

Service
Service
Service



Service Manual

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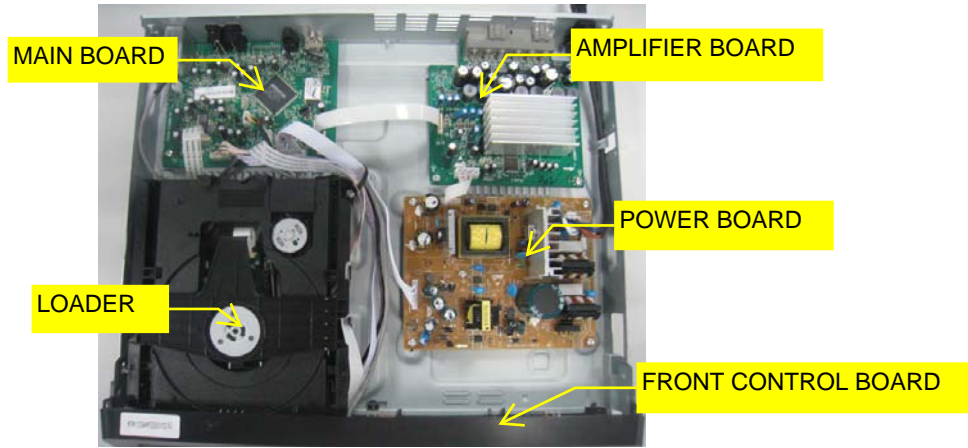
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**CLASS 1
LASER PRODUCT**

PCB BOARD LOCATION:



Version Variation

Type/Versions Features	HTS3531							
	/12	/51	/94	/98	/F7	/55	/78	/93
Output Power- 300W	X	X	X	X	X	X	X	X
Voltage(220~240V~)	X	X	X					X
Voltage(110~240V~)				X	X	X	X	
MP3 LINK	X	X	X	X	X	X	X	X

Repair Scenario Matrix

Type/Versions Board in used	HTS3531							
	/12	/51	/94	/98	/F7	/55	/78	/93
Main Board	B	B	C	C	C	C	C	C
Front Control Board	B	B	C	C	C	C	C	C
Amplifier Board	B	B	C	C	C	C	C	C
Power Board	B	B	C	C	C	C	C	C

*Bd:Board Level Replacement

*C:Component Level Repair

HTS3531/12/55/78:

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
Europe, United Kingdom	
Asia Pacific, Taiwan, Korea	
Latin America	
Australia, New Zealand	
Russia, India	
China	

Media formats

- 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 media, USB storage device

File formats

- Audio: .mp3, .wma
- Video: .avi, .divx, .mpg, .mpeg
- Picture: .jpg, .jpeg

Amplifier

- Total output power: 300W RMS (30% THD)
- Frequency response: 20 Hz-20 kHz / ± 3 dB
- Signal-to-noise ratio: > 65 dB (CCIR) / (A-weighted)
- Input sensitivity:
 - AUX: 2 V
 - Music iLink: 1 V

Video

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

Audio

- S/PDIF Digital audio input:
 - 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: 64 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
- Maximum memory support: < 160 GB

Main unit

- Power supply:
 - Europe/China/Russia/India: 220-240V, ~50 Hz
 - Latin America/Asia Pacific: 110-240V ~50-60 Hz
- Power consumption: 55 W
- Standby power consumption: ≤ 0.9 W
- Dimensions (WxHxD): 360 x 58 x 325 mm
- Weight: 2.3 kg

Subwoofer

- Output power: 50 W RMS (30% THD)
- Impedance: 4 ohm
- Speaker drivers: 133 mm (5.25") woofer
- Dimensions (WxHxD): 160 x 265 x 265 mm
- Weight: 2.5 kg
- Cable length: 3 m

Speakers**Center speaker:**

- Output power: 50 W RMS (30% THD)
- System: 1 x 63.5 mm (2.5") full range
- Speaker impedance: 4 ohm
- Speaker drivers: 1 x 63.5 mm (2.5") woofer
- Dimensions (WxHxD): 159 x 84.5 x 80 mm
- Weight: 0.35 kg
- Cable length: 2 m

Front/Rear speaker:

- Output power: 4 x 50 W RMS (30% THD)
- Speaker impedance: 4 ohm
- Speaker drivers: 1 x 63.5 mm (2.5") full range
- Dimensions (WxHxD): 84.5 x 159 x 80mm
- Weight (front): 0.35 kg/each
- Weight (rear): 0.35 kg/each
- Cable length (front): 4 m
- Cable length (rear): 10 m

Remote control batteries

- 2 x AAA-R03-1.5 V

Laser

- Type: Semiconductor laser GaAlAs (CD)
- Wave length: 645 - 665 nm (DVD), 770 - 800 nm (CD)
- Output power: 6 mW (DVD), 7 mW (VCD/CD)
- Beam divergence: 60 degrees.

HTS3531/51

Product Specifications:

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- 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 media, USB storage device

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HTS3531/94

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 - 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

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Subwoofer

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- Impedance: 4 ohm
- Speaker drivers: 133 mm (5.25") woofer
- Dimensions (WxHxD): 160 x 265 x 265 mm
- Weight: 2.5 kg
- Cable length: 3 m

Speakers

Center speaker:

- Output power: 50 W RMS (30% THD)
- System: 1 x 63.5 mm (2.5") full range
- Speaker impedance: 4 ohm
- Speaker drivers: 1 x 63.5 mm (2.5") woofer
- Dimensions (WxHxD): 159 x 84.5 x 80 mm
- Weight: 0.35 kg
- Cable length: 2 m

Front/Rear speaker:

- Output power: 4 x 50 W RMS (30% THD)
- Speaker impedance: 4 ohm
- Speaker drivers: 1 x 63.5 mm (2.5") full range
- Dimensions (WxHxD): 84.5 x 159 x 80mm
- Weight (front): 0.35 kg/each
- Weight (rear): 0.35 kg/each
- Cable length (front): 4 m
- Cable length (rear): 10 m

Remote control batteries

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- Beam divergence: 60 degrees.

HTS3531/98

Product Specifications:



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- Audio: .mp3, .wma
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- Picture: .jpg, .jpeg

Amplifier

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- Frequency response: 20 Hz-20 kHz / ± 3 dB
- Signal-to-noise ratio: > 65 dB (CCIR) / (A-weighted)
- Input sensitivity:
 - AUX: 2 V
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- Signal system: PAL / NTSC
- HDMI output: 480i/576i, 480p/576p, 720p, 1080i, 1080p

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- S/PDIF Digital audio input:
 - Optical: TOSLINK
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- Constant bit rate:
 - MP3: 32 kbps - 320 kbps
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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
- Maximum memory support: < 160 GB

Main unit

- Power supply:
 - Europe/China/Russia/India: 220-240V, ~50 Hz
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- Power consumption: 55 W
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- Dimensions (WxHxD): 360 x 58 x 325 mm
- Weight: 2.3 kg

Subwoofer

- Output power: 50 W RMS (30% THD)
- Impedance: 4 ohm
- Speaker drivers: 133 mm (5.25") woofer
- Dimensions (WxHxD): 160 x 265 x 265 mm
- Weight: 2.5 kg
- Cable length: 3 m

Speakers

Center speaker:

- Output power: 50 W RMS (30% THD)
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- Dimensions (WxHxD): 159 x 84.5 x 80 mm
- Weight: 0.35 kg
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- Output power: 4 x 50 W RMS (30% THD)
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- Dimensions (WxHxD): 84.5 x 159 x 80mm
- Weight (front): 0.35 kg/each
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- Cable length (front): 4 m
- Cable length (rear): 10 m

Remote control batteries

- 2 x AAA-R03-1.5 V

Laser

- Type: Semiconductor laser GaAlAs (CD)
- Wave length: 645 - 665 nm (DVD), 770 - 800 nm (CD)
- Output power: 6 mW (DVD), 7 mW (VCD/CD)
- Beam divergence: 60 degrees.

HTS3531/F7

Product Specifications:

Note

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Europe, United Kingdom	
Asia Pacific, Taiwan, Korea	
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Russia, India	
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Media formats

- 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 media, USB storage device

File formats

- Audio: .mp3, .wma
- Video: .avi, .divx, .mpg, .mpeg,
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- Input sensitivity:
 - AUX: 2 V
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- S/PDIF Digital audio input:
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- Signal-to-noise ratio: FM 50 dB
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Subwoofer

- Output power: 50 W RMS (30% THD)
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Speakers

Center speaker:

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Front/Rear speaker:

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- Weight (front): 0.35 kg/each
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Remote control batteries

- 2 x AAA-R03-1.5 V

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HTS3531/93

Product Specifications:



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- Input sensitivity:
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Subwoofer

- Output power: 50 W RMS (30% THD)
- Impedance: 4 ohm
- Speaker drivers: 133 mm (5.25") woofer
- Dimensions (WxHxD): 160 x 265 x 265 mm
- Weight: 2.50 kg
- Cable length: 3 m

Speakers

Center speaker:

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- Weight (front): 0.35 kg/each
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- Cable length (rear): 7 m

Remote control batteries

- 2 x AAA-R03-1.5 V

Laser

- Type: Semiconductor laser GaAlAs (CD)
- Wave length: 645 - 665 nm (DVD), 770 - 800 nm (CD)
- Output power: 6 mW (DVD), 7 mW (VCD/CD)
- Beam divergence: 60 degrees.

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

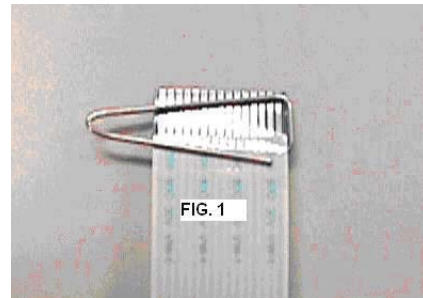
CHARGED CAPACITORS ON THE SERVO BOARD MAY DAMAGE THE DRIVE ELECTRONICS WHEN CONNECTING A NEW DRIVE. THAT'S WHY, BESIDES THE SAFETY MEASURES LIKE

- SWITCH OFF POWER SUPPLY
- ESD PROTECTION

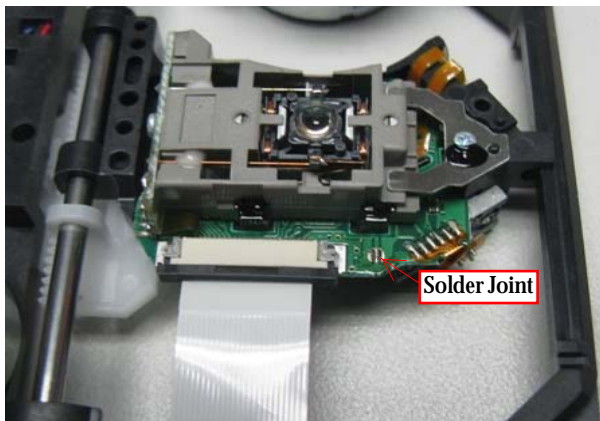
ADDITIONAL ACTIONS MUST BE TAKEN BY THE REPAIR TECHNICIAN.

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 (leaded/ 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 leaded solder alloy / parts is possible but PHILIPS recommends strongly to avoid mixed solder alloy types (leaded and lead-free). If one cannot avoid, clean carefully the solder-joint from old solder alloy and re-solder with new solder alloy (SAC305).

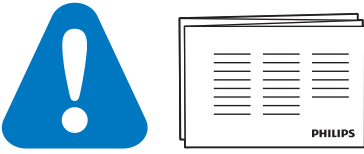
- Use only original spare-parts listed in the Service-Manuals. Not listed standard-material (commodities) has to be purchased at external companies.
- Special information for BGA-ICs:
 - always use the 12nc-recognizable soldering temperature profile of the specific BGA (for de-soldering always use highest 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 leaded 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:

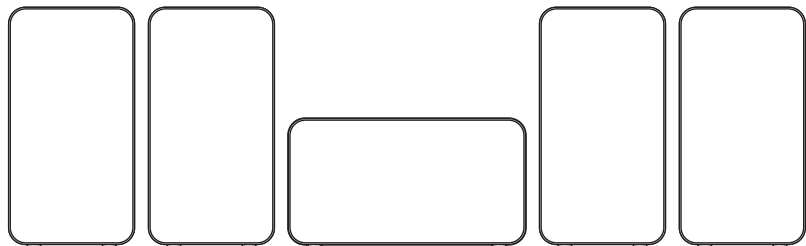
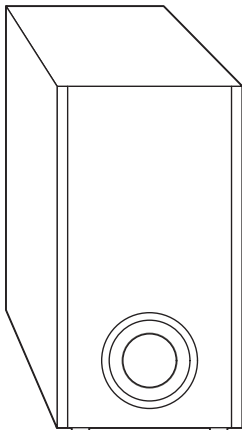
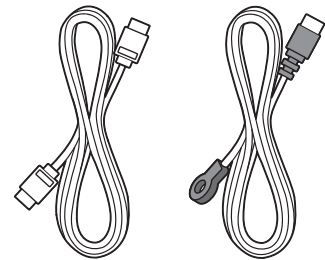
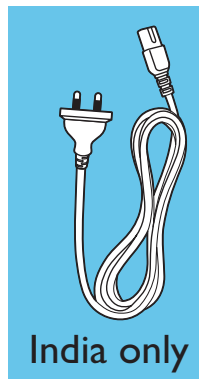
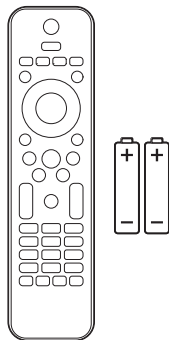
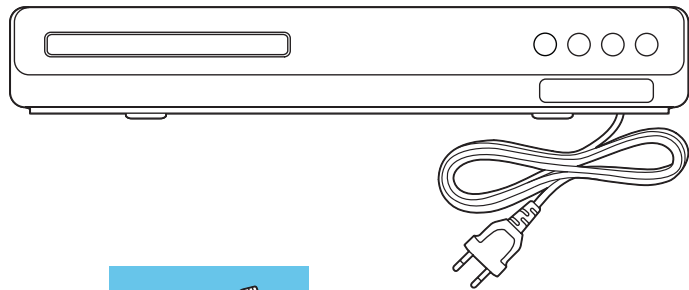
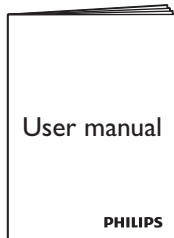
BGA-de-/soldering (+ baking instructions)
Heating-profiles of BGAs and other ICs used in Philips-sets

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



- EN** Before using your product, read all accompanying safety information
- DA** Læs alle medfølgende sikkerhedsoplysninger, inden du tager produktet i brug
- DE** Lesen Sie vor Verwendung dieses Produkts alle begleitenden Sicherheitsinformationen
- EL** Πριν χρησιμοποιήσετε το προϊόν, διαβάστε όλες τις παρεχόμενες πληροφορίες ασφάλειας
- ES** Antes de usar el producto, lea toda la información de seguridad adjunta
- FI** Lue kaikki turvallisuuksiedot ennen tuotteen käyttöä
- FR** Avant d'utiliser votre produit, lisez l'intégralité des consignes de sécurité jointes
- IT** Prima di utilizzare il prodotto, leggere tutte le relative informazioni sulla sicurezza
- NL** Lees voordat u het product gaat gebruiken eerst alle bijbehorende veiligheidsinformatie

- NO** Les all vedlagt sikkerhetsinformasjon før du bruker produktet
- PT** Antes de utilizar o produto, leia todas as informações de segurança que o acompanham
- SV** Innan du använder produkten ska du läsa all tillhörande säkerhetsinformation
- TR** Ürününüzü kullanmadan önce ilgili tüm güvenlik bilgilerini okuyun
- CS** Před použitím produktu si přečtete doprovodné bezpečnostní informace
- HU** A termék használatá elótt alaposan olvassa el a mellékelt biztonsági tudnivalókat
- PL** Przed rozpoczęciem korzystania z produktu należy zapoznać się z informacjami dotyczącymi bezpieczeństwa
- RO** Înainte de a utiliza acest produs, citiți toate informațiile de siguranță care îl însoțesc
- SK** Pred použitím produktu si prečítajte všetky sprievodné bezpečnostné informácie



