

# Home Theater Soundbar

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HTB4152B/12 & HTB4150B/12/51/98/93/79

Service  
Service  
**Service**



# Service Manual

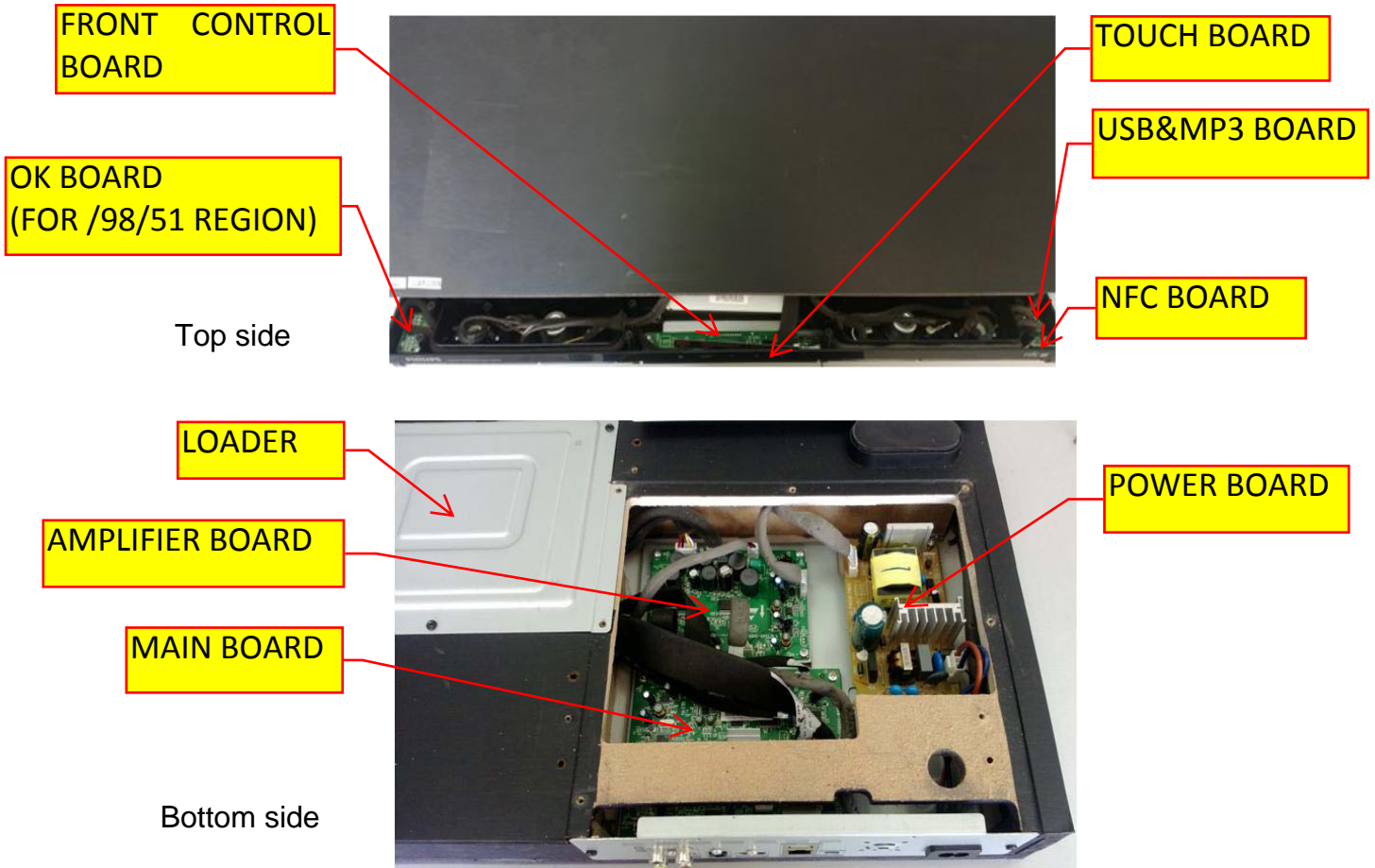
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## PCB Board Locations



### VERSION VARIATIONS

Type / Versions Service Policy		HTB4152		HTB4150					
		B/12	B/12	B/51	B/98	B/93	B/79		
MAIN BOARD		M	M	M	M	M	M		
POWER BOARD		C	C	C	C	C	C		
AMPLIFIER BOARD		C	C	C	C	C	C		
FRONT CONTROL BOARD		C	C	C	C	C	C		
USB&MP3 BOARD		C	C	C	C	C	C		
TOUCH BOARD		C	C	C	C	C	C		
NFC BOARD		C	C	C	C	C	C		
LOADER		C	C	C	C	C	C		
* Tips:		C -- Component Lever Repair M -- Module Lever Repair							

HTB4150B:

# Product specifications



## Note

- Specifications and design are subject to change without notice.

## Region codes

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

Country	DVD	BD
Europe, United Kingdom	ALL 2	
Asia Pacific, Taiwan, Korea	ALL 3	
Latin America	ALL 4	
Australia, New Zealand	ALL 4	
Russia, India	ALL 5	
China	ALL 6	

## 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, .flac, .ogg
  - .ra (Available only in Asia Pacific and China)
- Video:
  - .avi, .divx, .mp4, .m4v, .mkv, .asf, .wmv, .m2ts, .mpg, .mpeg, .flv, .3gp
  - .rmvb, .rm, .rv (Available only in Asia Pacific and China)
- Picture: .jpg, .jpeg, .jpe, .gif, .png

## Bluetooth

- Bluetooth profiles: A2DP, AVRCP
- Bluetooth version: 2.1 + EDR

## Audio formats

Your SoundStage supports the following audio files.

(.ra files are supported only in Asia Pacific and China)

Extension	Container	Audio codec	Bit rate
.mp3	MP3	MP3	Upto 320 kbps
.wma	ASF	WMA	Upto 192 kbps
.aac	AAC	AAC, HE-AAC	Upto 192 kbps
.wav	WAV	PCM	27.648 Mbps
.m4a	MKV	AAC	192 kbps
.mka	MKA	PCM	27.648 Mbps
		Dolby Digital	640 kbps

		DTS core	1.54 Mbps
		MPEG	912 kbps
		MP3	Upto 320 kbps
		WMA	Upto 192 kbps
		AAC, HE-AAC	Upto 192 kbps
.ra	RM	AAC, HE-AAC	Upto 192 kbps
		Cook	96469 bps
.flac	FLAC	FLAC	Upto 24 bps
.ogg	OGG	Vorbis	Variable bit rate, maximum block size 4096
		MP3	Upto 320 kbps

## Video formats

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

- Resolution: 1920 × 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	40 Mbps

	MPEG 4 SP / ASP	38.4 Mbps
	H.264/AVC upto HiP@4.2	25 Mbps
	WMV9	45 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

### .mp4 or .m4v files in MP4 container

Audio codec	Video codec	Bit rate
Dolby Digital, MPEG, MP3, AAC, HE-AAC, Dolby Digital Plus	MPEG 1, MPEG 2	40 Mbps
	MPEG 4 ASP	38.4 Mbps
	H.264/AVC HiP@4.2	25 Mbps

### .mkv files in MKV container

Audio codec	Video codec	Bit rate
PCM, Dolby Digital, DTS core, MPEG, MP3, WMA, AAC, HE-AAC, Dolby Digital Plus	DivX Plus HD	30 Mbps
	MPEG 1, MPEG 2	40 Mbps
	MPEG 4 ASP	38.4 Mbps
	H.264/AVC HiP@4.2	25 Mbps
	WMV9	45 Mbps

**.m2ts files in MKV container**

Audio codec	Video codec	Bit rate
PCM, Dolby Digital, DTS core, MPEG, MP3, WMA, AAC, HE-AAC, Dolby Digital Plus	MPEG 1, MPEG 2	40 Mbps
	MPEG 4 ASP	38.4 Mbps
	H.264/AVC HiP@4.2	25 Mbps
	WMV9	45 Mbps

**.asf files in ASF container**

Audio codec	Video codec	Bit rate
Dolby Digital, MP3, WMA, Dolby Digital Plus	MPEG 4 ASP	38.4 Mbps
	H.264/AVC HiP@4.2	25 Mbps
	WMV9	45 Mbps

**.mpg and .mpeg files in PS container**

Audio codec	Video codec	Bit rate
PCM, DTS core, MPEG, MP3	MPEG 1, MPEG 2	40 Mbps

**.flv files in FLV container**

Audio codec	Video codec	Bit rate
MP3, AAC	H.264/AVC upto HiP@4.2	25 Mbps
	H.263	38.4 Mbps

**.3gp files in 3GP container**

Audio codec	Video codec	Bit rate
AAC, HE-AAC	MPEG 4 ASP	38.4 Mbps
	H.264/AVC upto HiP@4.2	25 Mbps max

**.rm, .rv, and .rmvb files in RM container  
(Available only in Asia Pacific and China)**

Audio codec	Video codec	Bit rate
AAC, COOK	RV30, RV40	40 Mbps

**Amplifier**

- Total output power: 80W RMS (10% THD)
- Frequency response: 20 Hz-20 kHz /  $\pm 3$  dB
- Signal-to-noise ratio: > 65 dB (CCIR) / (A-weighted)
- Input sensitivity:
  - AUX: 2 V rms
  - AUDIO IN: 1 V rms

**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 180 Hz-12.5 kHz /  $\pm 3$  dB

---

## USB

- Compatibility: Hi-Speed USB (2.0)
- Class support: USB Mass Storage Class (MSC)
- File system: FAT16, FAT32, NTFS
- USB port: 5V  $\Rightarrow$ , 1A

---

## Main unit

- Power supply: 110-240V~, 50/60 Hz
- Power consumption: 40 W
- Standby power consumption:  $\leq 0.5$  W
- Dimensions (WxHxD):  
701 x 70 x 317 mm
- Weight: 6.8 kg
- Operating temperature and humidity:  
0°C to 45°C, 5% to 90% humidity for all climates
- Storage temperature and humidity: -40°C to 70°C, 5% to 95%

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## Speakers

- Output power: 2 x 20 W RMS (10% THD)
- Speaker impedance: 4 ohm
- Speaker drivers: 2 x racetrack (1.5" x 5") + 2 x 1" tweeter

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## Subwoofer

- Output power: 40 W RMS (10% THD)
- Impedance: 4 ohm
- Speaker drivers: 105mm (4") woofer

---

## Remote control batteries

- 2 x AAA-R03-1.5 V

---

## Laser

- Laser Type (Diode): InGaN/AlGaIn (BD), AlGaInP (DVD/CD)
- Wave length: 405  $\pm 7$  nm (BD), 660  $\pm 10$  nm (DVD), 785  $\pm 10$  nm (CD)
- Output power (Max. ratings): 20 mW (BD), 6 mW (DVD), 7 mW (CD)

HTB4152B:

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.m4a	MKV	AAC	192 kbps
.mka	MKA	PCM	27.648 Mbps
		Dolby Digital	640 kbps

		DTS core	1.54 Mbps
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## Remote control batteries

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- Output power (Max. ratings): 20 mW (BD), 6 mW (DVD), 7 mW (CD)

## Service Hints

### CAUTION

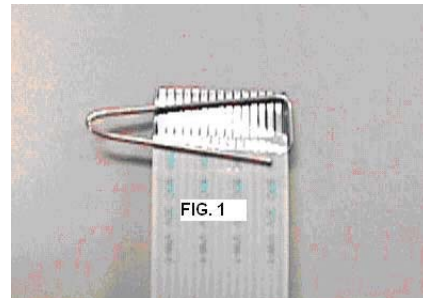
**CHARGED CAPACITORS ON THE SERVO BOARD MAY DAMAGE THE DRIVE ELECTRONICS WHEN CONNECTING A NEW DRIVE. THAT'S WHY, BESIDES THE SAFETY MEASURES LIKE**

- SWITCH OFF POWER SUPPLY
- ESD PROTECTION

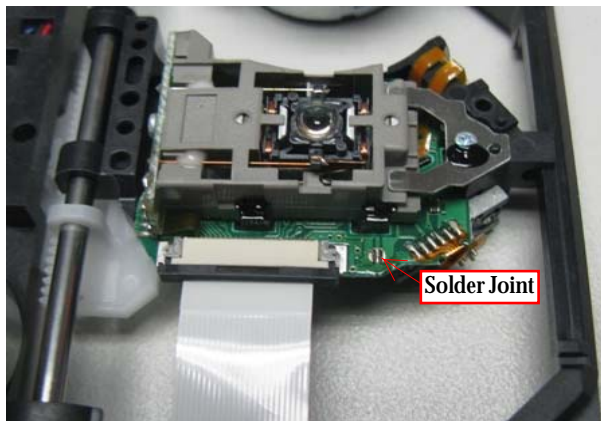
**ADDITIONAL ACTIONS MUST BE TAKEN BY THE REPAIR TECHNICIAN.**

### 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.***

## Software Upgrade for HTB4150B

1. There are 2 ways to software upgrade:

First:

Upgrade from USB:

New a folder in root directory of USB and name it 'UPG'. Copy the upgrade file HTB4150.BIN to the UPG directory then press the HOME key on RC into HOME screen .Select 'Setup'->'Advanced'->'Software update'->'USB' in order and then press OK key .

When upgrade file detected, select "Start" to upgrade, select "Cancel" to cancel.

After upgrading begins, a message "Do not Switch off" will show, or the product will hang up and upgrading failed.

After you cancel, the product would restart and the software would not be upgraded.

Second:

Upgrade from Network:

Keep the product connect to internet. press the HOME key on RC into HOME screen .Select 'Setup'->'Advanced'->'Software update'->'Network' in order and then press OK key .

When upgrade file detected, select "OK" to download, select "Cancel" to cancel. After the software is downloaded, select to upgrade or cancel.

After upgrading begins, a message "Do not Switch off" will show, or the product will hang up and upgrading failed.

After you cancel, the product would restart and the software would not be upgraded.

2. Check the version information after upgraded.

Press the Home key on RC , select 'Setup'->'Advanced'->'Version information' in order, and then press OK Key you will see a interface like below:

Model:HTB4150/12

Version

SystemSW:x.xx.xx

Subsystem SW:xx-xx-xx-xx

Ethernet MAC:xx:xx:xx:xx:xx:xx

EUI64:xx xx xx xx xx xx xx xx

For information,frequently asked question and software updates, visit

[www.philips.com/support](http://www.philips.com/support).

Close

## Software Upgrade for HTB4152B

### 1. There are 2 ways to software upgrade:

First:

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New a folder in root directory of USB and name it 'UPG'. Copy the upgrade file HTB4152.BIN to the UPG directory then press the HOME key on RC into HOME screen .Select 'Setup'->'Advanced'->'Software update'->'USB' in order and then press OK key .

When upgrade file detected, select "Start" to upgrade, select "Cancel" to cancel.

After upgrading begins, a message "Do not Switch off" will show, or the product will hang up and upgrading failed.

After you cancel, the product would restart and the software would not be upgraded.

Second:

#### Upgrade from Network:

Keep the product connect to internet. press the HOME key on RC into HOME screen .Select 'Setup'->'Advanced'->'Software update'->'Network' in order and then press OK key .

When upgrade file detected, select "OK" to download, select "Cancel" to cancel. After the software is downloaded ,select to upgrade or cancel.

After upgrading begins, a message "Do not Switch off" will show, or the product will hang up and upgrading failed.

After you cancel, the product would restart and the software would not be upgraded.

