

Service
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Service Manual

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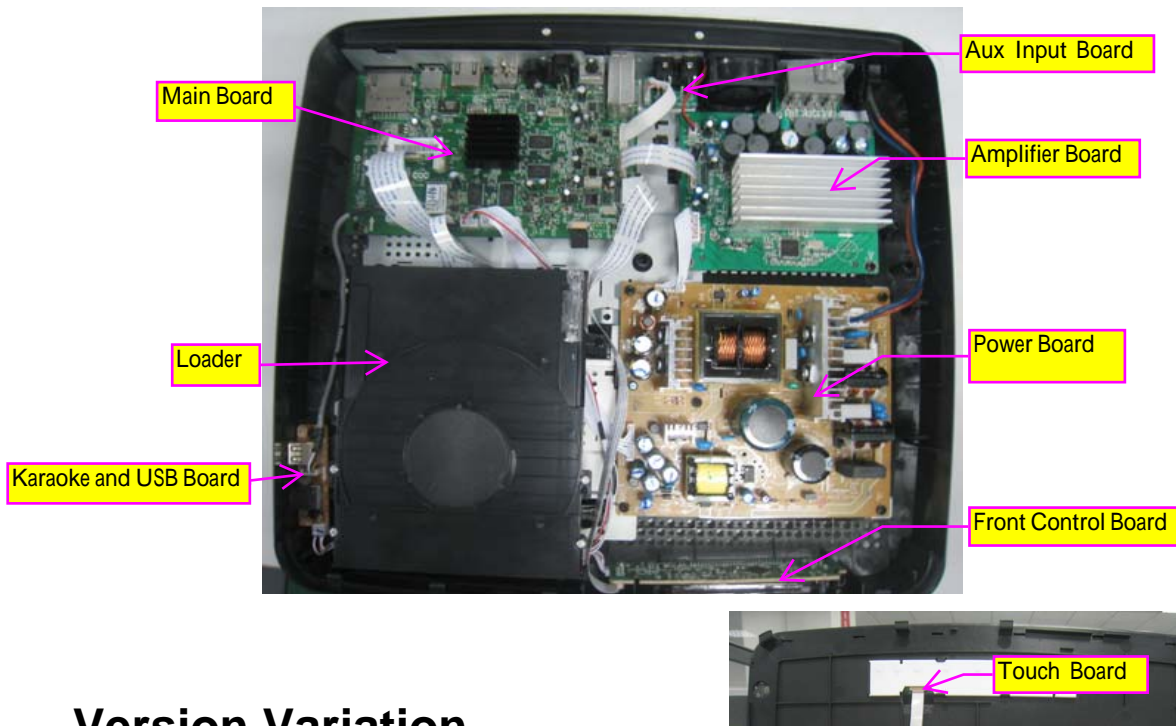
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**CLASS 1
LASER PRODUCT**

PCB BOARD LOCATION:



Version Variation

| Type/Versions Features | HTS4282 |
|---------------------------|---------|
| | /12 |
| Output Power- 400W | X |
| Voltage(220~240V) | X |
| MP3 LINK | X |

Repair Scenario Matrix

| Type/Versions Board in used | HTS4282 |
|--------------------------------|---------|
| | /12 |
| Main Board | C |
| Front Control Board | C |
| Amplifier Board | C |
| Power Board | C |
| Karaoke and USB Board | B |
| Touch Board | B |
| Aux Input Board | B |

*Bd:Board Level Replacement

*C:Component Level Repair

Specification for HTS4282/12 :

Product Specifications:

Note

- Specifications and design are subject to change without notice.

Region codes

The type plate on the back or bottom of the home theater shows which regions it supports.

| Country | DVD | BD |
|-----------------------------|---|---|
| Europe, United Kingdom |  |  |
| Asia Pacific, Taiwan, Korea |  |  |
| Latin America |  |  |
| Australia, New Zealand |  |  |
| Russia, India |  |  |
| China |  |  |

Media formats

- AVCHD, BD, BD-R/ BD-RE, BD-Video, DVD-Video, DVD+R/+RW, DVD-R/-RW, DVD+R/-R DL, CD-R/CD-RW, Audio CD, Video CD/SVCD, Picture files, MP3 media, WMA media, DivX Plus HD media, USB storage device

File formats

- Audio: .aac, .mka, .mp3, .wma, .wav, .mp4, .m4a
- Video: .avi, .divx, .mp4, .mkv, .asf, .wmv, .mpg, .mpeg,
- Picture: .jpg, .jpeg, .gif, .png

Audio formats

Your home theater supports the following audio files.

| Extension | Container | Audio codec | Bit rate |
|-----------|-----------|---------------|--------------------|
| .mp3 | MP3 | MP3 | 32 kbps ~ 320 kbps |
| .wma | ASF | WMA | 64 kbps ~ 160 kbps |
| .aac | AAC | AAC, HE-AAC | 192 kbps |
| .wav | WAV | PCM | 1.4 Mbps |
| .m4a | MKV | AAC | 192 kbps |
| .mka | MKA | PCM | 27.648 Mbps |
| .mka | MKA | Dolby Digital | 640 kbps |
| .mka | MKA | DTS core | 1.54 Mbps |
| .mka | MKA | MPEG | 912 kbps |
| .mka | MKA | MP3 | 32 kbps ~ 320 kbps |
| .mka | MKA | WMA | 64 kbps ~ 160 kbps |
| .mka | MKA | AAC, HE-AAC | 192 kbps |

Video formats

If you have a high definition TV, your home theater allows you to play your video files with:

- Resolution: 1920 x 1080 pixels at
- Frame rate: 6 ~ 30 frames per second.

.avi files in AVI container

| Audio codec | Video codec | Bit rate |
|--|---|------------------------|
| PCM, Dolby Digital, DTS core, MP3, WMA | DivX 3.11, DivX 4.x, DivX 5.x, DivX 6.x | 10 Mbps max |
| | MPEG 1, MPEG 2 | 20 Mbps (peak 40 Mbps) |
| | MPEG 4 ASP | 10 Mbps max |
| | H.264/AVC HP@4.1/4.0; MP@3.2/3.1/3.0 | 20 Mbps (peak 40 Mbps) |
| | WMV9 | 20 Mbps |

.divx files in AVI container

| Audio codec | Video codec | Bit rate |
|------------------------------|---|------------------------|
| PCM, Dolby Digital, MP3, WMA | DivX 3.11, DivX 4.x, DivX 5.x, DivX 6.x | 10 Mbps max |
| | MPEG 1, MPEG 2 | 20 Mbps (peak 40 Mbps) |
| | MPEG 4 ASP | 10 Mbps max |

.mp4 or .m4v files in MP4 container

| Audio codec | Video codec | Bit rate |
|---------------------------------------|--------------------------------------|------------------------|
| Dolby Digital, MPEG, MP3, AAC, HE-AAC | MPEG 1, MPEG 2 | 20 Mbps (peak 40 Mbps) |
| | MPEG 4 ASP | 10 Mbps max |
| | H.264/AVC HP@4.1/4.0; MP@3.2/3.1/3.0 | 20 Mbps (peak 40 Mbps) |

.mkv files in MKV container

| Audio codec | Video codec | Bit rate |
|---|--------------------------------------|------------------------|
| PCM, Dolby Digital, DTS core, MPEG, MP3, WMA, AAC, HE-AAC | MPEG 1, MPEG 2 | 20 Mbps (peak 40 Mbps) |
| | MPEG 4 ASP | 10 Mbps max |
| | H.264/AVC HP@4.1/4.0; MP@3.2/3.1/3.0 | 20 Mbps (peak 40 Mbps) |
| | WMV9 | 20 Mbps |

.asf and .wmv files in ASF container

| Audio codec | Video codec | Bit rate |
|------------------------------|--------------------------------------|------------------------|
| PCM, Dolby Digital, MP3, WMA | MPEG 4 ASP | 10 Mbps max |
| | H.264/AVC HP@4.1/4.0; MP@3.2/3.1/3.0 | 20 Mbps (peak 40 Mbps) |
| | WMV9 | 20 Mbps |

.mpg and .mpeg files in PS container

| Audio codec | Video codec | Bit rate |
|--------------------------|----------------|------------------------|
| PCM, DTS core, MPEG, MP3 | MPEG 1, MPEG 2 | 20 Mbps (peak 40 Mbps) |
| | MPEG 1, MPEG 2 | 20 Mbps (peak 40 Mbps) |

Amplifier

- Total output power: 400W RMS (30% THD)

- Frequency response: 20 Hz-20 kHz / ± 3 dB
- Signal-to-noise ratio: > 65 dB (CCIR) / (A-weighted)
- Input sensitivity:
 - AUX1, AUX2: 2 V
 - Music iLink: 1 V

Video

- Signal system: PAL / NTSC
- HDMI output: 480i/576i, 480p/576p, 720p, 1080i, 1080p, 1080p24

Audio

- S/PDIF Digital audio input:
 - Coaxial: IEC 60958-3
 - Optical: TOSLINK
- Sampling frequency:
 - MP3: 32 kHz, 44.1 kHz, 48 kHz
 - WMA: 44.1 kHz, 48 kHz
- Constant bit rate:
 - MP3: 32 kbps - 320 kbps
 - WMA: 48 kbps - 192 kbps

Radio

- Tuning range:
 - Europe/Russia/China: FM 87.5-108 MHz (50 kHz)
 - Asia Pacific/Latin America: FM 87.5-108 MHz (50/100 kHz)
- Signal-to-noise ratio: FM 50 dB
- Frequency response: FM 200 Hz-12.5 kHz / ± 6 dB

USB

- Compatibility: Hi-Speed USB (2.0)
- Class support: USB Mass Storage Class (MSC)
- File system: FAT16, FAT32, NTFS
- Maximum memory support: < 160 GB

Main unit

- Power supply:
 - Europe/China/Russia/India: 220-240 V~, 50 Hz
 - Latin America/Asia Pacific: 110-127 V/220-240 V~, 50-60 Hz
- Power consumption: 75 W
- Standby power consumption: ≤ 0.5 W
- Dimensions (WxHxD): 360 x 60 x 335 mm
- Weight: 3.4 kg

Subwoofer

- Output power: 200W RMS (30% THD)
- Impedance: 3 ohm
- Speaker drivers: 165 mm (6.5") woofer
- Dimensions (WxHxD): 123 x 309 x 369 mm
- Weight: 3.84 kg
- Cable length: 3 m

Speakers

- Output power: 2 x 100W RMS (30% THD)
- Speaker impedance: 6 ohm
- Speaker drivers: 1 x 76.2 mm (3") full range woofer
- Dimensions (WxHxD): 95 x 161 x 87 mm
- Weight: 0.55 kg/each
- Cable length: 4 m

Dock for iPod/iPhone

- Dimensions (HxD): 34.5 x 104 mm
- Weight: 135 g

Remote control batteries

- 2 x AAA-R03-1.5 V

Laser

- Laser Type (Diode): InGaN/AlGaIn (BD), AlGaInP (DVD/CD)
- Wave length: 405 ± 7 nm/ -7 nm (BD), 655 ± 10 nm/ -10 nm (DVD), 790 ± 10 nm/ -20 nm (CD)
- Output power (Max. ratings): 20 mW (BD), 6 mW (DVD), 7 mW (CD)

Safety instruction, Warning & Notes

Safety instruction

1. General safety

Safety regulations require that during a repair:

- . Connect the unit to the mains via an isolation transformer.
- . Replace safety components indicated by the symbol ▲, only by components identical to the original ones. Any other component substitution (other than original type) may increase risk of fire or electrical shock hazard.

Safety regulations require that after a repair, you must return the unit in its original condition. Pay, in particular, attention to the following points:

- . Route the wires/cables correctly, and fix them with the mounted cable clamps.
- . Check the insulation of the mains lead for external damage.
- . Check the electrical DC resistance between the mains plug and the secondary side:
 - 1) Unplug the mains cord, and connect a wire between the two pins of the mains plug.
 - 2) Set the mains switch the "on" position (keep the mains cord unplug).
 - 3) Measure the resistance value between the mains plug and the front panel, controls, and chassis bottom.
 - 4) Repair or correct unit when the resistance measurement is less than 1M Ω .
 - 5) Verify this, before you return the unit to the customer/user (ref. UL-standard no. 1492).
 - 6) Switch the unit "off", and remove the wire between the two pins of the mains plug.

2.Laser safety

This unit employs a laser. Only qualified service personnel may remove the cover, or attempt to service this device (due to possible eye injury).

Laser device unit

| | |
|--------------|------------------------------|
| Type | : Semiconductor laser GaAlAs |
| Wavelength | : 650nm (DVD) |
| | : 780nm (VCD/CD) |
| Output power | : 7mW (DVD) |
| | : 10mW (DVD /CD) |

Beam divergence: 60 degree

Note: Use of controls or adjustments or performance of procedure other than those specified herein, may result in hazardous radiation exposure. Avoid direct exposure to beam.

Warning

1. General

. All ICs and many other semiconductors are susceptible to electrostatic discharges (ESD). Careless handling during repair can reduce life drastically. Make sure that, during repair, you are at the same potential as the mass of the set by a wristband with resistance. Keep components and tools at this same potential. Available ESD protection equipment:

- 1) Complete kit ESD3 (small tablemat, wristband, connection box, extension cable and earth cable) 4822 310 10671.
- 2) Wristband tester 4822 344 13999.

. Be careful during measurements in the live voltage section. The primary side of the power supply, including the heat sink, carries live mains voltage when you connect the player to the mains (even when the player is "off!"). It is possible to touch copper tracks and/or components in this unshielded primary area, when you service the player. Service personnel must take precautions to prevent touching this area or components in this area. A "lighting stroke" and a stripe-marked printing on the printed wiring board, indicate the primary side of the power supply.

. Never replace modules, or components, while the unit is "on".

2. Laser

- . The use of optical instruments with this product, will increase eye hazard.
- . Only qualified service personnel may remove the cover or attempt to service this device, due to possible eye injury.
- . Repair handling should take place as much as possible with a disc loaded inside the player.
- . Text below is placed inside the unit, on the laser cover shield:

CAUTION: VISIBLE AND INVISIBLE LASER RADIATION WHEN OPEN, AVOID EXPOSURE TO BEAM.

Notes: Manufactured under licence from Dolby Laboratories. The double-D symbol is trademarks of Dolby Laboratories, Inc. All rights reserved.

Service Hints

CAUTION

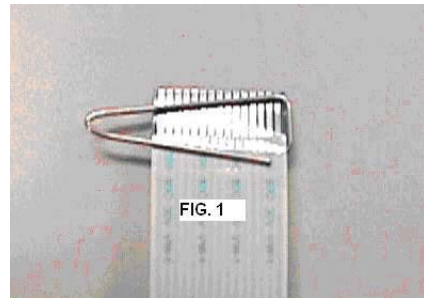
CHARGED CAPACITORS ON THE SERVO BOARD MAY DAMAGE THE DRIVE ELECTRONICS WHEN CONNECTING A NEW DRIVE. THAT'S WHY, BESIDES THE SAFETY MEASURES LIKE

- SWITCH OFF POWER SUPPLY
- ESD PROTECTION

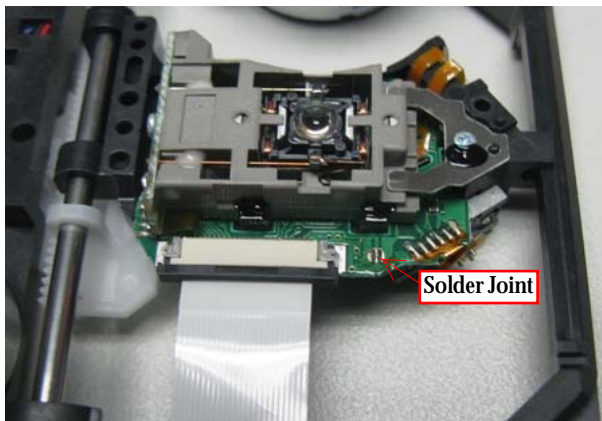
ADDITIONAL ACTIONS MUST BE TAKEN BY THE REPAIR TECHNICIAN.

The following steps have to be done when replacing the defective loader :

1. Dismantling of the loader to access the ESD protection point if necessary.
2. **Solder the ESD protection point***.
3. Disconnect flexfoil cable from the defective loader.
4. Put a paper clip on the flexfoil to short-circuit the contacts (fig.1)
5. Replace the defective loader with a new loader.
6. Remove paperclip from the flexfoil and connect it to the new loader.
7. Remove solder joint on the ESD protection point.



ATTENTION: The laser diode of this loader is protected against ESD by a solder joint which shortcircuits the laserdiode to ground. For proper functionality of the loader this solder joint must be remove **after** connection loader to the set.



(ESD protection point is accessible from top of loader)


****Only applicable for defective loader needed to be sent back to supplier for failure analysis and to support backcharging evidence.***

This is also applicable for all partnership workshops.

Notes

Lead-Free requirement for service

IDENTIFICATION:

Regardless of special logo (not always indicated) 

One must treat all sets from 1.1.2005 onwards, according next rules.

Important note: In fact also products a little older can also be treated in this way as long as you avoid mixing solder-alloys (lead-ed/ lead-free). So best to always use SAC305 and the higher temperatures belong to this.

Due to lead-free technology some rules have to be respected by the workshop during a repair:

- Use only lead-free solder alloy Philips SAC305 with order code 0622 149 00106. If lead-free solder-paste is required, please contact the manufacturer of your solder-equipment. In general use of solder-paste within workshops should be avoided because paste is not easy to store and to handle.
- Use only adequate solder tools applicable for lead-free solder alloy. The solder tool must be able
 - To reach at least a solder-temperature of 400°C,
 - To stabilize the adjusted temperature at the solder-tip
 - To exchange solder-tips for different applications.
- Adjust your solder tool so that a temperature around 360°C – 380°C is reached and stabilized at the solder joint. Heating-time of the solder-joint should not exceed ~ 4 sec. Avoid temperatures above 400°C otherwise wear-out of tips will rise drastically and flux-fluid will be destroyed. To avoid wear-out of tips switch off un-used equipment, or reduce heat.
- Mix of lead-free solder alloy / parts with lead-ed solder alloy / parts is possible but PHILIPS recommends strongly to avoid mixed solder alloy types (lead-ed and lead-free). If one cannot avoid, clean carefully the solder-joint from old solder alloy and re-solder with new solder alloy (SAC305).

- Use only original spare-parts listed in the Service-Manuals. Not listed standard-material (commodities) has to be purchased at external companies.
- Special information for BGA-ICs:
 - always use the 12nc-recognizable soldering temperature profile of the specific BGA (for de-soldering always use highest lead-free temperature profile, in case of doubt)
 - lead free BGA-ICs will be delivered in so-called 'dry-packaging' (sealed pack including a silica gel pack) to protect the IC against moisture. After opening, dependent of MSL-level seen on indicator-label in the bag, the BGA-IC possibly still has to be baked dry. This will be communicated via AYS-website.
- Do not re-use BGAs at all.
- For sets produced before 1.1.2005, containing lead-ed soldering-tin and components, all needed spare-parts will be available till the end of the service-period. For repair of such sets nothing changes.
- On our website:

www.atyourservice.ce.Philips.com

You find more information to:

BGA-de-/soldering (+ baking instructions)
Heating-profiles of BGAs and other ICs used in Philips-sets

You will find this and more technical information within the "magazine", chapter "workshop news".
For additional questions please contact your local repair-helpdesk.

Mechanical and Dismantling Instructions

Dismantling Instruction

Detailed information please refer to the model set.

The following guidelines show how to dismantle the player.

Step1: Remove 2 screws of Rear Plate, and then dismantle the Turn Knob connecting TOP COVER and BOTTOM PLATE. Finally ,dismantle the XP14,then remove the TOP COVER (Figure 1).

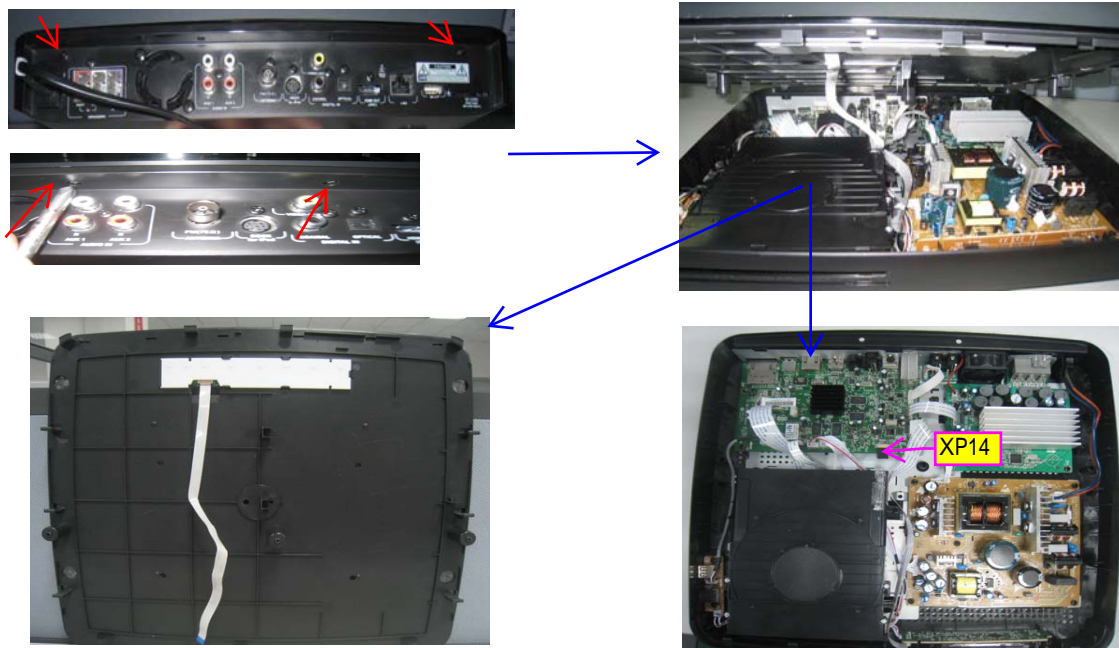


Figure 1

Step2: If it is necessary to dismantle Loader , the Front door should be removed first. (Figure 2)

Note: Make sure to operate gently otherwise the guider would be damaged.



Please kindly note that dismantle the front door assembly carefully to avoid damage tray and the front door.

Figure 2

Mechanical and Dismantling Instructions

Dismantling Instruction

Detailed information please refer to the model set.

Step3 :Remove the white plastic Front Panel,then take the TC Board out from Assembly TOP COVER .(Figure 3)

Step4 :Dismantle Front Control Board,disconnect 2 connectors(XP605,XP3).(Figure 4)

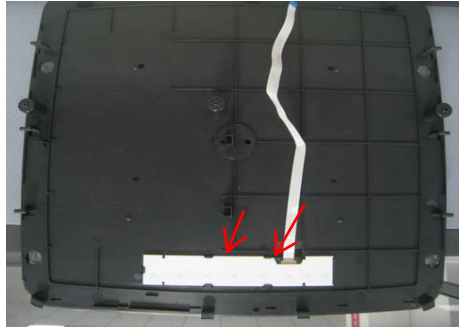


Figure 3

Step5 :Dismantle Loader,disconnect 3 connectors(XP5,XP7,XP10) and remove 2 screws that connects the loader and the bottom plate.(Figure 4- Figure5)

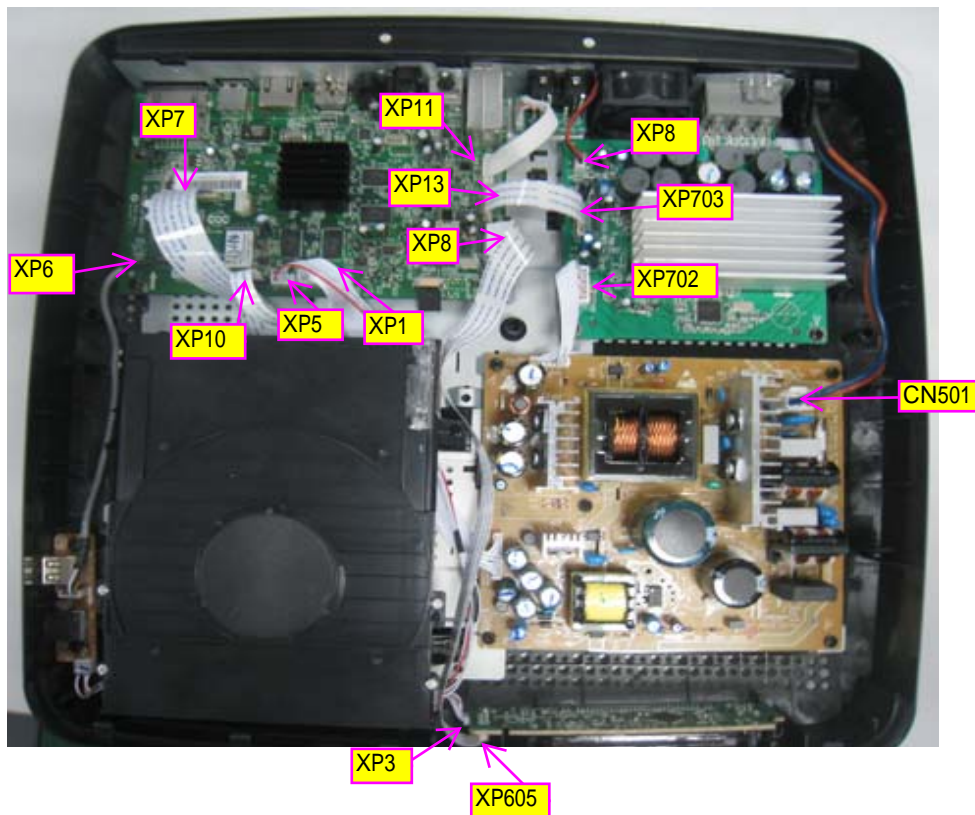


Figure 4

Mechanical and Dismantling Instructions

Dismantling Instruction

Detailed information please refer to the model set.