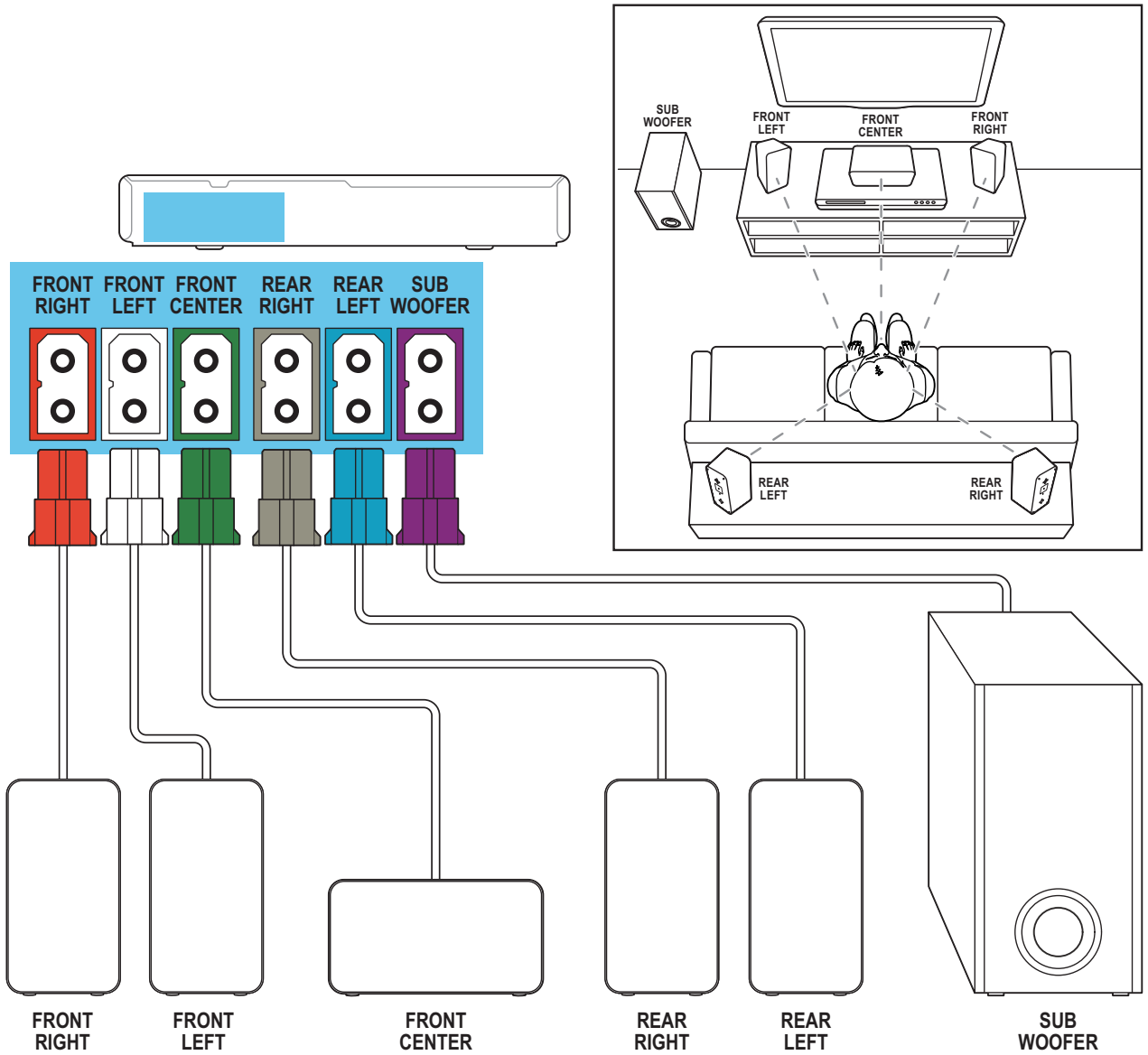
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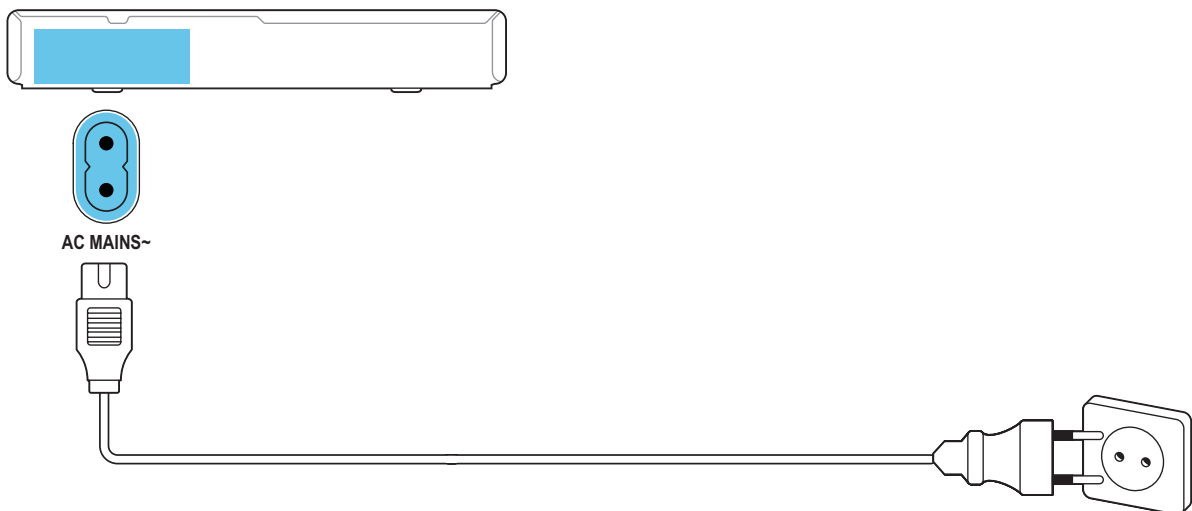
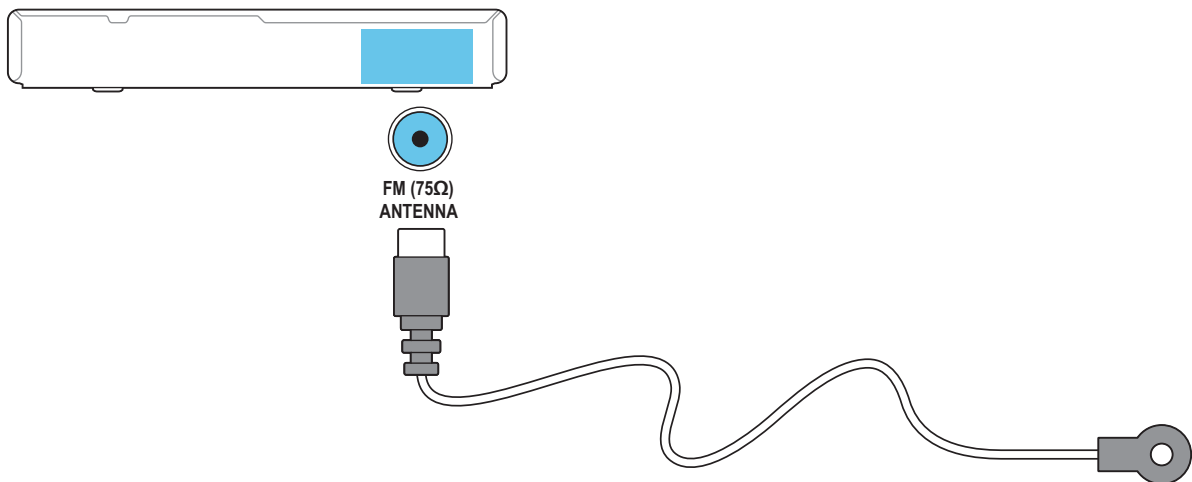
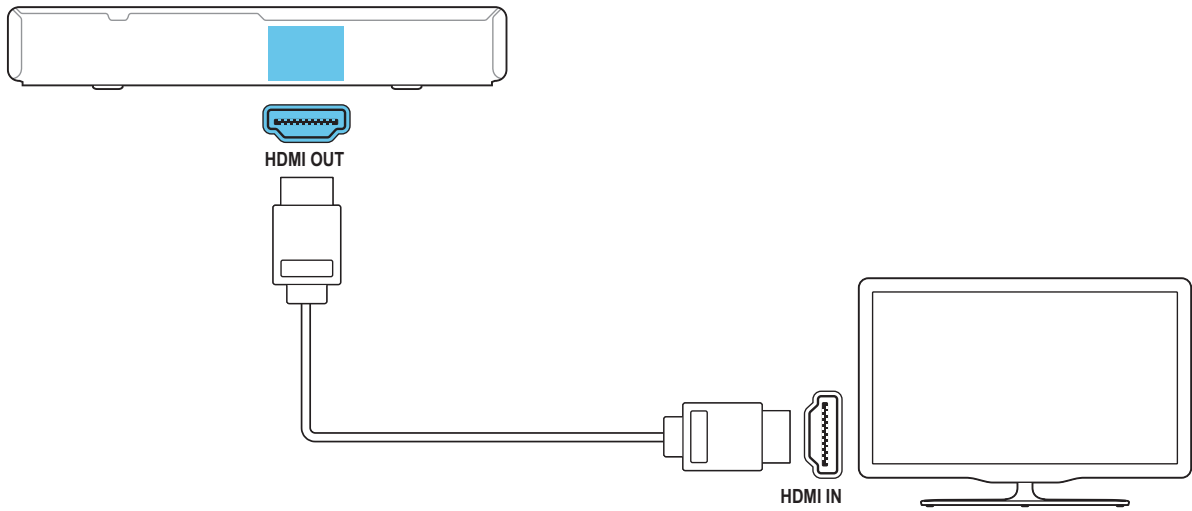
EN Connect the home theater

HI होम थिएटर को कनेक्ट करें

RU Подключите домашний кинотеатр

UK Під'єднання системи домашнього кінотеатру





2

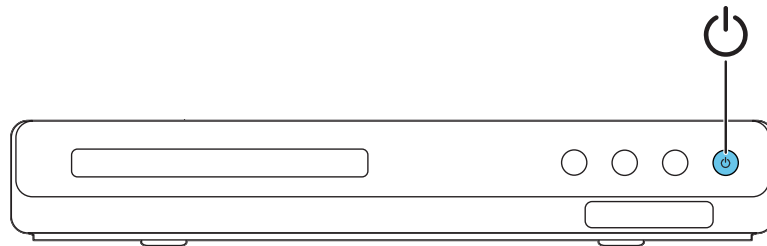
EN Switch on the home theater

HI होम थिएटर को स्विच ऑन करें

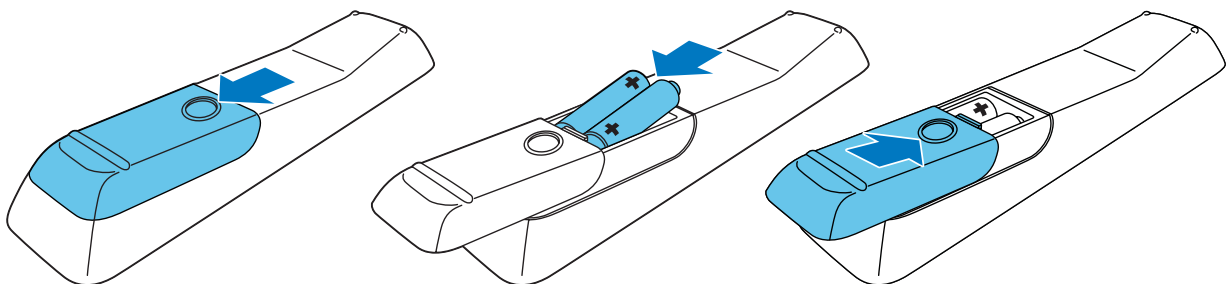
RU Включите домашний кинотеатр

UK Увімкнення системи домашнього кінотеатру

1

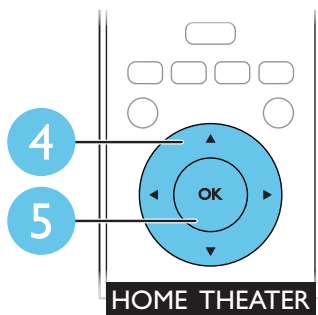
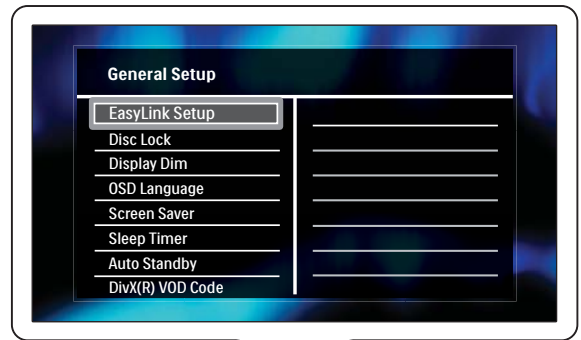
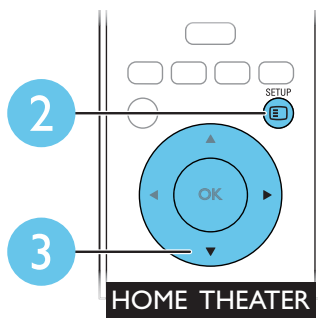
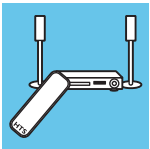
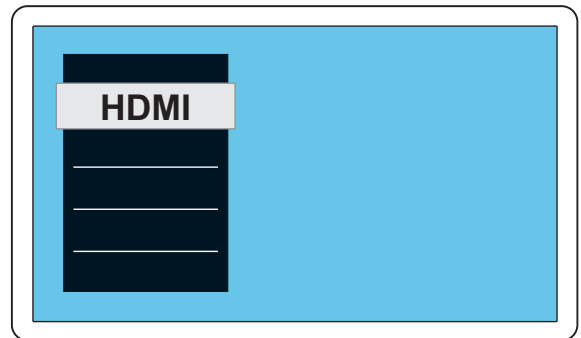
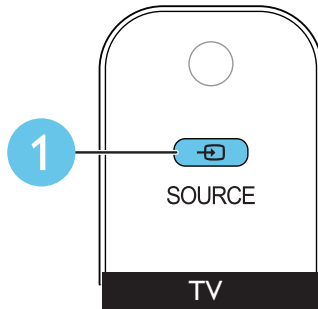
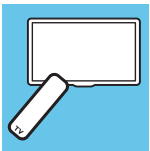


2



3

- EN** Complete the first time setup
- HI** पहली बार के सेटअप को पूरा करें
- RU** Выполните первоначальную настройку
- UK** Виконання перших налаштувань



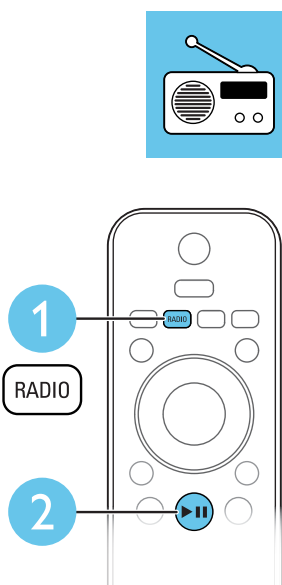
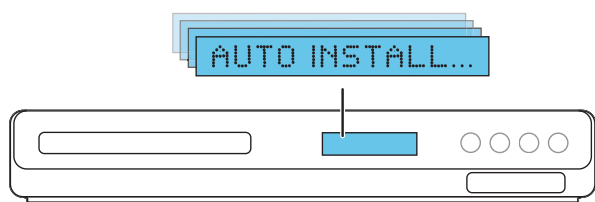
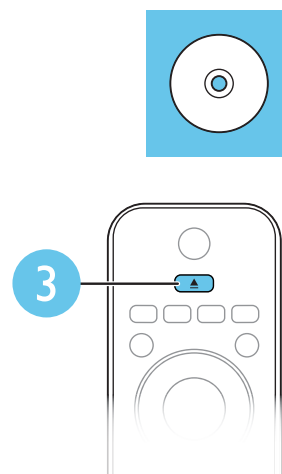
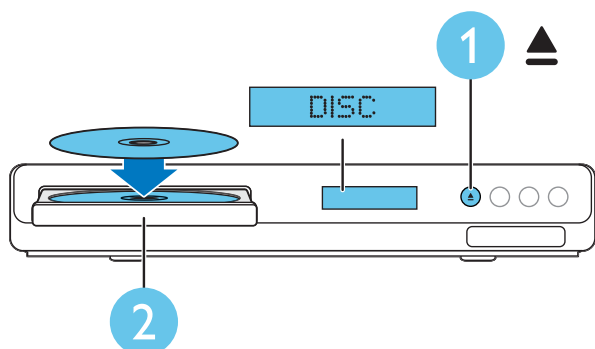
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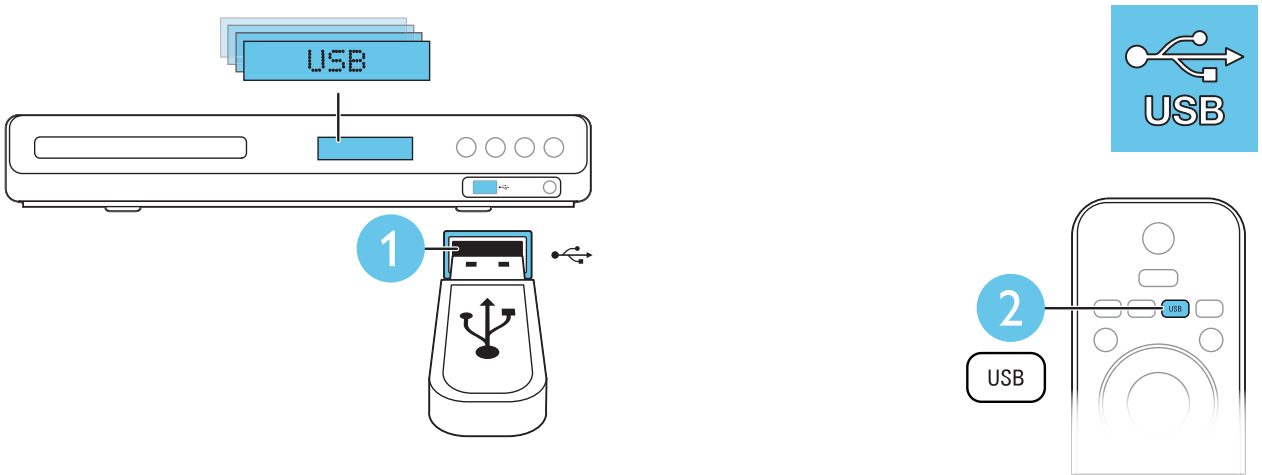
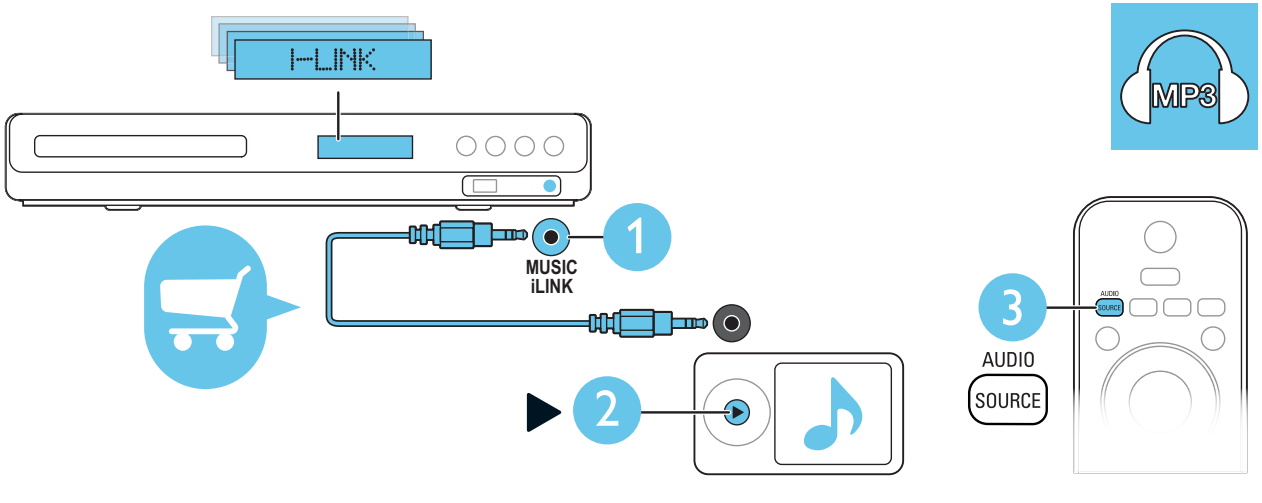
EN Use your home theater

HI अपने होम थिएटर का उपयोग करें

RU Домашний кинотеатр готов к использованию

UK Використання системи домашнього кінотеатру

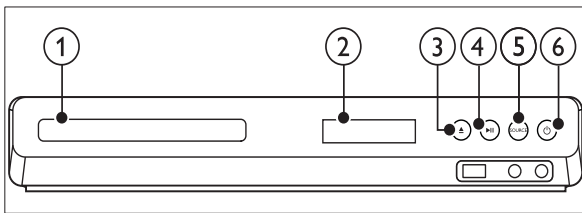




Your home theater

Congratulations on your purchase, and welcome to Philips! To fully benefit from the support that Philips offers, register your home theater at www.philips.com/welcome.