### 2. Check the version information after upgraded.

Press the Home key on RC , select 'Setup'->'Advanced'->'Version information' in order, and then press OK Key you will see a interface like below:

Model:HTB4152/12

Version

SystemSW:x.xx.xx

Subsystem SW:xx-xx-xx-xx

Ethernet MAC:xx:xx:xx:xx:xx:xx

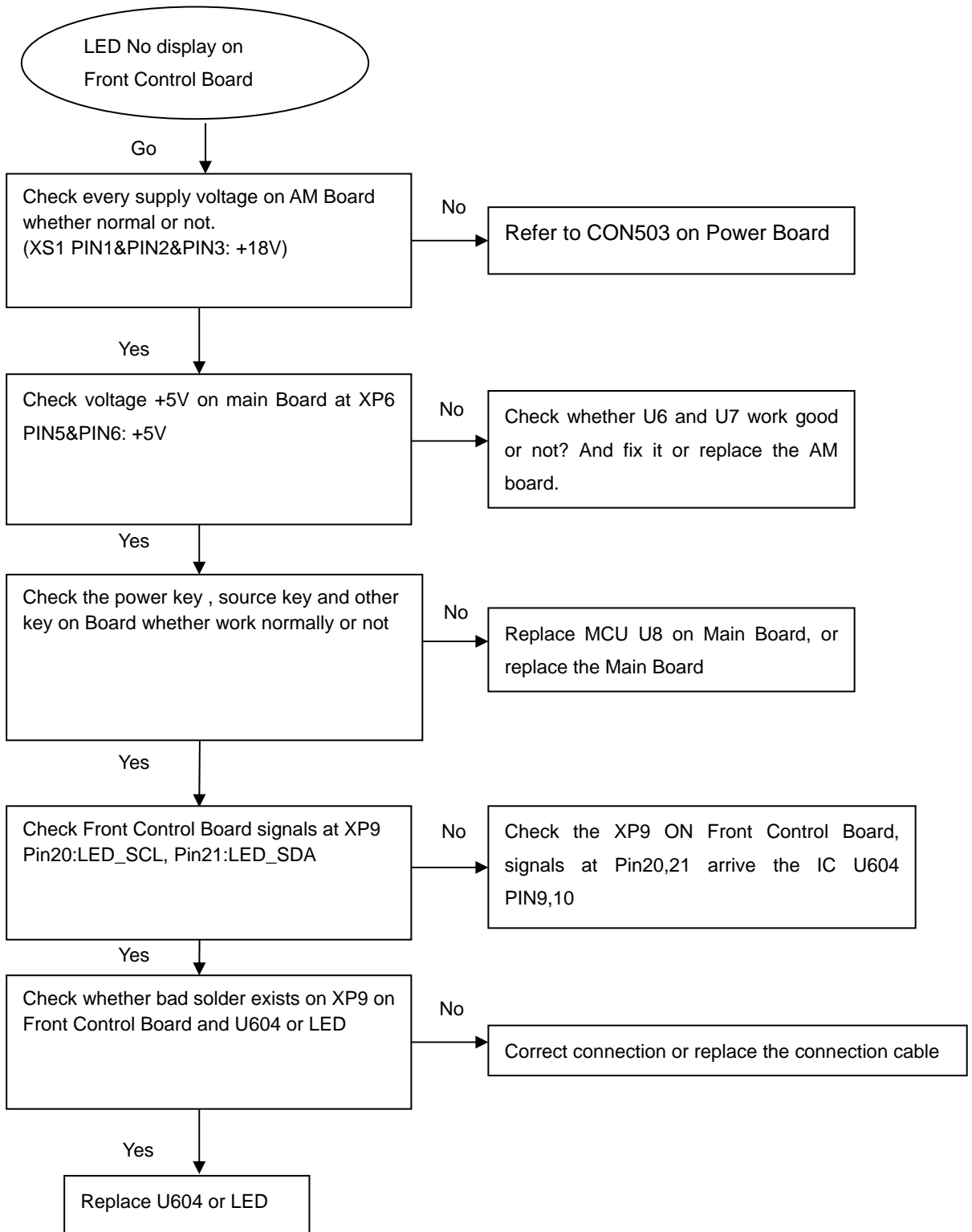
EUI64:xx xx xx xx xx xx xx xx

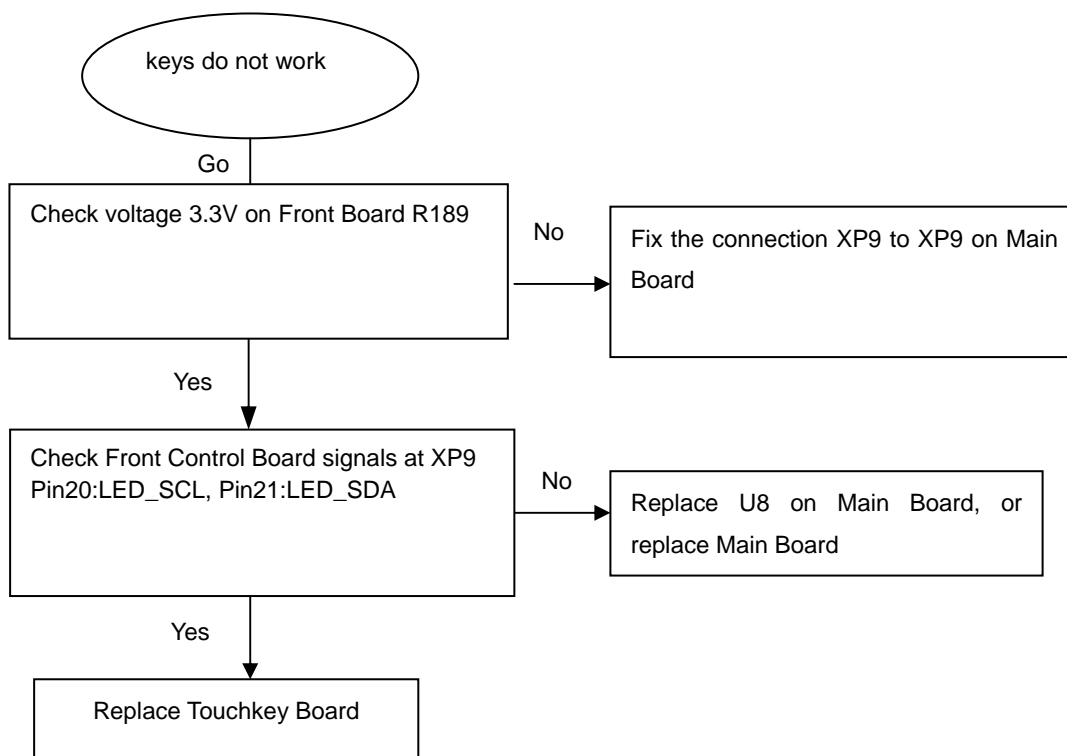
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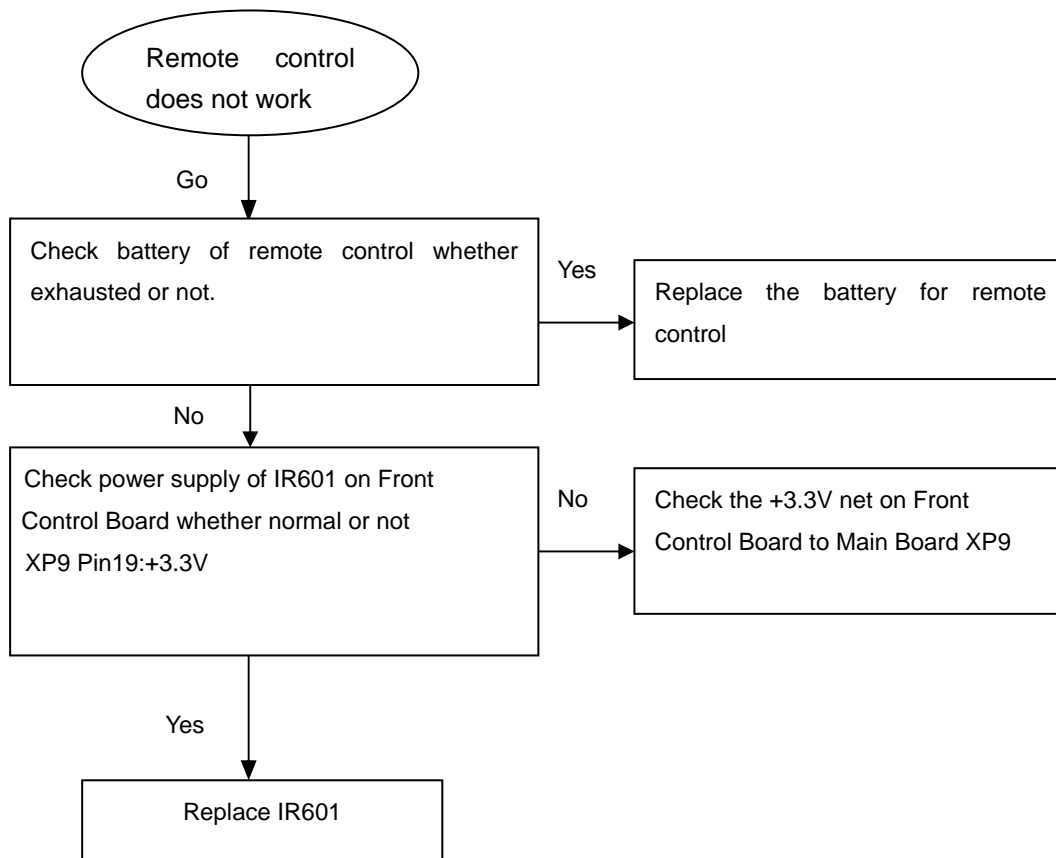
Close

