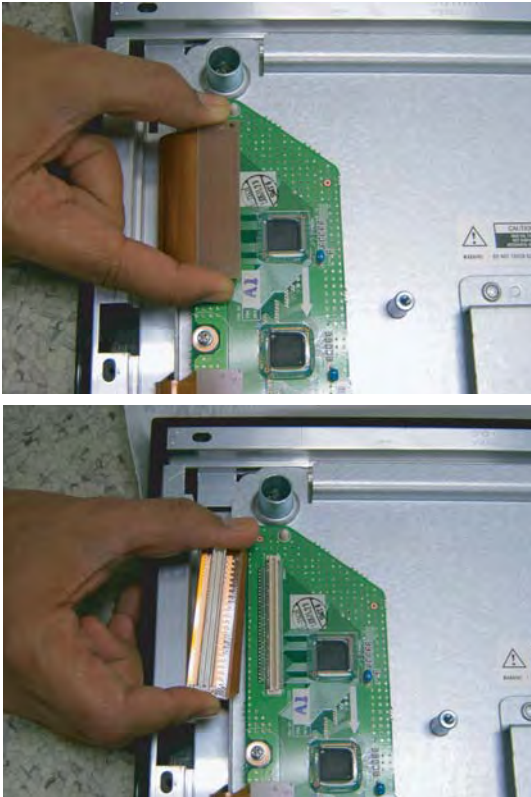
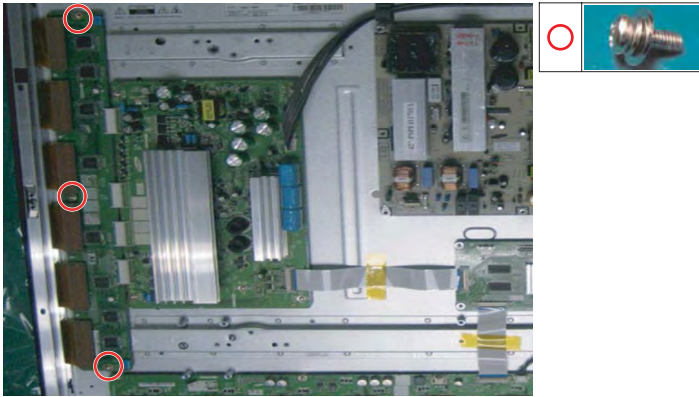
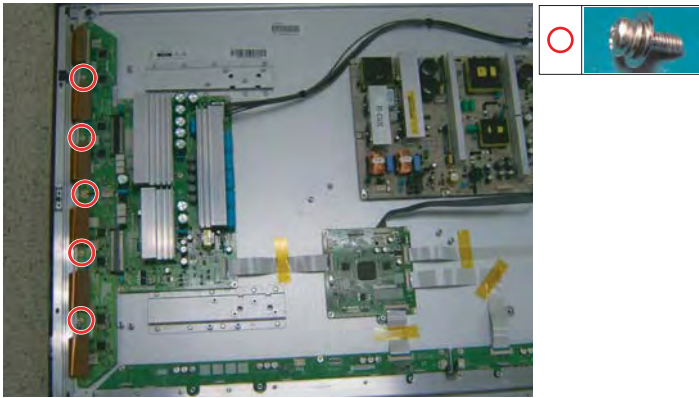
3-1-11 Separation of ASSY PDP MODULE P-LOGIC MAIN BOARD

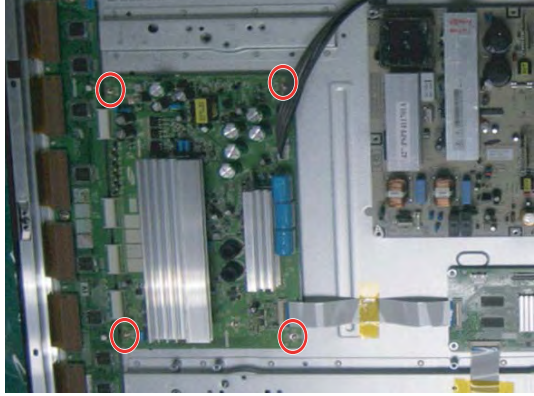

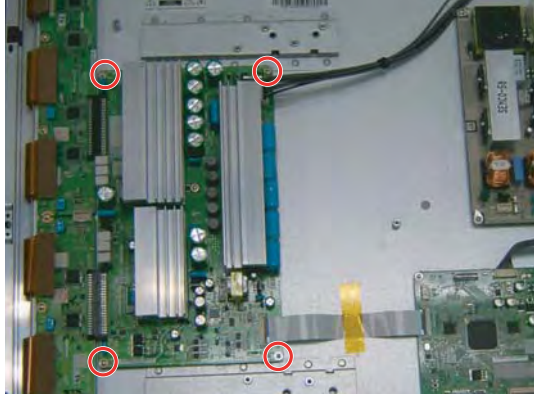

| Part Name | Description | Description Photo |
|-----------------|--|---|
| 42" Logic Board | <ol style="list-style-type: none"> ① Detach all connectors from the Logic Main Board. ② Remove 4 screws. : WSP,PH,+,M3,L8,NI PLT ③ Remove the Logic Main Board. |   |
| 50" Logic Board | <ol style="list-style-type: none"> ① Detach all connectors from the Logic Main Board. ② Remove 4 screws. : WSP,PH,+,M3,L8,NI PLT ③ Remove the Logic Main Board. |   |

3-1-12 Separation of ASSY PDP MODULE P-X MAIN BOARD

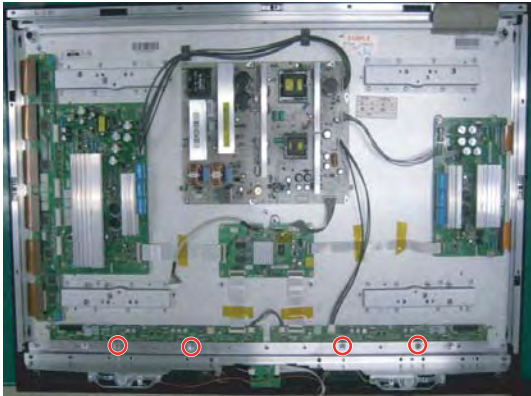

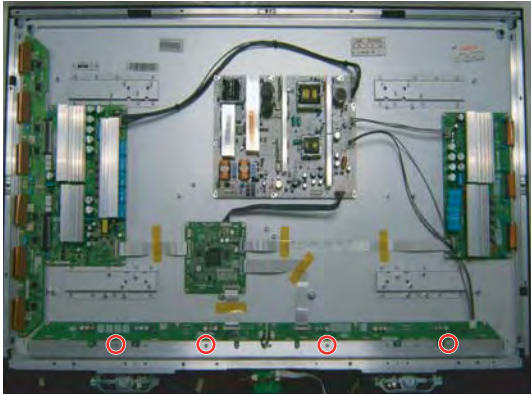

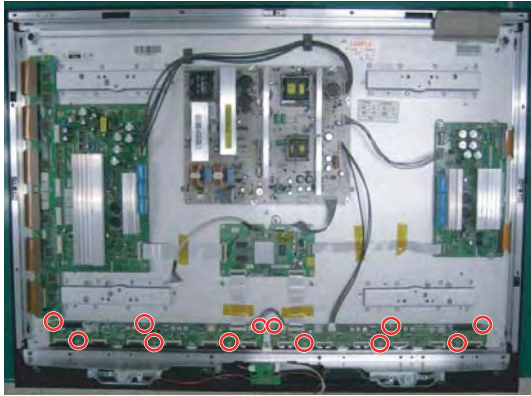

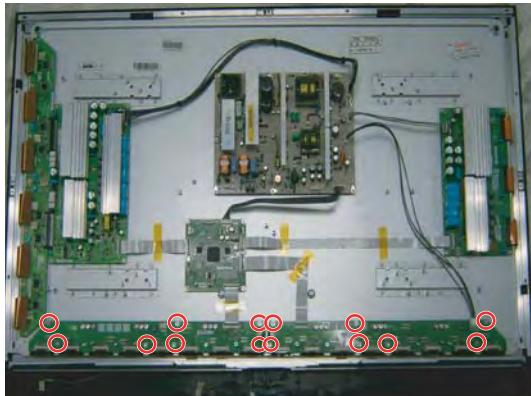

| Part Name | Description | Description Photo |
|------------------|---|--|
| Flat Cable | <p>① Detach all Connectors from the X-Main Board.</p> <p>※ To separate the Flat Cable of the X-Board, press the upper and the lower sides of the connector.</p> |  |
| 42" X-Main Board | <p>① Remove 4 screws. : PH,+,WWP,M3,L8,NI PLT</p> <p>② Remove the X-Main Board.</p> |  |
| 50" X-Main Board | <p>① Remove 4 screws. : PH,+,WWP,M3,L8,NI PLT</p> <p>② Remove the X-Main Board.</p> |  |

3-1-13 Separation of ASSY PDP MODULE P-Y MAIN BOARD

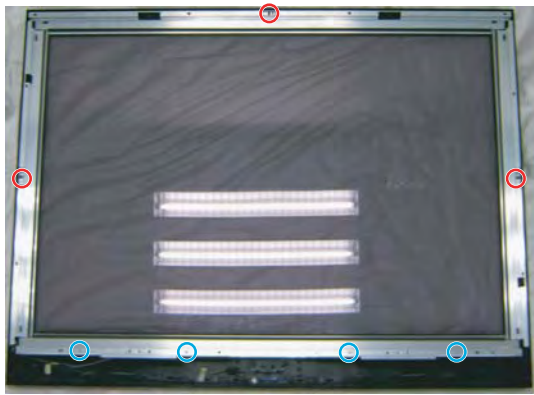




| Part Name | Description | Description Photo |
|------------------|--|--|
| Flat Cable | ① Detach the 6 scan board connectors from the panel by pulling the holder from both the top and bottom ends. |  |
| 42" Y-Scan Board | ① Remove 3 screws. : PH,+,WWP,M3,L8,NI PLT |  |
| 50" Y-Scan Board | ① Remove 5 screws. : PH,+,WWP,M3,L8,NI PLT |  |

| Part Name | Description | Description Photo |
|------------------------|---|---|
| 42" Y-Main Board | <p>① Remove 4 screws. : PH,+,WWP,M3,L8,NI PLT</p> <p>② Detach all connectors from the Y-Main Board.</p> |   |
| 50" Y-Main Board | <p>① Remove 4 screws. : PH,+,WWP,M3,L8,NI PLT</p> <p>② Detach all connectors from the Y-Main Board.</p> |   |

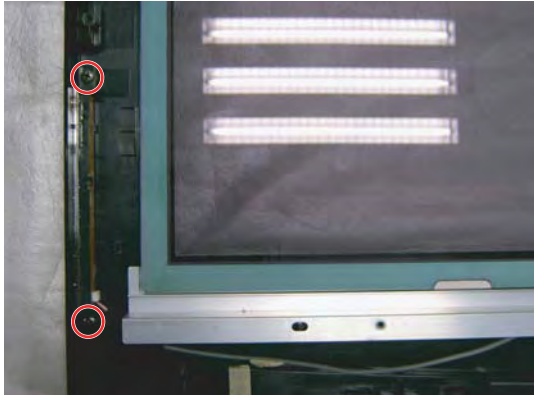


3-1-14 Separation of ASSY PDP MODULE P-ADDRESS BUFFER BOARD

| Part Name | Description | Description Photo |
|---------------------|---|--|
| 42" Still Bar | ① Remove 4 screws. : PH,+,WWP,M3,L8,NI PLT ② Remove the Still Bar. |   |
| 50" Still Bar | ① Remove 4 screws. : PH,+,WWP,M3,L8,NI PLT ② Remove the Still Bar. |   |
| 42" Buffer Board | ① Detach the all connectors from the buffer board. ② Remove 3 screws. : PH,+,WWP,M3,L8,NI PLT ③ Remove the E-Board and F-Board. |   |
| 50" Buffer Board | ① Detach the all connectors from the buffer board. ② Remove 14 screws. : PH,+,WWP,M3,L8,NI PLT ③ Remove the E-Board and F-Board. |   |

3-1-15 Separation of ASSY PANEL BRACKETS

| Part Name | Description | Description Photo |
|----------------|---|---|
| Panel Brackets | <p>① Remove 3 screws. (○) : BH,+,B,M4,L3,ZPC(BLK)</p> <p>② Remove 4 screws. (○) : BH,+,S,M4,L10,ZPC(BLK)</p> <p>③ Remove the Side Panel Brackets.</p> |  <div>     </div> |

3-1-16 Separation of ASSY PCB FUNCTION

| Part Name | Description | Description Photo |
|----------------|---|--|
| Function Board | <p>① Remove 2 screws. : BH,+,B,M4,L3,ZPC(BLK)</p> <p>② Remove the Function Board.</p> |  <div>   </div> |

4. Troubleshooting

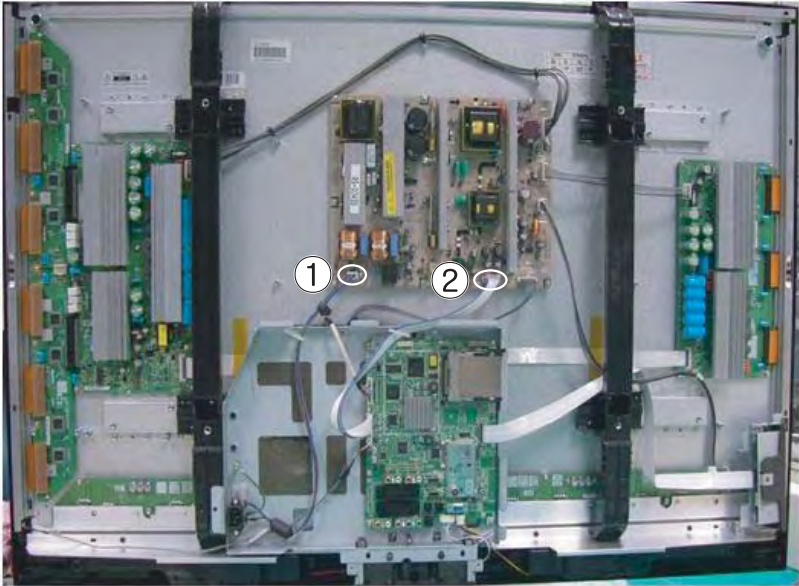
4-1 Troubleshooting

4-1-1 First Checklist for Troubleshooting

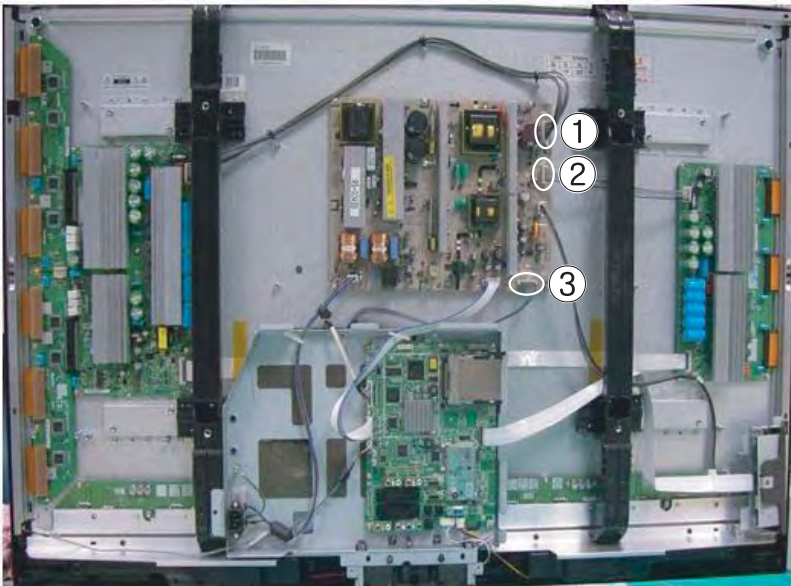
1. Check the various cable connections first.
 - Check to see if there is a burnt or damaged cable.
 - Check to see if there is a disconnected or loose cable connection.
 - Check to see if the cables are connected according to the connection diagram.
2. Check the power input to the Main Board.
3. Check the voltage in and out between the SMPS ↔ Main Board, between the SMPS ↔ X, Y Main Board, and between the Logic Boards.

4-1-2 Checkpoints by Error Mode

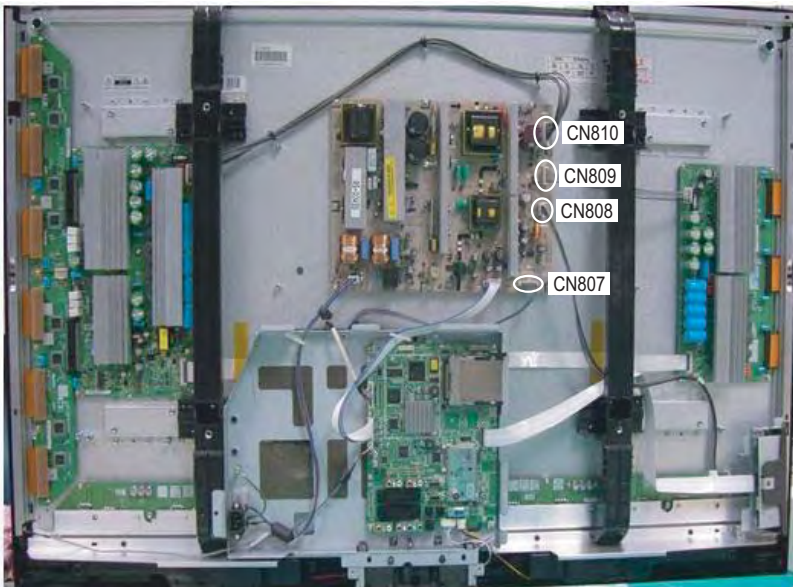
■ No Power

| | |
|----------------------------|---|
| 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 unit appears to be dead. |
| Major Checklist | <p>The SMPS 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. - Check the fuses. - Check the output voltage of the SMPS. - Replace the Main Board. |
| Troubleshooting Procedures |  <pre> graph TD Q1_1["① Is the AC IN socket connector and the SMPS CN800 connected?"] -- No --> A1_1["Insert the AC in connector and the SMPS CN800 connector"] Q1_1 -- Yes --> Q1_2["① Is the Fuse (F801S) of the SMPS Power Input Part blown?"] Q1_2 -- Yes --> A1_2["Replace Fuse (F801S)"] Q1_2 -- No --> Q2_1["② SMPS CN801 Pin 3 : STB 5V Pin 2 PS-ON : Check to see if it is 0V"] Q2_1 -- No --> A2_1["Replace the SMPS"] Q2_1 -- Yes --> A2_2["Replace the Main Board"] </pre> |

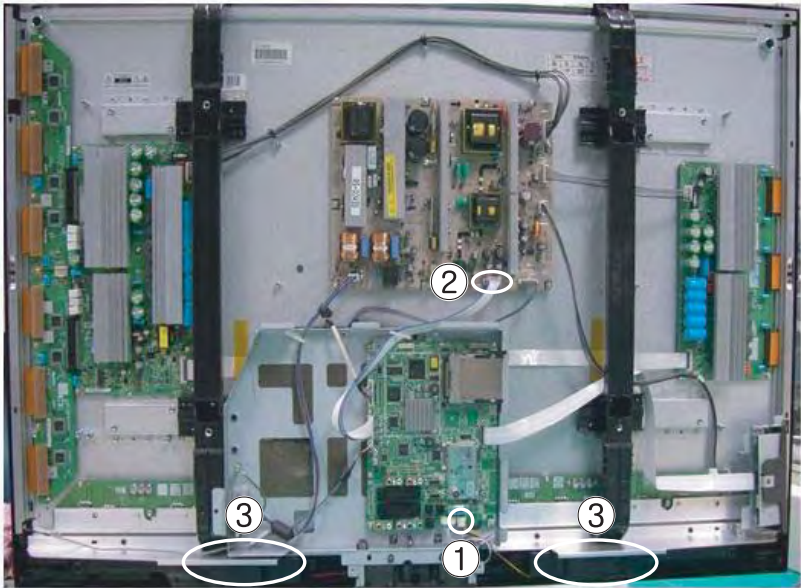
■ When the unit is repeatedly turning on and off

| | |
|----------------------------|--|
| Symptom | - The SMPS relay is repeatedly turning on and off. |
| Major Checklist | <p>In general, the SMPS relay repeatedly turns on and off by the protection function due to a defect on a board connected to the SMPS.</p> <ul style="list-style-type: none"> - Disconnect all cables from the SMPS, operate the SMPS alone and check if the SMPS works properly and if each voltage output is correct. - If the symptom continues even when SMPS is operated alone, replace the SMPS. - If the symptom is not observed when operating the SMPS alone, find any defective assemblies by connecting the cables one by one. |
| Troubleshooting Procedures |  <pre> graph TD Q1[① Does the symptom continue when connecting the power after removing CN810 from the SMPS?] -- No --> R1[Replace the Y Main Board] Q1 -- Yes --> Q2[② Does the symptom continue when connecting the power after removing CN809 from the SMPS?] Q2 -- No --> R2[Replace the X Main Board] Q2 -- Yes --> Q3[③ Does the symptom continue when connecting the power after removing CN807 from the SMPS?] Q3 -- No --> R3[Replace the Logic Board] Q3 -- Yes --> R4[Replace the SMPS] </pre> |
| Caution | WHEN SEPARATING AND CONNECTING THE CABLES SUCH AS CN810, CN809, CN808, CN807 OF THE MAIN SMPS, CN4701 OF THE X MAIN BOARD, AND CN5707 OF THE Y MAIN BOARD, A SPARK MAY BE GENERATED BY THE ELECTRIC CHARGE OF THE HIGH CAPACITY CAPACITOR. THEREFORE, WAIT SOME TIME AFTER DISCONNECTING THE POWER CORD FROM THE UNIT. |


■ No Picture (When audio is normal)

| | |
|----------------------------|---|
| Symptom | - Audio is normal but no picture is displayed on the screen. |
| Major Checklist | <ul style="list-style-type: none"> - This may happen when the Main Board is functioning but the X, Y Main Board, Logic Board, or Y Buffer Boards are not. - The output voltage of the Main SMPS. - This may happen when the LVDS cable connecting the Main Board and the Logic Board is disconnected. |
| Troubleshooting Procedures |  <pre> graph TD Q1[Are the Vs and Va voltages normal after removing all cables from the SMPS? (CN810, CN809, CN808, CN807)] -- No --> A1[Replace the SMPS] Q1 -- Yes --> Q2[Did problem improve?] Q2 -- No --> A2[Replace the Y Main Board] Q2 -- Yes --> Q3[Did problem improve?] Q3 -- No --> A3[Replace the X Main Board] Q3 -- Yes --> Q4[Did problem improve?] Q4 -- No --> A4[Replace the Logic Board] Q4 -- Yes --> Q5[Did problem improve?] Q5 -- No --> A5[Replace the Y Scan Board] </pre> |
| Caution | WHEN SEPARATING AND CONNECTING THE CABLES SUCH AS CN810, CN809, CN808, CN807 OF THE MAIN SMPS, CN4701 OF THE X MAIN BOARD, AND CN5707 OF THE Y MAIN BOARD, A SPARK MAY BE GENERATED BY THE ELECTRIC CHARGE OF THE HIGH CAPACITY CAPACITOR. THEREFORE, WAIT SOME TIME AFTER DISCONNECTING THE POWER CORD FROM THE UNIT. |

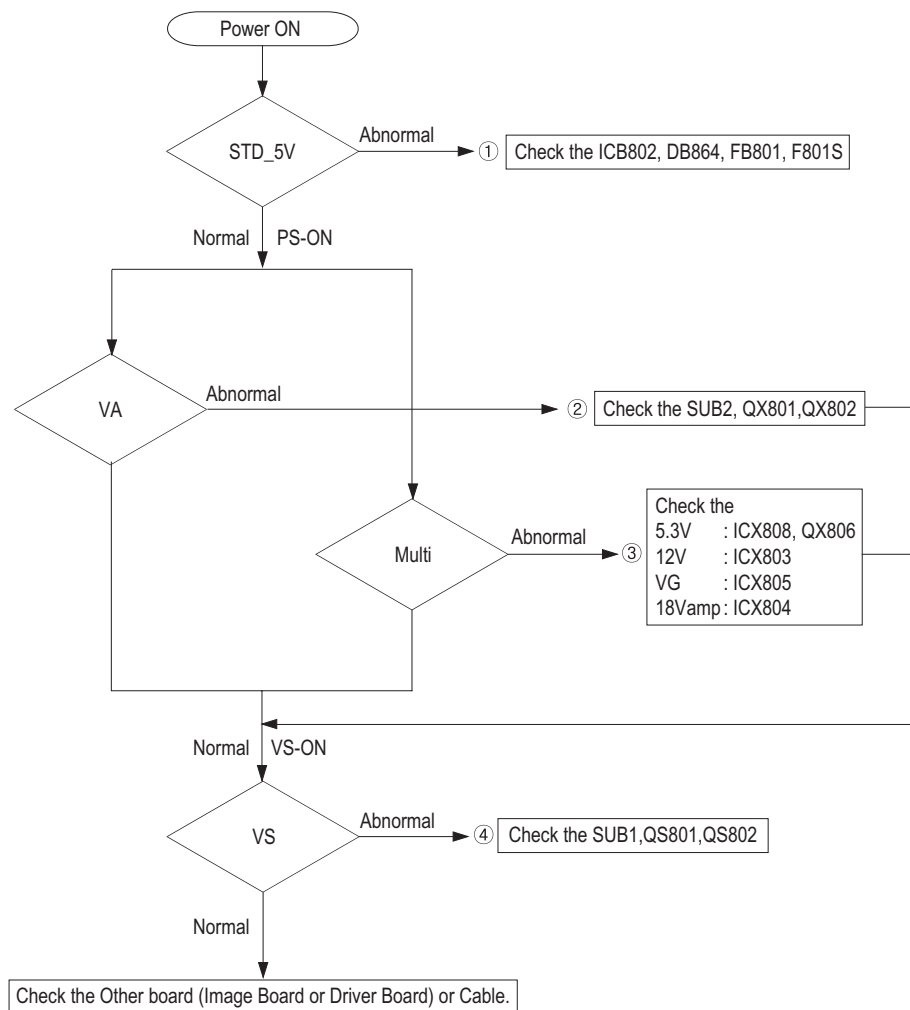
■ No Sound

| | |
|----------------------------|---|
| Symptom | - Video is normal but there is no sound. |
| Major Checklist | - When the speaker connectors are disconnected or damaged. - When the sound processing part of the Main Board is not functioning. - Speaker defect. |
| Troubleshooting Procedures | <div></div> <div><div><div>①</div><div>Is the cable connection between the Main Board and the speaker properly connected?</div><div>No</div><div>Connect the cable properly or replace the cable, if necessary.</div><div>Yes</div></div><div><div>②</div><div>Is the output voltage of SMPS normal? (CN801 #13)</div><div>No</div><div>Replace the SMPS</div><div>Yes</div><div>Is the speaker output terminal of the Main Board normal?</div><div>No</div><div>Replace the Main Board</div><div>Yes</div><div>③</div><div>Replace the Speaker</div></div></div> |

