

Service
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Service Manual


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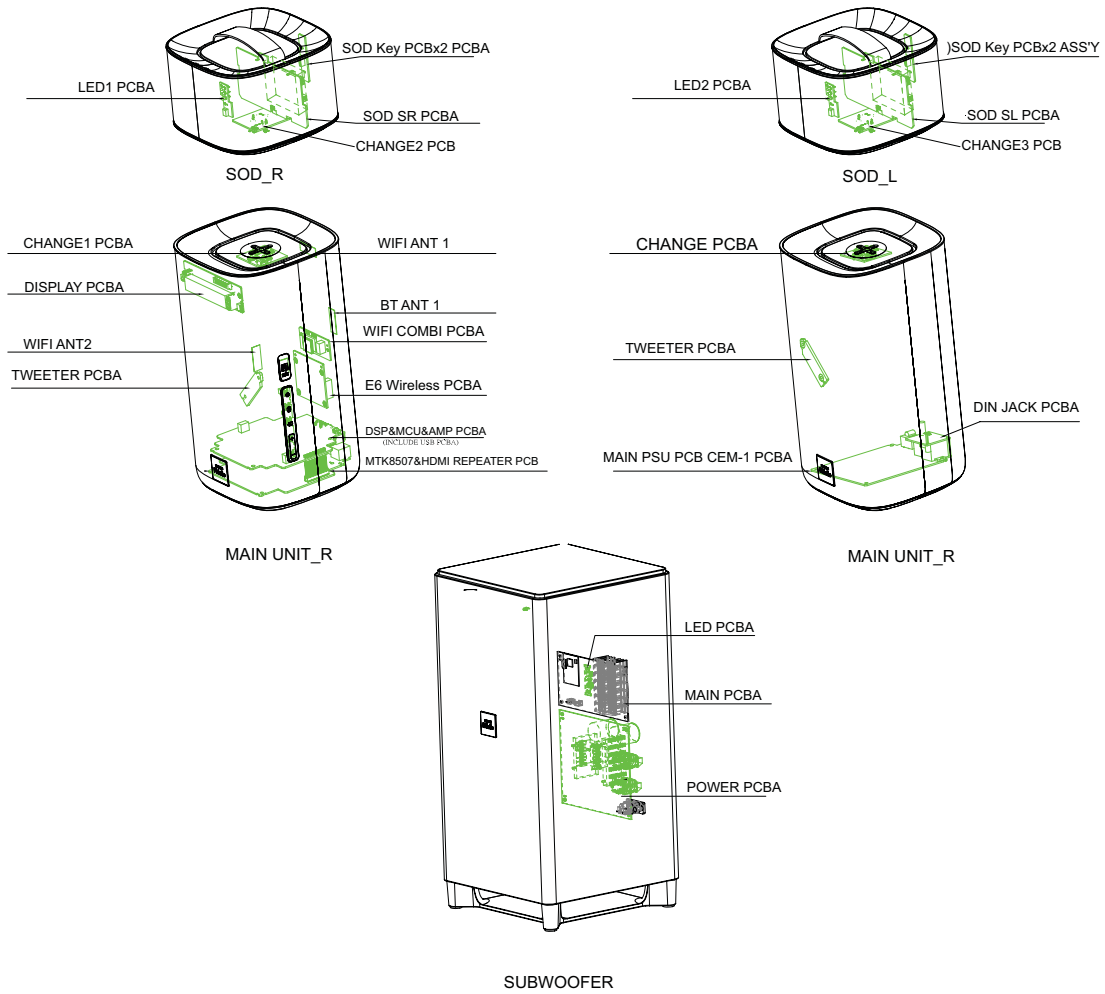
Published by SL_HF1546

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Version 2.0



LOCATION OF PCBA



Reminder: As BT and NFC need to be paired, and BT is under MAIN UNIT PLASTIC R ASS'Y(ABN100829-0009), when any of the BT ,NFC and MAIN UNIT PLASTIC R ASS'Y(ABN100829-0009) need to be replaced, all of this three parts need to replaced together.

VERSIONS VARIATION:

Board in used	Type/Versions	E6
		/12 (WEU/UK/APAC)
CHANGE2 Board (SOD_R)		C&M
SOD SR Board (SOD_R)		C&M
SOD SL Board (SOD_L)		C&M
CHANGE3 Board (SOD_L)		C&M
DIN JACK Board (MAIN UNIT_L)		C&M
MAIN PSU PCB CEM-1 Board (MAIN UNIT_L)		C&M
DSP&MCU& Board (MAIN UNIT_R)		C&M
MTK8507&HDMI REPEATER Board (MAIN UNIT_R)		C&M
USB Board (MAIN UNIT_R)		C&M
MAIN+LED Board(subwoofer)		C&M
POWER Board (subwoofer)		C&M

*M= Module Level Repair *C = Component Level Repair

Technical Specification

Amplifier

- Total output power: 192W RMS (+/- 0.5 dB, 10% THD)
- Frequency response: 20 Hz-20 kHz / ± 3 dB
- Signal-to-noise ratio: > 65 dB (CCIR) / (A-weighted)
- Input sensitivity:
 - AUDIO IN: 500 mV
 - AUX: 1000 mV

Audio

- S/PDIF Digital audio input:
 - Coaxial: IEC 60958-3
 - Optical: TOSLINK

USB

- Compatibility: Hi-Speed USB (2.0)
- Class support: USB Mass Storage Class (MSC)
- File system: FAT16, FAT32, NTFS
- Playable audio files: .aac, .mka, .mp3, .wav, .m4a, .flac, .ogg, .ape, .dsf, .dff

Bluetooth

- Bluetooth profiles: A2DP, AVRCP,
- Bluetooth version: Bluetooth V4.1 with Bluetooth Low Energy

Surround speakers

- Speaker impedance: 8 ohm
- Speaker drivers: 2 x 63.5 mm (2.5") full range
- Dimensions (WxHxD): 161 x 111 x 161 mm
- Weight: 1.0 kg/each

Main unit (left and right base speakers)

- Power supply: 110-240 V~, 50-60 Hz
- Power consumption: 70 W
- Standby power consumption:
 - ECO standby: ≤ 0.5 W
 - Networked standby: < 6 W
- Dimensions (WxHxD): 161 x 302 x 161 mm
- Weight: 2.4 kg/each
- **Built-in speakers**
 - Left/Right channel: 2 x woofer (76.2 mm/3", 8 ohm) + 2 x tweeter (25.4 mm/1", 8 ohm)
 - Center channel: 2 x full-range (76.2 mm/3", 8 ohm)

Subwoofer

- Power supply: 110-240 V~, 50-60 Hz
- Power consumption: 30 W
- Standby power consumption: ≤ 0.5 W
- Impedance: 4 ohm
- Speaker drivers: 1 x 165 mm (6.5") woofer
- Dimensions (WxHxD): 222 x 441 x 222 mm
- Weight: 5.4 kg

Remote control batteries

- 2 x AAA-R03-1.5 V

Standby power management

- When the product remains inactive for 15 minutes, it automatically switches to standby or networked standby.
- To deactivate Bluetooth connection, press and hold the Bluetooth button on the remote control.
- To activate Bluetooth connection, enable Bluetooth connection on your Bluetooth device, or enable Bluetooth connection via the NFC tag (if available).

Safety Instruction

Risk of electric shock or fire!

- Before you make or change any connections, make sure that all devices are disconnected from the power outlet.
- Never expose the product and accessories to rain or water. Never place liquid containers, such as vases, near the product. If liquids are spilt on or into the product, disconnect it from the power outlet immediately. Contact Consumer Care to have the product checked before use.
- Never place the product and accessories near naked flames or other heat sources, including direct sunlight.
- Never insert objects into the ventilation slots or other openings on the product.
- Where the mains plug or an appliance coupler is used as the disconnect device, the disconnect device shall remain readily operable.
- Batteries (battery pack or batteries installed) shall not be exposed to excessive heat such as sunshine, fire or the like.
- Disconnect the product from the power outlet before lightning storms.
- When you disconnect the power cord, always pull the plug, never the cable.

Risk of short circuit or fire!

- For identification and supply ratings, see the type plate at the back or bottom of the product.
- Before you connect the product to the power outlet, ensure that the power voltage matches the value printed on the back or bottom of the product. Never connect the product to the power outlet if the voltage is different.

Risk of injury or damage to this product!

- Never place the product or any objects on power cords or on other electrical equipment.
- If the product is transported in temperatures below 5°C, unpack the product and wait until its temperature matches room temperature before connecting it to the power outlet.
- Parts of this product can be made of glass. Handle with care to avoid injury and damage.

Risk of overheating!

- Never install this product in a confined space. Always leave a space of at least four inches around the product for ventilation. Ensure curtains or other objects never cover the ventilation slots on the product.

Risk of contamination!

- Do not mix batteries (old and new or carbon and alkaline, etc.).
- Danger of explosion if batteries are incorrectly replaced. Replace only with the same or equivalent type.
- Remove batteries if they are exhausted or if the remote control is not to be used for a long time.
- Batteries contain chemical substances, they should be disposed of properly.

Risk of swallowing batteries!

- The product/remote control may contain a coin/button type battery, which can be swallowed. Keep the battery out of reach of children at all times! If swallowed, the battery can cause serious injury or death. Severe internal burns can occur within two hours of ingestion.
- If you suspect that a battery has been swallowed or placed inside any part of the body, seek immediate medical attention.
- When you change the batteries, always keep all new and used batteries out of reach of children. Ensure that the battery compartment is completely secure after you replace the battery.
- If the battery compartment cannot be completely secured, discontinue use of the product. Keep out of reach of children and contact the manufacturer.



This is CLASS II apparatus with double insulation, and no protective earth provided.

Safety Instruction

Care for your product

- Use only microfiber cloth to clean the product, such as removing dust and shedding accumulated on the speaker cloth. Do not use any cleaning solvent to clean the wooden panels and speaker cloth.
- Clean the leather handles with a slightly damp soft cloth which is dipped in a leather cleaning solution, then buff the leather with a dry soft cloth.
- The wooden panels and leather handles may vary on color and grain pattern due to the use of natural materials.

Care of the environment

Disposal of your old product and battery



Your product is designed and manufactured with high quality materials and components, which can be recycled and reused.



This symbol on a product means that the product is covered by European Directive 2012/19/EU.



This symbol means that the product contains a built-in rechargeable battery covered by European Directive 2013/56/EU which cannot be disposed of with normal household waste. We strongly advise you to take your product to an official collection point or a Philips service centre to have a professional remove the rechargeable battery.

Inform yourself about the local separate collection system for electrical and electronic products and rechargeable batteries. Follow local rules and never dispose of the product and rechargeable batteries with normal household waste. Correct disposal of old products and rechargeable batteries helps prevent negative consequences for the environment and human health.

Compliance

C € 0560

This product complies with the radio interference requirements of the European Community.

Hereby, Gibson Innovations declares that this product is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC. You can find the Declaration of Conformity on www.p4c.philips.com.

Software upgrade instruction

1) Restore factory setting

Note: When the factory settings restore is complete, the product automatically switches off and restarts.

Option 1:

- a) Launch Philips "HCWeSet" app on your mobile device.
 - Make sure that you connect this product to the network.
 - Make sure that the surround speakers are connected to the main unit.
- b) Go to the App home page, Then tap ☰ to access the menu options.
- c) Select "My Speakers".
 - The connected devices are listed.
- d) Then select "Factory Reset", and follow the on-screen instructions to finish.


Option 2:

- a) On the right base speaker and the wireless surround speakers respectively, press **RESET** with a pin to reset this product.

2) Check software version

- a) Launch Philips "HCWeSet" app on your mobile device.
 - Make sure that you connect this product to the network.
- b) Go to the App home page then tap to access the menu options.
- c) Select "My Speakers".
 - The connected devices are listed.
- d) Then select "About".
 - The software version number together with other product information is displayed.

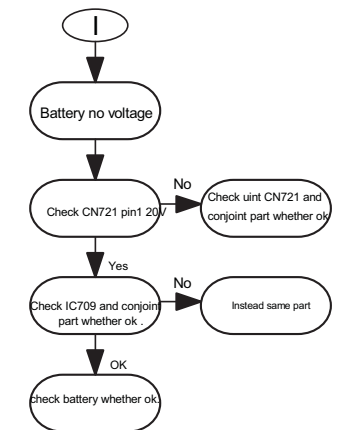
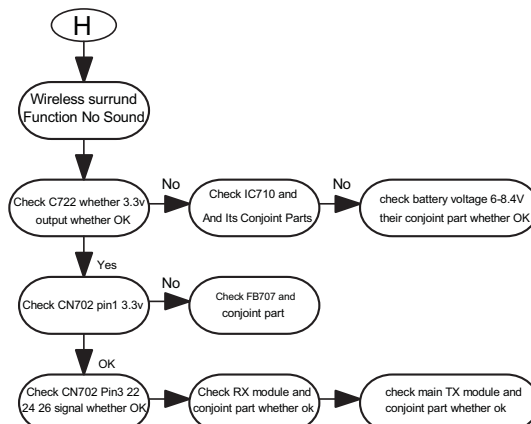
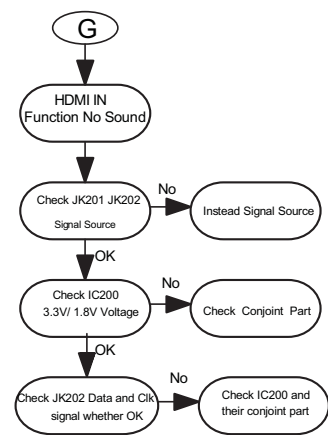
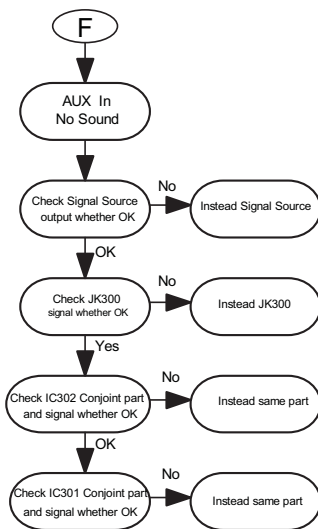
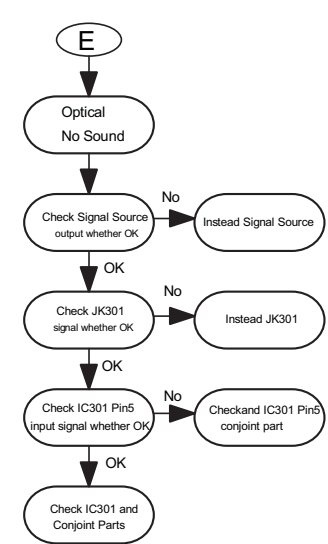
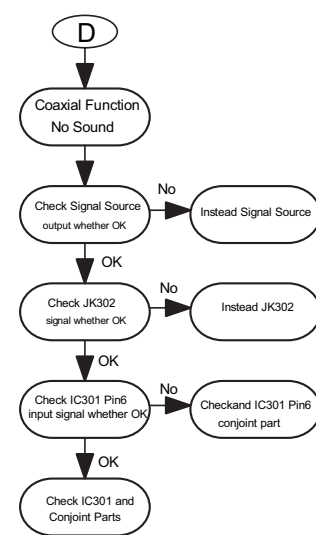
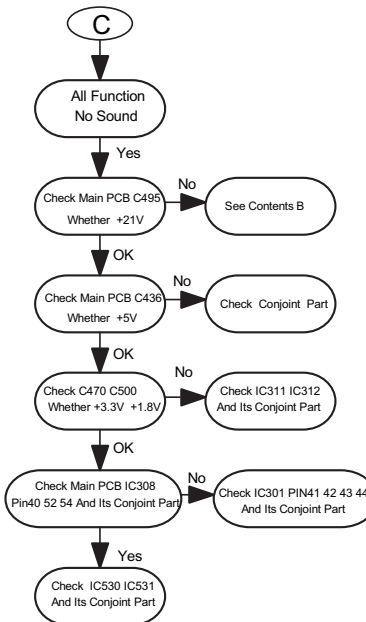
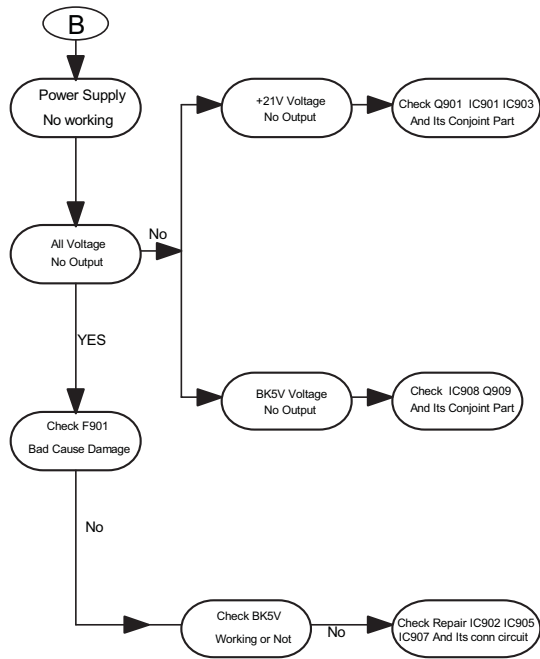
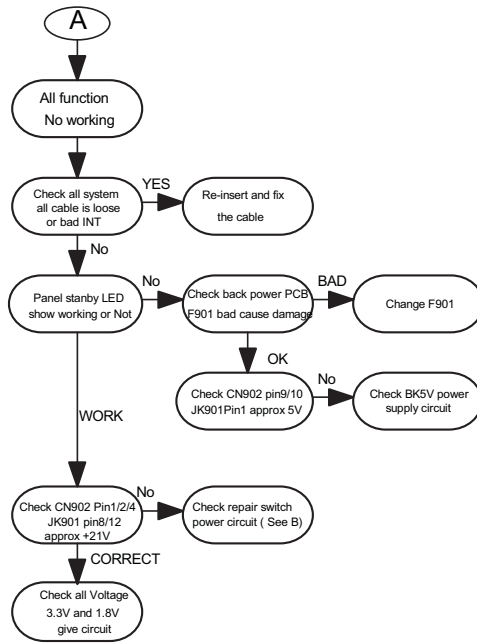
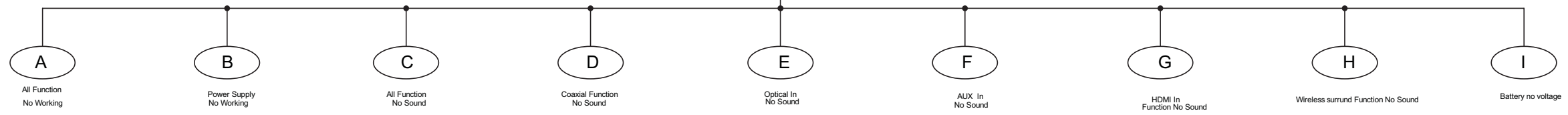
3) Software Upgrade via USB

- a) Check the latest software version on www.philips.com/support.
 - Search for your model and click on "Software and drivers".
- b) Download the software into a USB storage device.
 - Unzip the download if zipped, and make sure that the unzipped file is named "UPG".
 - Put the "UPG" file in the root directory.
- c) Connect the USB storage device to the  (USB) connector on this product.
- d) Launch Philips "HCWeSet" app on your mobile device.
 - Make sure that you connect this product to the network.
- e) Go to the App home page.
- f) Tap ☰ to access the menu options.
- g) Select "My Speakers".
 - The connected devices are listed.
- h) Select the name of this product, then select "Software Update" > "USB".
- i) Follow the on-screen instructions to complete the update.
 - During upgrade, "UPGRADE" (upgrade) is displayed on the display panel.
 - If the update is complete, this product automatically turns off and on again.
 - If the update fails, the orange LED on the right base speaker blinks continuously.

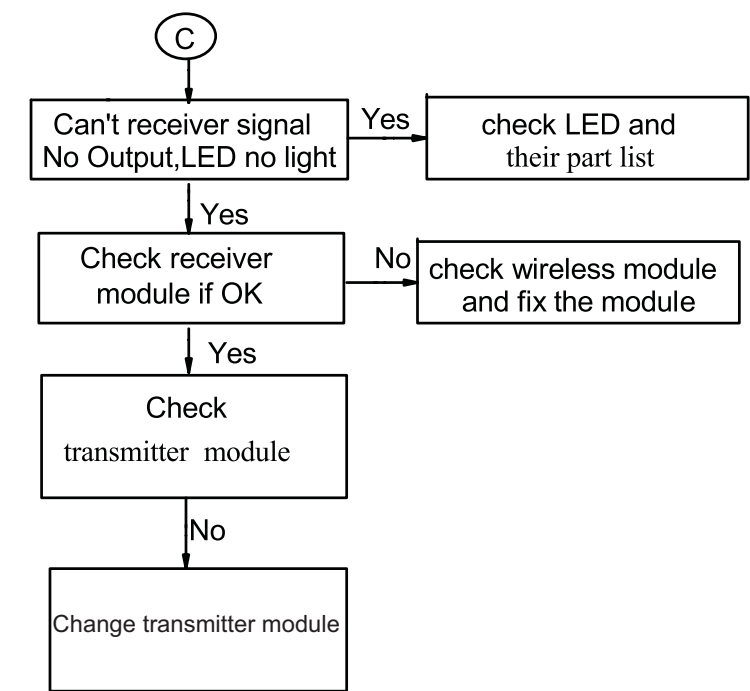
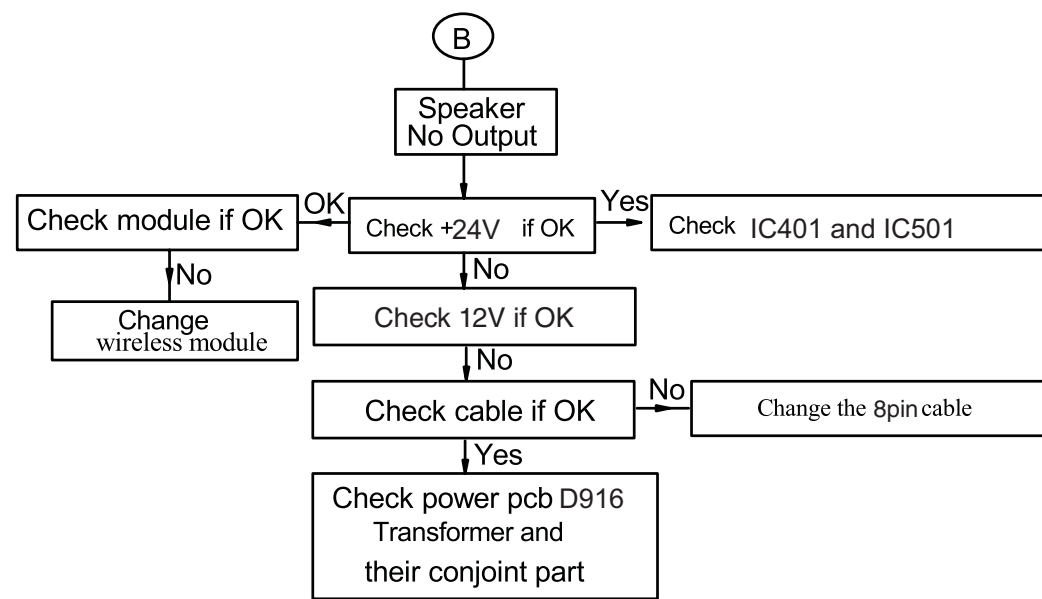
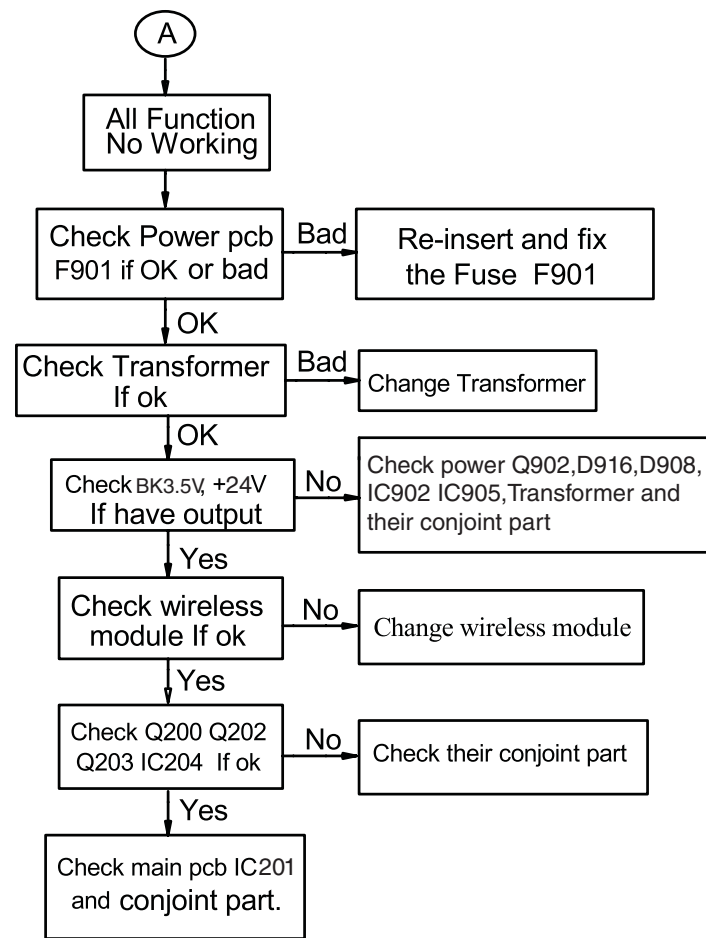
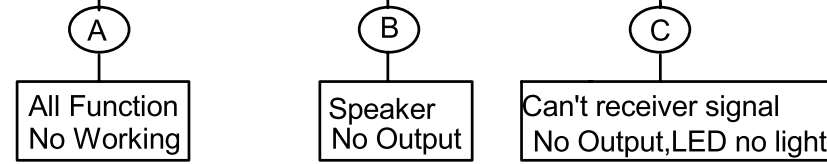
4) Software Upgrade via internet

- a) Launch Philips "HCWeSet" app on your mobile device.
 - Make sure that you connect this product to the network.
- b) Go to the App home page, then tap ☰ to access the menu options.
- c) Select "My Speakers".
 - The connected devices are listed.
- d) Select the name of this product, then select "Software Update" > "Network".
- e) Follow the on-screen instructions to complete the update.
 - During upgrade, "UPGRADE" (upgrade) is displayed on the display panel.
 - If the update is complete, this product automatically turns off and on again.
 - If the update fails, the orange LED on the right base speaker blinks continuously.