## LED No display on Front Control Board

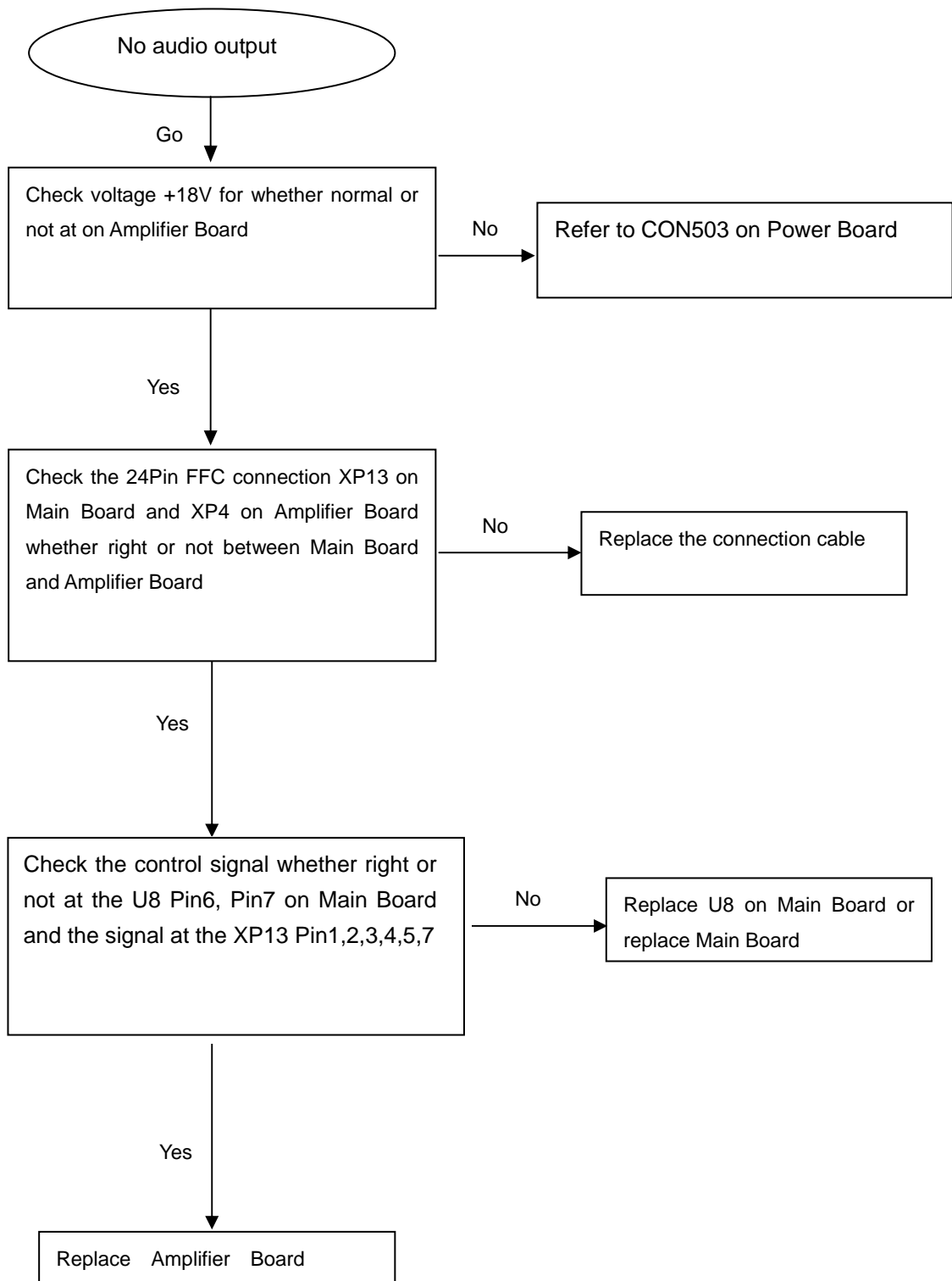


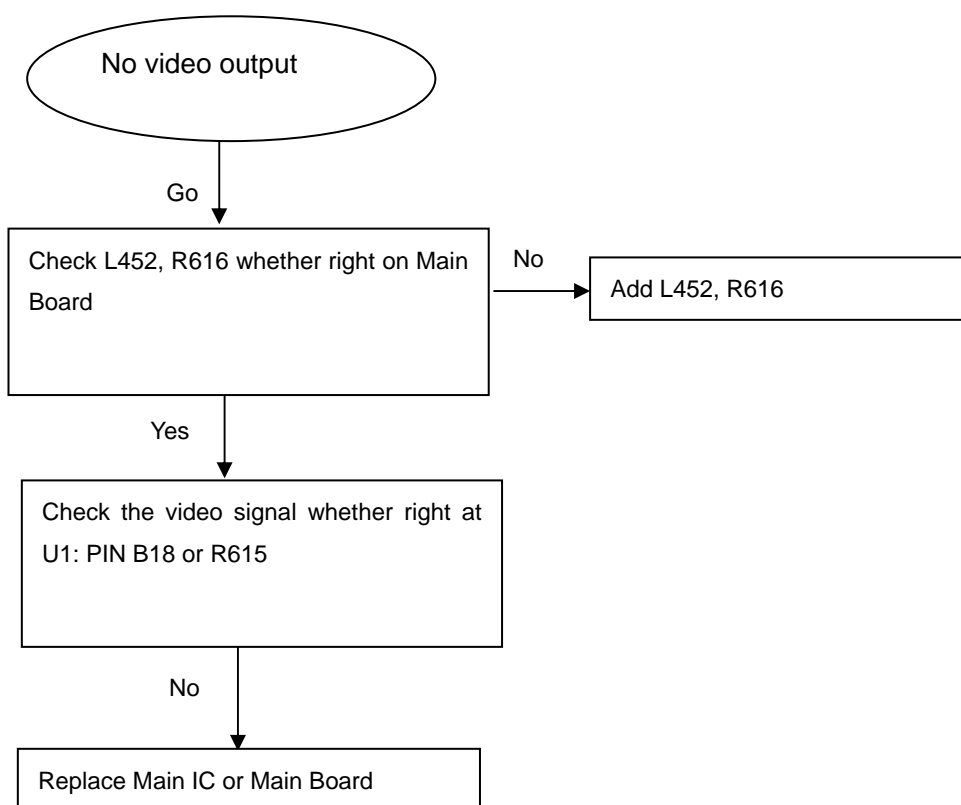
**keys do not work**

**Remote control does not work**

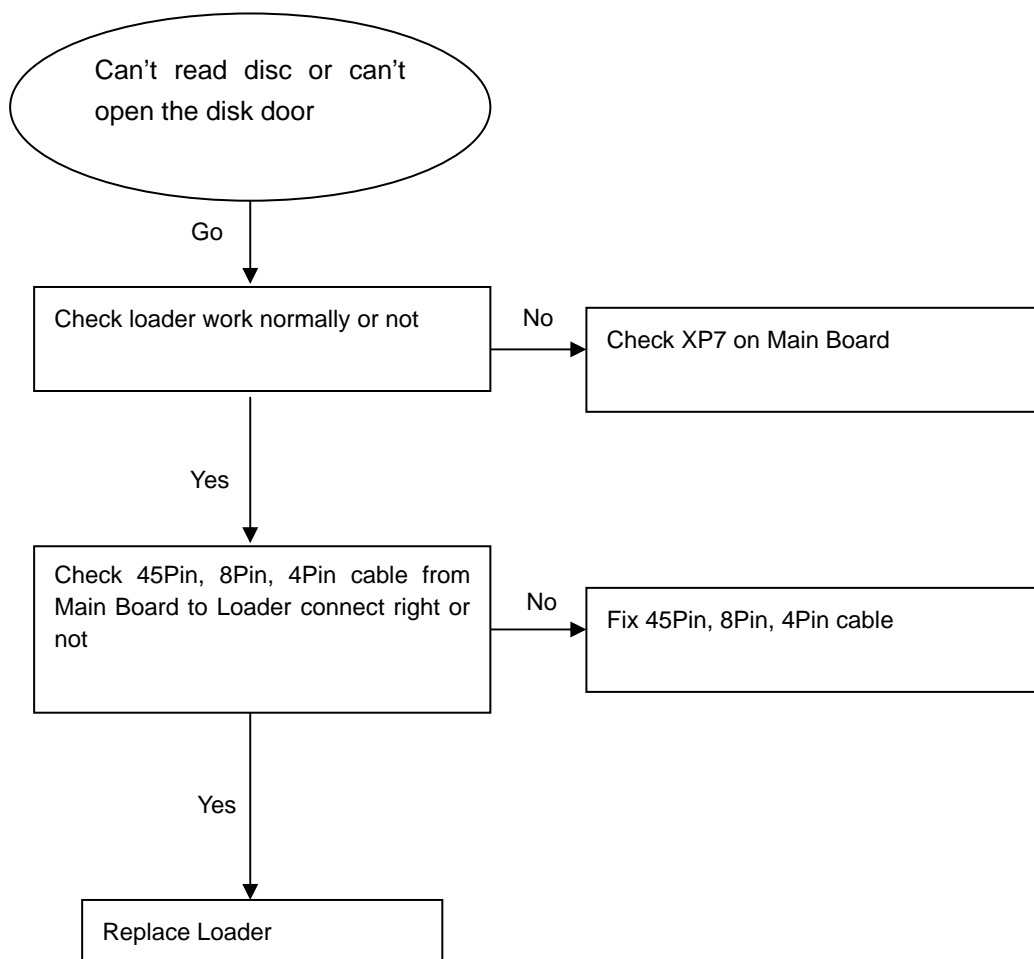


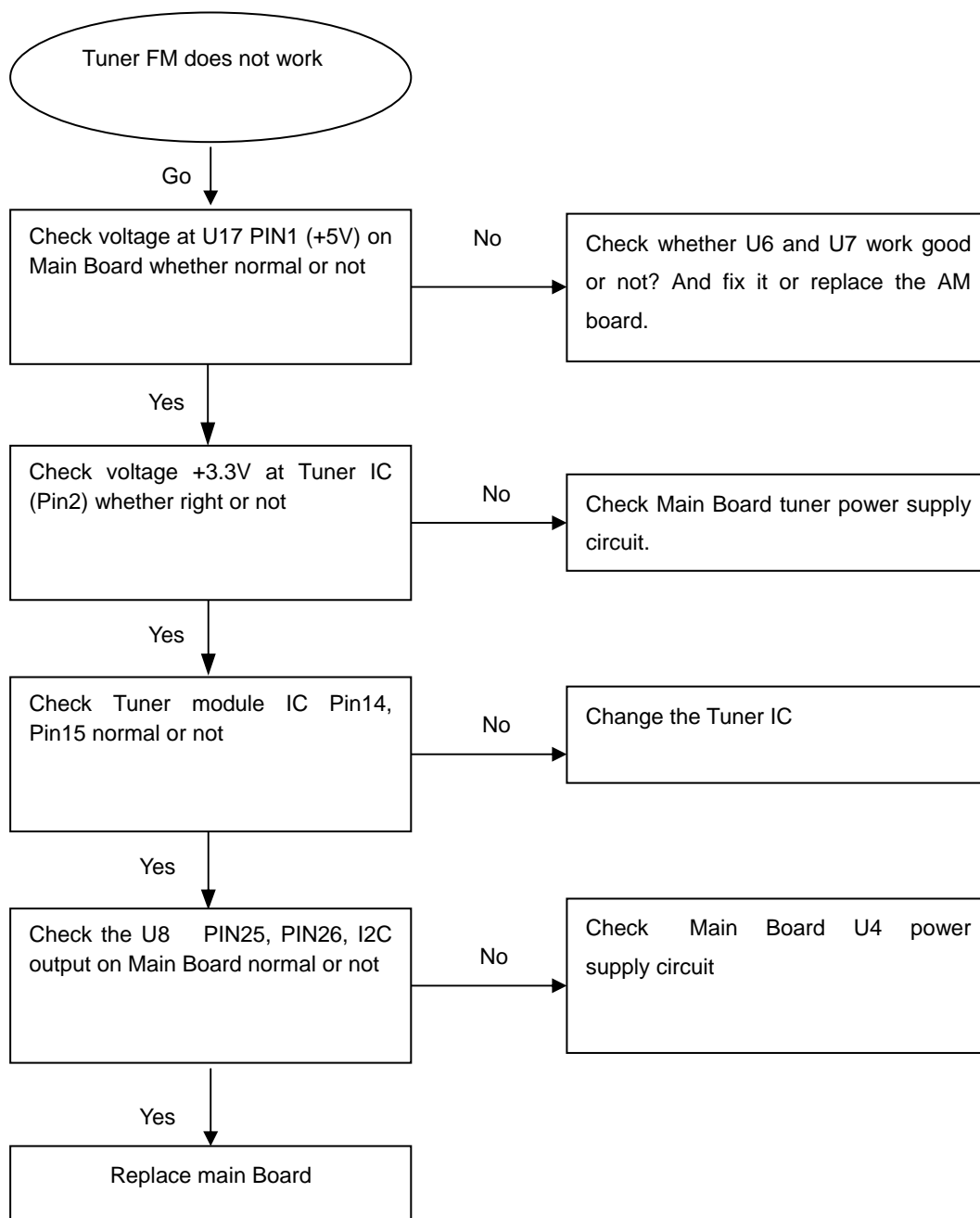


**No audio output**

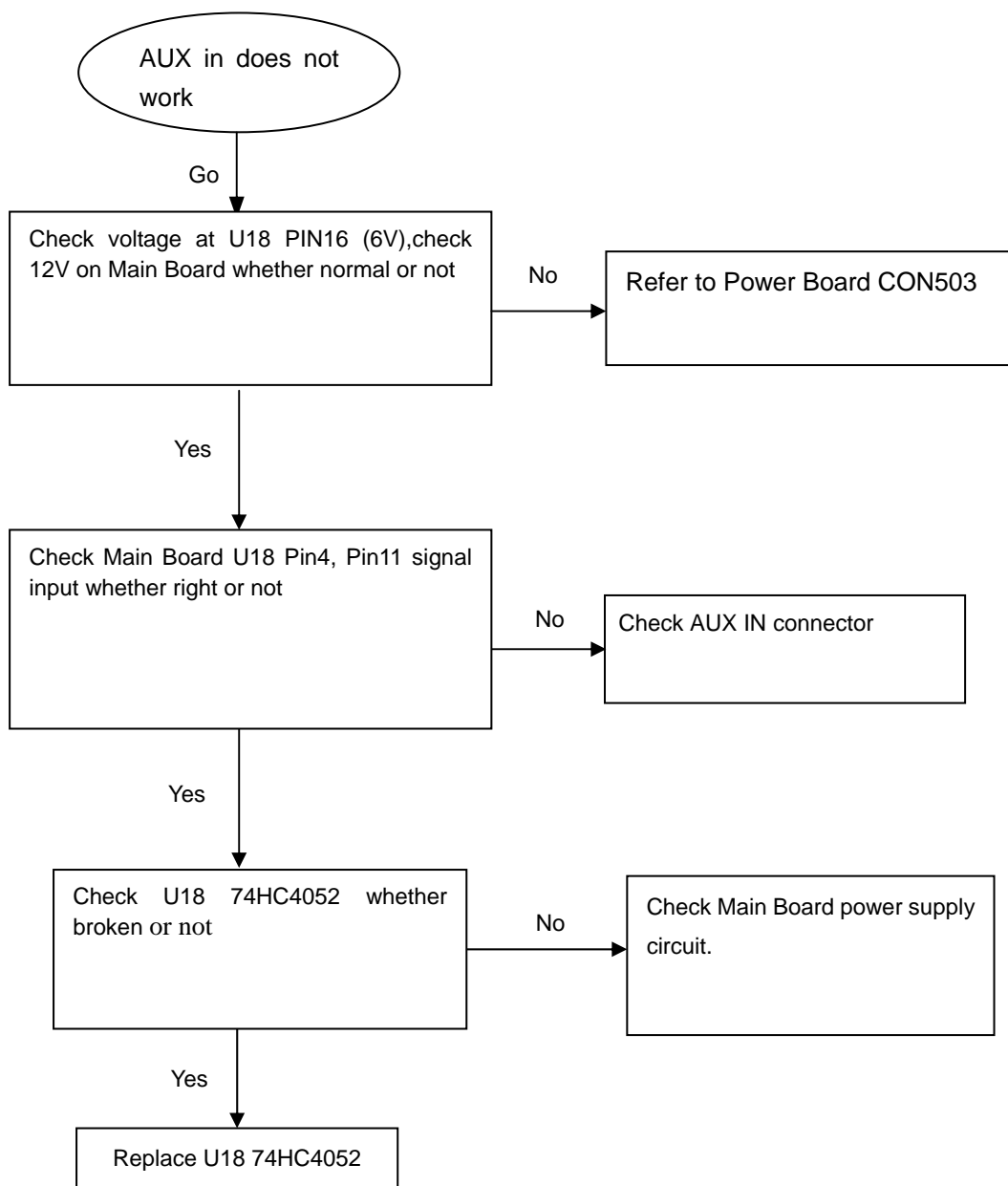
**No video output**

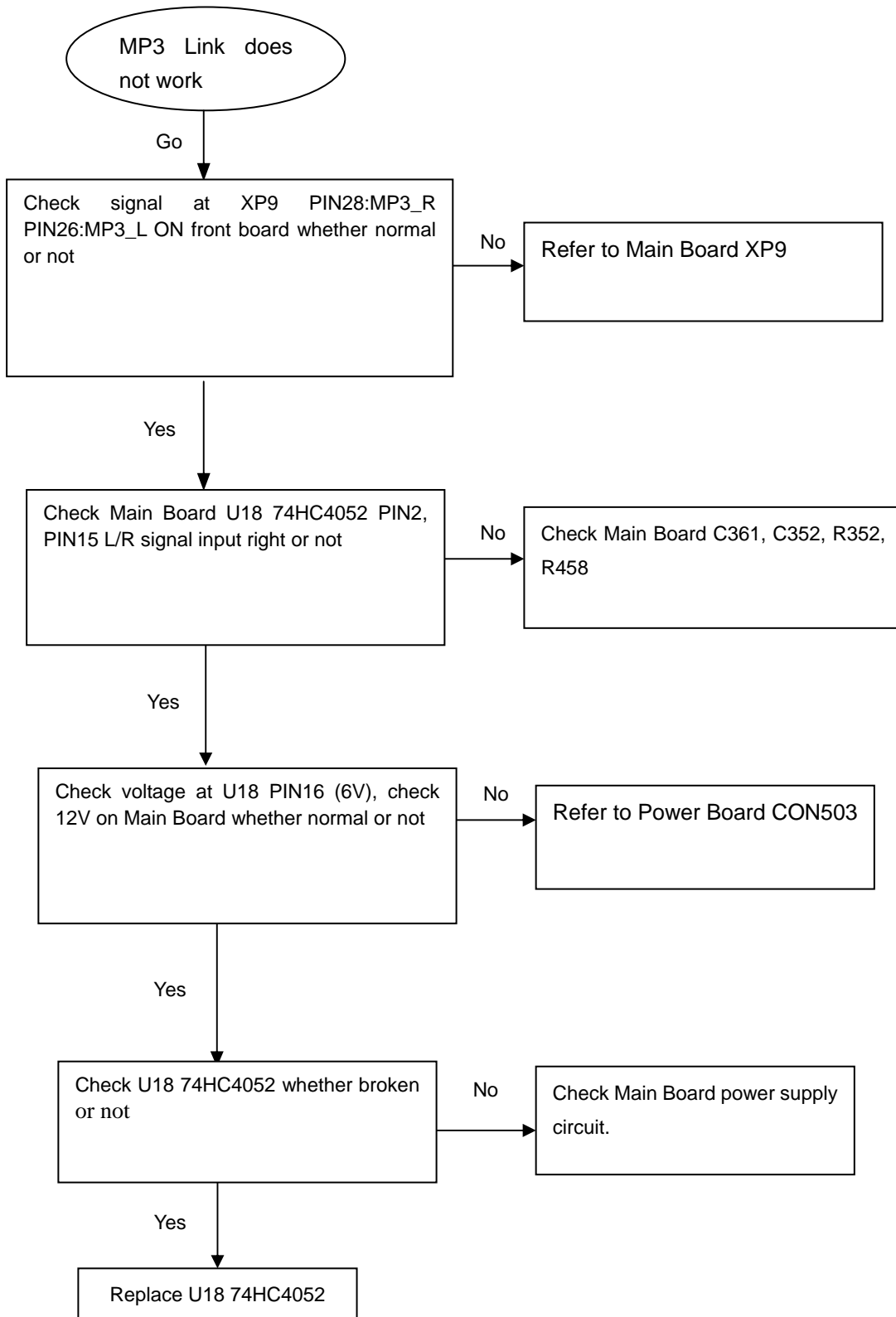
Can't read disc or can't open the disk door