■ No Video

| | |
|----------------------------|--|
| Symptom | - A normal/cable network analog broadcast screen is blank or abnormal but OSD is OK. |
| Major Checklist | <ul style="list-style-type: none"> - Check the antenna connection settings (Air: NTSC / ATSC, Cable: NTSC) - Check the CVBS cable connection. - Check the power input of the Main board. |
| Troubleshooting Procedures |  <pre> graph TD Q1[Is the antenna connection setting properly configured?] -- No --> A1[Configure properly] Q1 -- Yes --> Q2[1 Check CN1101 pin2 for +33V] Q2 -- No --> A2[Replace the SMPS] Q2 -- Yes --> A3[Replace the Main Board] </pre> |

■ SMPS Troubleshooting



■ Drive Board Troubleshooting

1) Troubleshooting Summary

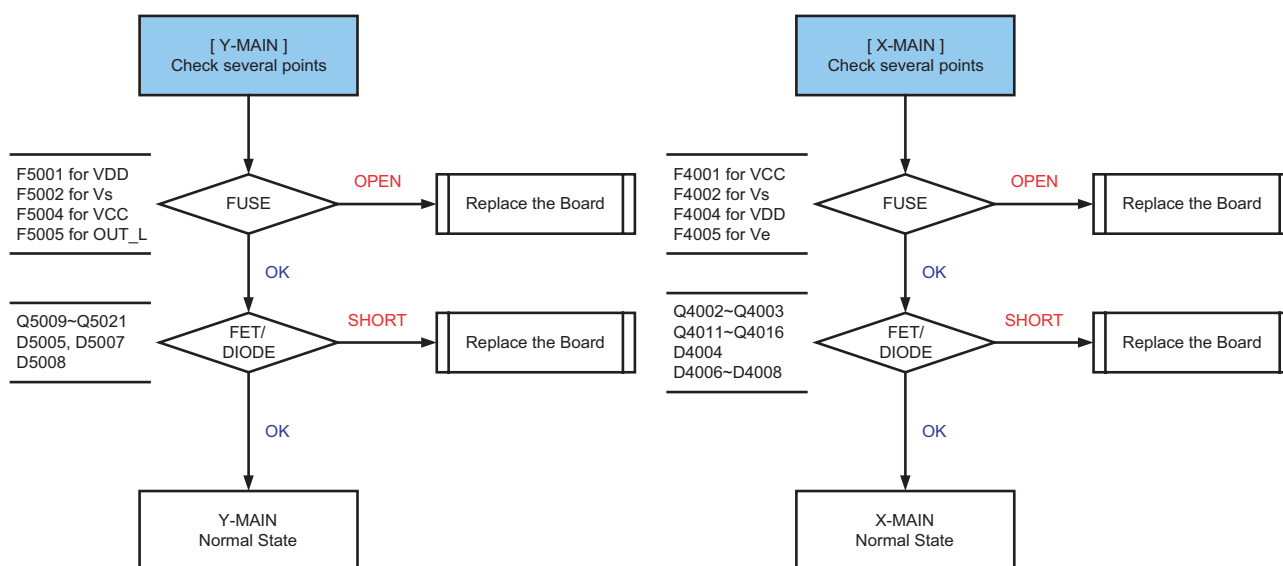
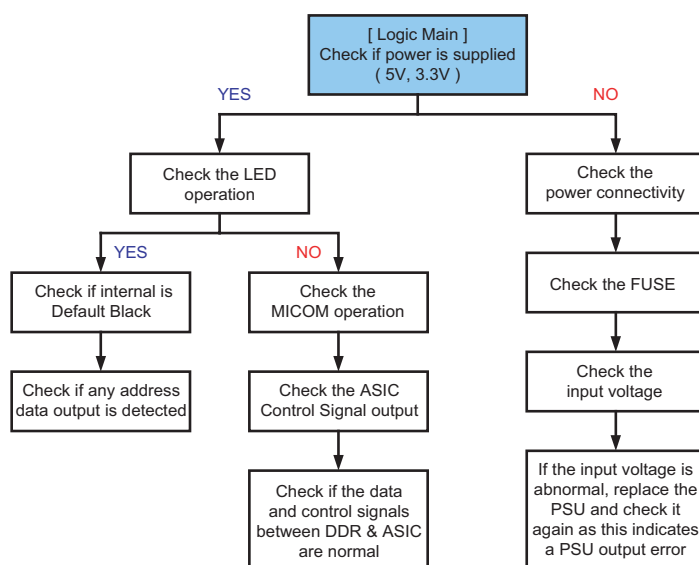
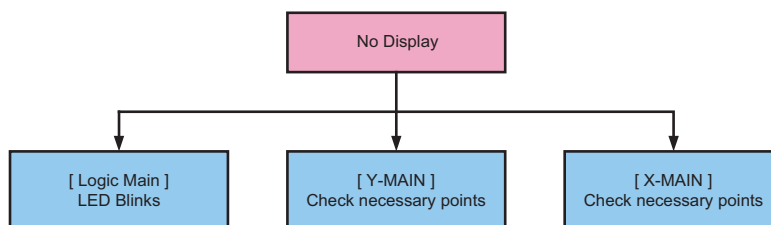
| Condition Name | Description | Related Board |
|-------------------|---|-----------------------------------|
| No Voltage Output | Operating Voltage don't exist | PSU |
| No Display | Operating Voltage exist, but an Image doesn't exist on screen | Y-MAIN, X-MAIN, Logic Main, Cable |
| Abnormal Display | Abnormal Image (not open or short) is no screen | Y-MAIN, X-MAIN, Logic Main |
| Sustain Open | Some horizontal lines don't exist on screen | Scan Buffer, FPC of X/Y |
| Sustain Short | Some horizontal lines appear to be linked on screen | Scan Buffer, FPC of X/Y |
| Address Open | Some vertical lines don't exist on screen | Logic Main, Logic Buffer, TCP |
| Address Short | Some vertical lines appear to be linked on screen | Logic Main, Logic Buffer, TCP |

2) Troubleshooting Procedure in Abnormal Conditions

① No Display

- No Display is related with Y-MAIN, X-MAIN, Logic Main and so on.

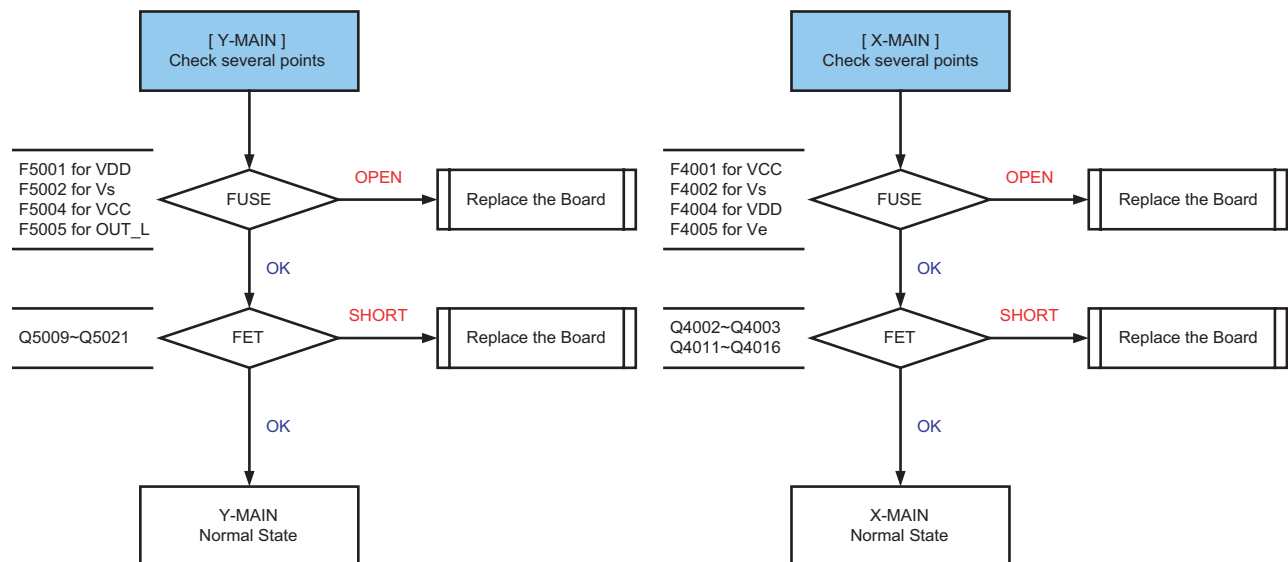
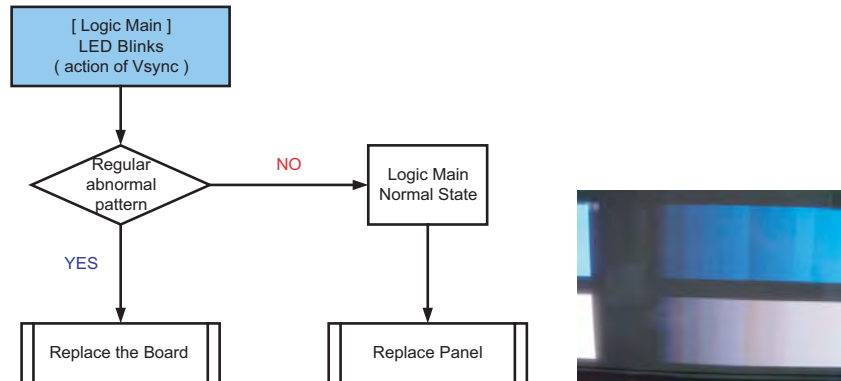
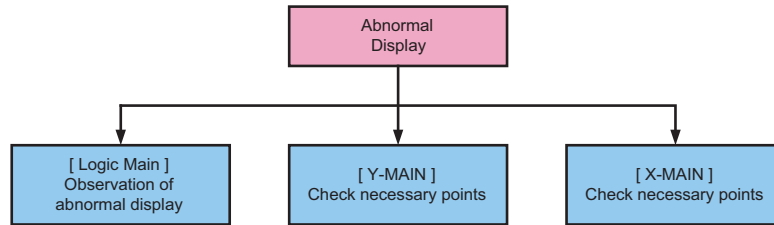
This page shows you how to check the boards, and the following pages show you how to find the defective board.



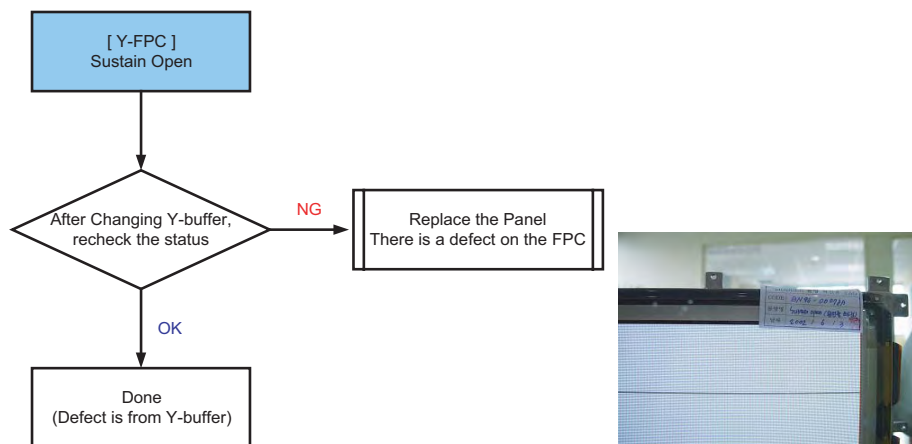
② Abnormal Display(Abnormal Image is on Screen.(except abnormality in Sustain or Address))

- Abnormal Display is related with Y-MAIN, X-MAIN, Logic Main and so on.

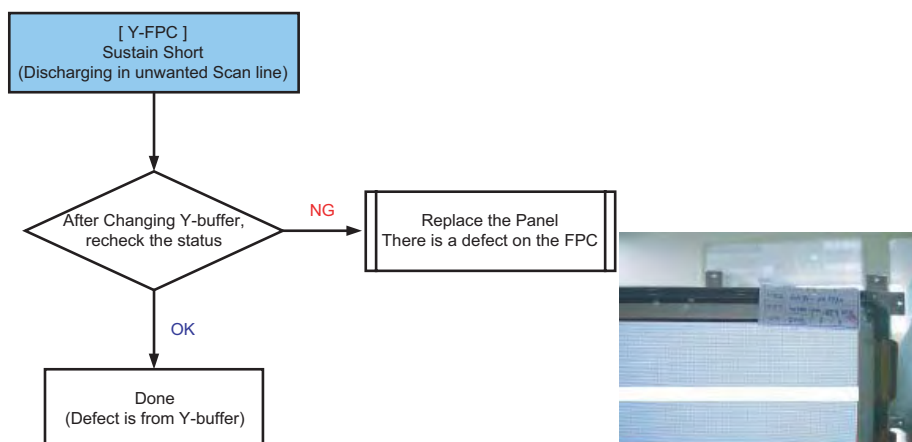
This page shows you how to check the boards, and the following pages show you how to find the defective board.



③ Sustain Open (some horizontal lines don't exist on screen)



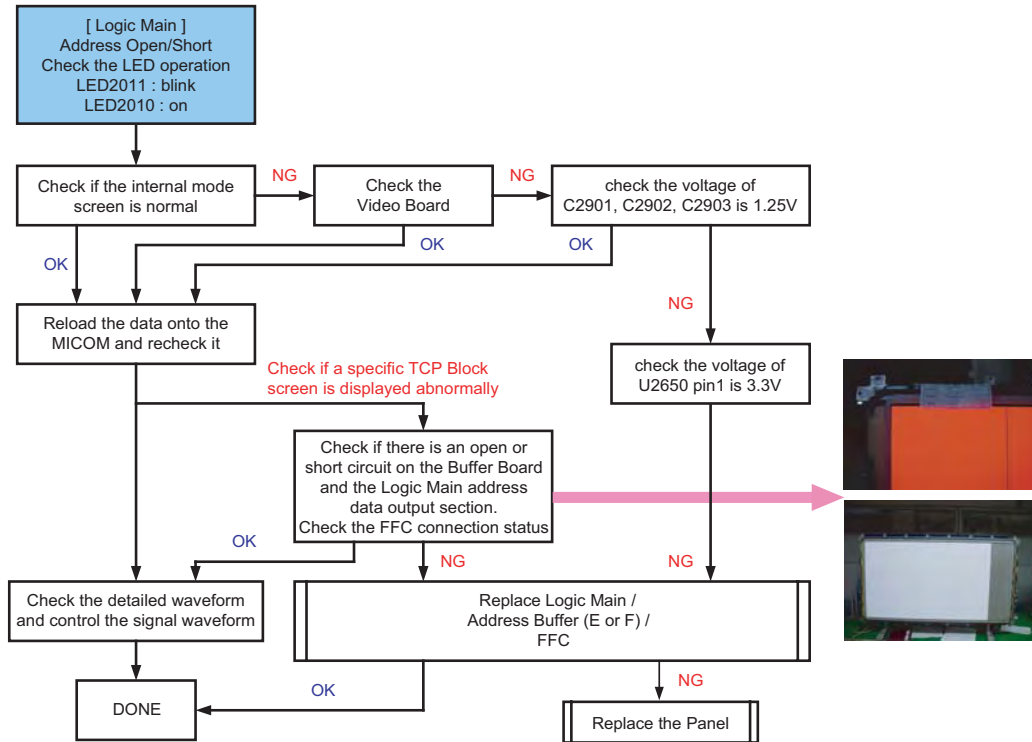
④ Sustain Short (some horizontal lines appear to be linked on Video)




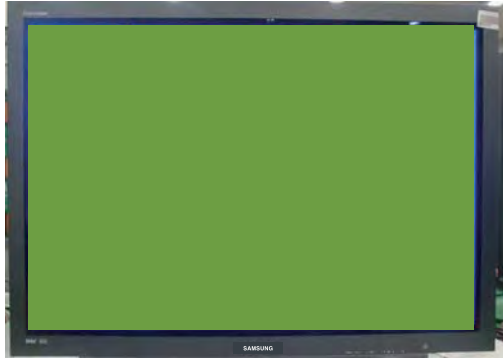

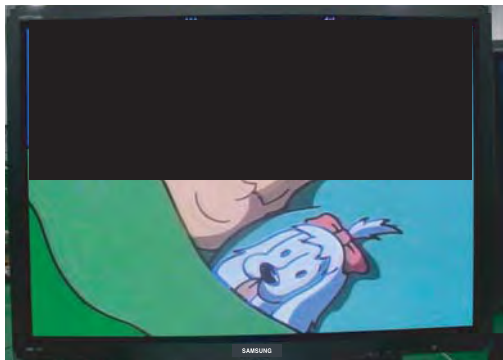
⑤ Address Open, Short

► Address Open and Short is related with Logic Main, Logic Buffer, FFC, TCP film and so on.

This page shows you how to check the boards, and the following pages show you how to find the defective board.



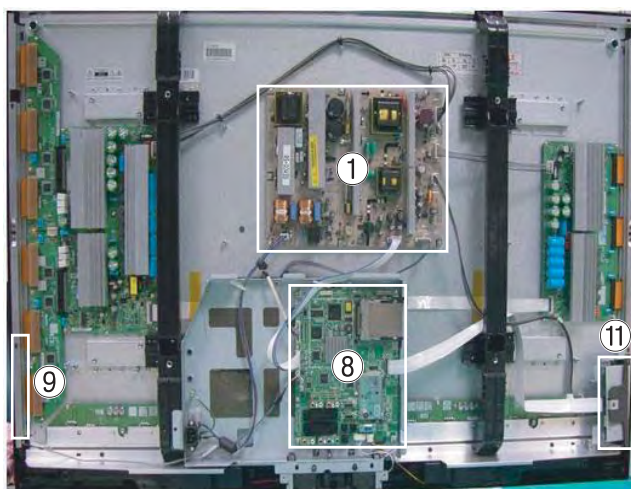
4-1-3 Faults and Corrective Actions

| Symptom | Related Image | Causes and Countermeasures |
|---|--|--|
| A blank vertical cell (block) appears on the screen. |  | <p>Address buffer defect</p> <ul style="list-style-type: none"> - Replace the corresponding upper/lower buffers (E, F) <p>COF defect (burnt)</p> <ul style="list-style-type: none"> - Replace the module |
| A green screen appears when the TV is turned on. |  | <p>The Scale is not resetting</p> <ul style="list-style-type: none"> - Replace the Main board |
| The OSD box appears but there is no text. |  | <p>Incorrect program version</p> <ul style="list-style-type: none"> - Check the version of each program - Replace the Main board |
| A blank upper (or lower) block appears on the screen. |  | <p>Upper/Lower Y Buffer defect</p> <ul style="list-style-type: none"> - Replace the corresponding upper/lower buffers (E, F) |

| Symptom | Related Image | Causes and Countermeasures |
|---|--|---|
| Either the main or sub picture does not appear. |  | Replace the Main board |
| A vertical green line appears on the screen. |  | The SMPS voltage is incorrect - Adjust the SMPS voltage according to the voltage printed on the module label |
| Dim screen (blurred in red) |  | X-Main board defect - Replace the X-Main board |
| A blank screen appears |  | - Replace the Y-Main board |

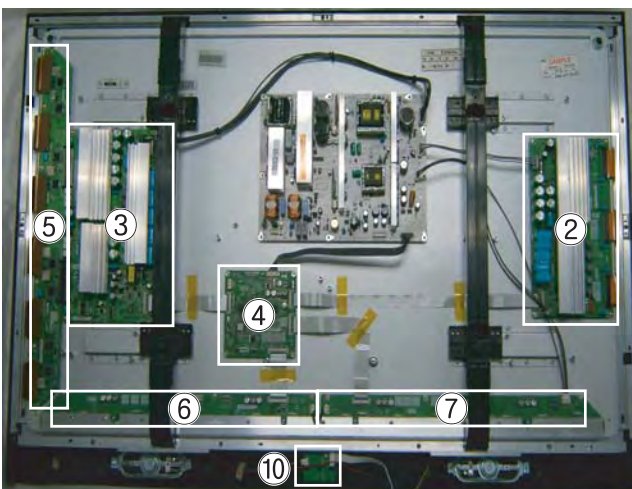
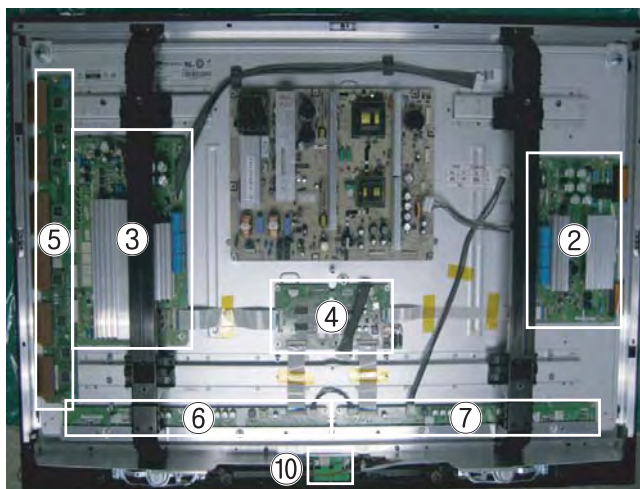
4-1-4 Troubleshooting Procedures by assembly

| No | Assembly | Major Symptoms |
|----|--------------------------------------|--|
| 1 | SMPS-PDP TV | No power, Blank screen, the Relay repeats On and Off. |
| 2 | ASSY PDP MODULE P-X-MAIN | Blank screen |
| 3 | ASSY PDP MODULE P-Y-MAIN | Blank screen |
| 4 | ASSY PDP MODULE P-LOGIC MAIN | Blank screen, Screen noise |
| 5 | ASSY PDP MODULE P-Y-MAIN SCAN BUFFER | Row Bar screen is blank |
| 6 | ASSY PDP MODULE P-ADDRESS E BUFFER | Corresponding Buffer Board block screen is blank. |
| 7 | ASSY PDP MODULE P-ADDRESS F BUFFER | Corresponding Buffer Board block screen is blank. |
| 8 | ASSY PCB MISC-MAIN | No Power, Abnormal screen for each input source, PIP screen trouble, Sound trouble |
| 9 | ASSY BOARD P-FUNCTION | The side function key does not work properly |
| 10 | ASSY BOARD P-POWER&IR | The remote control does not work properly, the LED does not work properly. |
| 11 | ASSY BOARD P-SIDE AV | The AV2 and S-VIDEO2 modes do not work properly |



<PDP 42">

<PDP 50">



4-2 Adjustment

4-2-1 Service Instruction

■ Before Performing After Sales Services

1. Check if the measurement and test equipment is working properly.
2. Secure sufficient work space for disassembling the product.
3. Prepare a soft pad for disassembling the product.

■ Service adjustment item after replacement of Board

<If adjustment equipment is available>

- ① PDP Option of Factory Mode → set the Factory Data Type item as the suitable value of relevant model.
- ② Adjust Calibration of Factory Mode for each mode.
- ③ Adjust White Balance of Factory Mode.

<If adjustment equipment is not available>

- ① Write down the value of HDMI White Balance of Factory Mode before replacing Board.
- ② PDP Option of Factory Mode → set the Factory Data Type item as the suitable value of relevant model.
- ③ Set the value of HDMI White Balance with the value written down before.

4-2-2 How to Access Service Mode

1. General Remote

To Enter: **POWER OFF** → **INFO** → **MENU** → **MUTE** → **POWER ON**
 (Interval between key strokes: less than 3 sec)

To Exit: **POWER OFF** → **POWER ON**

2. Factory Remote

To Enter: **POWER ON** → **INFO** → **FACTORY Key** (Interval between key strokes: less than 3 sec)

To Exit: **POWER OFF** → **POWER ON**

Press the Factory key twice with a key stroke interval of more than 1 second (Pressing once enters Aging Mode)

3. Settings when entering Factory mode

- Sharp Screen (Dynamic), Color Tone (Cool1), Factory (Dynamic CE Off)

4. Adjustment Procedures

- Channel ▲ ▼ Key : Select an item.
- Volume ◀ ▶ Key : Adjust the value up or down.
- MENU Key : Save the changes to the EEPROM and return to the higher-level mode.
- Using the Numeric (0~9) keys, you can select a channel.
- Using the SOURCE key, you can switch AV modes.

5. Initial SERVICE MODE DISPLAY State

Panel ON Time(Hour) 0002

| | |
|---------------------|---------------------|
| 1. Calibration | 7. YC Delay |
| 2. Option Table | 8. Adjust |
| 3. White Balance | 9. I2C Check |
| 4. SVP-UX | 10. W/B MOVIE |
| 5. Option Block | 11. Checksum |
| 6. SGTv5810/NTP3000 | 12. Reset |
| | 13. Spread Spectrum |

T-CALMPEUH-xxxx (Main Micom Ver)
 T-BDPMPEUS-xxxx
 BORD2_CALLA_TR-xxxx (TR Ver)
 Month / Day / Year / Hour / Min. / Sec.

C4A_RMA → 50": C5A_RMA

※ The version of the firmware displayed at the bottom of the screen may differ and the firmware is subject to change for the improvement of product functions.

※ If you have adjusted the settings in Service Mode, you have to reset the product.

4-2-3 Factory Data ★ The underlined are items applied during the service adjustment. None of the others should be adjusted.