Step6 :Dismantle Main Board,disconnect 5 connectors(XP1,XP6,XP8,XP11,XP13) and remove 7 screws.(Figure4-Figure5)

Step7:Dismantle Power Board,disconnect 2 connectors(XP702,CN501) and remove 5 screws.(Figure4-Figure5)

Step8:Dismantle Amplifier Board,disconnect 2 connectors(XP8,XP703) and remove 3 screws.(Figure4-Figure5)

Step9 :Dismantle Karaoke and USB Board,remove 2 screws.(Figure4)

Step10:Dismantle Fan,remove 2 screws.(Figure4)

Step11 :Dismantle KUX Input Board,remove 1 screws.(Figure4)



Figure 5

Software upgrade

A. Software upgrade method:

1. Set up a new folder and name it 'UPG' in the root of USB device.
2. Copy the file(HTS_XXXX.bin)which you want to upgrade into the 'UPG' folder
3. Power on the BD Player, after it shows the UI, plug the USB device
4. Select the SETUP Menu, then find and select item 'Advanced'
5. In the item 'Advanced', find and select item 'Software Update', then select item 'USB', please follow the tip to complete the upgrade.

B. Read out the software versions to confirm upgrading

Follow the steps shows below:

SETUP—>Advanced >Version Info.

While it shows the dialog box, we can see some information like below:

For example:

Model: HTSxxxx/xx

System SW:x.xx.xx

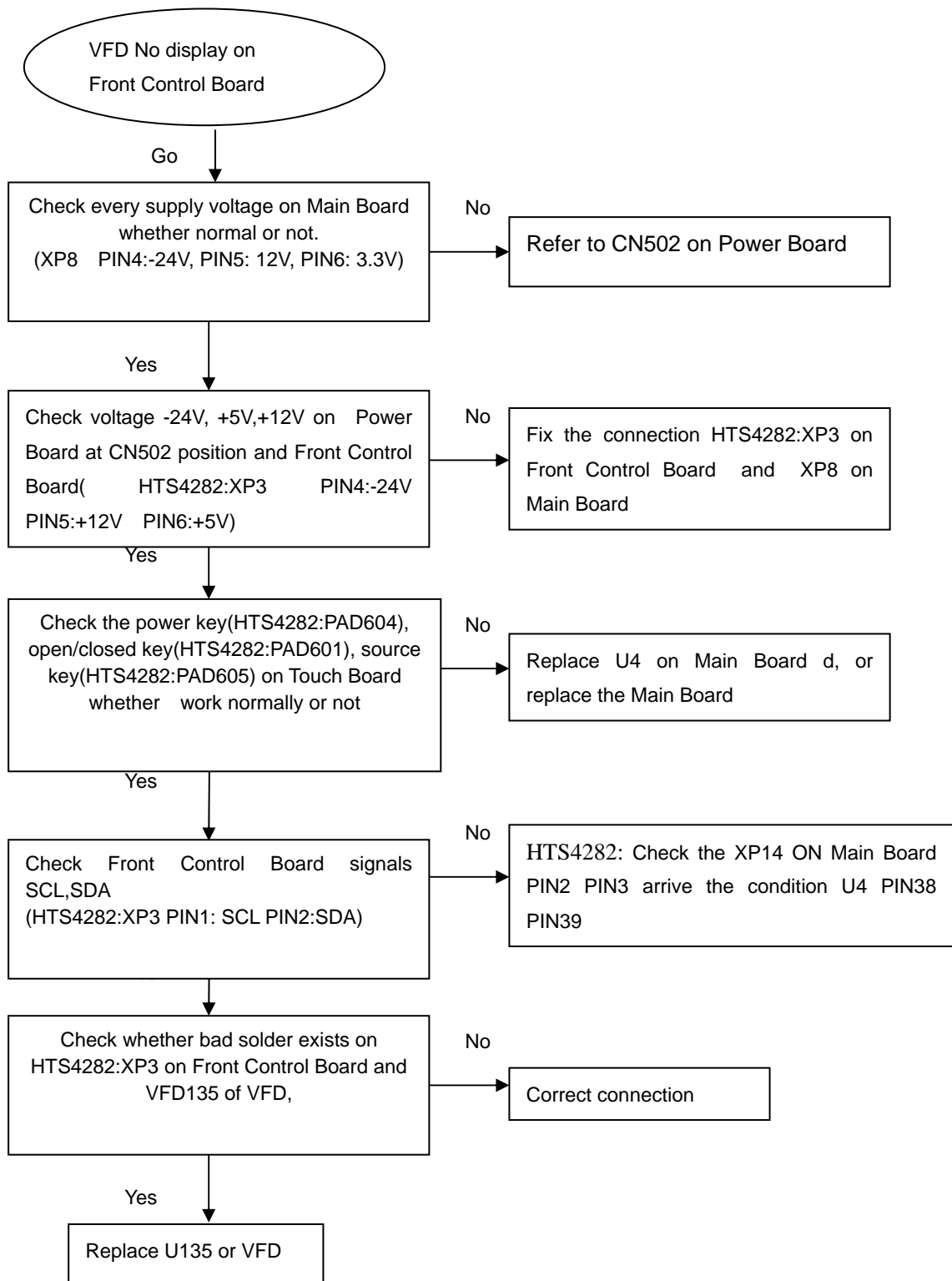
Subsystem SW:xx-xx-xx-xx

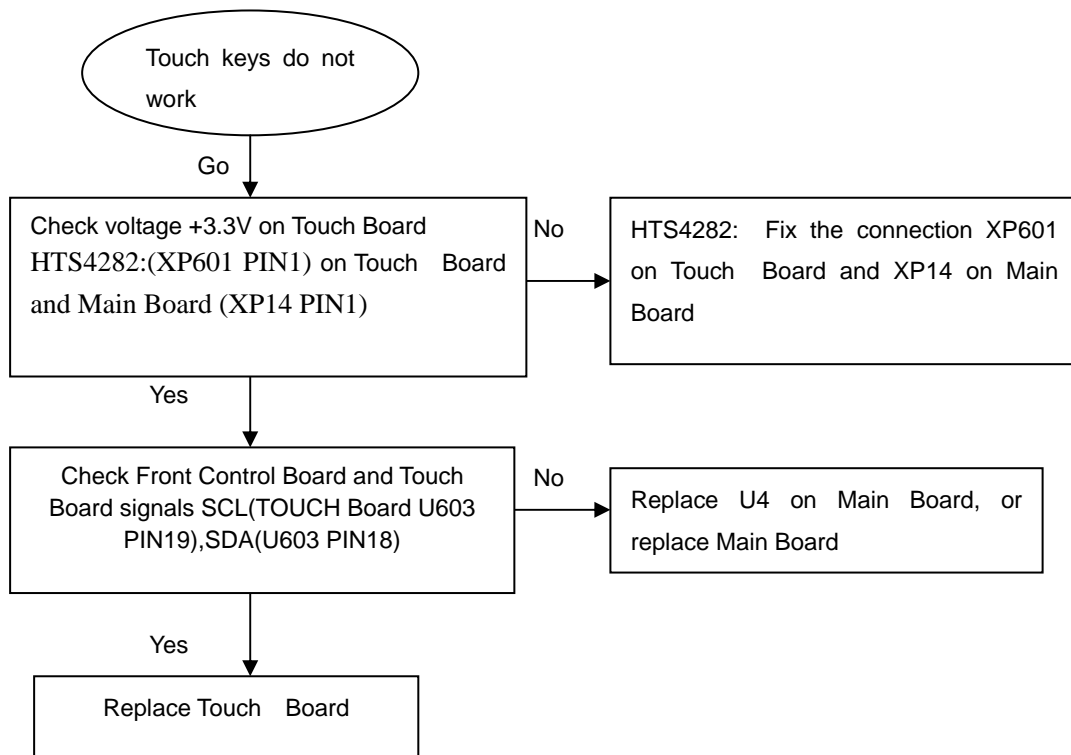
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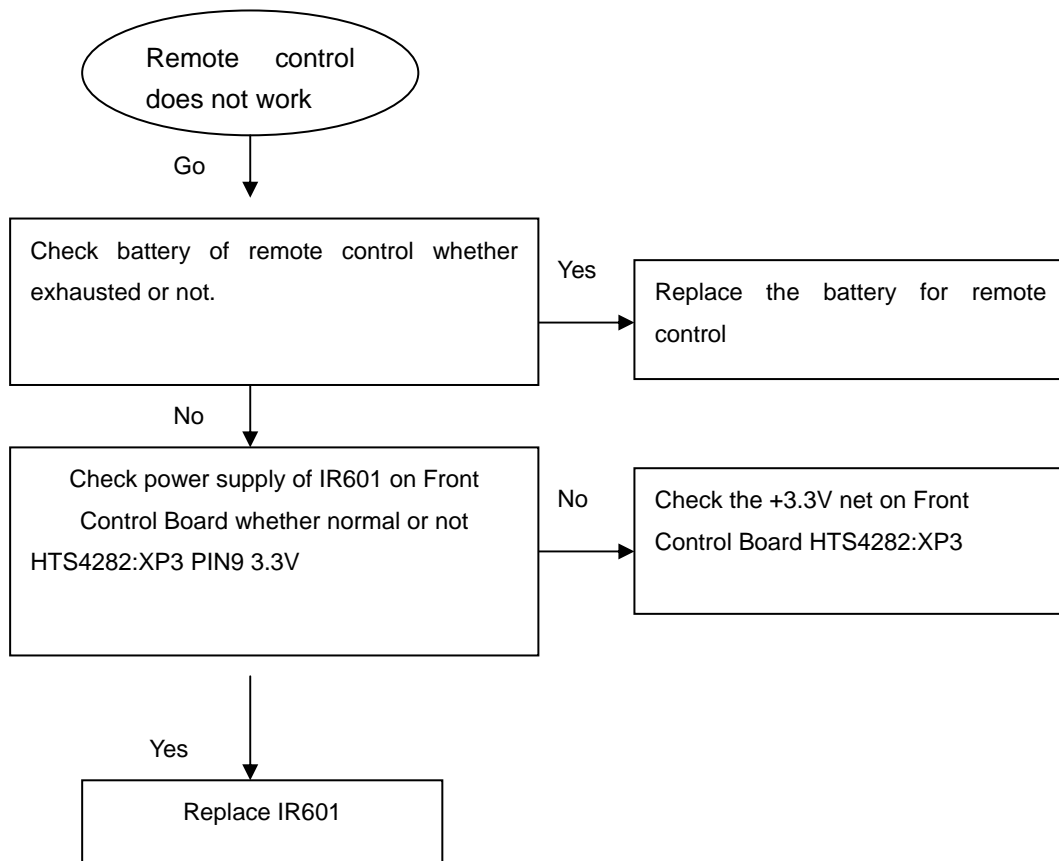
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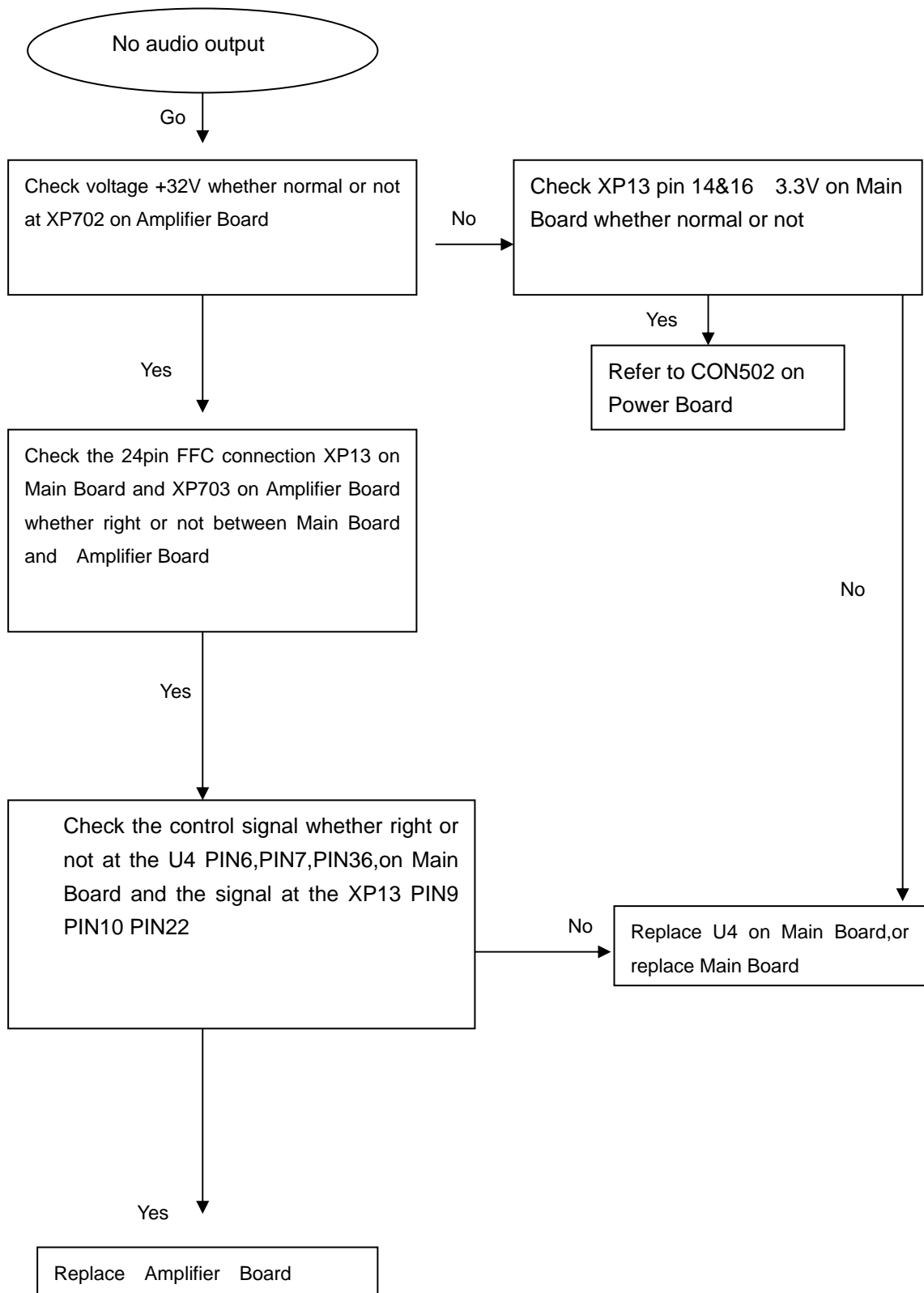
| |
|---|
| Caution: The set must not be power off during upgrading, Otherwise the Main board will be damaged entirely. |
|---|