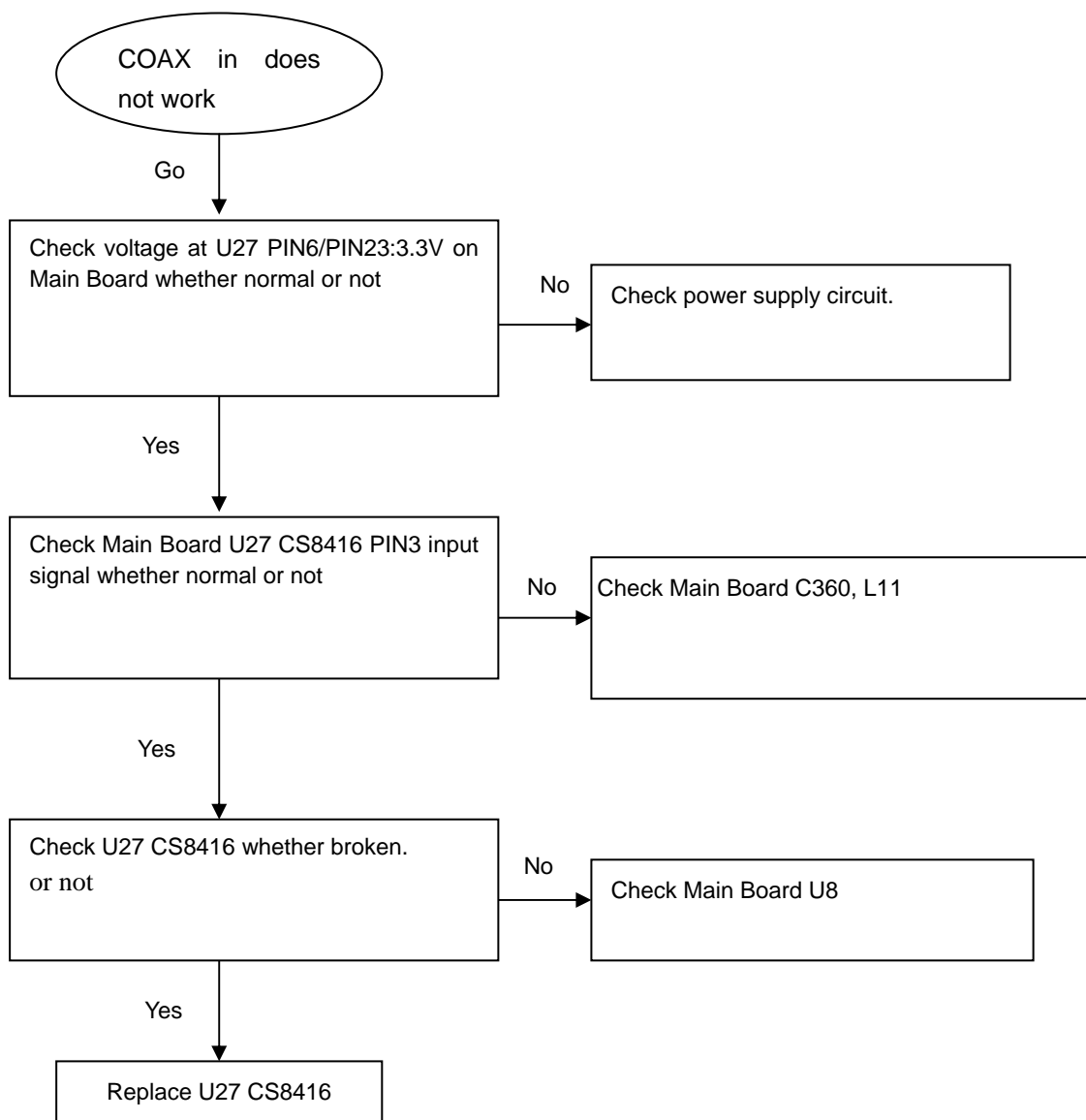
**Tuner FM does not work**

**AUX in does not work**

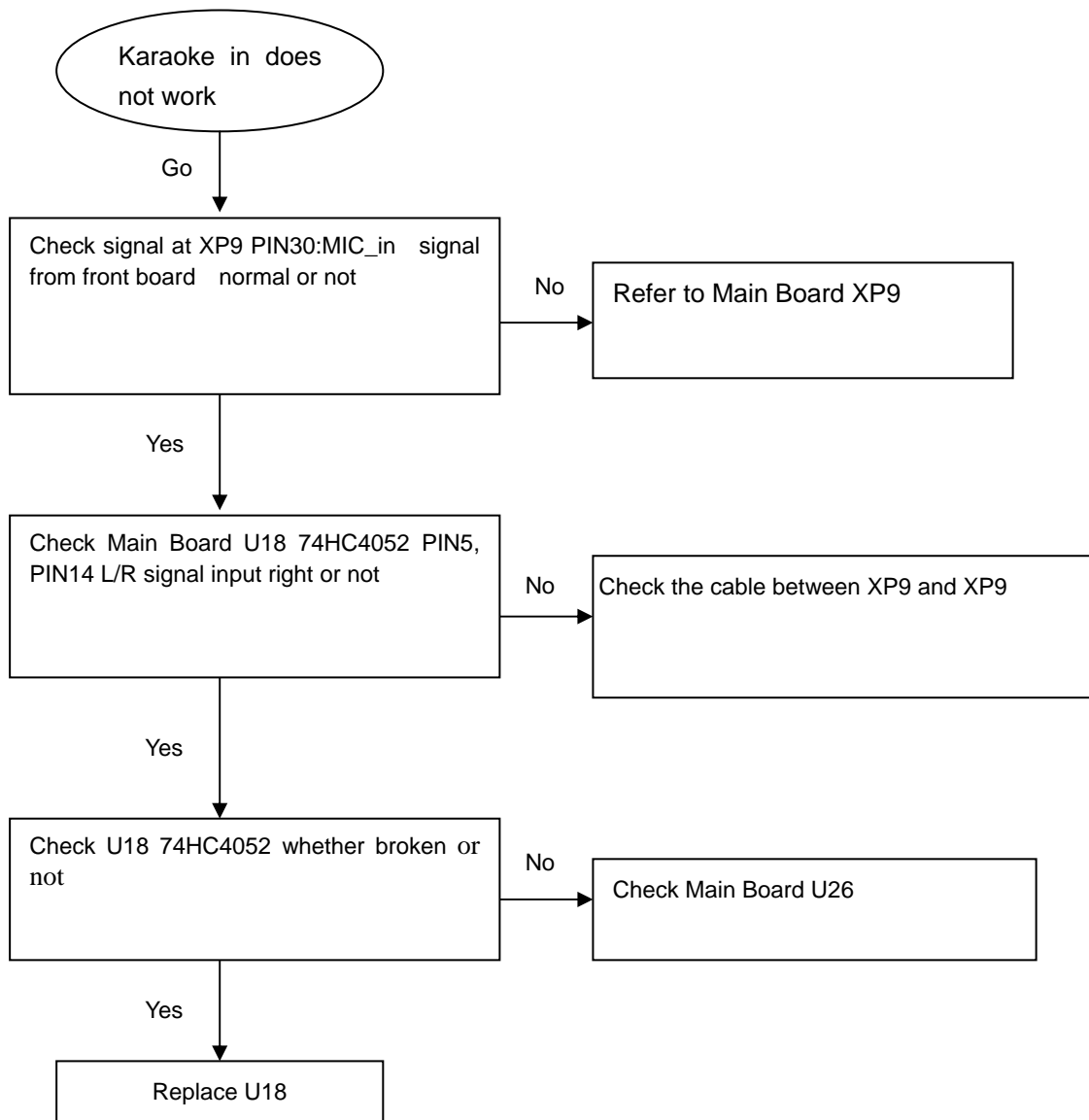


**MP3 Link does not work**

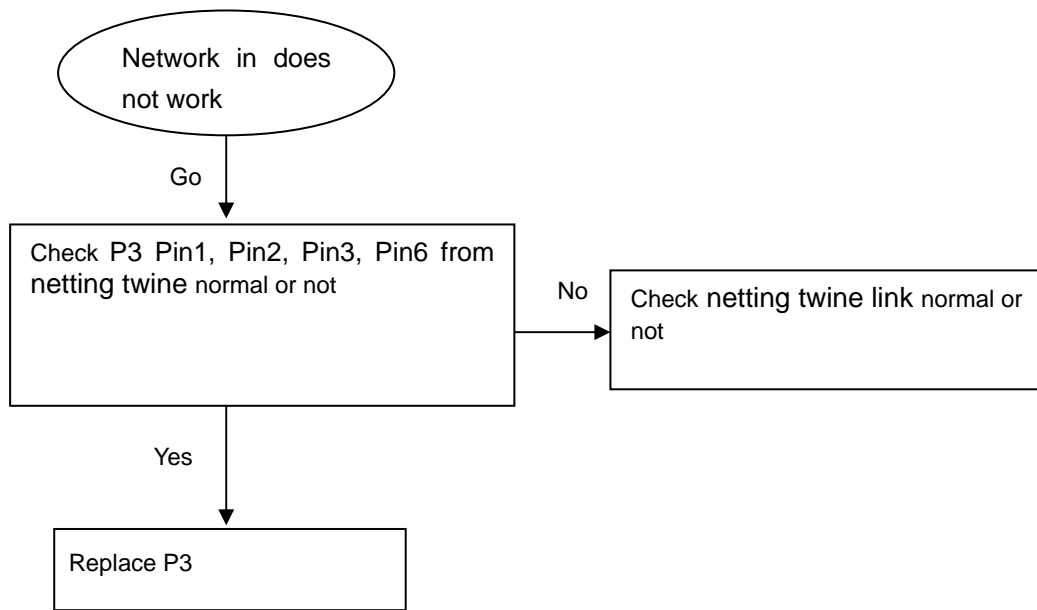
**COAX in does not work**



**Karaoke in does not work**





**Network in does not work**

## Mechanical and Dismantling Instructions

### Dismantling Instruction

Detailed information please refer to the model set.

The following guidelines show how to dismantle the player.

Step 1: Open the front panel. Open the cloth network directly first, then remove 12 shock absorption cushions and 12 screws on the front cover. Open the front panel. (Figure 1)



(Figure 1)

## Mechanical and Dismantling Instructions

### Dismantling Instruction

Detailed information please refer to the model set.

The following guidelines show how to dismantle the player.

Step 2:Dismantle the NFC board and Touch board.Dismantle these two boards directly.(Figure 2)



(Figure 2)

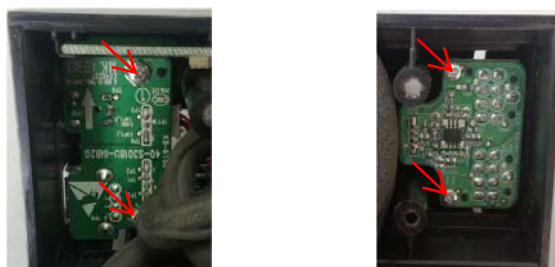
Step 3:Dismantle the Front Control board.Remove 4 screws on the board,then disconnect connectors (XS1,XS2,XP9).(Figure 3)



(Figure 3)

Step 4:Dismantle the USB & MP3 board. Remove 2 screws on the board and disconnect connectors (XP2,XP3).(Figure 4)

Step 5:Dismantle the OK board(for /51,/98 region). Remove 2 screws on the board.(Figure 4)



(Figure 4)

## Mechanical and Dismantling Instructions

### Dismantling Instruction

Detailed information please refer to the model set.

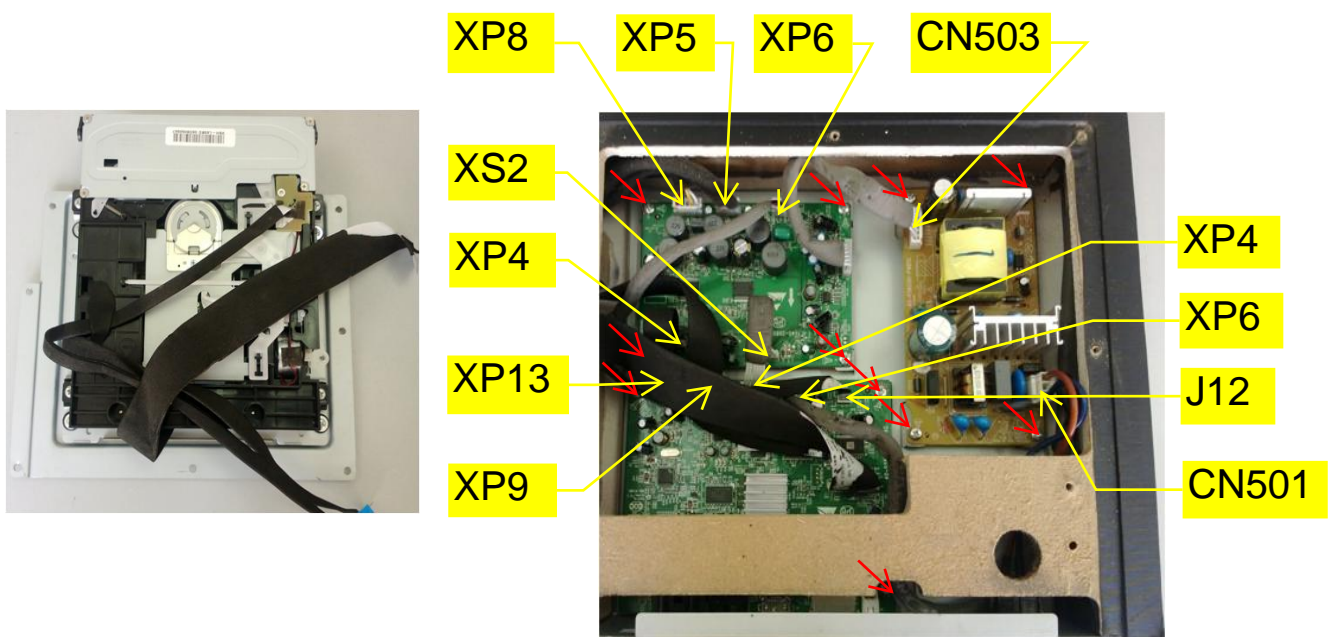
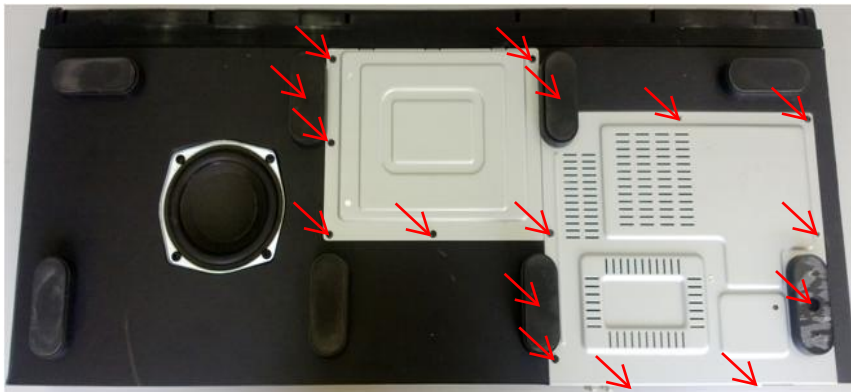
The following guidelines show how to dismantle the player.

Step 6: Dismantle the Loader. Rive off 4 rubber pads on the plastic feet and then remove 16 screws on the two metal bottom covers. Open the cover on right side. Disconnect connectors (XP7, J11, J12). Open the cover on middle. (Figure 5)

Step 7: Dismantle the Power board. Remove 4 screws on the board and disconnect connectors (CN501, CN503). Then pull up the board. (Figure 5)

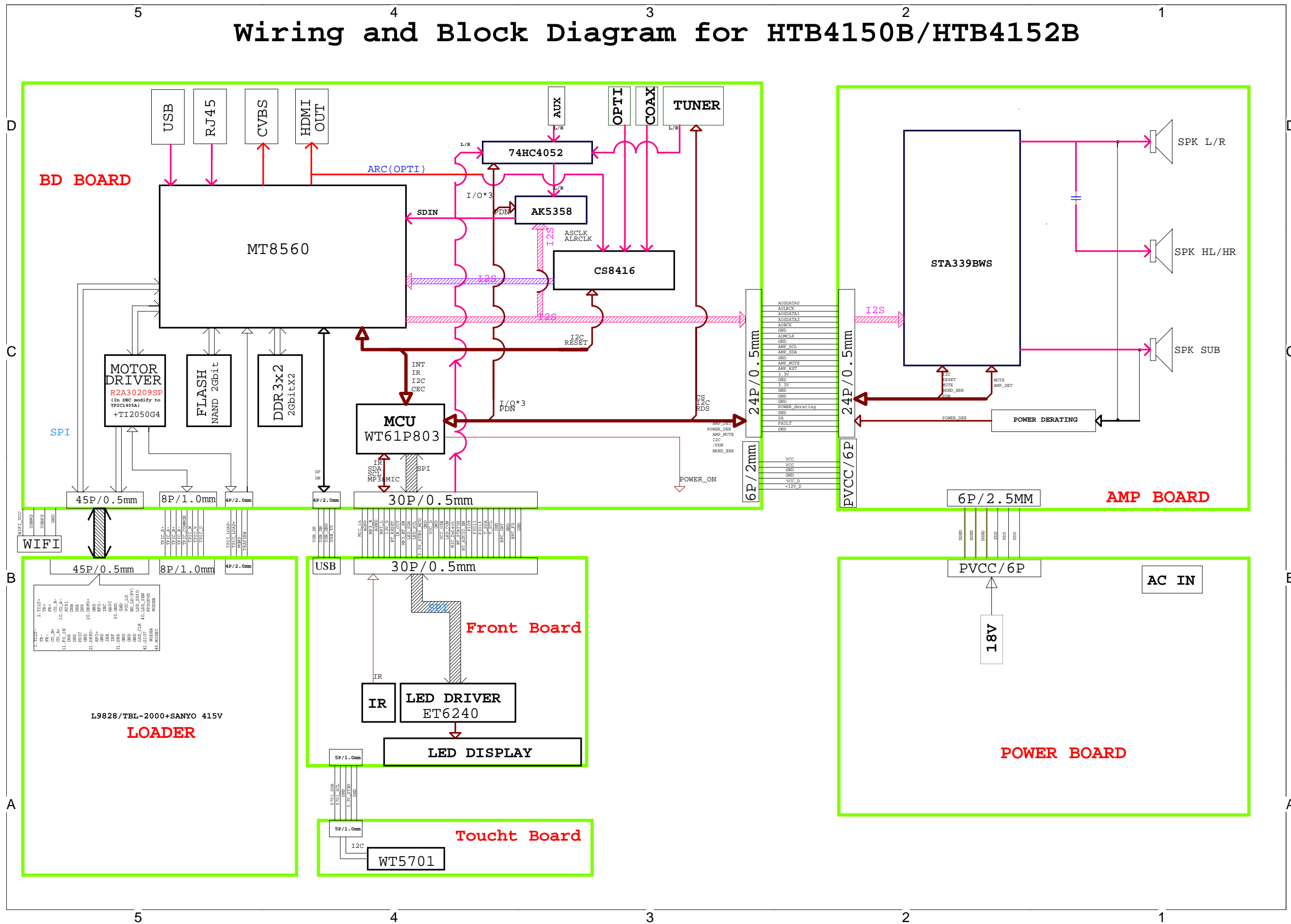
Step 8: Dismantle the Amplifier board. Remove 4 screws on the board and disconnect connectors (XP8, XP5, XP6, XP4, XS2). Then pull up the board. (Figure 5)

Step 9: Dismantle the Main board. Remove 3 screws on the board and 3 screws on back panel. Disconnect connectors (XP9, XP6). Then pull up the board. (Figure 5)