1. Calibration

| Item | Data |
|------------------|---------|
| AV Calibration | Success |
| Comp Calibration | Success |
| PC Calibration | Success |
| HDMI Calibration | Success |

2. Option Table(Service)

| Item | PDP 42" | PDP 50" | Option index |
|------------------|-----------------------|-----------------------|-----------------------------------|
| | C4A_RMA initial value | C5A_RMA initial value | |
| Ready | OFF | OFF | ON / OFF |
| Inch Option | 42" | 50" | 42" / 50"... |
| Panel Vender | AMLCDINT | AMLCDINT | AUO/CMO... |
| Gamma | OFF | OFF | ON / OFF |
| Panel Type | Normal1 | Normal1 | Normal1 / Normal2... |
| Model Option | Bord Plus | Bord Plus | Call / Lily / Brod Plus / Jasmine |
| Tuner | SEMCO | SEMCO | SEMCO / ALPS |
| Tuner TOP | 8 | 8 | 0 ~ 31 |
| Auto Power | ON | ON | ON / OFF |
| Nordic | OFF | OFF | ON / OFF |
| LNA Menu | ON | ON | ON / OFF |
| TTX On/Off | ON | ON | ON / OFF |
| TTX List | Flof | Flof | Flof / List |
| Carrier Mute | OFF | OFF | ON / OFF |
| High Deviation | OFF | OFF | ON / OFF |
| VOL.Curve | Small | Small | Small / Large |
| HDMI Hotplug | 1 | 1 | 0 / 1 |
| HDMI Clock Ctrl | 1 | 1 | 0 / 1 |
| HDMI Hotplug Dly | 9 | 9 | 3~50 |
| Hotel Option | | | |
| Hotel Mode | OFF | OFF | ON / OFF |
| Power On Channel | 1 | 1 | 1 ~ 99 |
| Power On Volume | 10 | 10 | 1 ~ 100 |
| Max Volume | 100 | 100 | 1 ~ 100 |
| Local Key Lock | OFF | OFF | ON / OFF |
| Power On Source | RF | RF | RF/Ext.1... |
| Shop Mode | OFF | OFF | ON / OFF |
| Color Space | ON | ON | ON / OFF |
| PC Ident | OFF | OFF | ON / OFF |

| Item | PDP 42" | PDP 50" | Option index |
|------------|-----------------------|-----------------------|----------------------------|
| | C4A_RMA initial value | C5A_RMA initial value | |
| Language | English | English | English / German... |
| ANYNET+ | ON | ON | ON / OFF |
| Ch.Table | SUWON | SUWON | SUWON / SESK / SEH / TTSEC |
| TTX Group | Auto | Auto | Auto / West Europe... |
| iDTV_Cntry | UK | UK | UK / France... |

3. White Balance

| Item | Range | Tv/AV/Scart | Comp/iDTV | PC | HDMI |
|-----------------------|-----------|-------------|-----------|-----|------|
| <u>Sub-Brightness</u> | 00H ~ FFH | 128 | 128 | 128 | 128 |
| <u>R-offset</u> | 00H ~ FFH | 128 | 128 | 128 | 128 |
| <u>G-offset</u> | 00H ~ FFH | 128 | 128 | 128 | 128 |
| <u>B-offset</u> | 00H ~ FFH | 128 | 128 | 128 | 128 |
| <u>Sub-Contrast</u> | 00H ~ FFH | 128 | 128 | 128 | 128 |
| <u>R-Gain</u> | 00H ~ FFH | 128 | 128 | 128 | 128 |
| <u>G-Gain</u> | 00H ~ FFH | 128 | 128 | 128 | 128 |
| <u>B-Gain</u> | 00H ~ FFH | 128 | 128 | 128 | 128 |

4. SVP-UX

① ComB Filter

| Item | Range |
|----------|-----------|
| Y-Filter | 00H ~ FFH |

② Sharpness

| Item | Range | RF | AV | Comp 480i | Comp 480p | Comp 720p | Comp 1080i | HDMI | PC | iDTV |
|---------|-----------|-----|-----|-----------|-----------|-----------|------------|------|-----|------|
| H2Gain | 00 ~ 1FH | 05H | 05H | 05H | 05H | 04H | 04H | 0AH | 05H | 05H |
| H4Gain | 00 ~ 1FH | 04H | 0AH | 05H | 05H | 02H | 02H | 0AH | 05H | 05H |
| V2Gain | 00 ~ 1FH | 0CH | 0CH | 0AH | 0CH | 0AH | 0AH | 10H | 0AH | 0AH |
| V4Gain | 00 ~ 1FH | 0CH | 10H | 0CH | 0CH | 0AH | 0AH | 10H | 0AH | 0AH |
| Sr2Gain | 00 ~ 1FH | 00H | 00H | 00H | 00H | 00H | 00H | 00H | 00H | 00H |
| Sr4Gain | 00 ~ 1FH | 00H | 02H | 00H | 00H | 02H | 02H | 04H | 02H | 02H |
| Sl2Gain | 00 ~ 1FH | 00H | 00H | 00H | 00H | 00H | 00H | 00H | 00H | 00H |
| Sl4Gain | 00 ~ 1FH | 00H | 02H | 00H | 00H | 02H | 02H | 04H | 02H | 02H |
| Peakth1 | 00H ~ FFH | 06H | 02H | 03H | 03H | 03H | 03H | 03H | 08H | 04H |
| Peakth2 | 00H ~ FFH | 2FH | 2FH | 2FH | 2FH | 2FH | 2FH | 2FH | 2FH | 2FH |
| Peskth3 | 00H ~ FFH | 3FH | 3FH | 3FH | 3FH | 3FH | 3FH | 3FH | 3FH | 3FH |

③ NR

| Item | Range | Initial value |
|----------|-----------|---------------|
| Y_NR_OFF | 00H ~ FFH | 00H |
| C_NR_OFF | 00H ~ FFH | 00H |
| Y_NR_ON | 00H ~ FFH | 00H |
| C_NR_ON | 00H ~ FFH | 00H |

④ RGB Calibration

| Item | Range | TV/AV/S_Video | Component | PC | HDMI |
|----------|-----------|---------------|-----------|-----|------|
| R-Offset | 00H ~ FFH | 3AH | 40H | 32H | 82H |
| G-Offset | 00H ~ FFH | 3AH | 40H | 32H | 82H |
| B-Offset | 00H ~ FFH | 3AH | 40H | 32H | 82H |
| R-Gain | 00H ~ FFH | A6H | 92H | A9H | 6CH |
| G-Gain | 00H ~ FFH | A6H | 92H | A9H | 6CH |
| B-Gain | 00H ~ FFH | A6H | 92H | A9H | 6CH |

⑤ ADC Calibration

| Item | Range | TV/AV/S_Video | Component | PC | HDMI |
|------------------|-----------|---------------|-----------|-----|------|
| TCD3 Contrast | 00H ~ FFH | 79H | 78H | 78H | 78H |
| TCD3 Brightness | 00H ~ FFH | 29H | 20H | 20H | 20H |
| TCD3 CR | 00H ~ FFH | 80H | 80H | 80H | 80H |
| TCD3 CB | 00H ~ FFH | 80H | 80H | 80H | 80H |
| TCD3 Delay | 00H ~ FFH | 00H | 00H | 00H | 00H |
| Analog Y Offset | 00H ~ FFH | 40H | 3DH | 44H | 40H |
| Analog PB Offset | 00H ~ FFH | 80H | 80H | 44H | 80H |
| Analog PR Offset | 00H ~ FFH | 80H | 80H | 44H | 80H |
| Analog Y Gain | 00H ~ FFH | D6H | B3H | A4H | 80H |
| Analog PB Gain | 00H ~ FFH | 80H | B3H | ACH | 80H |
| Analog PR Gain | 00H ~ FFH | 80H | B3H | A7H | 80H |
| Black Level | 00H ~ FFH | 00H | 00H | 00H | 00H |
| Svp Brightness | 00H ~ FFH | 00H | 00H | 00H | 00H |

⑥ Calibration Target

| Item | Range | low | high | Delta |
|----------|-----------|-----|------|-------|
| AV ADC | 00H ~ FFH | 10H | DCH | 02H |
| COMP ADC | 00H ~ FFH | 10H | EBH | 02H |
| PC ADC | 00H ~ FFH | 10H | DCH | 04H |
| ALL RGB | 00H ~ FFH | 01H | EBH | 0AH |

⑦ Color Management

| Item | Range | Initial value |
|----------------|---------------------|---------------|
| Skin Direction | Reddish / Yellowish | Reddish |
| Skin Enhance | 00H ~ FFH | 00H |
| Green Stretch | 00H ~ FFH | 00H |
| Blue Stretch | 00H ~ FFH | 00H |

5. Option Block

① FRC(Micronas)

② FRC2X

| Item | Range | Initial value |
|----------------|-----------|---------------|
| OUTCON | 1 ~ 3 | 0 |
| GAMMA | 1 ~ 7 | 0 |
| OCC_MODE | 0 / 1 | 0 |
| FALLBACK | 0 / 1 | 0 |
| DBG_MARK | 0 / 1 | 0 |
| SPR_CBR | 0 / 1 | 0 |
| BIT_EXPAND | 0 / 1 | 0 |
| INV_BIT_EXPAND | 0 / 1 | 0 |
| REPEAT_MODE | 0 / 1 | 0 |
| DEMO_ON_OFF | 0 / 1 | 0 |
| MMU_RD_START | 00H ~ FFH | 00H |
| ME_RD_START | 00H ~ FFH | 00H |
| MC_RD_START | 00H ~ FFH | 00H |
| CMZL(0x36E) | 00H ~ FFH | 0H |
| BLOL(0x2A7) | 00H ~ FFH | 0H |
| LOGO(0x2A7) | 00H ~ FFH | 0H |

③ FBE2

| ITEM | Range | RF | AV/ S-Video | Comp 480i/576i | Comp 480p/576p | Comp 720p/1080i/1080p | HDMI | DTV | PC |
|----------------|---------|-----|----------------|-------------------|-------------------|--------------------------|------|-----|-----|
| Pattern Select | 0 ~ 20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| BS-On | 0 / 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| B-Slope Gain | 0 ~ 255 | 34 | 44 | 64 | 64 | 64 | 64 | 64 | 64 |
| B-Tilt Min | 0 ~ 255 | 20 | 20 | 20 | 20 | 20 | 20 | 20 | 20 |
| B-Tilt Max | 0 ~ 255 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 |
| B-Tilt Slope | 0 ~ 255 | 128 | 128 | 128 | 128 | 128 | 128 | 128 | 128 |
| LFunc-Basis | 0 ~ 255 | 30 | 20 | 50 | 40 | 70 | 55 | 75 | 55 |
| Hfunc-Basis | 0 ~ 255 | 30 | 40 | 50 | 40 | 75 | 65 | 88 | 65 |
| Mean-Offset1 | 0 ~ 255 | 20 | 100 | 75 | 75 | 75 | 75 | 75 | 75 |
| Mean Offset2 | 0 ~ 255 | 120 | 200 | 155 | 155 | 225 | 225 | 225 | 225 |
| Mean Slope | 0 ~ 255 | 56 | 56 | 45 | 45 | 85 | 85 | 85 | 85 |
| Input Offset | 0 ~ 255 | 128 | 128 | 128 | 128 | 128 | 128 | 128 | 128 |
| Input Gain | 0 ~ 255 | 128 | 128 | 128 | 128 | 128 | 128 | 128 | 128 |
| ACR Offset | 0 ~ 128 | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 |
| ACR Th1 | 0 ~ 255 | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 |
| ARC Th2 | 0 ~ 255 | 130 | 130 | 100 | 130 | 130 | 130 | 130 | 130 |
| Skin Enable | 0 / 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Skin Tu | 0 ~ 255 | 165 | 165 | 150 | 150 | 165 | 165 | 128 | 165 |
| Skin Tv | 0 ~ 255 | 140 | 140 | 140 | 140 | 128 | 128 | 128 | 128 |
| M Skin Tu | 0 ~ 255 | 128 | 128 | 128 | 128 | 128 | 128 | 128 | 128 |
| M Skin TV | 0 ~ 255 | 128 | 128 | 128 | 128 | 128 | 128 | 128 | 128 |
| Sub Color | 0 ~ 255 | 115 | 128 | 135 | 135 | 140 | 150 | 143 | 150 |
| M-Au-Sub Color | 0 ~ 255 | 128 | 128 | 128 | 128 | 128 | 128 | 128 | 128 |
| M-Wi-Sub Color | 0 ~ 255 | 128 | 128 | 128 | 128 | 128 | 128 | 128 | 128 |
| MW-Skin-Tu | 0 ~ 255 | 128 | 128 | 128 | 128 | 128 | 128 | 128 | 128 |
| MW-Skin-Tv | 0 ~ 255 | 128 | 128 | 128 | 128 | 128 | 128 | 128 | 128 |

④ Pdp Logic

| ITEM | Range | Initial value |
|------------------|--------------------------|---------------|
| Pattern Srlct | 0 ~ 63 | 0 |
| Data updata | ON / OFF | OFF |
| Data Type | 42"EU MRT/42"EU MESH/... | 42"EU MRT |
| CDC Sw | ON / OFF | OFF |
| CDC Strength Th | 0 ~ 31 | 0 |
| BRE Sw | ON / OFF | OFF |
| FRC Repeat Mode | ON / OFF | OFF |
| FRC CBG Mark On | 0 ~ 15 | 0 |
| ERC Bypass | ON / OFF | OFF |
| Panel Type | - | 0H |
| Panel Inch | - | SD |
| Panel Version | - | |
| Logic Sw Version | - | 0H 0H 0H |

6. SGTV5810/NTP3000

| ITEM | Range | Initial value |
|-----------------|-----------|---------------|
| ID Tone Shift | 1H ~ FH | 01H |
| ID Tone Thresh | 00H ~ FFH | 7FH |
| Demod Prescaler | 00H ~ 20H | 13H |
| Master Volume | 00H ~ 30H | 13H |
| PWM Modulation | 80H ~ F2H | F1H |
| DRC Threshold | 00H ~ 7FH | 06H |
| Speaker EQ | ON / OFF | OFF |

7. YC Delay

| ITEM | Range | Initial value |
|---------------|-----------|---------------|
| RF PAL-B/G | 00H ~ FFH | AAH |
| RF PAL-D/K | 00H ~ FFH | 99H |
| RF PAL-I | 00H ~ FFH | 99H |
| RF SECAM-B/G | 00H ~ FFH | 88H |
| RF SECAM-D/K | 00H ~ FFH | 44H |
| RF SECAM-L/L' | 00H ~ FFH | 88H |
| RF NTSC 3.58 | 00H ~ FFH | 44H |
| RF NTSC 4.43 | 00H ~ FFH | CCH |
| AV PAL | 00H ~ FFH | AAH |
| AV SECAM | 00H ~ FFH | 88H |
| AV NTSC 3.58 | 00H ~ FFH | 30H |
| AV NTSC 4.43 | 00H ~ FFH | AAH |
| AV PAL60 | 00H ~ FFH | 77H |

8. Adjust

| ITEM | Range | Initial value |
|------------------|--|---------------|
| Video Mute Time | 0 ~ 255 | 10 |
| Dynamic Contrast | ON / OFF | ON |
| Dynamic Dimming | ON / OFF | ON |
| Dynamic CE | ON / OFF | OFF |
| LNA PLUS | | |
| RFDB-1 Level | 0 ~ 255 | 2 |
| RFDB-2 Level | 0 ~ 255 | 5 |
| RFDB-3 Level | 0 ~ 255 | 7 |
| RFDB-4 Level | 0 ~ 255 | 24 |
| Magazine LNA | ON / OFF | OFF |
| PixelShift Test | ON / OFF | OFF |
| Debug | ON / OFF | OFF |
| ACR | ON / OFF | OFF |
| D-Watchdog | ON / OFF | ON |
| UART Select | MAIN / IDTV / PDP Lvds ON / PDP Lvds /OFF | OFF |

9. I2C Check

10. W/B MOVIE

| ITEM | Range | TV/AV/S_Video | Component | PC | HDMI | Scart1/2 |
|-------------|----------|---------------|-----------|---------|---------|----------|
| WB Movie | ON / OFF | OFF | OFF | OFF | OFF | OFF |
| Color Mode | Movie | Movie | Dynamic | Dynamic | Dynamic | Dynamic |
| Color Tone | | Cool1 | Cool1 | Cool1 | Cool1 | Cool1 |
| Msub Brigh | 0 ~ 255 | 128 | 128 | 128 | 128 | 128 |
| Msub Contr | 0 ~ 255 | 128 | 128 | 128 | 128 | 128 |
| W1_RGAIN | 0 ~ 255 | 157 | 161 | 144 | 161 | 157 |
| W1_BGAIN | 0 ~ 255 | 76 | 74 | 117 | 76 | 76 |
| W1_R_OFFS | 0 ~ 255 | 119 | 119 | 127 | 118 | 119 |
| W1_B_OFFS | 0 ~ 255 | 138 | 140 | 110 | 141 | 138 |
| W2_RGAIN | 0 ~ 255 | 142 | 143 | 149 | 142 | 142 |
| W2_BGAIN | 0 ~ 255 | 48 | 47 | 93 | 51 | 48 |
| W2_R_OFFS | 0 ~ 255 | 129 | 127 | 124 | 128 | 129 |
| W2_B_OFFS | 0 ~ 255 | 143 | 145 | 110 | 143 | 143 |
| NO_RGAIN | 0 ~ 255 | 141 | 139 | 137 | 141 | 141 |
| NO_BGAIN | 0 ~ 255 | 104 | 102 | 123 | 104 | 104 |
| NO_R_OFFS | 0 ~ 255 | 126 | 125 | 126 | 121 | 126 |
| NO_B_OFFS | 0 ~ 255 | 136 | 133 | 114 | 133 | 136 |
| C2_RGAIN | 0 ~ 255 | 124 | 122 | 123 | 125 | 124 |
| C2_BGAIN | 0 ~ 255 | 142 | 141 | 156 | 143 | 142 |
| C2_R_OFFS | 0 ~ 255 | 128 | 129 | 117 | 128 | 128 |
| C2_B_OFFS | 0 ~ 255 | 128 | 127 | 116 | 128 | 128 |
| Movie Contr | 0 ~ 100 | 100 | 100 | 100 | 100 | 100 |
| Movie Brigh | 0 ~ 100 | 45 | 45 | 45 | 45 | 45 |
| Movie Color | 0 ~ 100 | 55 | 55 | 55 | 55 | 55 |
| Movie Sharp | 0 ~ 100 | 75 | 75 | 75 | 75 | 75 |

11. Checksum xxxx

12. Reset

13. Spread Spectrun

| ITEM | Range | Initial value |
|--------------|-------------|---------------|
| Spectrum | ON / OFF | ON |
| Delta | -128 ~ +128 | 0 |
| Positive | 0 ~ 99 | 8 |
| Negative | 0 ~ 99 | 2 |
| Speed | 0 ~ 7 | 0 |
| Time | 0 ~ 7 | 4 |
| FBE Spectrum | ON / OFF | OFF |
| FEE Delta | 0 ~ 5 | 0 |

4-2-4 Service Adjustment

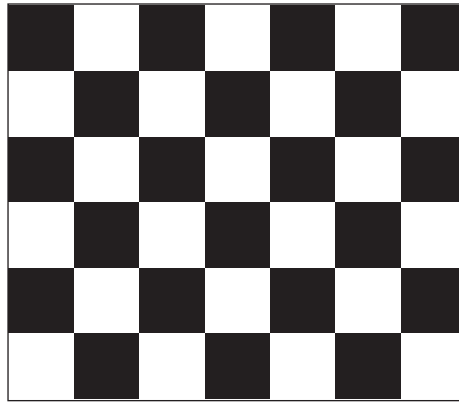
■ White Balance - Calibration

If picture color is wrong, do calibration first.

Execute calibration in Factory Mode

1. Source : VIDEO
2. Setting Mode : PAL Video (MODE : #2)
3. Pattern : Pattern #24 (Chess Pattern)
4. Use Equipment : K-7256 or Equipment of equality level
5. Work order
 - 1) Enter by Factory Mode select "1. CALIBRATION".
 - 2) Select "AV CALIBRATION" again in CALIBRATION MENU.
 - 3) After Completing Calibration, come out "Av success". OSD on the screen (bottom-side) for about 3 seconds.

Source AV : PAL composite, Component : 1280*720/60Hz
PC : 1024*768/60Hz



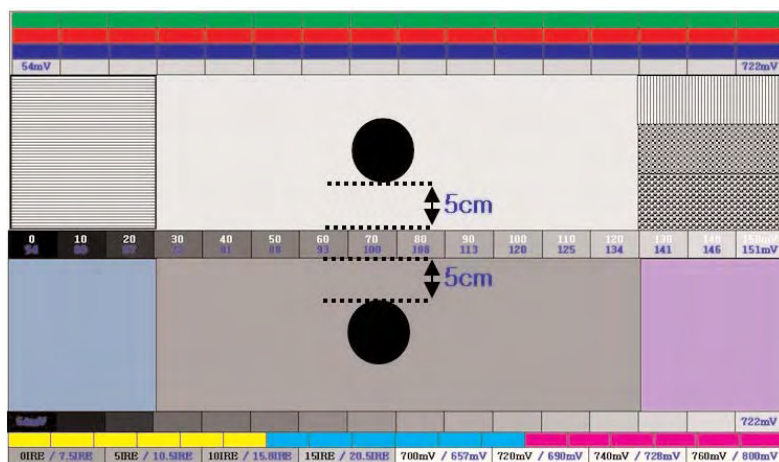
(Chess Pattern)

■ White Balance - Adjustment

If picture color is wrong, check White Balance condition.

Equipment : CA210, Patten : Toshiba
Adjust W/B in Factory Mode

Sub brightness and R/G/B Offset controls low light region
Sub contrast and R/G/B Gain controls high light region
Source AV : PAL composite, Component : 1280*720/60Hz,
HDMI[DVI] : 1280*720/60Hz



(SAMSUNG WHITE BALANCE Adjustment PATTERN with FPD)

[Test Pattern : MSPG-945 Series Pattern #16]

* Color temperature
1500K +/-500, -6 ~-20 MPCD

* Color coordinate
H/L : 270/280 +/- 2
L/L : 270/280 +/- 3, 2.1 Ft +/-0.05 Ft

■ Conditions for Measurement

- On the basis of toshiba ABL pattern : High Light level (57 IRE)
 - INPUT SIGNAL GENERATOR : MSPG-925LTH
 - * Mode No 2 : 744X484@60 Hz
 - No 6 : 1280X720@60 Hz
 - No 21 : 1024X768@60 Hz
 - * Pattern No 36 : 16 Color Pattern
 - No 16 : Toshiba ABL Pattern
- Optical measuring device : CA210 (FL)
 - Please use the MSPG-925 LTH generator for model PS-42Q96HD, PS-50Q96HD.

■ Method of Adjustment

1. Adjust the white balance of AV, Component and DVI Modes.

(AV → Component)

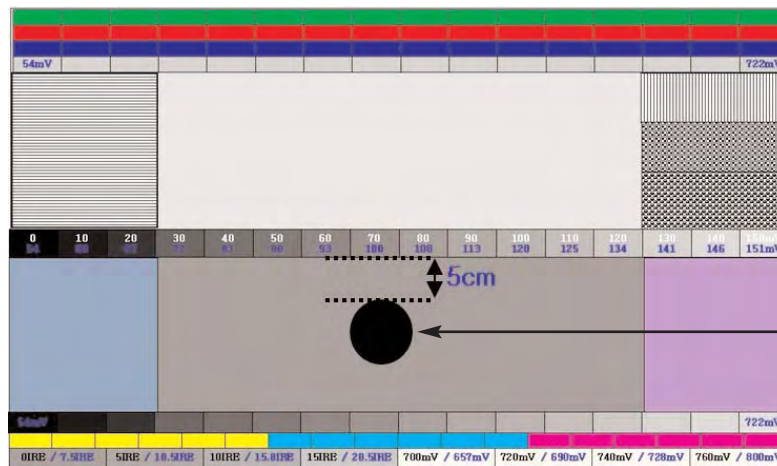
a) Set the input to the mode in which the adjustment will be made (RF → DTV → PC → DVI).

- * Input signal - VIDEO Mode : Model #2 (744*484 Mode), Pattern #16
- DTV, DVI Mode : Model #6 (1280*720 Mode), Pattern #16
- HDMI Mode : Model #6 (1280*720 Mode), Pattern #16

b) Enter factory color control, confirm the data.

c) Adjust the low light. (Refer to table 1, 2 in adjustment position by mode)

- Adjust sub - Brightness to set the 'Y' value.
- Adjust red offset ('x') and blue offset ('y') to the color coordinates.



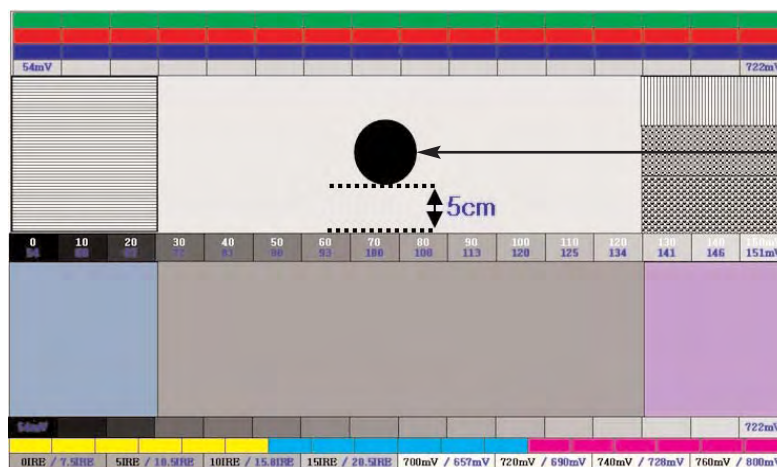
Low light
Measurement point

(SAMSUNG WHITE BALANCE Adjustment PATTERN with FPD)

* Do not adjust green offset data.

d) Adjust the high light. (Refer to table 1, 2 in adjustment position by mode)

- Adjust red gain ('x') and blue gain ('y') to the color coordinates.



Hight light
Measurement point

(SAMSUNG WHITE BALANCE Adjustment PATTERN with FPD)

* Do not adjust the green gain and sub-contrast (Y) data.

4-2-5 Replacements & Calibration

* PDP 42" Check items listed after changing each

| Replaced assembly items | Check Items |
|--------------------------------------|--|
| ASSY PCB MISC-MAIN | 1) Auto Program 2) White Balance Adjust |
| SMPS-PDP TV | Vs, Va voltage check and adjust |
| ASSY PDP MODULE P-LOGIC MAIN | Not to be adjusted |
| ASSY PDP MODULE P-X-MAIN | |
| ASSY PDP MODULE P-Y-MAIN | |
| ASSY PDP MODULE P-Y-MAIN SCAN BUFFER | |
| ASSY PDP MODULE P-ADDRESS E BUFFER | |
| ASSY PDP MODULE P-ADDRESS F BUFFER | |
| ASSY BOARD P-SIDE A/V | |

* PDP 50" Check items listed after changing each

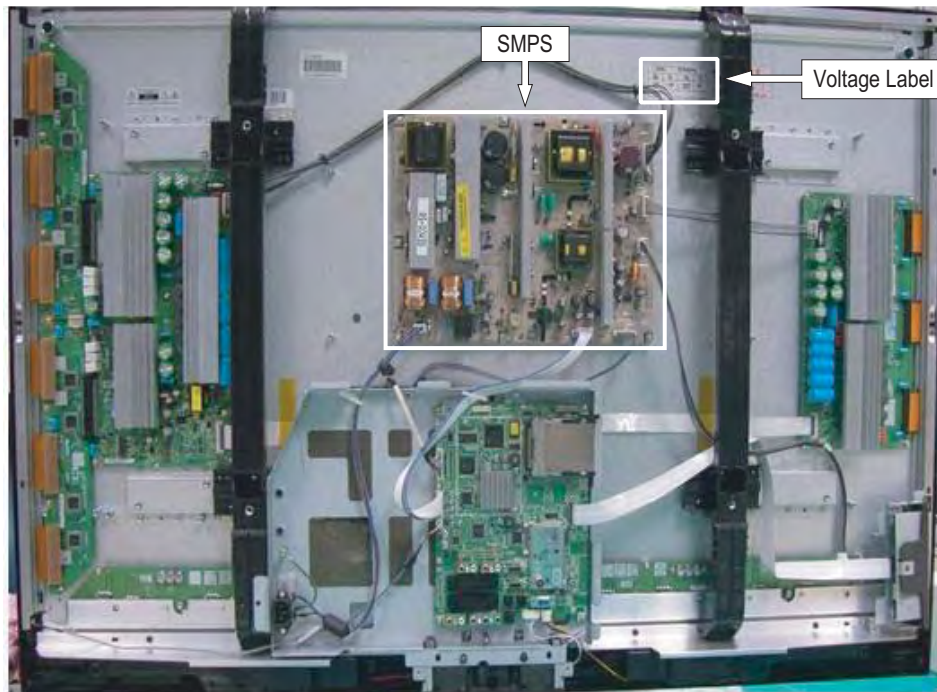
| Replaced assembly items | Check Items |
|--------------------------------------|--|
| ASSY PCB MISC-MAIN | 1) Auto Program 2) White Balance Adjust |
| SMPS-PDP TV | Vs, Va voltage check and adjust |
| ASSY PDP MODULE P-LOGIC MAIN | Not to be adjusted |
| ASSY PDP MODULE P-X-MAIN | |
| ASSY PDP MODULE P-Y-MAIN | |
| ASSY PDP MODULE P-Y-MAIN SCAN BUFFER | |
| ASSY PDP MODULE P-Y-MAIN SCAN BUFFER | |
| ASSY PDP MODULE P-ADDRESS E BUFFER | |
| ASSY PDP MODULE P-ADDRESS F BUFFER | |
| ASSY BOARD P-SIDE A/V | |

※ When replacing the SMPS or PDP panel, you have to check the voltage printed on the panel sticker and adjust it.