E6 Main REPAIR CHART



SUBWOOFER REPAIR CHART



Note: In some service positions the components or copper patterns of one board may risk touching its neighbouring pc boards or metallic parts. To prevent such short-circuit use a piece of hard paper or other insulating material between them.

DISASSEMBLY INSTRUCTIONS (SOD L/R)

Dismantling of the bottom cover assembly

- 1) First remove the rubber foot on the bottom cover as shown in figure 1.
- 2) Loosen 4 screws "A1" to remove the bottom cover as shown in figure 2.



Figure 1

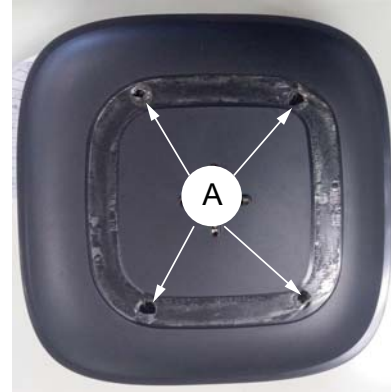


Figure 2

Dismantling of SOD SL / SOD SR BOARD

- 1) Loosen 2 screws "B" on the top of SOD SL / SOD SR PCB as shown in figure 3.

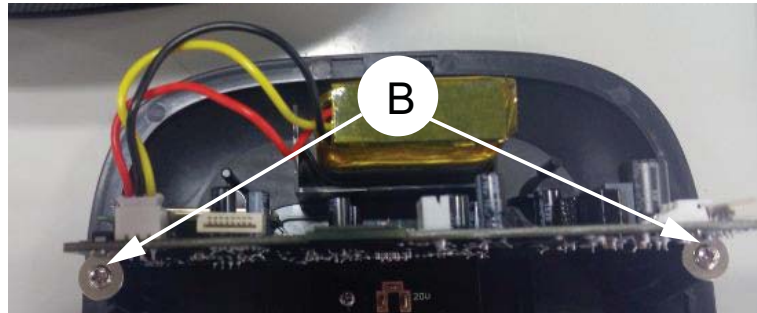


Figure 3

Dismantling of the CHANGE3 / CHANGE2 board

- 1) Loosen 2 screws "C" to remove CHANGE3 / CHANGE2 board as shown in figure 4.

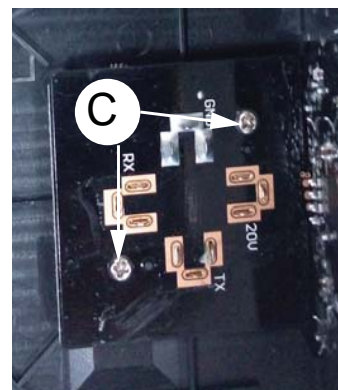


Figure 4

Dismantling of the TOP cover Ass'y

- 1) Loosen 4 screws "D" as shown in figure 5 to remove the top cover Ass'y .

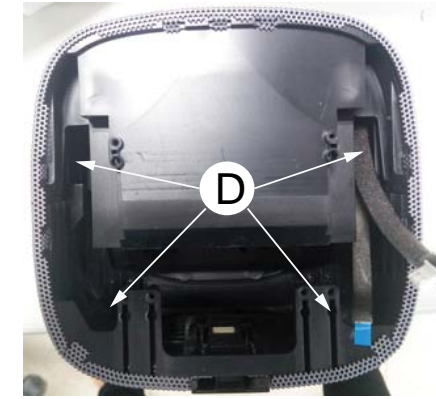


Figure 5

Dismantling of the SOD REAR STRIPE L / SOD REAR STRIPE R ASS'Y

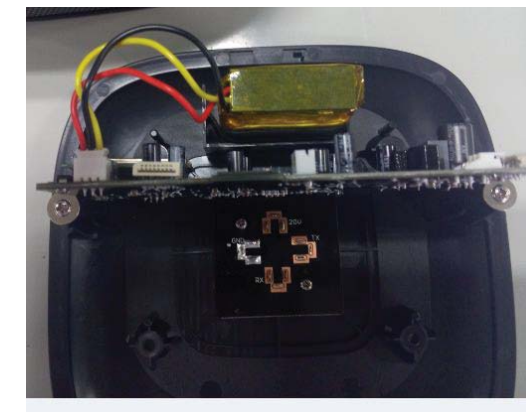
- 1) Along the direction of arrow pressure, with both hands to remove the SOD REAR STRIPE L / SOD REAR STRIPE R ASS'Y as shown in figure 6.



Figure 6

SERVICE POSITIONS (SODL/SODR)

Service Position A_SOD SL /SR Board & CHANGE 3 /CHANGE 2 Board



DISASSEMBLY INSTRUCTIONS (Main Unit R)

Dismantling of bottom cover assembly

- 1) First remove the rubber foot at the bottom cover ,then Loosen 4 screws "E" as shown in figure 7.
- 2) Loosen 2 screws "F" as shown in figure 8 to remove the bottom cover assembly.

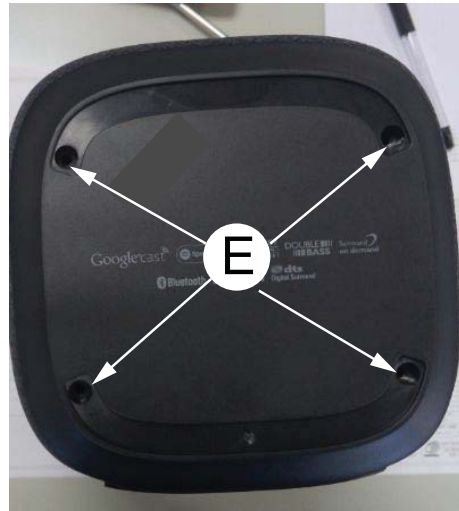


Figure 7

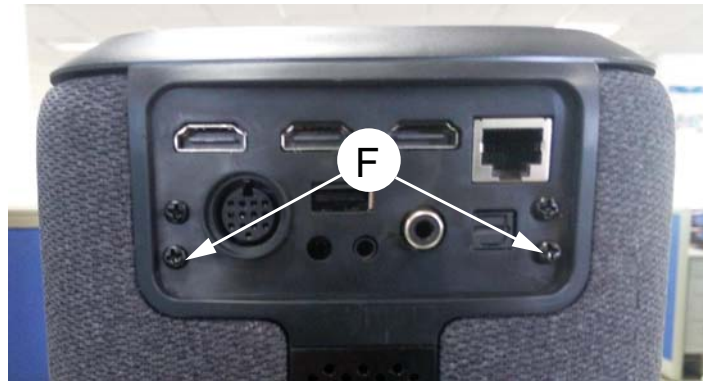


Figure 8

Dismantling of DSP&MCU& Boards

- 1) Loosen 4 screws "G" on the top of DSP & MCU & AMP Board as shown in figure 9.
- 2) Loosen 2 screws "H" at the bottom cover as shown in figure 10.

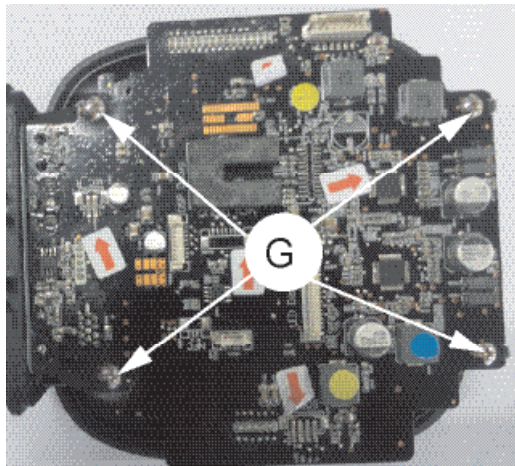


Figure 9

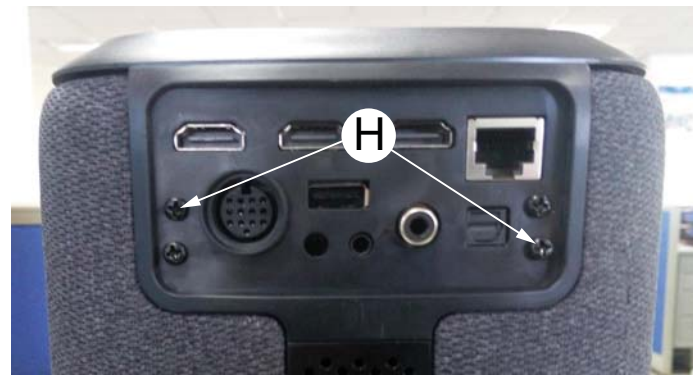


Figure 10

Dismantling of MTK8507&HDMI REPEATER Boards

- 1) Loosen 4 screws "I" on the top of MTK8507&HDMI REPEATER Boards as shown figure 11.

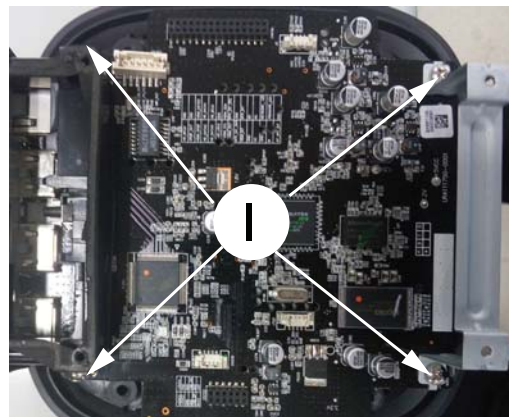


Figure 11

DISASSEMBLY INSTRUCTIONS (Main Unit L)

Dismantling of bottom cover assembly

- 1) First remove the rubber foot at the bottom cover ,then Loosen 4 screws "J" as shown in figure 12.
- 2) Loosen 2 screws "K" as shown in figure 13 to remove the bottom cover assembly.

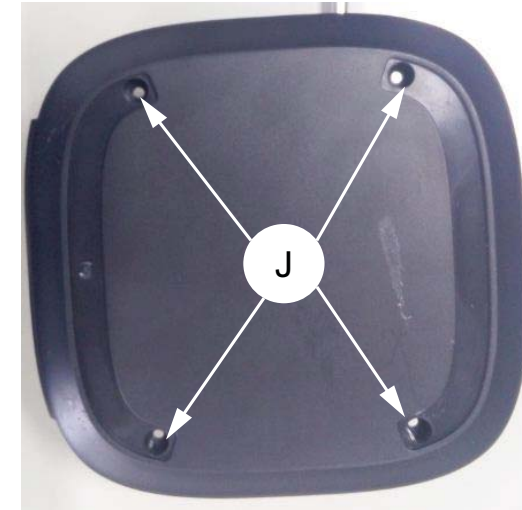


Figure 12

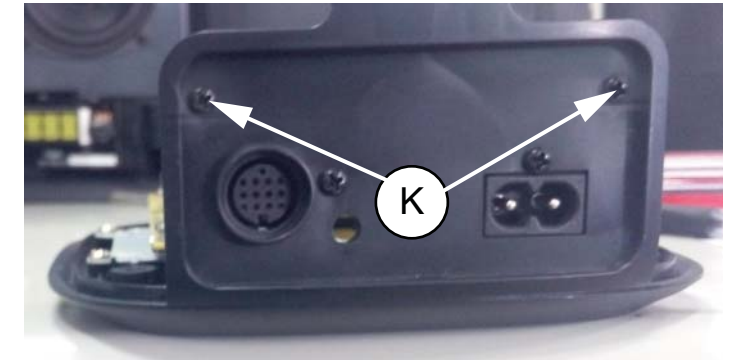


Figure 13

Dismantling of DIN JACK Boards

- 1) Loosen 2 screws "M" on the DIN JACK Board as shown in figure 14.

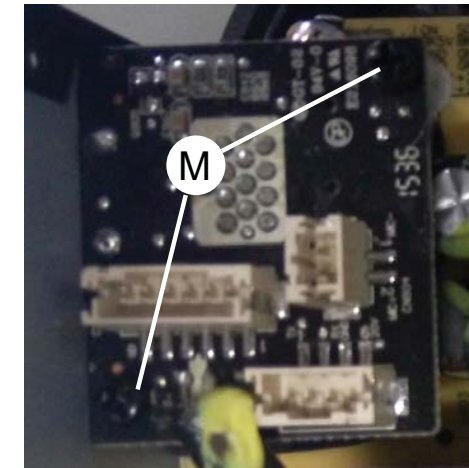


Figure 14

Dismantling of MAIN PSU CEM-1 Boards

- 1) Loosen 4 screws "O" on the MAIN PSU CEM-1 Board as shown in figure 15.

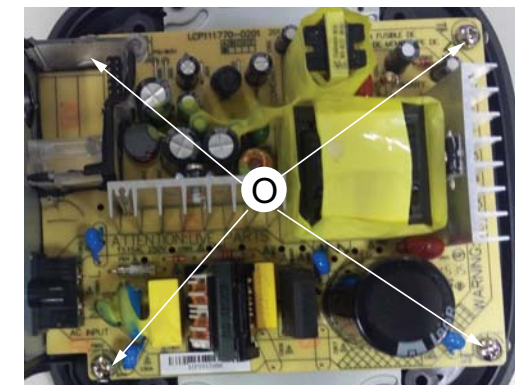


Figure 15

DISASSEMBLY INSTRUCTIONS (Subwoofer)

Dismantling of the back panel assembly

1) Loosen 8 screws "SA" at the back panel as shown in figure W1 to remove the back panel assembly.



Figure W1

Dismantling of the Power Boards

1) Loosen 4 screws "SB" on the top of Power Board as shown in figure W2 to remove Power board.

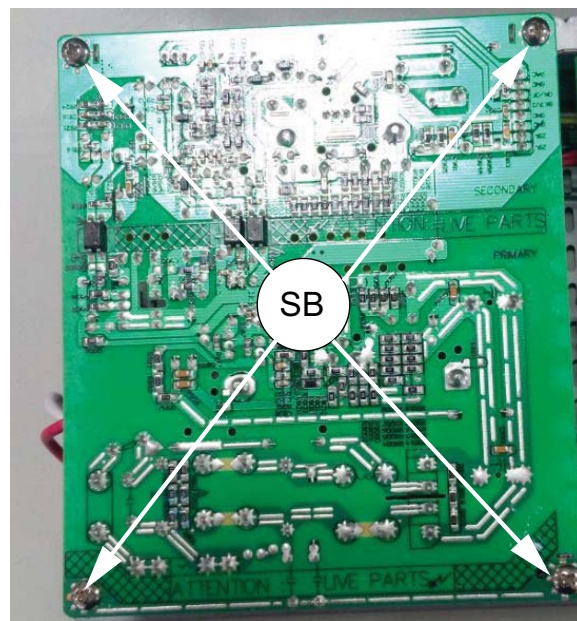


Figure W2

Dismantling of the MAIN Boards

1) Loosen 4 screws "SC" on the top of Main Board as shown in figure W3 to remove the Main board.

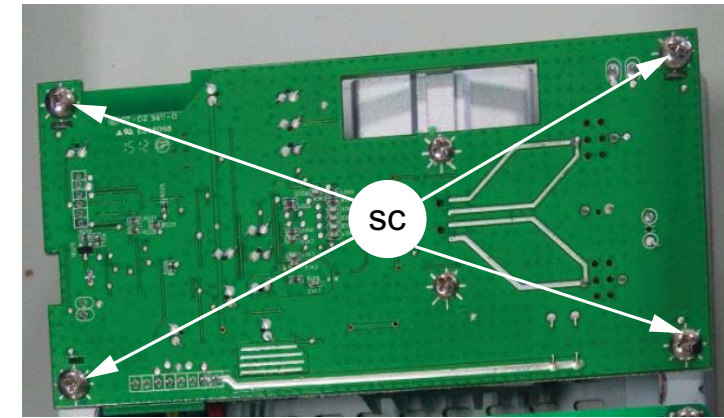


Figure W3

Dismantling of the LED Boards

1) Loosen 2 screws "SD" on the top of LED Board as shown in figure W4 to remove the LED board.

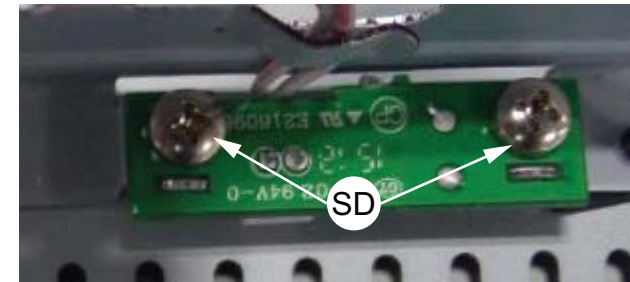
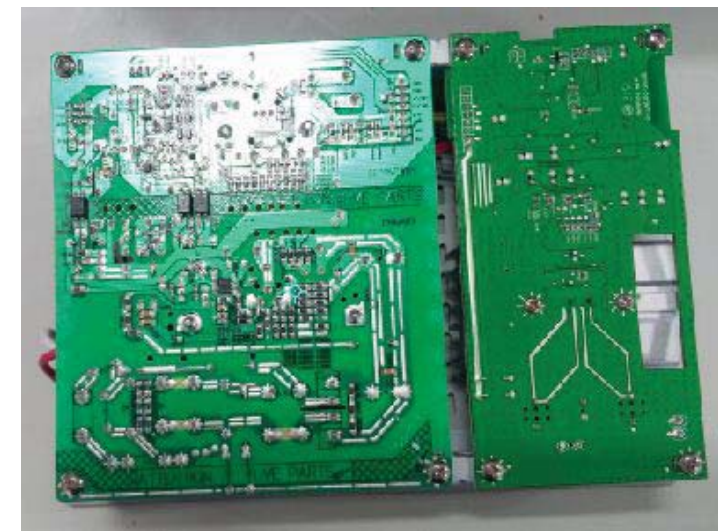
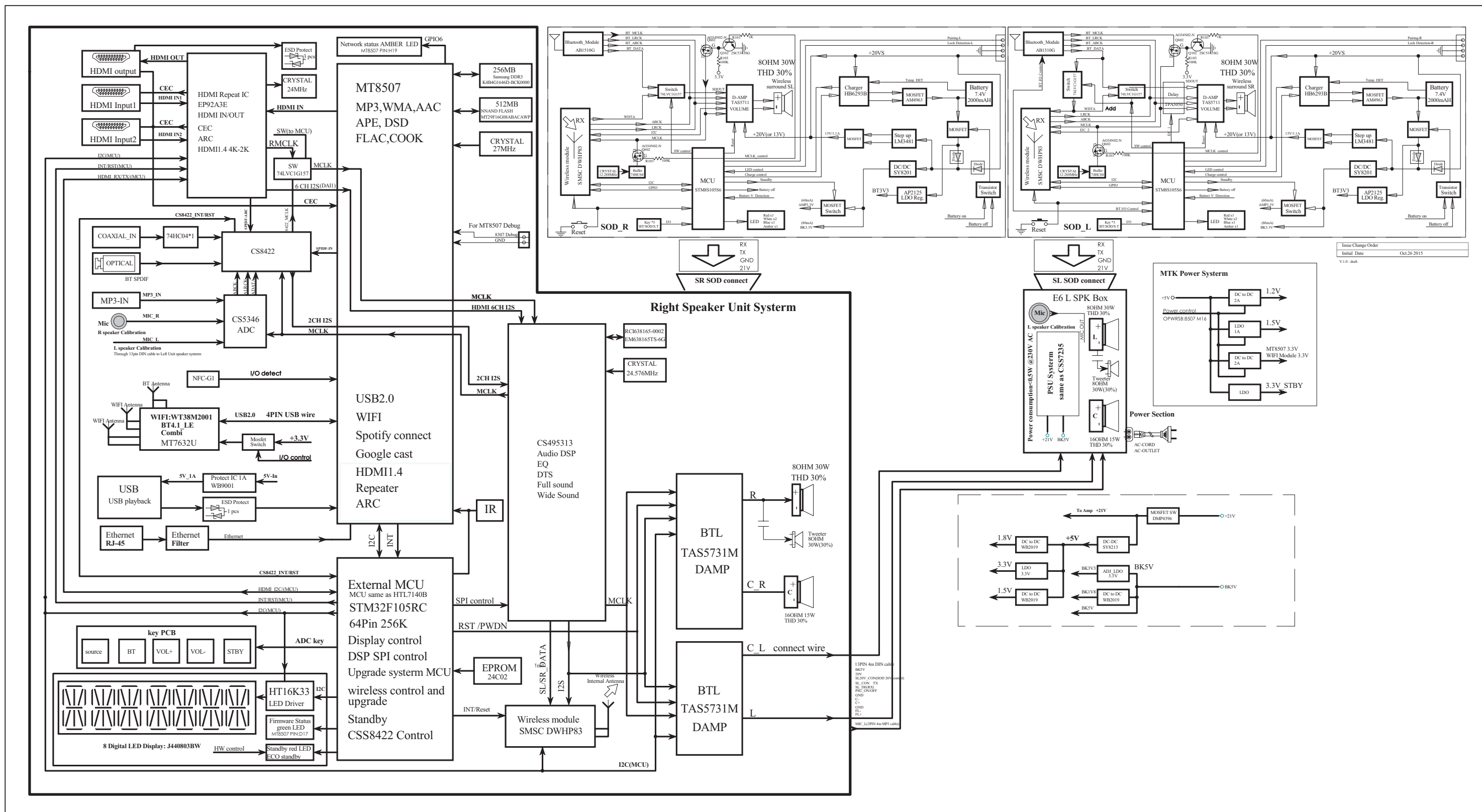