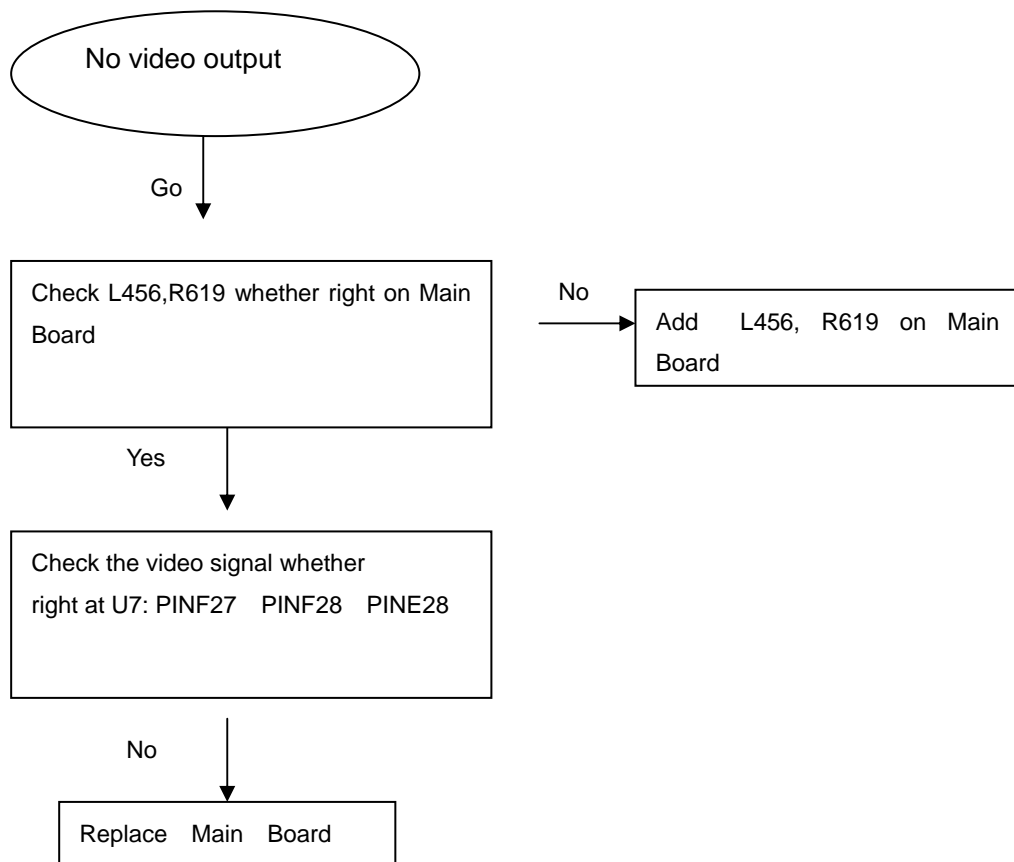
VFD No display on Front Control Board

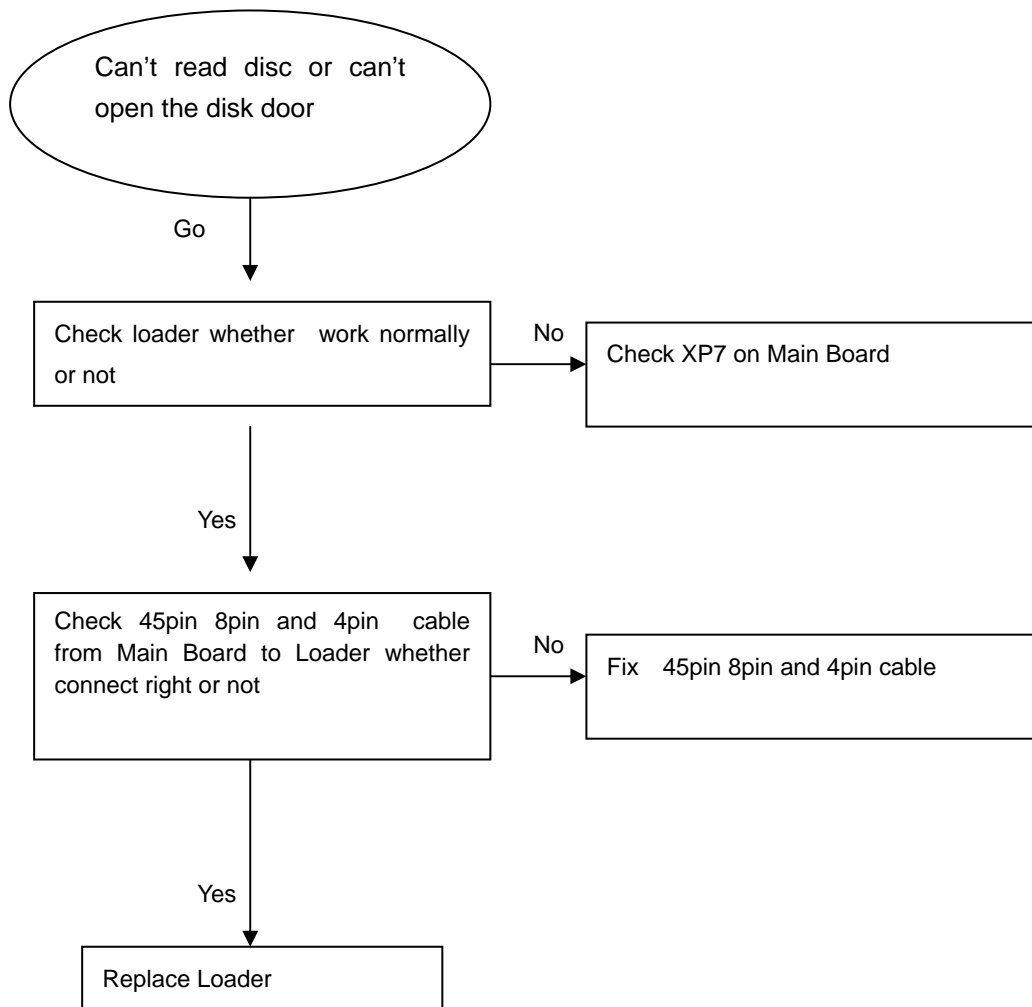


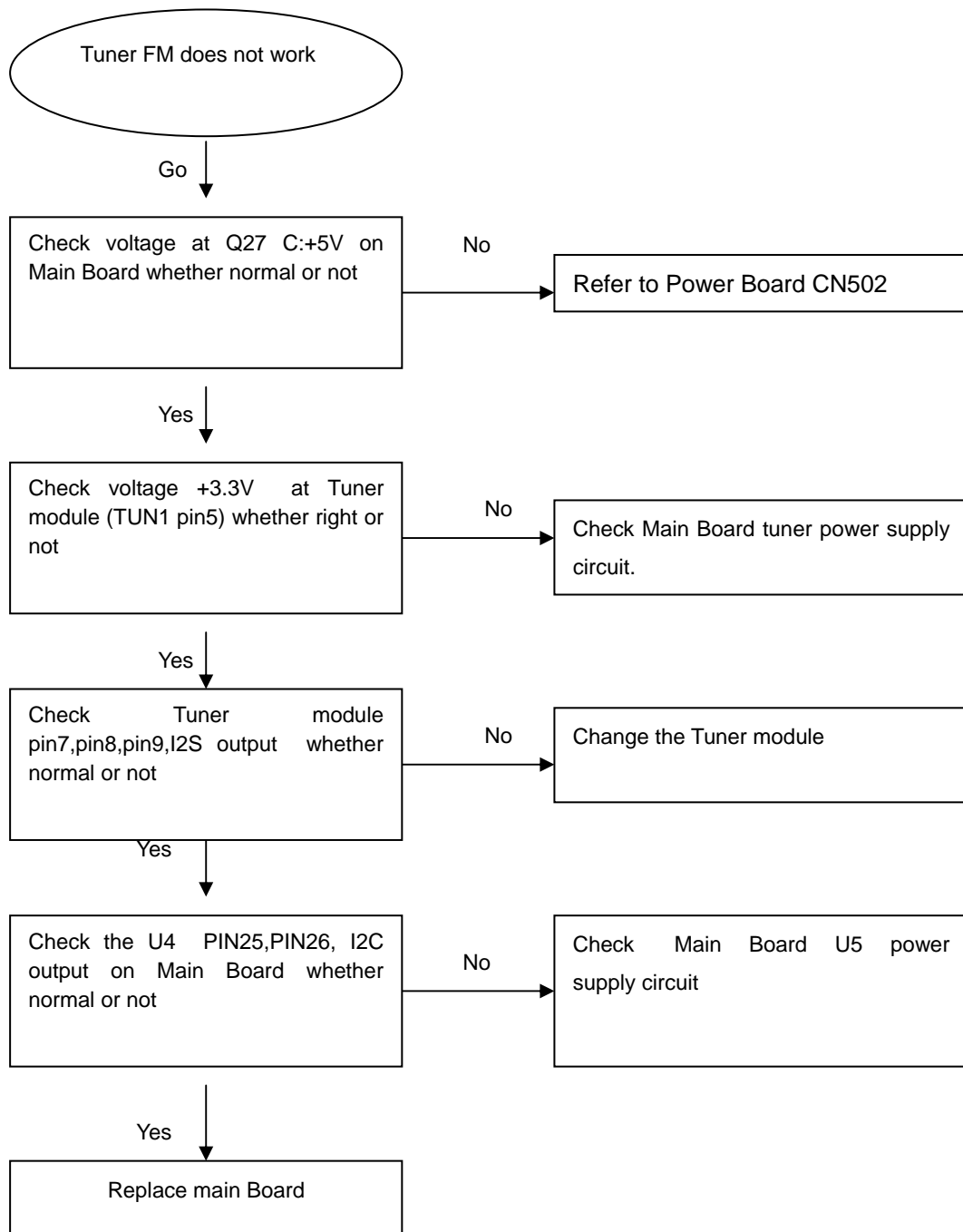
Touch keys do not work

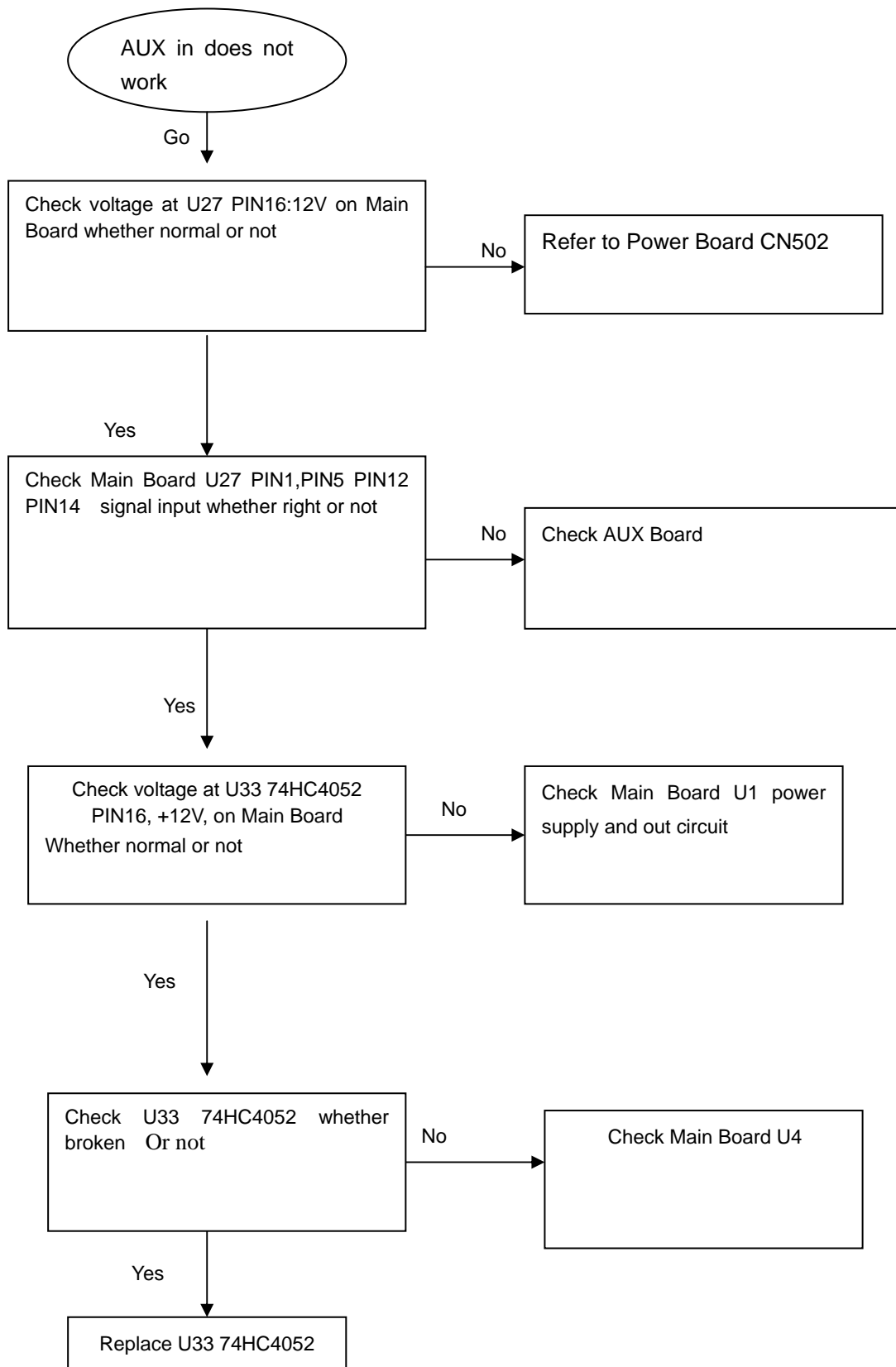
Remote control does not work

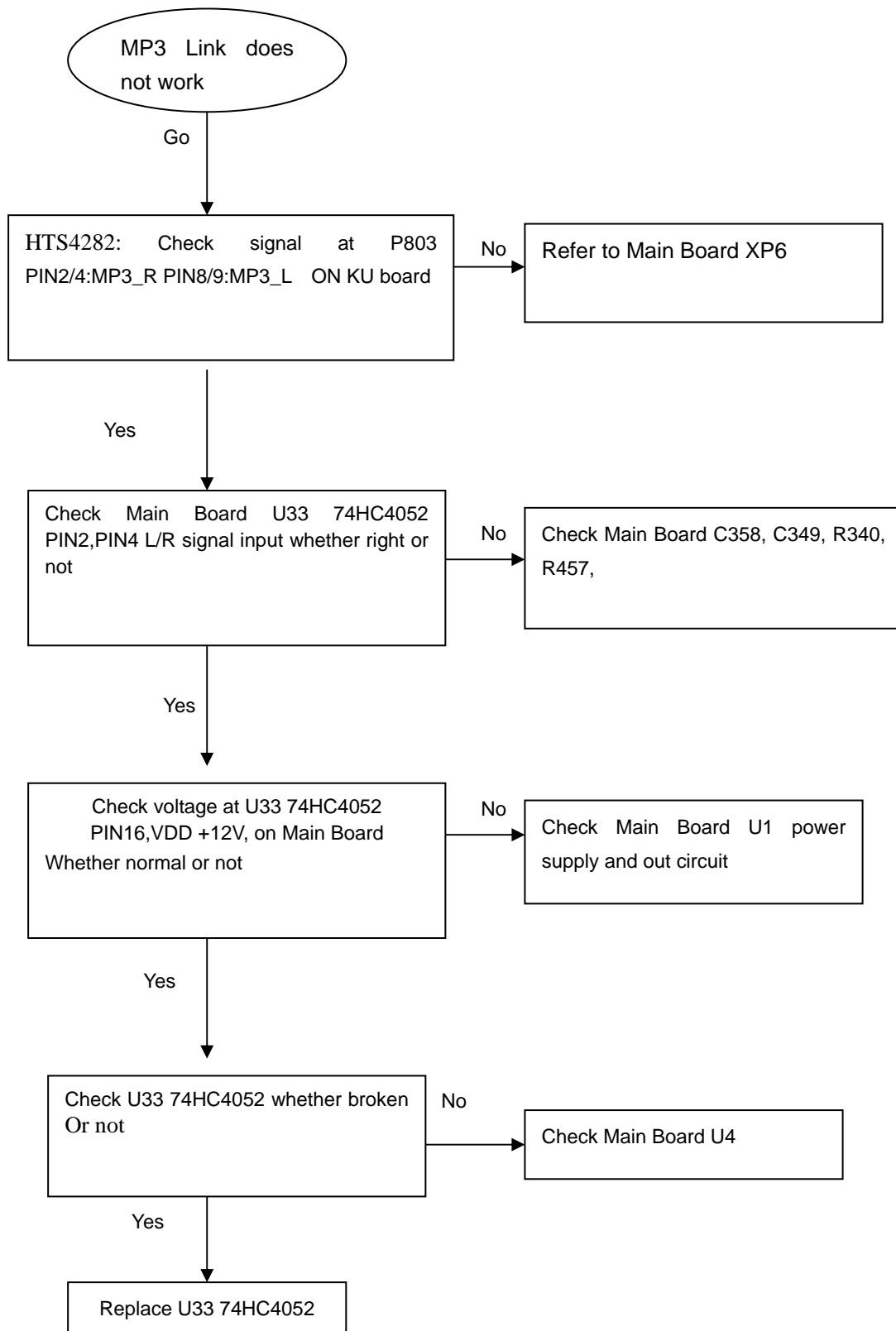
No audio output

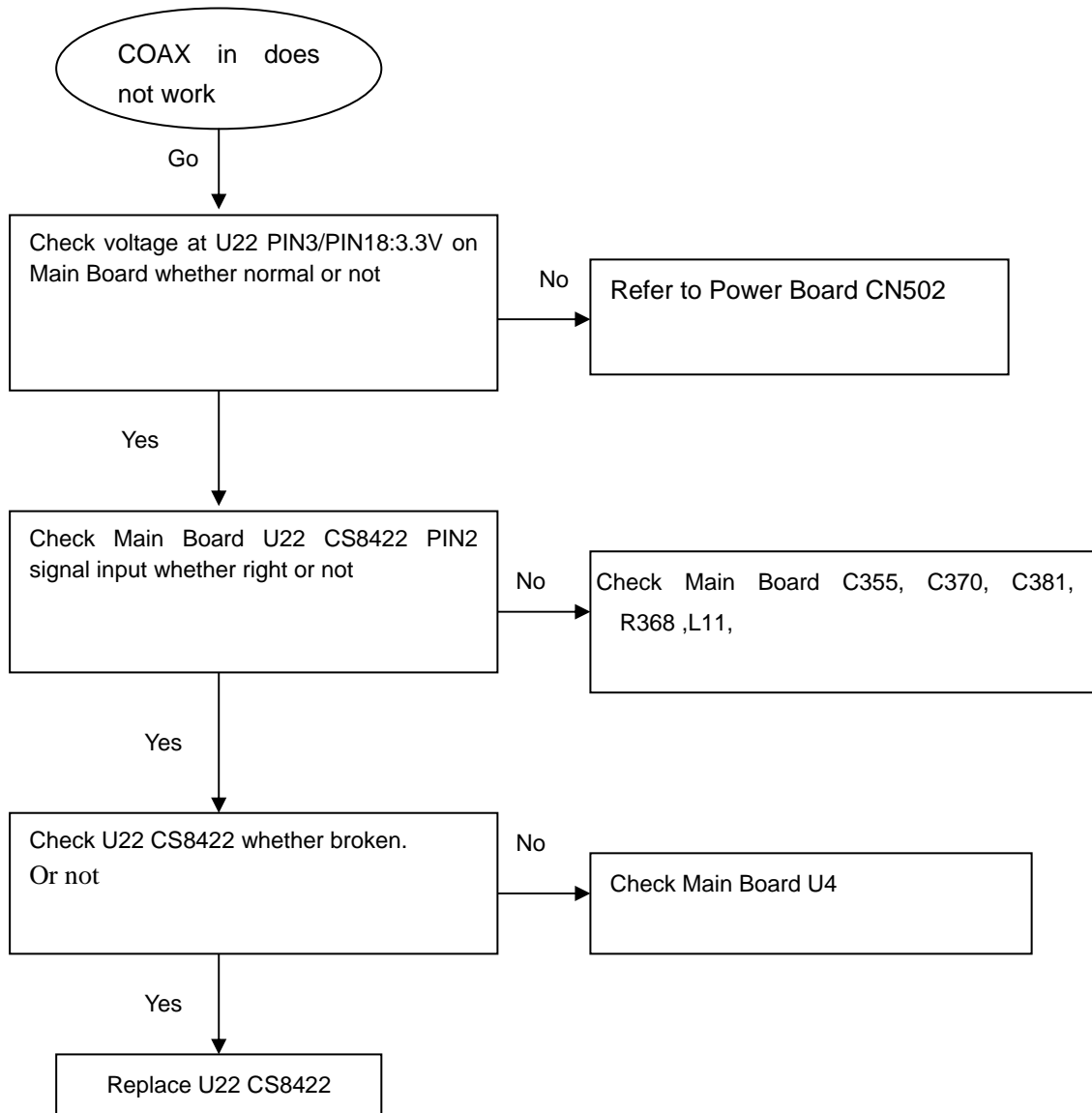
No video output

Can't read disc or can't open the disk door

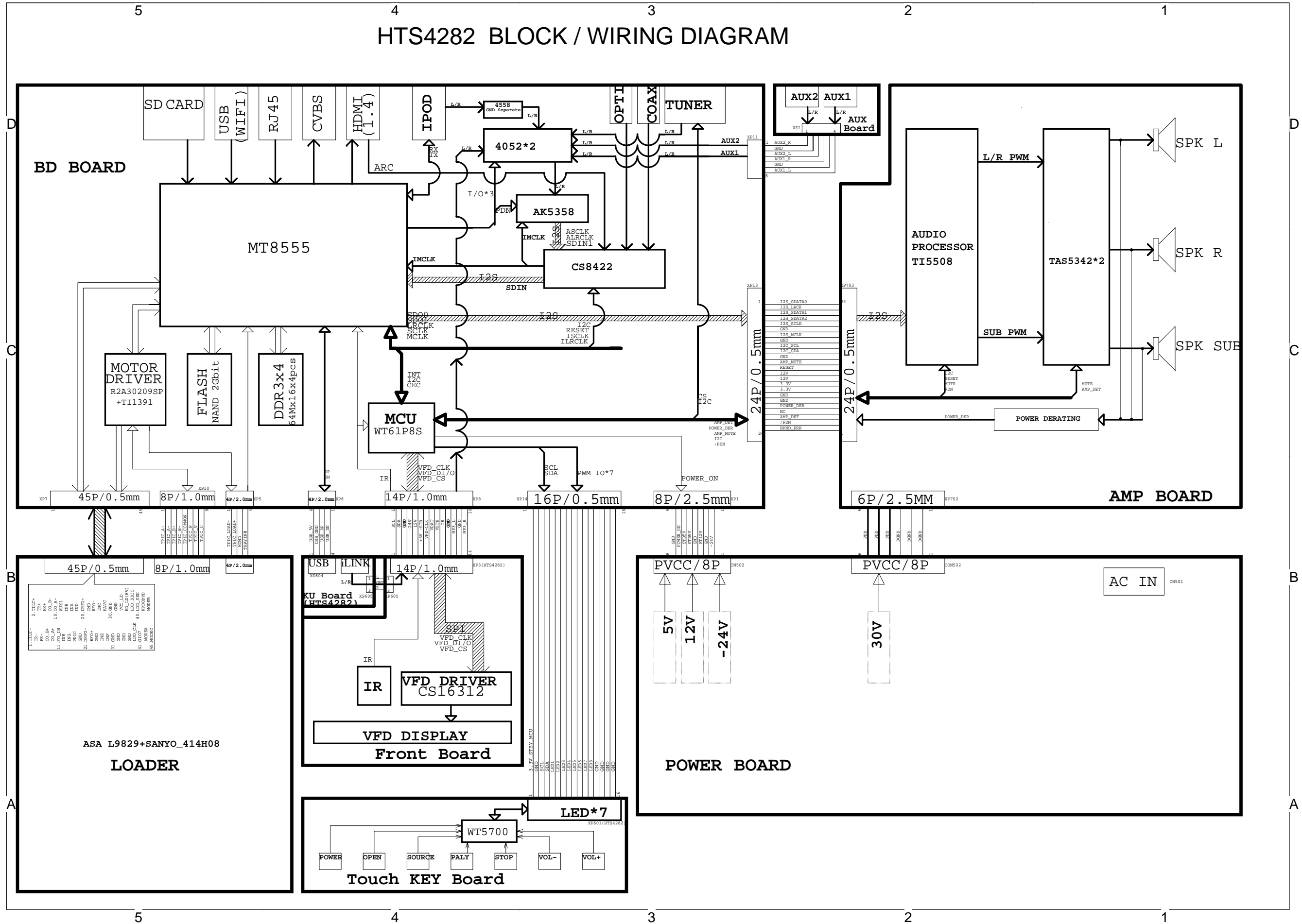
Tuner FM does not work

AUX in does not work

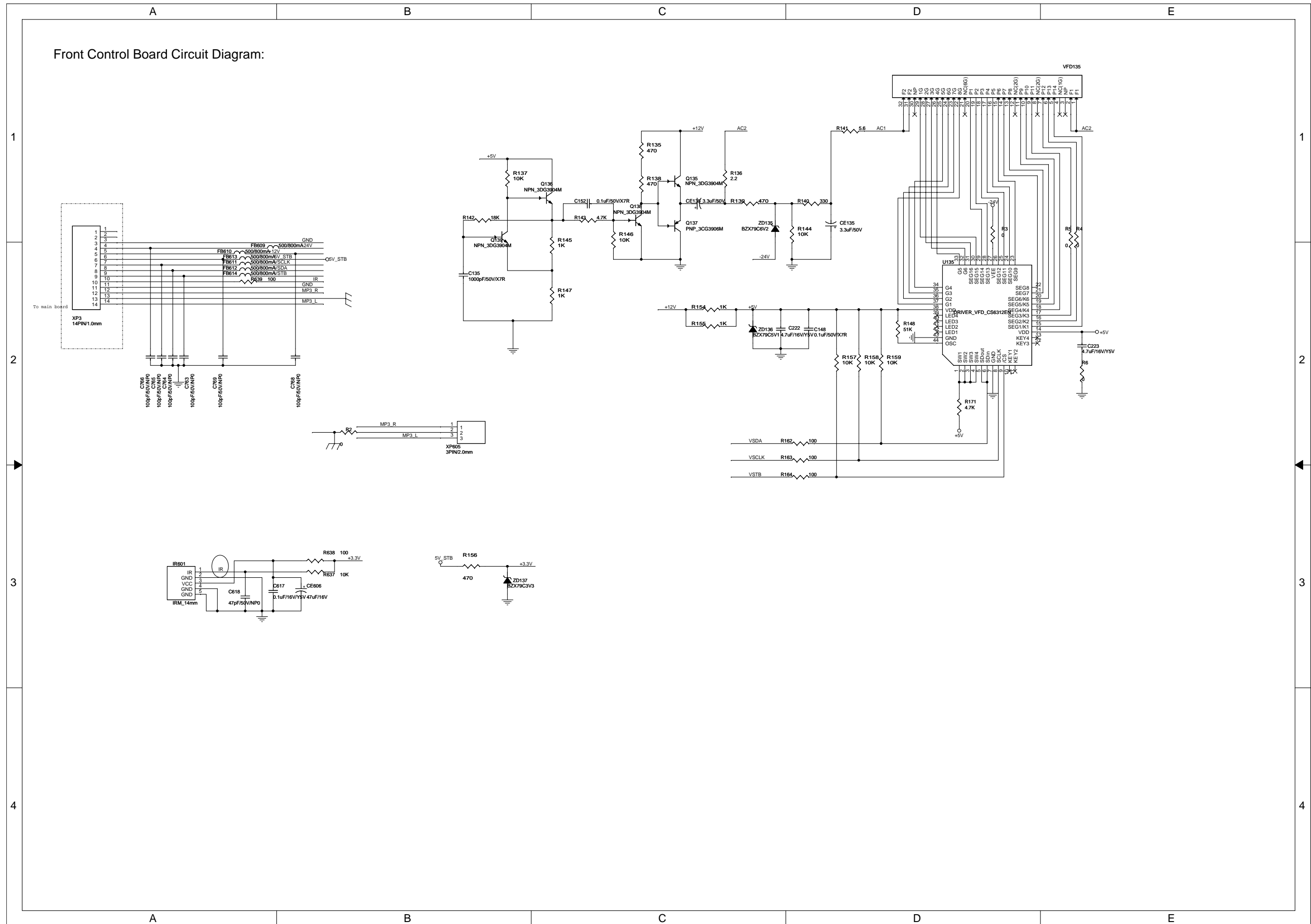
MP3 Link does not work

COAX in does not work

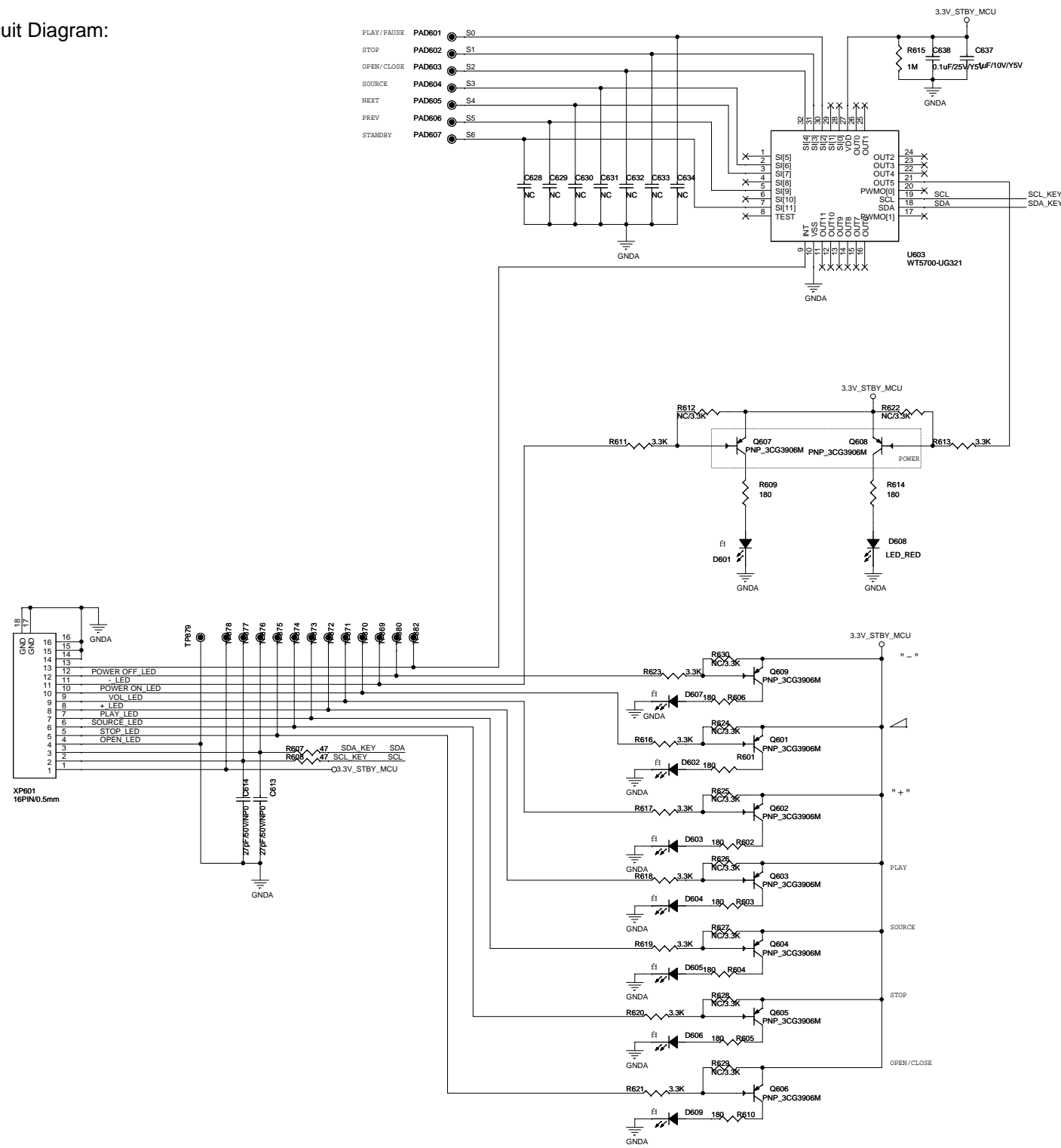
HTS4282 BLOCK / WIRING DIAGRAM



Front Control Board Circuit Diagram:



Touch board Circuit Diagram:



1

2

3

4

1

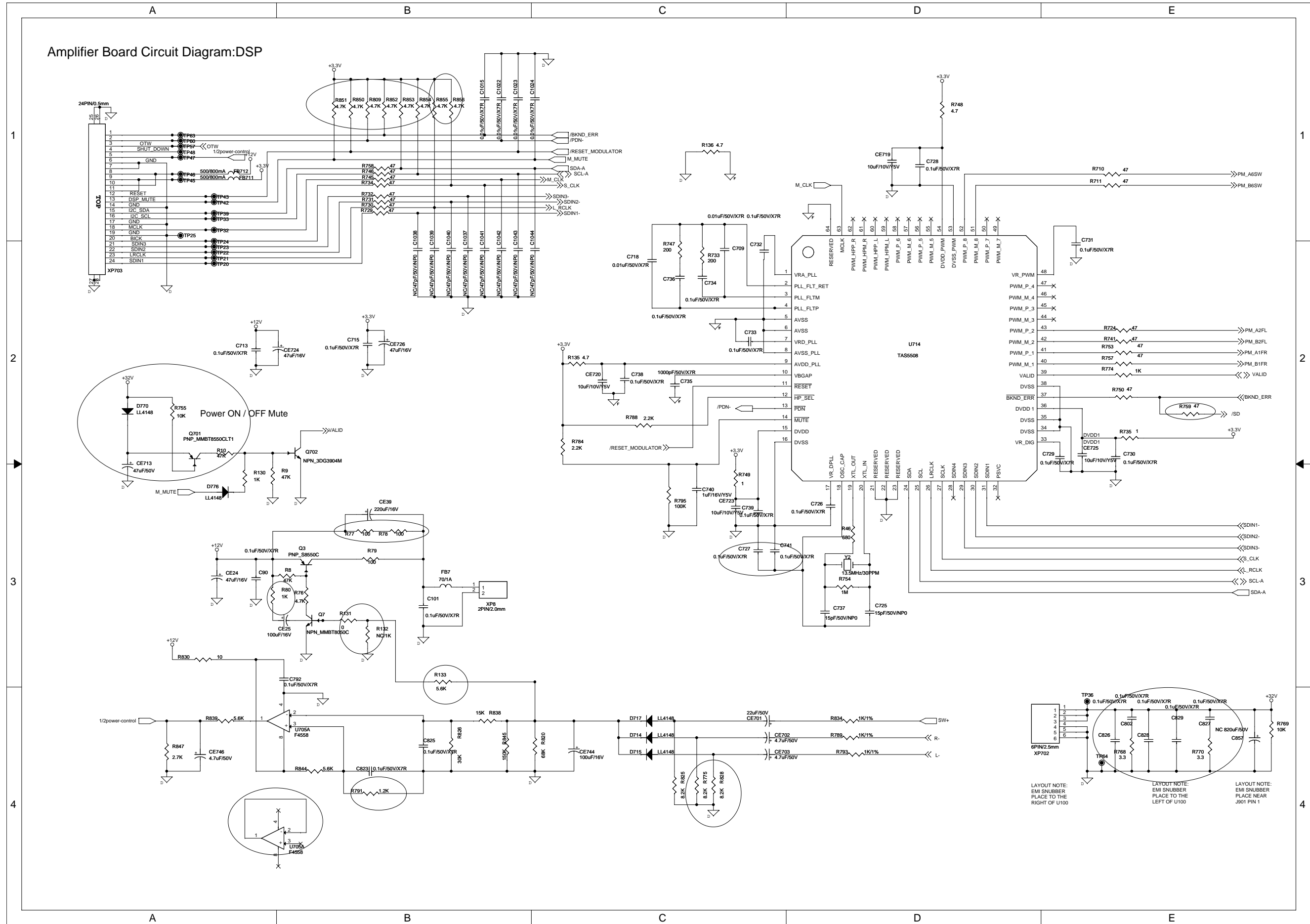
2

3

4

A B C D E

Amplifier Board Circuit Diagram: DSP

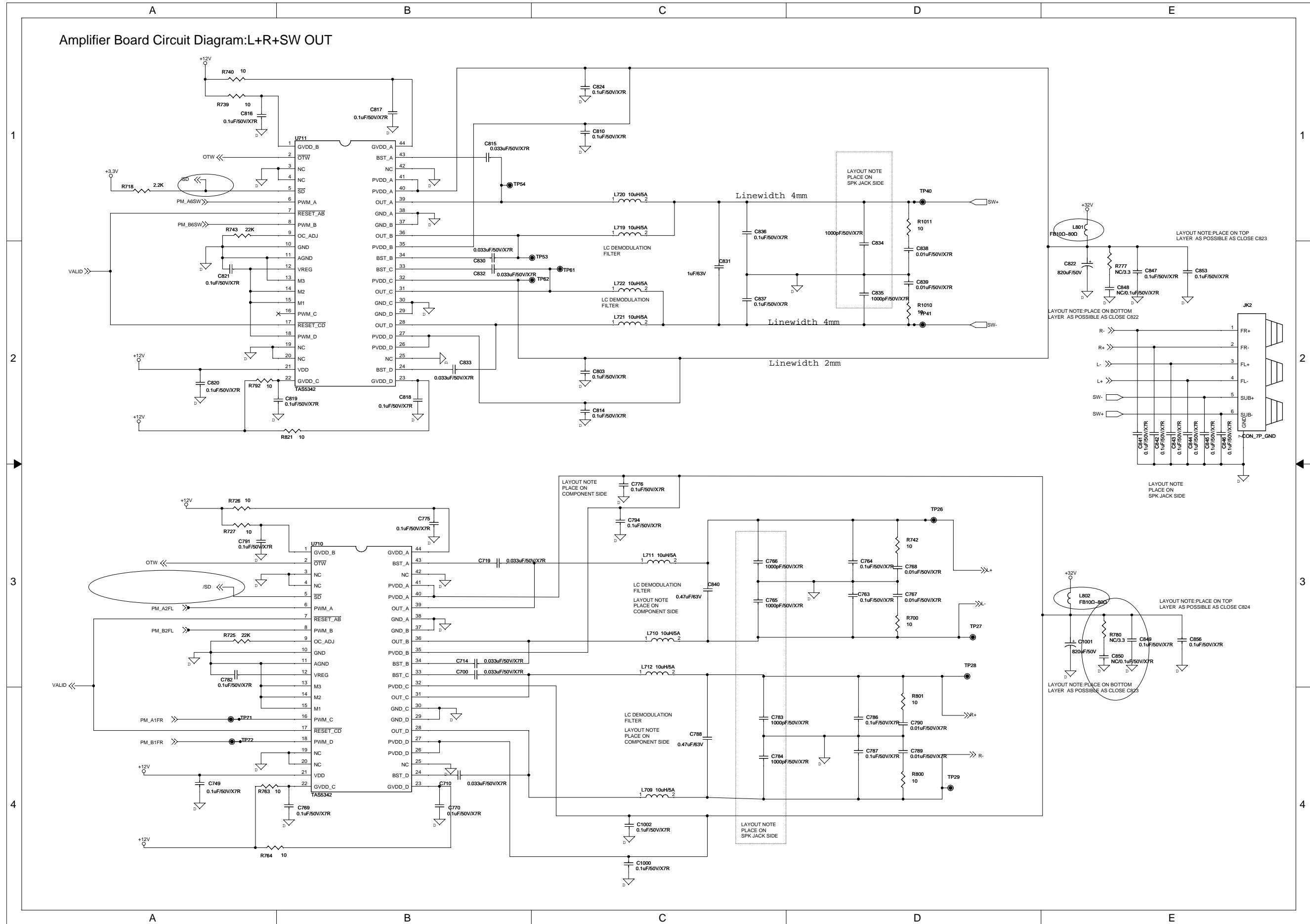


LAYOUT NOTE:
EMI SNUBBER
PLACE TO THE
RIGHT OF U100

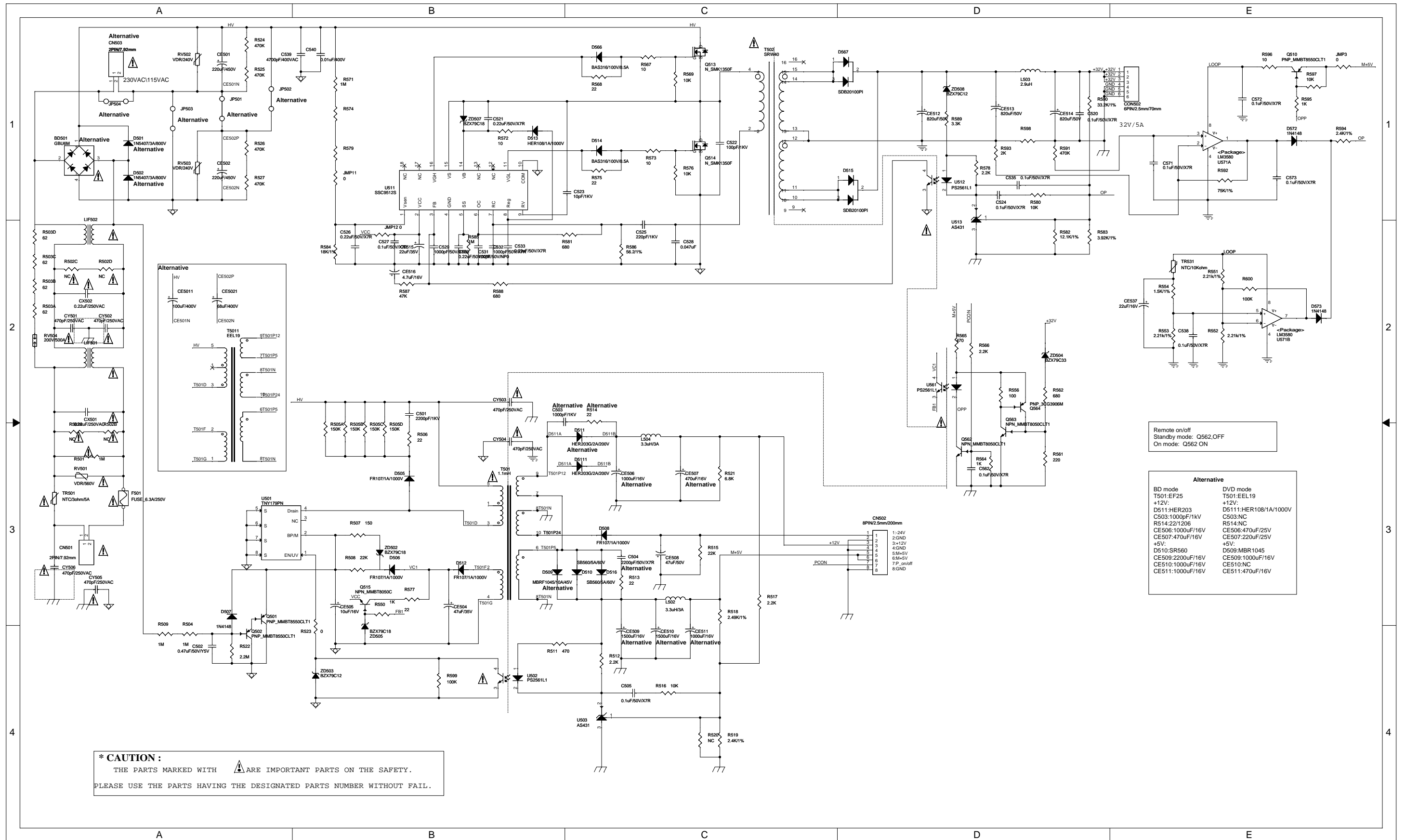
LAYOUT NOTE:
EMI SNUBBER
PLACE TO THE
LEFT OF U100

LAYOUT NOTE:
EMI SNUBBER
PLACE NEAR
J901 PIN 1

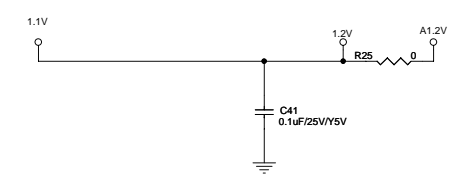
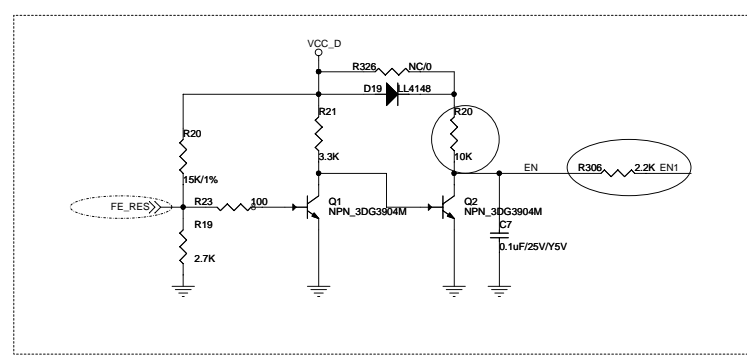
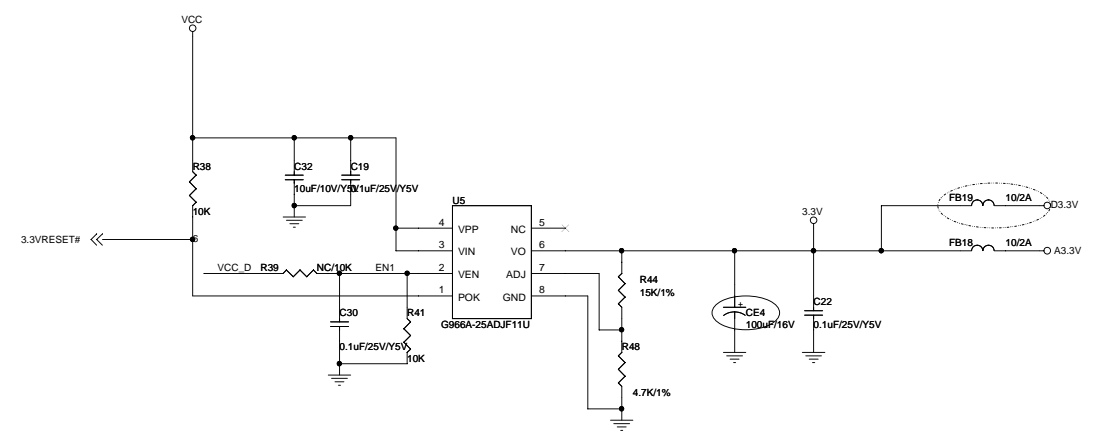
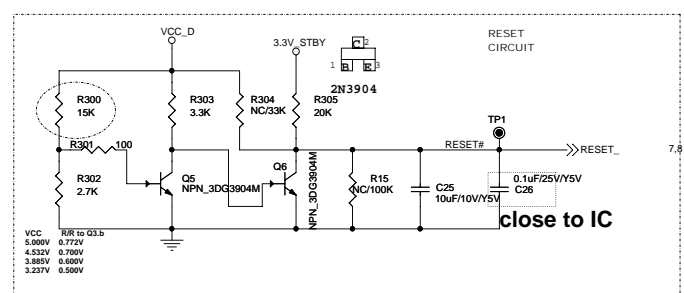
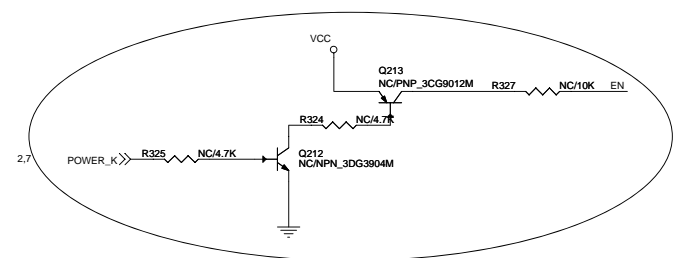
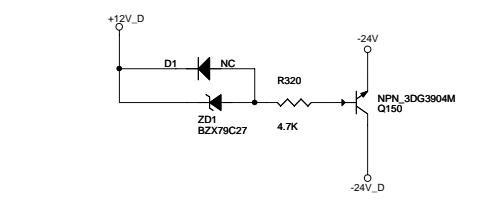
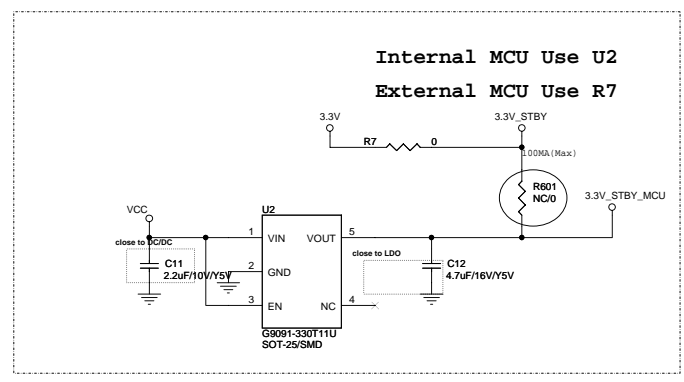
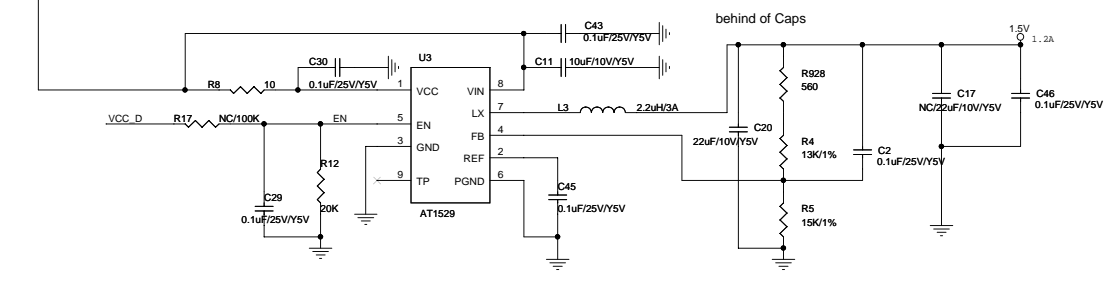
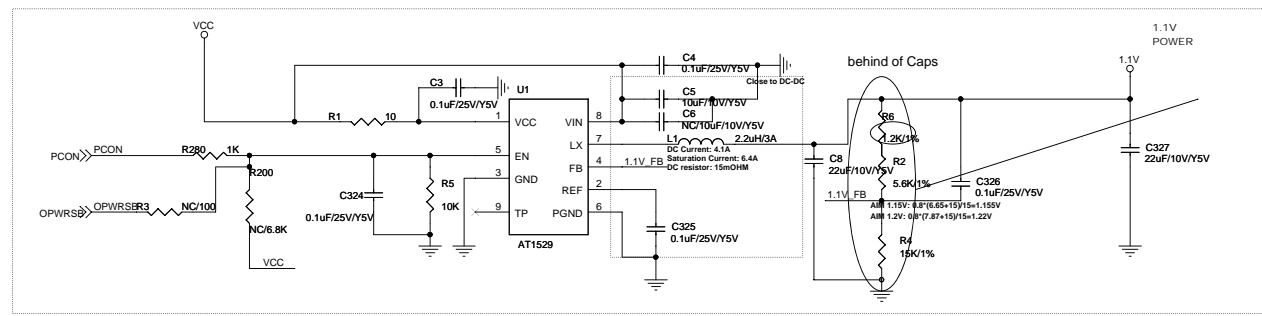
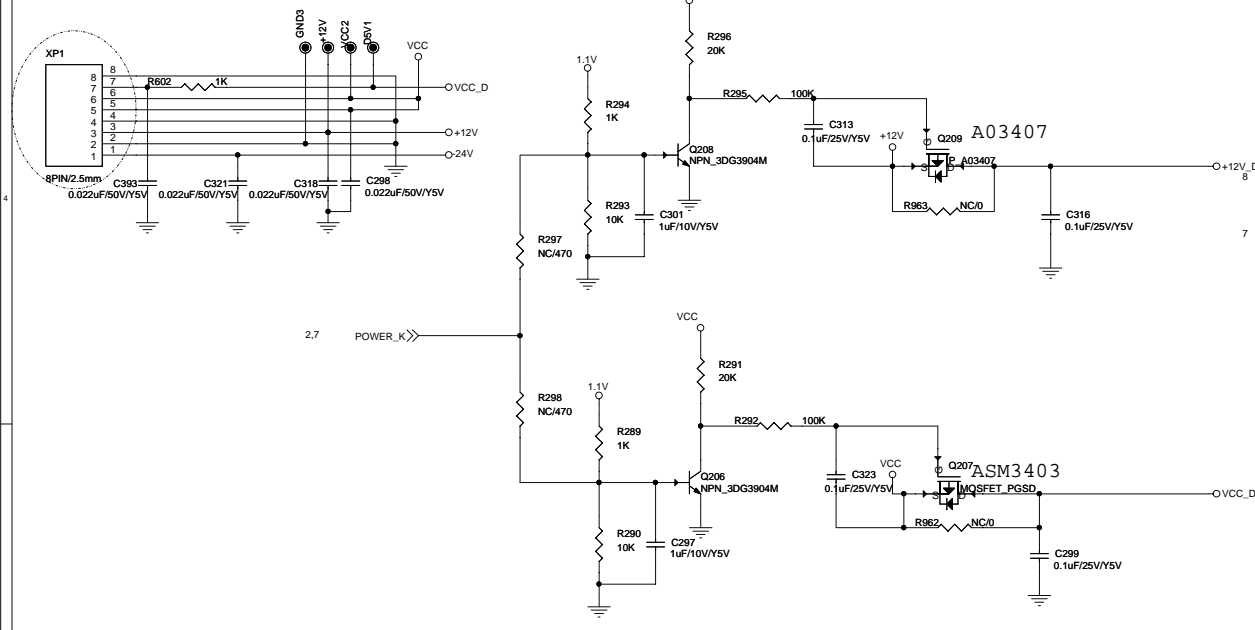
Amplifier Board Circuit Diagram:L+R+SW OUT