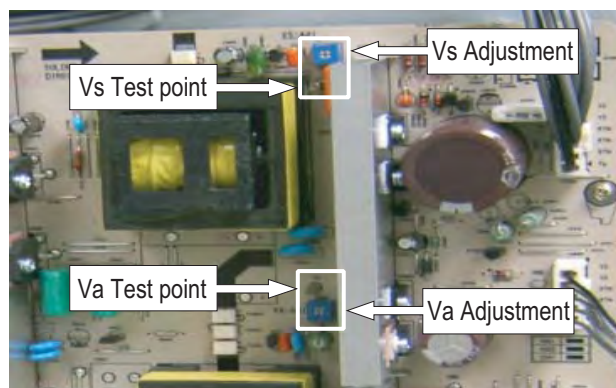
■ Voltage Adjustment

1. After replacing the SMPS or PDP panel, you must adjust the voltage referring to the voltage label printed on the panel.
(If you do not adjust the voltage, an abnormal discharge symptom may appear.)

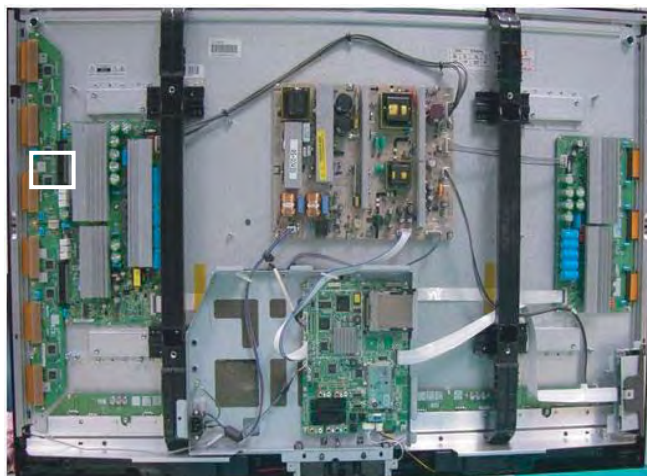
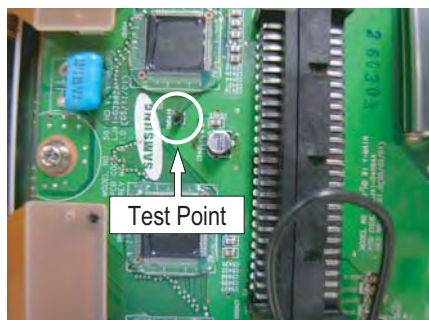
| | Value | Board Adjustment |
|-------|-------|------------------|
| Vs | 210 | SMPS |
| Va | 63 | |
| Vset | - | |
| Ve | 94 | |
| Vscan | -190 | |



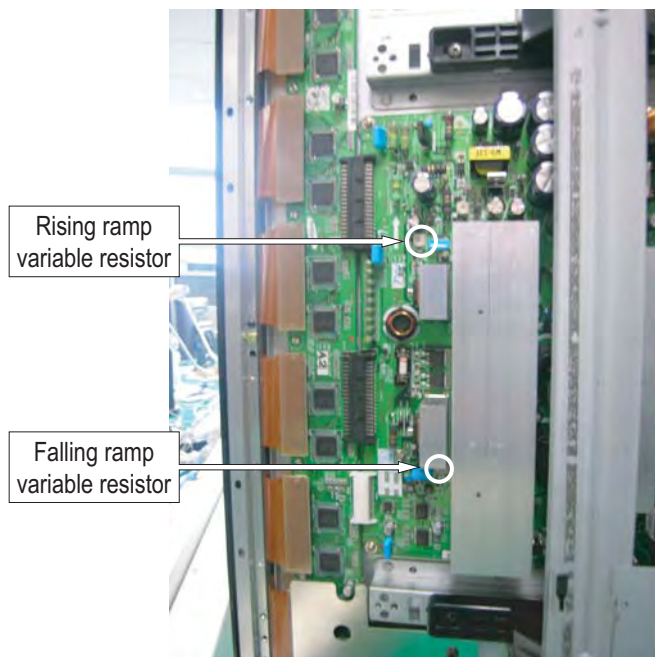
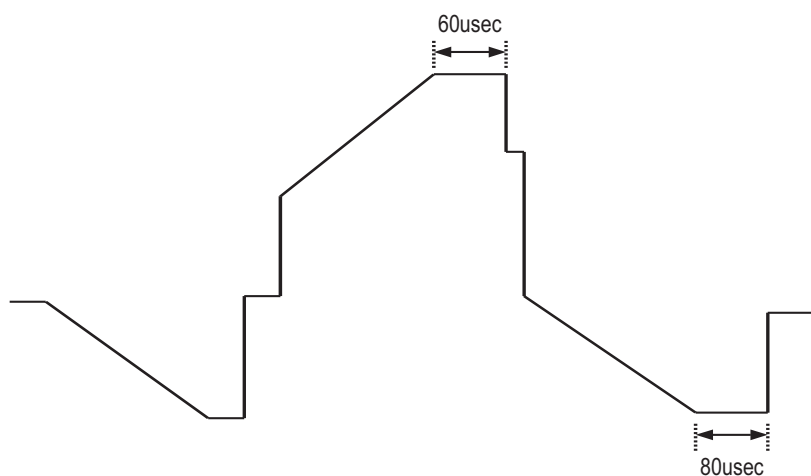
2. A point of adjusting SMPS-MAIN voltage.



■ Y-RR and Y-FR controls



Set the main reset (rising : 60usec, falling : 80usec) by change the value of variable resistor.



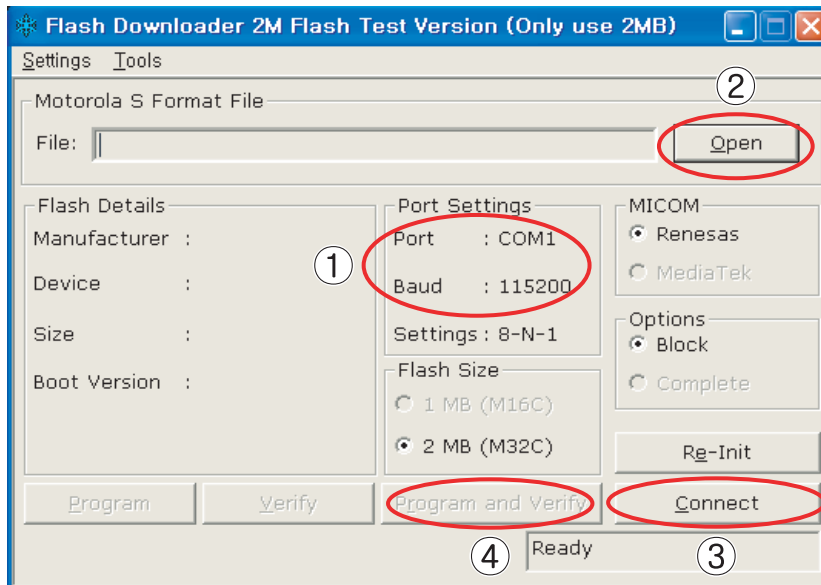
4-3 Upgrade

4-3-1 How to Update Flash ROM (with RS-232C Cable)

1. Connect Set (Service Jack) and Jig Cable to execute Program Update.



2. Turn Off (On Stand by mode) the Set
- Run Down load tool

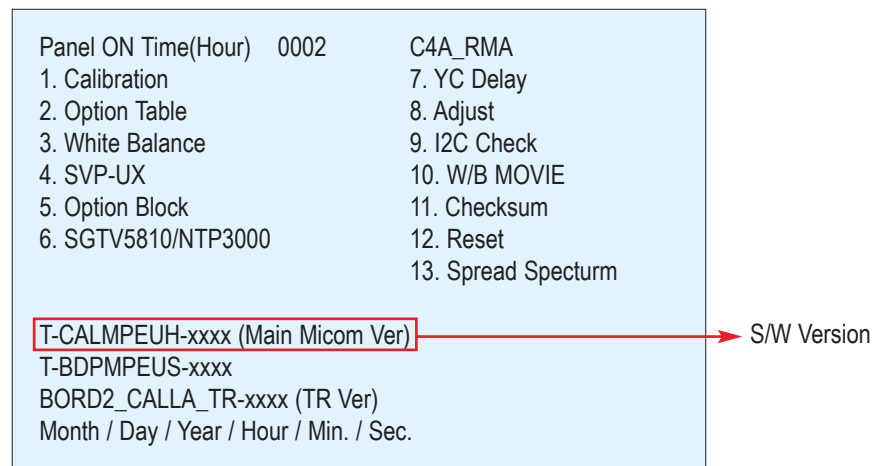


- 1) Check ①
 - 2) Select MOT file by Open ②
 - 3) Click Connect Button ③
 - 4) Turn On the Set
 - 5) Click ④
3. Turn off (= AC Power off) the Set (waiting a few seconds) and turn on again.
S/W Down Load Time: 6min

4-3-2 How to Check the Version of the Program

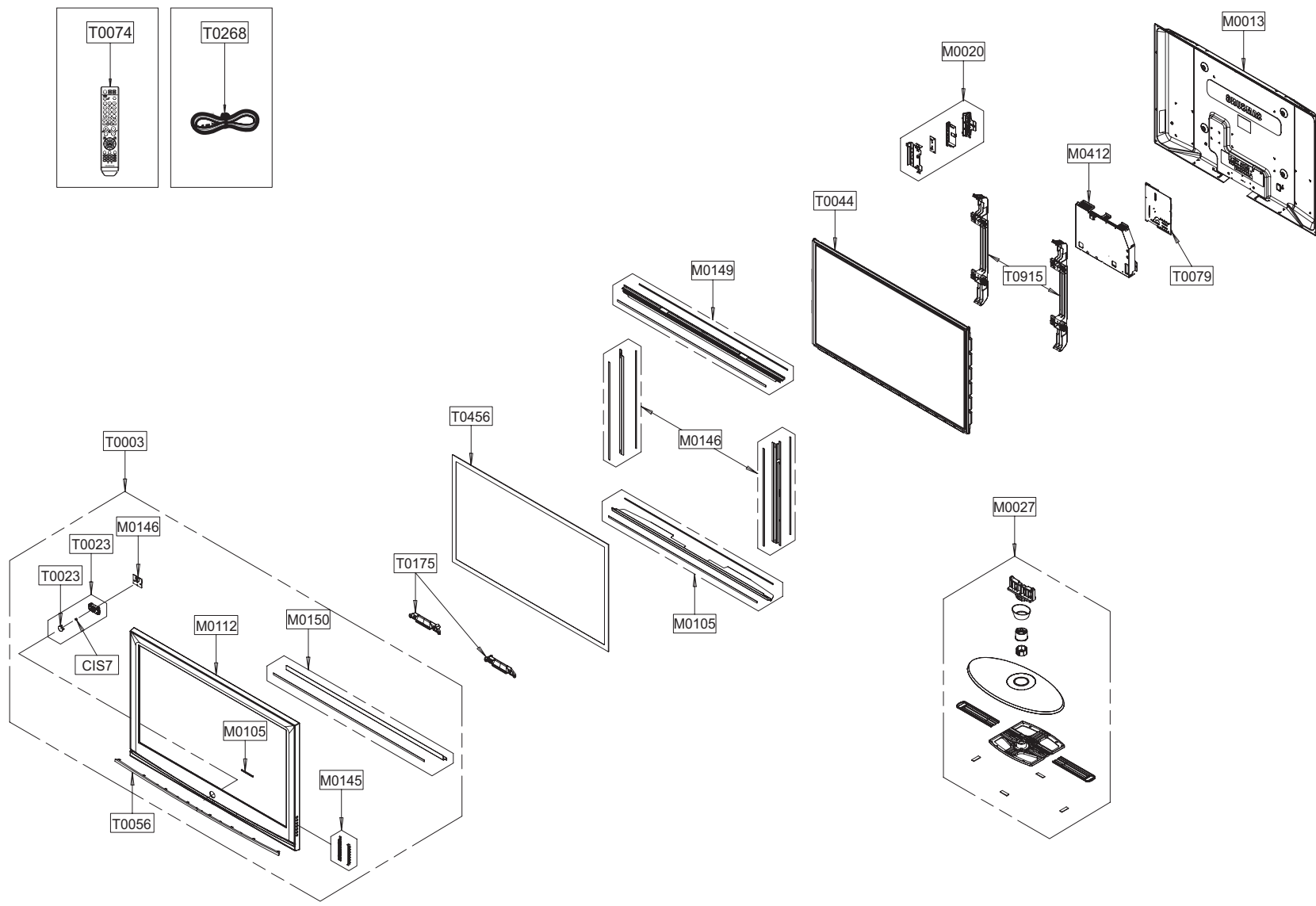
1. Procedures for checking in the Factory Menu.

When entering Factory Mode, the version of the software is displayed at the bottom of the menu as described on page 4-17.



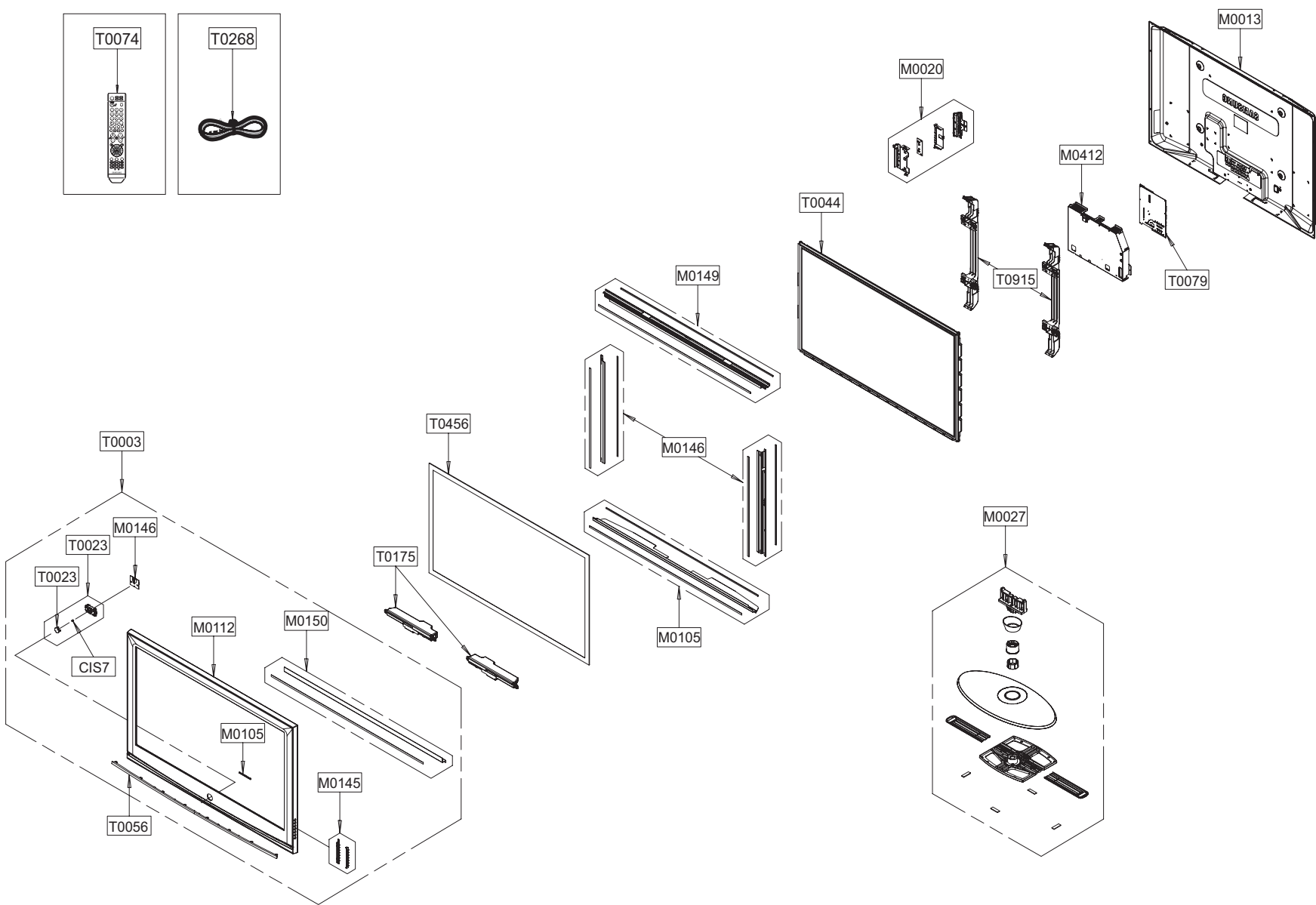
5. Exploded View & Part List

5-1 PS42C96HDXEC Exploded View



| Loc. No. | Code No. | Description | Specification | Q'ty | SA/SNA | Remark |
|----------|-------------|-------------------------------|----------------------------------|------|--------|--------|
| CIS7 | AA61-60003B | SPRING ETC-CS | -,SUS304,-,-,OD11.2,N7,OD1 | 1 | S.N.A | |
| M0013 | BN96-04709B | ASSY COVER P-REAR | 42Q9/C9,EU(iDTV),PCM T | 1 | S.A | |
| M0020 | BN96-04900D | ASSY BOARD P-SIDE A/V | LILY 42",SJ06-01-0 | 1 | S.N.A | |
| M0027 | BN96-05835A | ASSY STAND P-BASE | 42Q9/42C9,ABS,SF-0507, | 1 | S.A | |
| M0105 | BN67-00190A | LENS-LED | 42Q9,PC,light blue,Material of | 1 | S.N.A | |
| M0112 | BN63-03047D | COVER-FRONT | 42C9,ABS,HB,BK23,STEAM MOLD | 1 | S.N.A | |
| M0145 | BN96-04853B | ASSY BOARD P-FUNCTION | Lily/Calla,CT5000- | 1 | S.A | |
| M0146 | BN96-04687A | ASSY BRACKET P-FILTER SIDE | 42Q9,AL6063,T | 2 | S.N.A | |
| M0146 | BN96-04861D | ASSY BOARD P-POWER & IR | Lily/Calla,CT500 | 1 | S.A | |
| M0149 | BN96-04685A | ASSY BRACKET P-FILTER TOP | 42Q9,AL6063,T1 | 1 | S.N.A | |
| M0150 | BN96-04686A | ASSY BRACKET P-FILTER BOTTOM | 42Q9,AL6063 | 1 | S.N.A | |
| M0150 | BN96-04691B | ASSY BRACKET P-SUPPORT FILTER | 42Q9,AI 60 | 1 | S.N.A | |
| M0412 | BN96-04903C | ASSY BRACKET P-PCB | 42Q9,SECC T0.8 | 1 | S.N.A | |
| T0003 | BN96-04712D | ASSY COVER P-FRONT | 42C9,ABS HB,BK23,STEAM | 1 | S.A | |
| T0023 | BN96-04707A | ASSY COVER P-KNOB POWER | C9/Q9,ABS HB | 1 | S.A | |
| T0023 | BN64-00567A | KNOB POWER | 42Q9,PC,VIOLET | 1 | S.N.A | |
| T0044 | BN96-04592A | ASSY PDP MODULE P-MODULE | 42HD W2,PL42AX0 | 1 | S.A | △ |
| T0056 | BN63-03091A | COVER-DECORATION | 42C9,ABS,HB,BLK | 1 | S.N.A | |
| T0074 | BN59-00611A | REMOCON | JASMINE , LILY,TM87C,SAMSUNG 28p | 1 | S.A | |
| T0079 | BN94-01221C | ASSY PCB MISC-MAIN | PS42C96HD,F30A,BN41-0 | 1 | S.N.A | △ |
| T0175 | BN96-04704A | ASSY SPEAKER P | 8ohm,C9,10W,4P connector, | 1 | S.A | |
| T0268 | 3903-000145 | CBF-POWER CORD | DT,EU,FP3/YES,U(IEC C13-R | 1 | S.A | |
| T0456 | BN67-00188A | GLASS-FILTER EMI | 42" C7 HD,Sputter,with | 1 | S.A | △ |
| T0915 | BN61-02894B | HOLDER-MODULE | 42Q9,PC ABS | 2 | S.N.A | |

5-2 PS50C96HDX/SEC Exploded View



| Loc. No. | Code No. | Description | Specification | Q'ty | SA/SNA | Remark |
|----------|-------------|-------------------------------|----------------------------------|------|--------|--------|
| CIS7 | AA61-60003B | SPRING ETC-CS | -,SUS304,-,-,OD11.2,N7,OD1 | 1 | S.N.A | |
| M0013 | BN96-04711B | ASSY COVER P-REAR | 50Q9/C9,EU(iDTV),PCM T | 1 | S.A | |
| M0020 | BN96-04900E | ASSY BOARD P-SIDE A/V | LILY 50",SJ06-01-0 | 1 | S.N.A | |
| M0027 | BN96-04714B | ASSY STAND P-BASE | C9/Q9,ABS HB SF-0507,B | 1 | S.A | |
| M0105 | BN67-00190A | LENS-LED | 42Q9,PC,light blue,Material of | 1 | S.N.A | |
| M0112 | BN63-03067D | COVER-FRONT | 50C9,ABS,HB,BK23,STEAM MOLD | 1 | S.N.A | |
| M0145 | BN96-04853B | ASSY BOARD P-FUNCTION | Lily/Calla,CT5000- | 1 | S.A | |
| M0146 | BN96-04690A | ASSY BRACKET P-FILTER SIDE | 50Q9,AL6063,T | 2 | S.N.A | |
| M0146 | BN96-04861D | ASSY BOARD P-POWER & IR | Lily/Calla,CT500 | 1 | S.A | |
| M0149 | BN96-04688A | ASSY BRACKET P-FILTER TOP | 50Q9,AL6063,T1 | 1 | S.N.A | |
| M0150 | BN96-04692A | ASSY BRACKET P-SUPPORT FILTER | 50Q9,AL606 | 1 | S.N.A | |
| M0150 | BN96-04689A | ASSY BRACKET P-FILTER BOTTOM | 50Q9,AL6063 | 1 | S.N.A | |
| M0412 | BN96-04903C | ASSY BRACKET P-PCB | 42Q9,SECC T0.8 | 1 | S.N.A | |
| T0003 | BN96-04713D | ASSY COVER P-FRONT | 50C9,ABS HB,BK23,STEAM | 1 | S.A | |
| T0023 | BN96-04707A | ASSY COVER P-KNOB POWER | C9/Q9,ABS HB | 1 | S.A | |
| T0023 | BN64-00567A | KNOB POWER | 42Q9,PC,VIOLET | 1 | S.N.A | |
| T0044 | BN96-05772A | ASSY PDP MODULE P | PL50HW025A,50HD W2A,PL | 1 | S.A | △ |
| T0056 | BN63-03081A | COVER-DECORATION | 50C9,ABS,HB BLK | 1 | S.N.A | |
| T0074 | BN59-00611A | REMOCON | JASMINE , LILY,TM87C,SAMSUNG 28p | 1 | S.A | |
| T0079 | BN94-01223C | ASSY PCB MISC-MAIN | PS50C96HD,MAIN,F30A,B | 1 | S.N.A | △ |
| T0175 | BN96-04704A | ASSY SPEAKER P | 8ohm,C9,10W,4P connector, | 1 | S.A | |
| T0268 | 3903-000145 | CBF-POWER CORD | DT,EU,FP3/YES,U(IEC C13-R | 1 | S.A | |
| T0456 | BN67-00197A | GLASS-FILTER EMI | 50 W2, C9,Sputter, wit | 1 | S.A | △ |
| T0915 | BN61-02895B | HOLDER-MODULE | 50Q9,PCABS | 2 | S.N.A | |

5-3 PS42C96HDX/XEC Service Item

※ This is the list which is available to repair the real material at the time of service.

| Loc. No. | Code No. | Description | Specification | Q'ty | Remark |
|----------|-------------|--------------------------------|----------------------------------|------|--------|
| M0013 | BN96-04711B | ASSY COVER P-REAR | 50Q9/C9,EU(iDTV),PCM T | 1 | |
| M0027 | BN96-04714B | ASSY STAND P-BASE | C9/Q9,ABS HB SF-0507,B | 1 | |
| M2893 | BN39-00859A | LEAD CONNECTOR | CALLA 50",UL20276#30,UL/C | 1 | |
| M2893 | BN39-00881A | LEAD CONNECTOR | LILLY 42"/50",UL1007#26,U | 1 | |
| T0003 | BN96-04713D | ASSY COVER P-FRONT | 50C9,ABS HB,BK23,STE A | 1 | |
| T0044 | BN96-05772A | ASSY PDP MODULE P | PL50HW025A,50HD W2A,PL | 1 | |
| T0074 | BN59-00611A | REMOCON | JASMINE , LILY,TM87C,SAMSUNG 28p | 1 | △ |
| T0079 | BN94-01223C | ASSY PCB MISC-MAIN | PS50C96HD,MAIN,F30A,B | 1 | |
| T0175 | BN96-04704A | ASSY SPEAKER P | 8ohm,C9,10W,4P connector, | 1 | △ |
| T0764 | BN44-00162A | SMPS-PDP TV | HPS5053,SEM,AC/DC,460W,AC100 | 1 | |
| T1910 | BN96-06091A | ASSY PDP MODULE P-X-MAIN BOARD | PL50HW025 | 1 | △ |
| T1911 | BN96-06092A | ASSY PDP MODULE P-Y-MAIN BOARD | PL50HW025 | 1 | △ |
| T1914 | BN96-06096A | ASSY PDP MODULE P-ADDRESS E BU | PL50HW025 | 1 | △ |
| T1915 | BN96-06097A | ASSY PDP MODULE P-ADDRESS F BU | PL50HW025 | 1 | |
| T1917 | BN96-06095A | ASSY PDP MODULE P-LOGIC MAIN | PL50HW025A, | 1 | |
| T1960 | BN96-06093A | ASSY PDP MODULE P-Y-MAIN UPPER | PL50HW025 | 1 | |
| T1961 | BN96-06094A | ASSY PDP MODULE P-Y-MAIN LOWWE | PL50HW025 | 1 | |