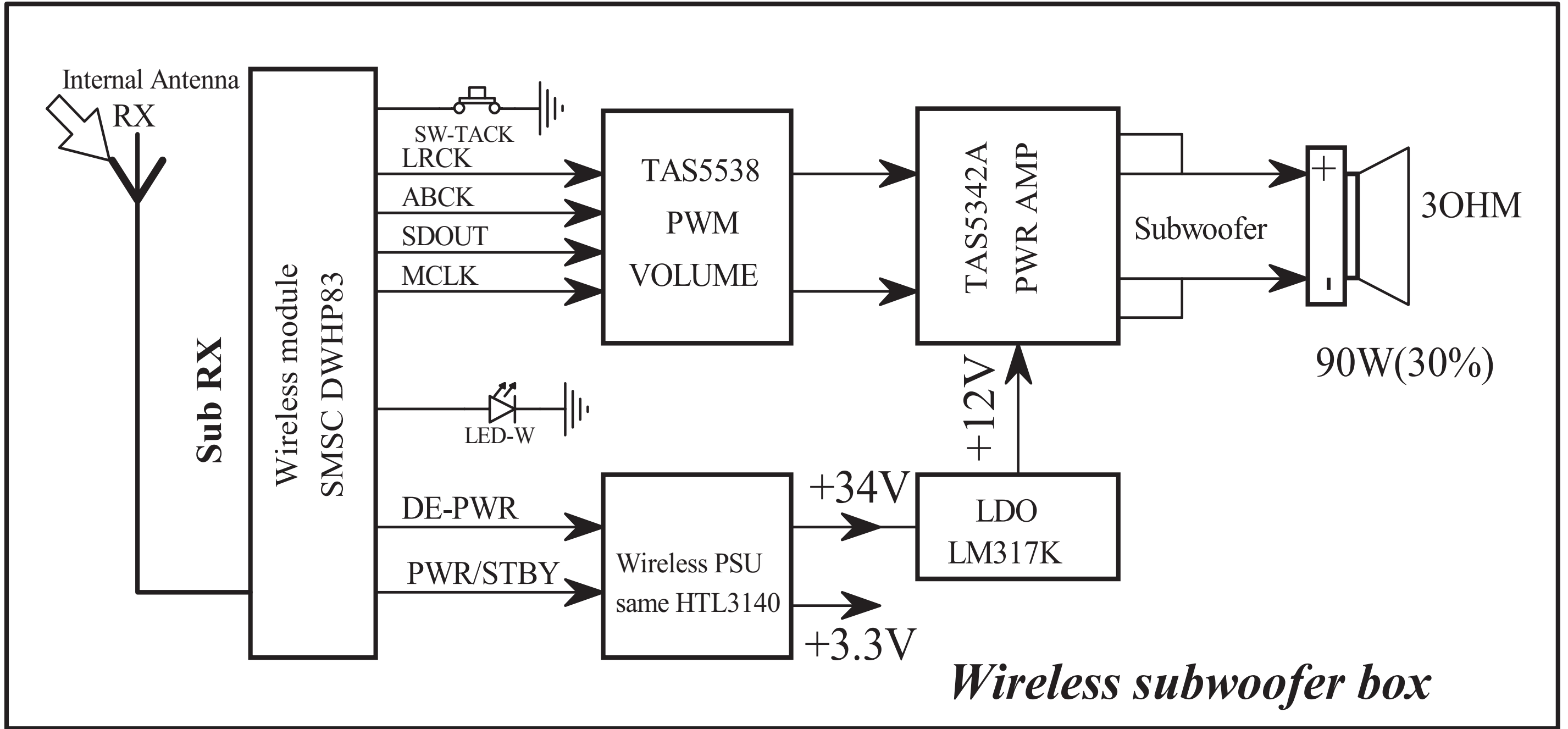
Figure W4

SERVICE POSITIONS (Subwoofer)

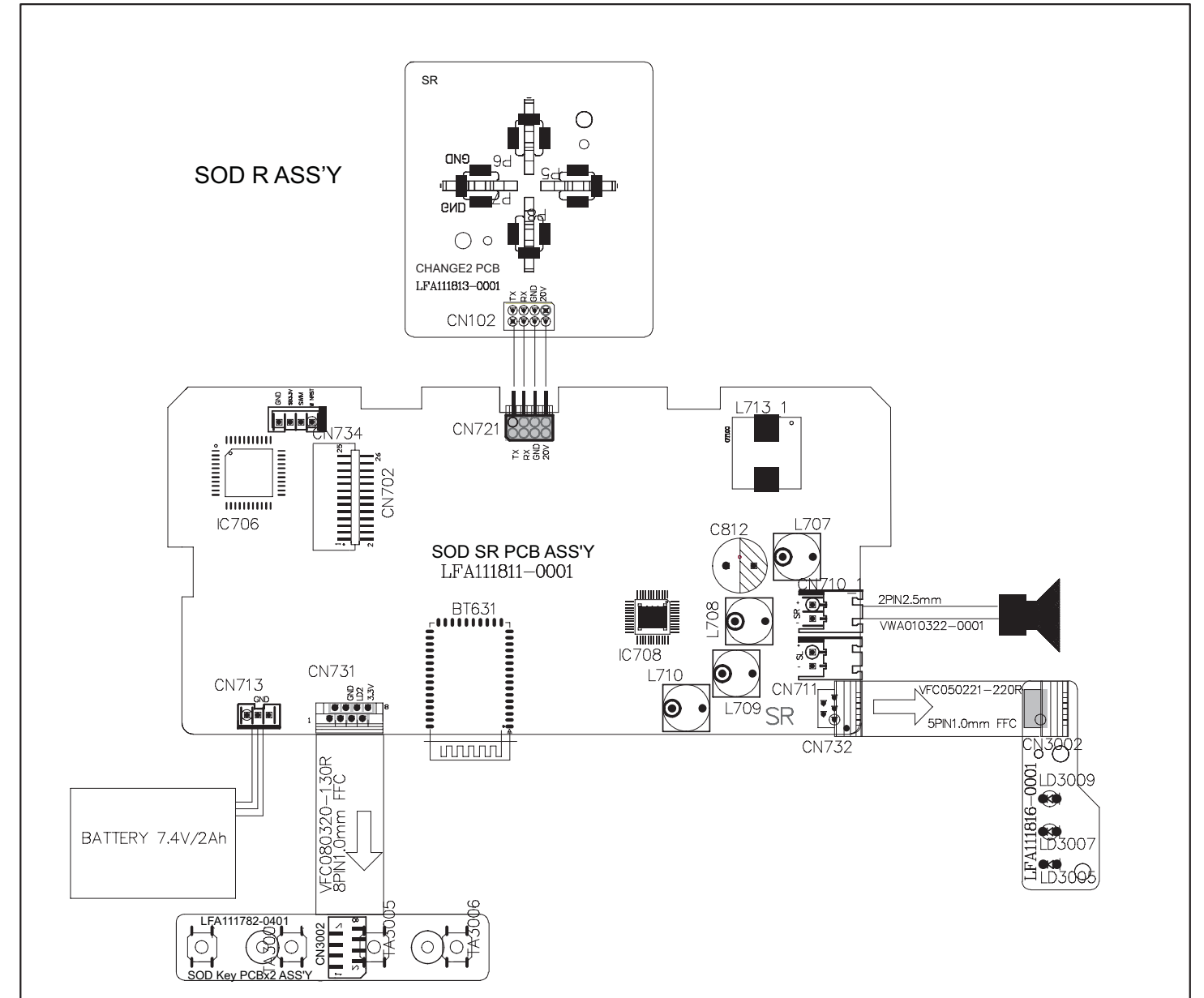
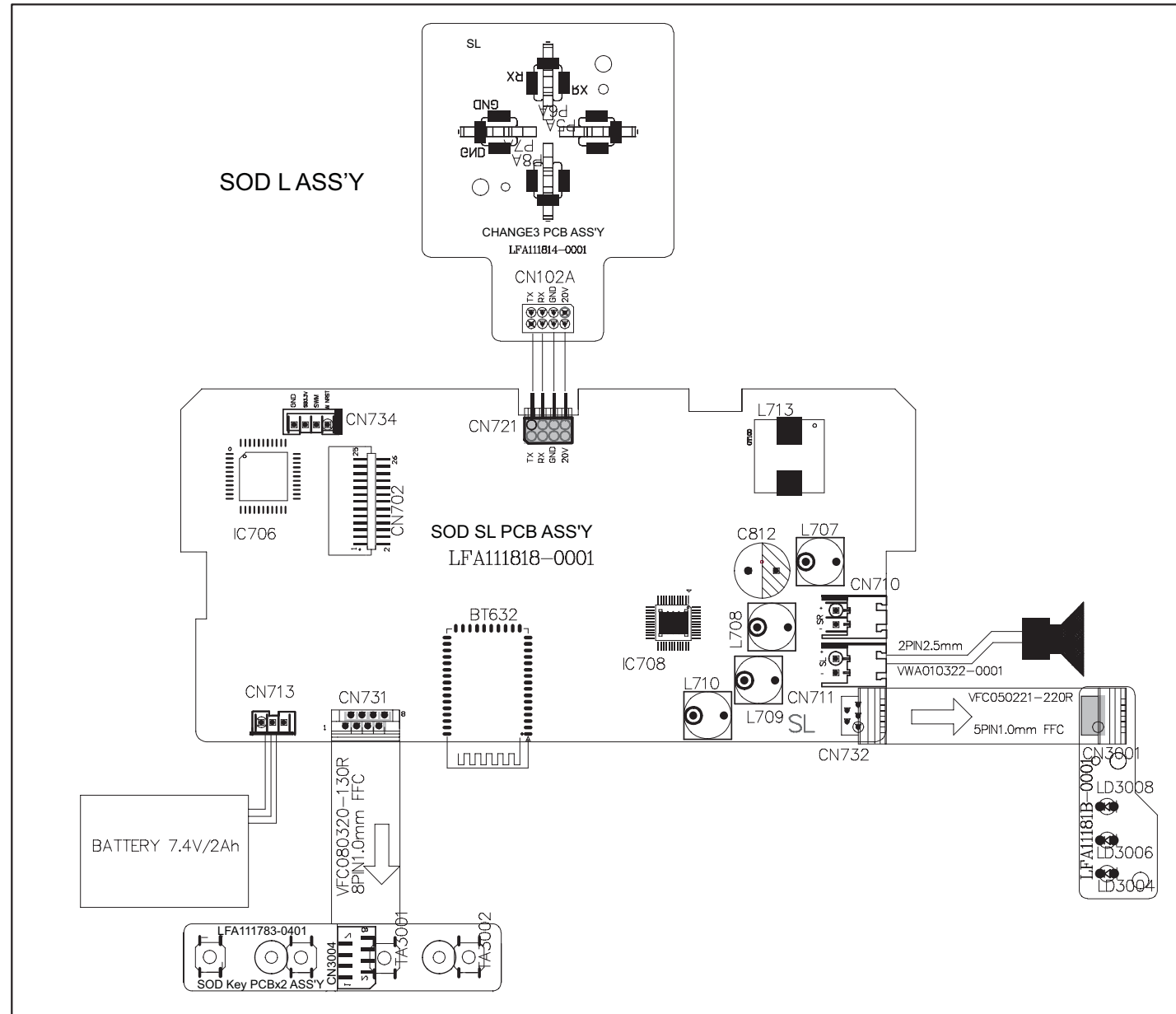
Service Position A - Main & Power Boards

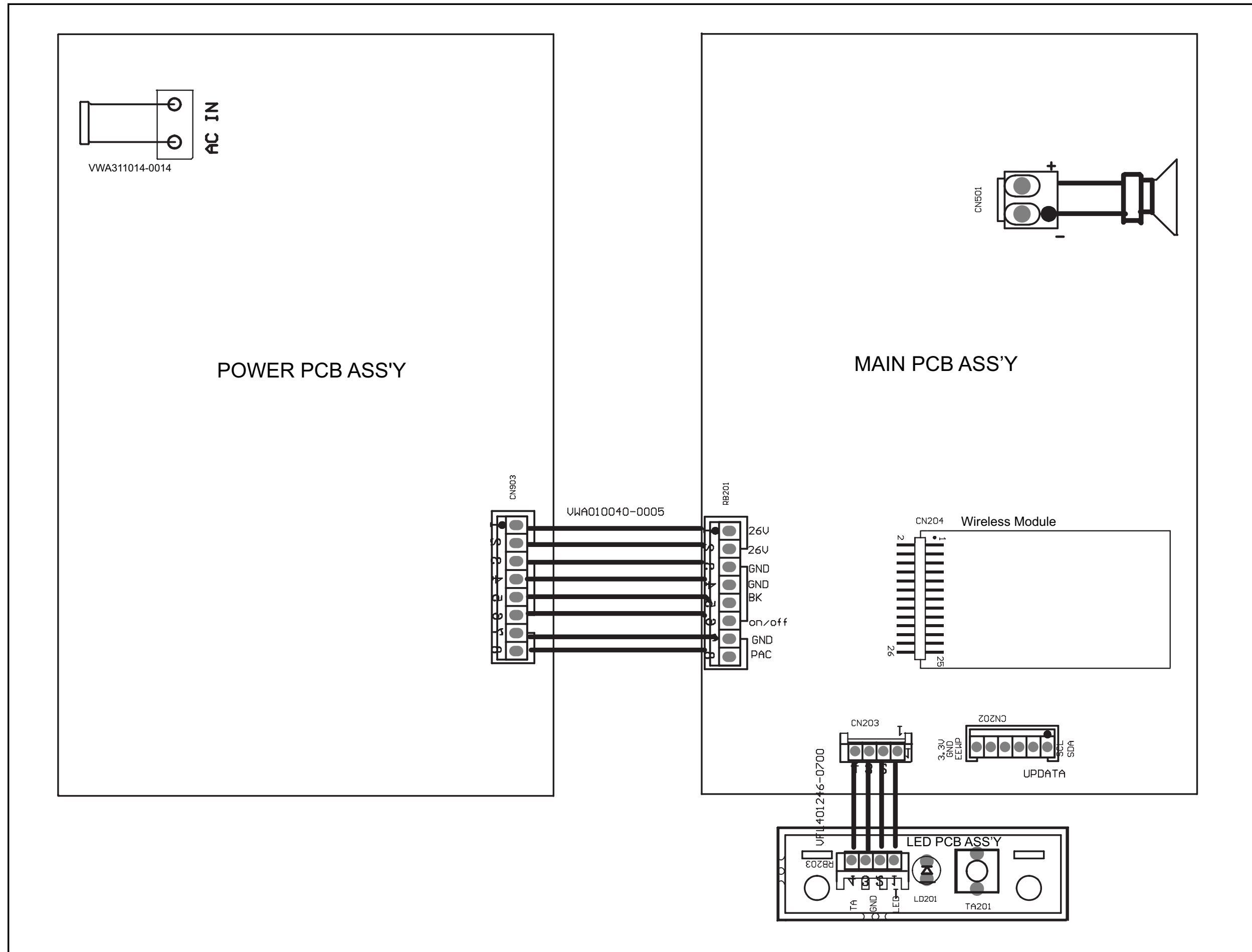




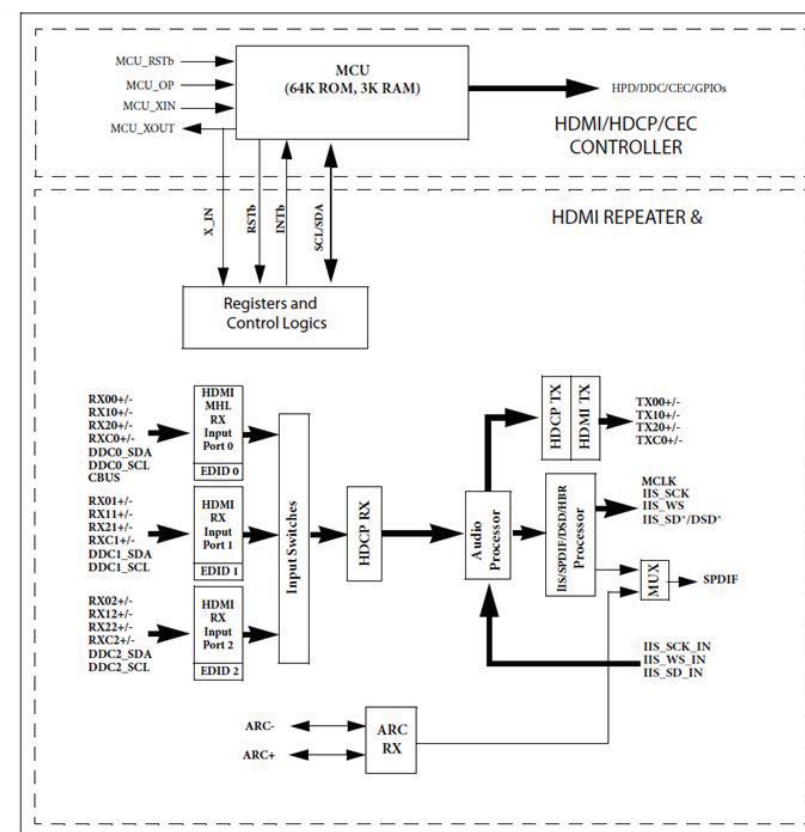


WIRING Diagram(SOD_L/R ASS'Y)