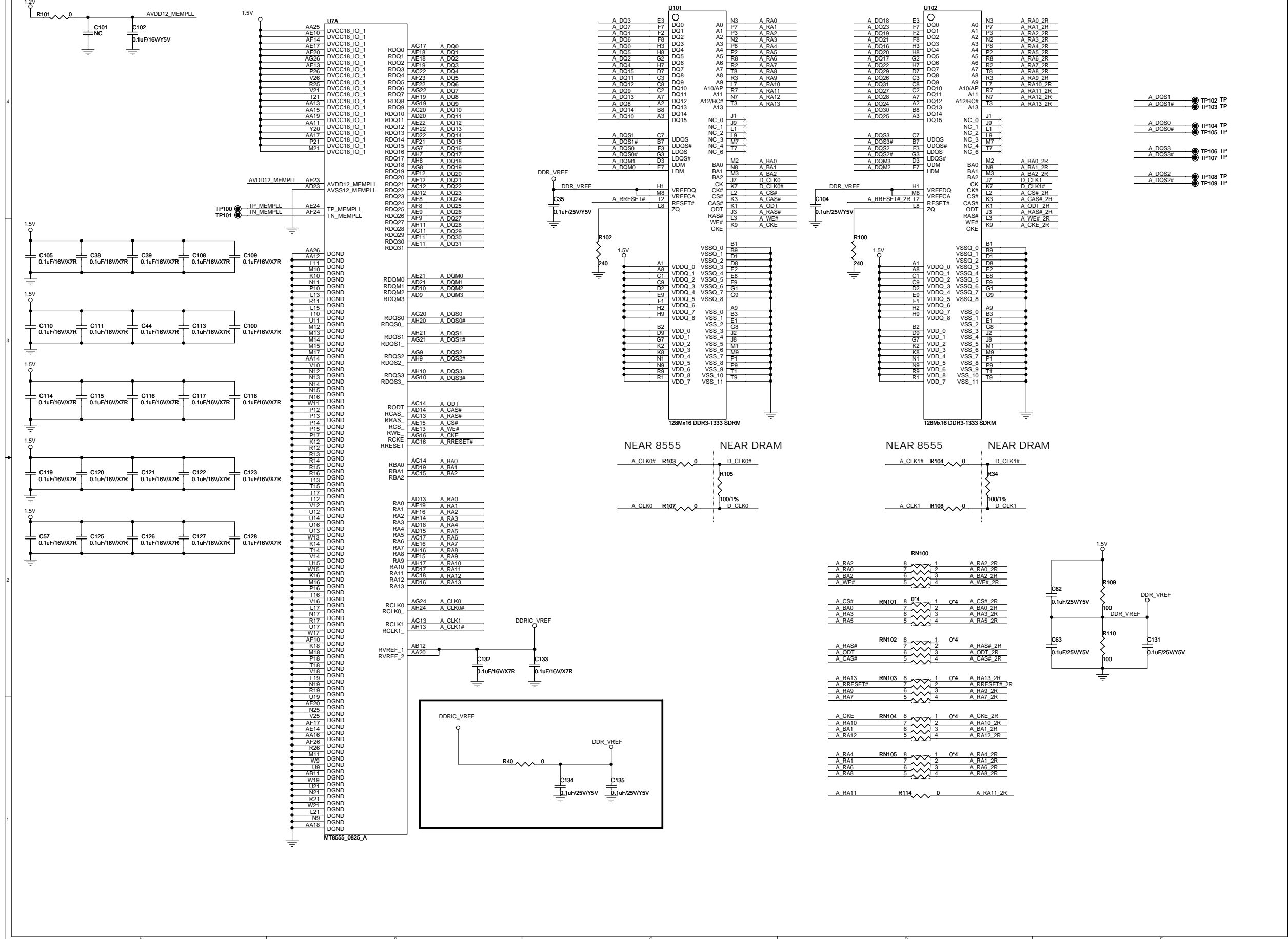
Power Board Circuit Diagram:



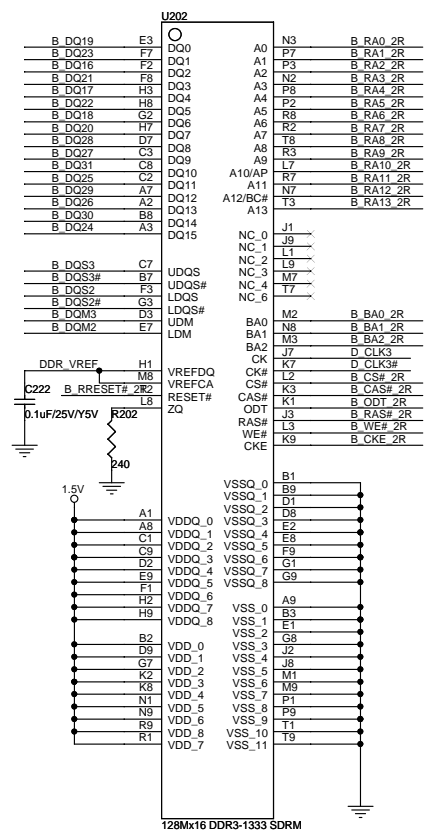
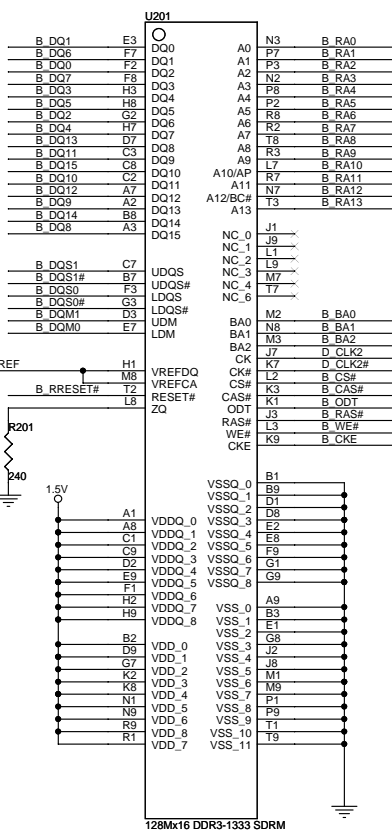
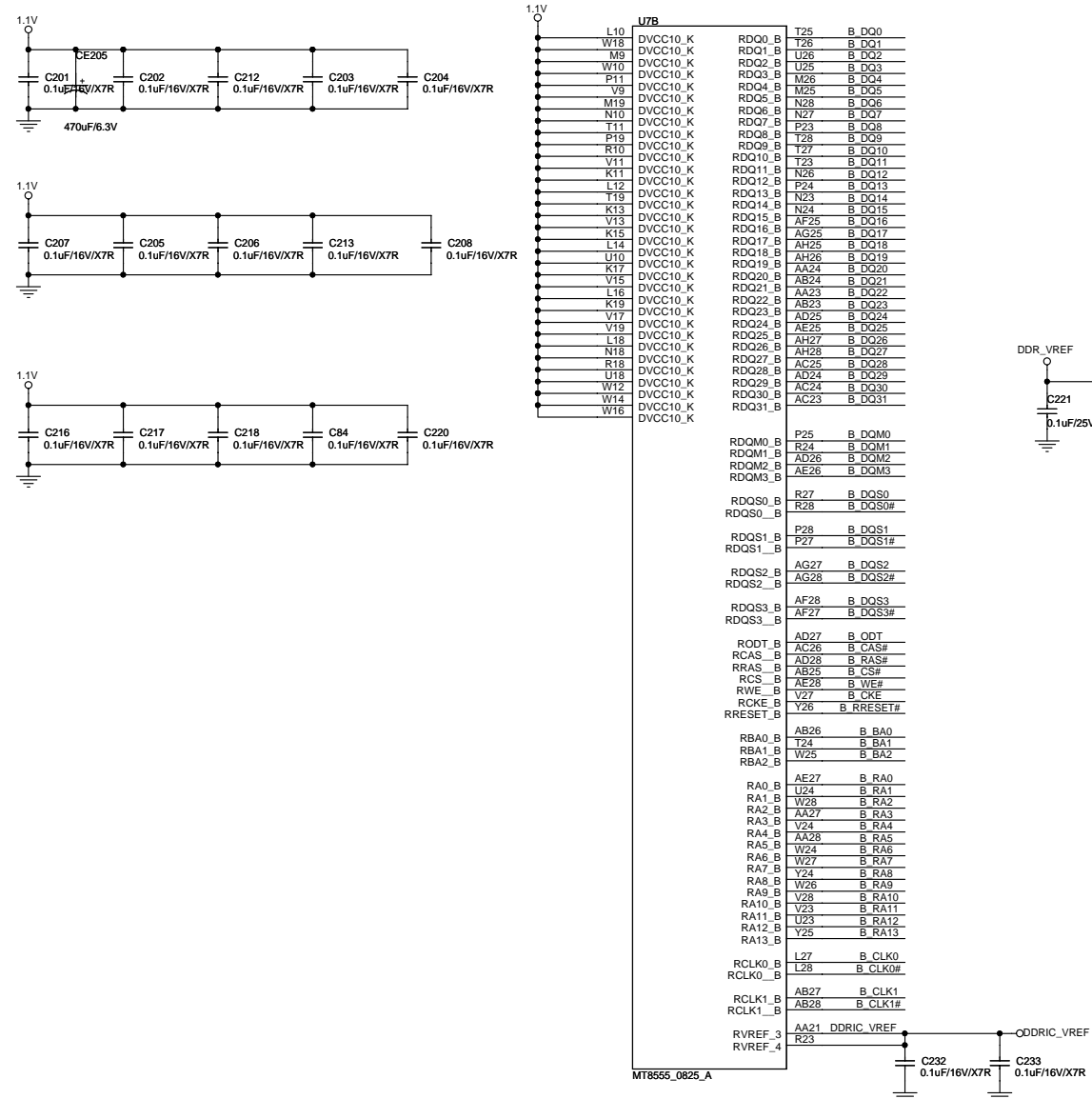
Main Board Circuit Diagram: Power Source



Main Board Circuit Diagram: MT8555_DDR_PART 1



Main Board Circuit Diagram: MT8555_DDR_PART 2

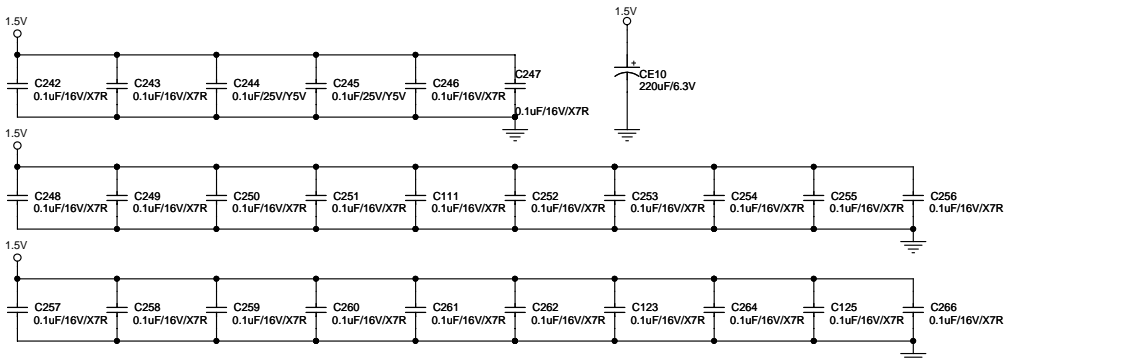
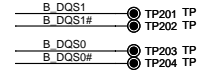
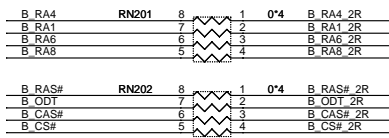
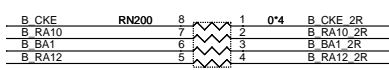
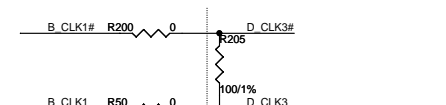


NEAR 8555

NEAR DRAM

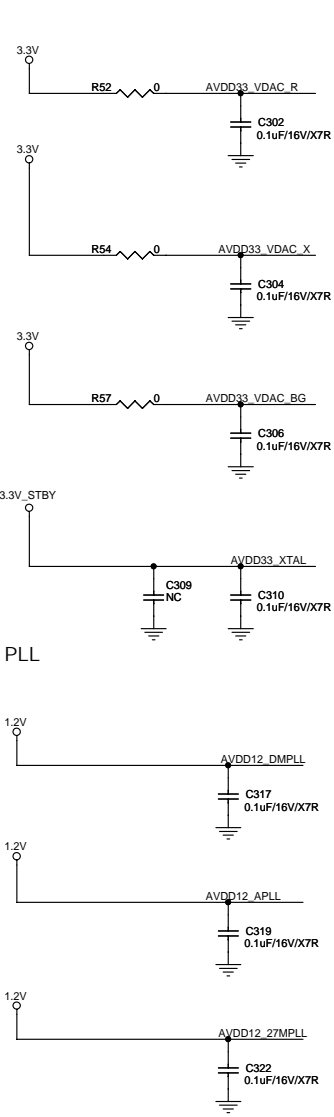
NEAR 8555

NEAR DRAM

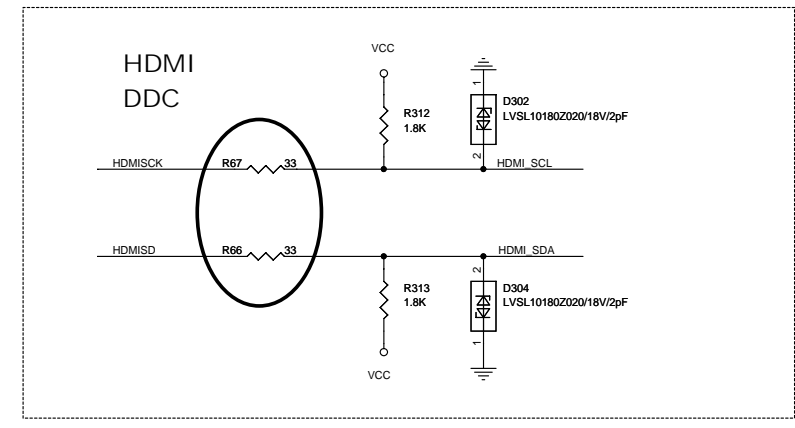
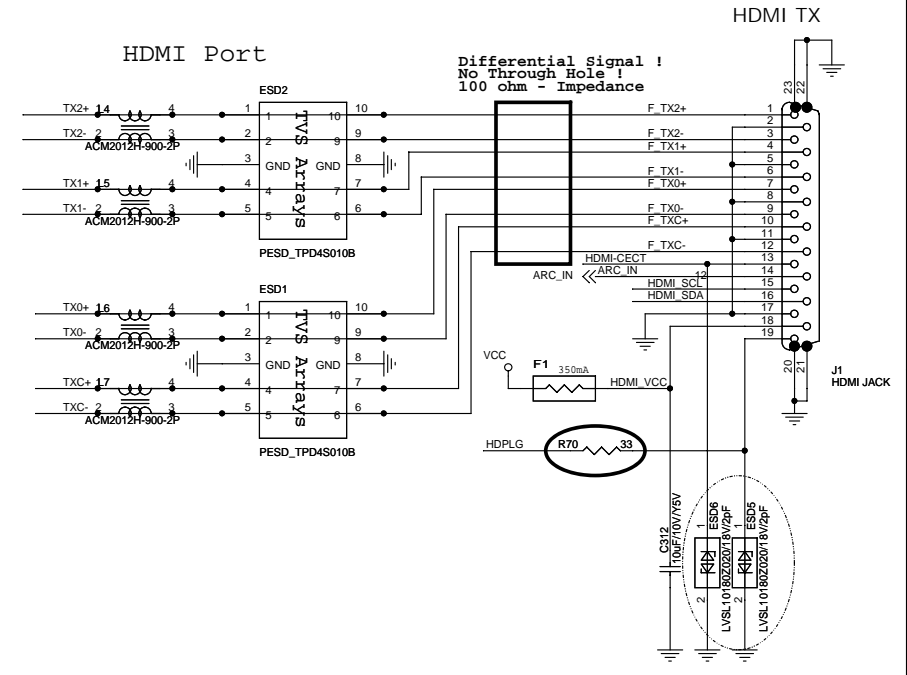
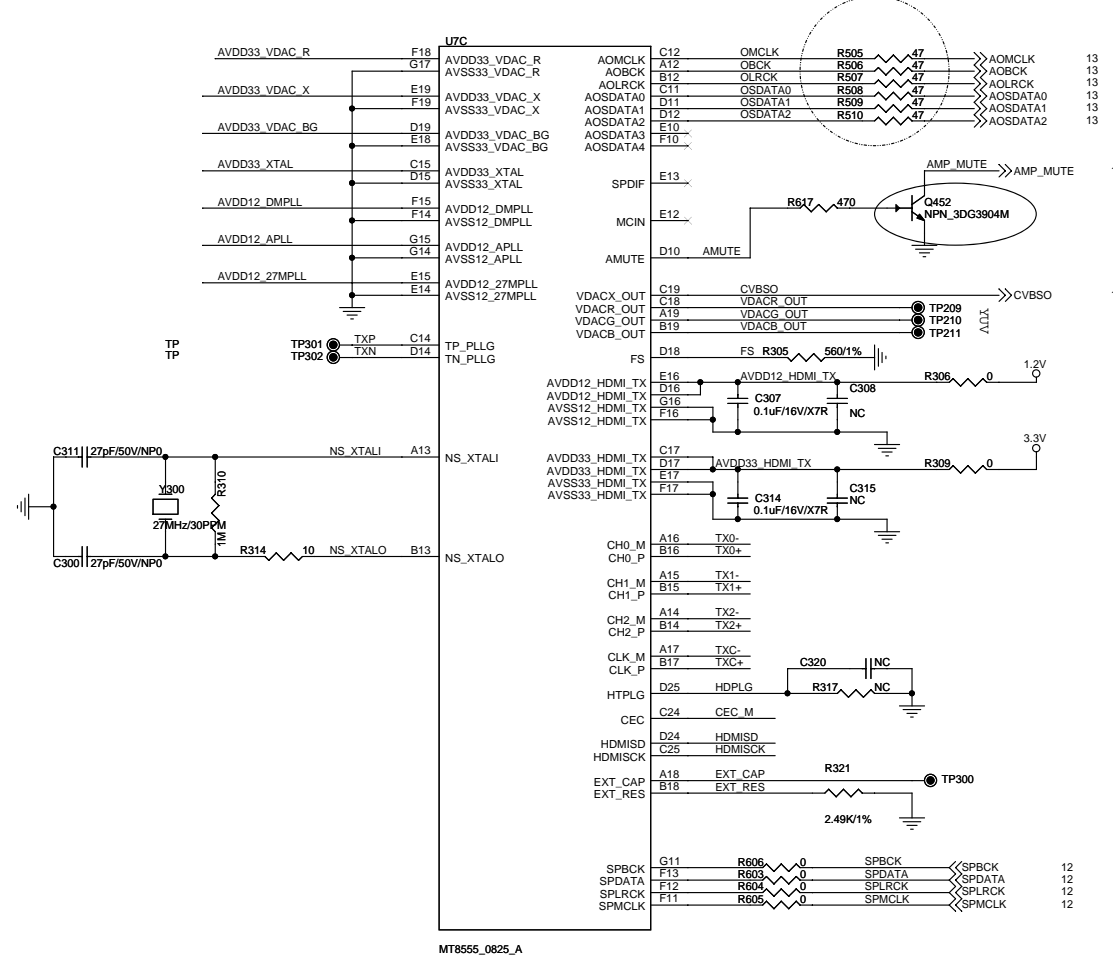
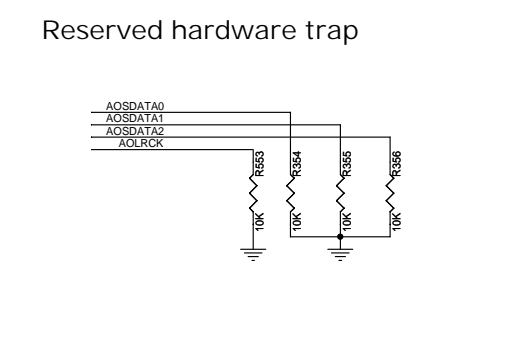


Main Board Circuit Diagram: MT8555_HDMI_OUTPUT

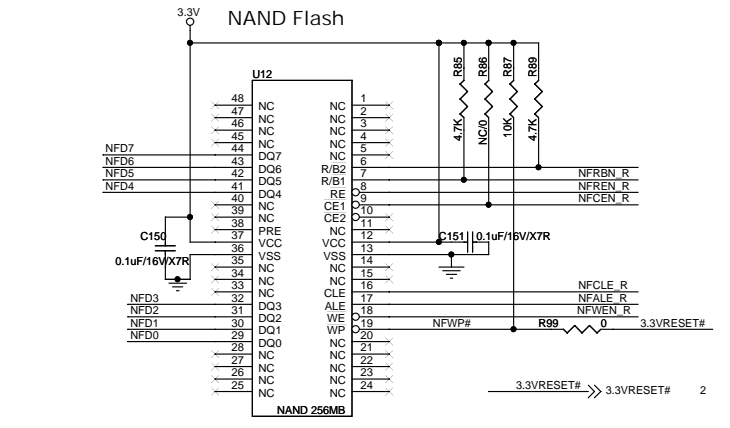
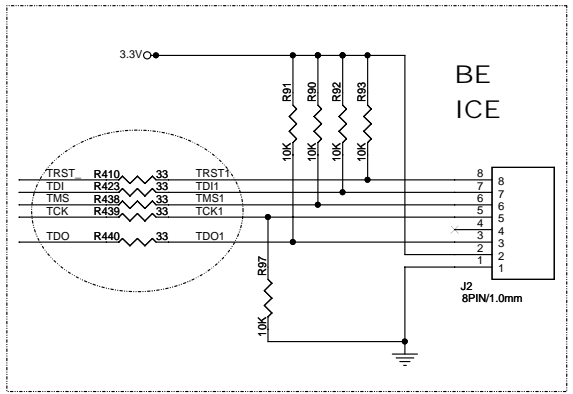
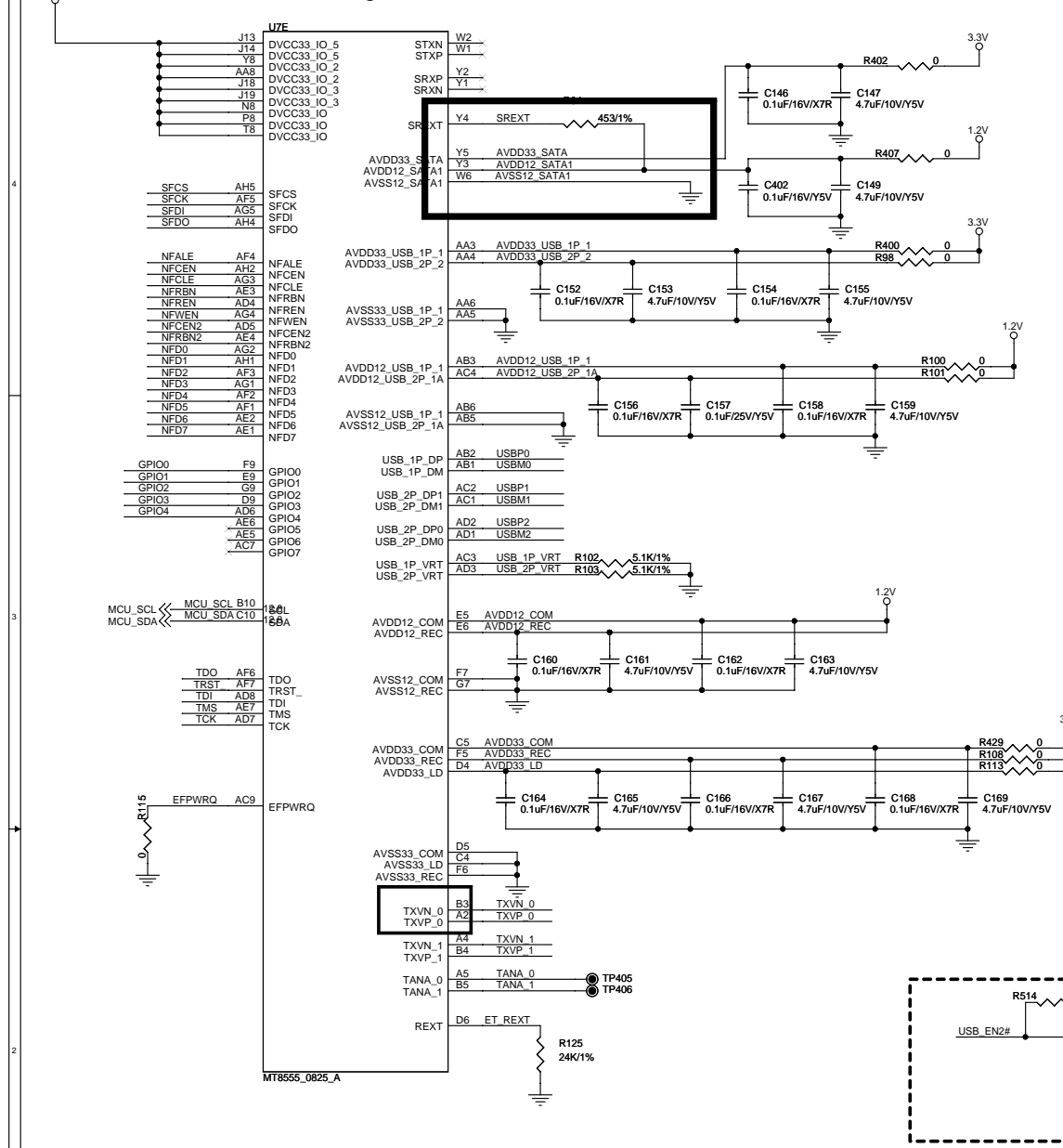
3.3V Analog Power