5-4 PS50C96HDX/XEC Service Item

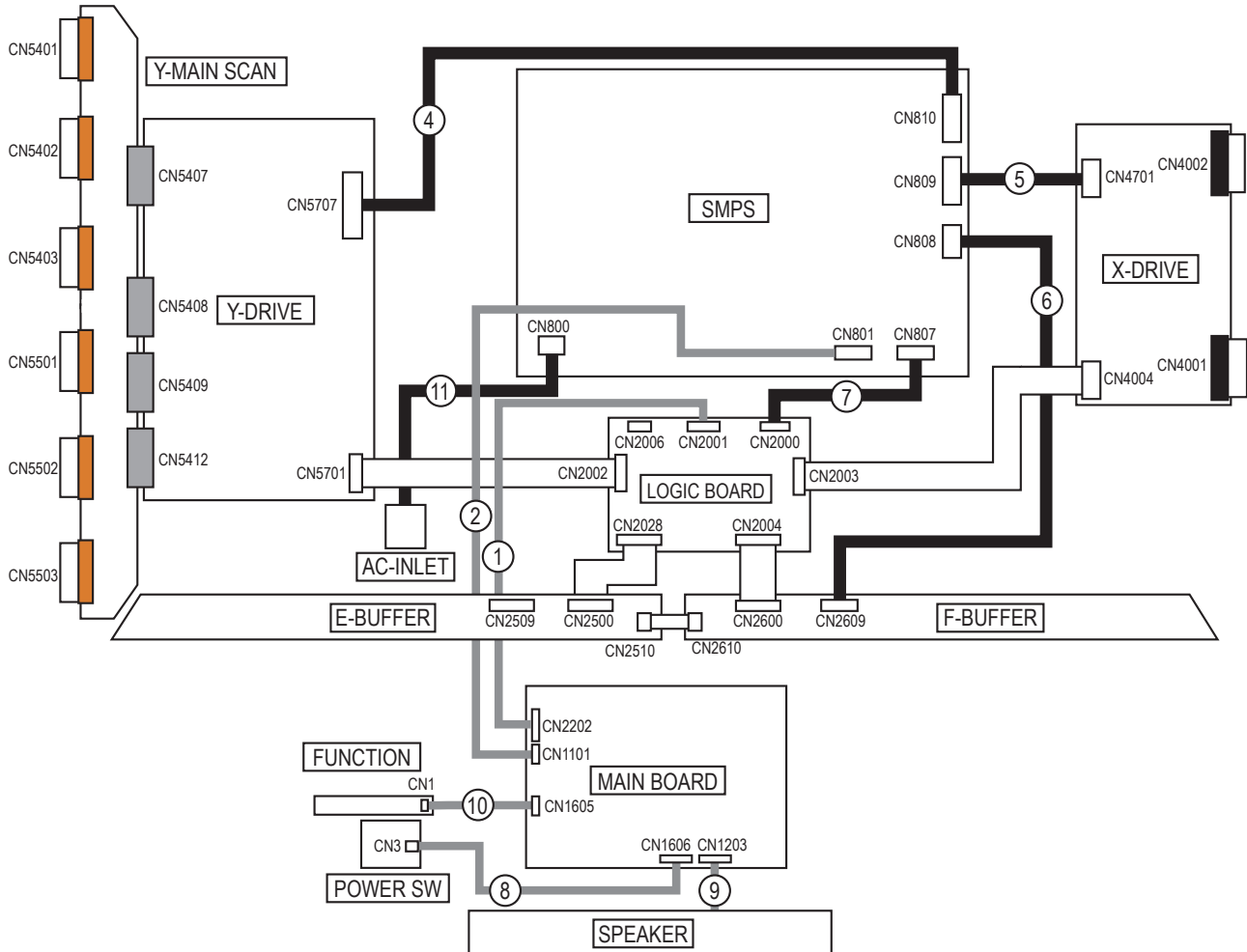
※ This is the list which is available to repair the real material at the time of service.

| Loc. No. | Code No. | Description | Specification | Q'ty | Remark |
|----------|-------------|--------------------------------|----------------------------------|------|--------|
| M0013 | BN96-04709B | ASSY COVER P-REAR | 42Q9/C9,EU(iDTV),PCM T | 1 | |
| M0027 | BN96-05835A | ASSY STAND P-BASE | 42Q9/42C9,ABS,SF-0507, | 1 | |
| M2893 | BN39-00859A | LEAD CONNECTOR | CALLA 50",UL20276#30,UL/C | 1 | |
| M2893 | BN39-00881A | LEAD CONNECTOR | LILLY 42"/50",UL1007#26,U | 1 | |
| T0003 | BN96-04712D | ASSY COVER P-FRONT | 42C9,ABS HB,BK23,STEA | 1 | |
| T0044 | BN96-04592A | ASSY PDP MODULE P-MODULE | 42HD W2,PL42AX0 | 1 | △ |
| T0074 | BN59-00611A | REMOCON | JASMINE , LILY,TM87C,SAMSUNG 28p | 1 | |
| T0079 | BN94-01221C | ASSY PCB MISC-MAIN | PS42C96HD,F30A,BN41-0 | 1 | △ |
| T0175 | BN96-04704A | ASSY SPEAKER P | 8ohm,C9,10W,4P connector, | 1 | |
| T0764 | BN44-00161A | SMPS-PDP TV | HPS4253,SEM,AC/DC,370W,AC100 | 1 | △ |
| T1910 | BN96-04593A | ASSY PDP MODULE P-X-MAIN | 42HD W2,PL42AX0 | 1 | △ |
| T1911 | BN96-04594A | ASSY PDP MODULE P-Y-MAIN | 42HD W2,PL42AX0 | 1 | △ |
| T1914 | BN96-04597A | ASSY PDP MODULE P-ADDRESS-E BU | 42HD W2,P | 1 | |
| T1915 | BN96-04598A | ASSY PDP MODULE P-ADDRESS-F BU | 42HD W2,P | 1 | |
| T1917 | BN96-04596A | ASSY PDP MODULE P-LOGIC MAIN | 42HD W2,PL4 | 1 | |
| T9698 | BN96-04595A | ASSY PDP MODULE P-Y-MAIN SCAN | 42HD W2,PL | 1 | |

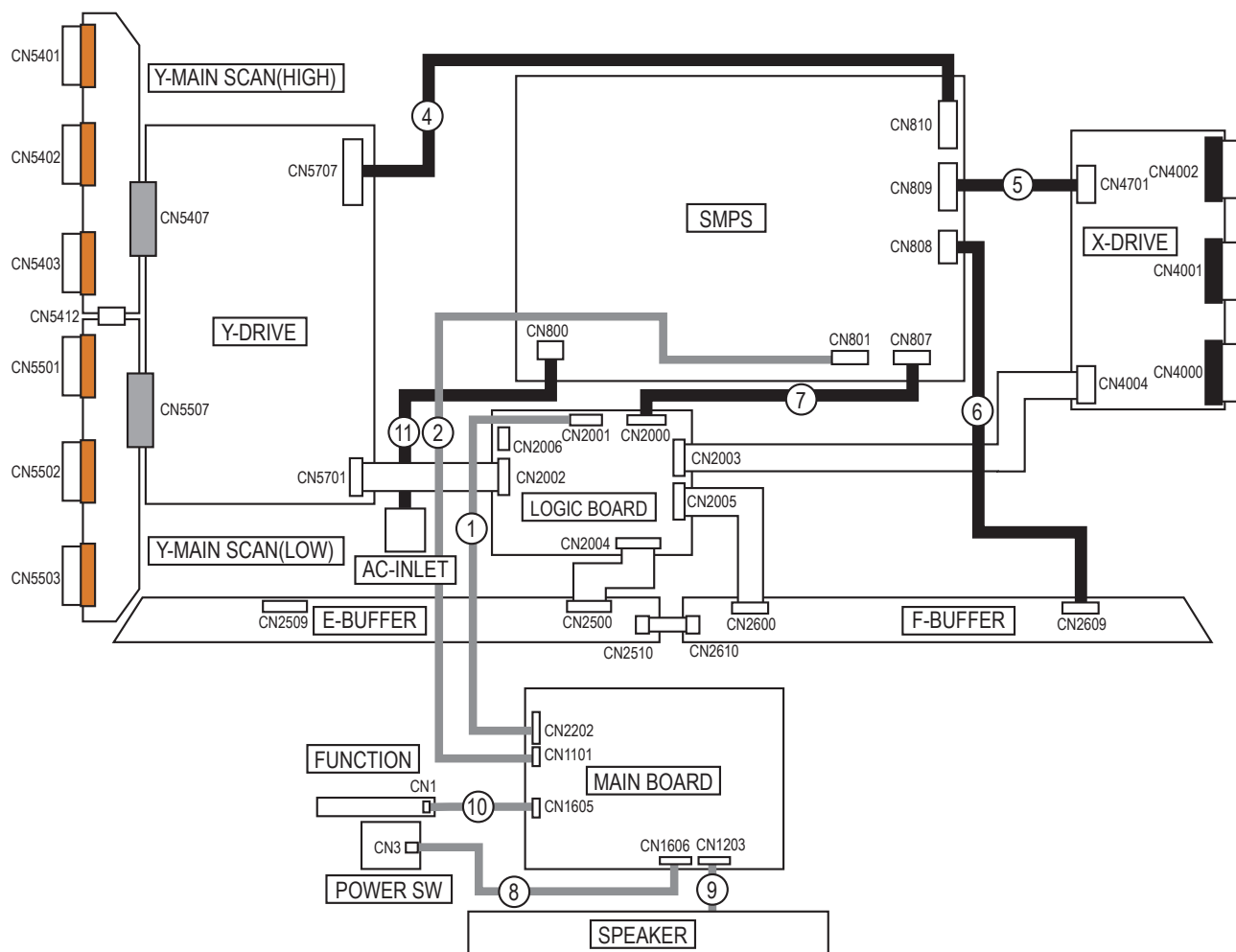
6. Wiring Diagram

6-1 Overall Wiring



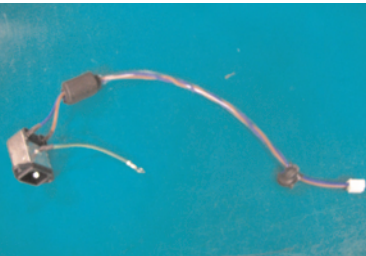
<42" Overall Wiring>



<50" Overall Wiring>



※ The code number of cable(Lead-connector) can be changed, see "5. Exploded View & Part List."

| Use | ① LVDS 31P-30P | ② POWER 24P | ⑪ AC_INPUT |
|-------|---|--|---|
| Code | BN39-00859A | BN39-00881A | 42" - 2901-001378 50" - 2901-001340 |
| Photo |  |  |  |

6-1-1 Pin Connection

| ① CN2202(MAIN B'D) ↔ CN2001(LOGIC B'D) | | | | ② CN1101(MAIN B'D) ↔ CN801(MAIN SMPS) | | | |
|---|----------|---------|----------|--|--------------|---------|--------------|
| Pin No. | Signal | Pin No. | Signal | Pin No. | Signal | Pin No. | Signal |
| 1 | RxIN0- | 16 | NC | 1 | PS_ON | 13 | 5V |
| 2 | RxIN0+ | 17 | GND | 2 | N/C (Auto_V) | 14 | 5V |
| 3 | RxIN1- | 18 | WP | 3 | STBY | 15 | 5V |
| 4 | RxIN1+ | 19 | SCL | 4 | GND_STBY | 16 | 5V |
| 5 | RxIN2- | 20 | SDA | 5 | GND_18V AMP | 17 | GND_12V |
| 6 | RxIN2+ | 21 | LVDS Opt | 6 | GND_18V AMP | 18 | GND_12V |
| 7 | RxINCLK- | 22 | DCC Opt | 7 | 18V AMP | 19 | 12V |
| 8 | RxINCLK+ | 23 | GND | 8 | 18V AMP | 20 | GND_12V |
| 9 | RxIN3- | 24 | GND | 9 | GND_5V | 21 | 12V |
| 10 | RxIN3+ | 25 | GND | 10 | GND_5V | 22 | 12V |
| 11 | NC | 26 | Vdd | 11 | GND_5V | 23 | N.C(FAN_ON) |
| 12 | NC | 27 | Vdd | 12 | GND_5V | 24 | N.C(FAN_DET) |
| 13 | NC | 28 | Vdd | | | | |
| 14 | NC | 29 | Vdd | | | | |
| 15 | NC | 30 | Vdd | | | | |

| ③ CN1404(MAIN B'D) ↔ CN101(SIDE AV) | | | | | | | |
|--|--------|---------|-------------|---------|-------------|---------|-------------|
| Pin No. | Signal | Pin No. | Signal | Pin No. | Signal | Pin No. | Signal |
| 1 | GND | 12 | TXC- | 23 | NC | 34 | VIDEO_SR_IN |
| 2 | TX2+ | 13 | GND | 24 | NC | 35 | VIDEO_SL_IN |
| 3 | TX2- | 14 | MICOM_CEC | 25 | GND | 36 | HP_IDENT |
| 4 | GND | 15 | GND | 26 | SVHS_IDENT | 37 | HP_OUT_R |
| 5 | TX1+ | 16 | TSCL | 27 | SVHS_Y | 38 | HP_OUT_L |
| 6 | TX1- | 17 | TSDA | 28 | GND | 39 | USB_VCC |
| 7 | GND | 18 | LSCL | 29 | SVHS_C | 40 | B1.8V |
| 8 | TX0+ | 19 | HDMI3_5V | 30 | GND | 41 | B3.3V |
| 9 | TX0- | 20 | HPD_SIL9185 | 31 | VIDEO_IDENT | | |
| 10 | GND | 21 | DDC_WP | 32 | VIDEO_CVBS | | |
| 11 | TXC+ | 22 | GND | 33 | GND | | |

| ④ CN810(SMPS) ↔ CN5707(Y B'D) | | ⑤ CN809(SMPS) ↔ CN4701(X B'D) | | ⑥ CN808(SMPS) ↔ CN2609(E-BUFFER) | | ⑦ CN807(SMPS) ↔ CN2000(LOGIC B'D) | | ⑧ CN1606(MAIN B'D) ↔ POWER&IR | |
|--|--------|--|--------|---|--------|--|--------|--|------------|
| Pin No. | Signal | Pin No. | Signal | Pin No. | Signal | Pin No. | Signal | Pin No. | Signal |
| 1 | Vg | 1 | Vg | 1 | Va | 1 | STBY | 1 | IR |
| 2 | GND | 2 | GND | 2 | GND | 2 | VS_ON | 2 | GND |
| 3 | GND | 3 | GND | 3 | 5.3V | 3 | N/C | 3 | A5V_1 |
| 4 | GND | 4 | Vs | | | 4 | PS_ON | 4 | LED_STB |
| 5 | Vs | 5 | Vs | | | 5 | RTN | 5 | BUZZER |
| 6 | Vs | | | | | 6 | 5.3V | 6 | KEY_INPUT1 |
| | | | | | | 7 | RTN | 7 | KEY_INPUT2 |
| | | | | | | 8 | RTN | 8 | GND |
| | | | | | | 9 | 5.3V | 9 | B5V |
| | | | | | | 10 | 5.3V | 10 | LED_CTRL |

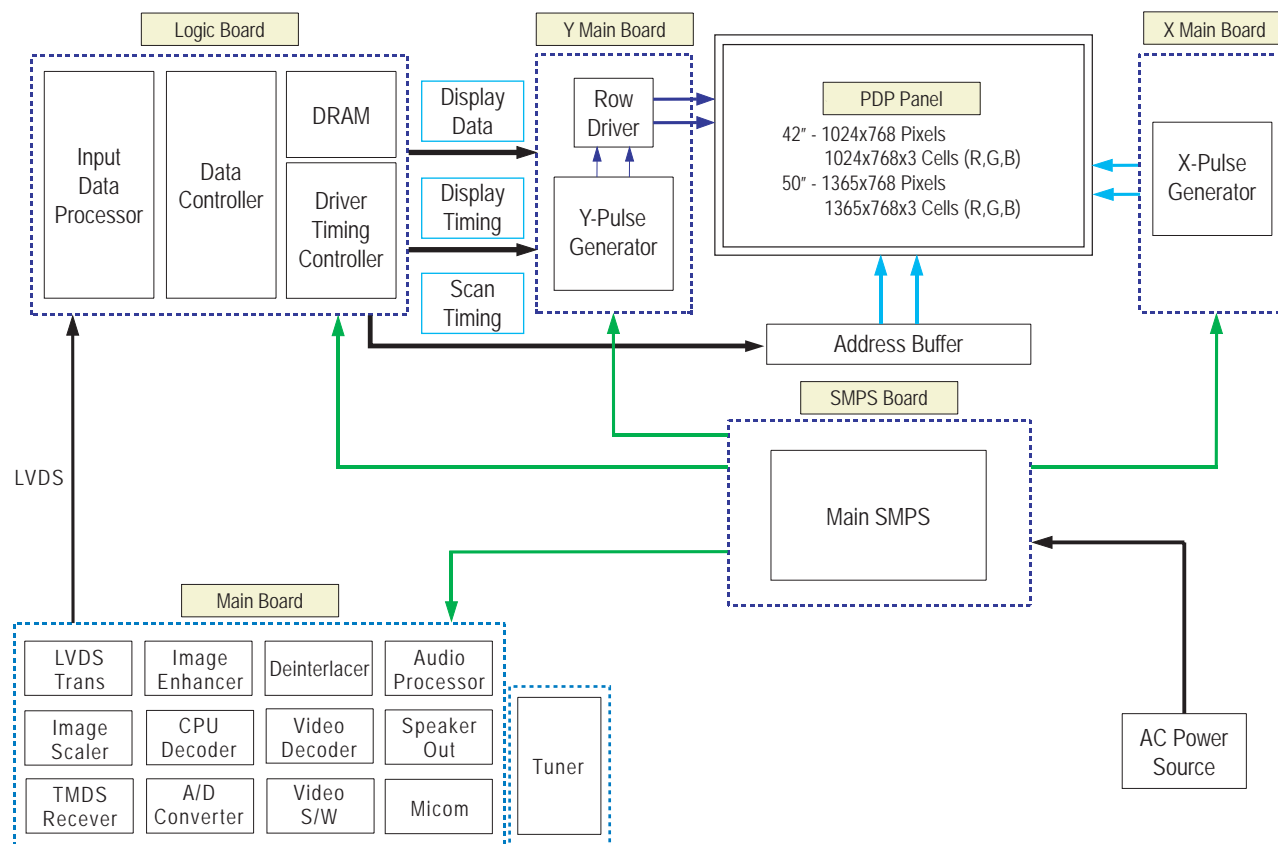
| ⑨ CN1203(MAIN B'D) ↔ SPEAKER | | ⑩ CN1605(MAIN B'D) ↔ FUNCTION | | ⑪ CN800(SMPS) ↔ AC INLET | |
|---------------------------------------|--------|--|------------|-----------------------------------|------------|
| Pin No. | Signal | Pin No. | Signal | Pin No. | Signal |
| 1 | R+_OUT | 1 | KEY_INPUT1 | 1 | AC Neutral |
| 2 | R-_OUT | 2 | KEY_INPUT2 | 2 | N/C |
| 3 | L+_OUT | 3 | GND | 3 | AC Live |
| 4 | L-_OUT | | | | |

6-1-2 Connector role

| 42" Loc. No. | 50" Loc. No. | Description |
|--------------|--------------|---|
| CN5401 | CN5401 | Horizontal Y-scan line(1~128) of Module and Y-Main Scan Connect |
| CN5402 | CN5402 | Horizontal Y-scan line(129~256) of Module and Y-Main Scan Connect |
| CN5403 | CN5403 | Horizontal Y-scan line(256~384) of Module and Y-Main Scan Connect |
| - | CN5512 | Y-Main Scan(High) and Y-Main Scan(Low) Connect |
| CN5501 | CN5501 | Horizontal Y-scan line(384~512) of Module and Y-Main Scan Connect |
| CN5502 | CN5502 | Horizontal Y-scan line(512~640) of Module and Y-Main Scan Connect |
| CN5503 | CN5503 | Horizontal Y-scan line(640~768) of Module and Y-Main Scan Connect |
| CN5407 | CN5407 | Upper Y-Drive and Y-Main Scan Connect |
| CN5507 | CN5507 | Lower Y-Drive and Y-Main Scan Connect |
| CN5707 | CN5707 | Vs(205V),Vg(15v) Power input connect(6Pin) of Y-Drive |
| CN5701 | CN5701 | Y-Drive control signal from Logic Board |
| CN810 | CN810 | Vs(205V),Vg(15v) Power input connect(6Pin) of SMPS for Y-Drive |
| CN809 | CN809 | Vs(205V),Vg(15v) Power input connect(6Pin) of SMPS for X-Drive |
| CN808 | CN808 | Va(63V) ,5.3V Power input connect(3Pin) of SMPS for F-Buffer |
| CN807 | CN807 | Power input connect(10pin) for Logic Board |
| CN801 | CN801 | Image signal(LVDS) connect(41pin) from Main Board |
| CN800 | CN800 | AC Power input connect from AC-inlet |
| CN4002 | CN4002 | Horizontal X-scan line of Module and X-scan Connect(first Block) |
| CN4001 | CN4001 | Horizontal X-scan line of Module and X-scan Connect(second Block) |
| - | CN4000 | Horizontal X-scan line of Module and X-scan Connect(third Block) |
| CN2000 | CN2000 | Power input connect(10pin) of Logic Board from SMPS |
| CN2001 | CN2001 | Image signal(LVDS) connect(41pin) of Logic board from Main Board |
| CN2002 | CN2002 | Y-Drive control signal of Logic Board |
| CN2004 | CN2005 | Address Data(684th~1366th) connect for F-Buffer board |
| CN2028 | CN2004 | Address Data(1st~683th) connect for E-Buffer board |
| CN2500 | CN2500 | Address Data(1st~683th) connect from Logic Board |
| CN2510 | CN2510 | Power input connect from F-Buffer Board |
| CN2610 | CN2610 | Power input connect to E-Buffer Board |
| CN2600 | CN2600 | Address Data(684th~1366th) connect from Logic board |
| CN2609 | CN2609 | Va(63V) ,5.3V Power input connect(3Pin) from SMPS |
| CN1101 | CN1101 | Power input connect(24Pin) from SMPS |
| CN2202 | CN2202 | Image signal(LVDS) connect(41pin) for Logic board |
| CN1605_PDP | CN1605_PDP | Function input(source,ch up/down;!) connect on Main board |
| CN1606 | CN1606 | Power SW input connect on Main Board |
| CN1203 | CN1203 | Speak out connect on Main Board |
| CN1405_PDP46 | CN1405_PDP46 | Video signal input connect on Side AV ass'y |
| CN1101 | CN1101 | Power input connect(24Pin) from SMPS |
| CN2202_HD | CN2202_HD | Image signal(LVDS) connect(41pin) for Logic board |

7. Schematic Diagram

7-1 Circuit Description



■ SMPS Board

The SMPS used for the PDP has been designed to be efficient, compact and lightweight. For VS and VA outputs, a LLC converter has been used. For the other outputs, a Flyback converter has been used.

■ LOGIC Board

The logic circuit consists of a Logic Main Board and an Address Buffer Board. The Logic Main Board decodes the video signal encoded by the Video Board, outputs the ADDRESS data signal for each pattern and generates X and Y drive signals. The Address Buffer Board buffers and transfers the ADDRESS data output signal using TCP IC.

- LVDS with built-in video signal processing (W/L, error diffusion, APC, FCR, etc.) applied and 1 ASIC chip.
- Outputs the address Drive IC control and data signals to the Buffer Board.
- Outputs the control signal for the X and Y Drive Boards.
- Monitors major drive voltages (Micom Circuit Block); detects if a surge voltage has been applied and protects the Drive Circuit.
- Temperature Adaptive Operating Mode (Low Temperature/Room Temperature/High Temperature); Discharge optimization for each temperature level.

■ X-MAIN Board

Connects to the X terminal block, 1) provides maintaining voltage waveform (including ERC), and 2) maintains the Ve bias in the Scan section.

■ Y-MAIN Board

Connects to the Y terminal block, 1) provides maintaining voltage waveform (including ERC), 2) provides Y Rising, Falling Ramp waveforms, and 3) maintains the Vscan bias.

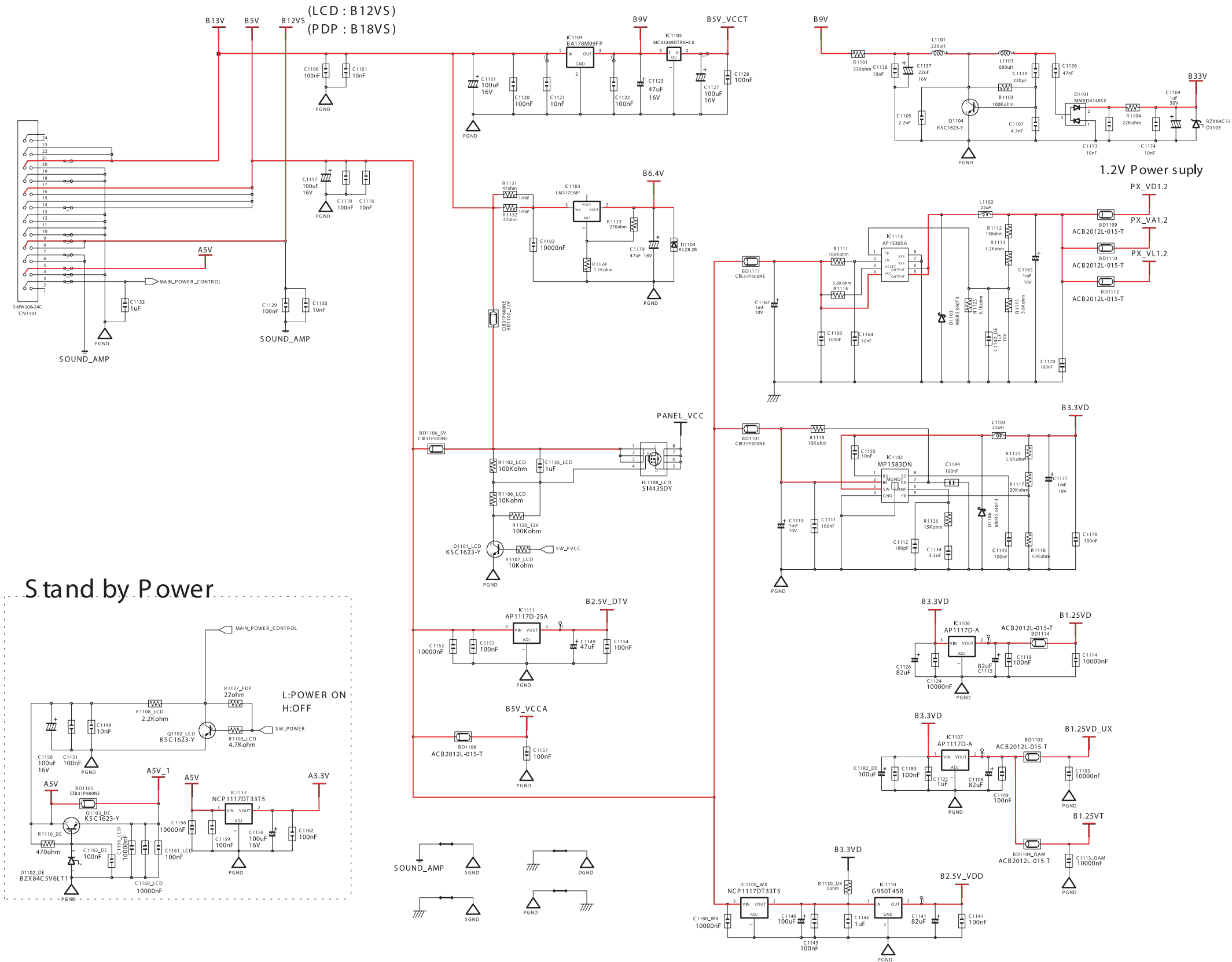
■ Address Buffer Board

It delivers the data signal and control signal to the TCP.