IC200 INTERNAL IC DIAGRAM - EP92A3E LQFP EXPLORE

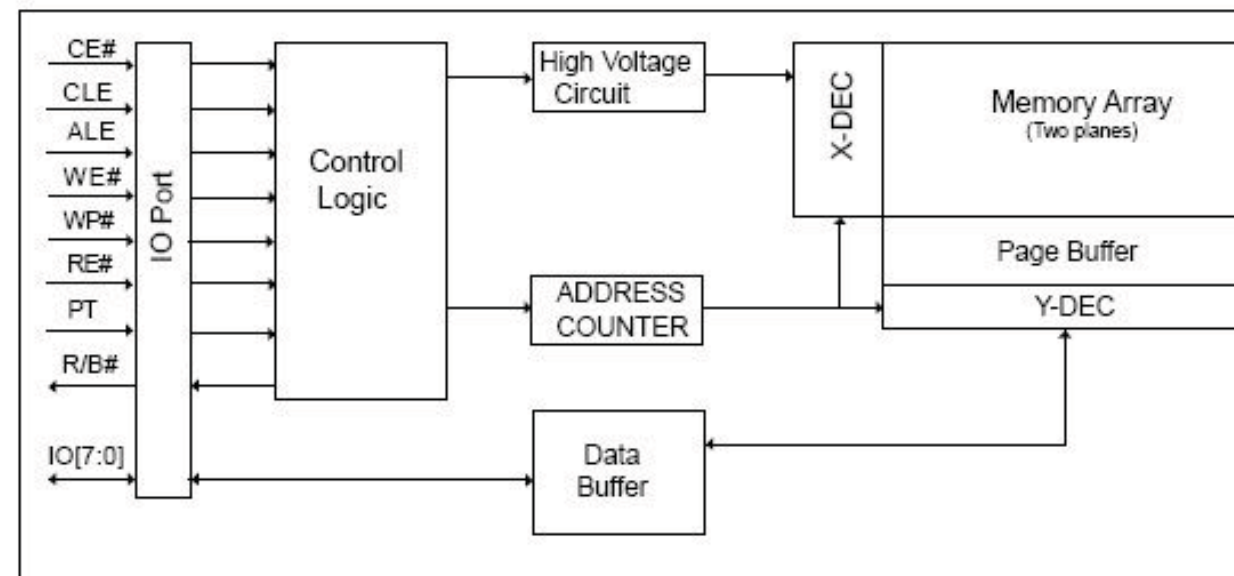


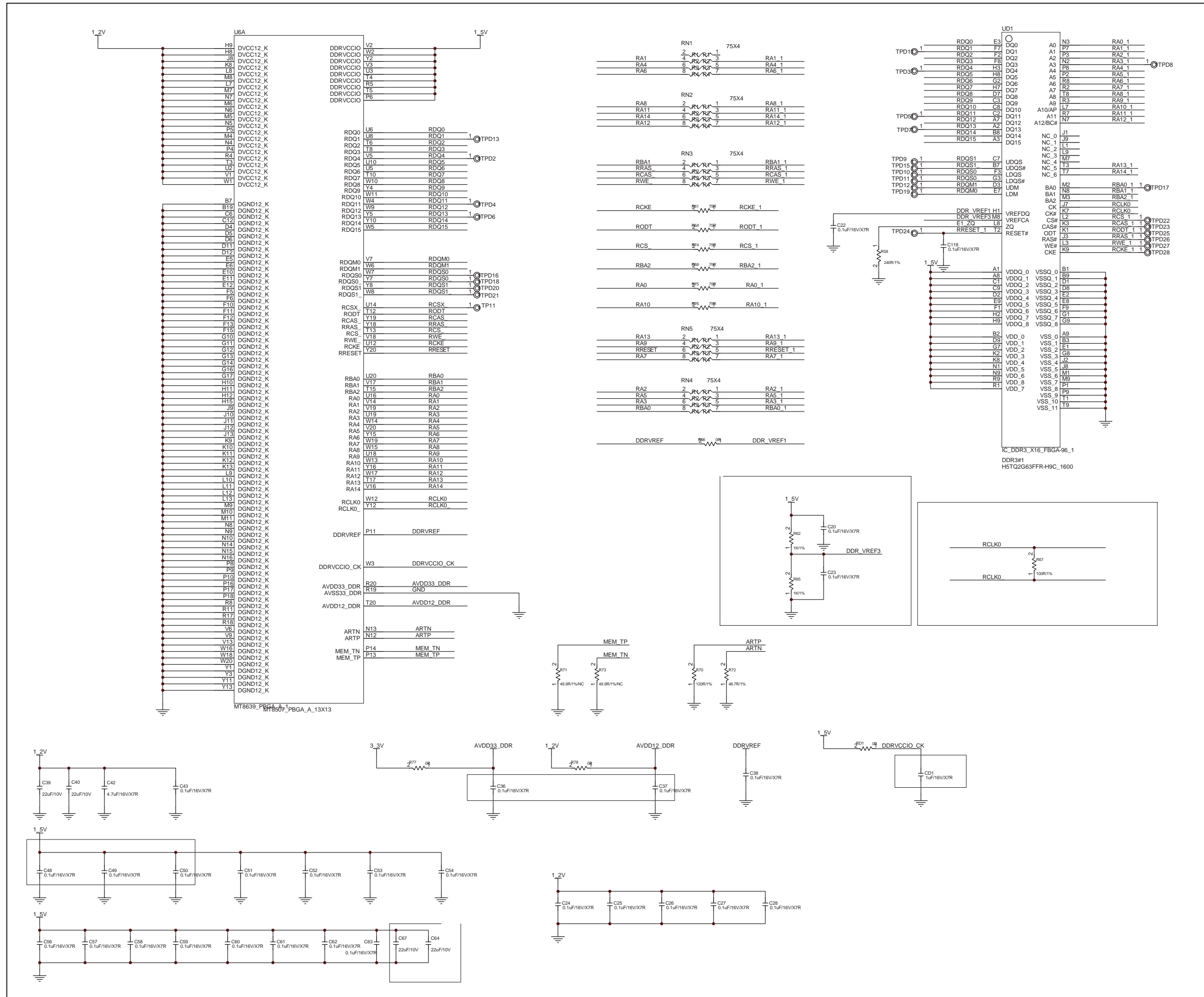
MTK8507&HDMI REPEATER BOARD

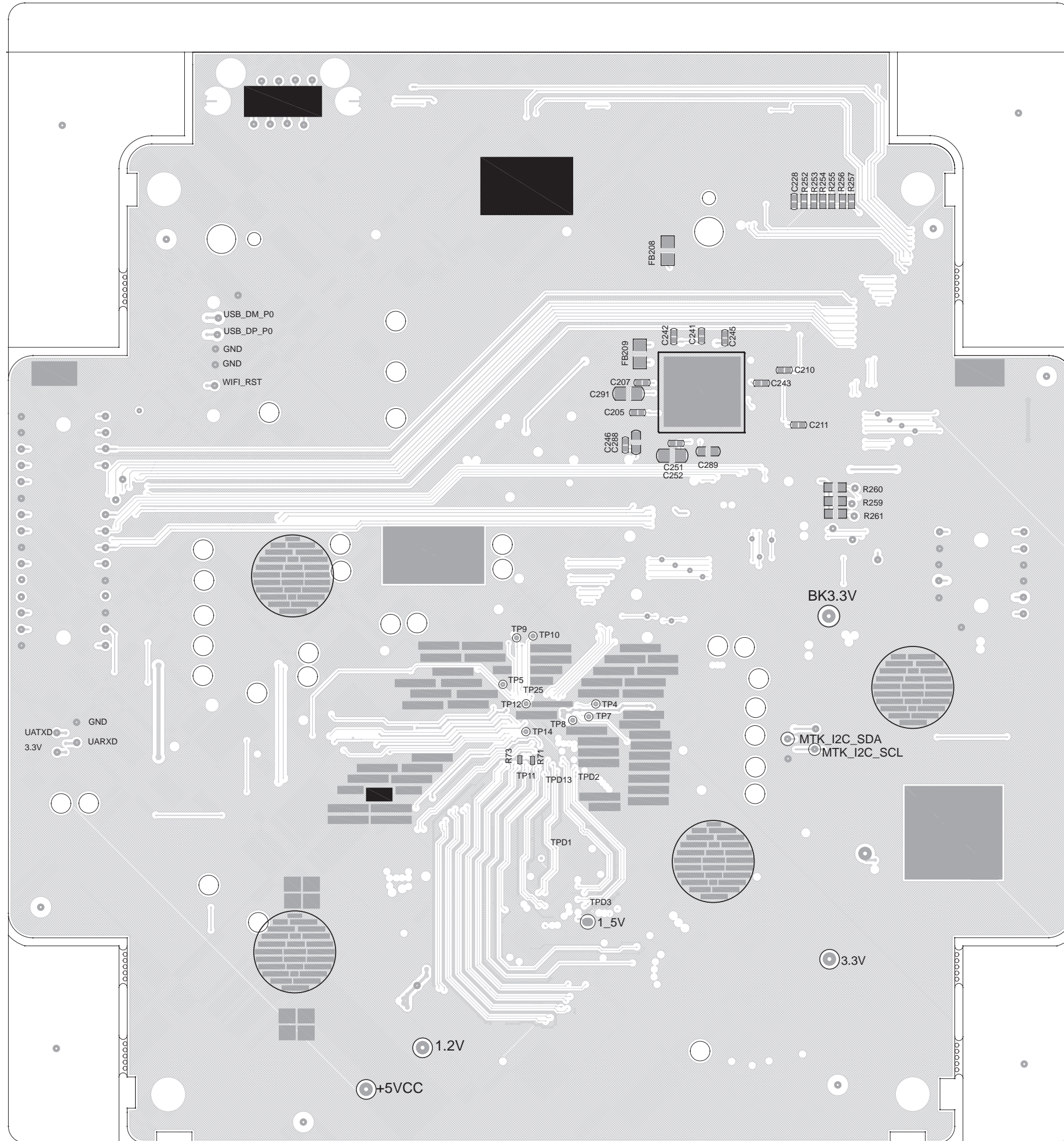
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 Component Layout_Bottom View 7-6

U12 INTERNAL IC DIAGRAM - MX30LF4G18AC TSOP MXIC





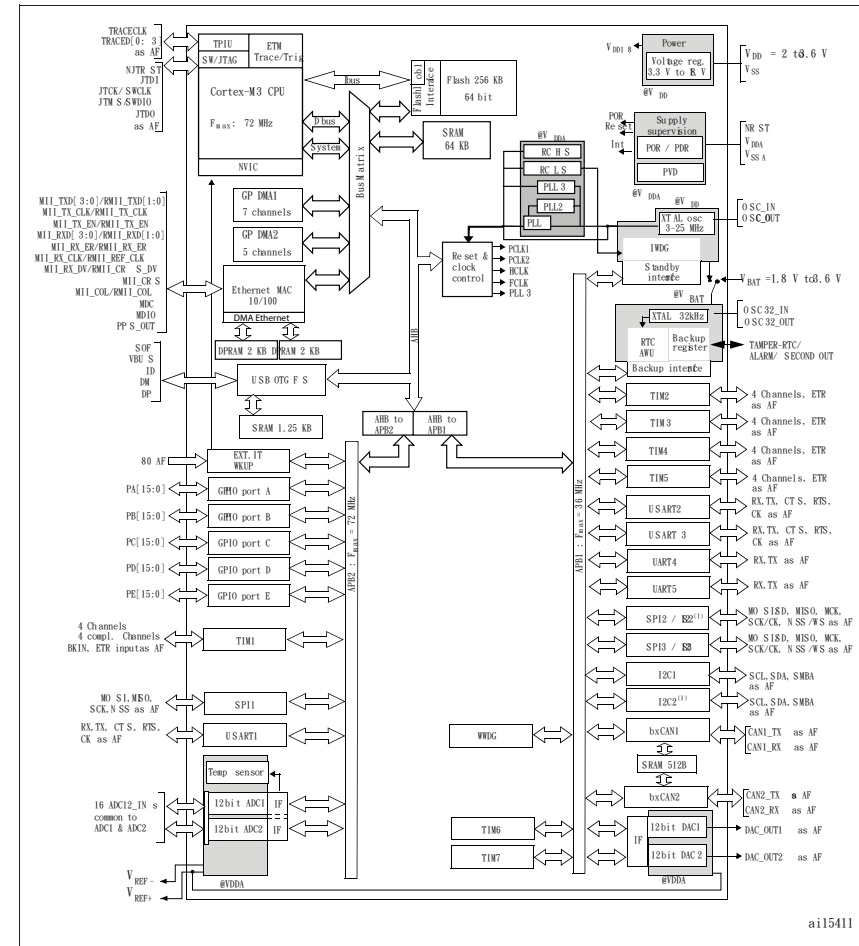


DSP&MCU& BOARD

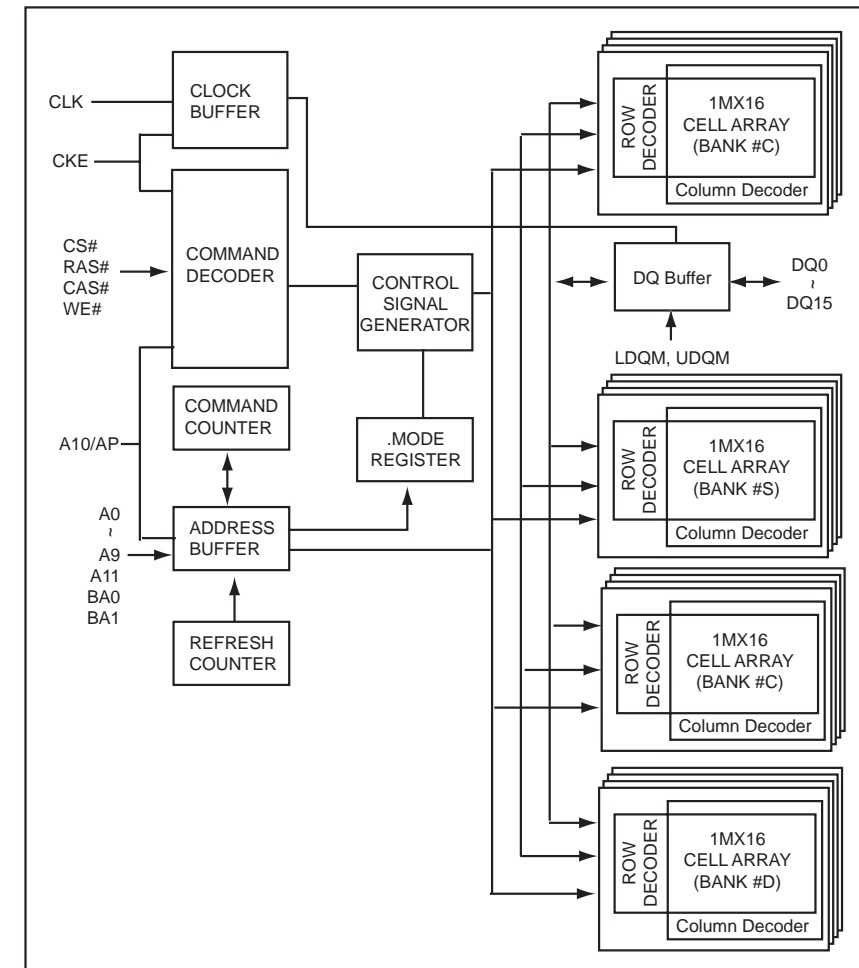
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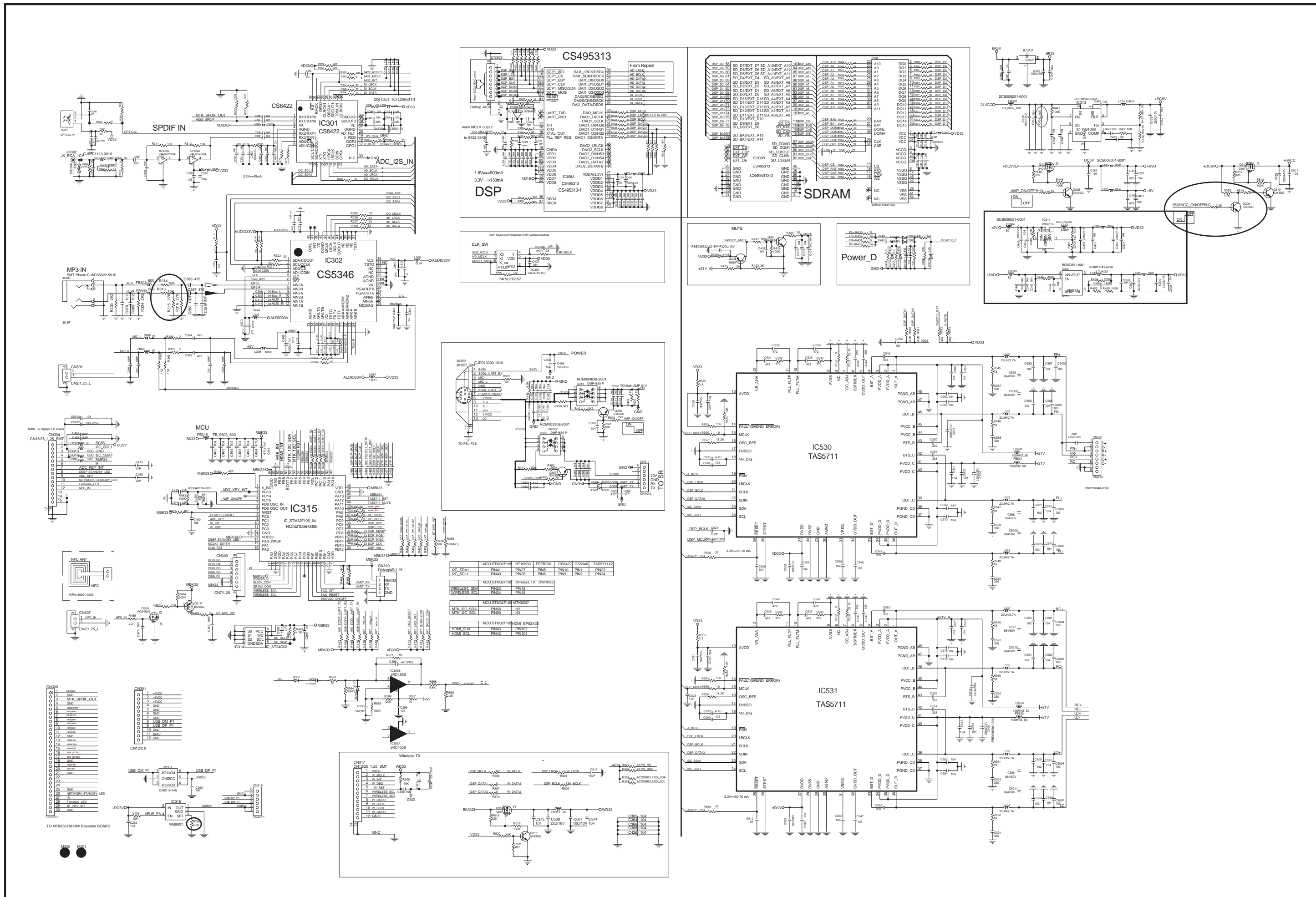
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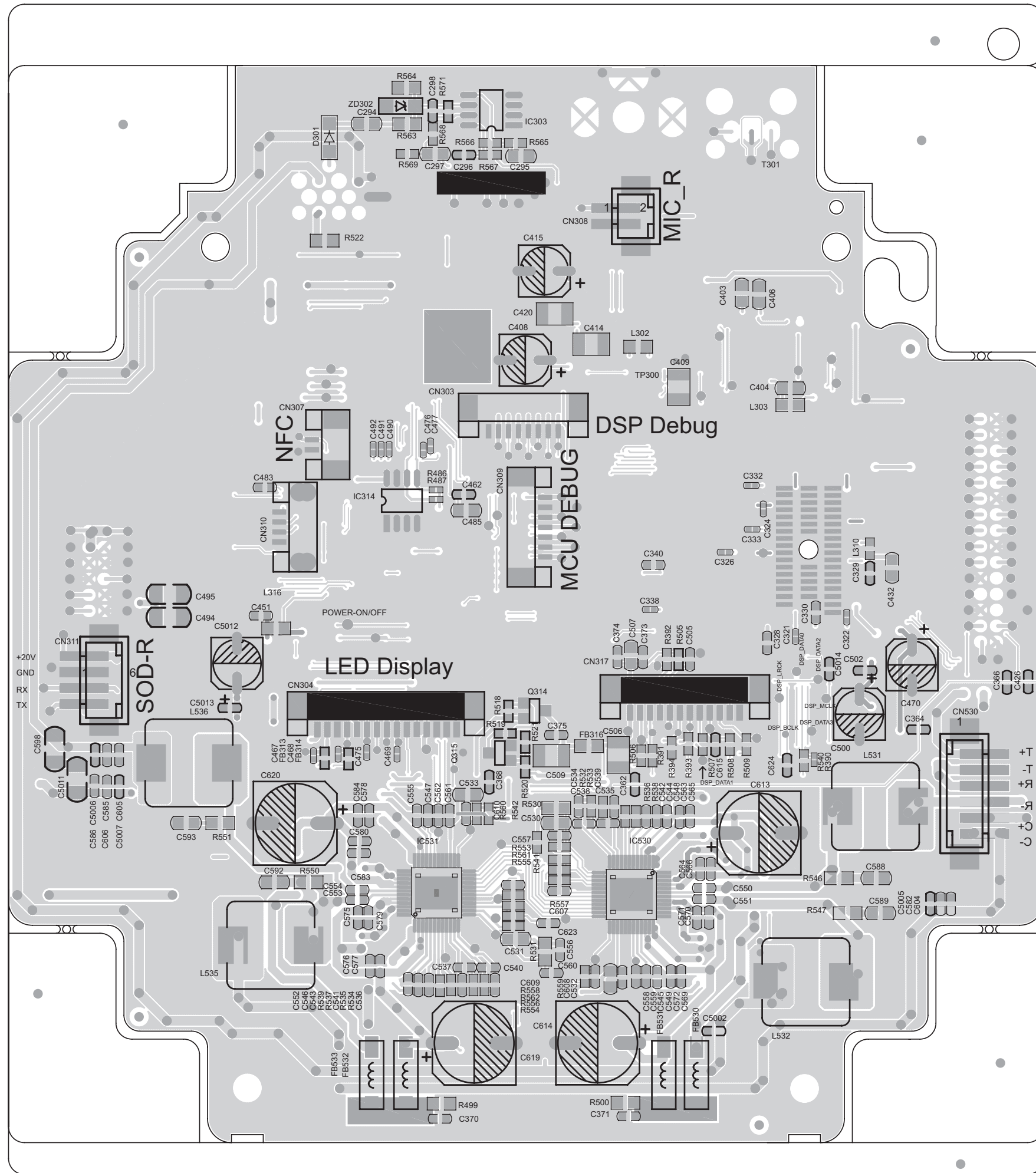
IC315 INTERNAL IC DIAGRAM - STM32F105RCT6 LQFP ST