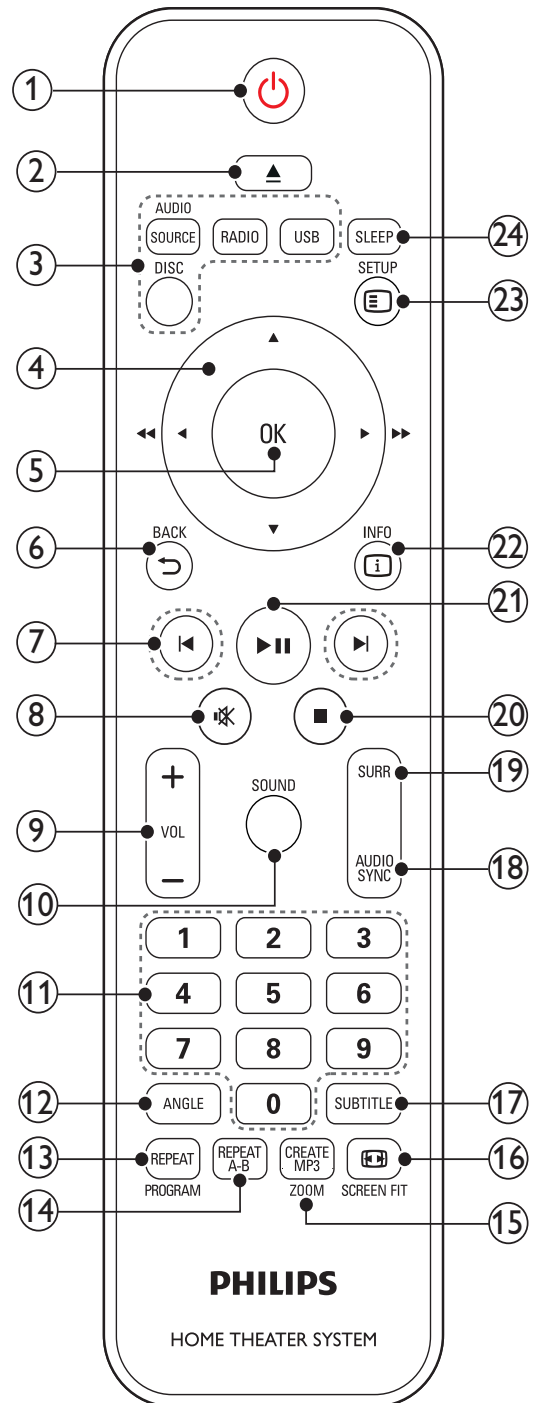
Main unit



- ① Disc compartment
- ② Display panel
- ③ ▲ (Open/Close)
Open or close the disc compartment, or eject the disc.
- ④ ►|| (Play/Pause)
Start, pause or resume play.
- ⑤ SOURCE
Select an audio or video source for the home theater.
- ⑥ ⏻ (Standby-On)
Switch the home theater on or to standby.

Remote control

This section includes an overview of the remote control.



- ① **⏻ (Standby-On)**
- Switch the home theater on or to standby.
 - When EasyLink is enabled, press and hold for at least three seconds to switch all connected HDMI CEC compliant devices to standby.
- ② **⬆ (Open/Close)**
Open or close the disc compartment, or eject the disc.
- ③ **Source buttons**
- **DISC:** Switch to disc source. Access or exit the disc menu when you play a disc.
 - **AUDIO SOURCE:** Select an audio input source.
 - **RADIO:** Switch to FM radio.
 - **USB:** Switch to USB storage device.
- ④ **Navigation buttons**
- Navigate menus.
 - In video mode, press left or right to fast backward or fast forward; press up or down to slow backward or slow forward.
 - In radio mode, press left or right to search a radio station; press up or down to fine tune a radio frequency.
- ⑤ **OK**
Confirm an entry or selection.
- ⑥ **↶ BACK**
Return to a previous menu screen.
- ⑦ **⏮ / ⏭ (Previous/Next)**
- Skip to the previous or next track, chapter or file.
 - In radio mode, select a preset radio station.
- ⑧ **🔇 (Mute)**
Mute or restore volume.
- ⑨ **VOL +/-**
Increase or decrease volume.
- ⑩ **SOUND**
Select a sound mode.
- ⑪ **Numeric buttons**
Select an item to play.
- ⑫ **ANGLE**
Select video scenes recorded in different camera angles.
- ⑬ **REPEAT / PROGRAM**
- Select or turn off repeat mode.
 - In radio mode, set a radio station.
- ⑭ **REPEAT A-B**
Mark two points within a chapter or track to repeat play, or turn off the repeat mode.
- ⑮ **CREATE MP3/ZOOM**
- Access the create MP3 menu.
 - Zoom into a video scene or picture. Press the **Navigation buttons** (left/right) to select a zoom factor.
- ⑯ **🖼️ SCREEN FIT**
Fit the picture format to the TV screen.
- ⑰ **SUBTITLE**
Select subtitle language for video.
- ⑱ **AUDIO SYNC**
- Select an audio language or channel.
 - Press and hold to access audio delay setting, then press **+/-** to delay the audio to match the video.
- ⑲ **SURR**
Select surround sound or stereo sound.
- ⑳ **■ (Stop)**
Stop play.
- ㉑ **▶ || (Play/Pause)**
Start, pause or resume play.
- ㉒ **ℹ INFO**
Access more play options while playing a disc or a USB storage device.
- ㉓ **⚙️ SETUP**
Access or exit the setup menu.
- ㉔ **SLEEP**
Switch the home theater to standby after a specified time.

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 6 screws around the Top Cover, and then remove the Top Cover (Figure 1).



Sample Model:HTS3531/12

Figure 1

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

Method A):Turn on the power button,then press open button to dismantle front door.Please kindly note that power off as soon as front door is out of machine.

Method B): If the tray can't open in normal way, you can make it through the instruction as below, an emergency exit at bottom cover of the machine.

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



Method A)



Method B)

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 :Dismantle Front Panel, disconnect the connectors (XP4, XP8,XP12), need release 2 snaps of Front Panel & 2 snaps of bottom cabinet , then gently pull the Panel out from the set. (Figure 3)

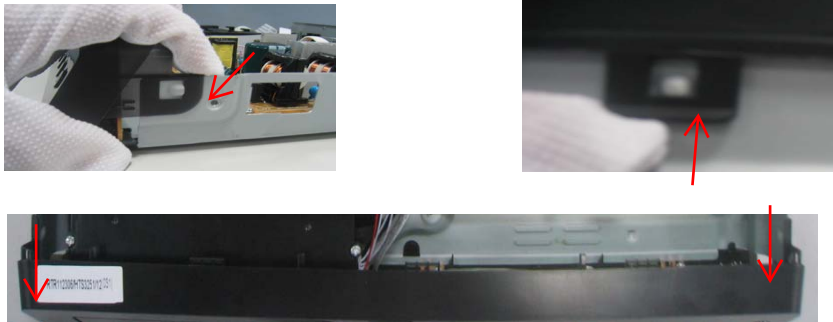


Figure 3

Step4 : Dismantle Front Control Board,remove 5 screws (Figure 4 /5)

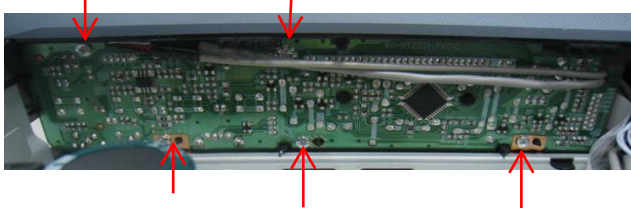


Figure 4

Step5: Dismantle Loader, disconnect the 3 connectors (XP2, XP3, XP6) aiming in the below figure, and remove 2 screws that connects the loader and the bottom cabinet. (Figure 5)

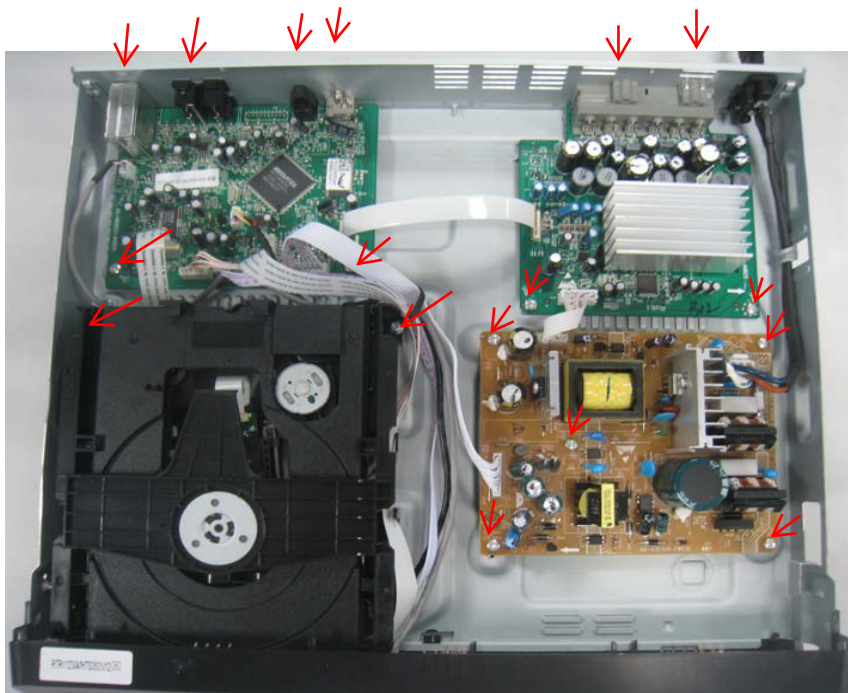


Figure 5

Mechanical and Dismantling Instructions

Dismantling Instruction

Detailed information please refer to the model set.

Step6: Dismantle Main Board, first disconnect 2 connectors (XP1, XP11), and then remove 6 screws. (Figure 5/6)

Step7: Dismantle Power Board, disconnect the connectors XS703 and CN501 on Power Board, then remove 5 screws. (Figure 5/6)

Step8: Dismantle Amplifier Board, remove 4 screws (Figure 5/6)

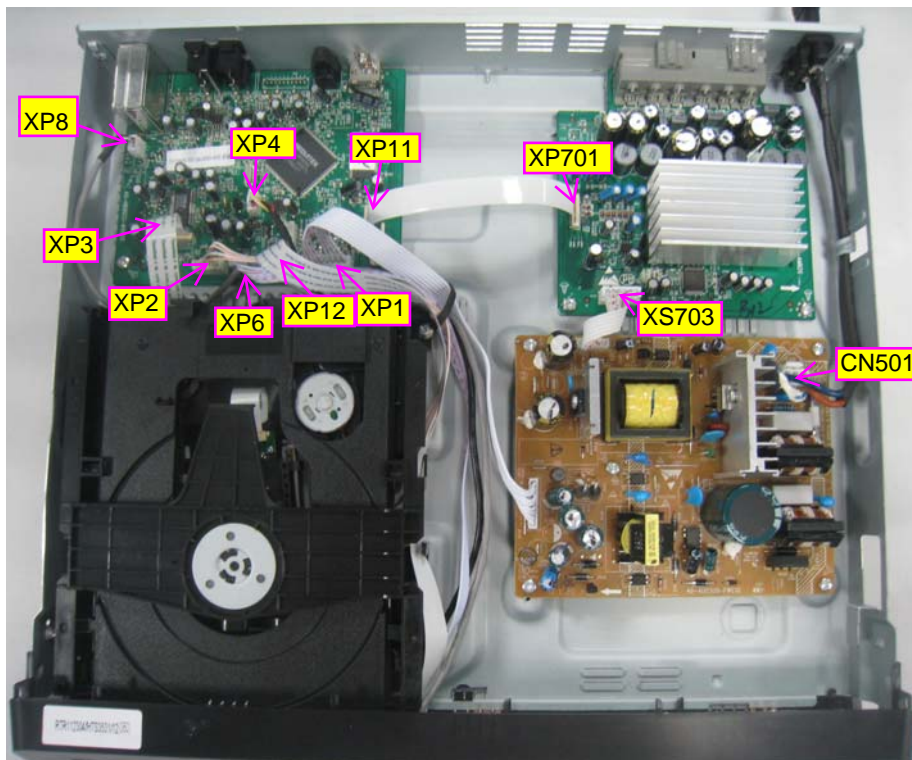


Figure 6

Software Upgrade

1. There are 2 ways to software upgrade:

First :

Upgrade from USB:

Copy the upgrade file HTS3531_XX.BIN to USB then press the USB key on RC or SOURCE key on front panel.

When upgrade file detected, select "Yes" to upgrade, select "No" to cancel.

After upgrading begins, a message "DO NOT POWER OFF" will show, or the product will hang up and upgrading failed.

After you cancel, the product would not read the USB unless upgrade file deleted.

Second:

Upgrade from Disc:

Copy the upgrade file HTS3531_XX.BIN to disc then read the disc.

When upgrade file detected, select "Yes" to upgrade, select "No" to cancel.

After upgrading begins, a message "DO NOT POWER OFF" will show, or the product will hang up and upgrading failed.

After you cancel, the product would not read Disc unless upgrade file deleted.

2. Check the version information after upgraded.

Press the setup key on RC, select Preference Setup, and then Version info, press OK Key you will see a interface below:

```

Preference Setup
Version Info
-----
Upgrade file Name   HTS3531_12.BIN
Version             12.11.96.35
Sub-Ver             00.08.98.C4
Servo               57.1A.01.C7
RISC                35.31.00.29
HDCP Key            Pass
Region Code        2
8032                00.01.00.01
-----
Press SETUP to exit menu
  
```

How to adjust the setting after repairing:

1. HTS3531/12: Open DVD tray, press "9" "9" "9" "9" "2" on R/C;
2. HTS3531/51: Open DVD tray, press "9" "9" "9" "9" "5" on R/C;
3. HTS3531/94: Open DVD tray, press "9" "9" "9" "9" "5" on R/C;
4. HTS3531/55: Open DVD tray, press "9" "9" "9" "9" "4" on R/C;
5. HTS3531/98: Open DVD tray, press "9" "9" "9" "9" "3" on R/C;
6. HTS3531/F7: Open DVD tray, press "9" "9" "9" "9" "1" on R/C;
7. HTS3531/78: Open DVD tray, press "9" "9" "9" "9" "4" on R/C;
8. HTS3531/93: Open DVD tray, press "9" "9" "9" "9" "6" on R/C;

Note: Restart after above steps.



Change settings

This section helps you to change the settings of your home theater.

Caution

- Most of the settings are already configured with the best value for your home theater. Unless you have a reason to change a setting, it is best to leave it at the default value.

Note

- You cannot change a setting that is grayed out.
- To return to the previous menu, press  - 返回. To exit the menu, press  - 设定.


Picture

Change the picture settings to suit your preferences.

Note

- The best setting is automatically selected for the TV. If you change the setting, make sure that the TV supports the new settings.

Picture settings and format

- 1 Press  - 设定.
- 2 Select **[Video Setup]**, and then press **OK**.
- 3 Change the following settings, and then press **OK**:
 - **[TV System]**: For TV supported video format.
 - **[TV Display]**: For TV picture display format.
 - **[Picture Settings]**: Predefined color settings.


Picture resolution

To enjoy high definition HDMI video output, set the HDMI video settings that best match up with your TV capability.

- 1 Press  - 设定.
- 2 Select **[Video Setup]**, and then press **OK**.
- 3 Select **[HDMI Setup]**, and then press **OK**.
- 4 Change the following settings, and then press **OK**:
 - **[Wide Screen Format]**: For 16:9 wide screen TV display setting.
 - **[HDMI Video]**: HDMI resolution.

High definition picture

Support high definition JPEG pictures.

- 1 Press  - 设定.
- 2 Select **[Video Setup]**, and then press **OK**.
- 3 Select **[HD JPEG] > [On]**, and then press **OK**.

Sound

Change the sound settings to suit your preference.

HDMI audio

HDMI audio is automatically down-mixed to two channel for TV speakers. If you do not want to output audio through your TV, disable the HDMI audio.

- 1 Press  - 设定.
- 2 Select **[Audio Setup]**, and then press **OK**.
- 3 Select **[HDMI Audio] > [Off]**, and then press **OK**.


Language

Select a language for the home menu, audio, and subtitles.

Home menu

- 1 Press  - 设定.
- 2 Select **[General Setup]**, and then press **OK**.
- 3 Select **[OSD Language]**, and then press **OK**.
- 4 Select a menu language for your home theater, and then press **OK**.


Disc audio

- 1 Press  - 设定.
- 2 Select **[Preference Setup]**, and then press **OK**.
- 3 Select **[Audio]**, and then press **OK**.
- 4 Select an audio language for discs, and then press **OK**.


**Note**

- If your preferred disc language is not available, select **[Others]** from the list, and enter the 4-digit language code found at the end of this user manual.
- If you select a language that is not available on a disc, the home theater uses the default language of the disc.

Disc subtitle

- 1 Press  - 设定.
- 2 Select **[Preference Setup]**, and then press **OK**.
- 3 Select **[Subtitle]**, and then press **OK**.
- 4 Select a subtitle language for discs, and then press **OK**.

Disc menu

- 1 Press  - 设定.
- 2 Select **[Preference Setup]**, and then press **OK**.
- 3 Select **[Disc Menu]**, and then press **OK**.

- 4 Select a menu language for discs, and then press **OK**.

**Note**


- If your preferred disc language is not available, select **[Others]** from the list, and enter the 4-digit language code found at the end of this user manual.
- If you select a language that is not available on a disc, the home theater uses the default language of the disc.

Parental control

Restrict access to discs.


Password

You can set or change your password to play a restricted disc.

- 1 Press  - 设定.
- 2 Select **[Preference Setup]**, and then press **OK**.
- 3 Select **[Password]**, and then press **OK**.
↳ A change password menu is displayed.
- 4 Follow the instructions on the TV to set or change password.
 - If you do not have a password or you have forgotten, enter **0000**.
- 5 Press **OK**.

Ratings

Some discs are recorded with ratings according to age. You can set up your home theater to play only discs with an age rating lower than your child's age.

- 1 Press  - 设定.
- 2 Select **[Preference Setup]**, and then press **OK**.
- 3 Select **[Parental]**, and then press **OK**.
↳ A message prompts you to enter the password.

- 4 Enter the password with the **Numeric buttons**.
- 5 Select an age rating, and then press **OK**.
 - To play all discs irrespective of the rating, select level **8** or **[Off]**.