7-2 Schematic Diagram

7-2-1 Power

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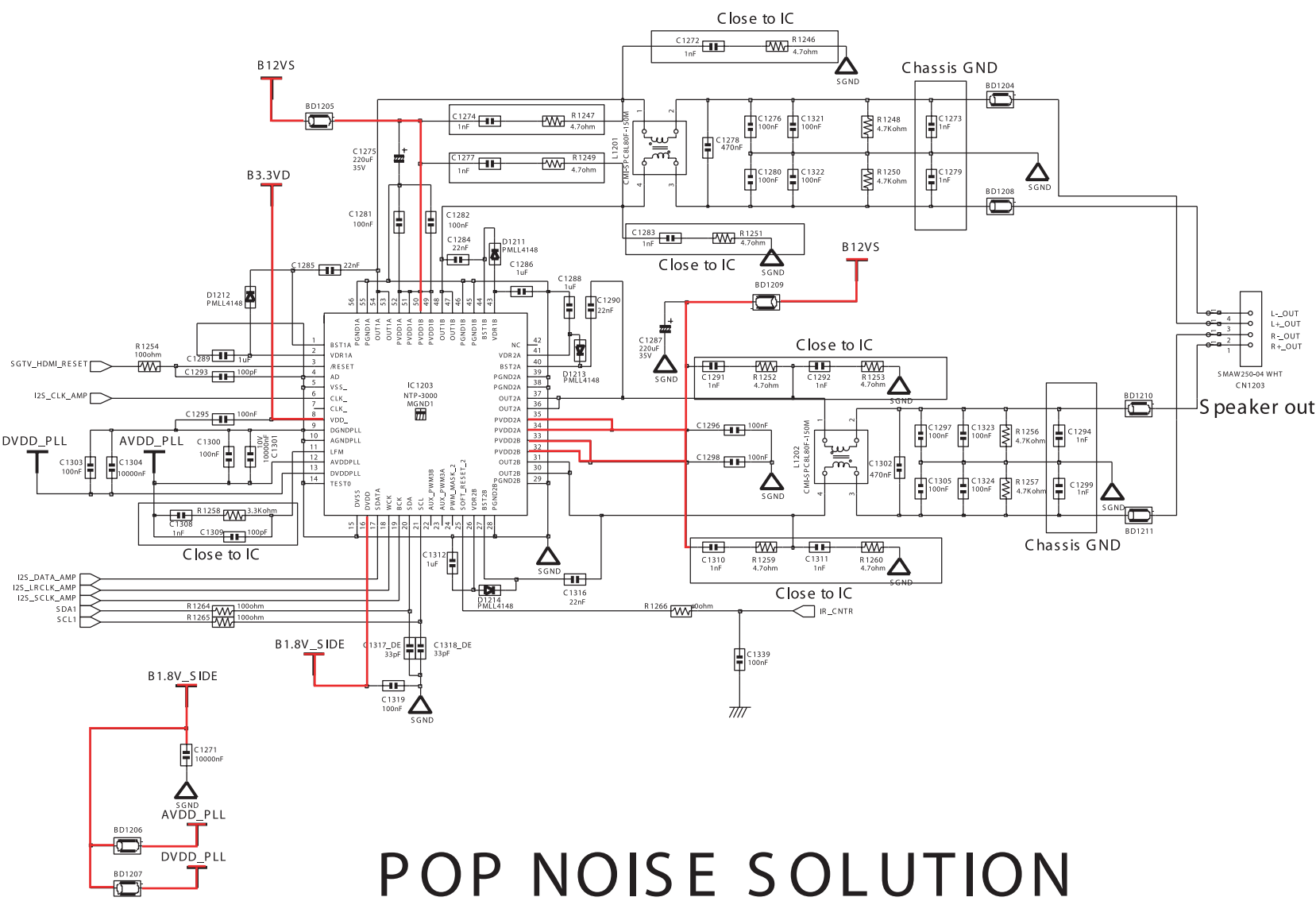


7-2-2 Sound Processing

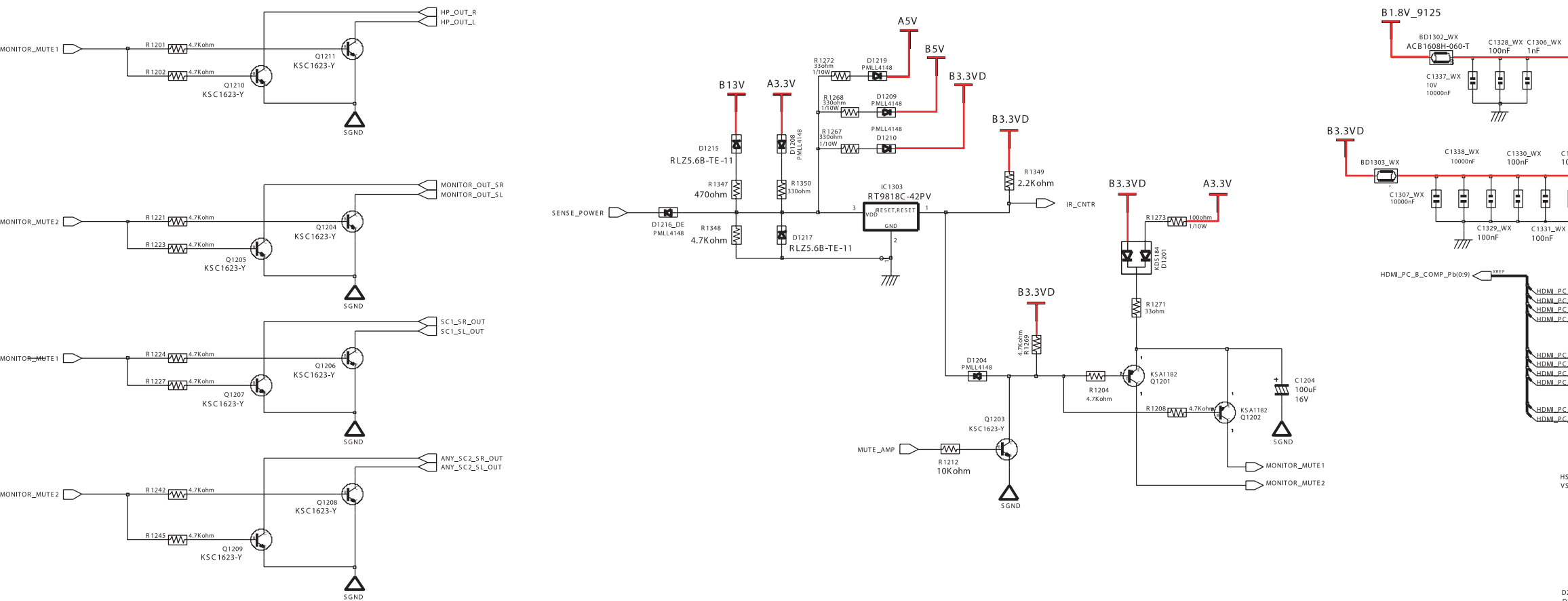
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Power

SOUND AMP

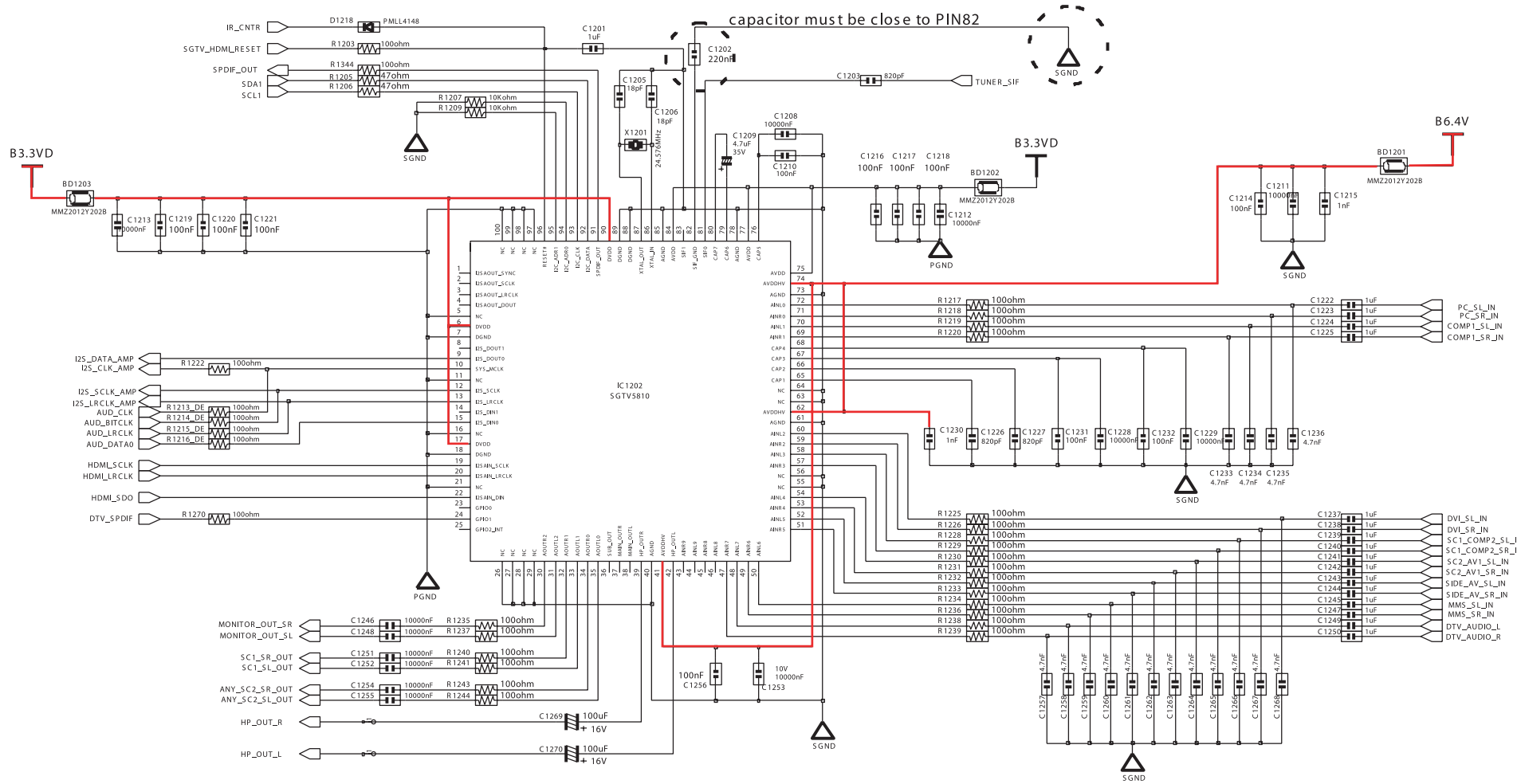


POP NOISE SOLUTION

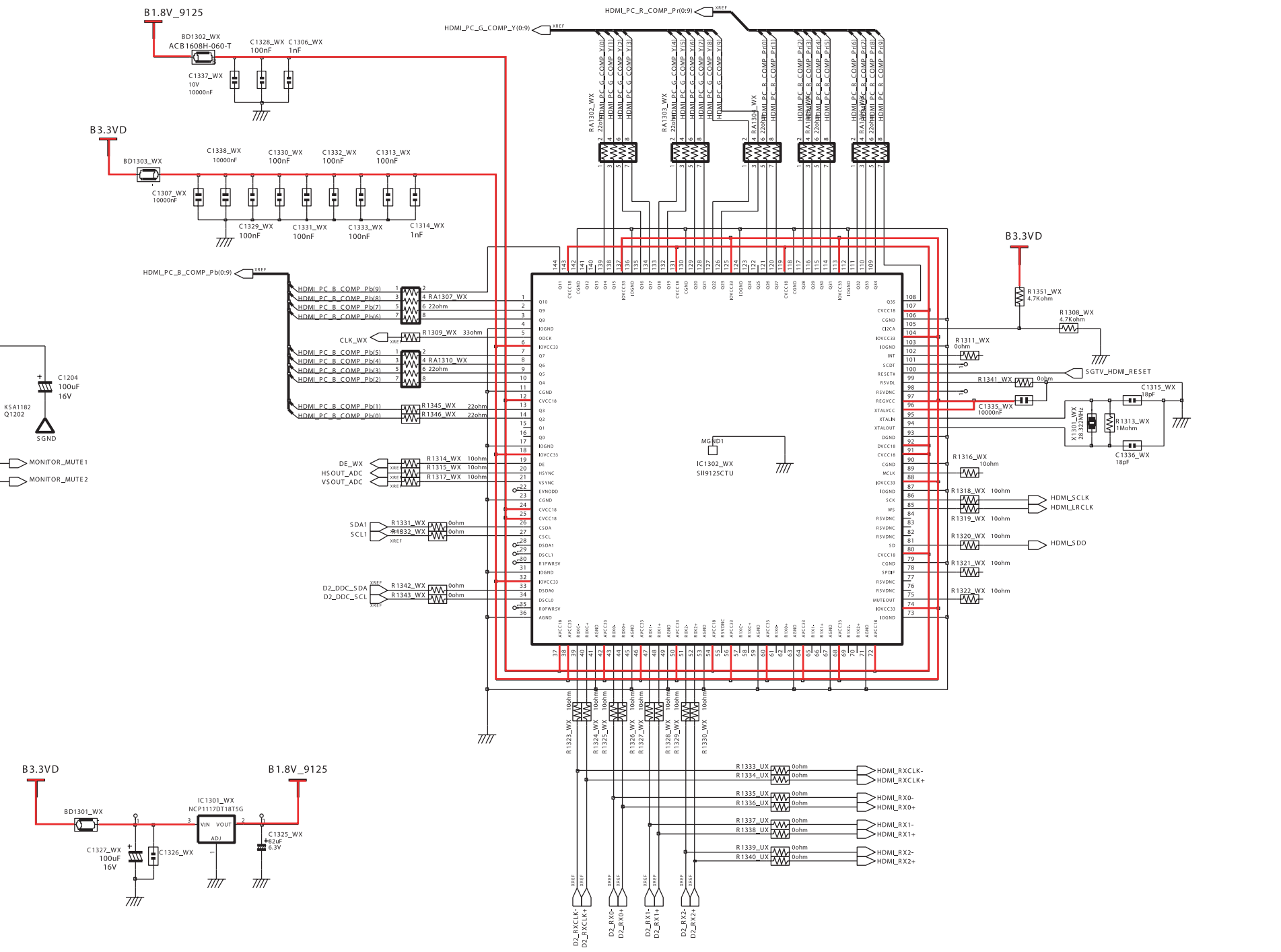


SOUND

Special Consideration for Tuner GND:
A thick GND trace must come from the Tuner.



HDMI RECEIVER

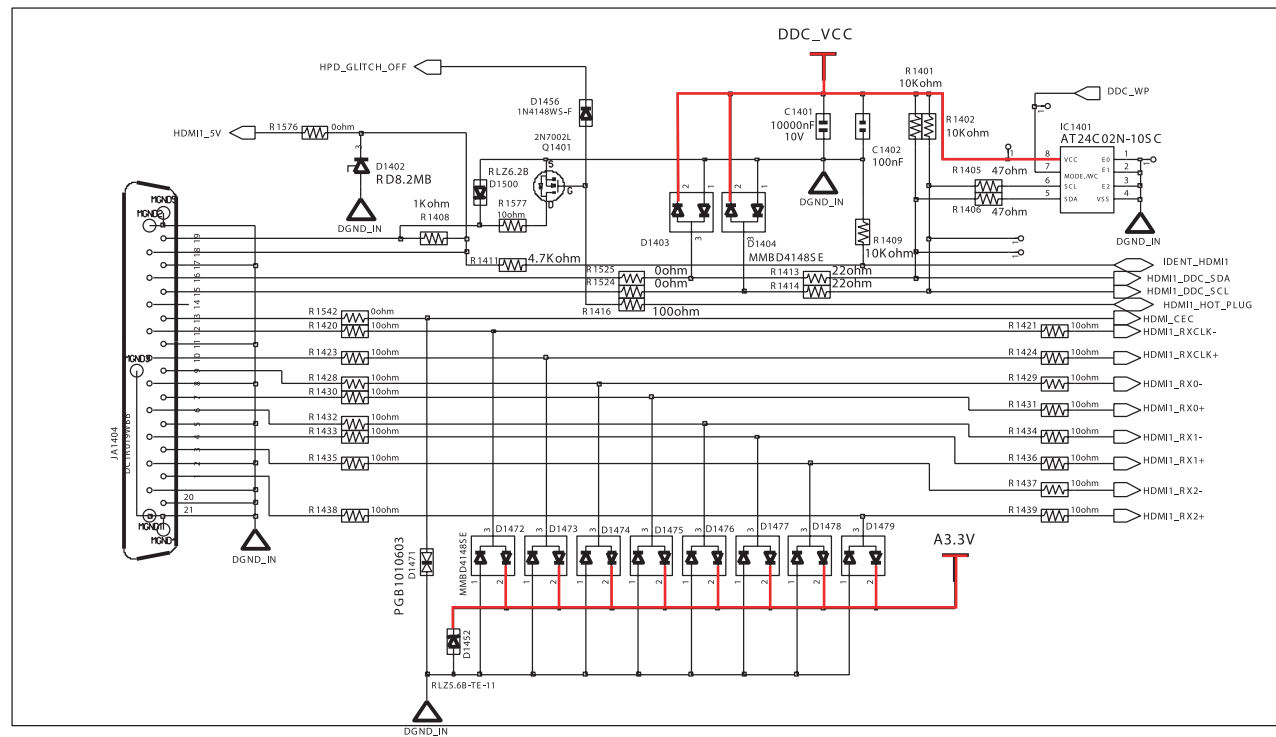


7-2-3 Input & Output Jack I

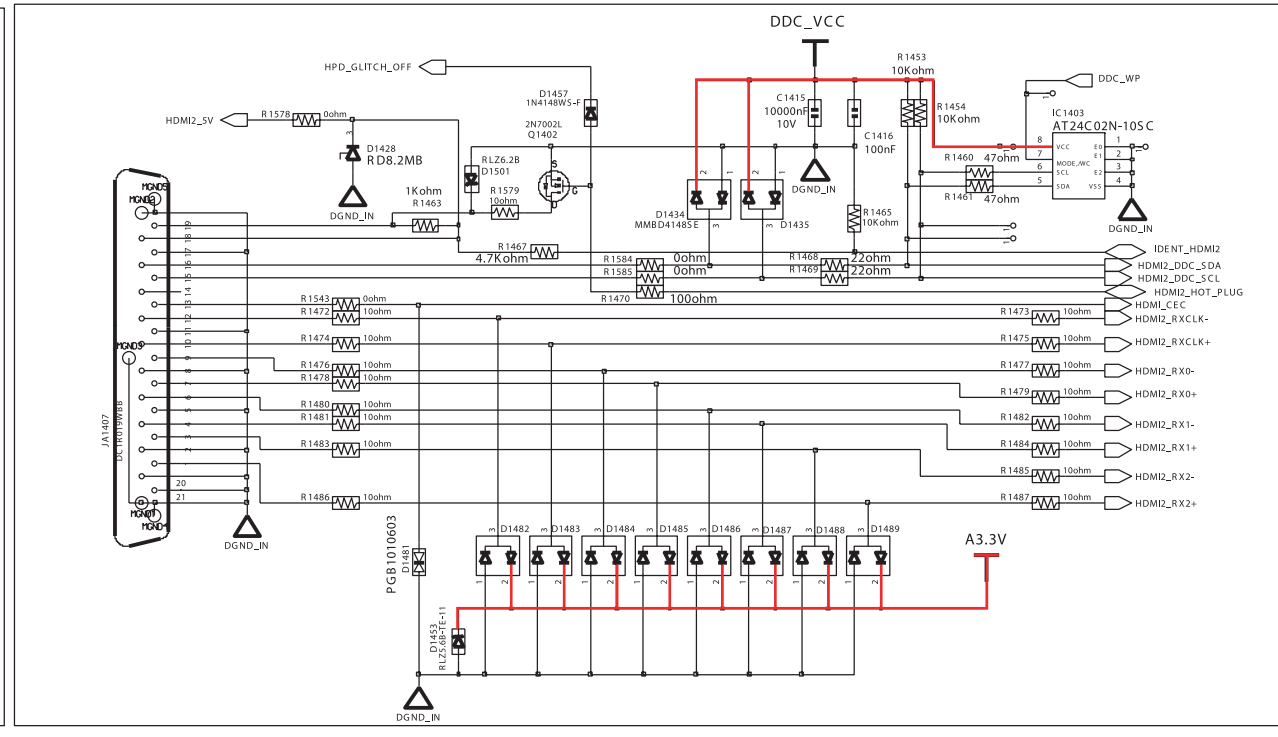
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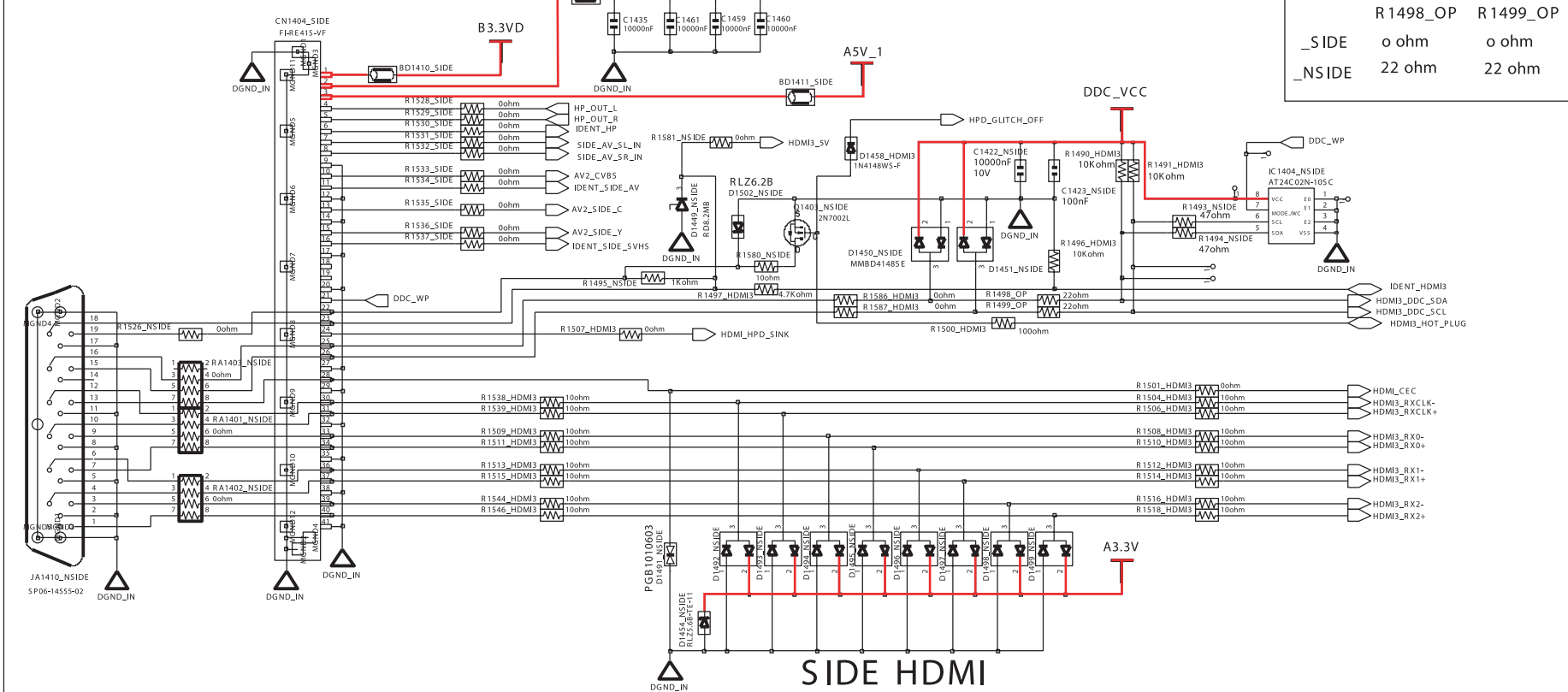
HDMI INPUT 1



HDMI INPUT 2

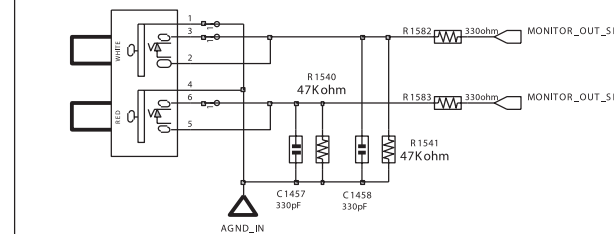


HDMI INPUT 3

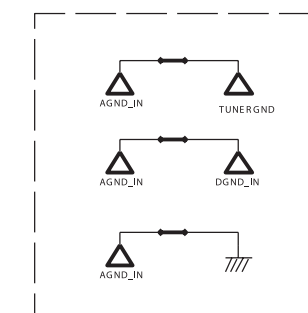
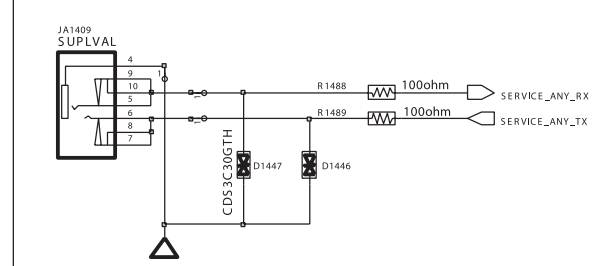


| | | |
|--------|-----------|-----------|
| | R 1498_OP | R 1499_OP |
| _SIDE | o ohm | o ohm |
| _NSIDE | 22 ohm | 22 ohm |