IC309 INTERNAL IC DIAGRAM - EM638165TS-6G(63nm)TSOP11 ETRON



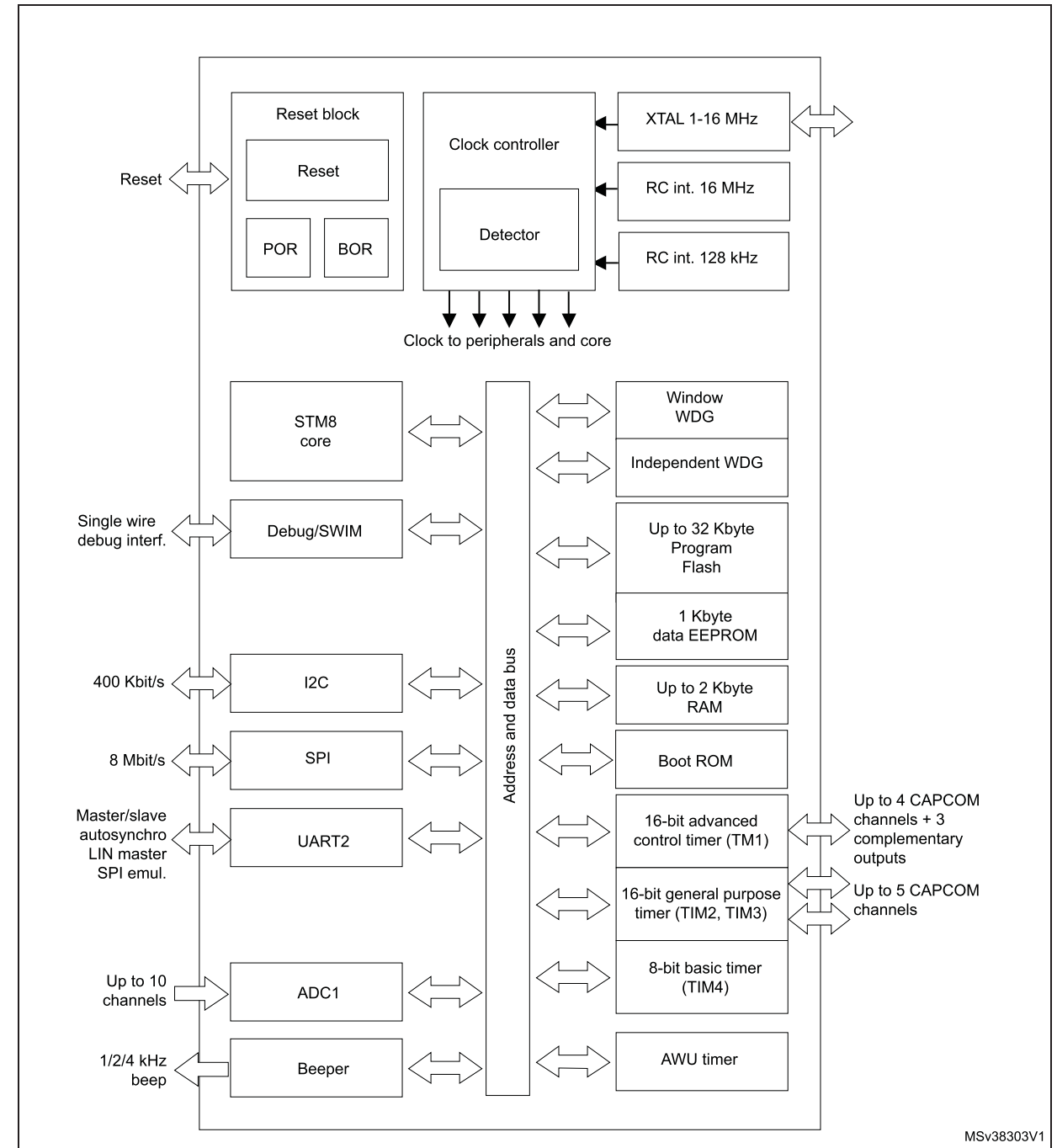


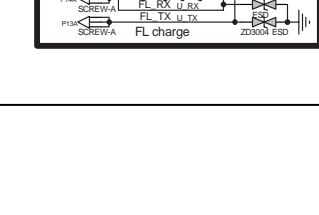
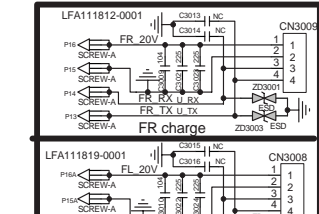
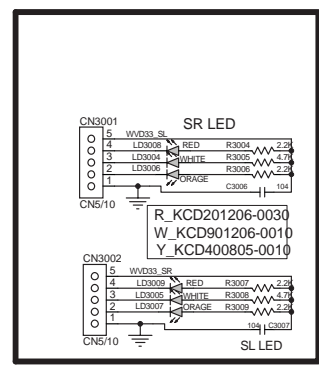
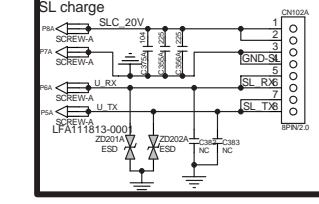
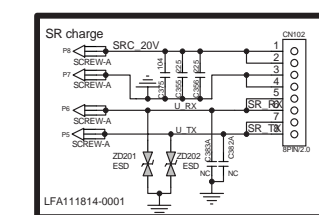
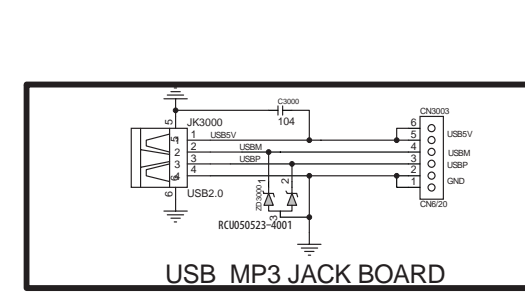
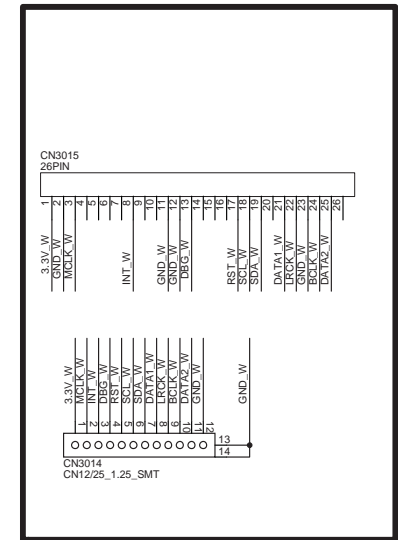
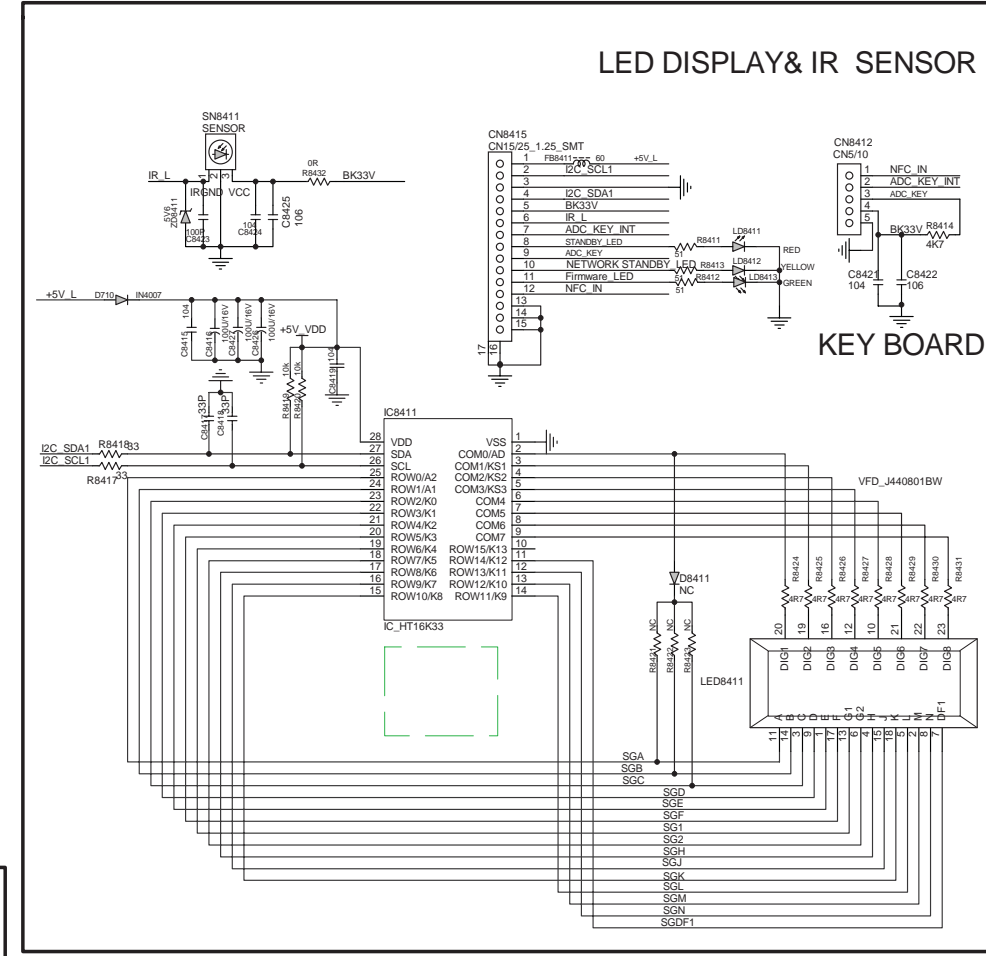
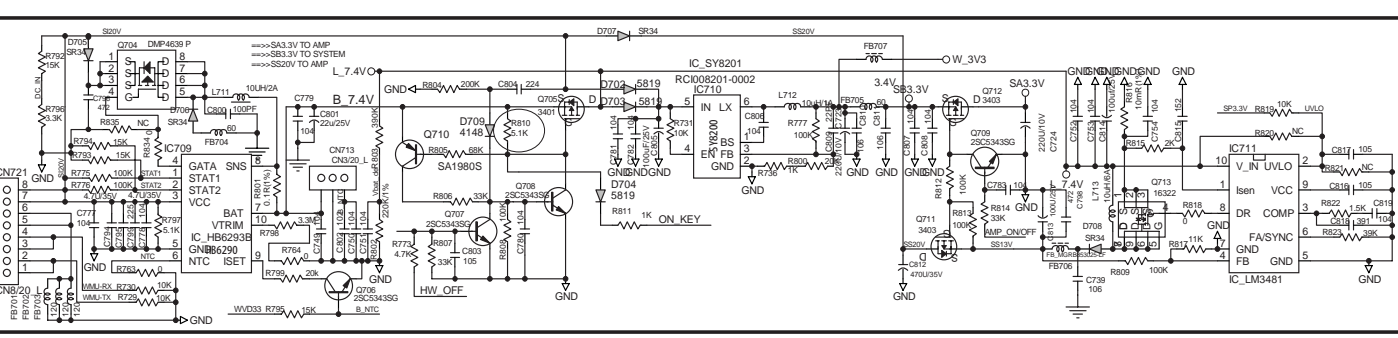
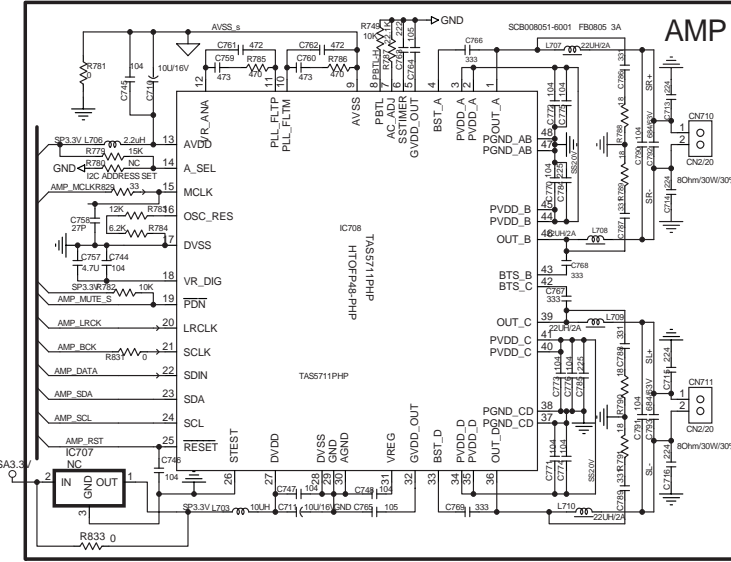
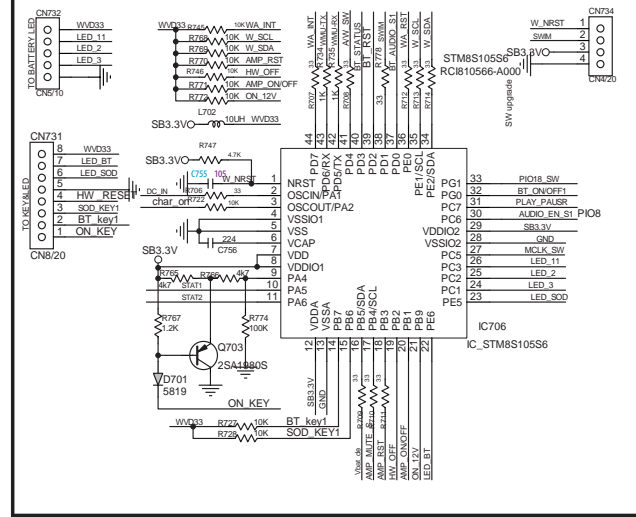
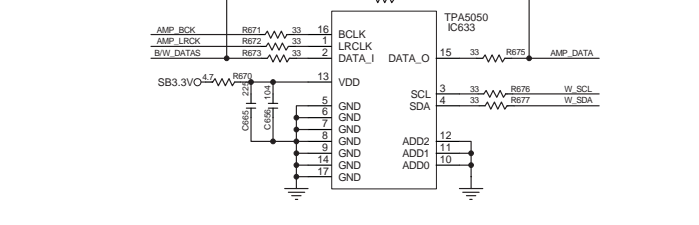
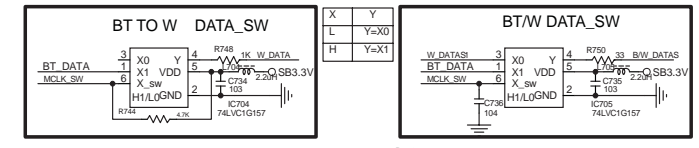
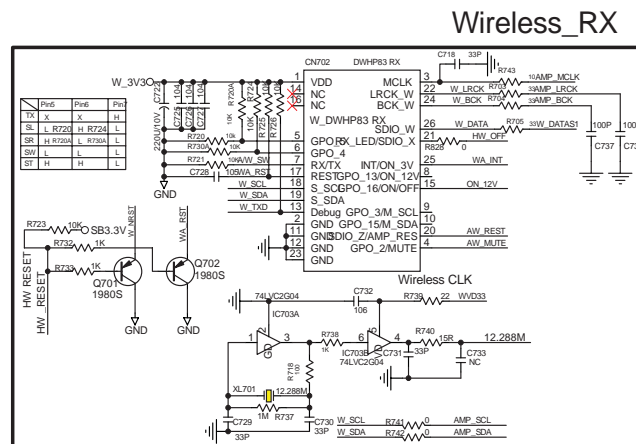
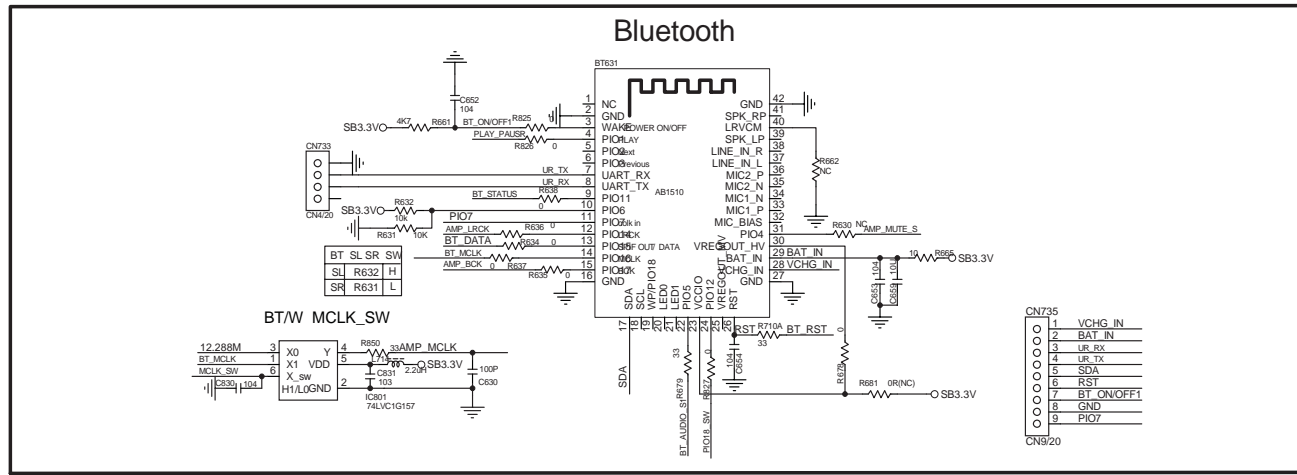


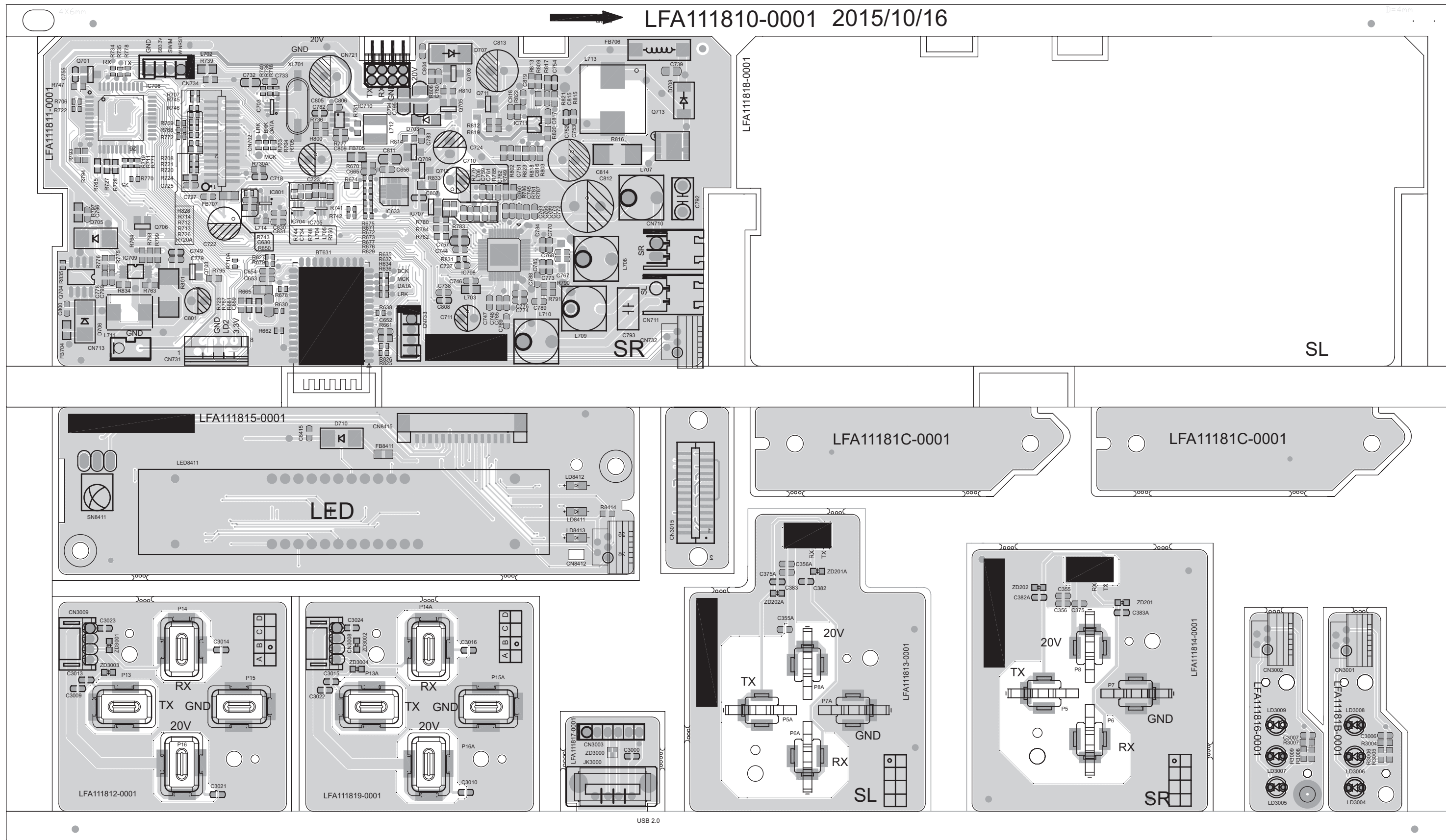
SODx2+CHANGE1x2+CHANGE2+C BOARD

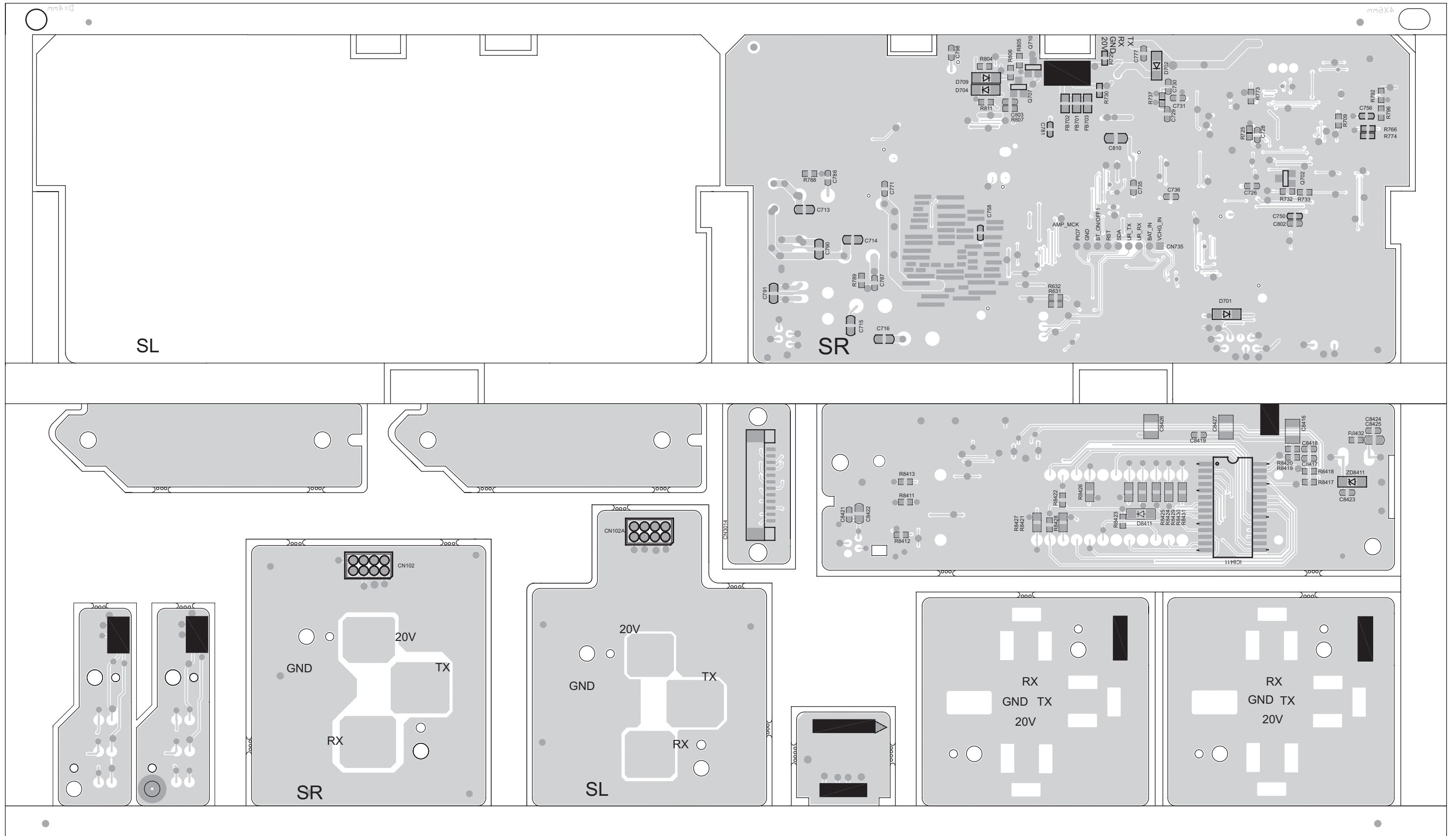
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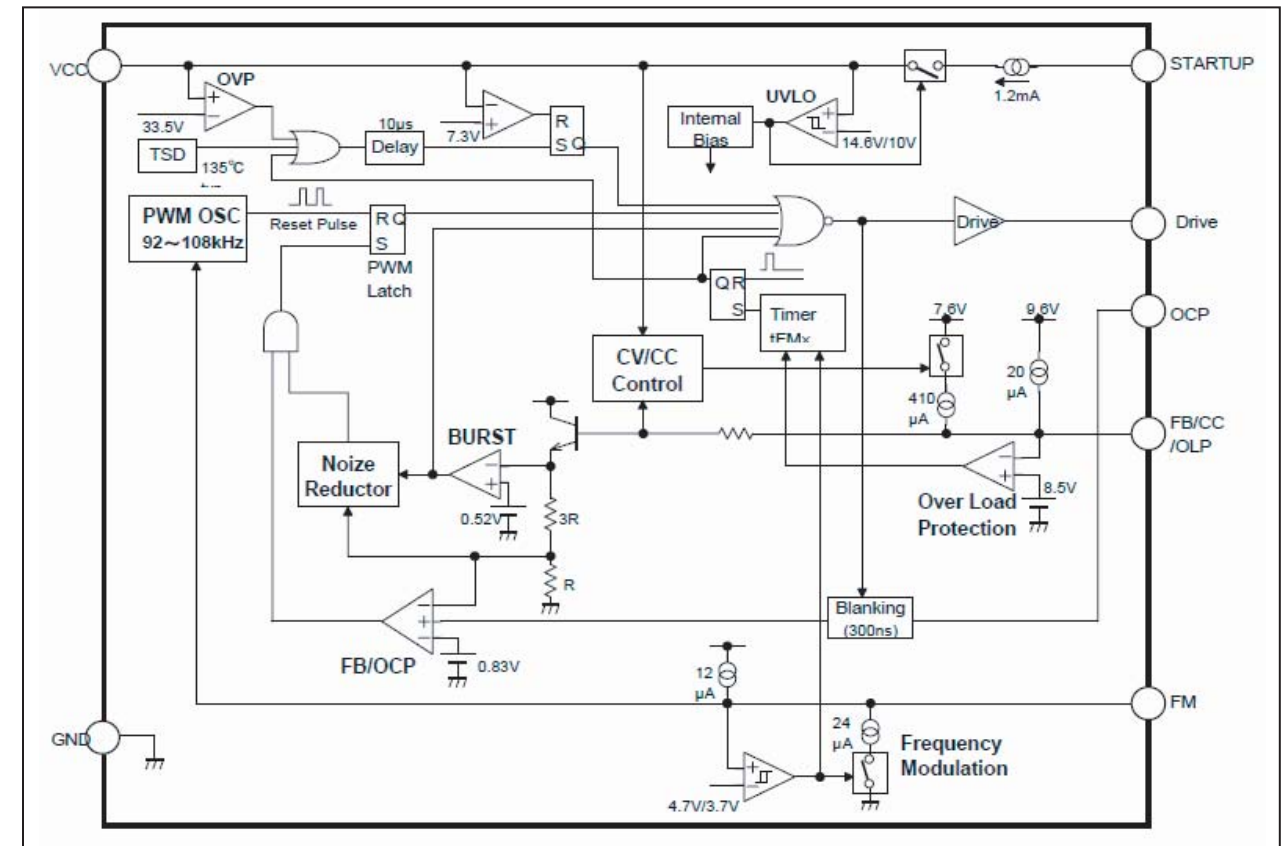