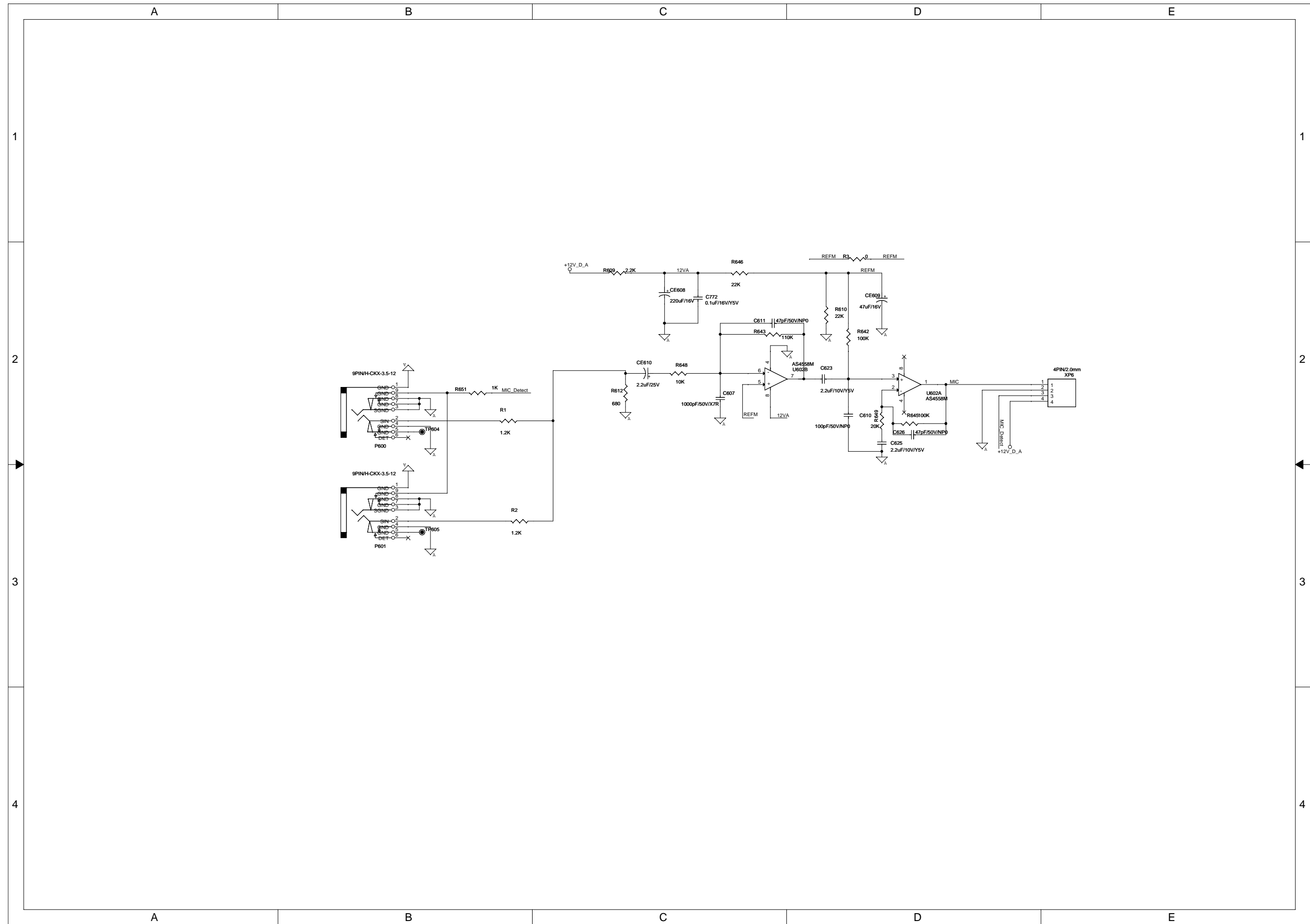


(Figure 5)

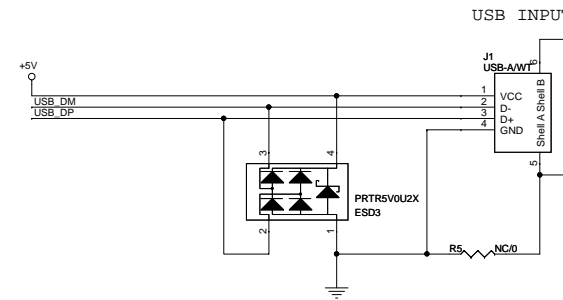
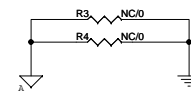
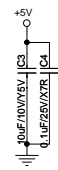
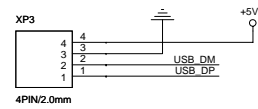
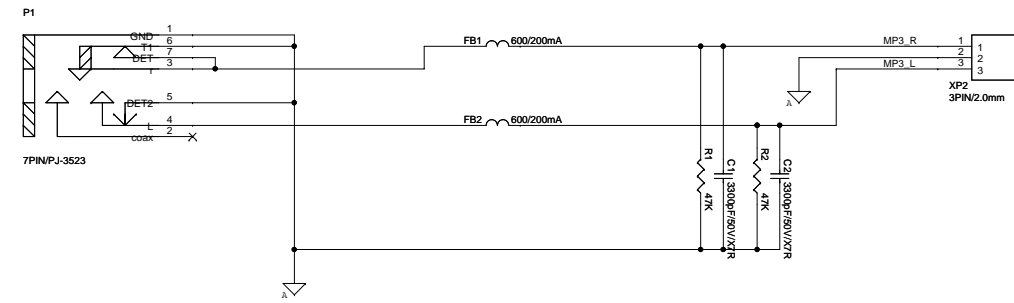
# Wiring and Block Diagram for HTB4150B/HTB4152B



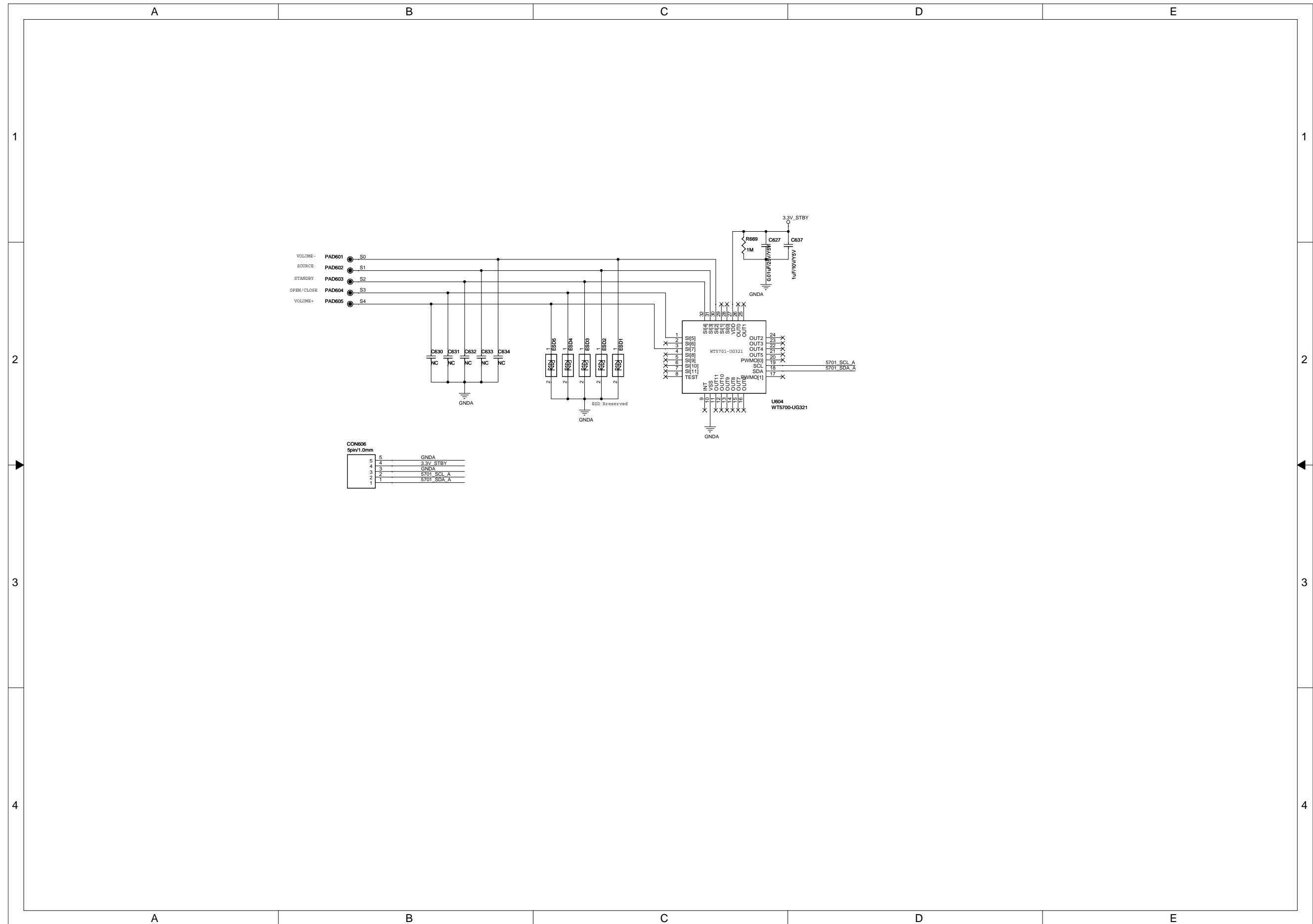
# OK Board Circuit Diagram:



# USB & MP3 Board Circuit Diagram:

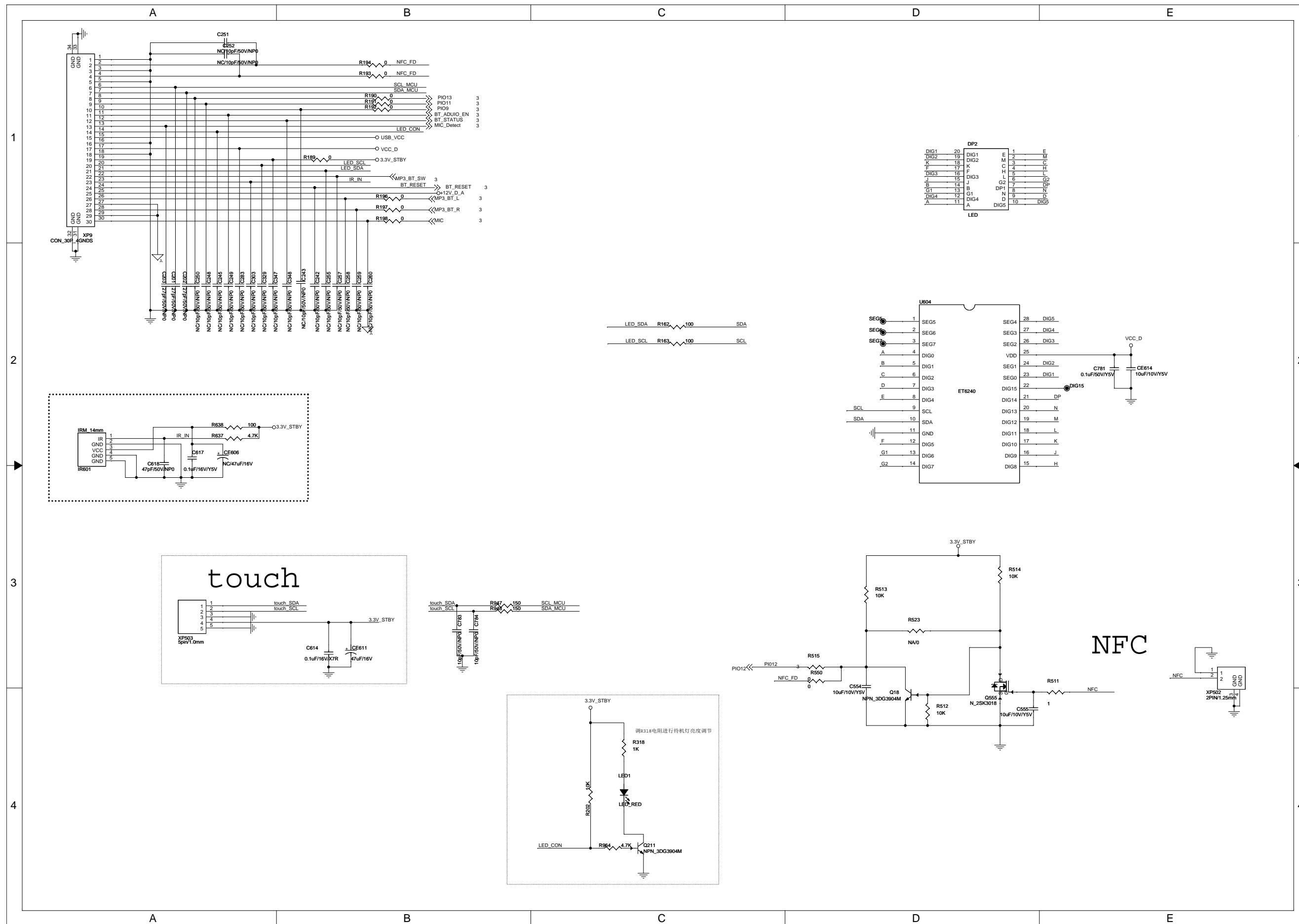


# Touch Board Circuit Diagram:

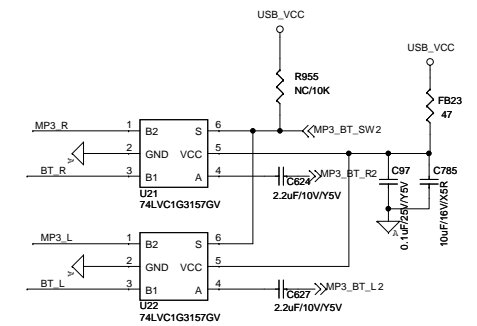
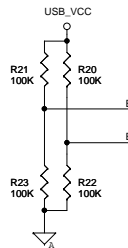
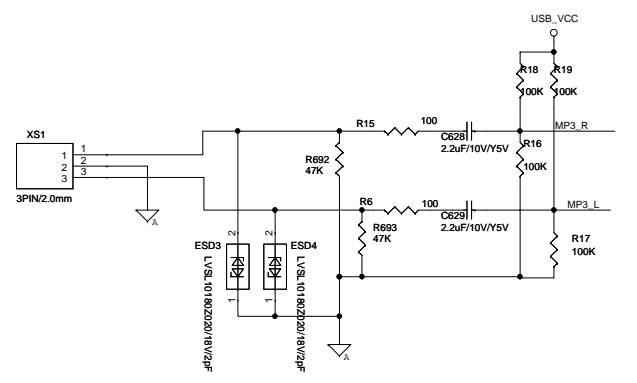
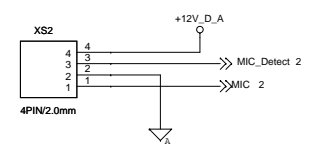
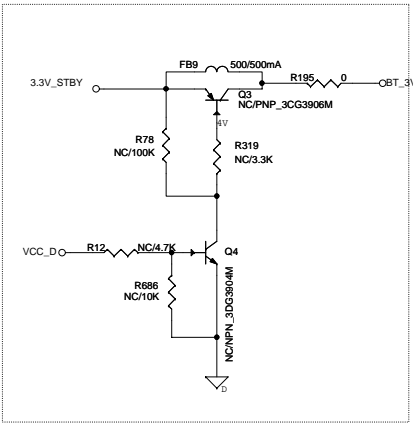
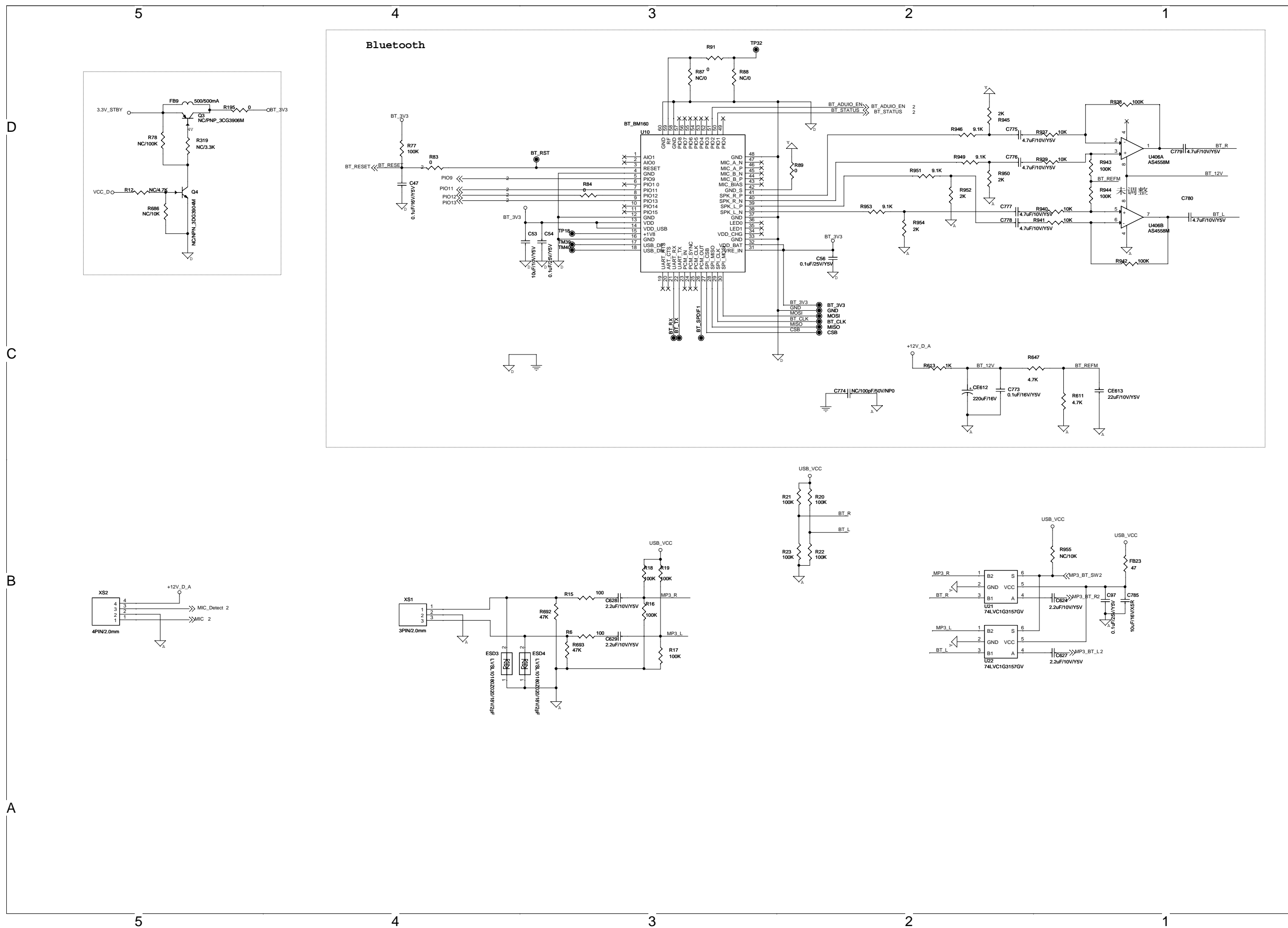