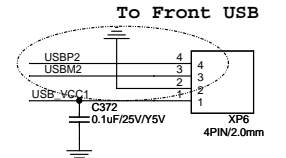
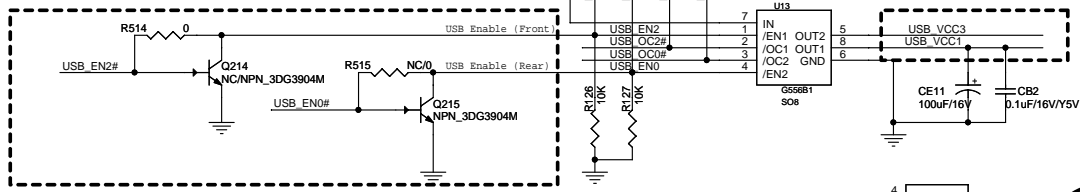
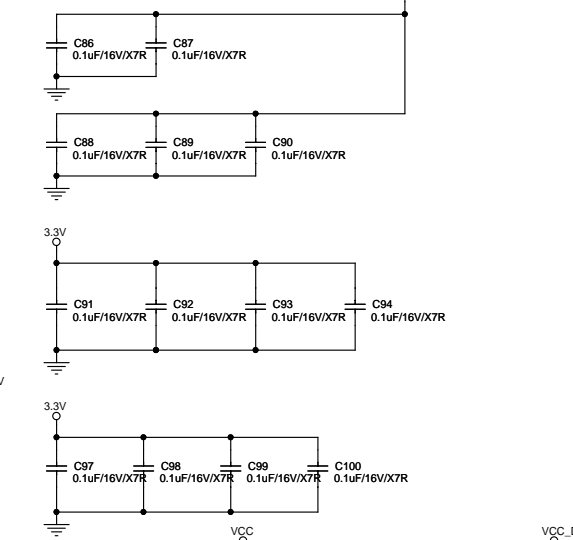
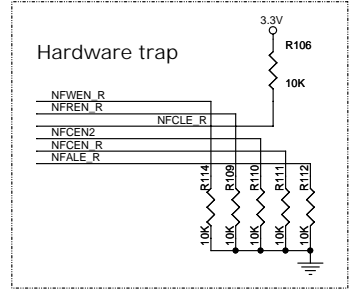
For PLL testing



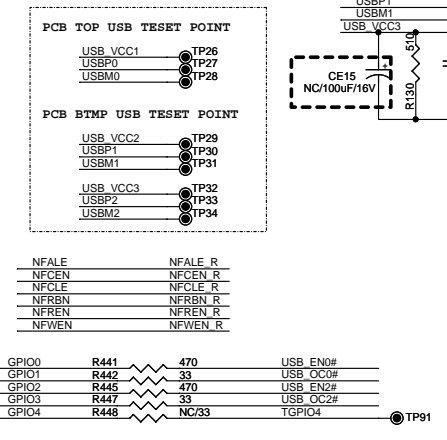
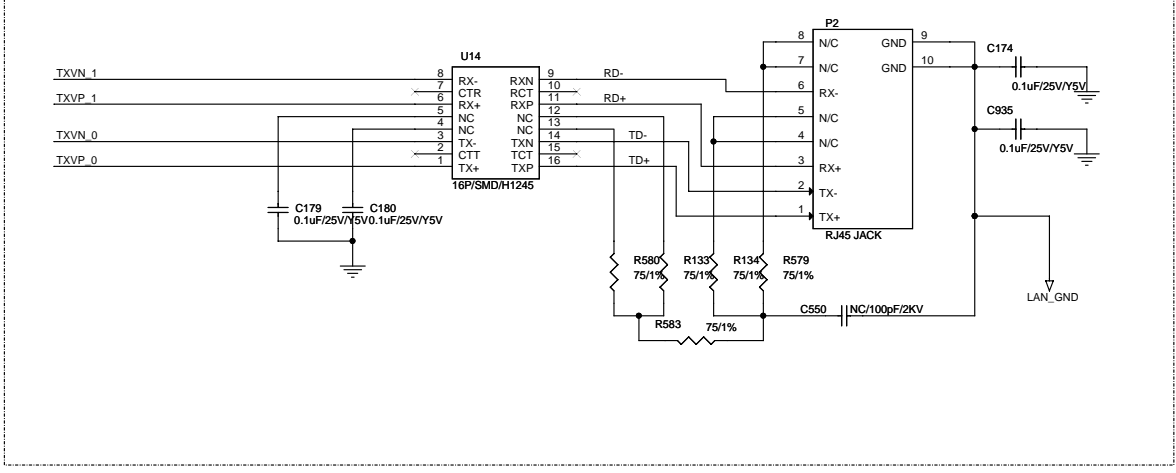
Main Board Circuit Diagram: MT8555-Flash



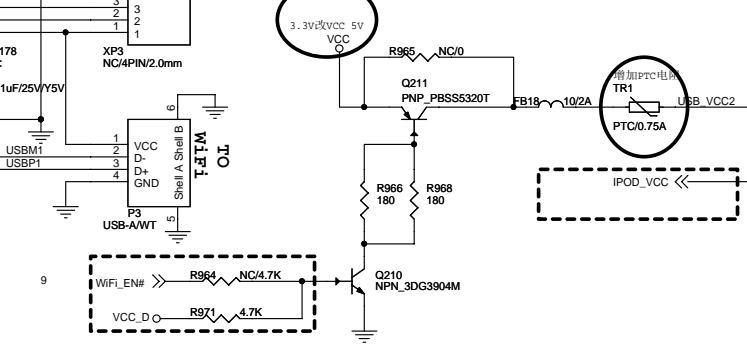
| | | | |
|--------|---------|---------|---|
| SFCS | SD_DAT2 | SD_DAT2 | 9 |
| SFCK | SD_DAT3 | SD_DAT3 | 9 |
| SFD1 | SD_DAT1 | SD_DAT1 | 9 |
| SFDO | SD_DAT0 | SD_DAT0 | 9 |
| NFCEN2 | SD_CLK | SD_CLK | 9 |
| NFRBN2 | SD_CMD | SD_CMD | 9 |



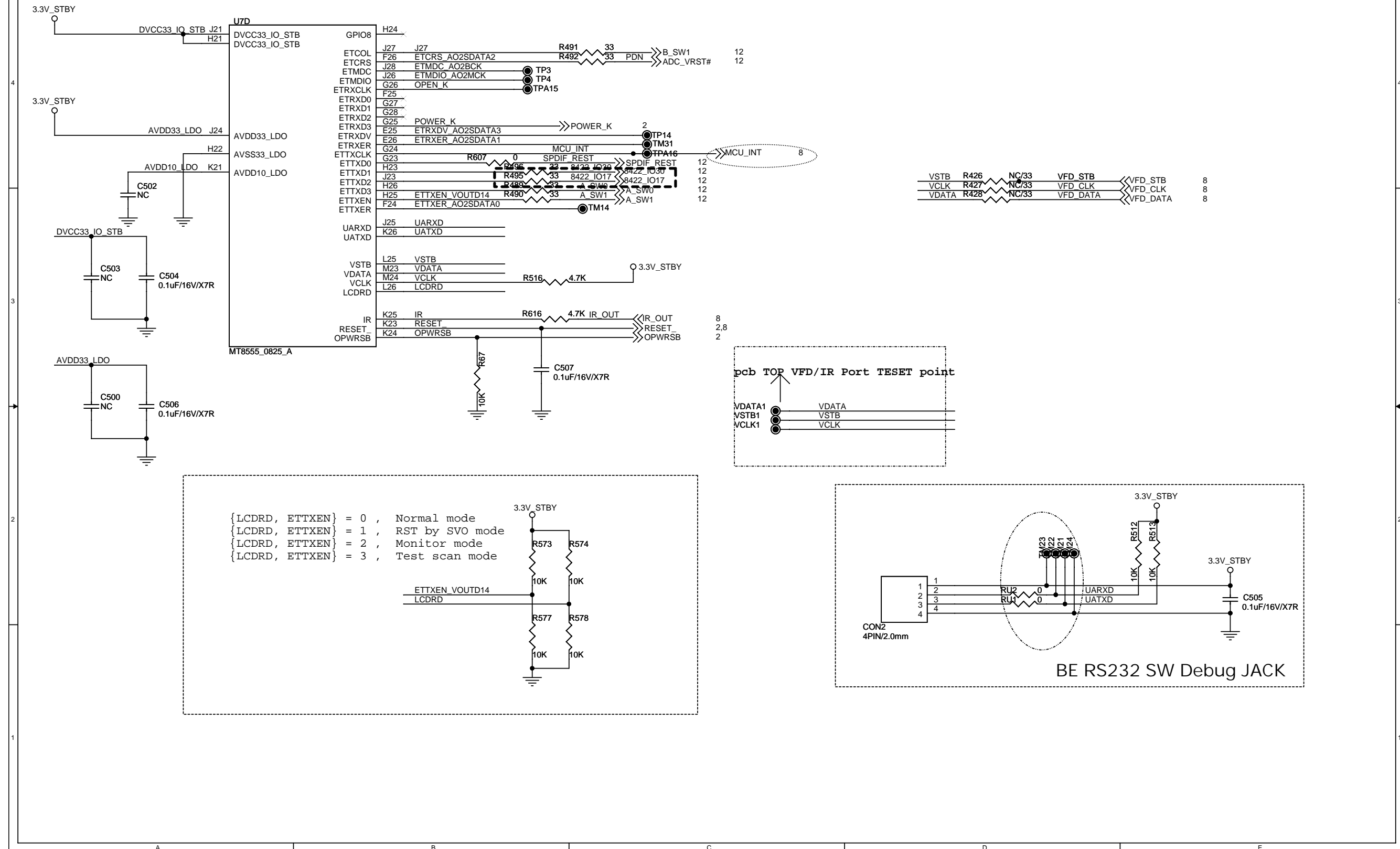
ETHERNET PHY



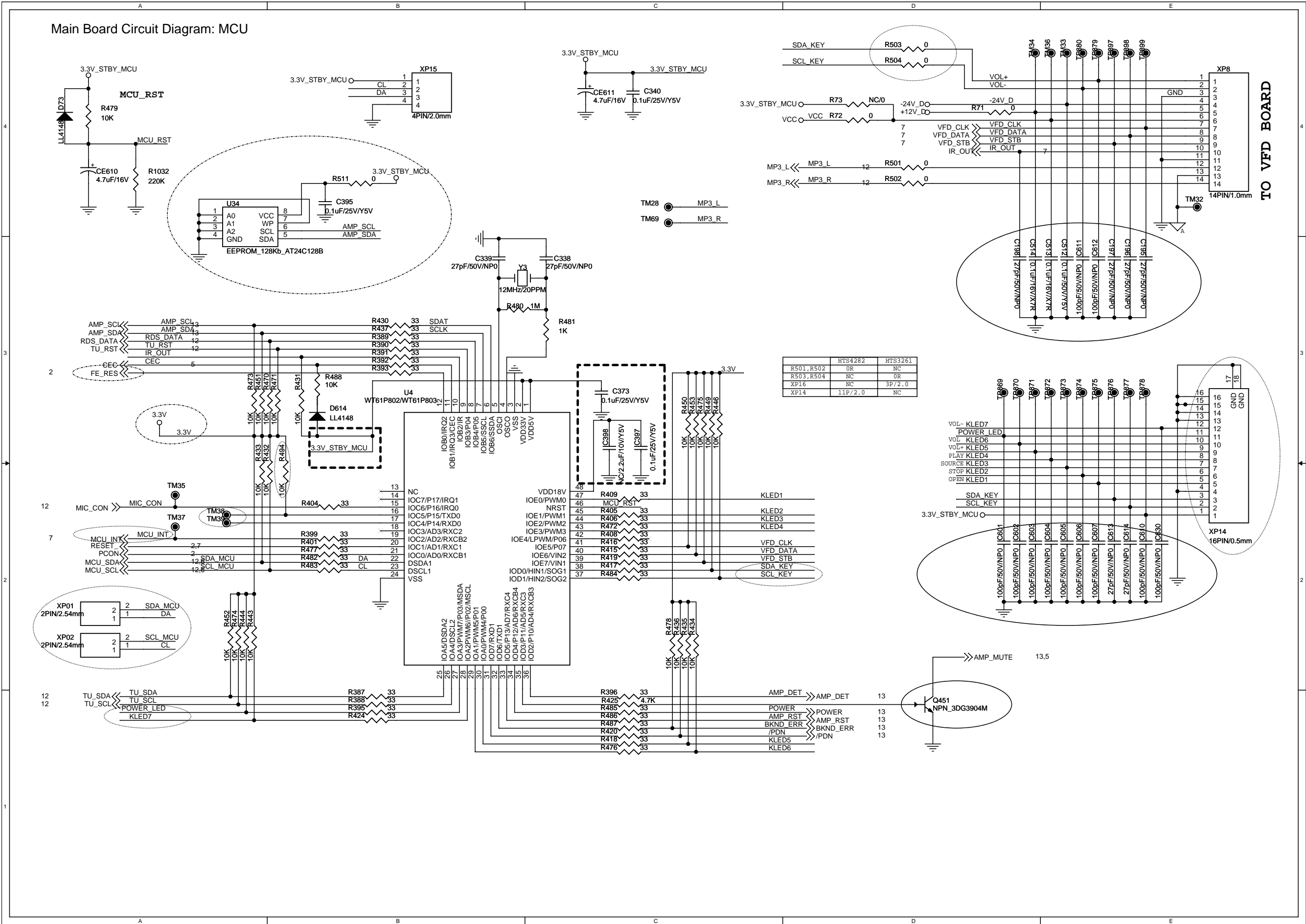
| | | | |
|-------|------|-------|----------|
| NFALE | R441 | 470 | USB_EN0# |
| NFCEN | R442 | 33 | USB_OC0# |
| NRCLE | R443 | 470 | USB_EN2# |
| NFRBN | R444 | 33 | USB_OC2# |
| NFRFN | R445 | 470 | USB_EN3# |
| NFWEN | R446 | 33 | USB_OC3# |
| NFWP# | R447 | 470 | GPIO4 |
| NFWEN | R448 | NC/33 | GPIO4 |



Main Board Circuit Diagram: MT8555-VFD/ IR



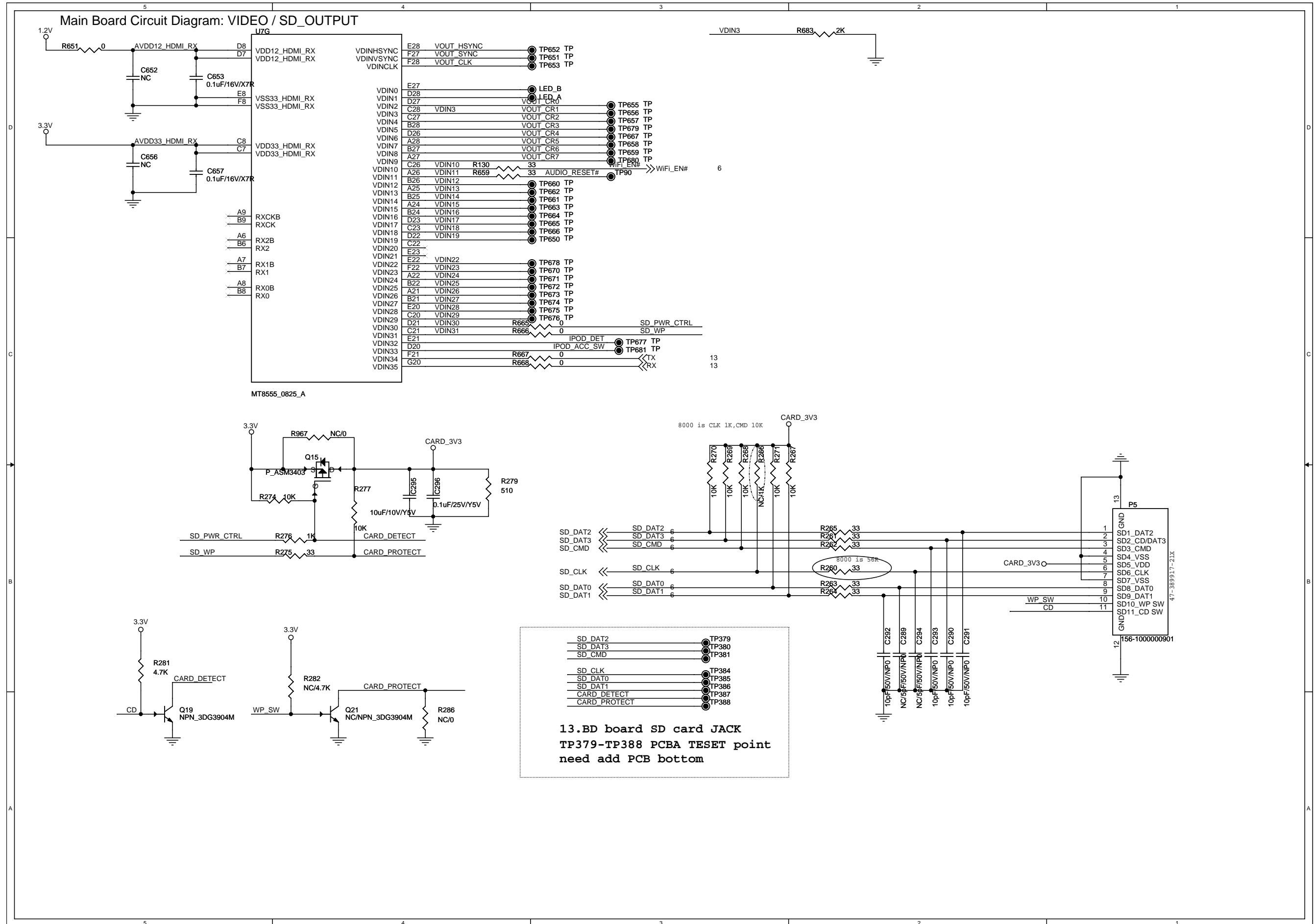
Main Board Circuit Diagram: MCU

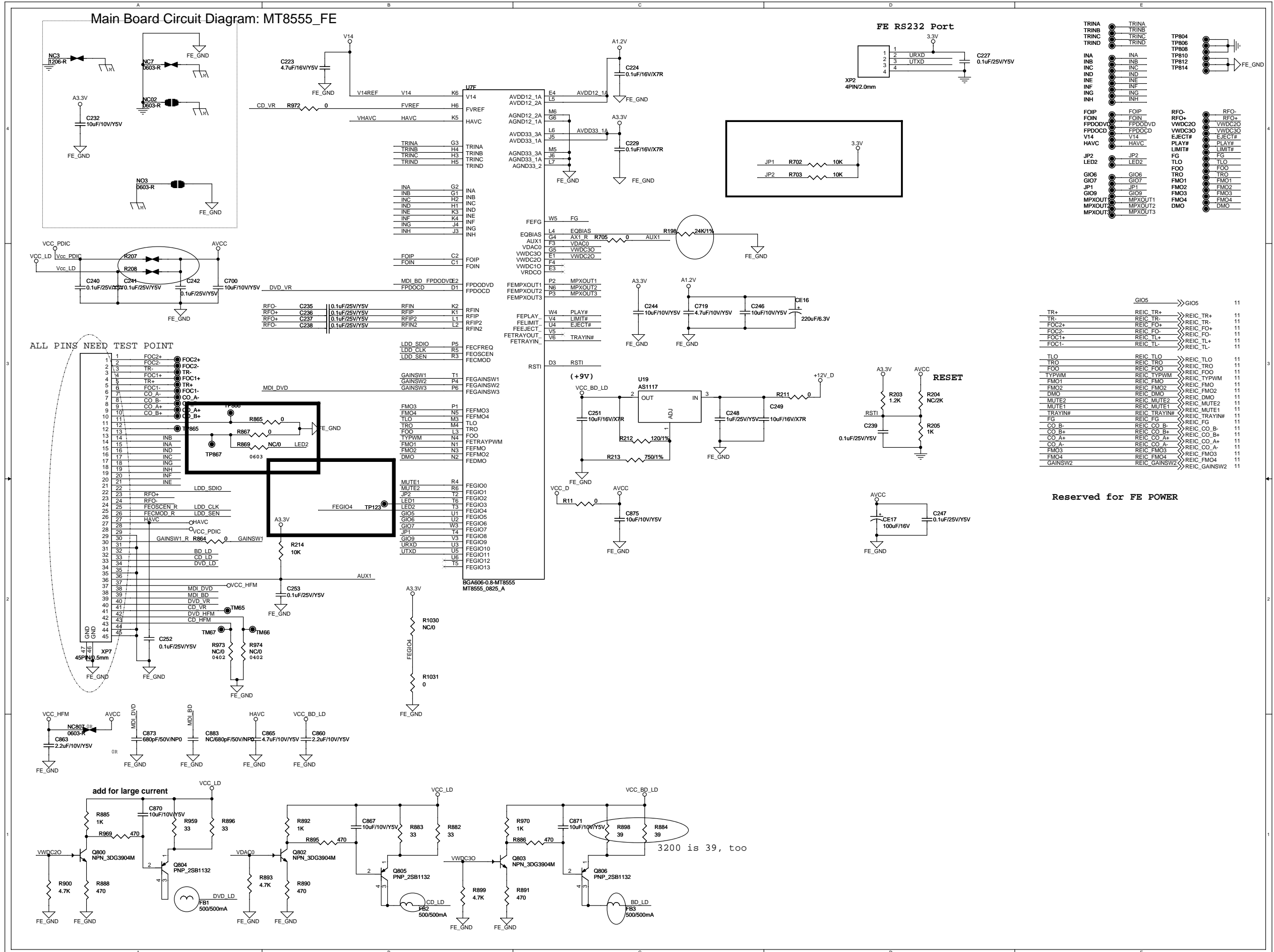


| | HTS4282 | HTS3261 |
|------------|---------|---------|
| R501, R502 | OR | NC |
| R503, R504 | NC | OR |
| XP16 | NC | 3P/2.0 |
| XP14 | 11P/2.0 | NC |

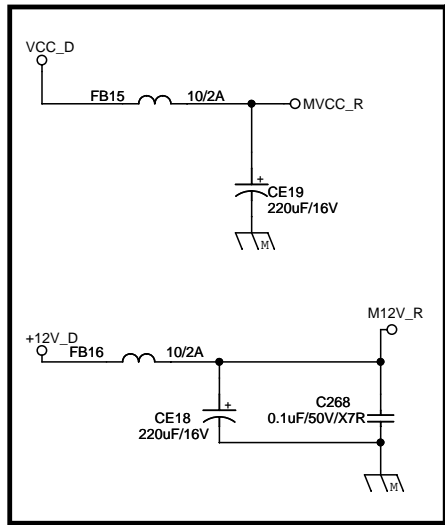
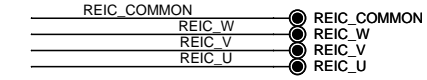
TO VFD BOARD