MAIN PSU PCB CEM-1 BOARD

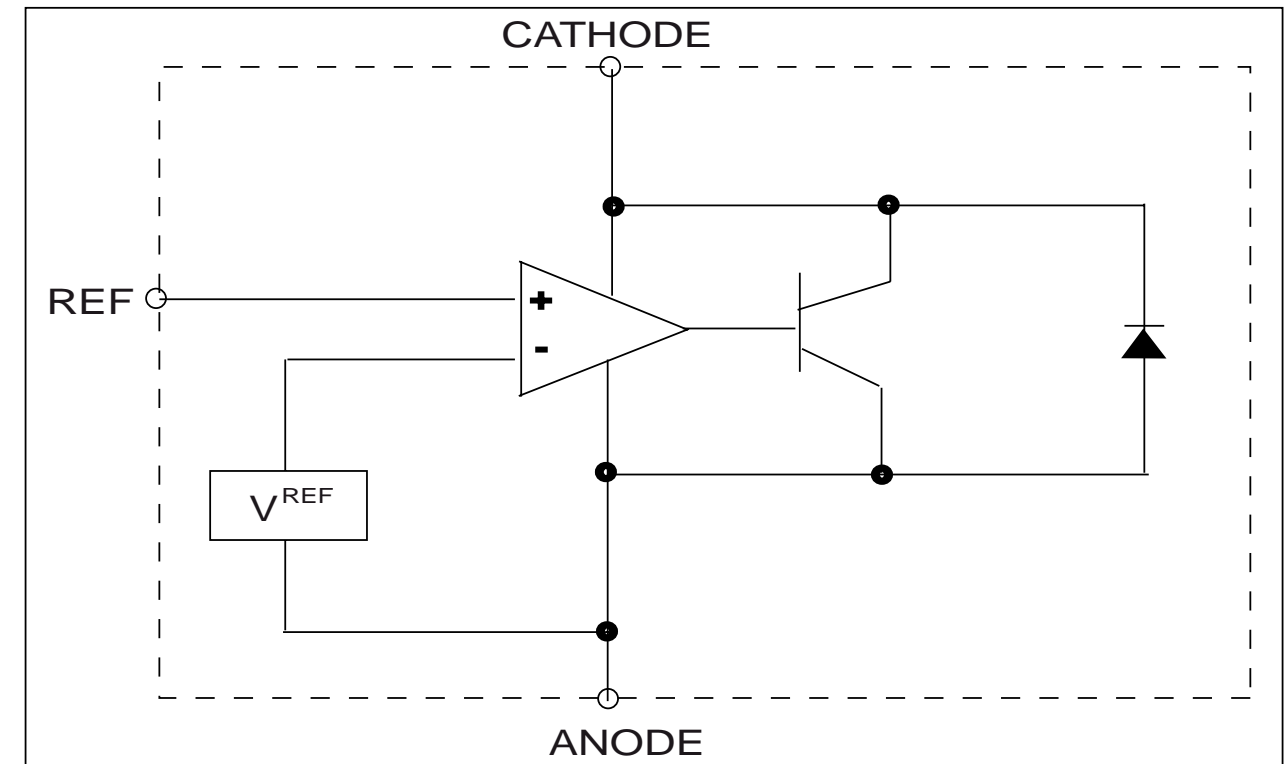
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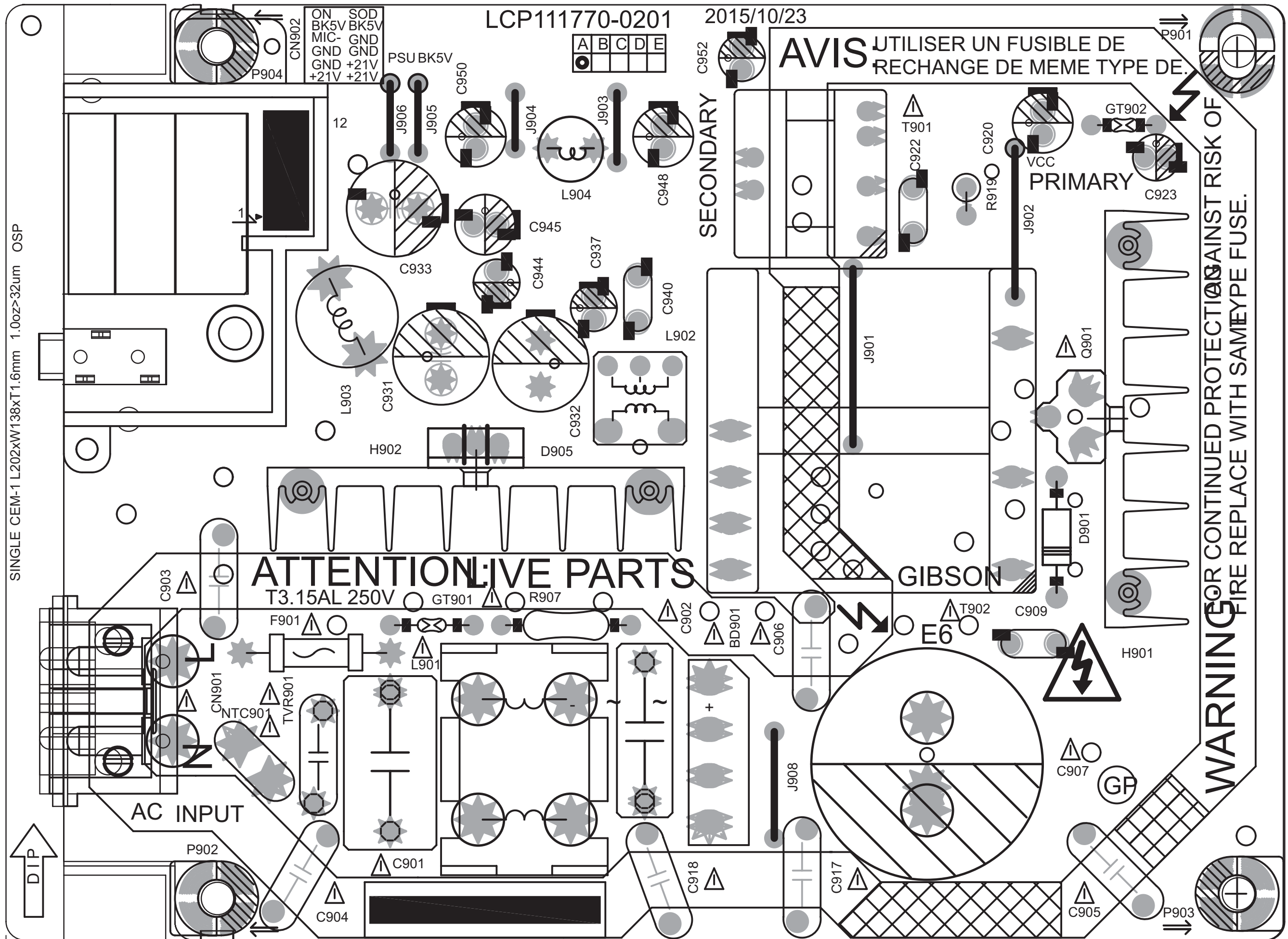
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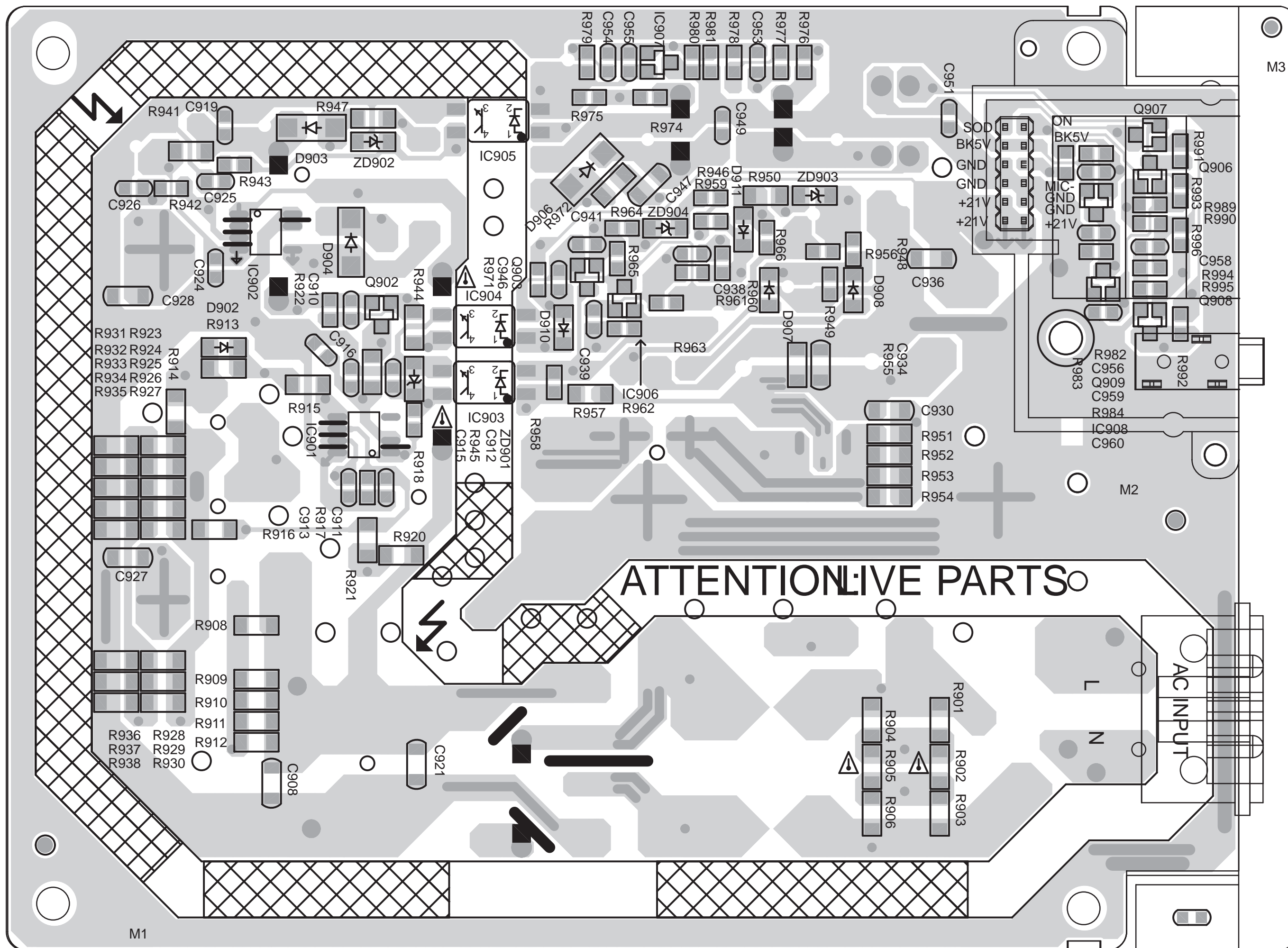
IC901 INTERNAL IC DIAGRAM - SSC620S SOP



IC907 INTERNAL IC DIAGRAM - AZ431AN-ATRE1 SOT-23 BCD



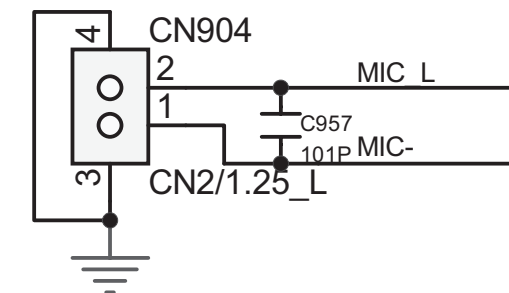
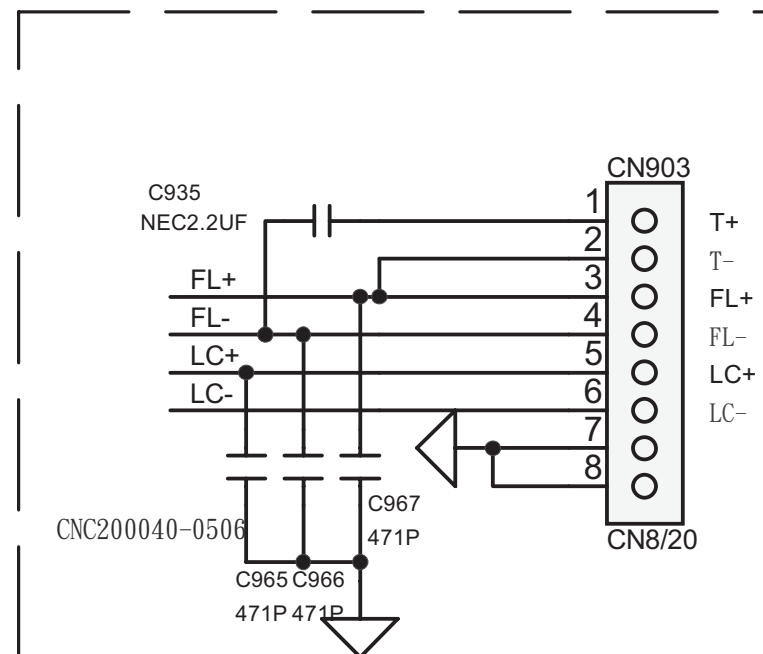
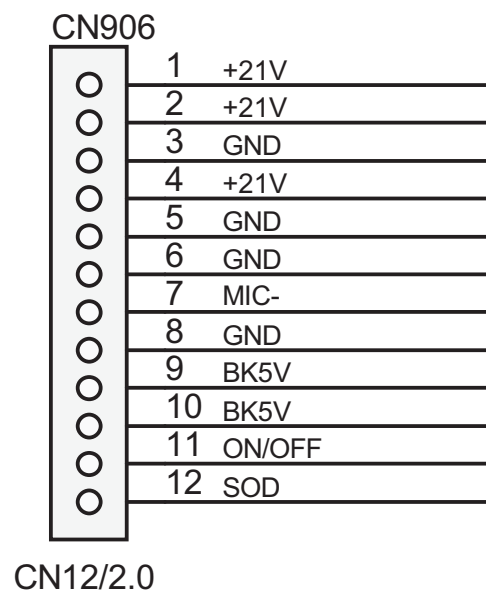
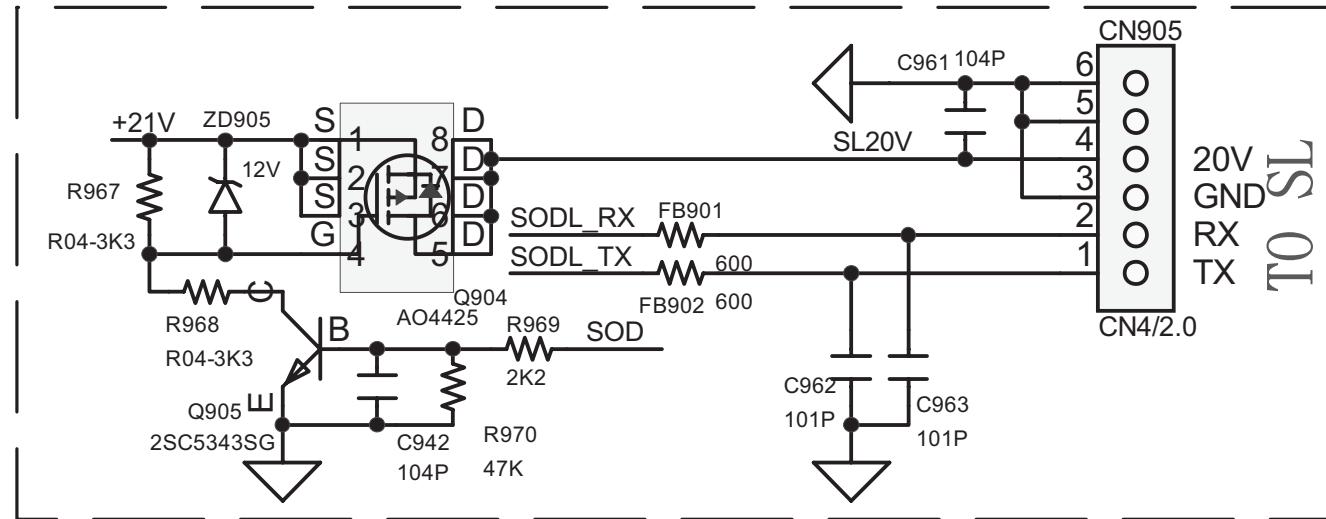
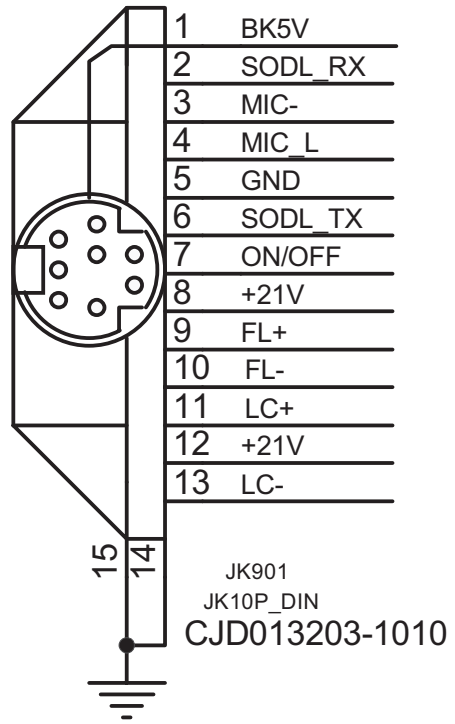


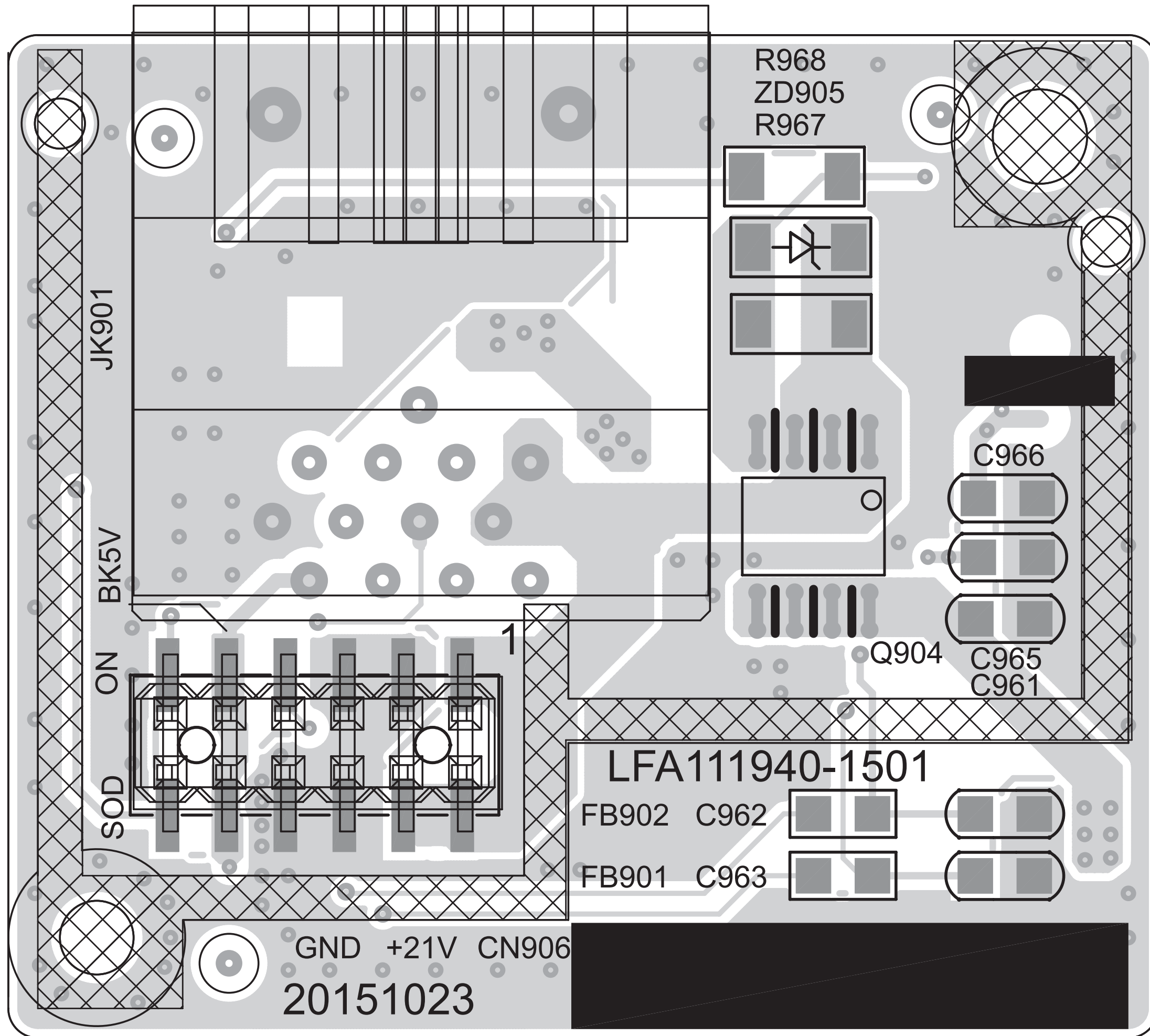


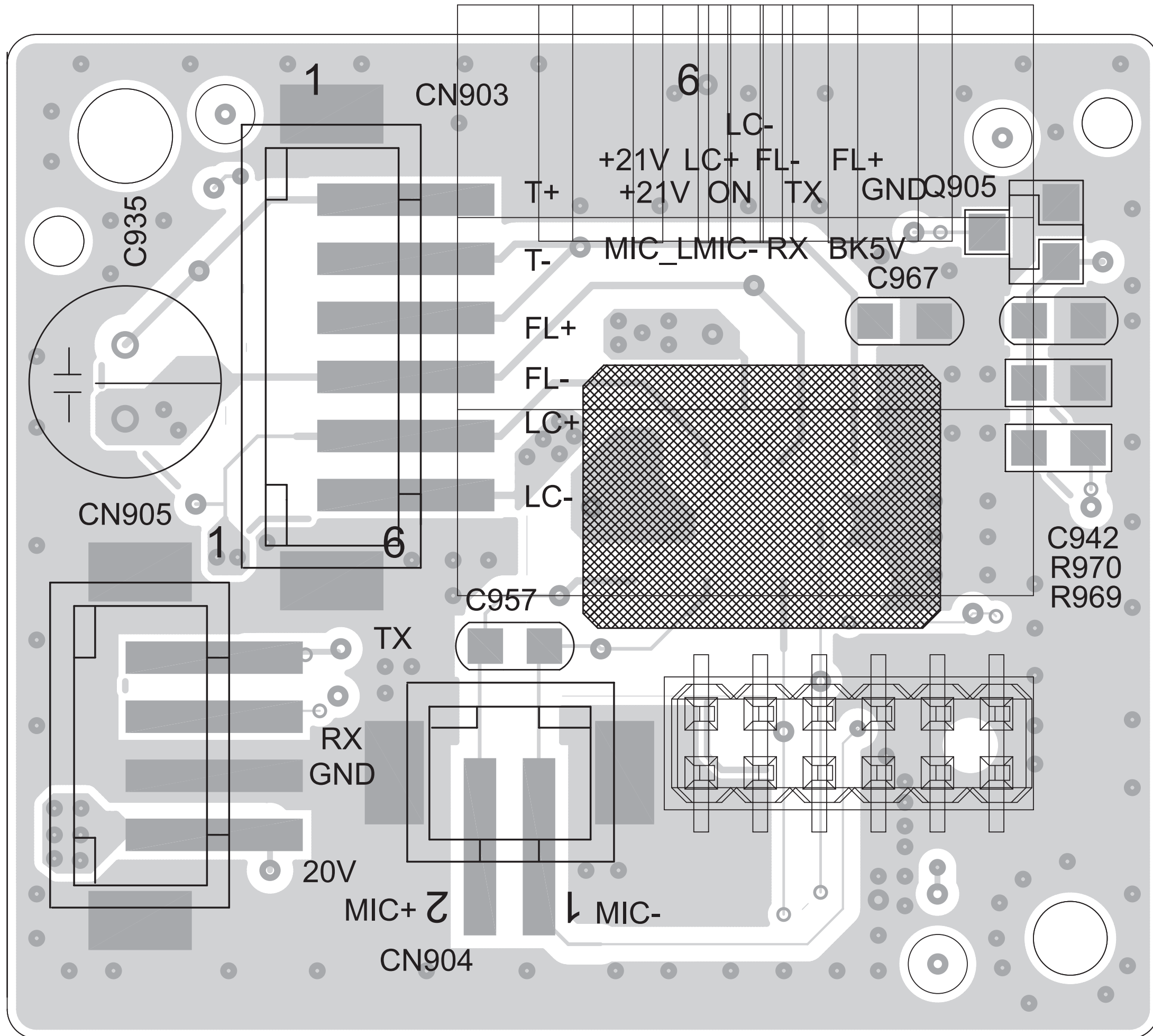
DIN JACK BOARD

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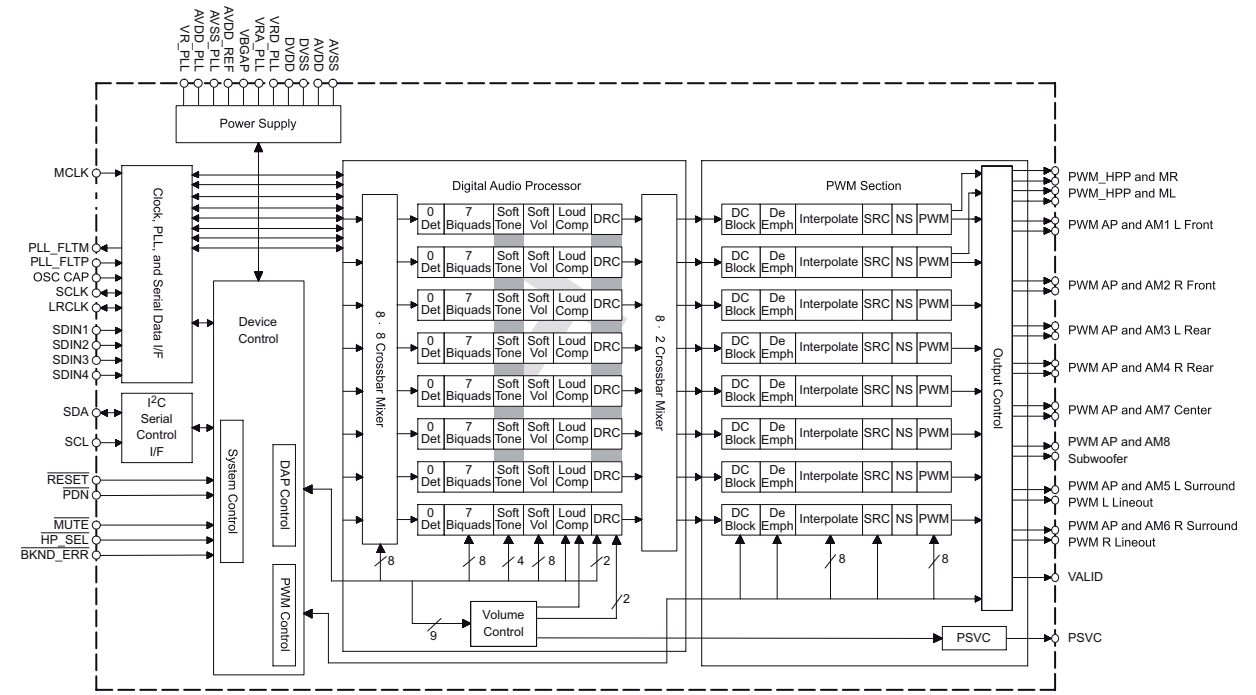
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IC401 INTERNAL IC DIAGRAM - TAS5538