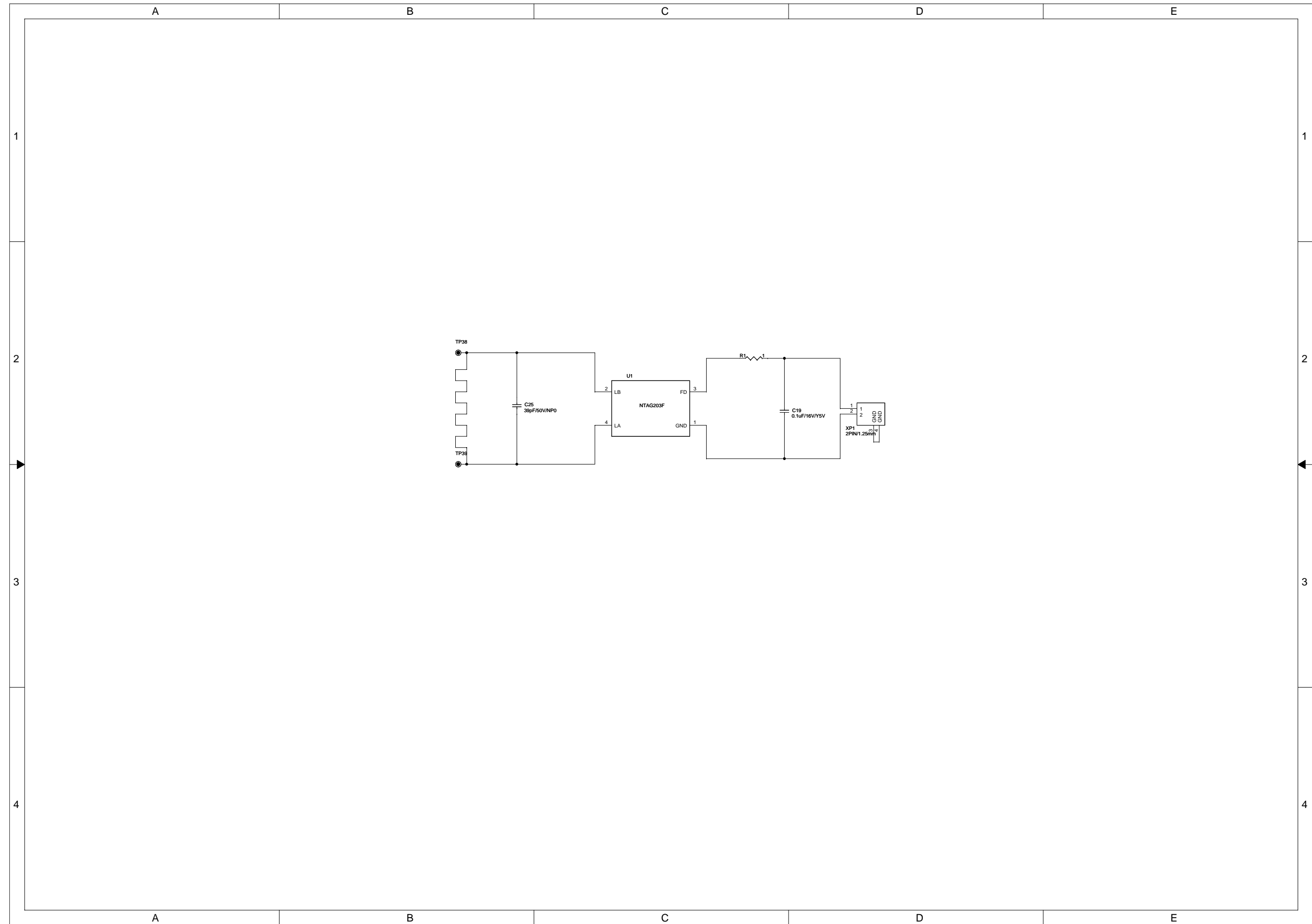
# Front Control Board Circuit Diagram:VFD



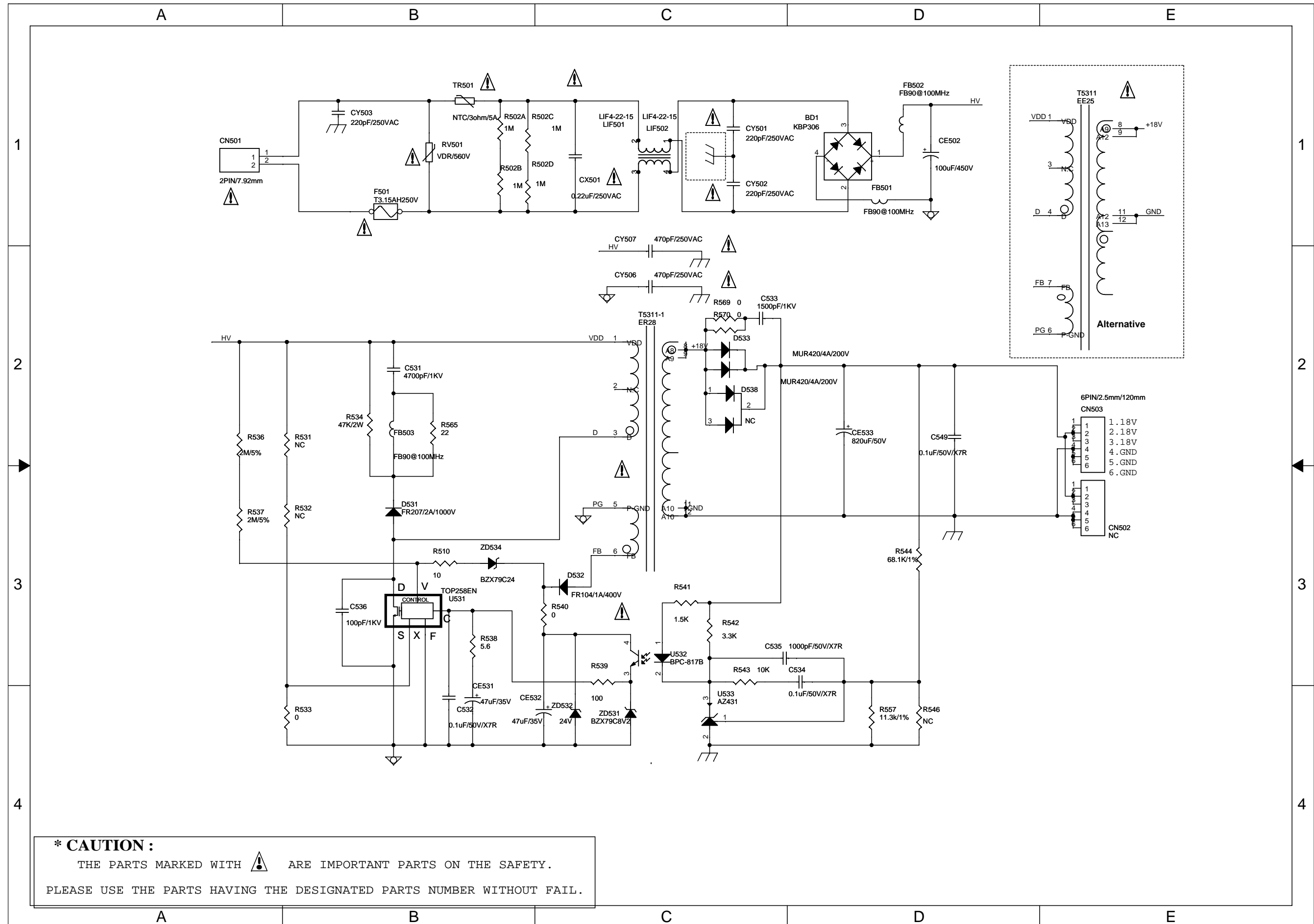
Front Control Board Circuit Diagram:Bluetooth



# Front Control Board Circuit Diagram:NFC

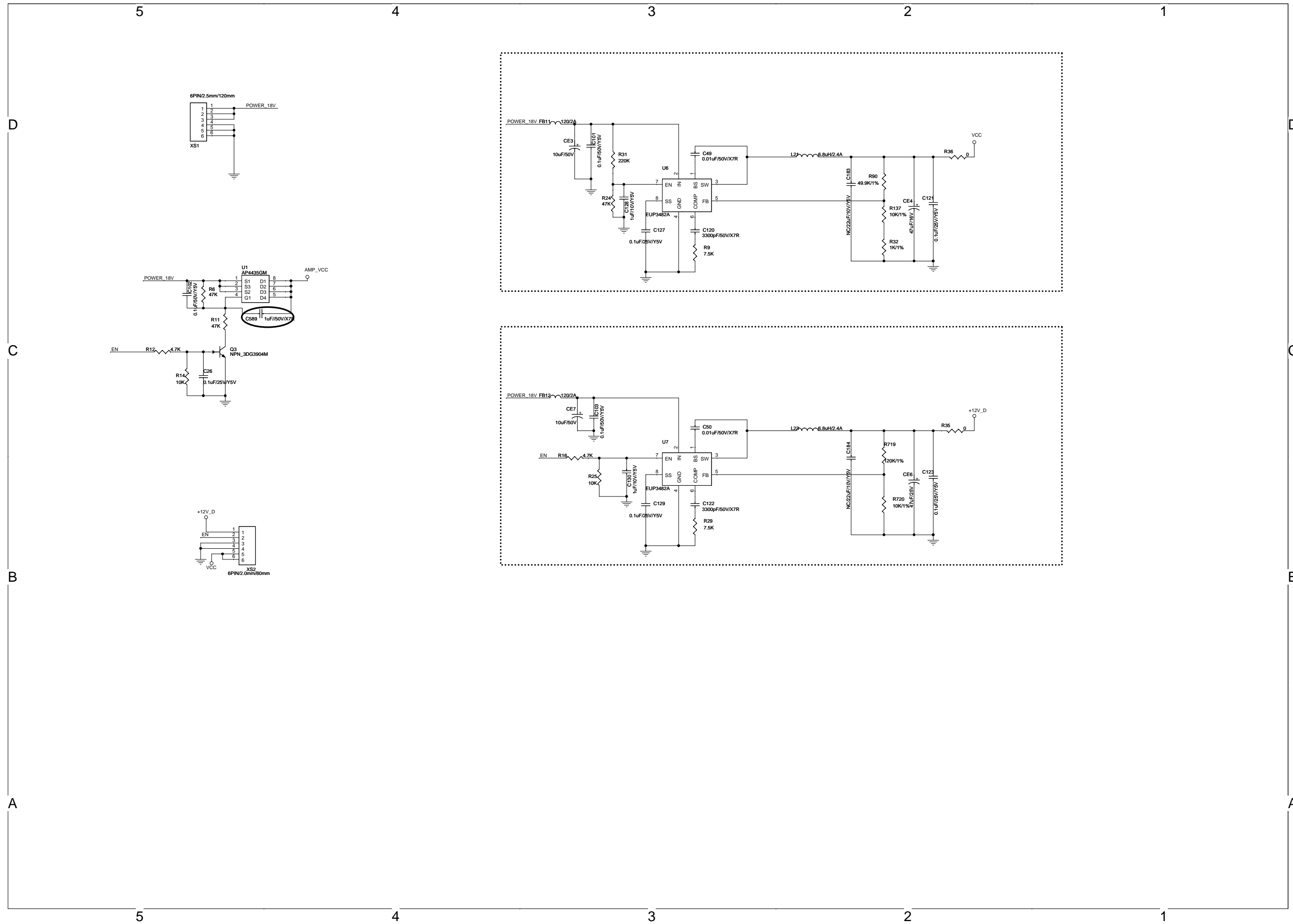


Power Board Circuit Diagram:

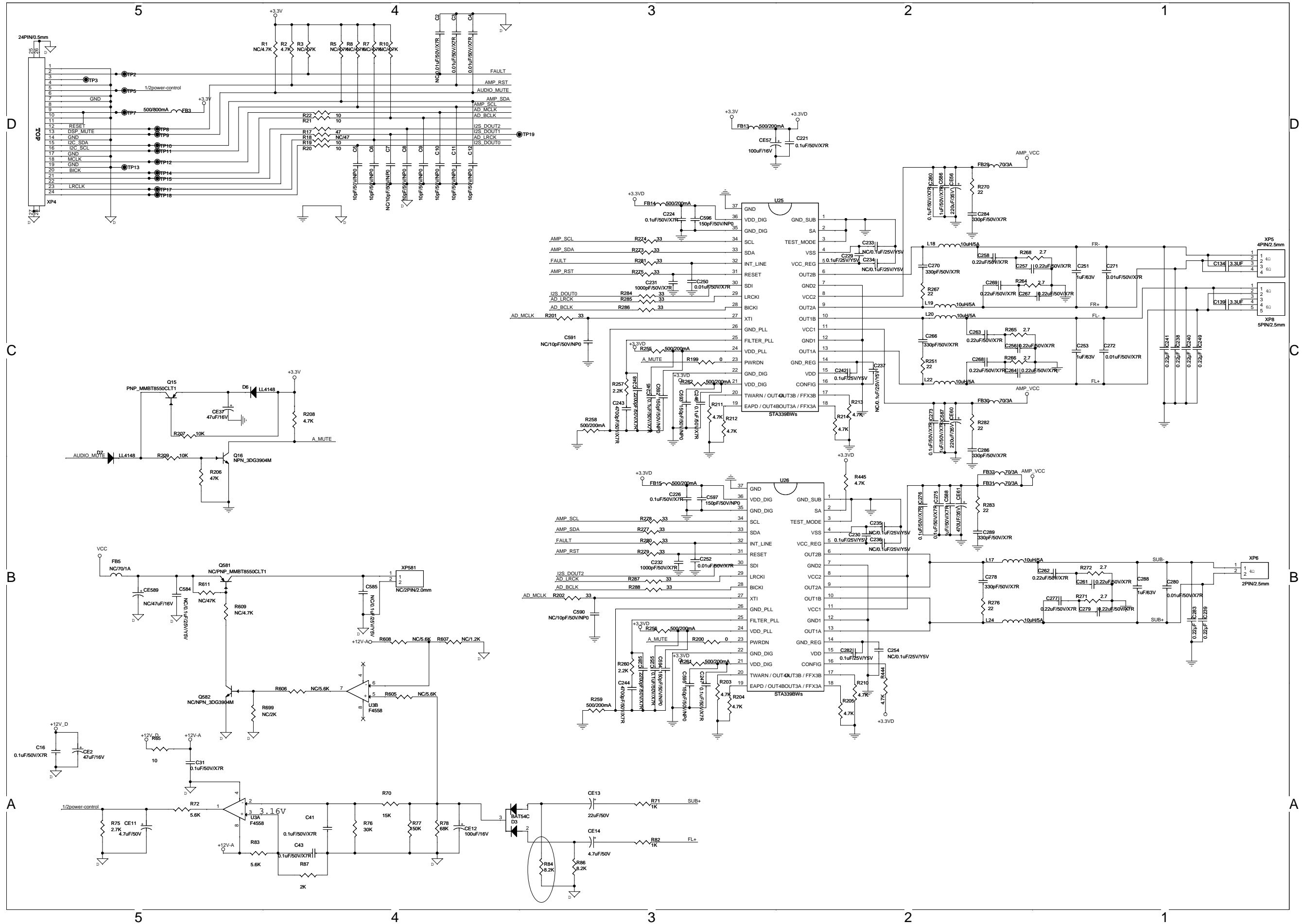


**\* CAUTION :**  
 THE PARTS MARKED WITH ⚠ ARE IMPORTANT PARTS ON THE SAFETY.  
 PLEASE USE THE PARTS HAVING THE DESIGNATED PARTS NUMBER WITHOUT FAIL.