TO VFD BOARD

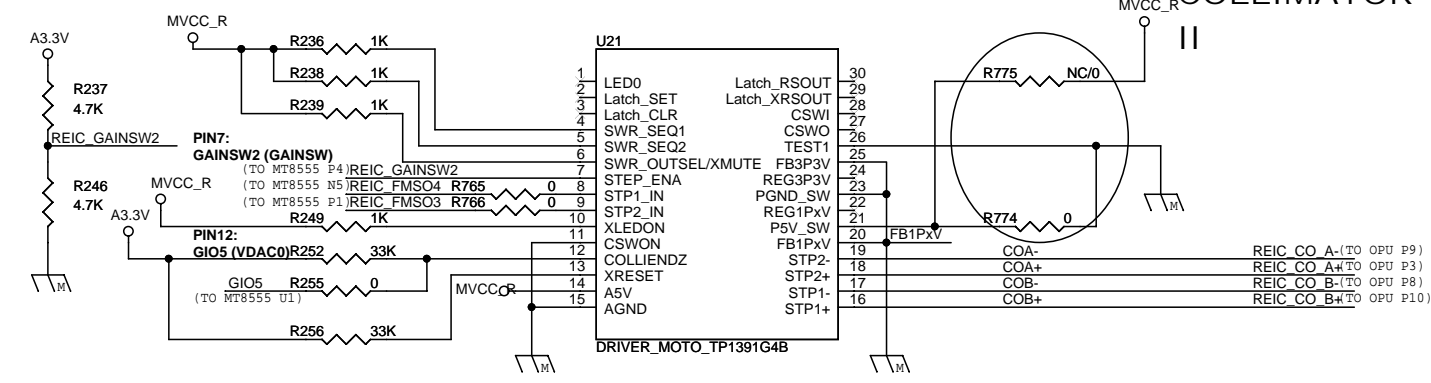
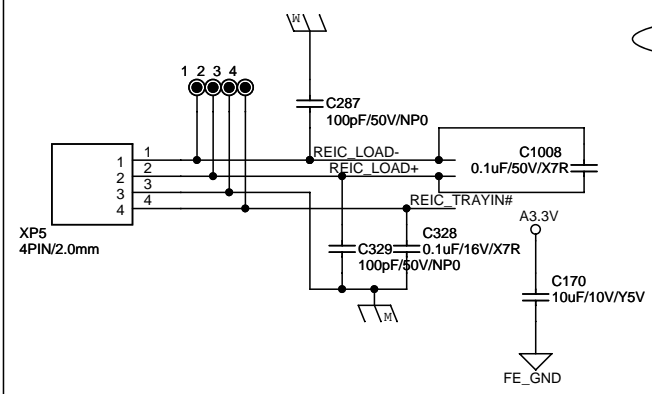
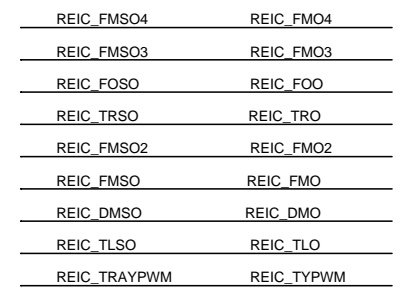
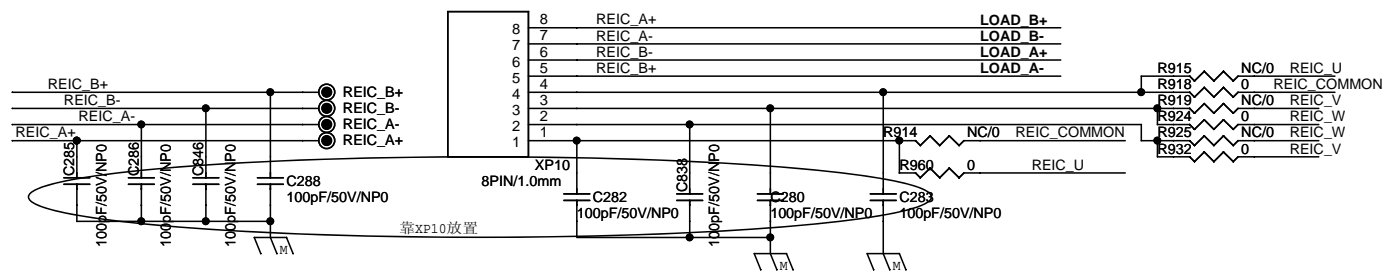
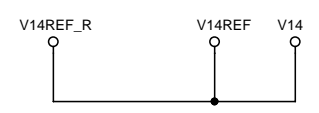
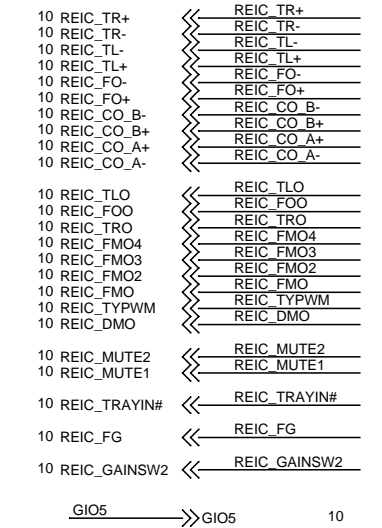
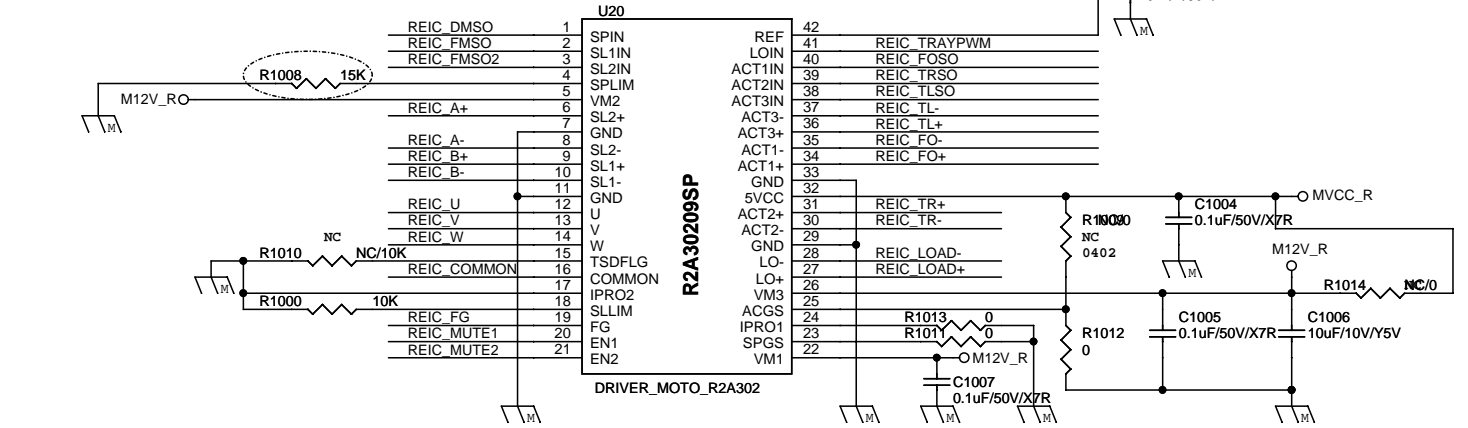




Main Board Circuit Diagram: R2A30209SP_DRIVER+SANYO



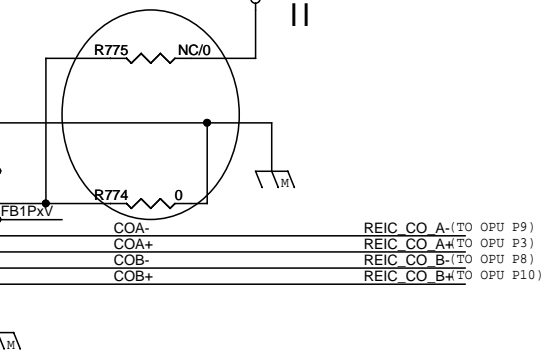
Motor Driver Sensorless



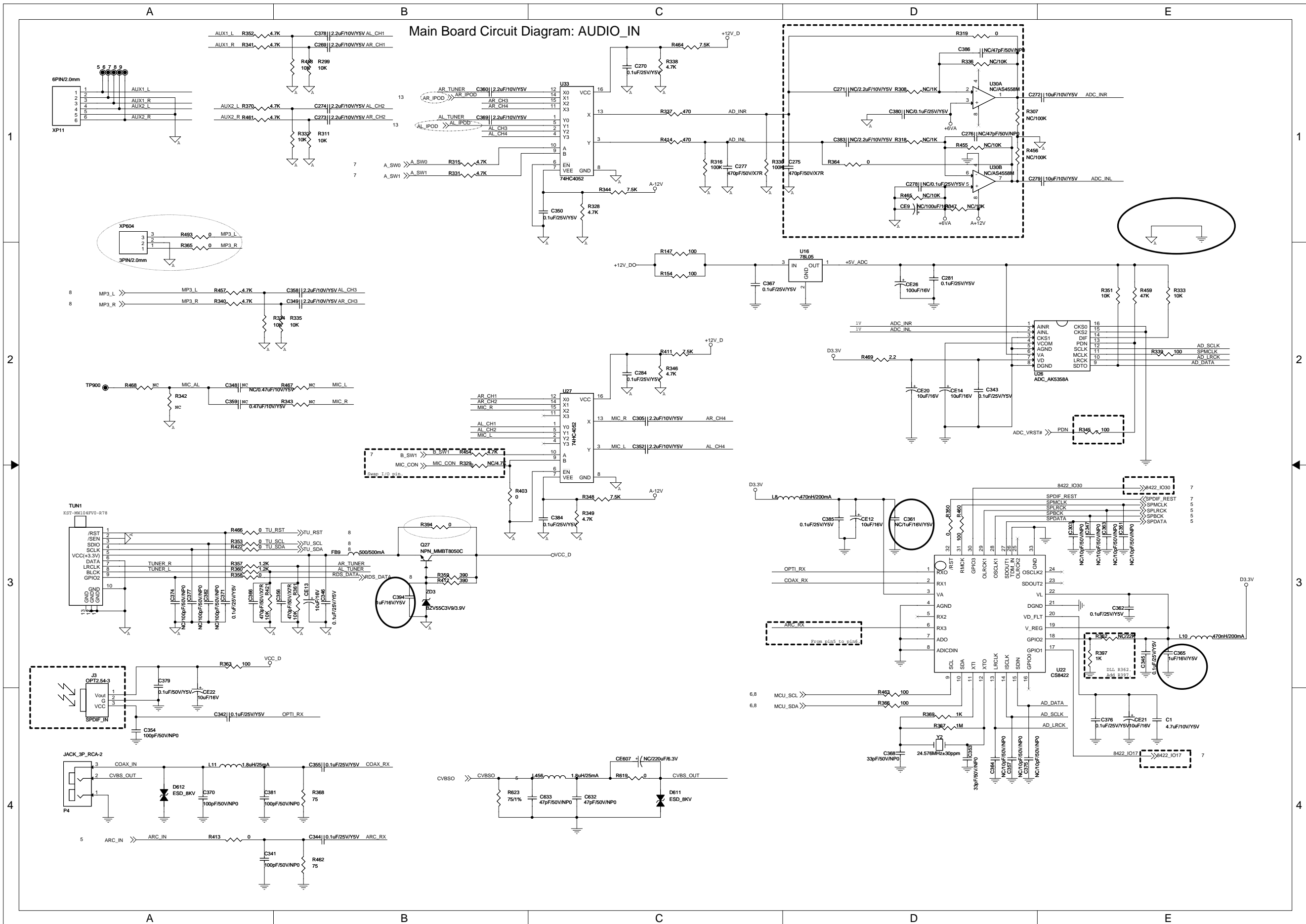
| | | | | | | | |
|------------------|------|------|------|------|------|------|-----|
| sanyo 414H08 | R915 | R919 | R925 | R914 | R947 | R962 | NC |
| | R918 | R924 | R932 | R960 | R946 | R961 | 0 R |
| Hitach HOP-B1350 | R918 | R924 | R932 | R960 | R946 | R961 | NC |
| | R915 | R919 | R925 | R914 | R947 | R962 | 0 R |

When use Hitach OPU R863 is 10K

COLLIMATOR

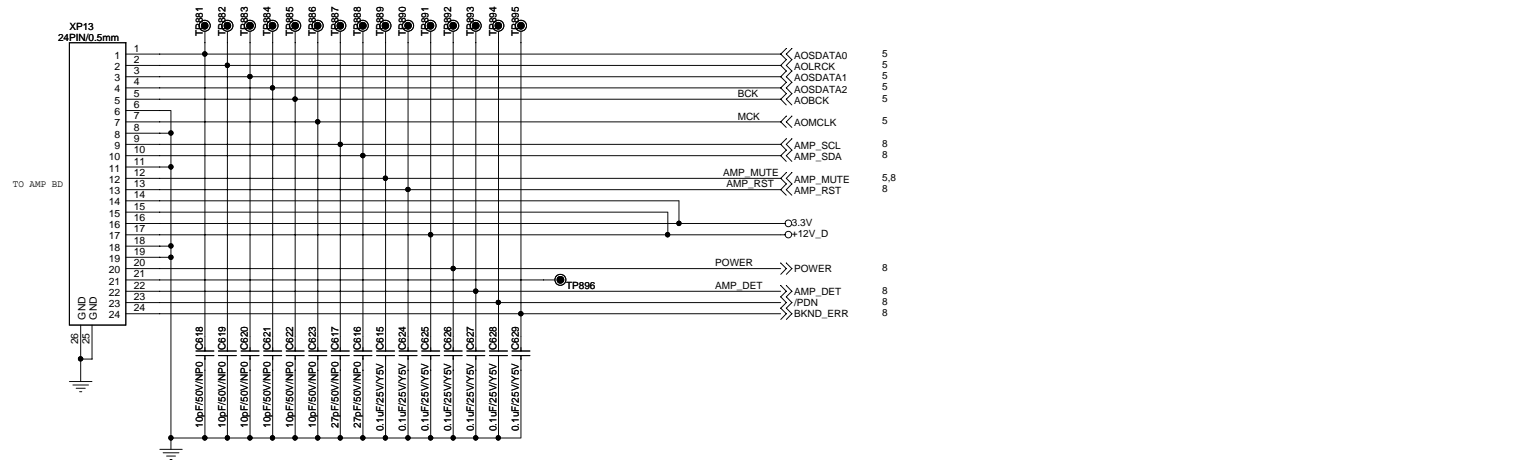
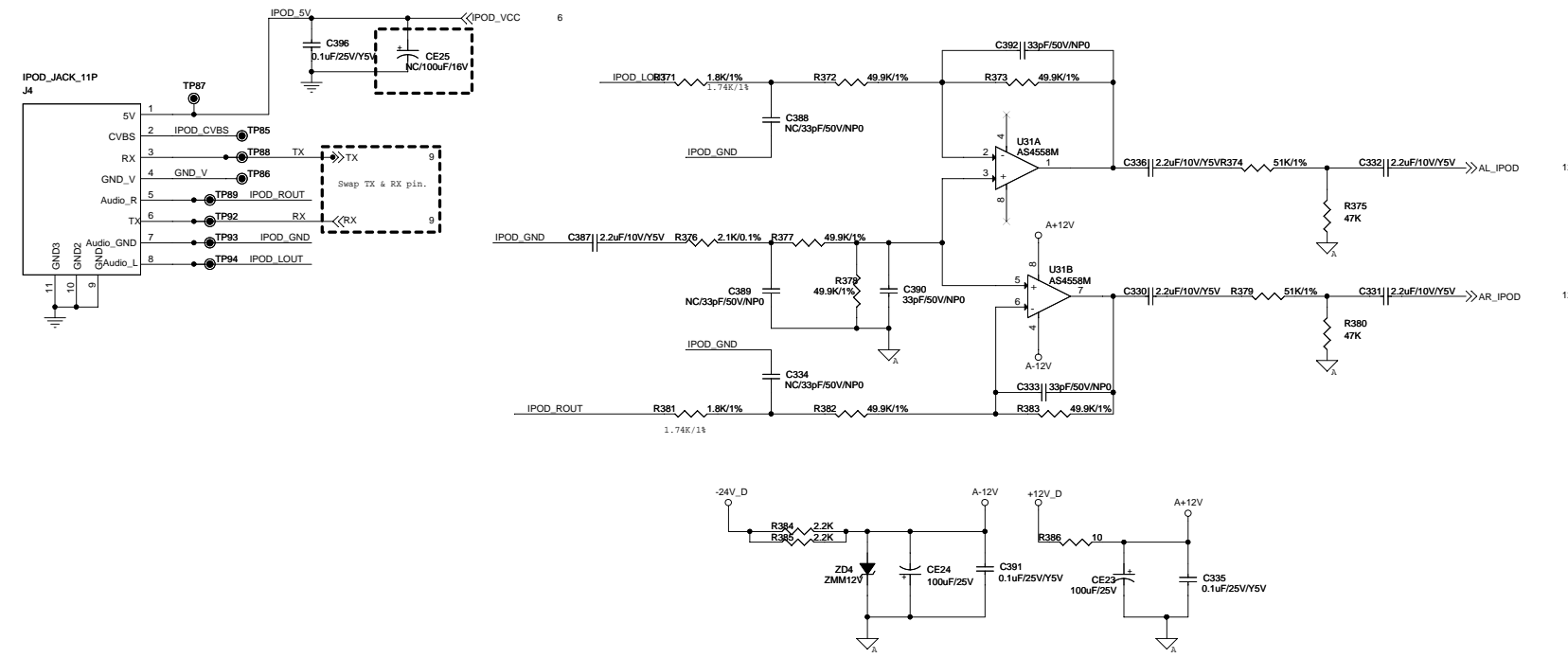


Main Board Circuit Diagram: AUDIO_IN

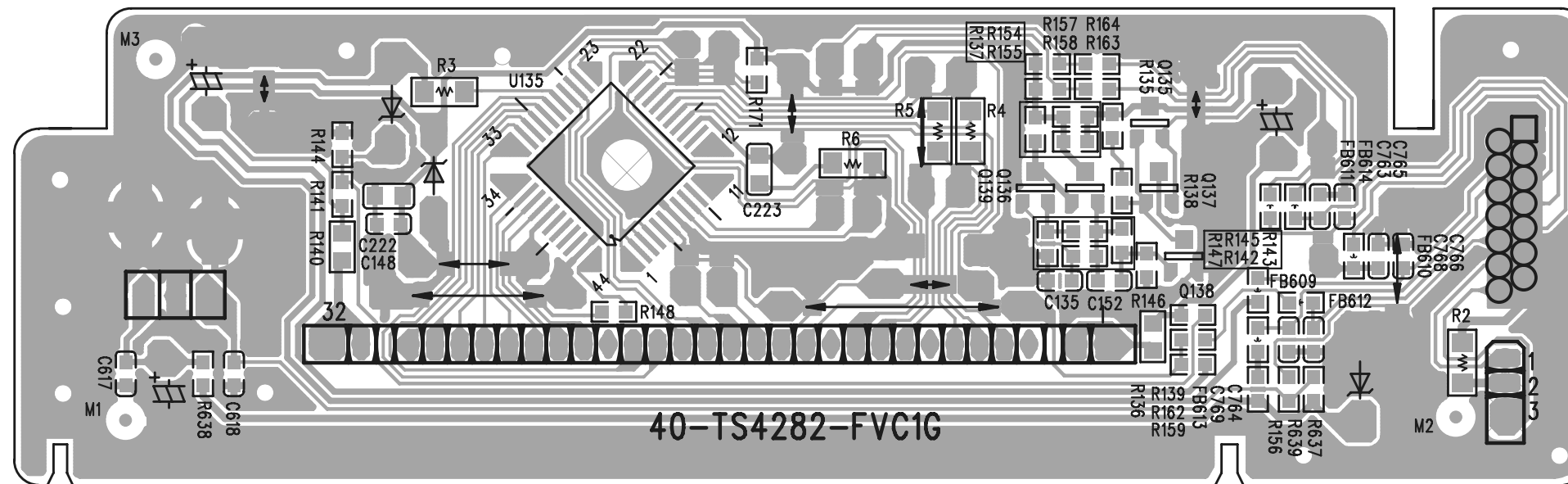


5 4 3 2 1

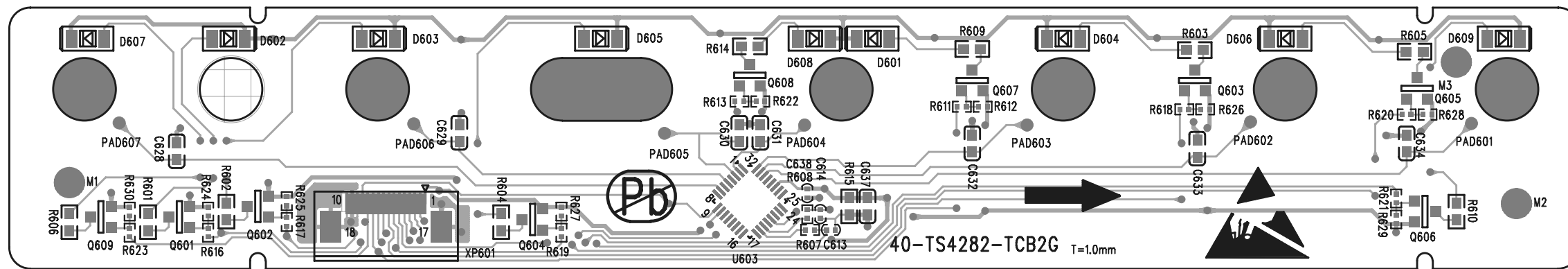
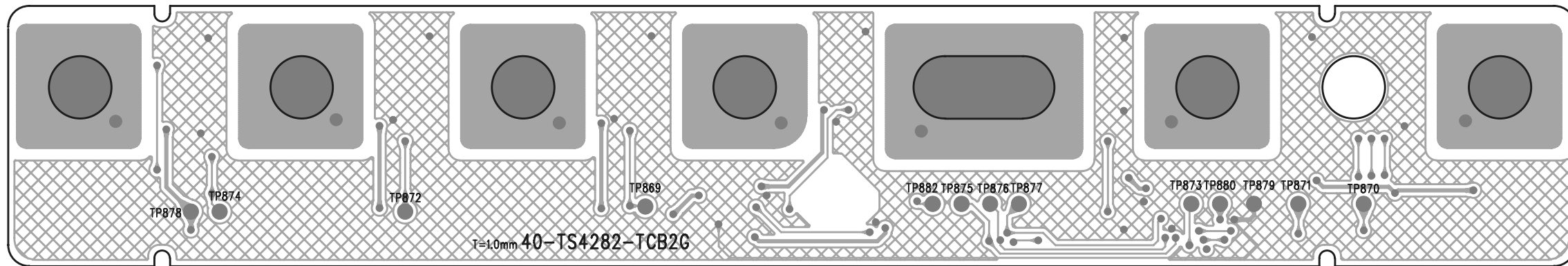
Main Board Circuit Diagram: IPOD_IN



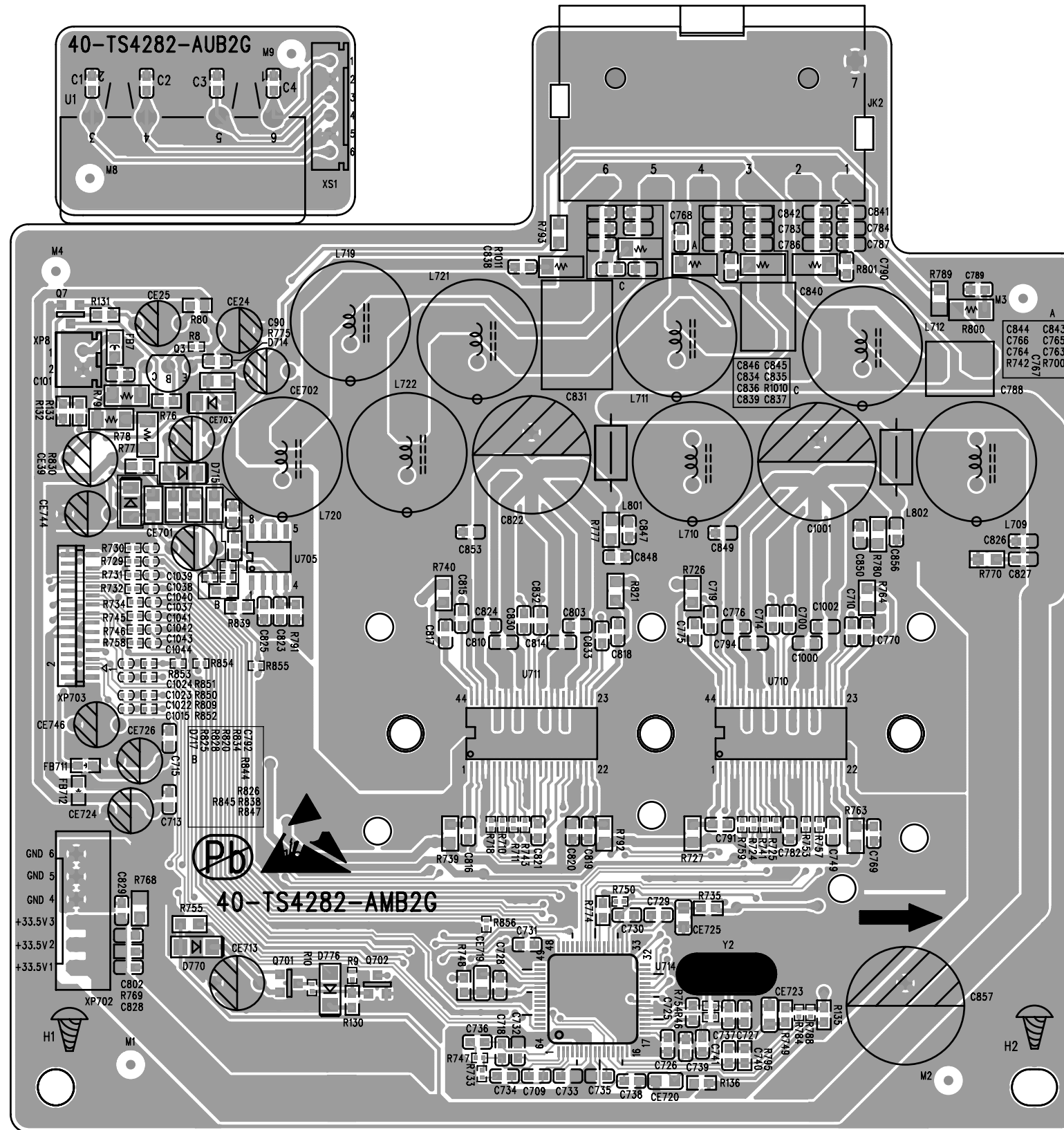
Front Control Board Print-layout (top side):