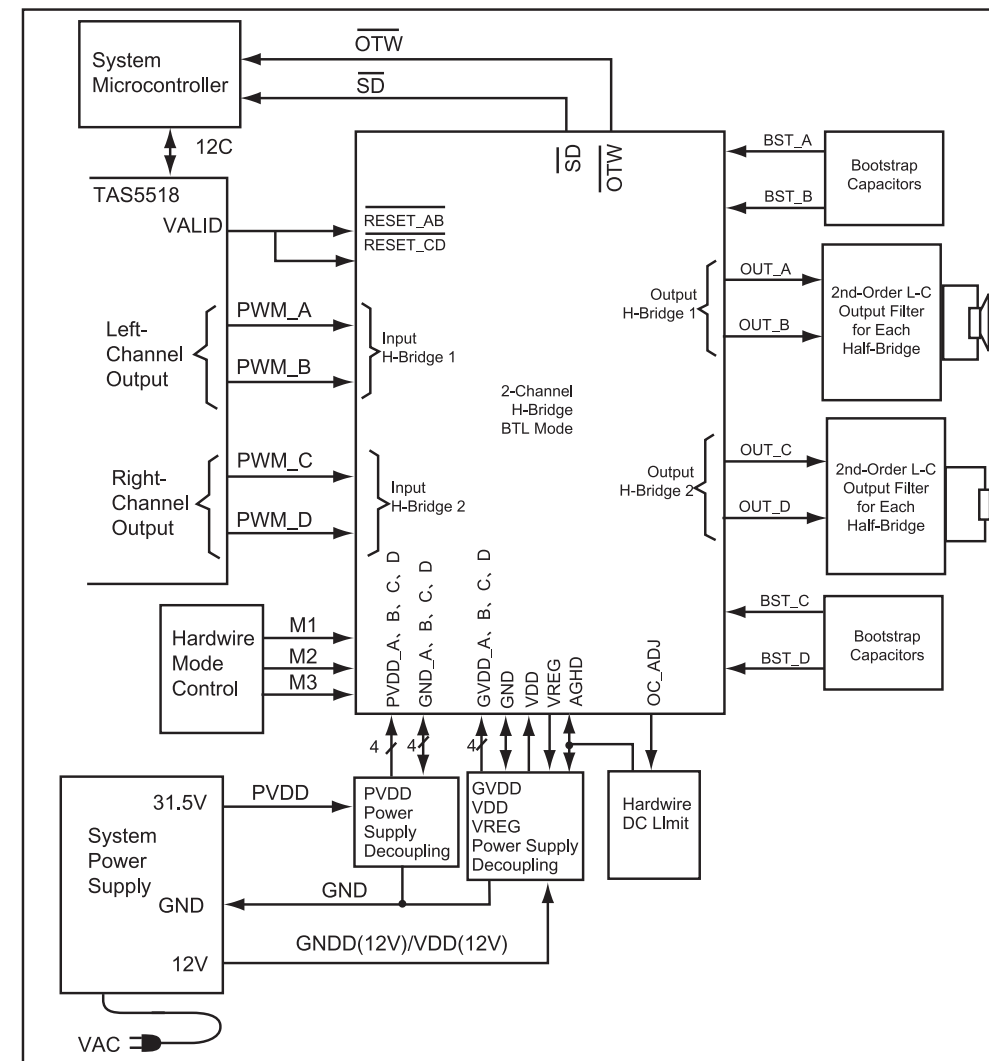


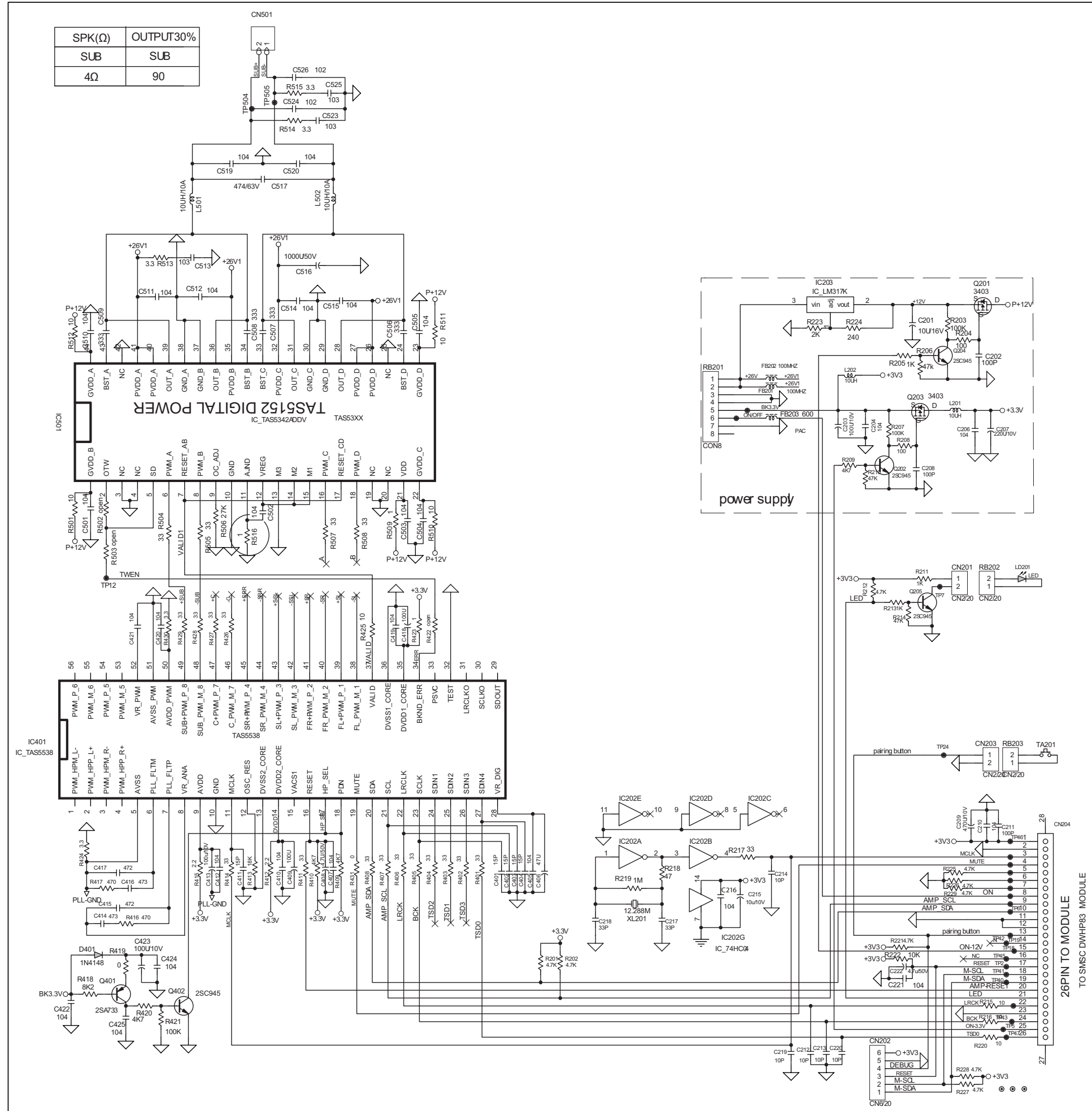
Main+LED BOARD (Subwoofer)

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IC501 INTERNAL IC DIAGRAM -TAS5342ADDV



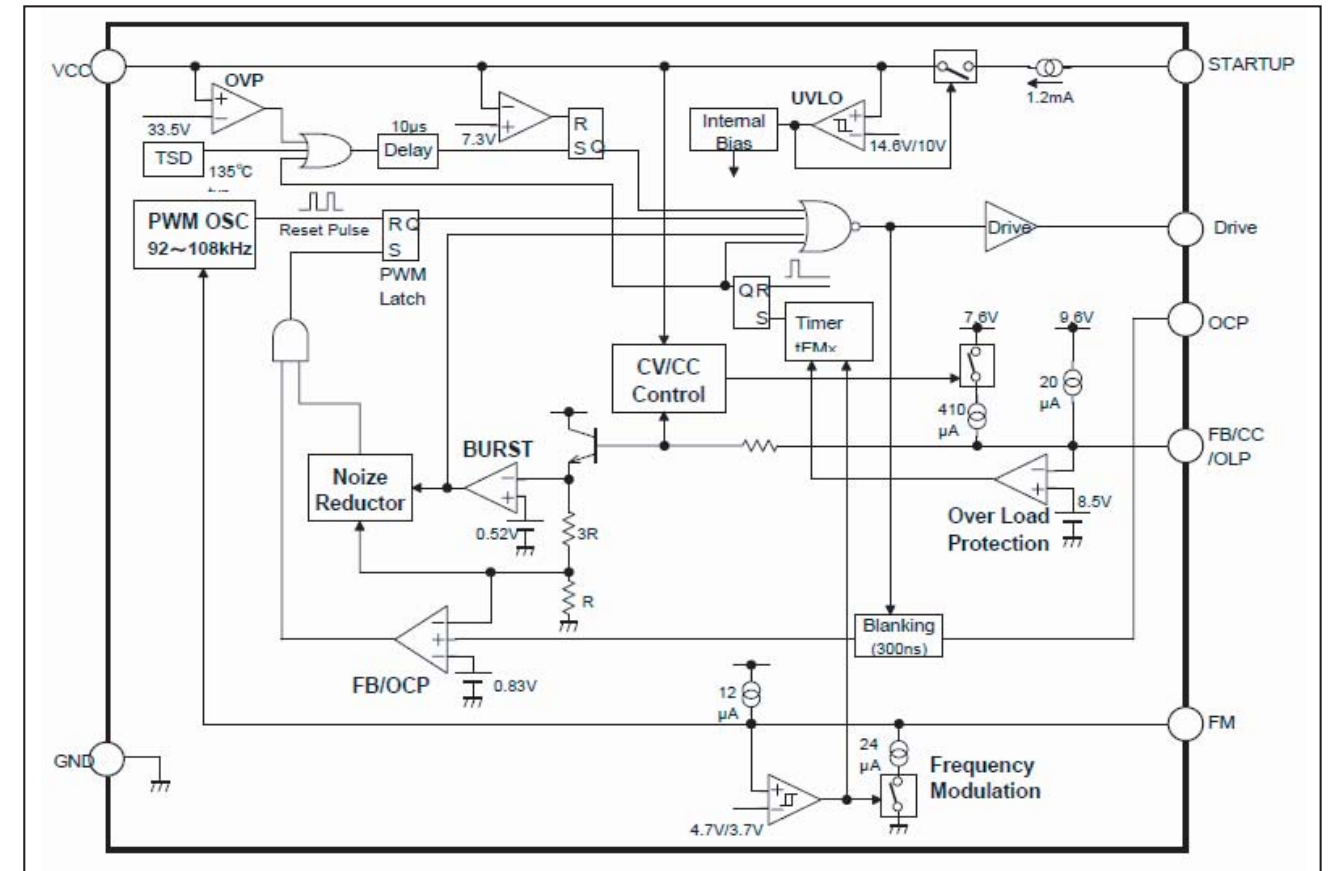


POWER BOARD_(Subwoofer)

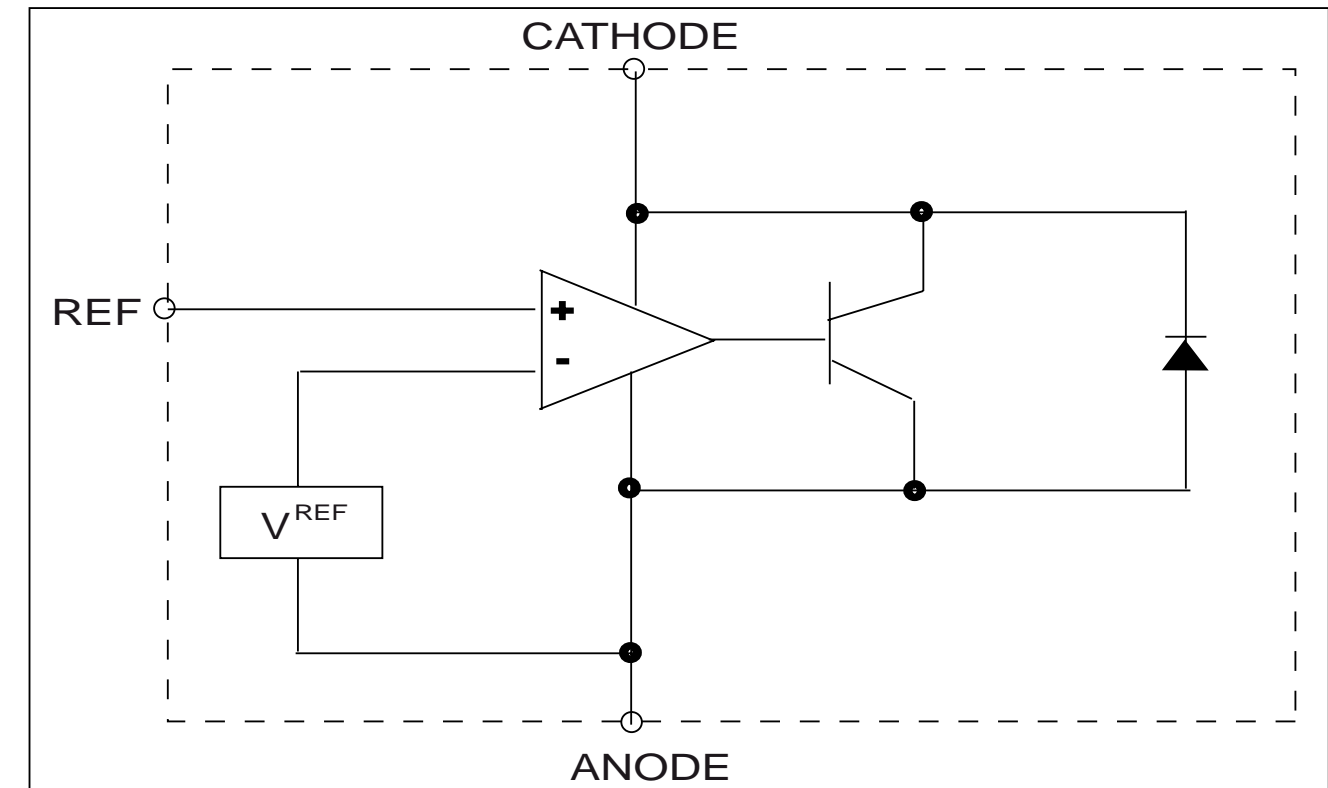
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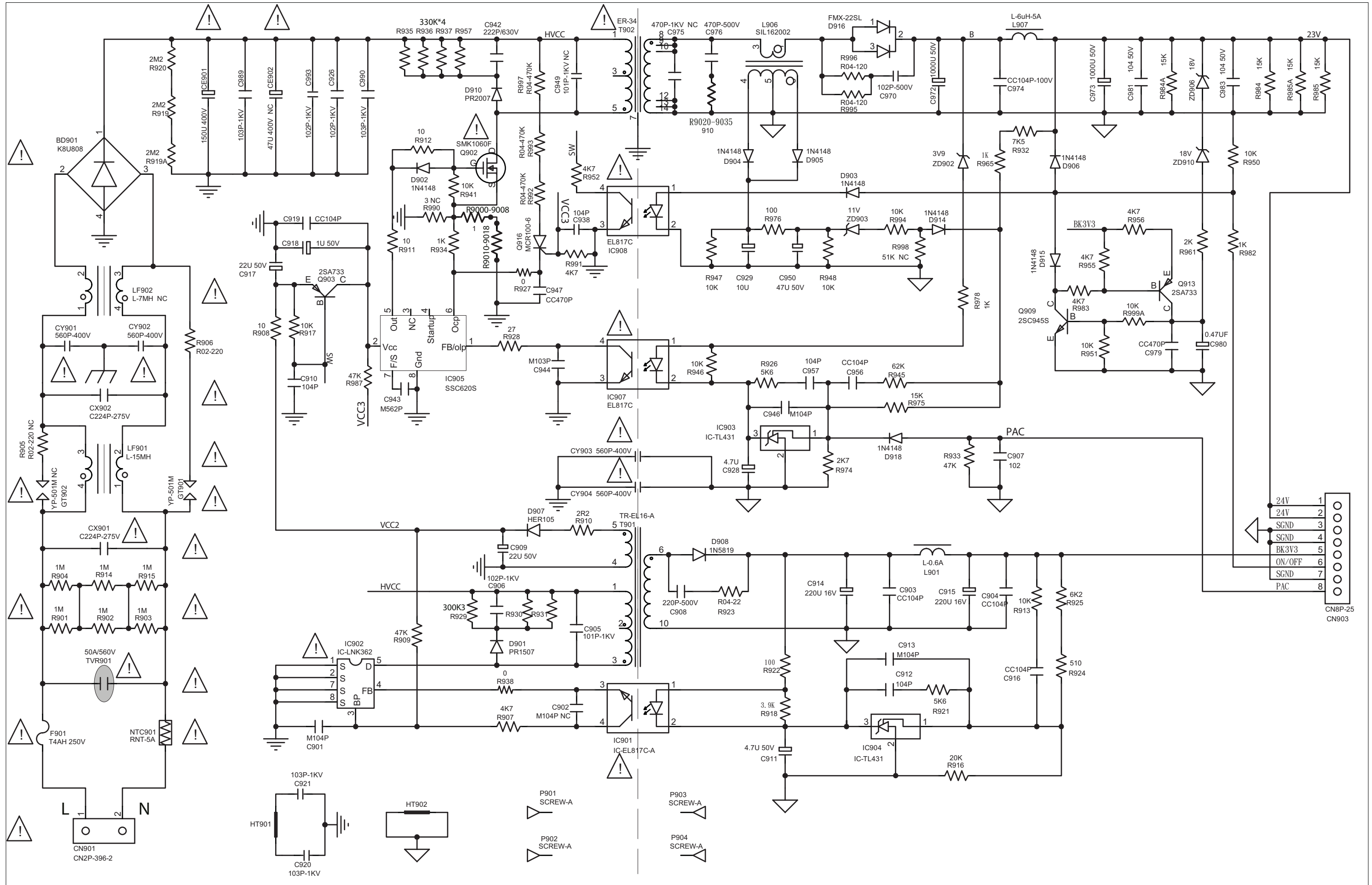
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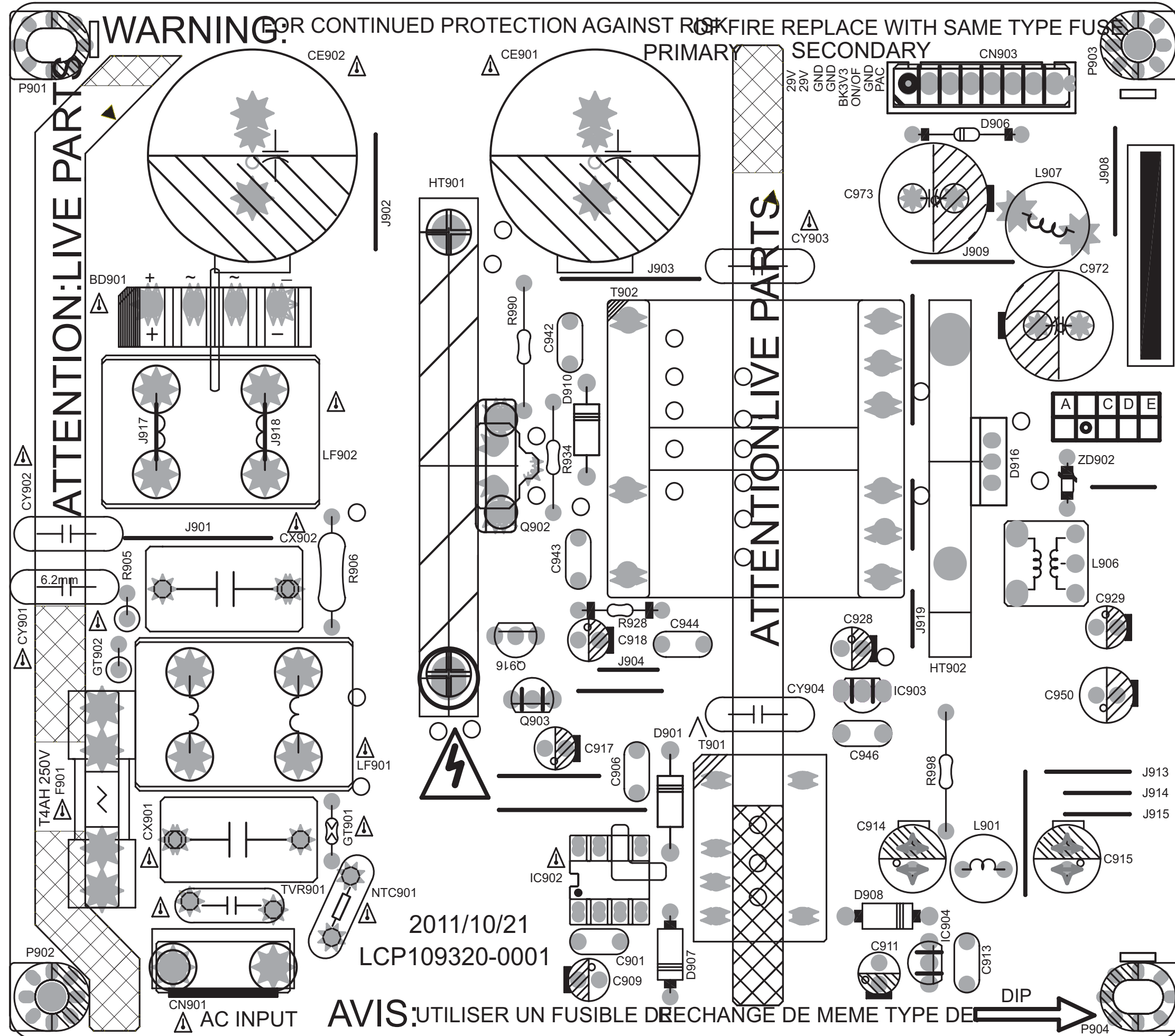
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IC905 INTERNAL IC DIAGRAM - SSC620S SOP