Lock disc

To restrict access to discs that are not encoded with ratings and parental control, lock the disc manually. You can lock up to 20 discs on your home theater.

- 1 While playing a disc, press **設定**.
- 2 Select **[General Setup]**, and then press **OK**.
- 3 Select **[Disc Lock] > [Lock]**, and then press **OK**.
 - ↳ A message prompts you to enter the password.
- 4 Enter the password with the **Numeric buttons**.
 - ↳ The disc is locked.
 - To play the locked disc, enter the password.

Energy saving

Save energy by changing the following settings.

Auto standby

When playing a disc or a USB storage device, automatically switch your home theater to standby if:

- it is in pause or stop mode, and
 - no button is pressed for 30 minutes.
- 1 Press **設定**.
 - 2 Select **[General Setup]**, and then press **OK**.
 - 3 Select **[Auto Standby] > [On]**, and then press **OK**.

Sleep timer

Set timers to switch the home theater to standby after a specified time.

- 1 Press **設定**.
- 2 Select **[General Setup]**, and then press **OK**.
- 3 Select **[Sleep Timer]**, and then press **OK**.
- 4 Select the duration of the sleep timer.
 - ↳ The sleep timer can be set up to 60 minutes. If the sleep timer is set to **[Off]**, it switches off.
- 5 Press **OK** to activate.
 - ↳ The home theater switches to standby after the specified time.

Screen saver

Automatically switch your home theater to screen saver mode if:

- it is in pause or stop mode, and
 - no button is pressed for 10 minutes.
- 1 Press **設定**.
 - 2 Select **[General Setup]**, and then press **OK**.
 - 3 Select **[Screen Saver] > [On]**, and then press **OK**.


Display panel

Change the brightness of the home theater display panel.

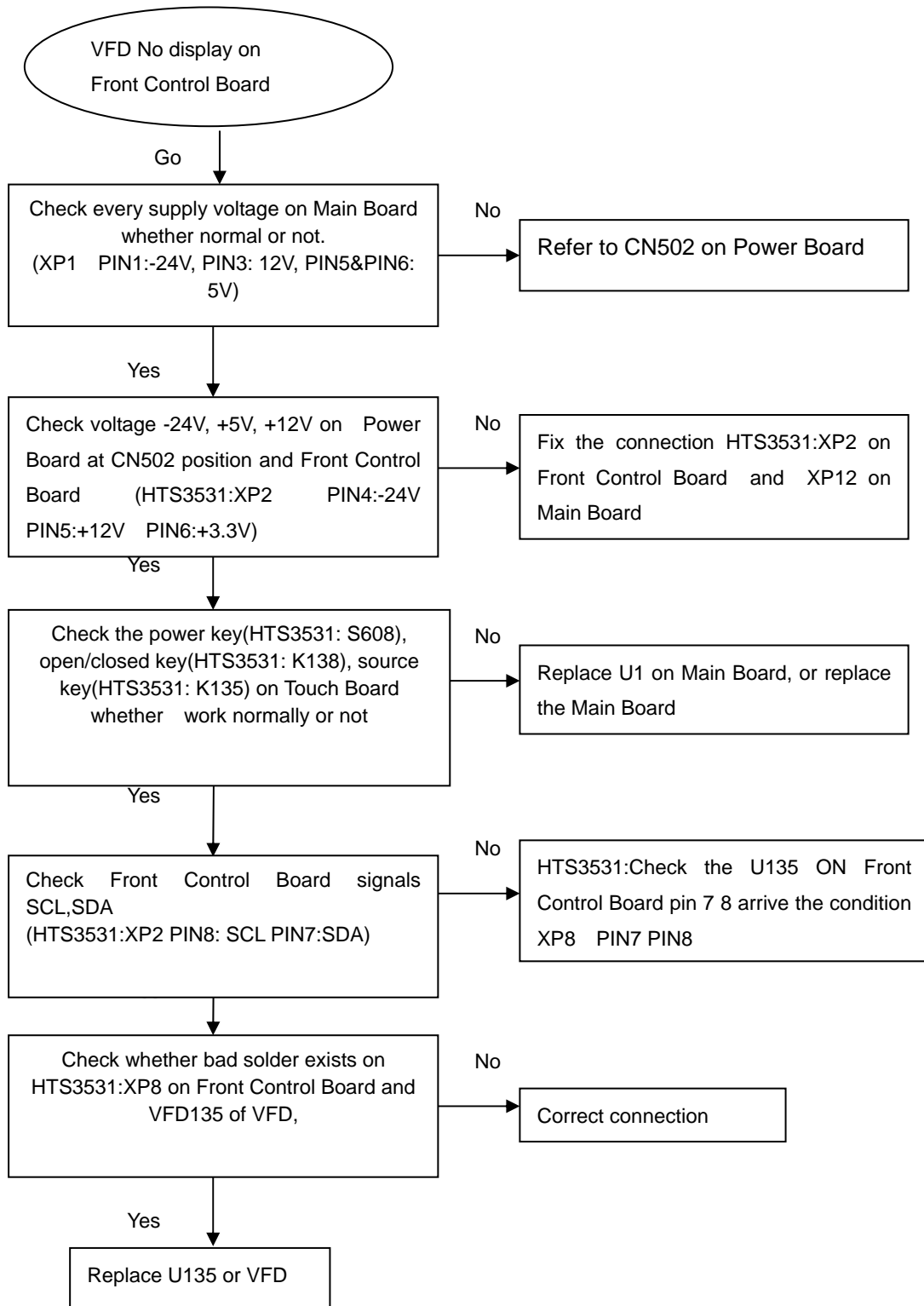
- 1 Press **設定**.
- 2 Select **[General Setup]**, and then press **OK**.
- 3 Select **[Display Dim]**, and then press **OK**.
- 4 Select the brightness, and then press **OK**.

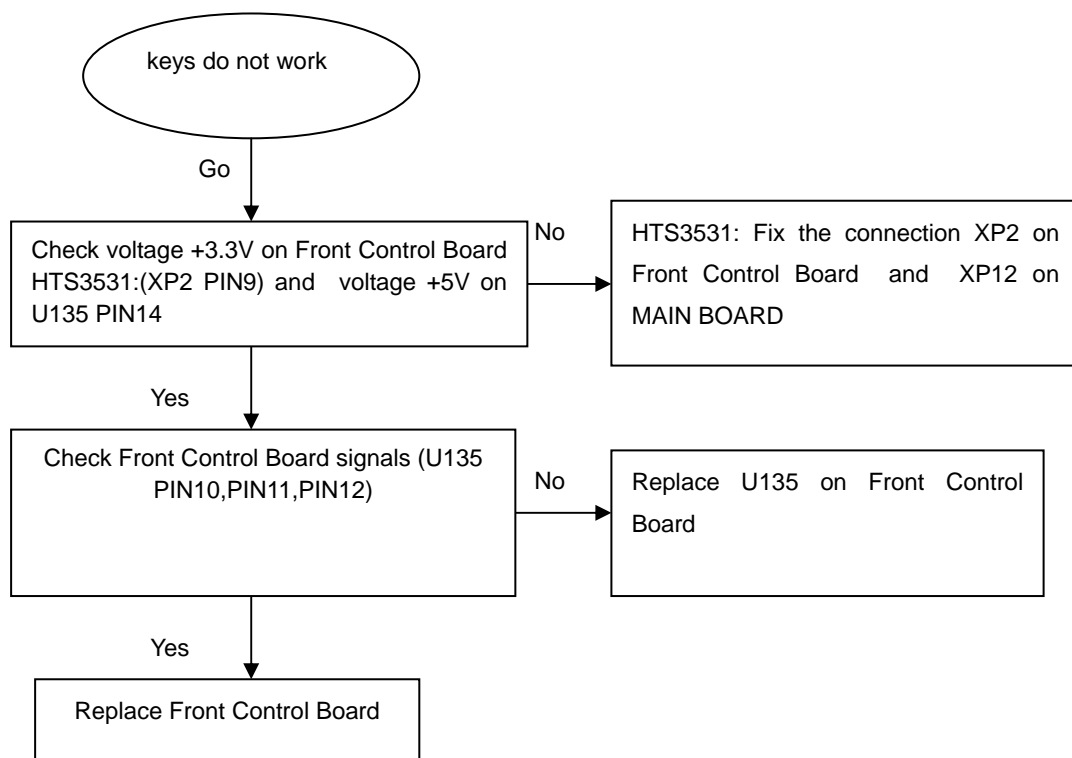
Apply factory settings

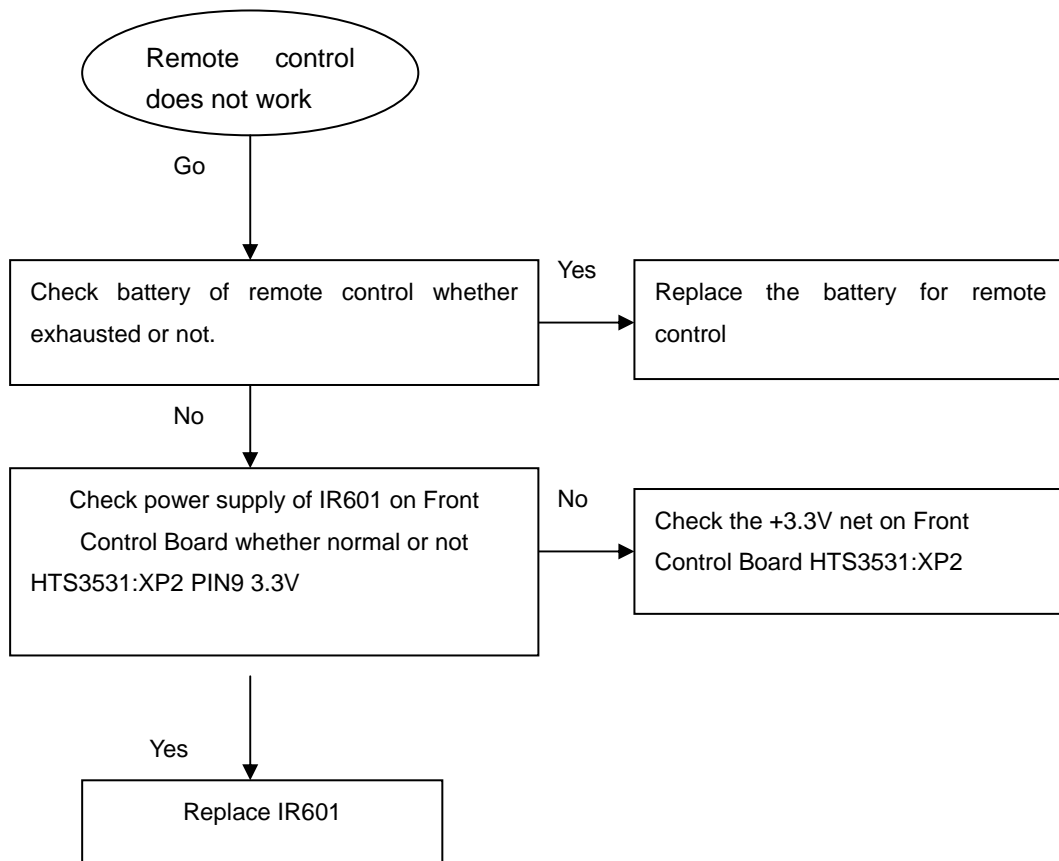
Reset your home theater to the default settings. You cannot reset the parental control settings.

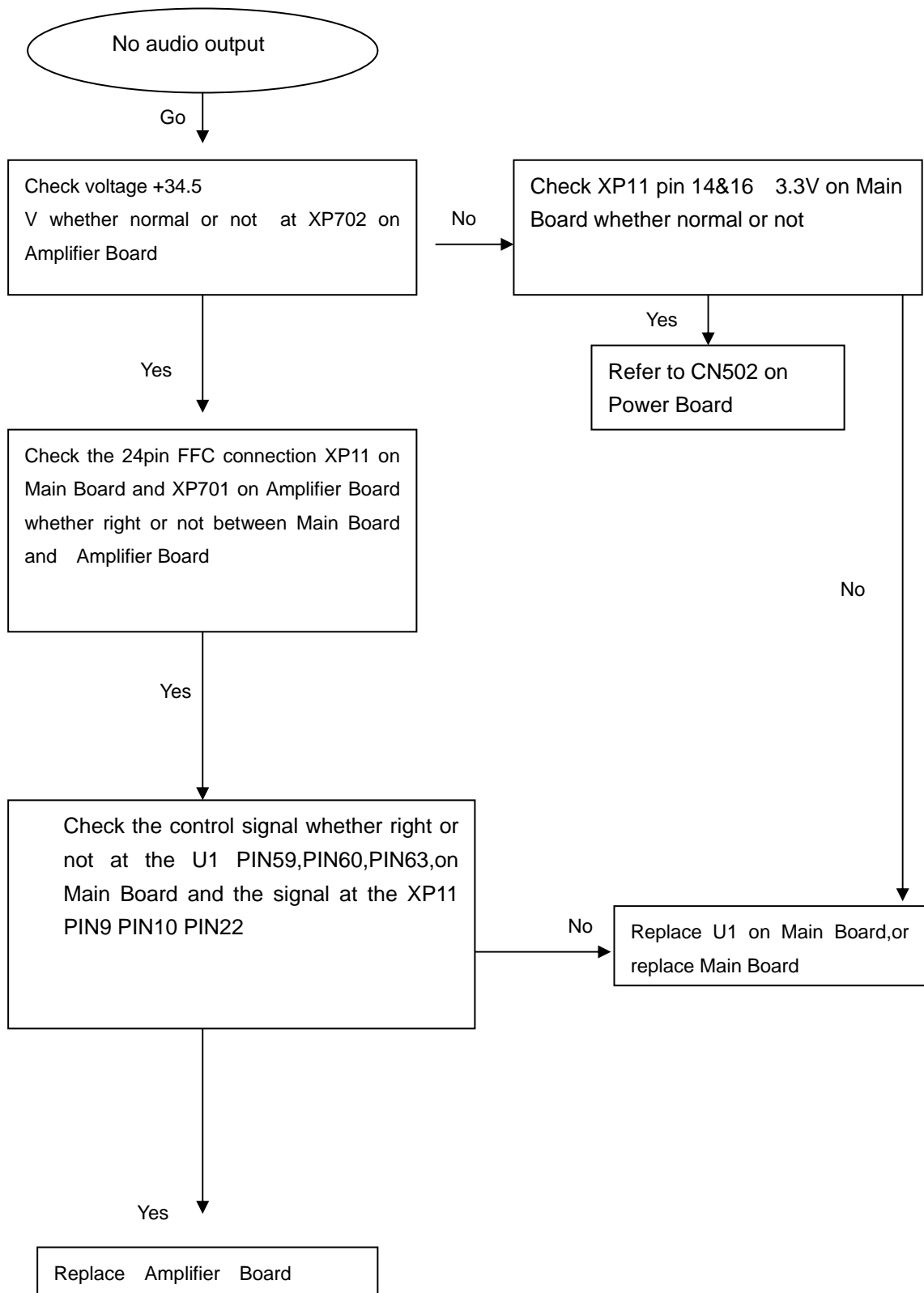
- 1 Press  - 設定.
- 2 Select [**Preference Setup**], and then press **OK**.
- 3 Select [**Default**], and then press **OK**.
- 4 Select [**Ok**], and then press **OK**.