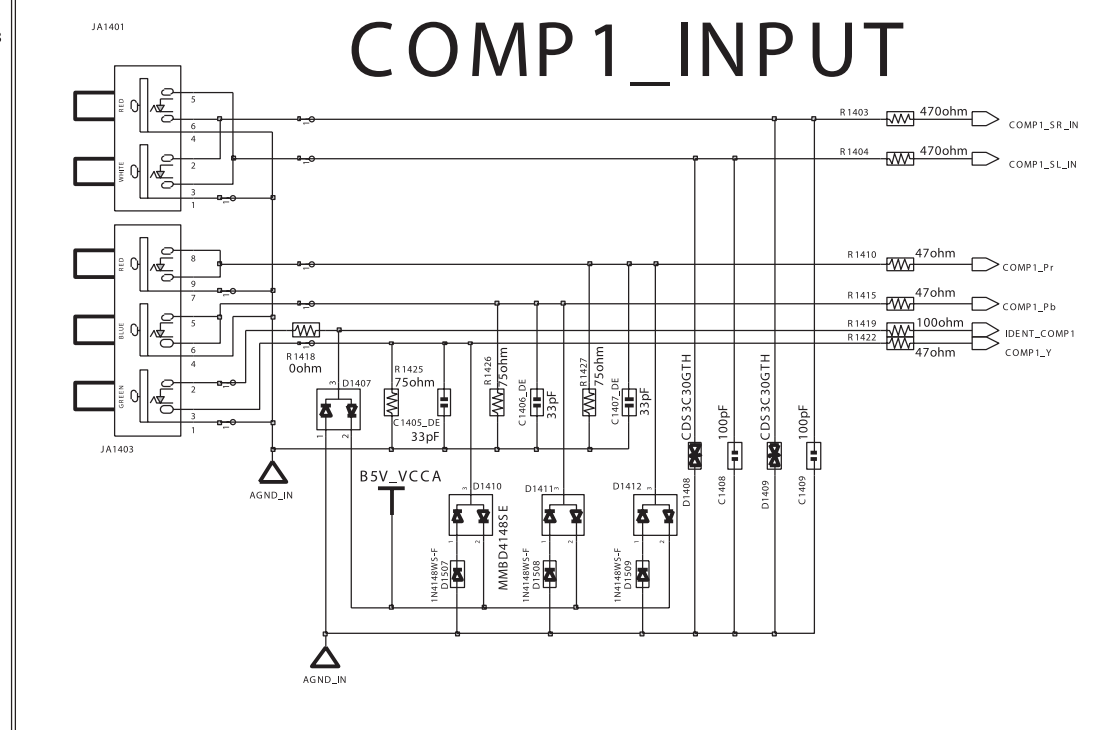
MONITOR OUT



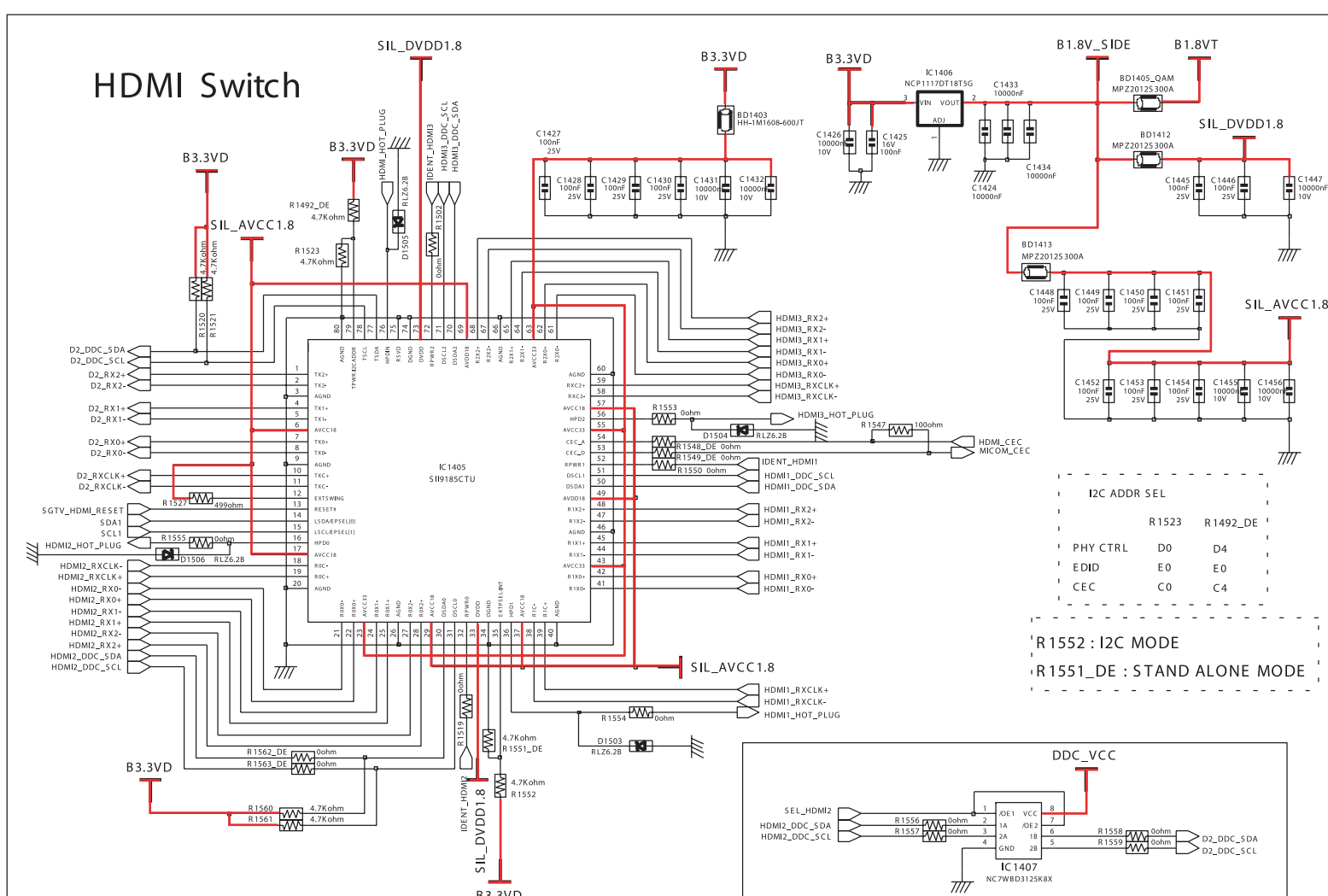
Service_ATV & DTV



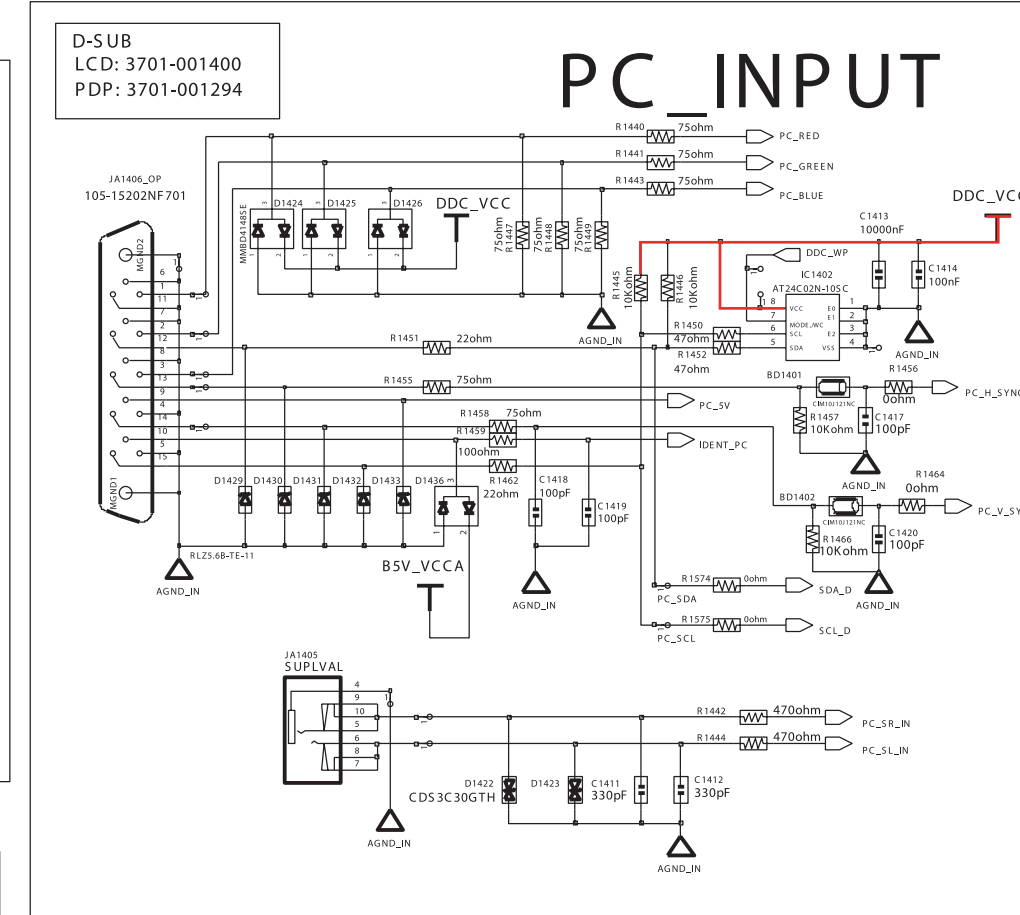
COMP1 INPUT



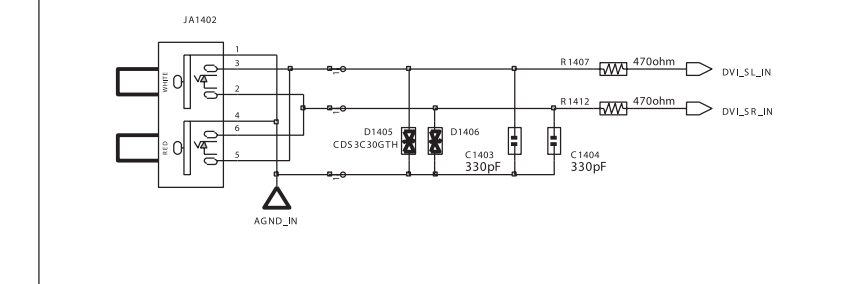
HDMI Switch



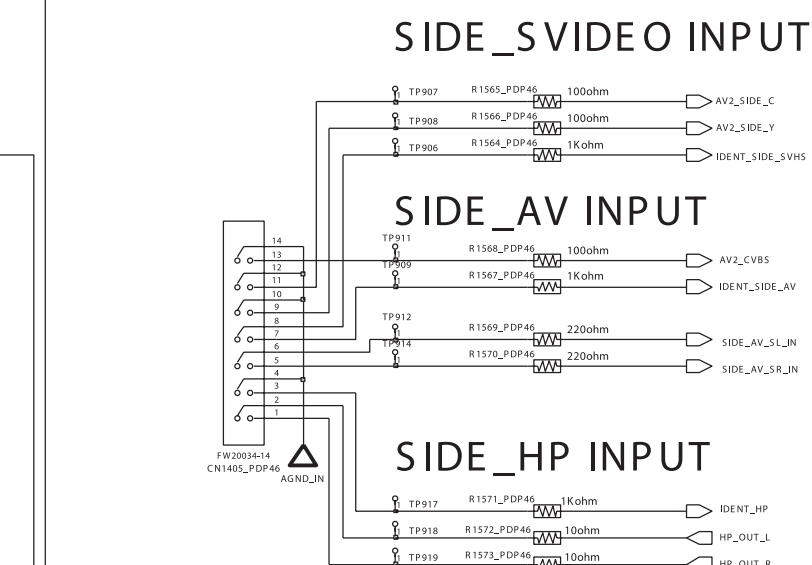
PC_INPUT



DVI SOUND INPUT



PDP_SIDE AV OPTION

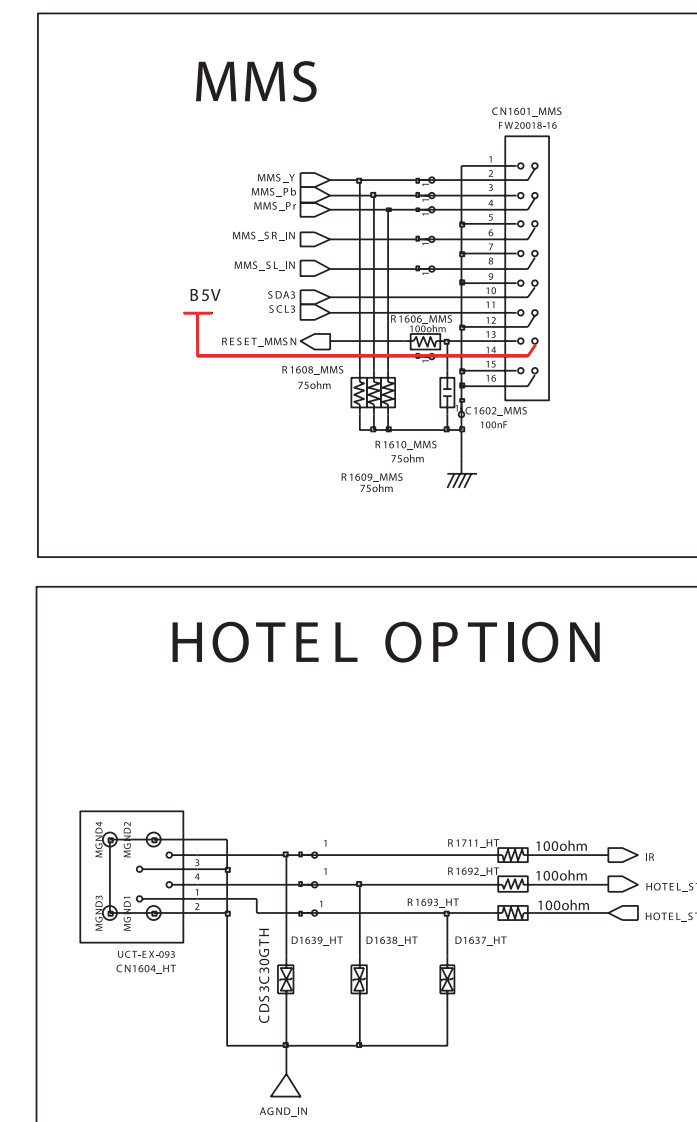
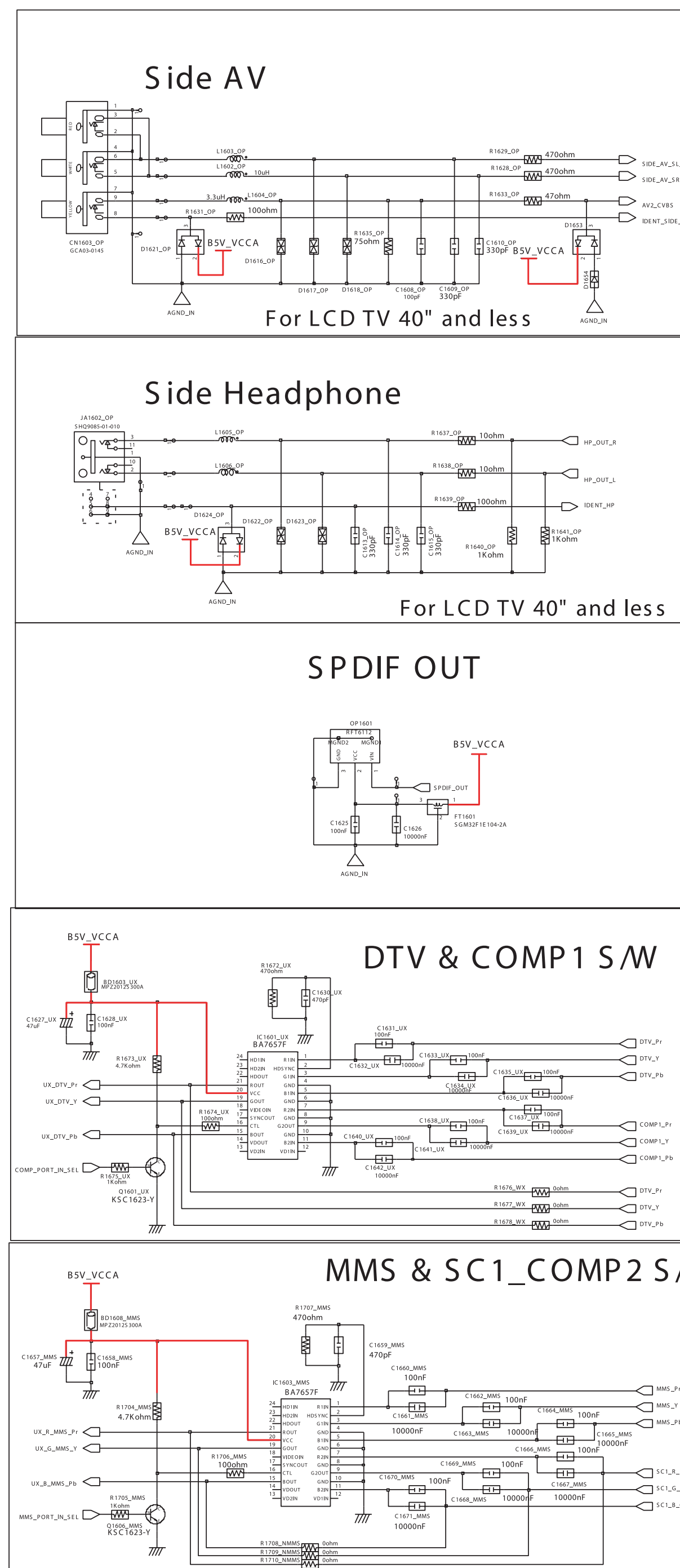
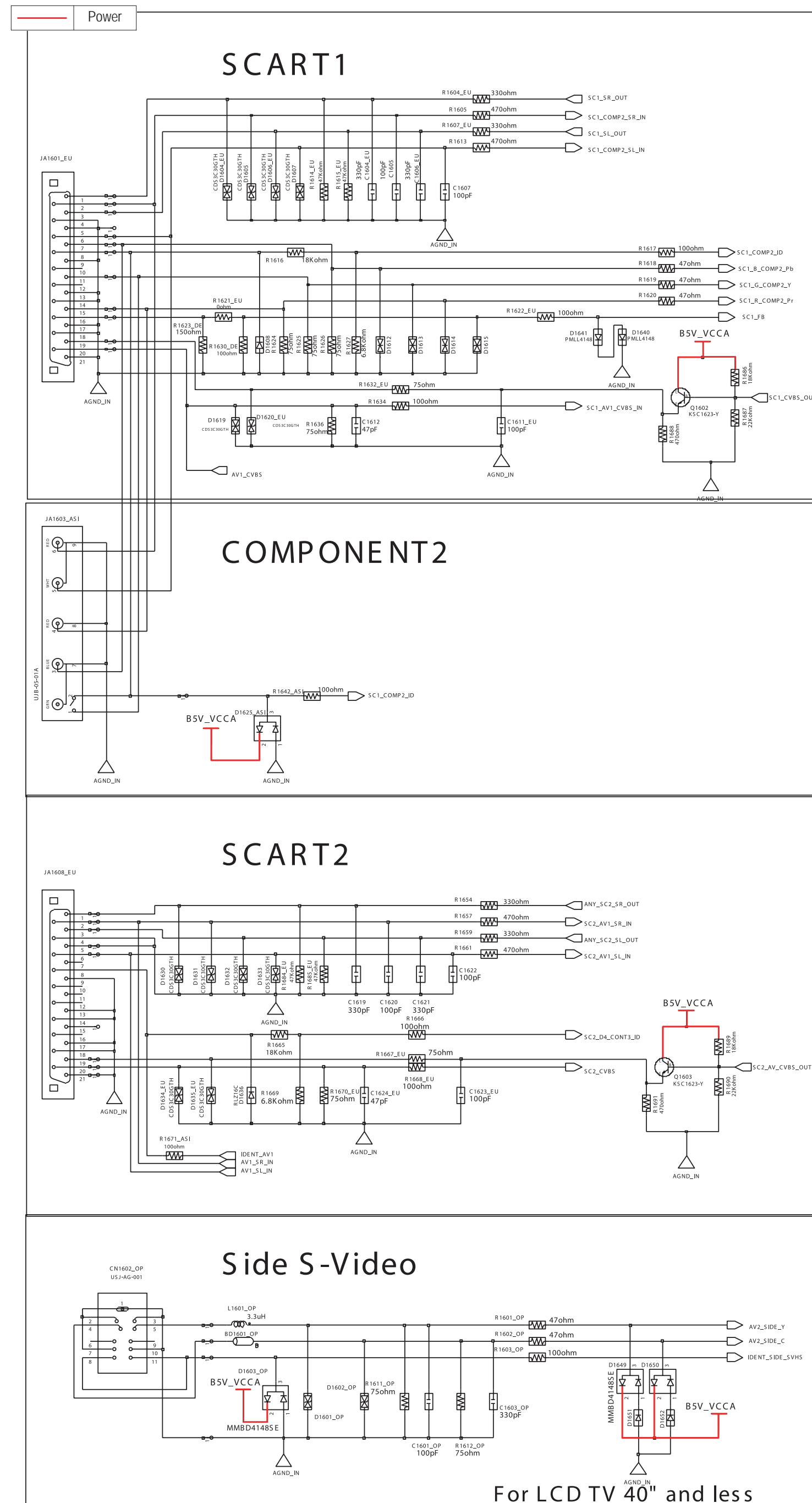


SIDE_AV INPUT

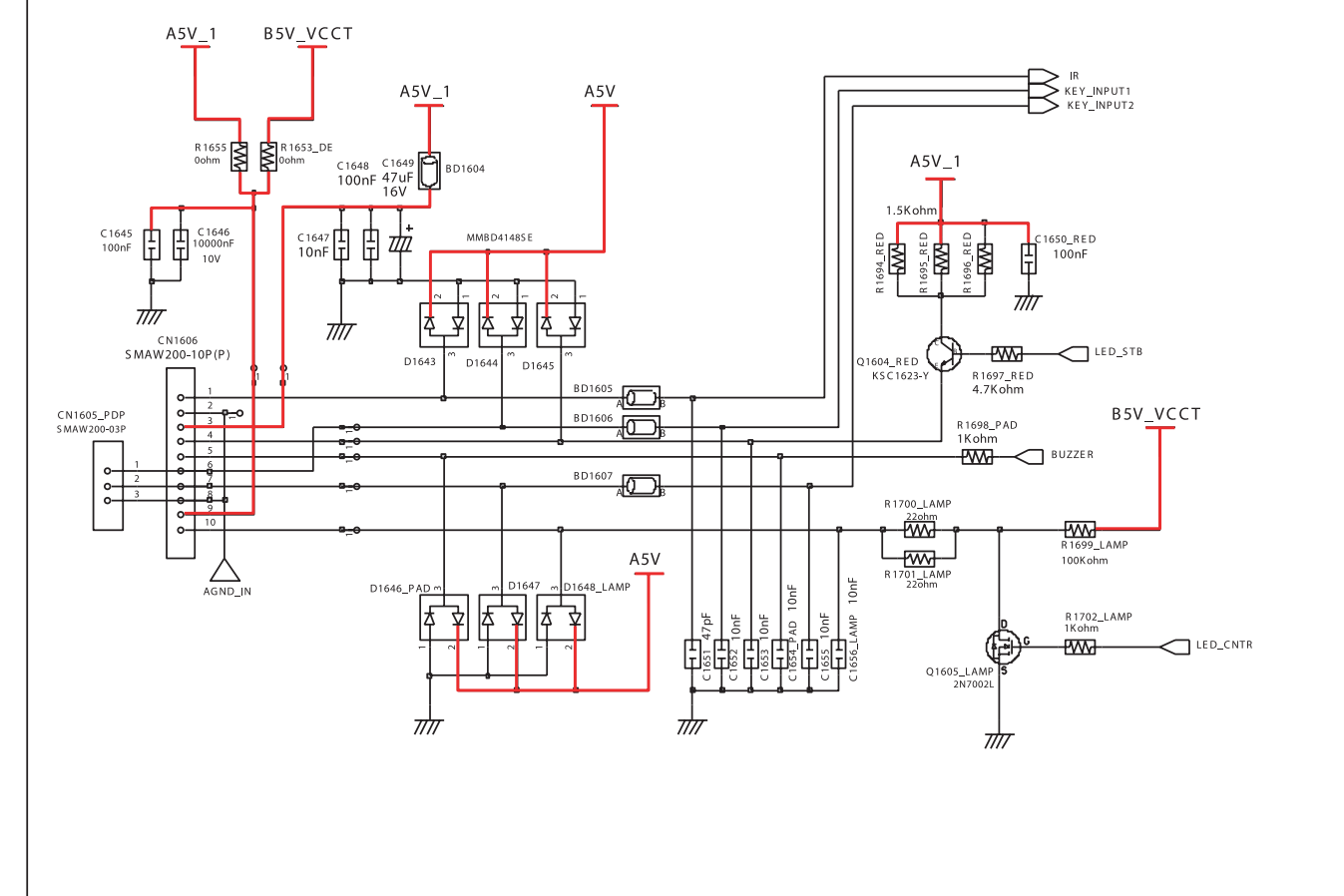
SIDE_HP INPUT

7-2-4 Input & Output Jack II

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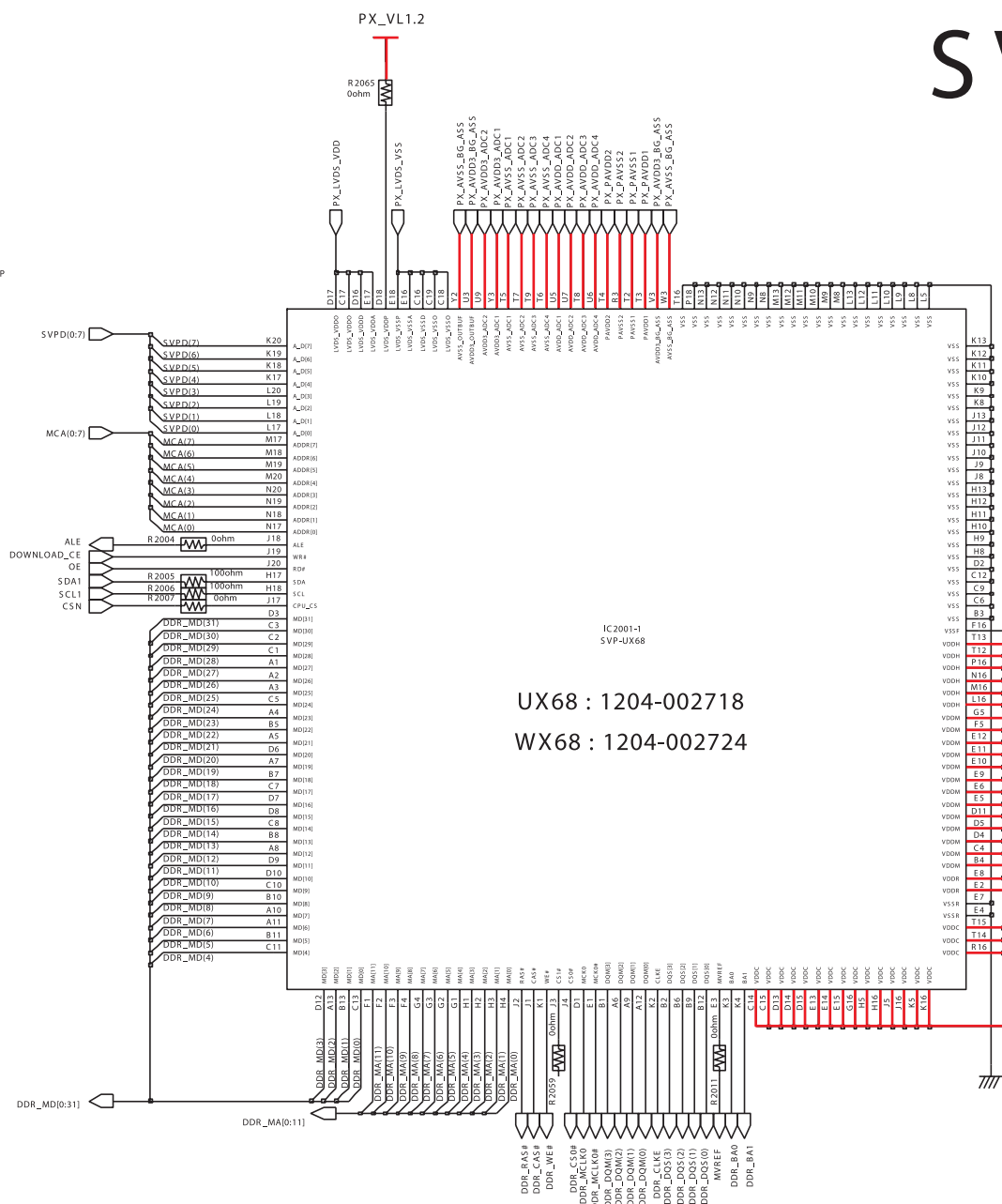
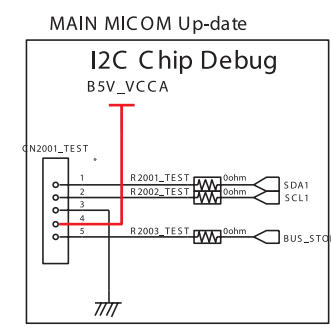
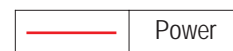