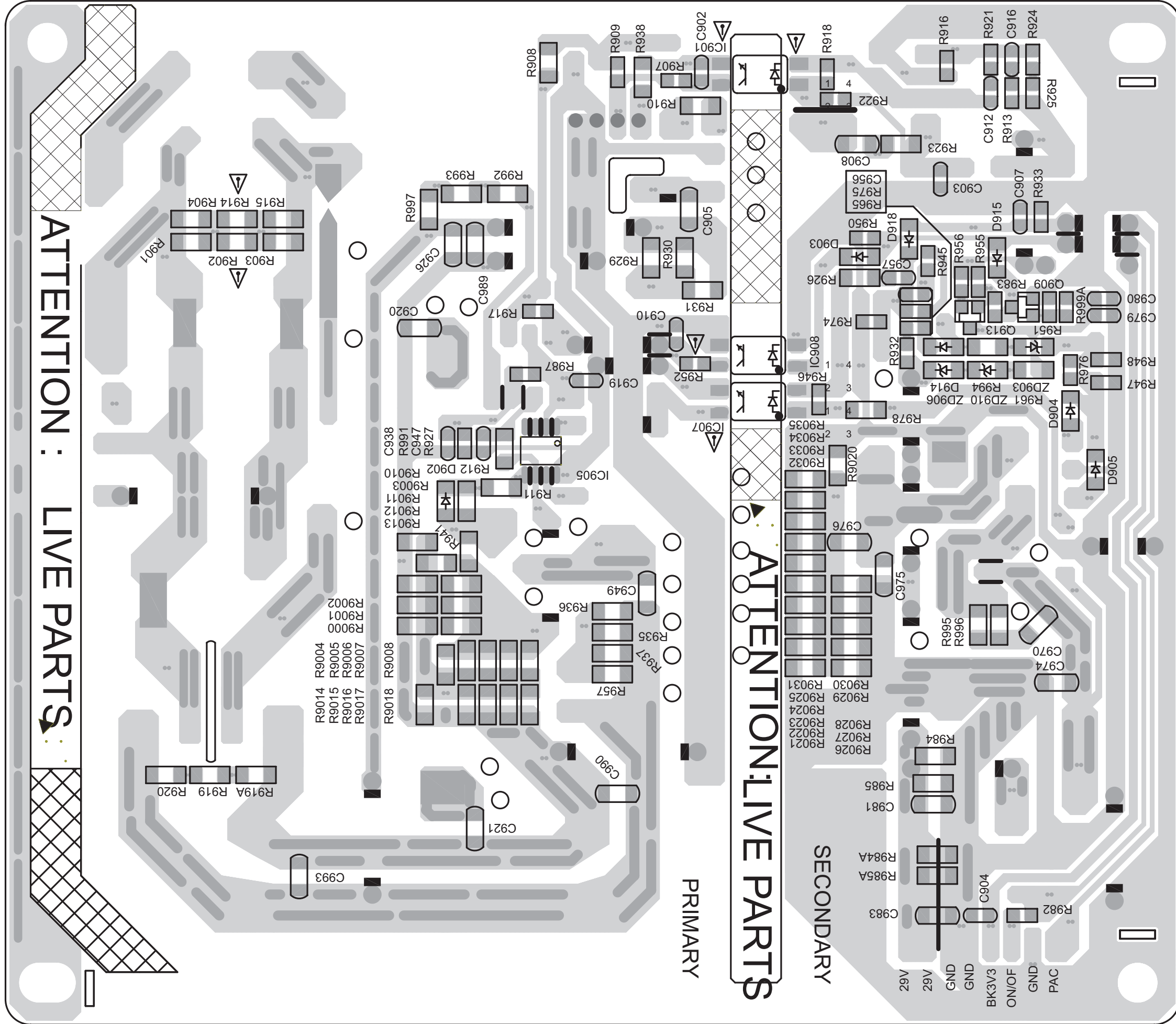


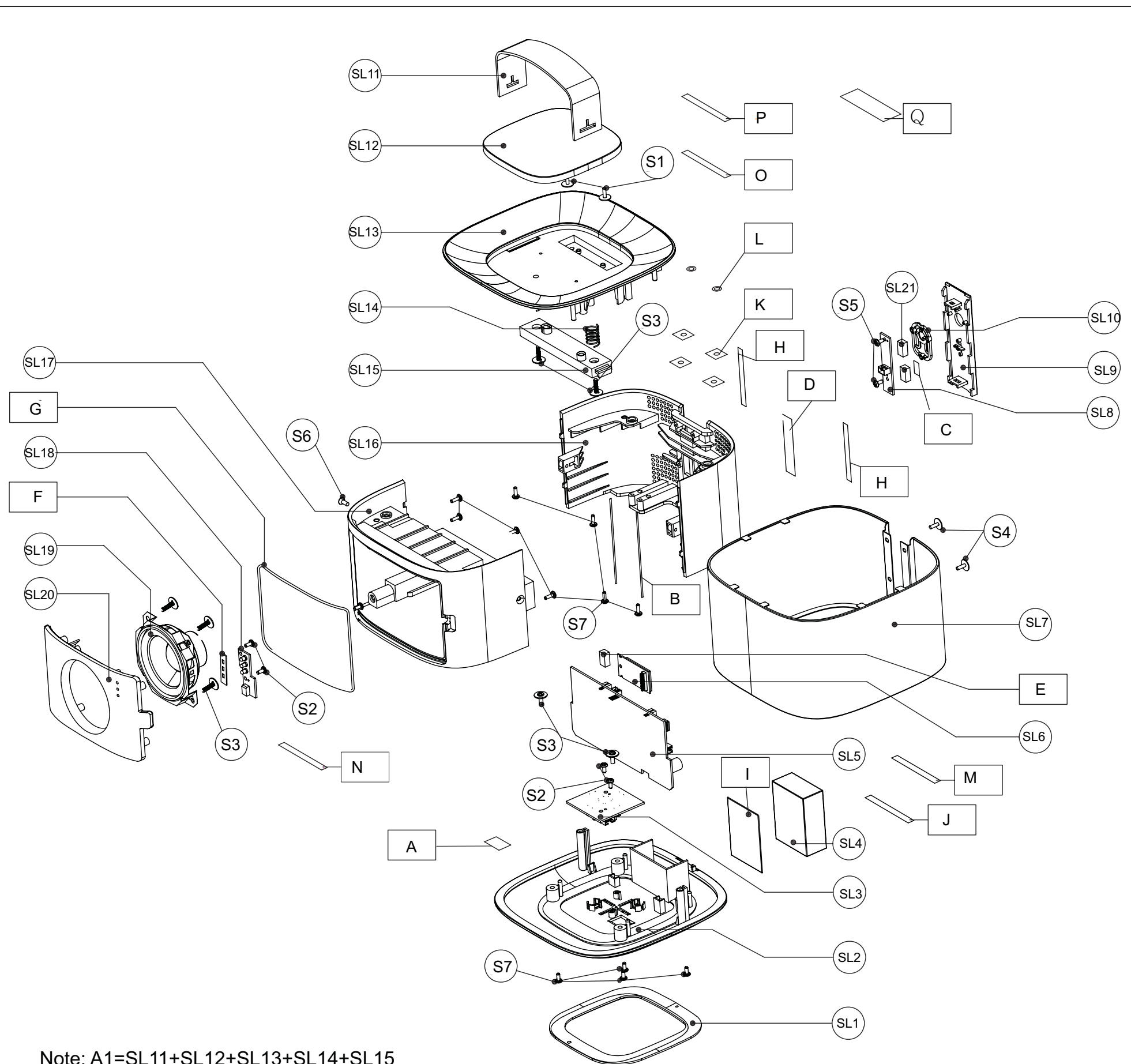
IC903/904 INTERNAL IC DIAGRAM -AZ431AZ-A



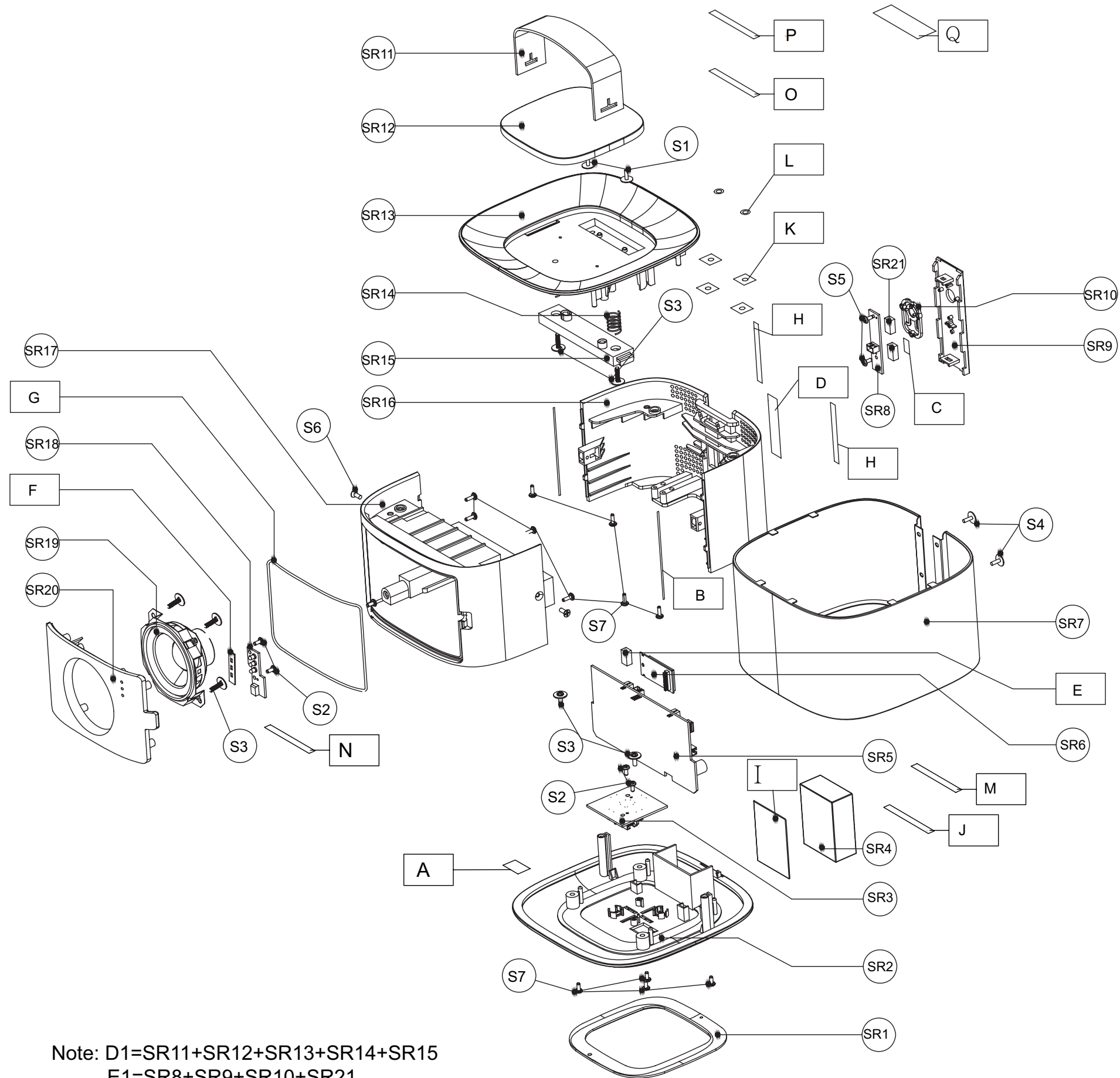




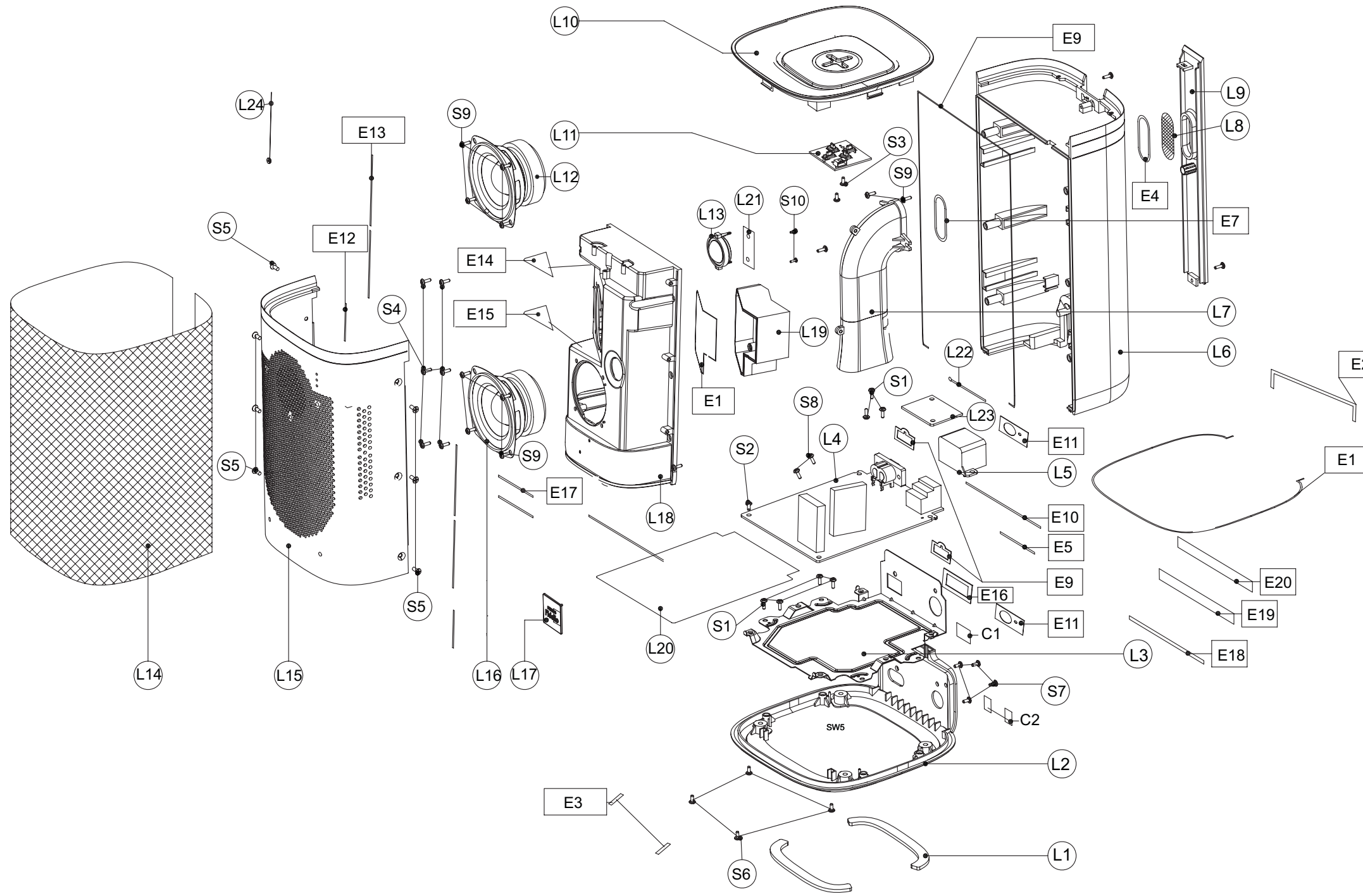




Note: A1=SL11+SL12+SL13+SL14+SL15
B1=SL8+SL9+SL10+SL21
C1=SL7+SL16+SL17+SL18+SL19+SL20



Note: D1=SR11+SR12+SR13+SR14+SR15
E1=SR8+SR9+SR10+SR21
F1=SR7+SR16+SR17+SR18+SR19+SR20

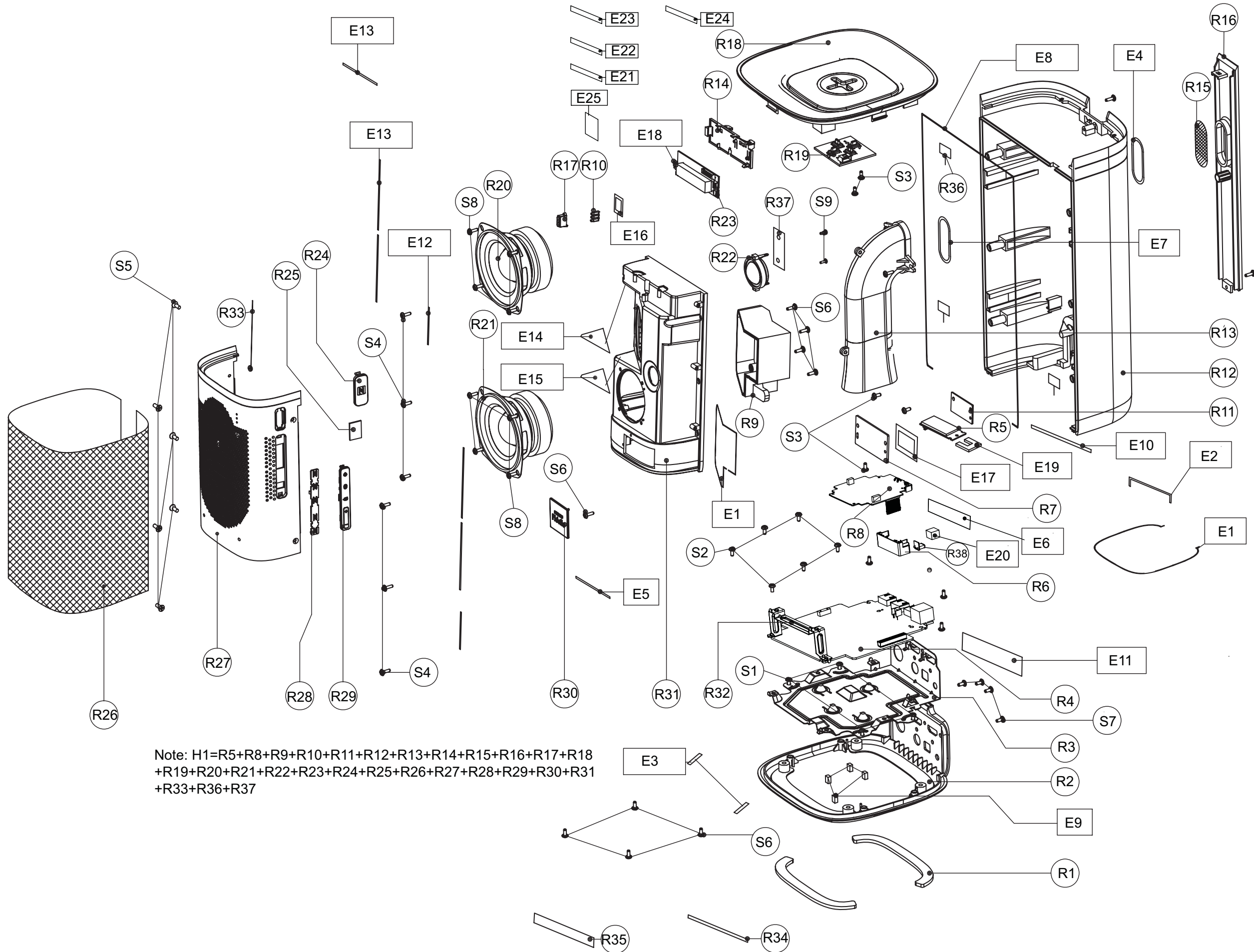


Accessories and consumer replaceable parts

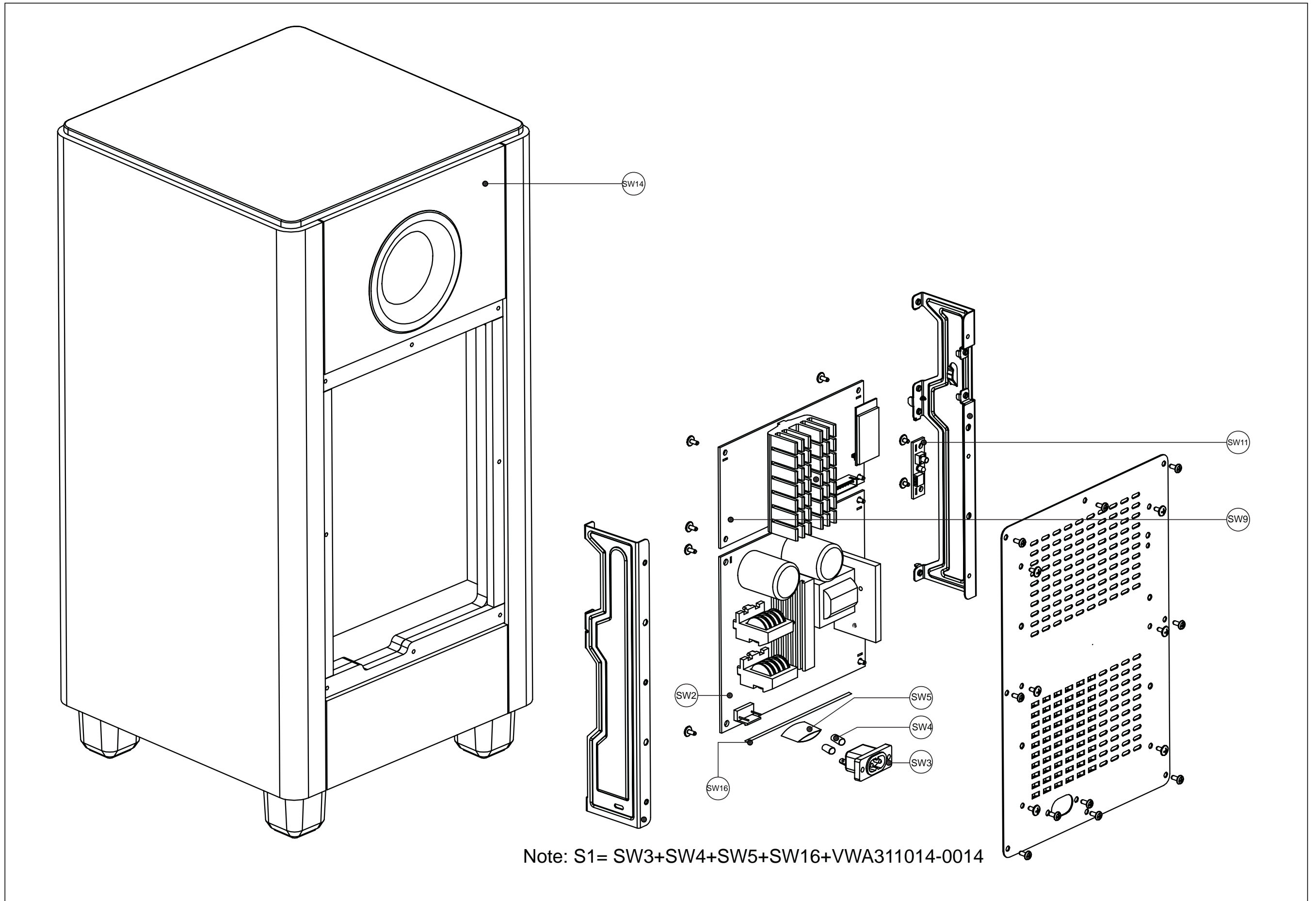
- Remote control
- DIN Cable
- Power Cord 2 x

Remark: Partlist refer to a separated excel file on FYP
 G1=L6+L7+L8+L9+L10+L11+L12+L13+L14+L15+L16+L17
 +L18+L19 +L21+L24

Mechanical Exploded View(MAIN UNIT_R)



Note: H1=R5+R8+R9+R10+R11+R12+R13+R14+R15+R16+R17+R18
 +R19+R20+R21+R22+R23+R24+R25+R26+R27+R28+R29+R30+R31
 +R33+R36+R37



Note: S1= SW3+SW4+SW5+SW16+VWA311014-0014

REVISION LIST

Version 1.0 Date:2015/12/4
*Initial release

Version 2.0 Date:2016/1/5

* Chapter 1 has updated, chapter 14 Explode drawing has updated.