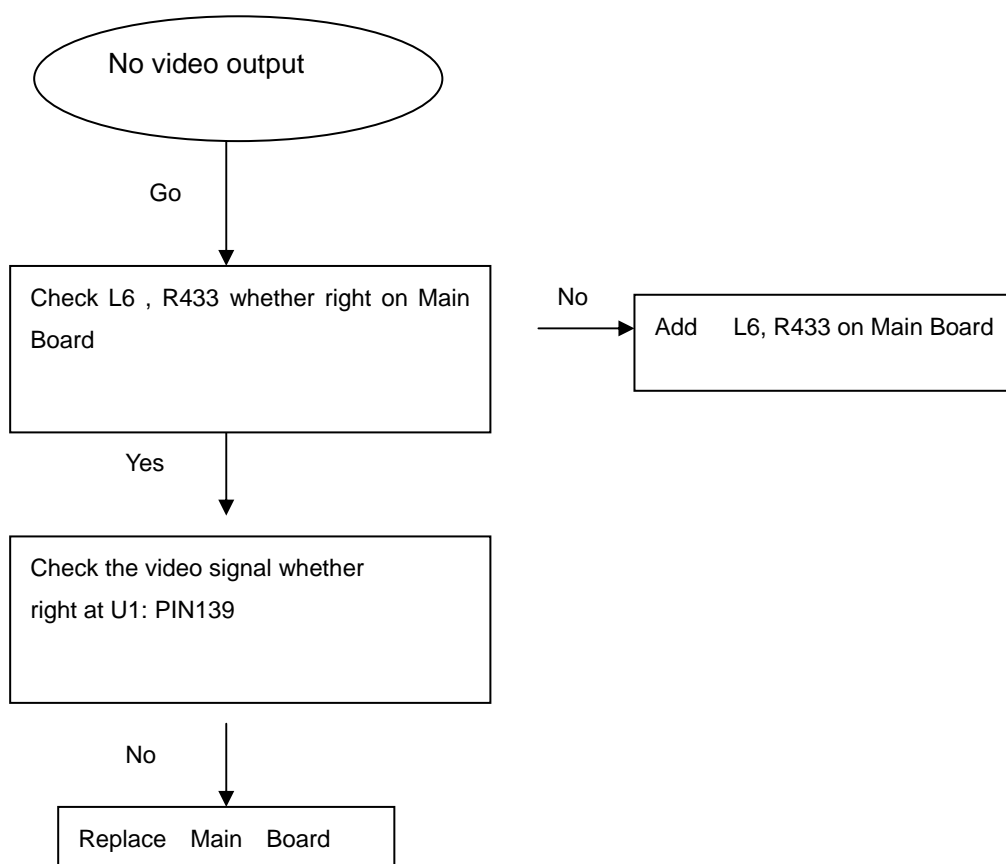
VFD No display on Front Control Board

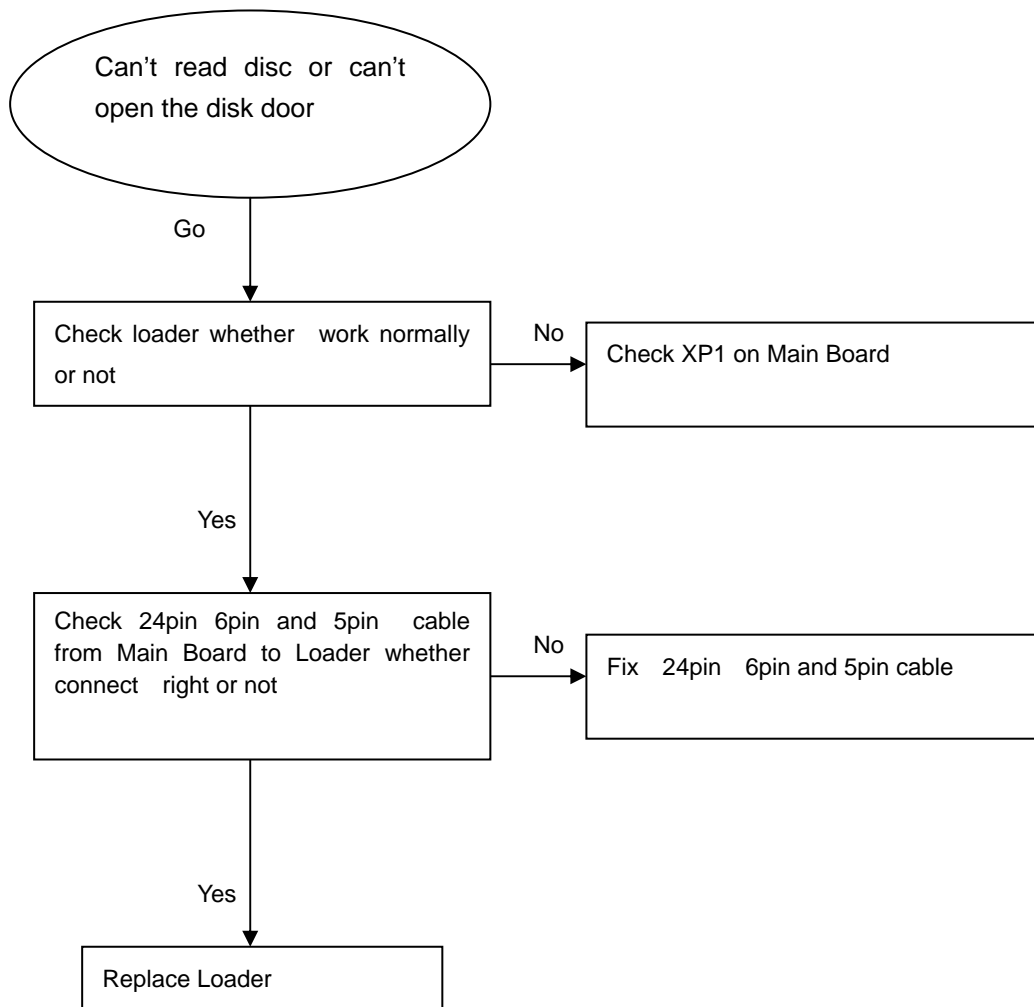


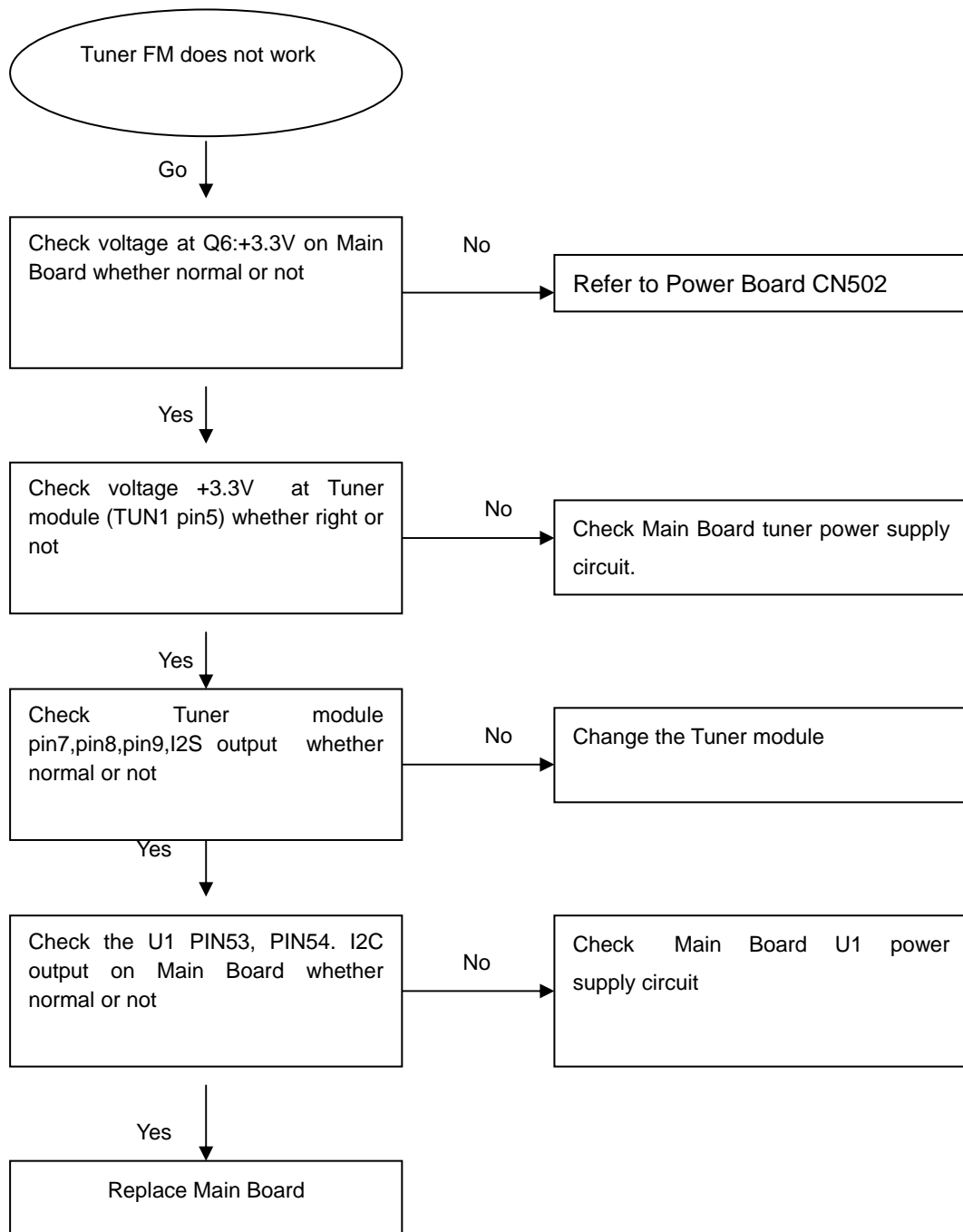
keys do not work

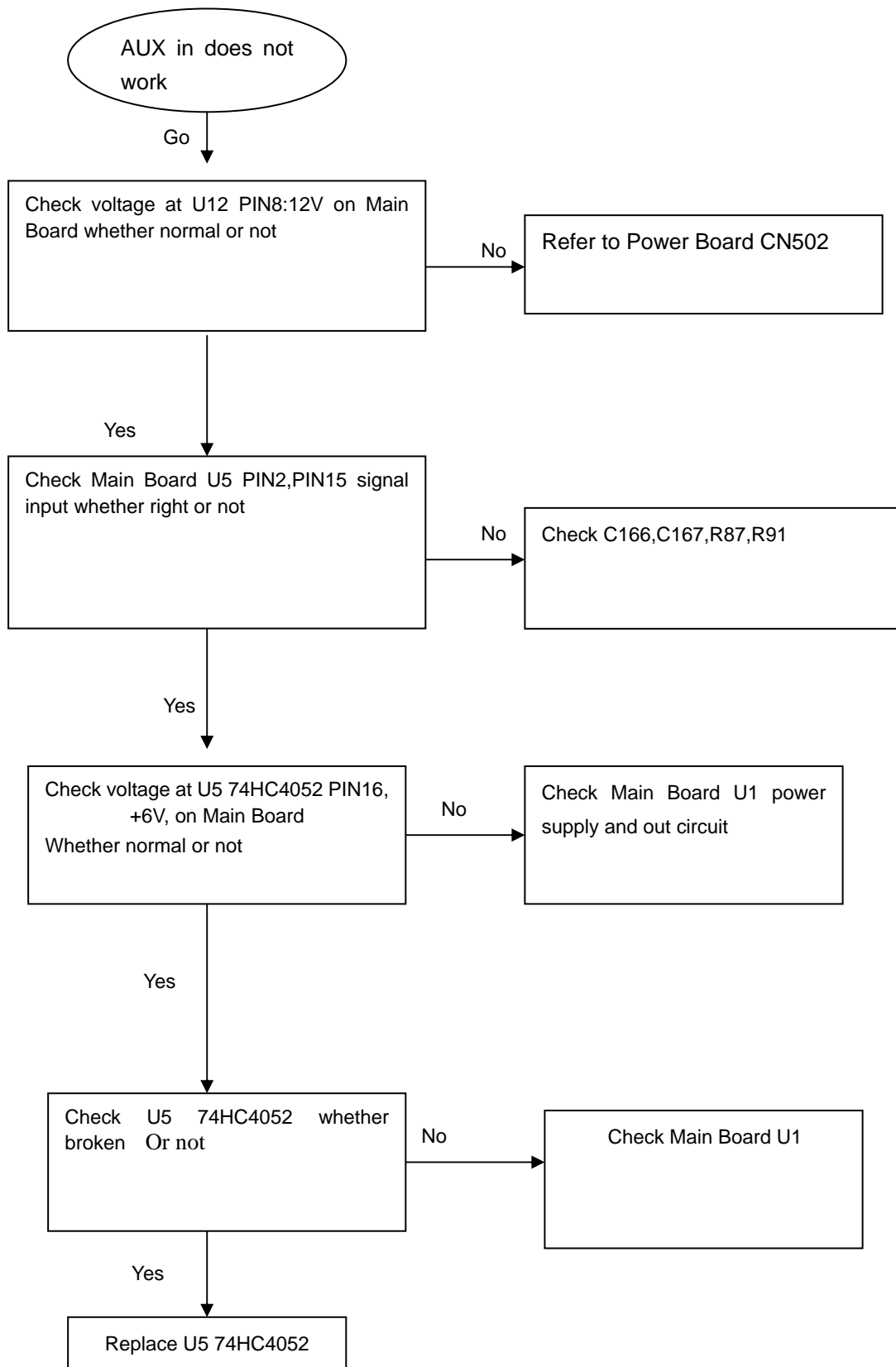
Remote control does not work

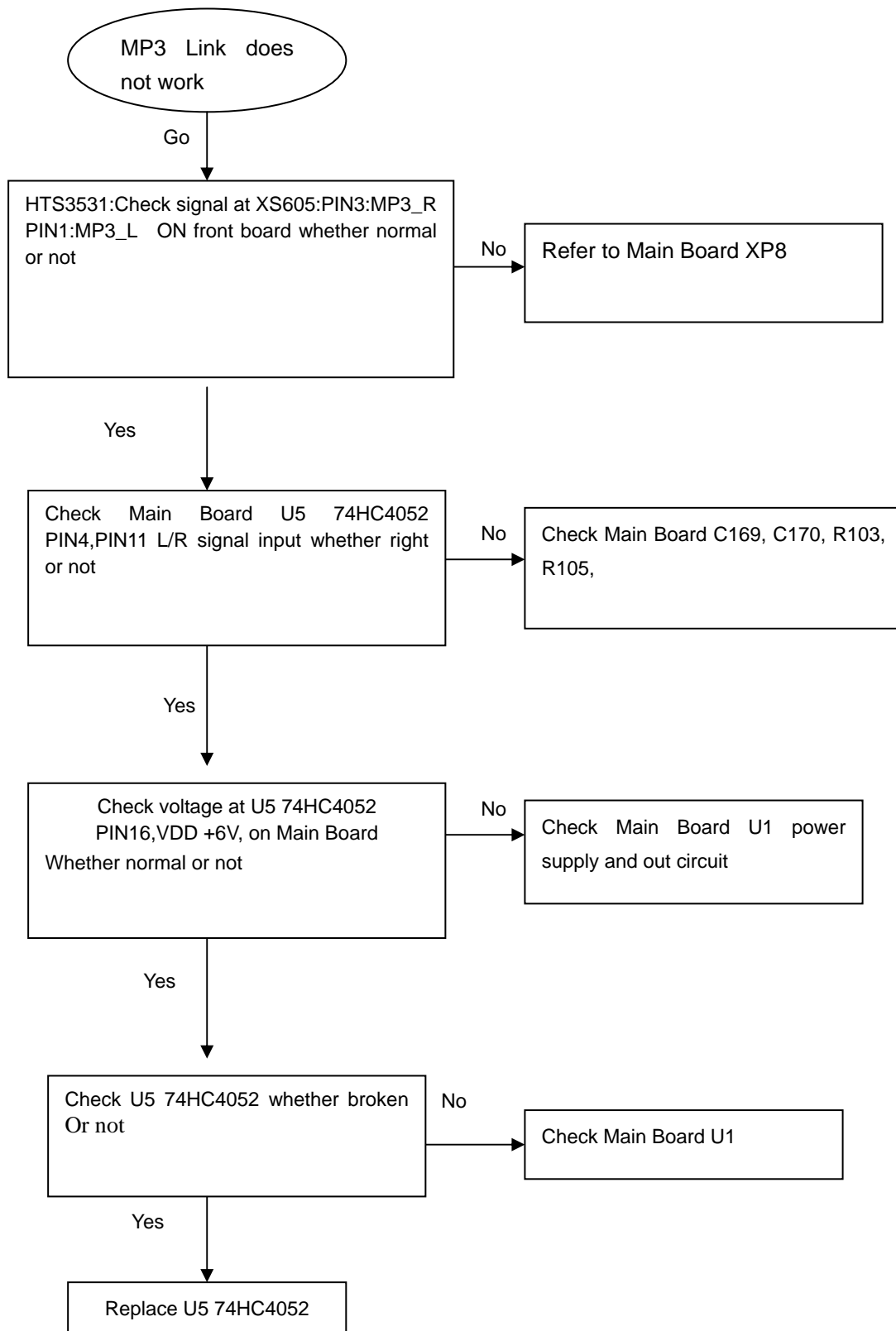
No audio output

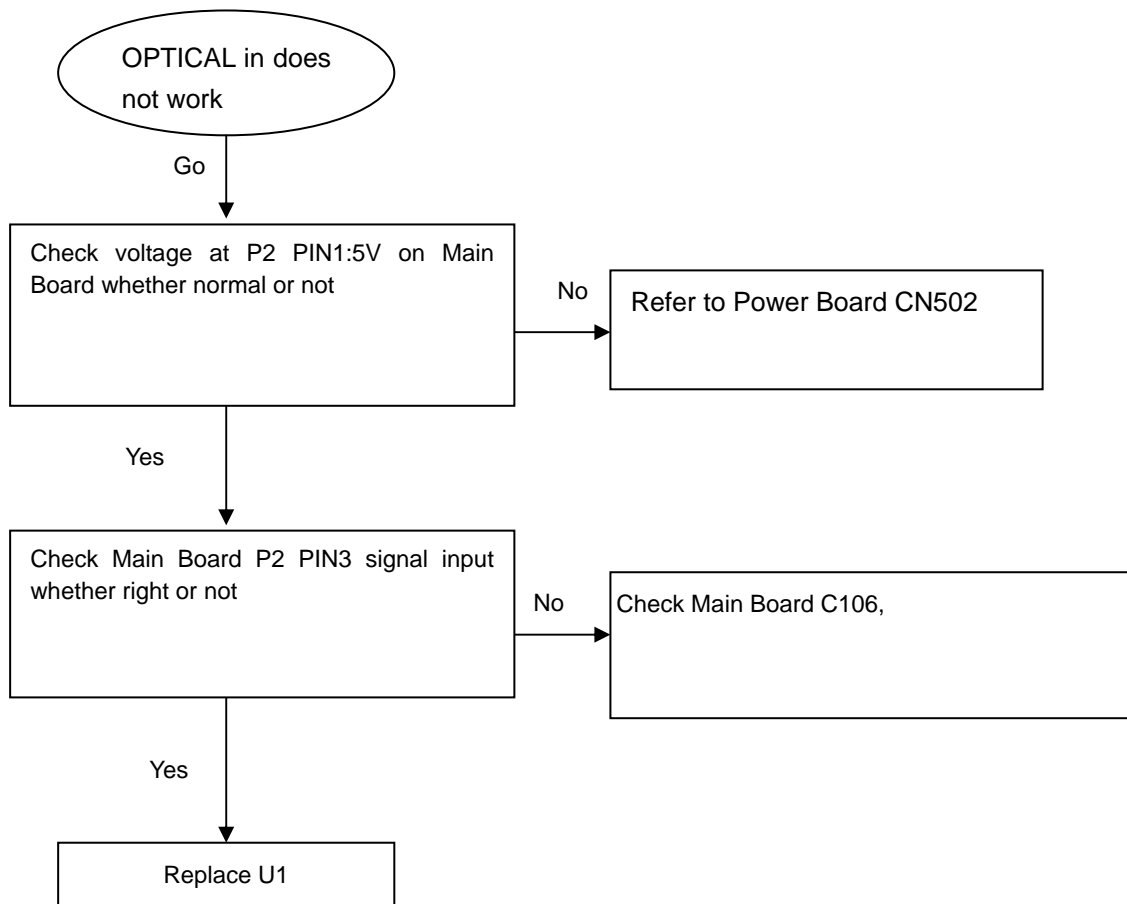
No video output

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

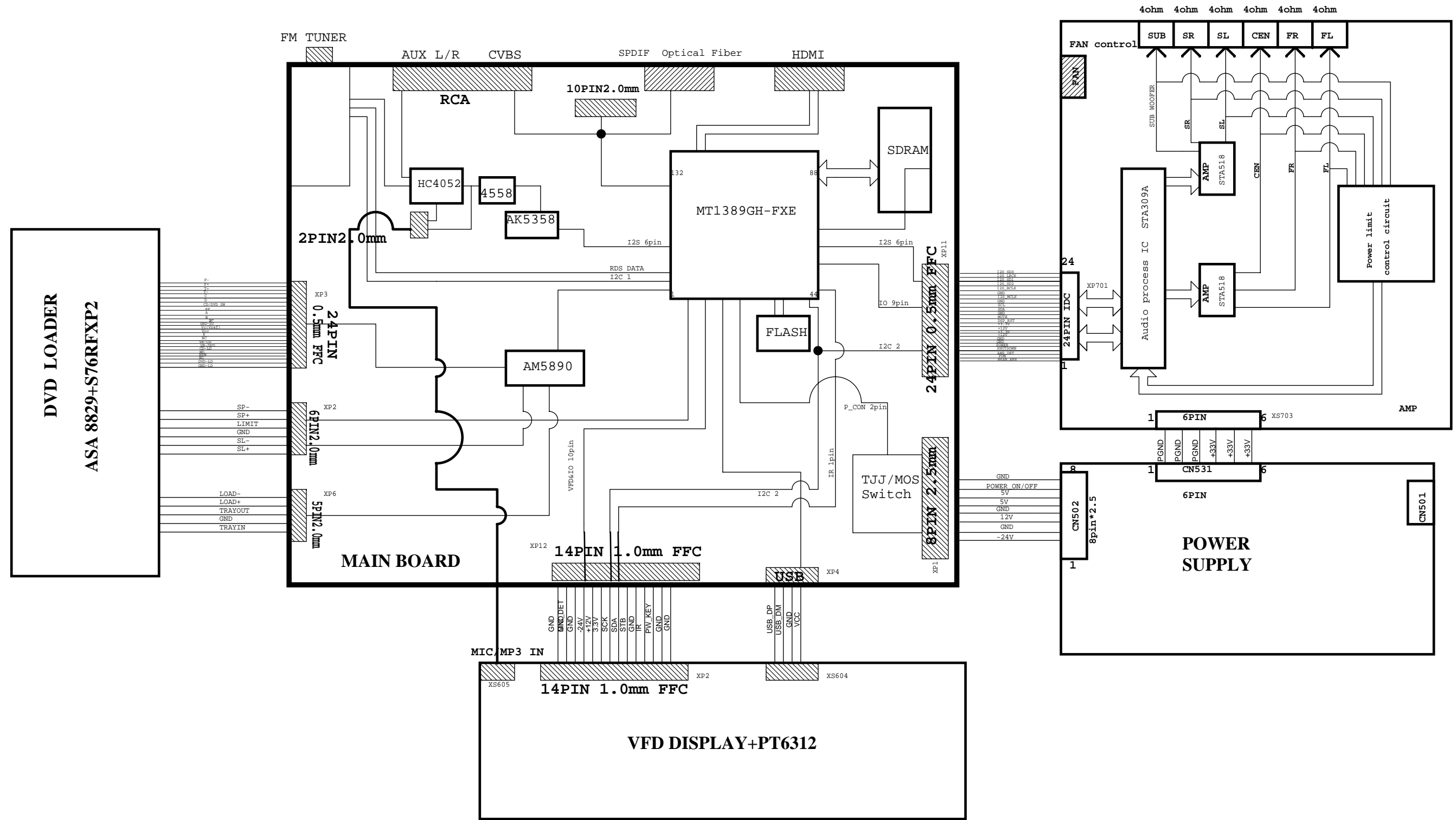