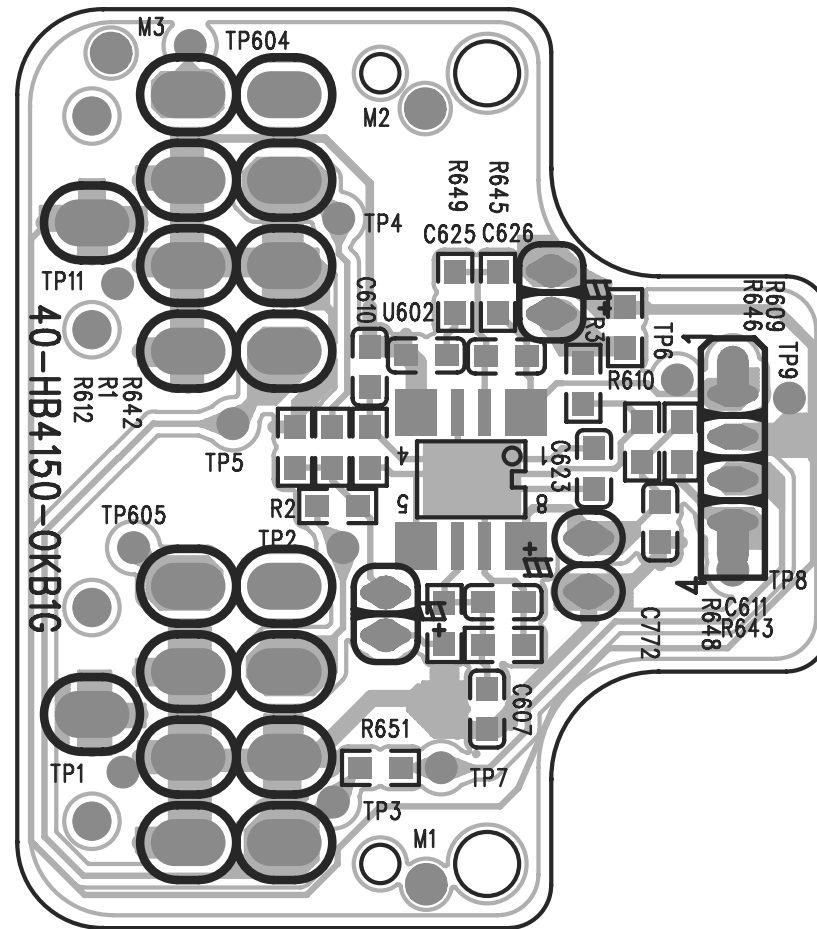
# Amplifier Board Circuit Diagram:Power



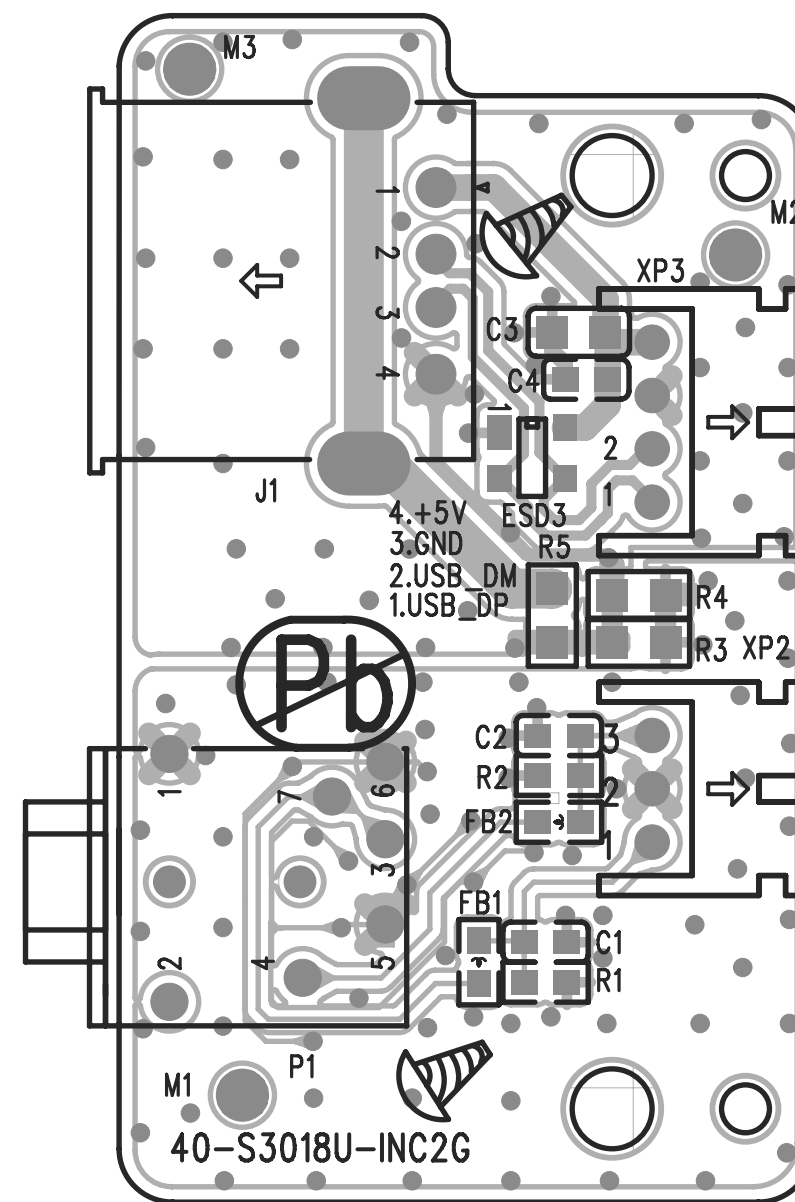
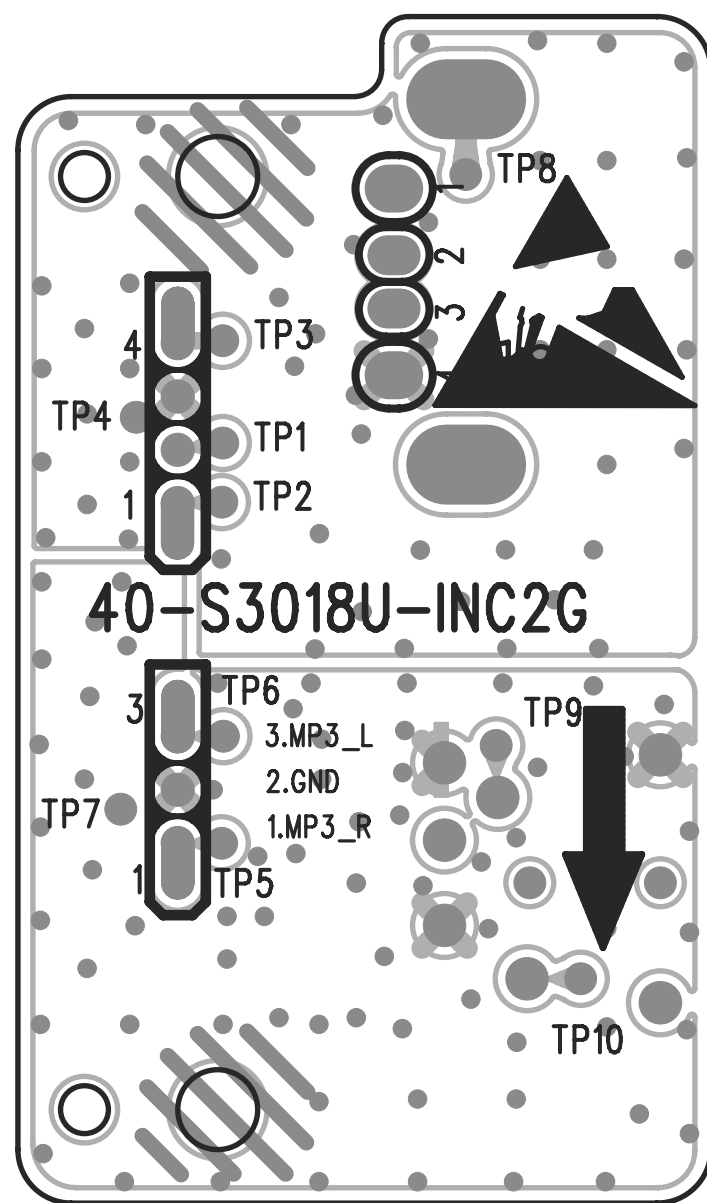
# Amplifier Board Circuit Diagram:AMP



# OK Board Print-layout (bottom side)

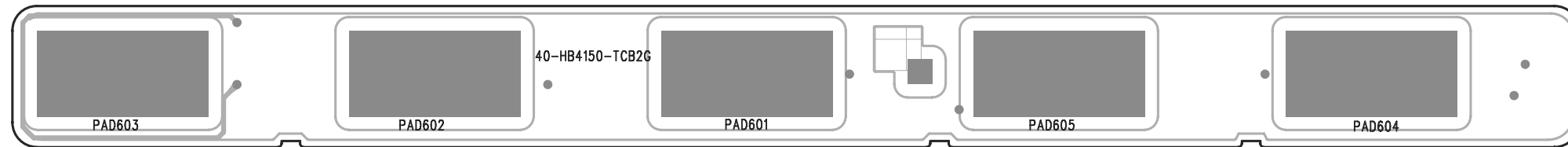
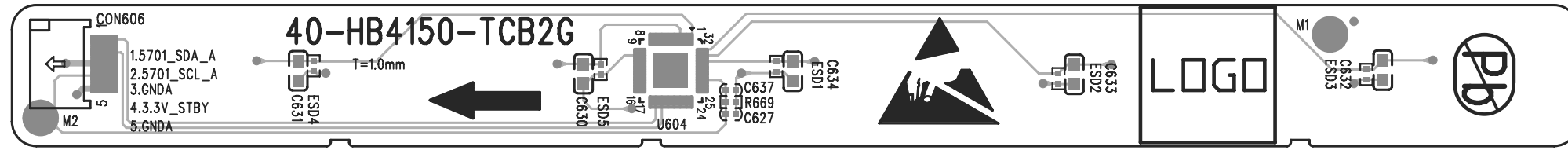


USB & MP3 Board Print-layout (bottom and top side)

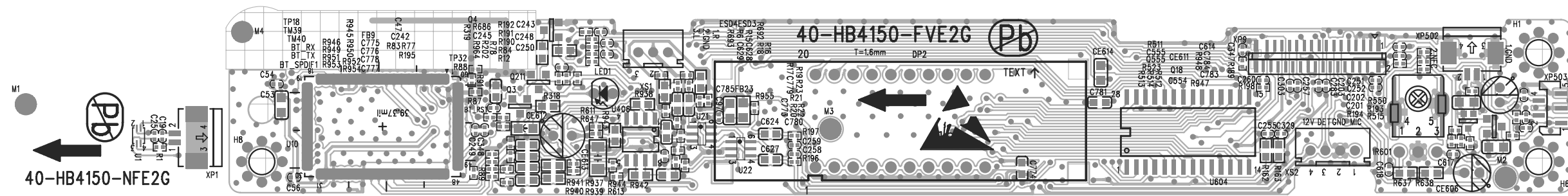
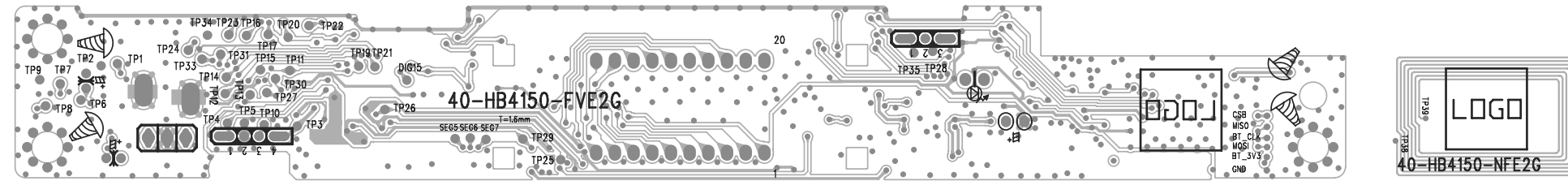




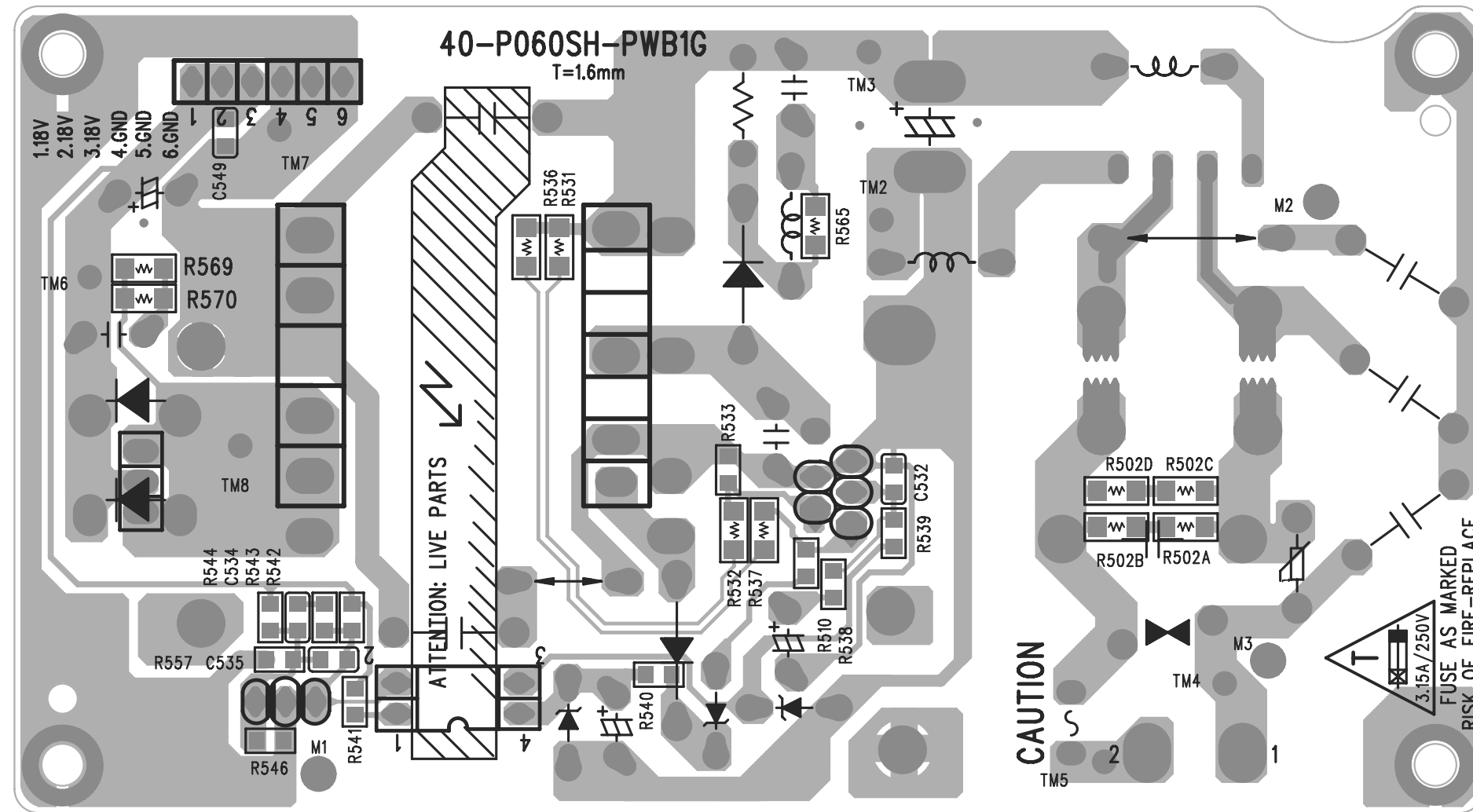
# Touch Board Print-layout (bottom and top side)