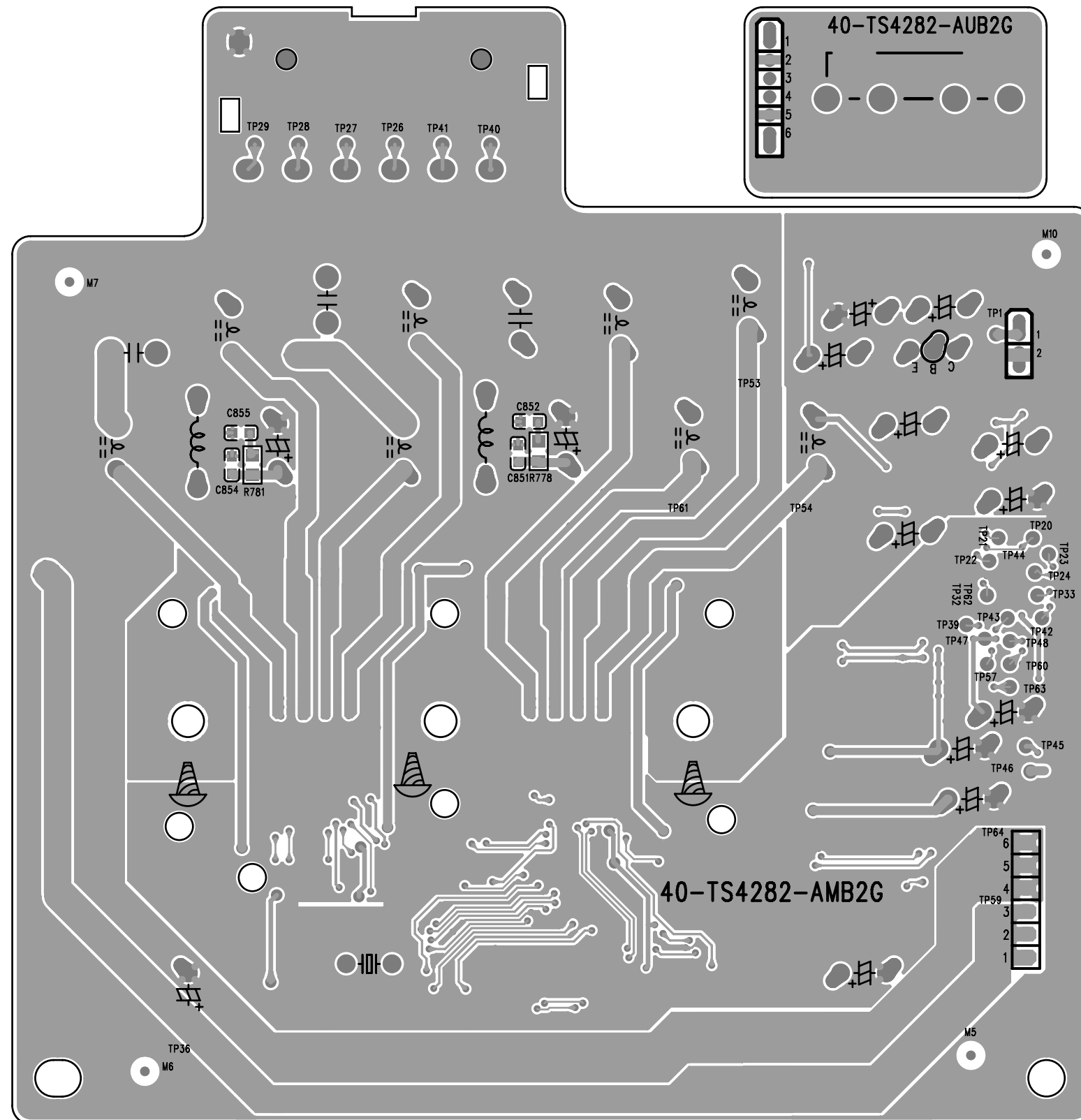
Touch Board Print-layout (top and bottom sides):



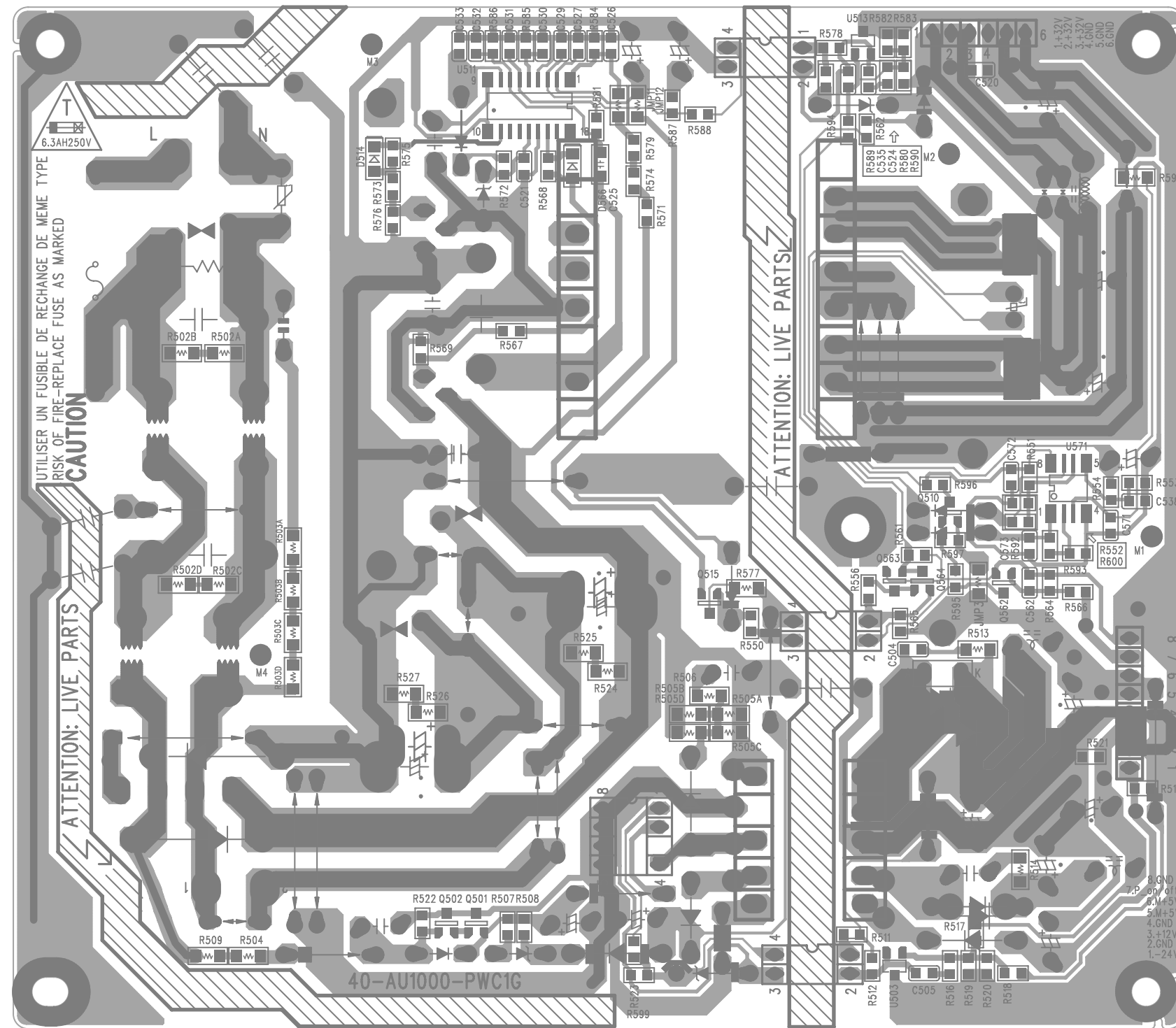
Amplifier Board and Aux Input Board Print-layout (top side):



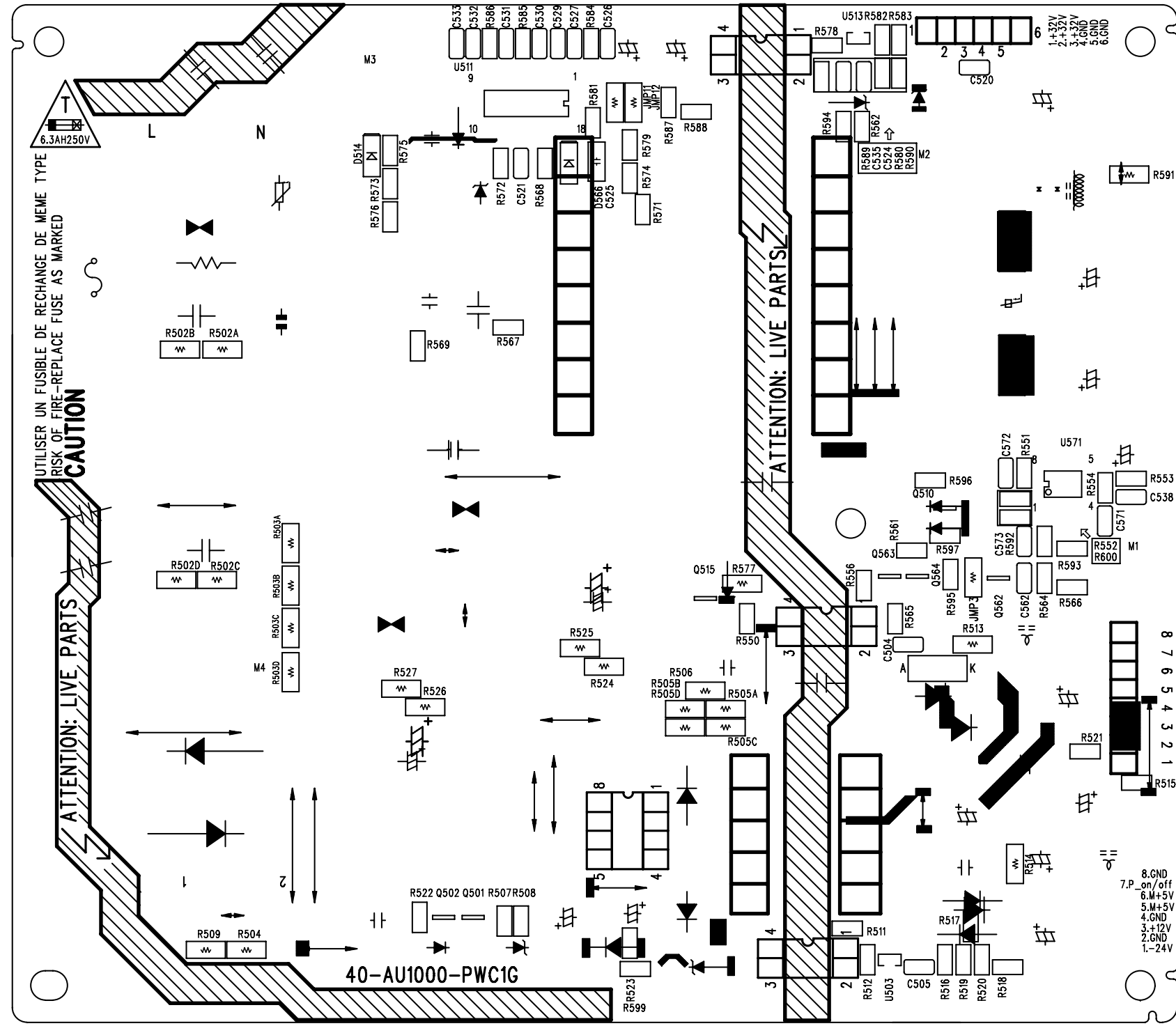
Amplifier Board and Aux Input Board Print-layout (bottom side):



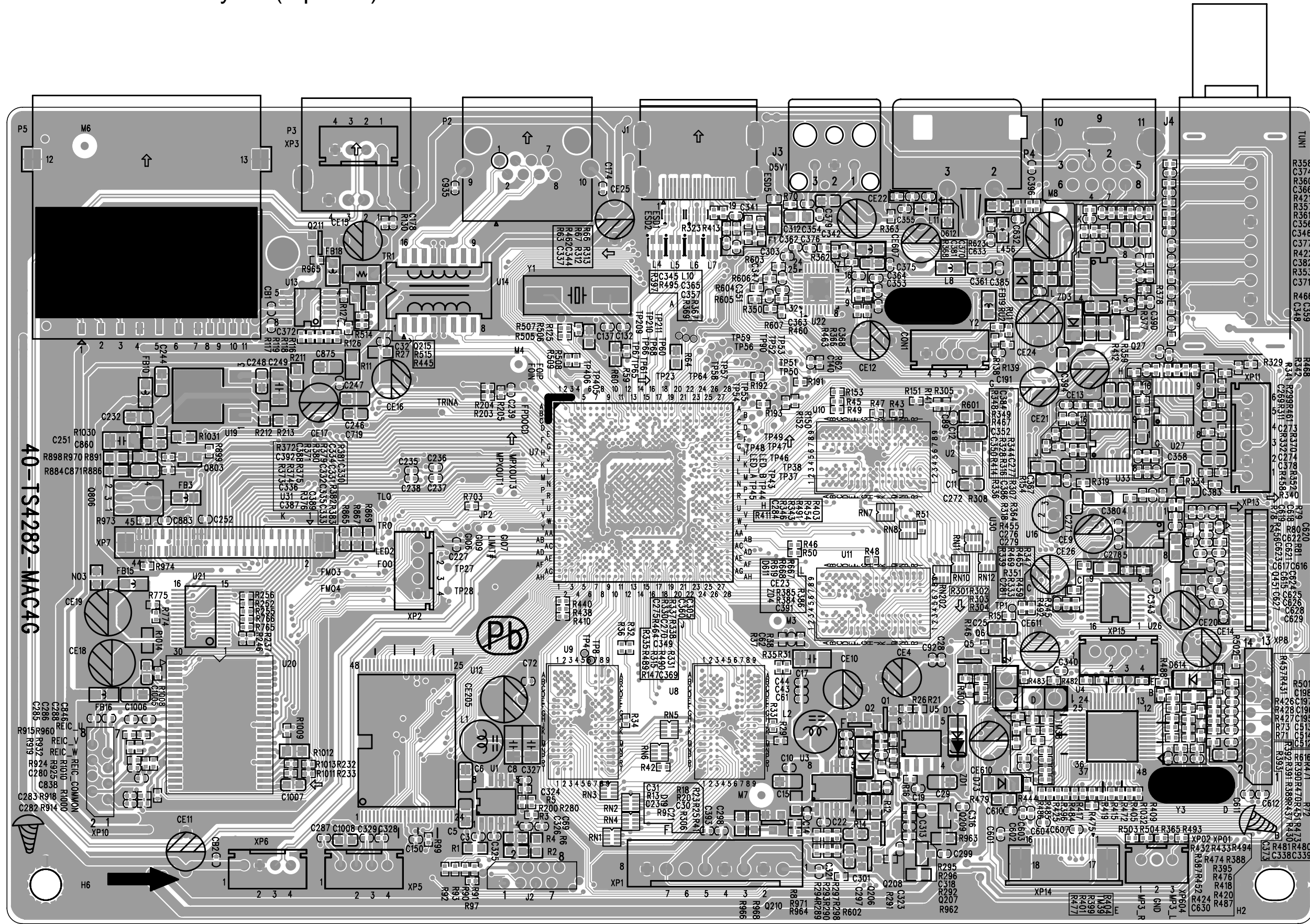
Power Supply Print-layout (top side):



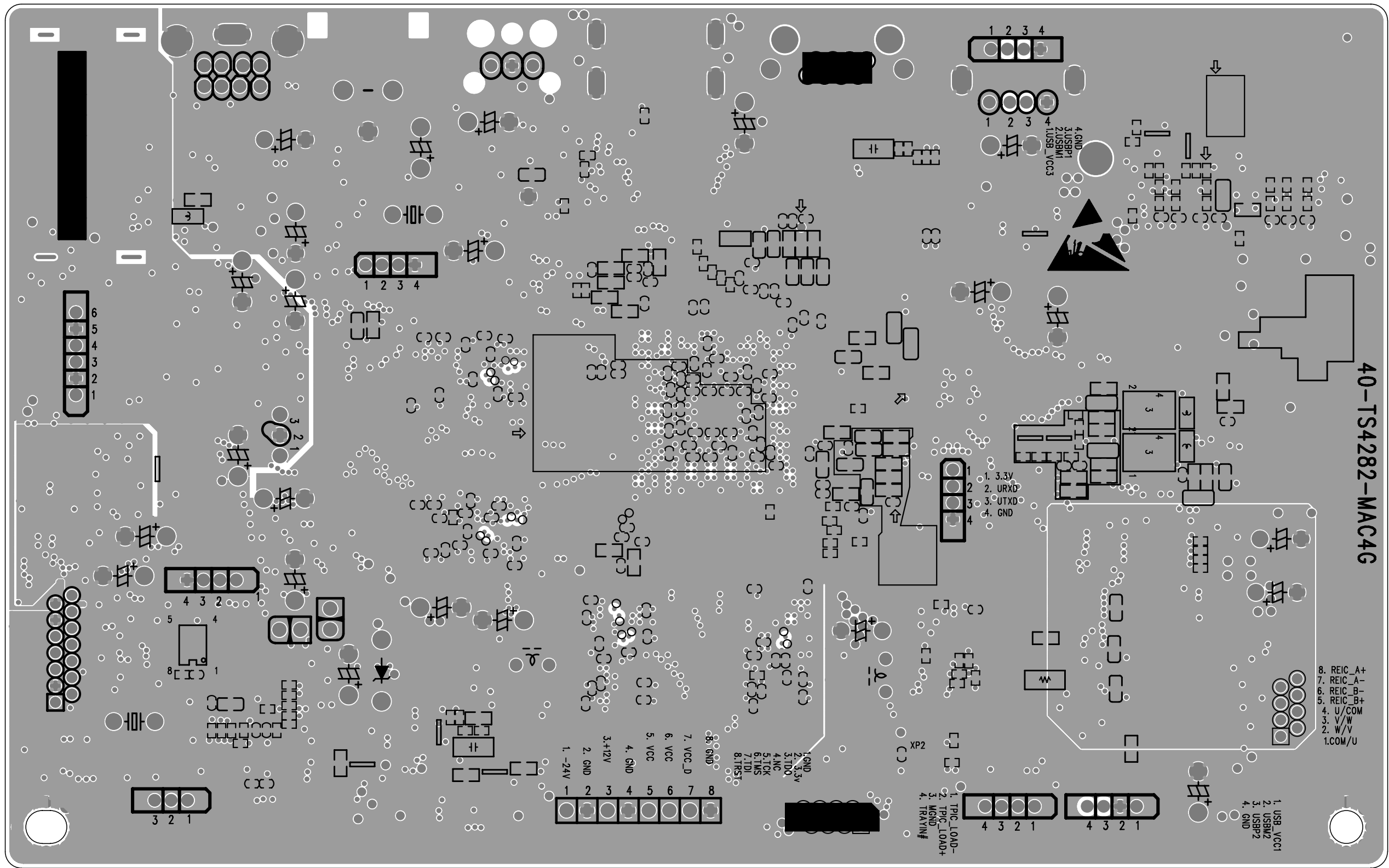
Power Supply Print-layout(bottom side):



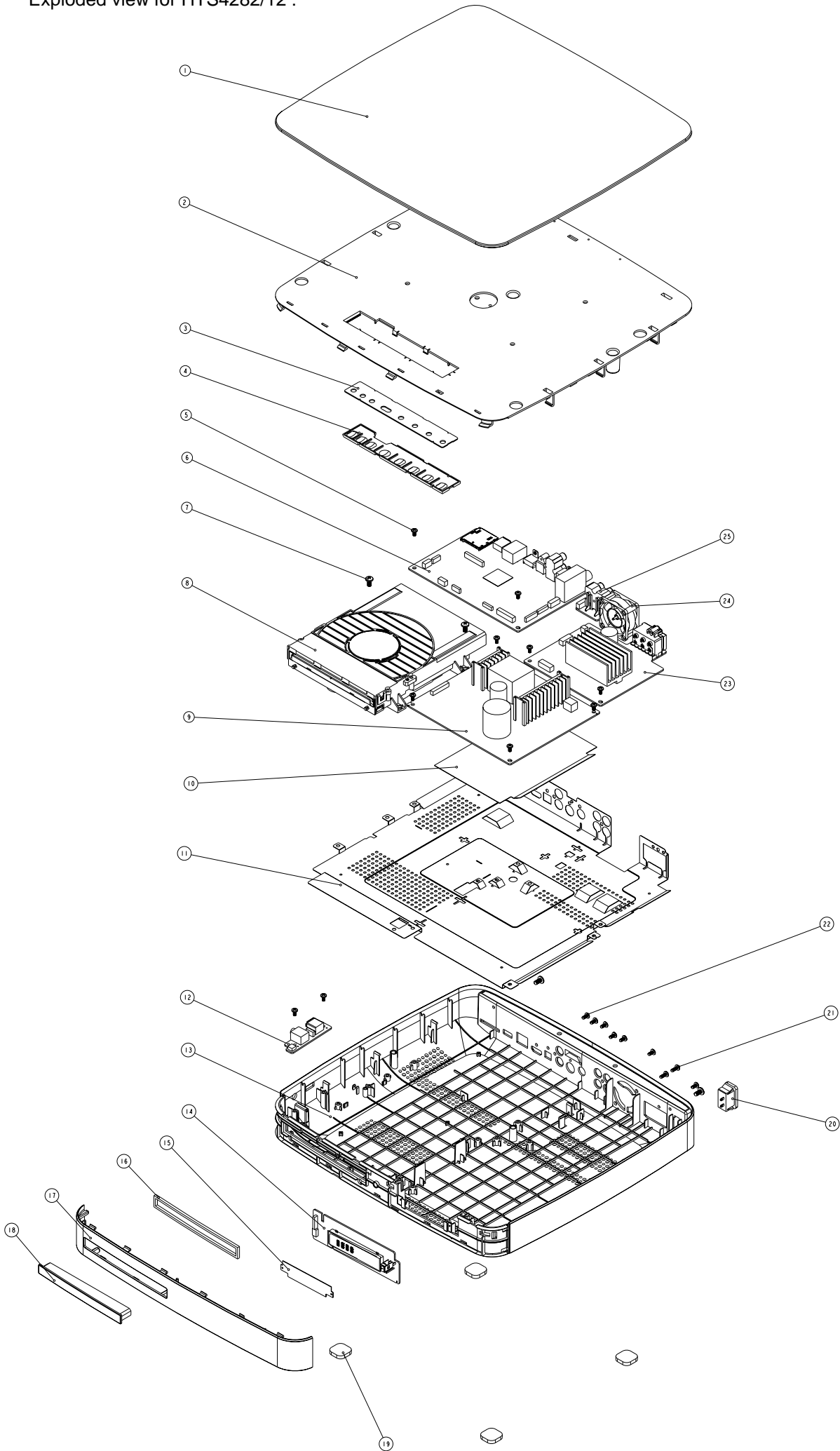
Main Board Print-layout (top side):



Main Board Print-layout (bottom side):



Exploded view for HTS4282/12 :



REVISION LIST

Version 1.0

* Initial release for HTS4282/12