Tuner FM does not work

AUX in does not work

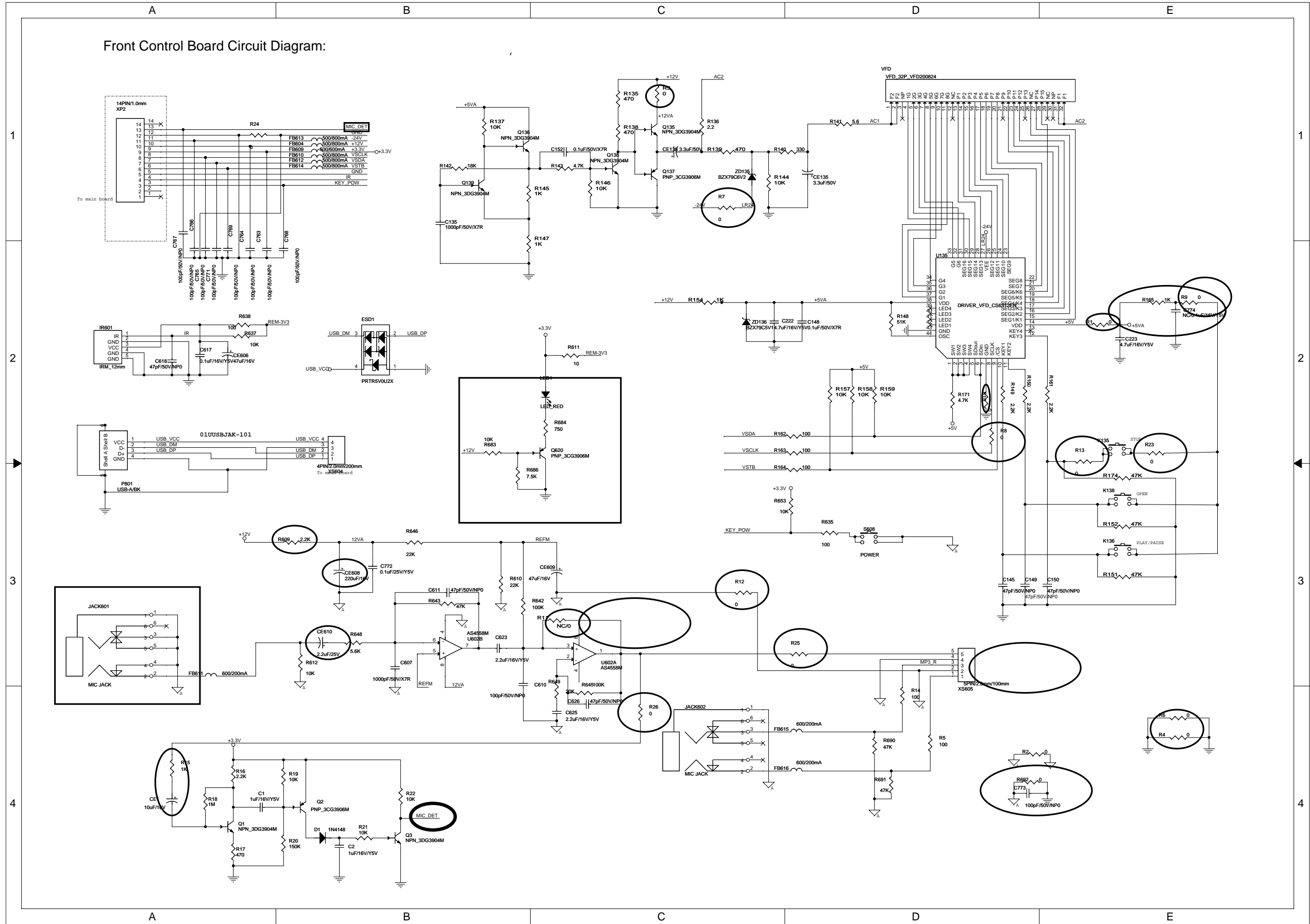
MP3 Link does not work

OPTICAL IN does not work

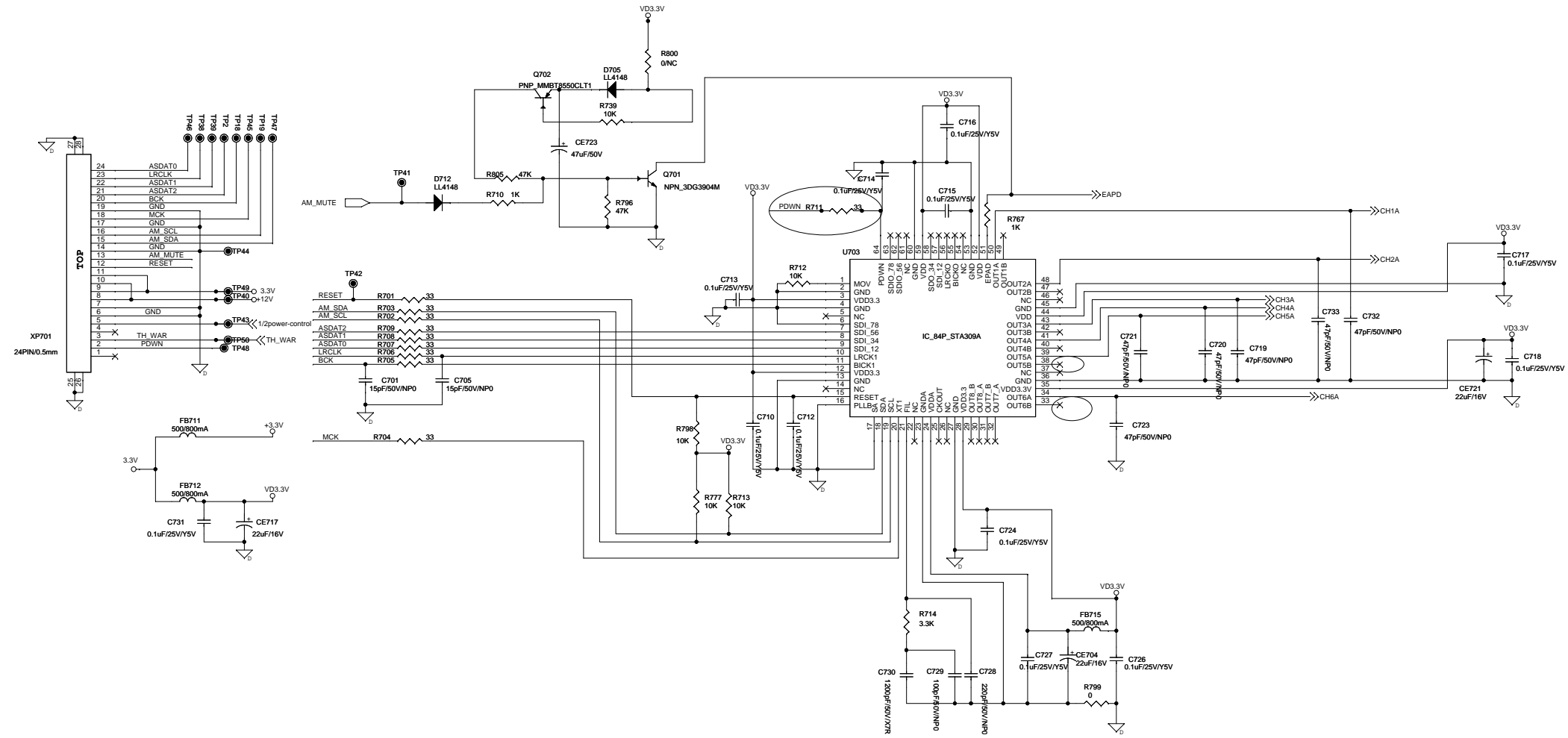
HTS3531 BLOCK / WIRING DIAGRAM



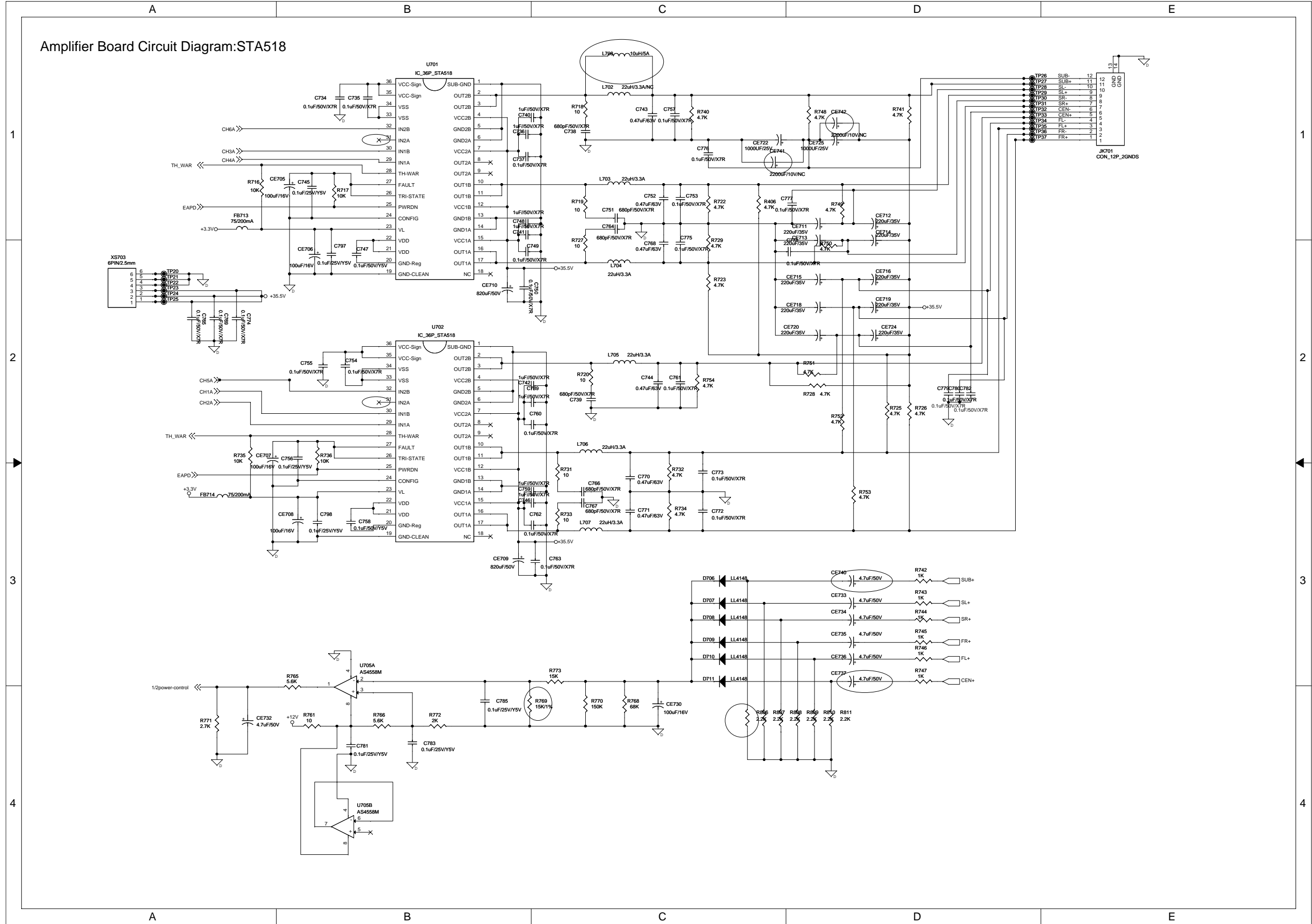
Front Control Board Circuit Diagram:



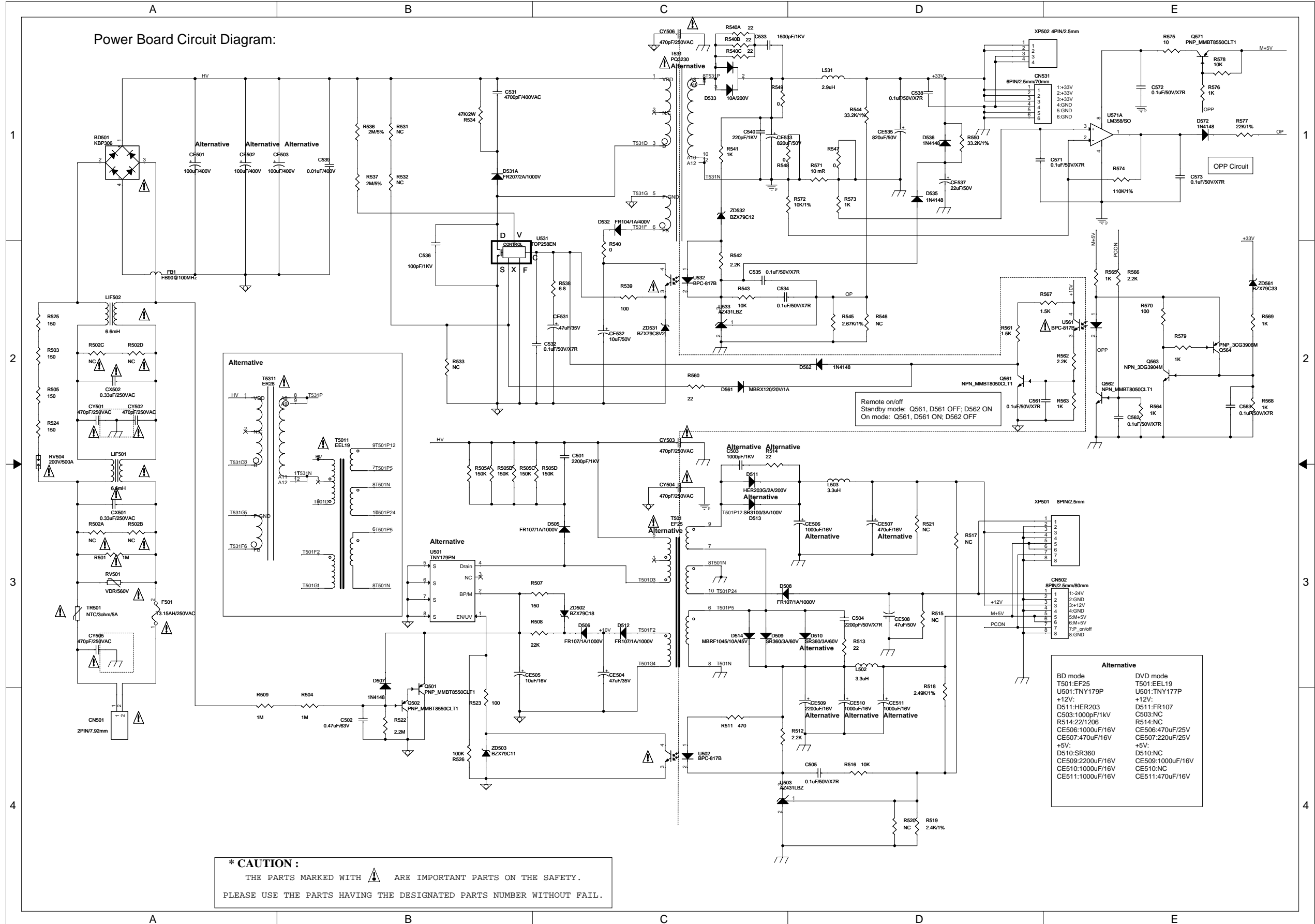
Amplifier Board Circuit Diagram: STA309A



Amplifier Board Circuit Diagram:STA518



Power Board Circuit Diagram:



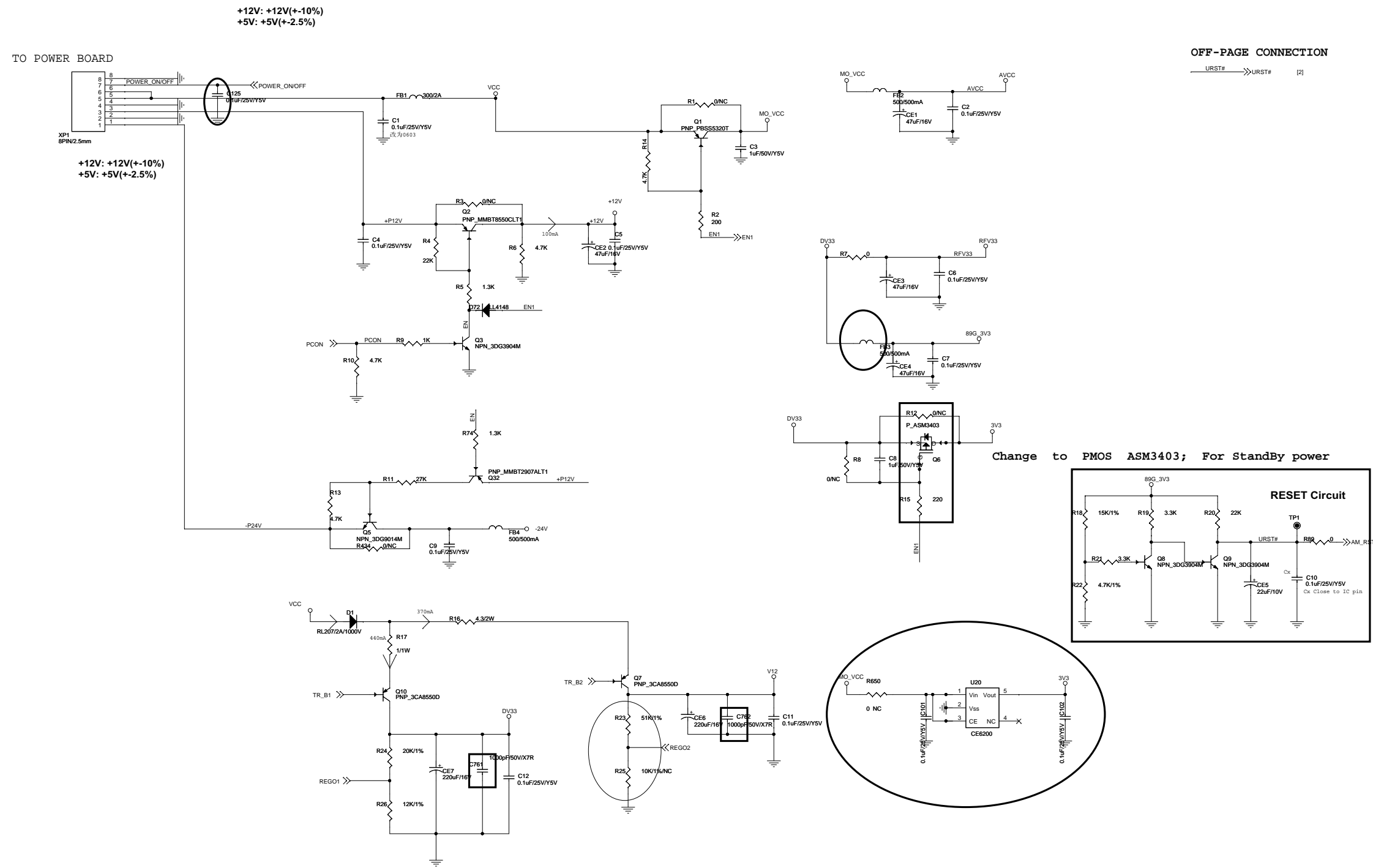
*** CAUTION :**
 THE PARTS MARKED WITH ⚠ ARE IMPORTANT PARTS ON THE SAFETY.
 PLEASE USE THE PARTS HAVING THE DESIGNATED PARTS NUMBER WITHOUT FAIL.

Alternative

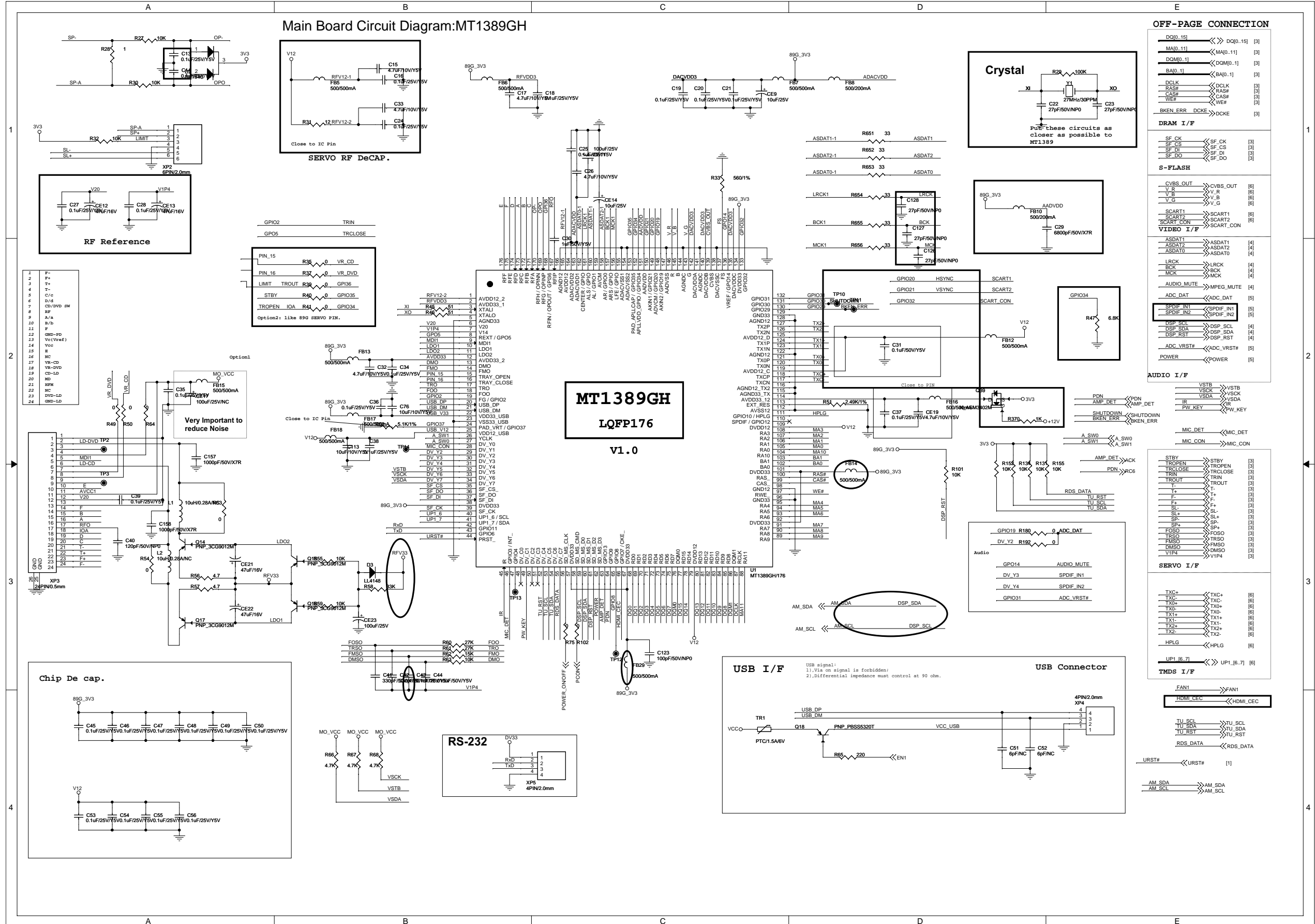
BD mode	DVD mode
T501:EF25	T501:EEL19
U501:TNY179P	U501:TNY177P
+12V:	+12V:
D511:HER203	D511:FR107
C503:1000pF/1kV	C503:NC
R514:22/1206	R514:NC
CE506:1000uF/16V	CE506:470uF/25V
CE507:470uF/16V	CE507:220uF/25V
+5V:	+5V:
D510:SR360	D510:NC
CE509:2200uF/16V	CE509:1000uF/16V
CE510:1000uF/16V	CE510:NC
CE511:1000uF/16V	CE511:470uF/16V

Remote on/off
 Standby mode: Q561, D561 OFF; D562 ON
 On mode: Q561, D561 ON; D562 OFF

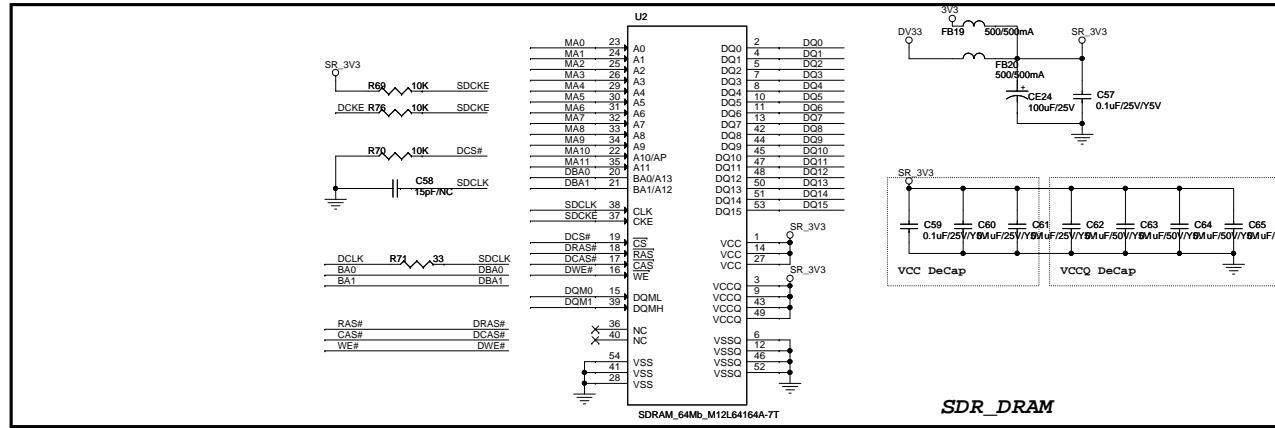
Main Board Circuit Diagram: Power Supply



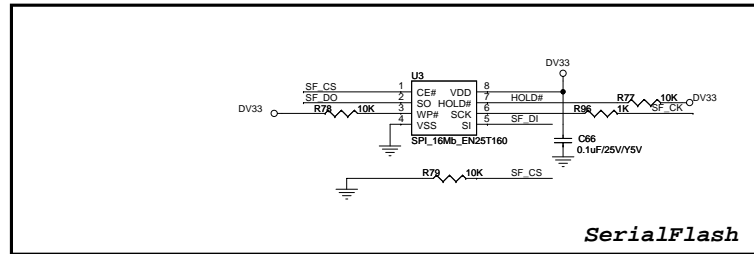
Main Board Circuit Diagram:MT1389GH



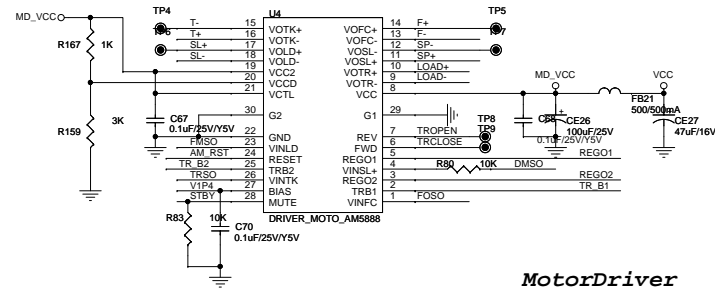
Main Board Circuit Diagram:SDRAM & FLASH



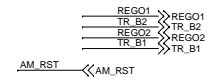
SDR_DRAM



SerialFlash



MotorDriver



MotorDriver

OFF-PAGE CONNECTION

DO[0..15]	<<>	DO[0..15]	[2]
MA[0..11]	<<>	MA[0..11]	[2]
DGM[0..1]	<<>	DGM[0..1]	[2]
BA[0..1]	<<>	BA[0..1]	[2]
DCLK	<<>	DCLK	[2]
RAS#	<<>	RAS#	[2]
CAS#	<<>	CAS#	[2]
WE#	<<>	WE#	[2]
DCKE	<<>	DCKE	[2]

DRAM I/F

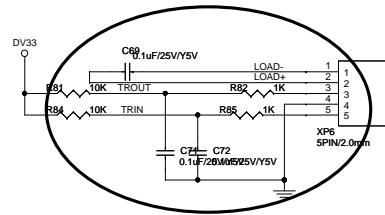
SF_CK	<<>	SF_CK	[2]
SF_CS	<<>	SF_CS	[2]
SF_DI	<<>	SF_DI	[2]
SF_DO	<<>	SF_DO	[2]

S-FLASH

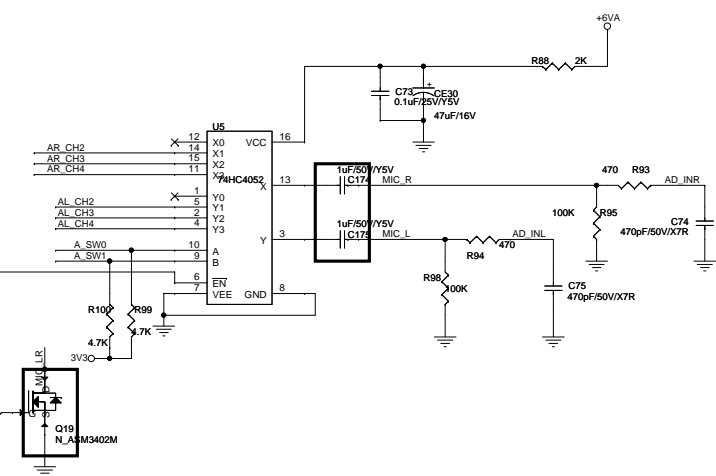
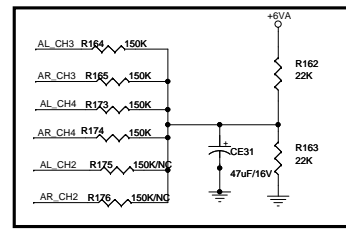
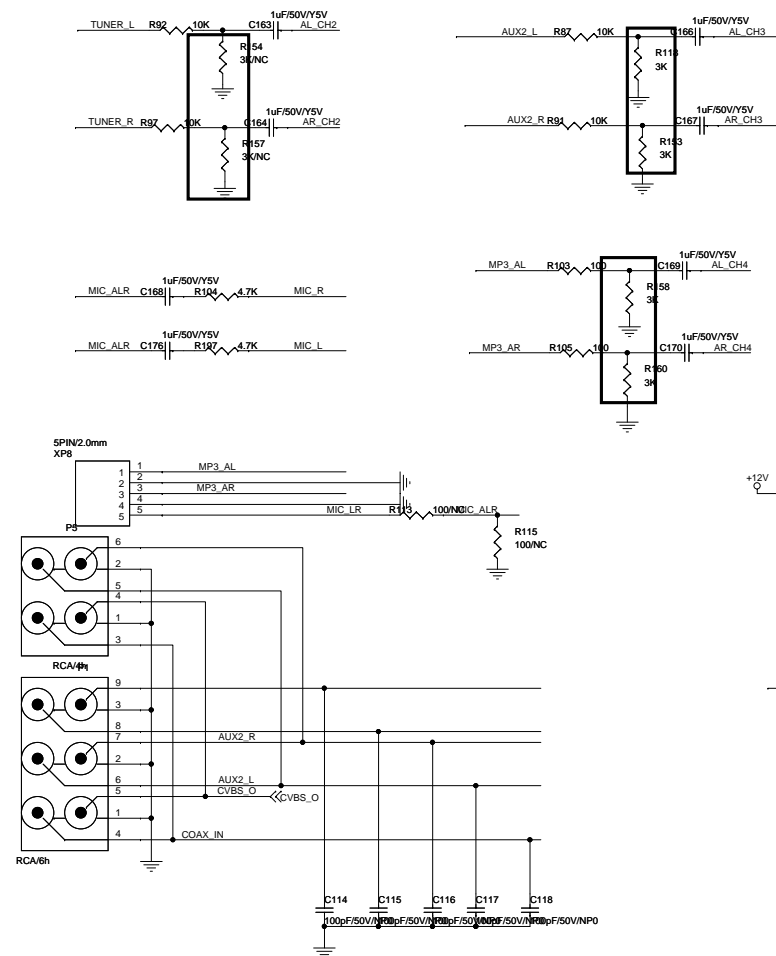
STBY	<<>	STBY	[2]
TROPEN	<<>	TROPEN	[2]
TRCLOSE	<<>	TRCLOSE	[2]
TRIN	<<>	TRIN	[2]
TROUT	<<>	TROUT	[2]
T-	<<>	T-	[2]
T+	<<>	T+	[2]
F-	<<>	F-	[2]
F+	<<>	F+	[2]
SL-	<<>	SL-	[2]
SL+	<<>	SL+	[2]
SP-	<<>	SP-	[2]
SP+	<<>	SP+	[2]
FOSO	<<>	FOSO	[2]
TRSO	<<>	TRSO	[2]
FMSO	<<>	FMSO	[2]
DMSO	<<>	DMSO	[2]
VIP4	<<>	VIP4	[2]