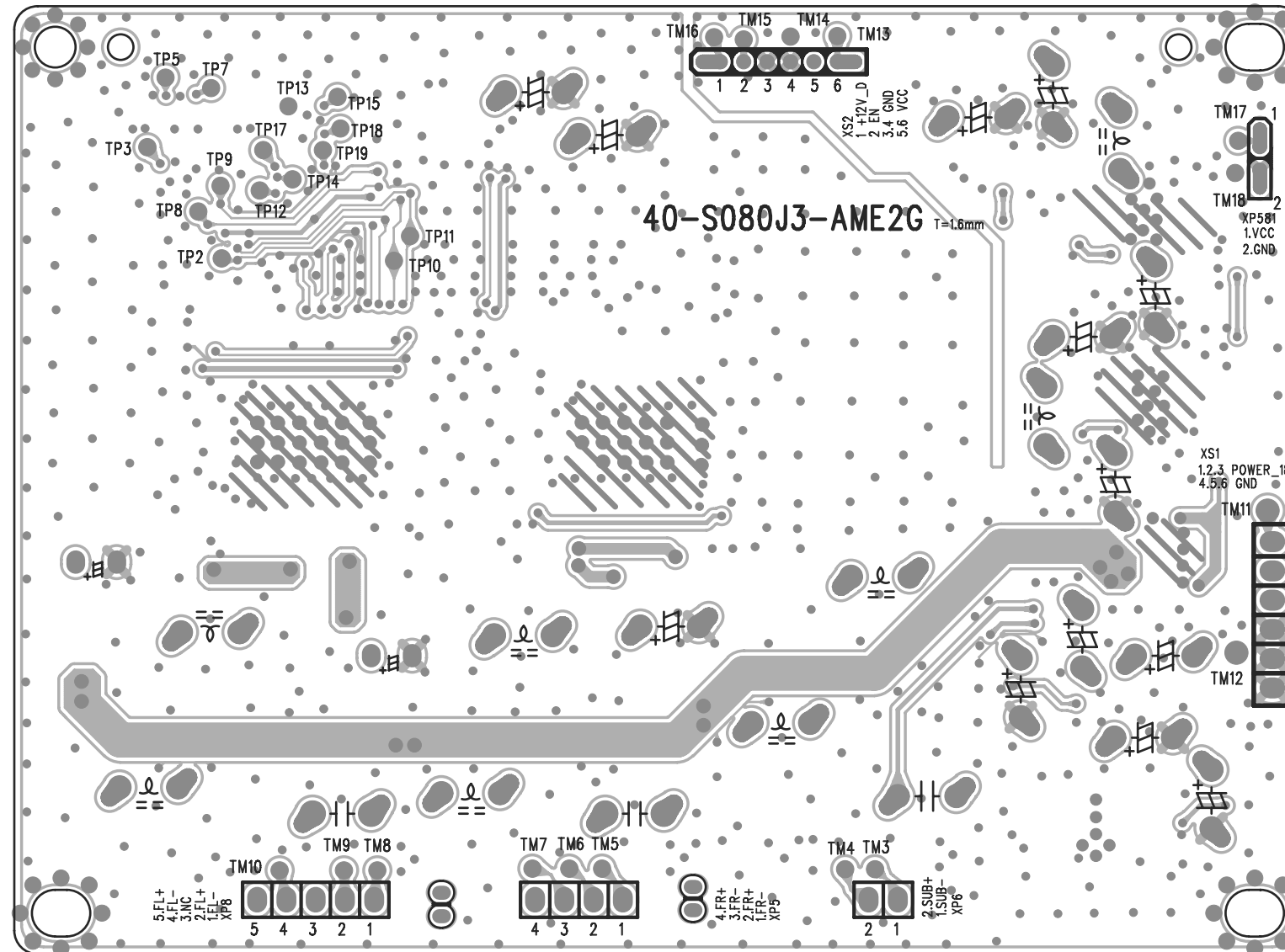
# Front Control Board Print-layout (bottom and top side)



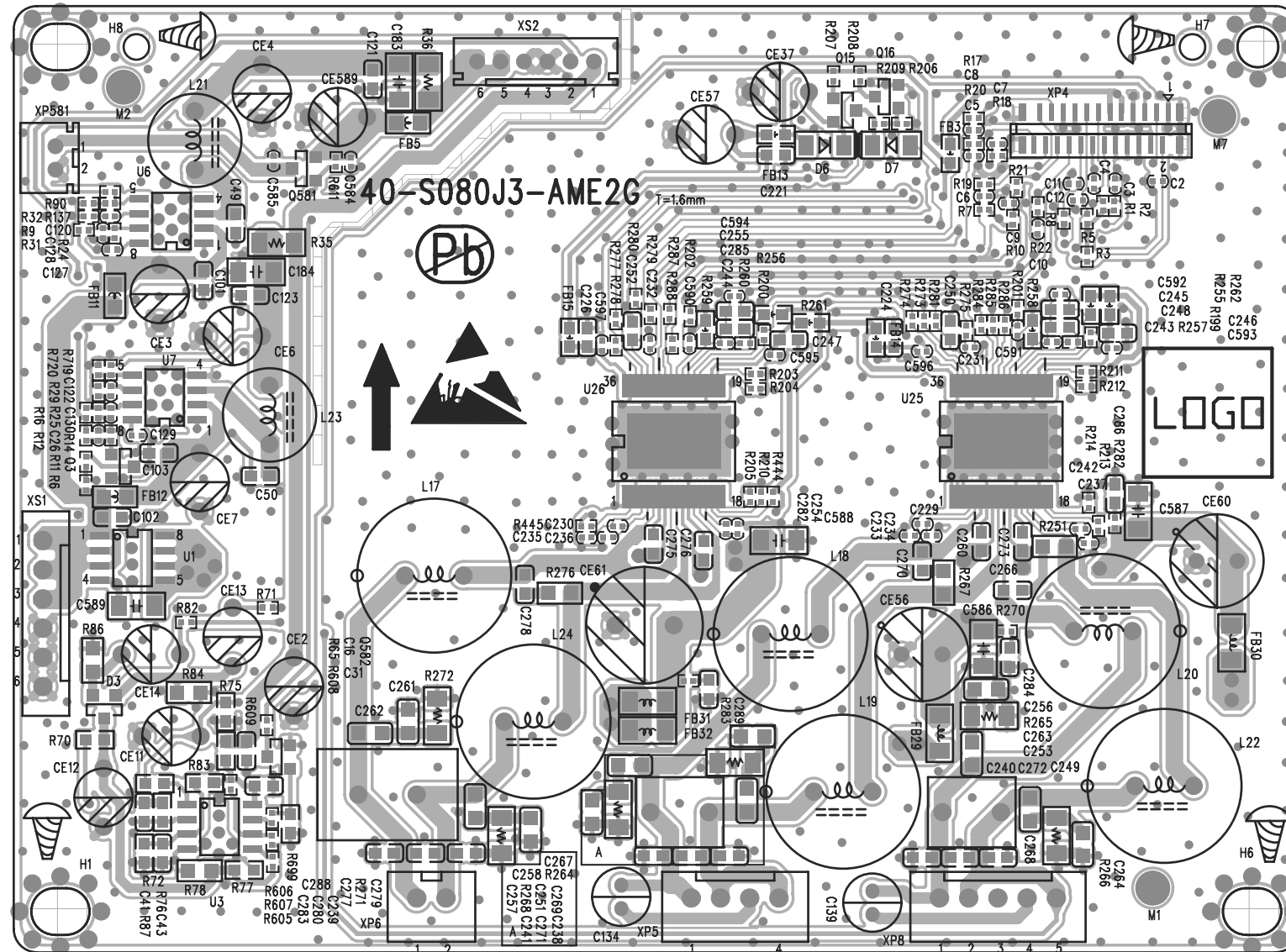
# Power Board Print-layout (bottom side)



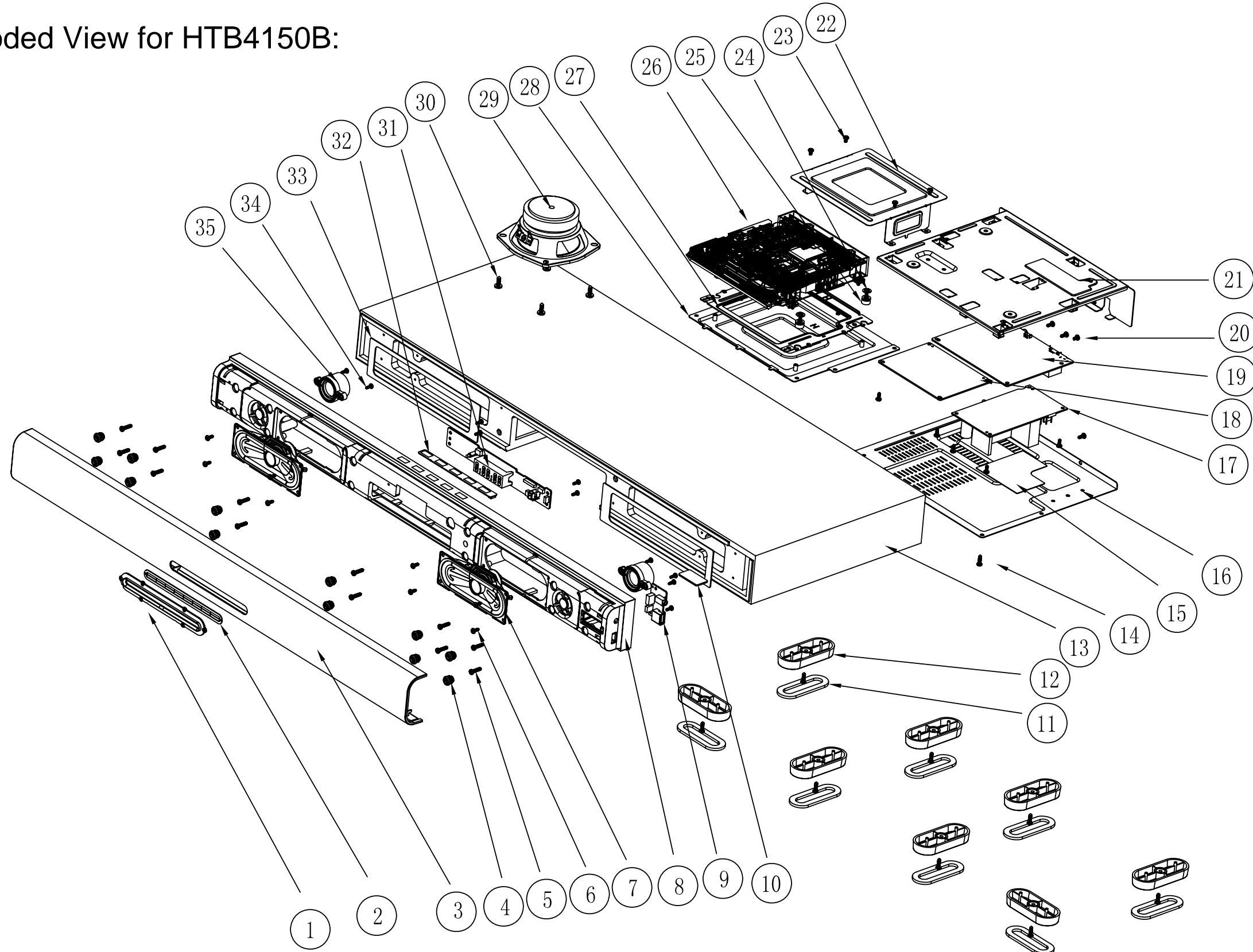
# Amplifier Board Print-layout (bottom side)



# Amplifier Board Print-layout (top side)

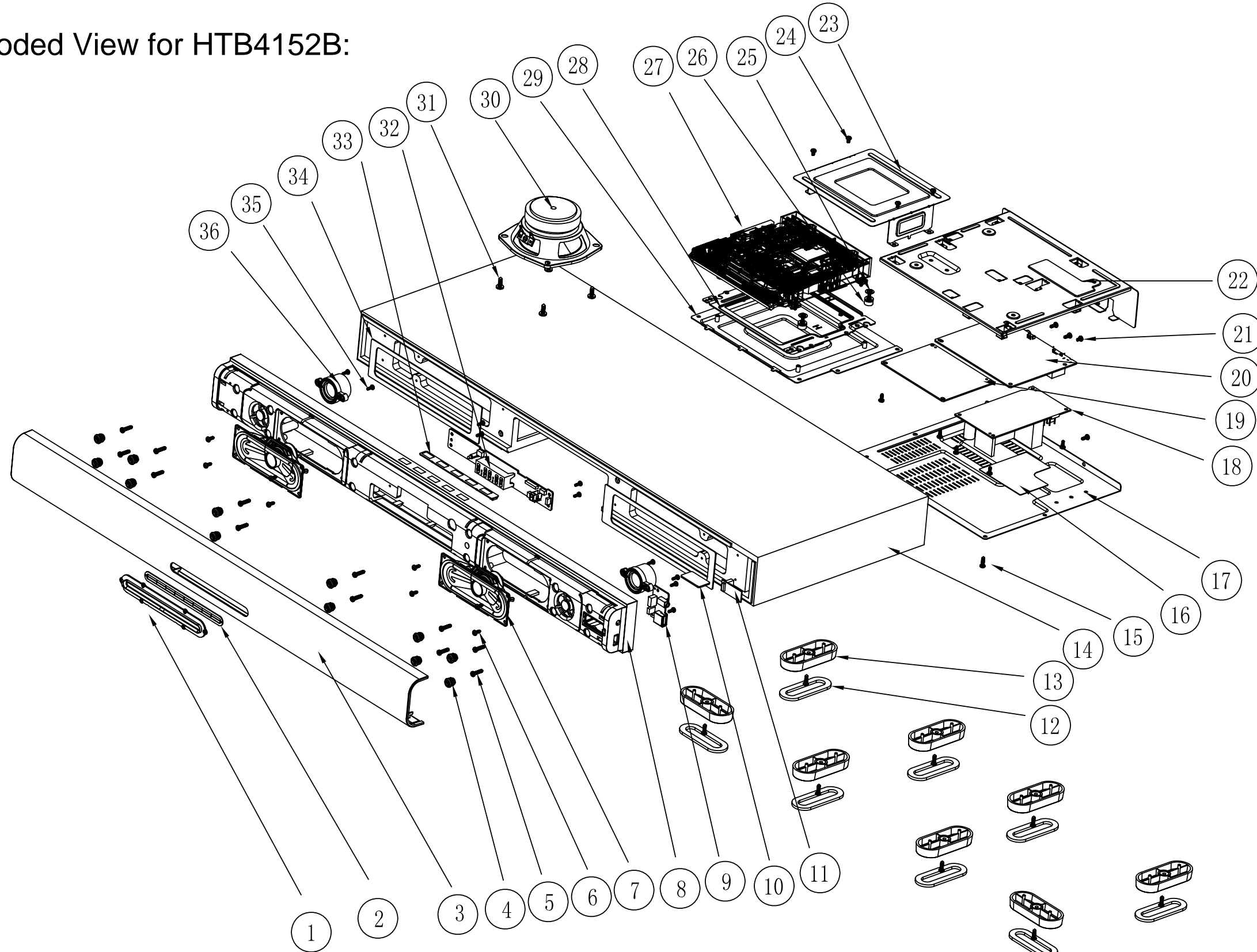


# Exploded View for HTB4150B:



Partlist refer to a separated excel file on FYP

# Exploded View for HTB4152B:



Partlist refer to a separated excel file on FYP

Revision List

Version 1.0

\* Initial Release for HTB4150B/12 and HTB4152B/12 by WK1345.

Version 1.1

\* Initial Release for HTB4150B/51 by WK1347.

Version 1.2

\* Initial Release for HTB4150B/98/93 by WK1413.

Version 1.3

\* Initial Release for HTB4150B/79 by WK1420.