Function

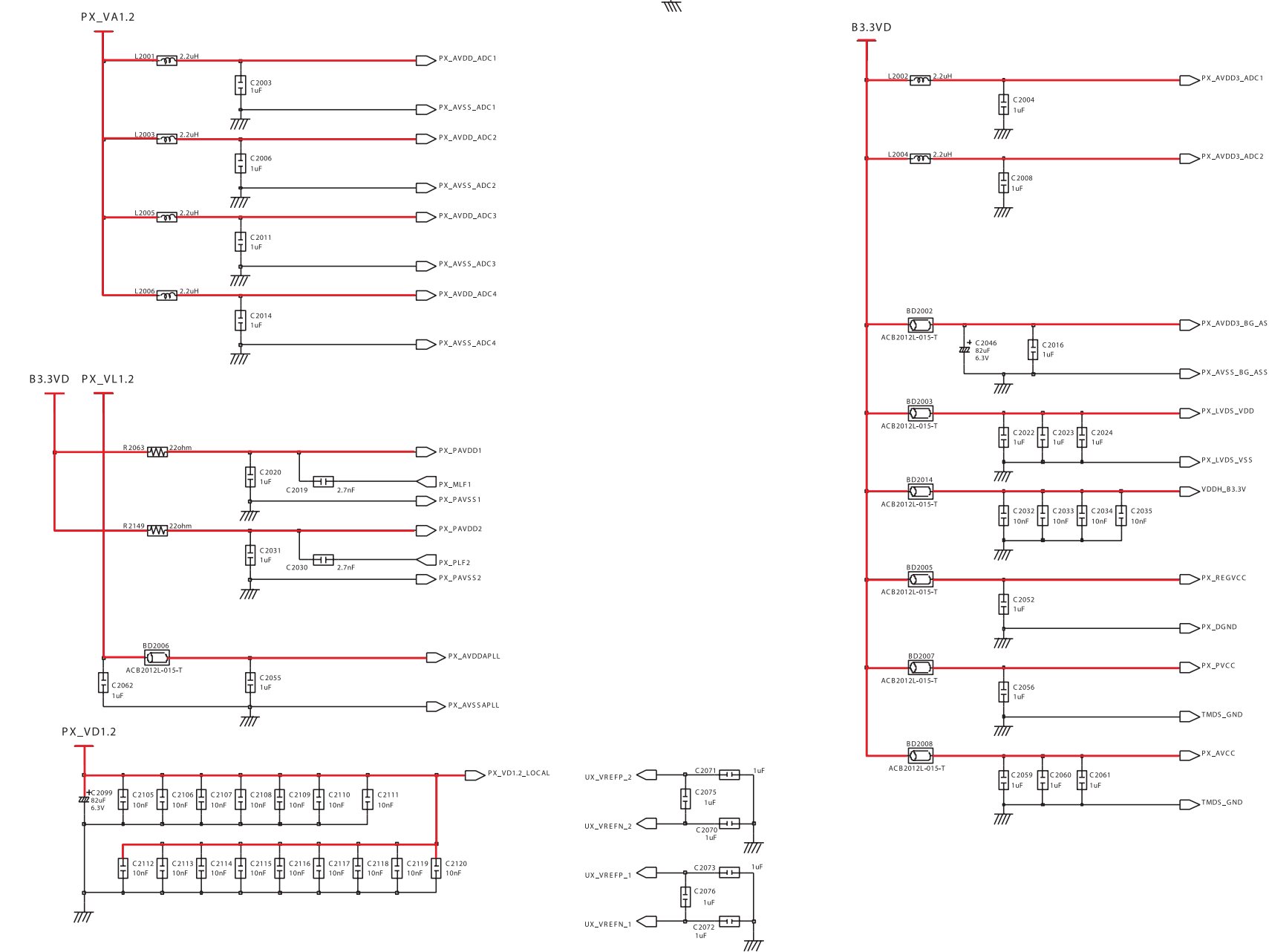
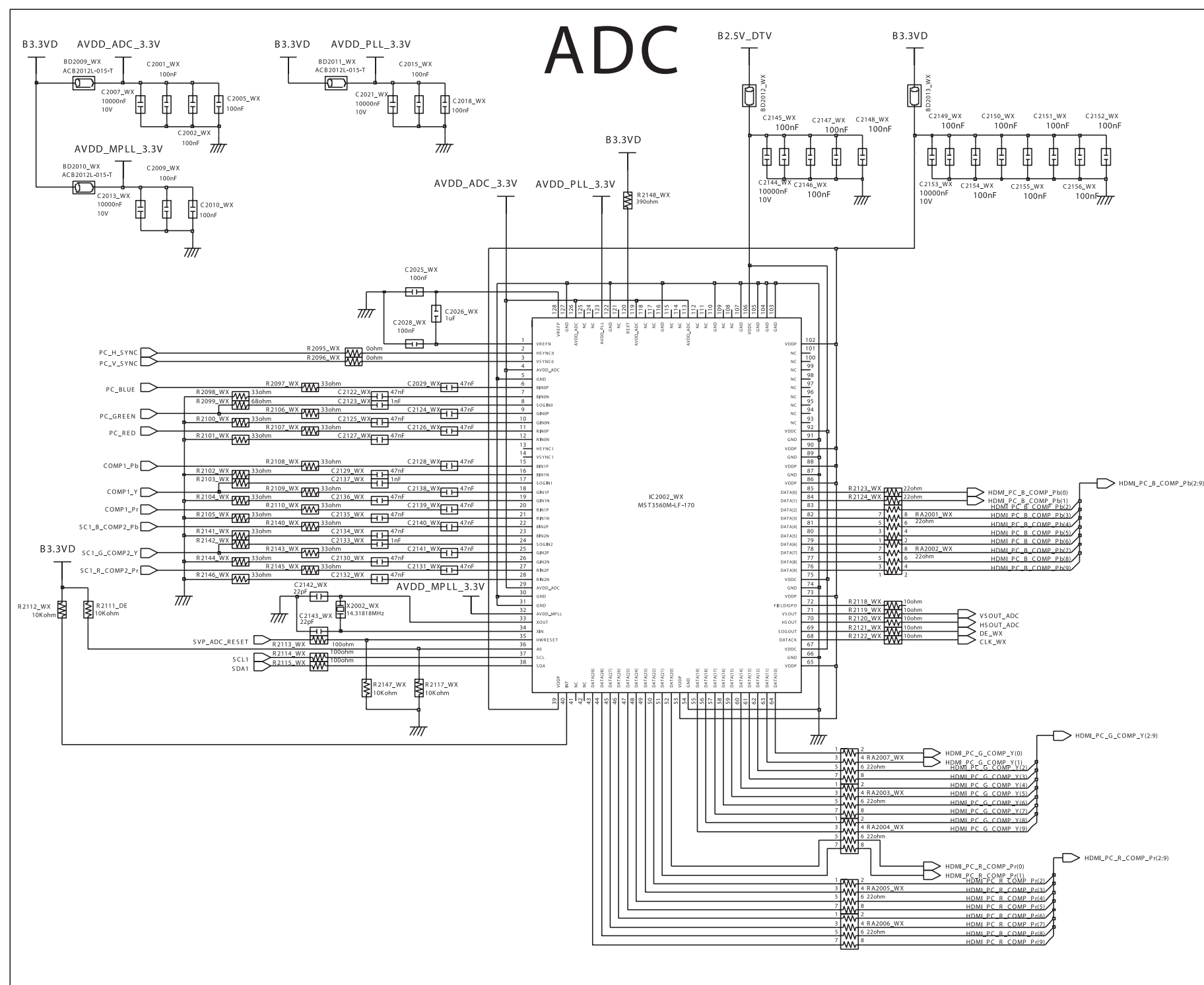
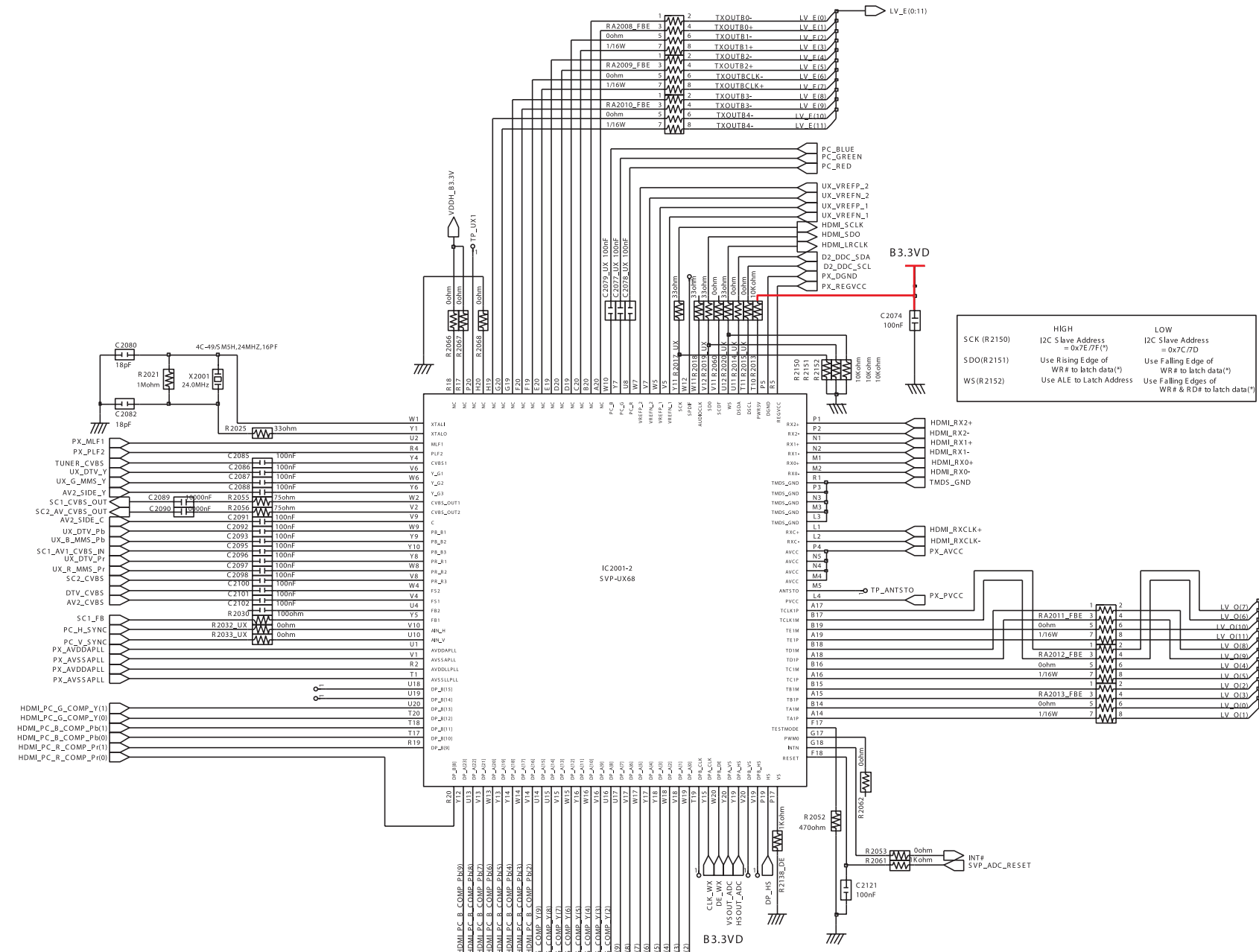


7-2-6 SVP-UX (Scaler)

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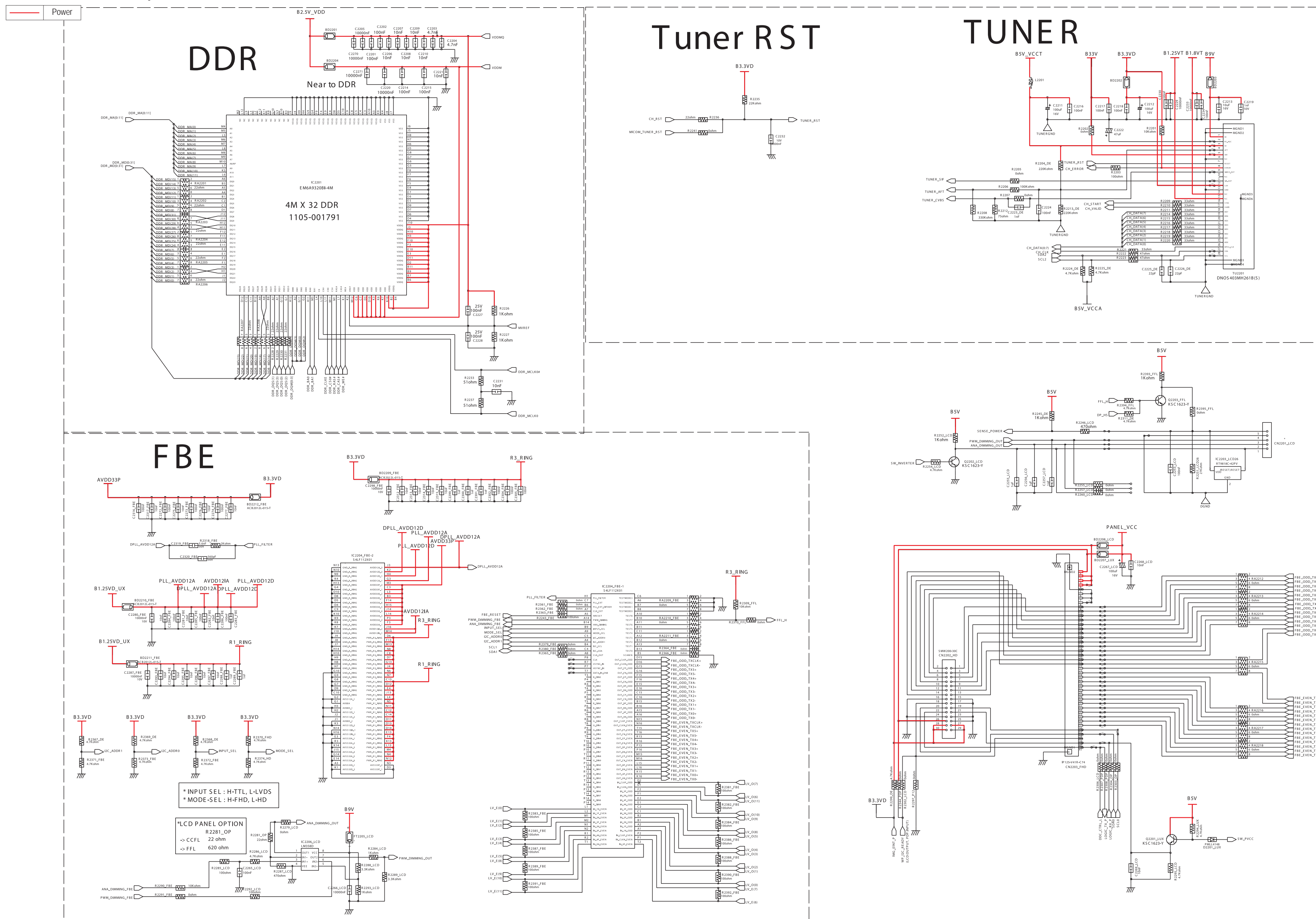


SVP-WX68



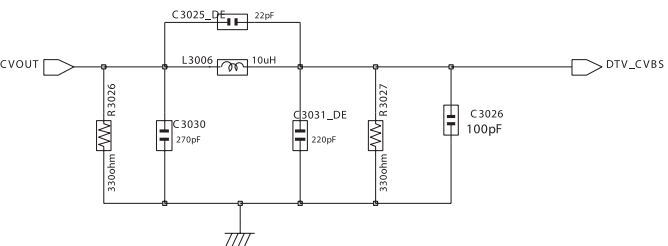
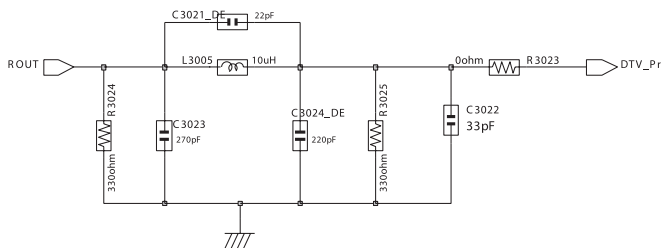
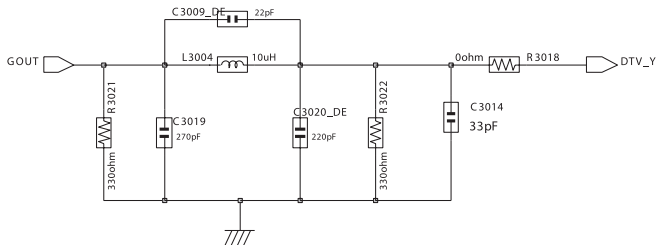
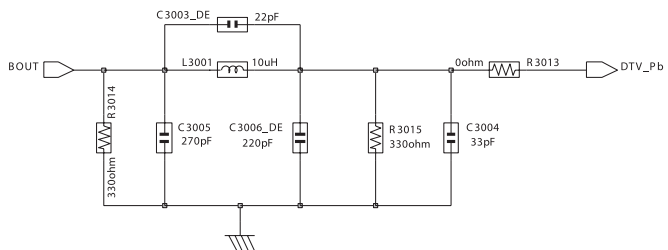
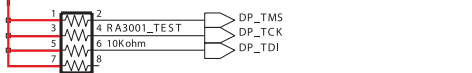
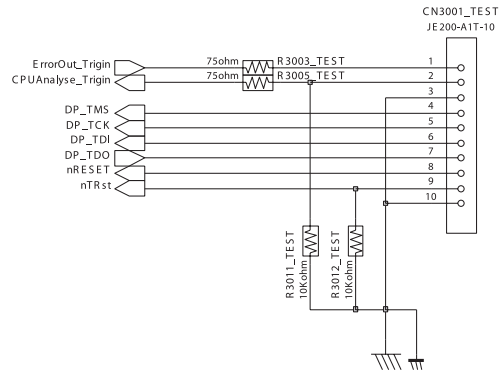
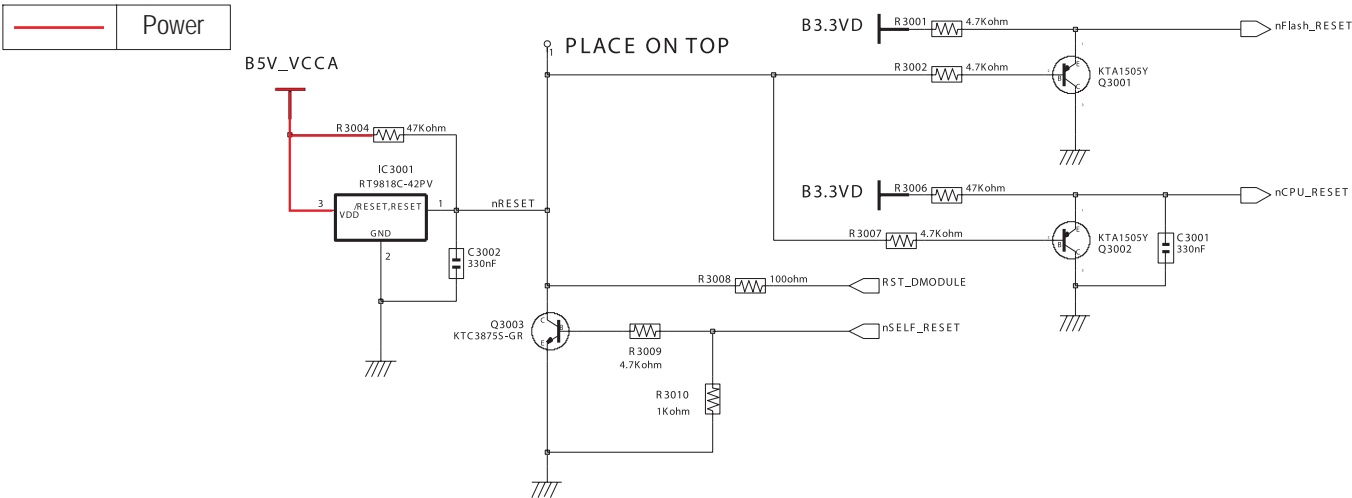
7-2-7 DDR & Tuner

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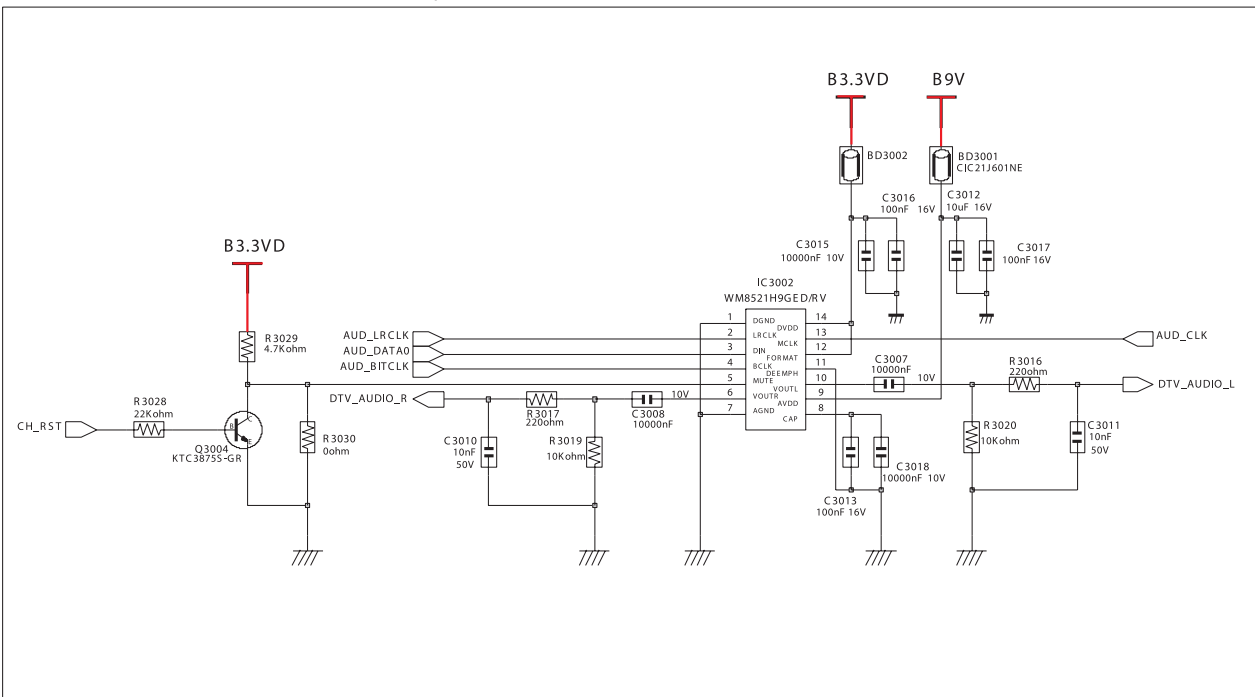


7-2-8 DTV Reset & AV out

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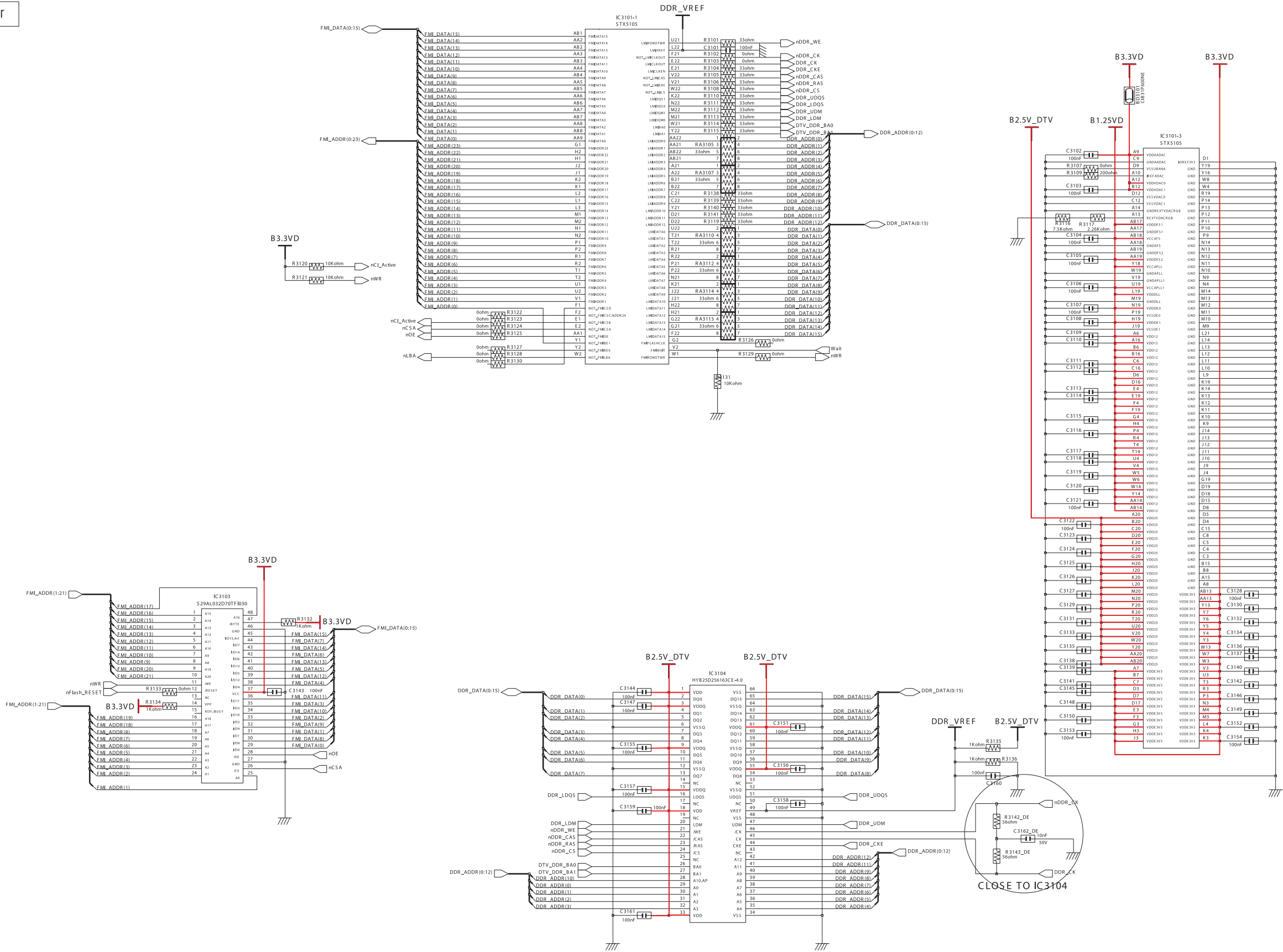


Audio DAC Option



7-2-9 DTV Memory & STi5105

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7-2-10 PCMCIA & STi5105

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