SERVO I/F

TRIN	<<>	TRIN	[2]
------	-----	------	-----



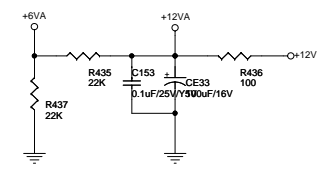
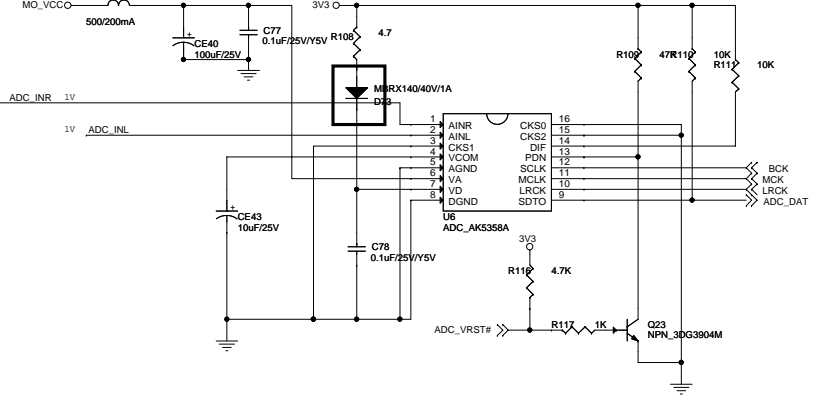
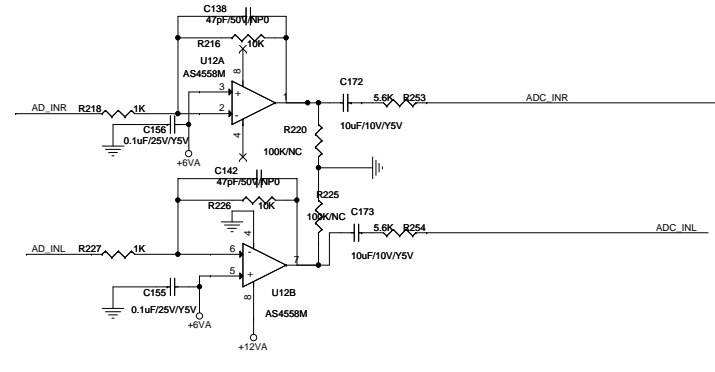
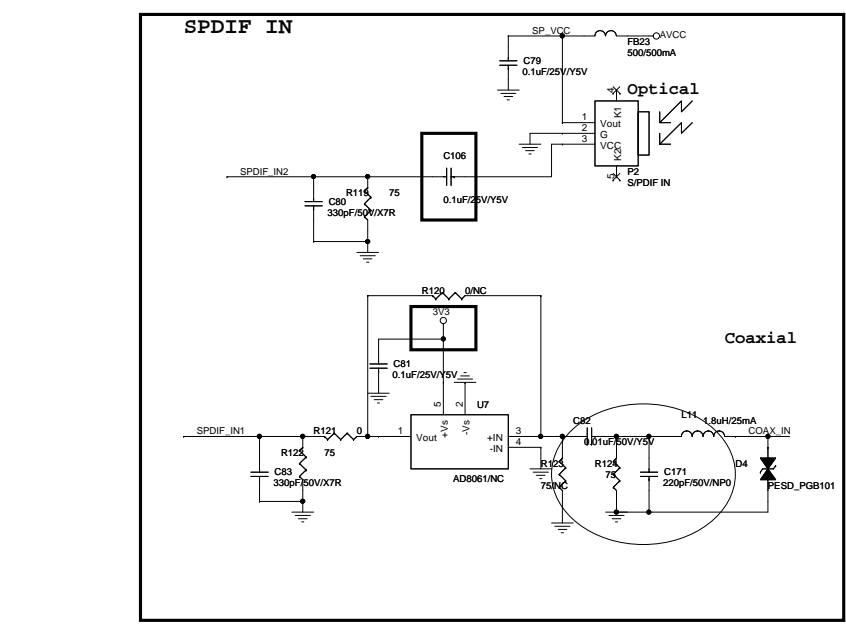
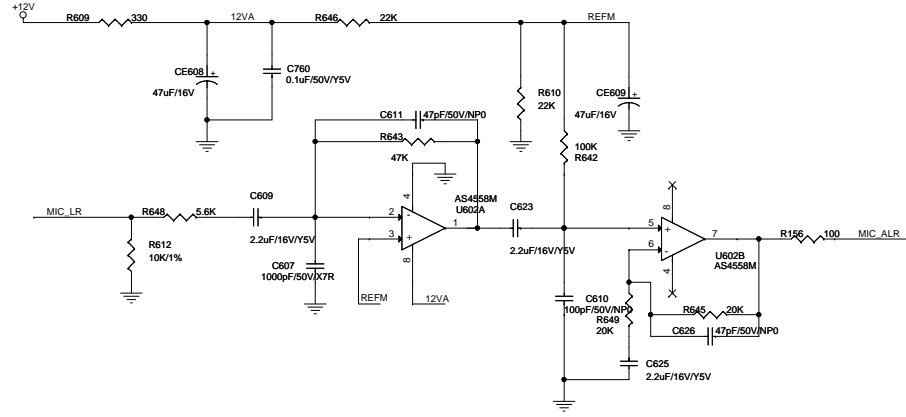
Main Board Circuit Diagram: AUDIO IN



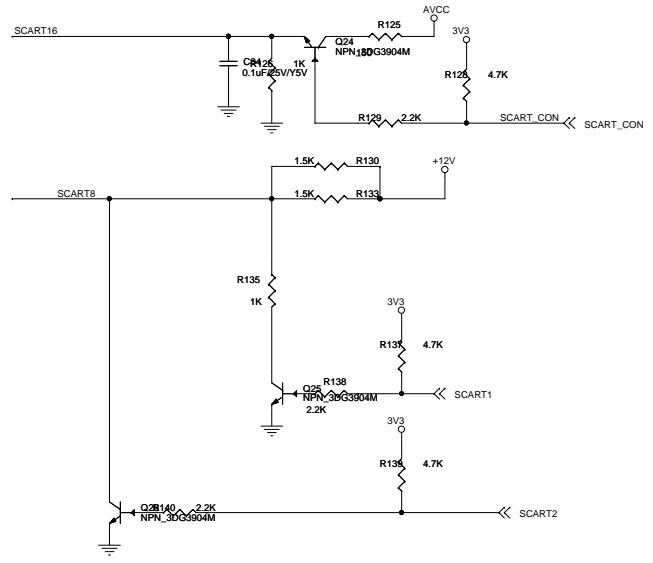
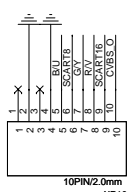
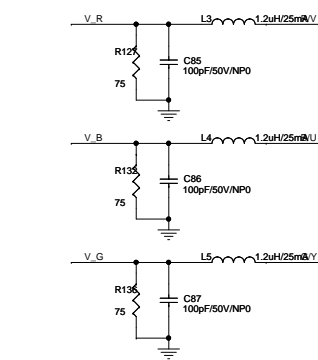
OFF-PAGE CONNECTION

MCK	MCK	[4]
LRCK	LRCK	[4]
BCK	BCK	[4]
ADC_DAT	ADC_DAT	[2]
ADC_VRST#	ADC_VRST#	[2]
TUNER_L	TUNER_L	[8]
TUNER_R	TUNER_R	[8]
ADC & SW I/F		
A_SW0	A_SW0	
A_SW1	A_SW1	
SPDIF_IN1	SPDIF_IN1	[2]
SPDIF_IN2	SPDIF_IN2	[2]
SPDIF D_x I/F		

Change to NMOS ASM3402

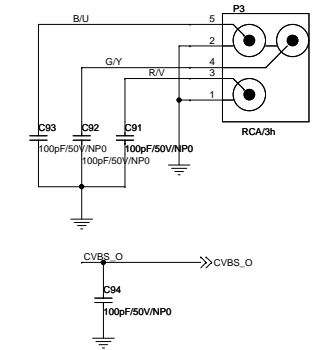
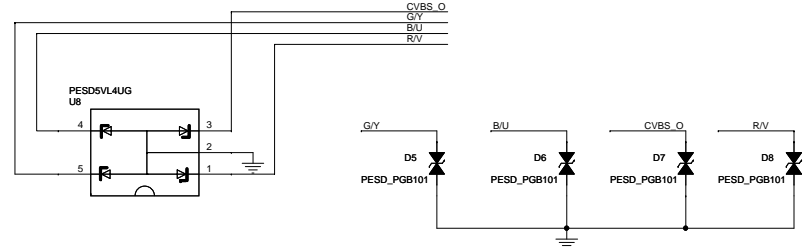
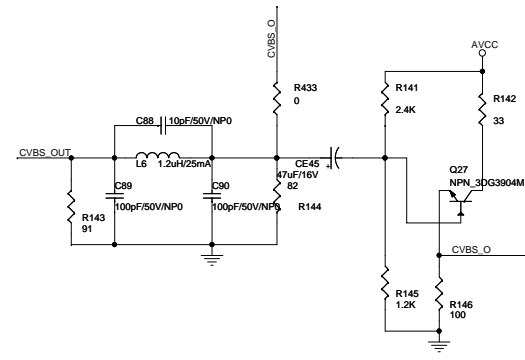


Main Board Circuit Diagram:VIDEO I/F

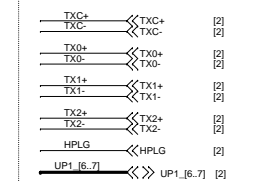
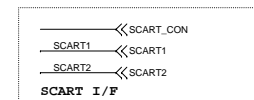
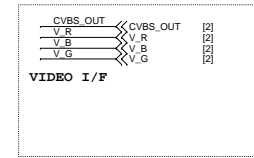


SCART_CON	SCART16
0	CVBS OUT
1	RGB OUT

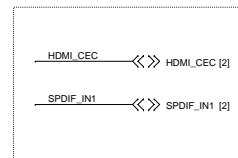
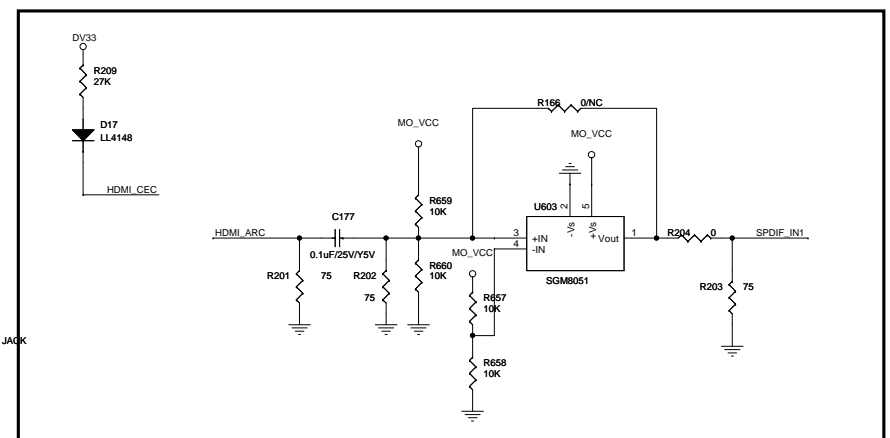
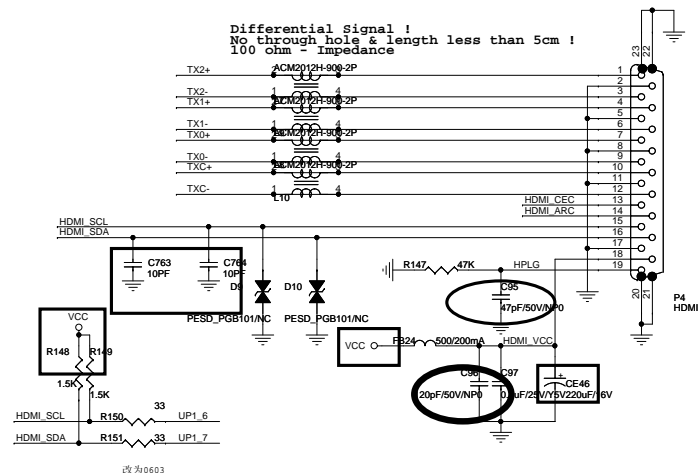
SCART2	SCART1	SCART8
1	×	0(
0	1	6V(16:9)
0	0	9.5-12V(4:3)



OFF-PAGE CONNECTION

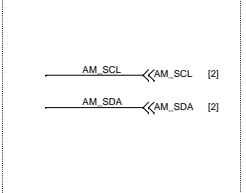
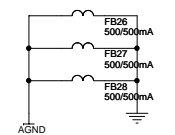
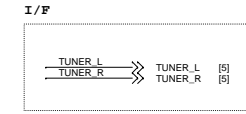
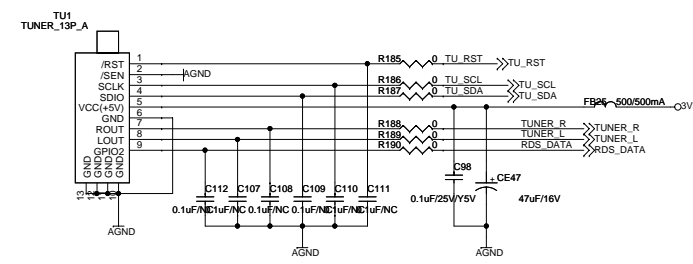
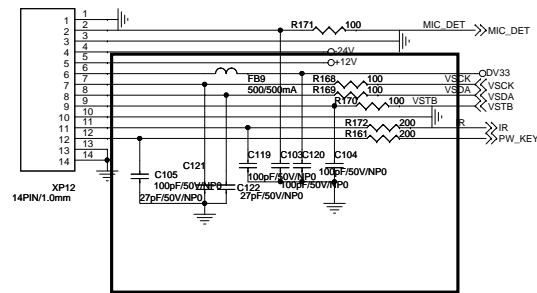
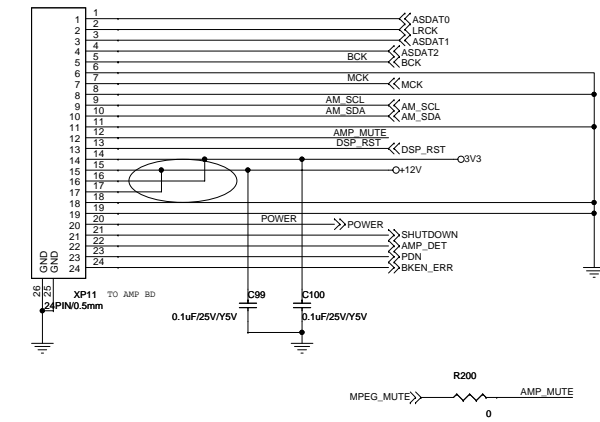


Differential signal!
No through hole & length less than 5cm!
100 ohm - Impedance

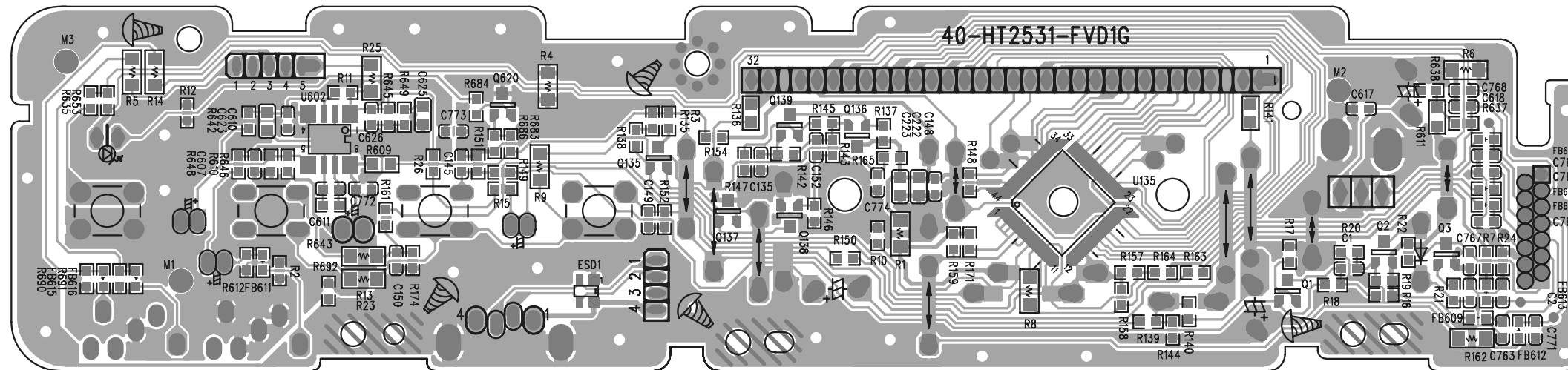


改为0603

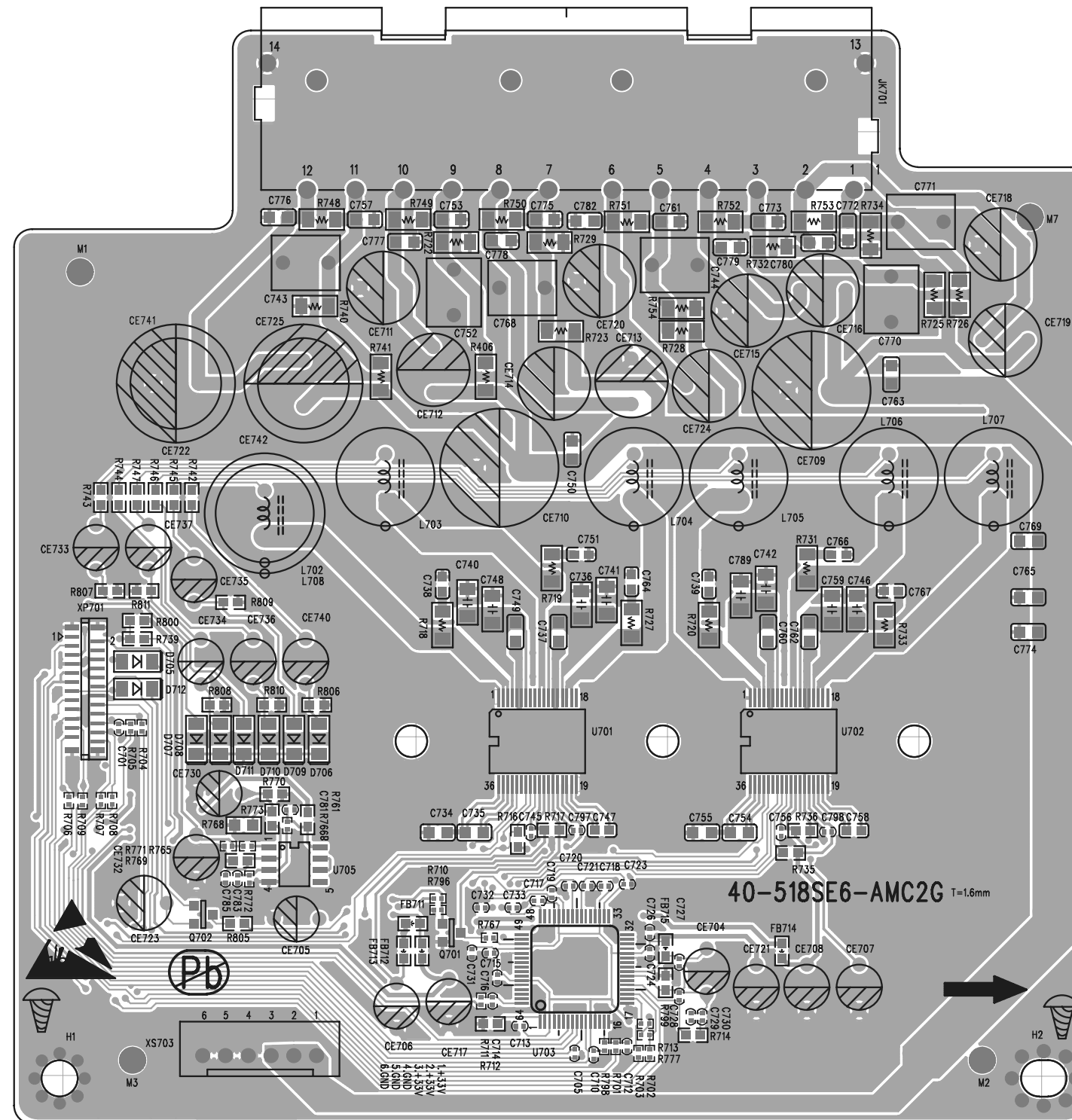
Main Board Circuit Diagram:AMP / FB / TUNER



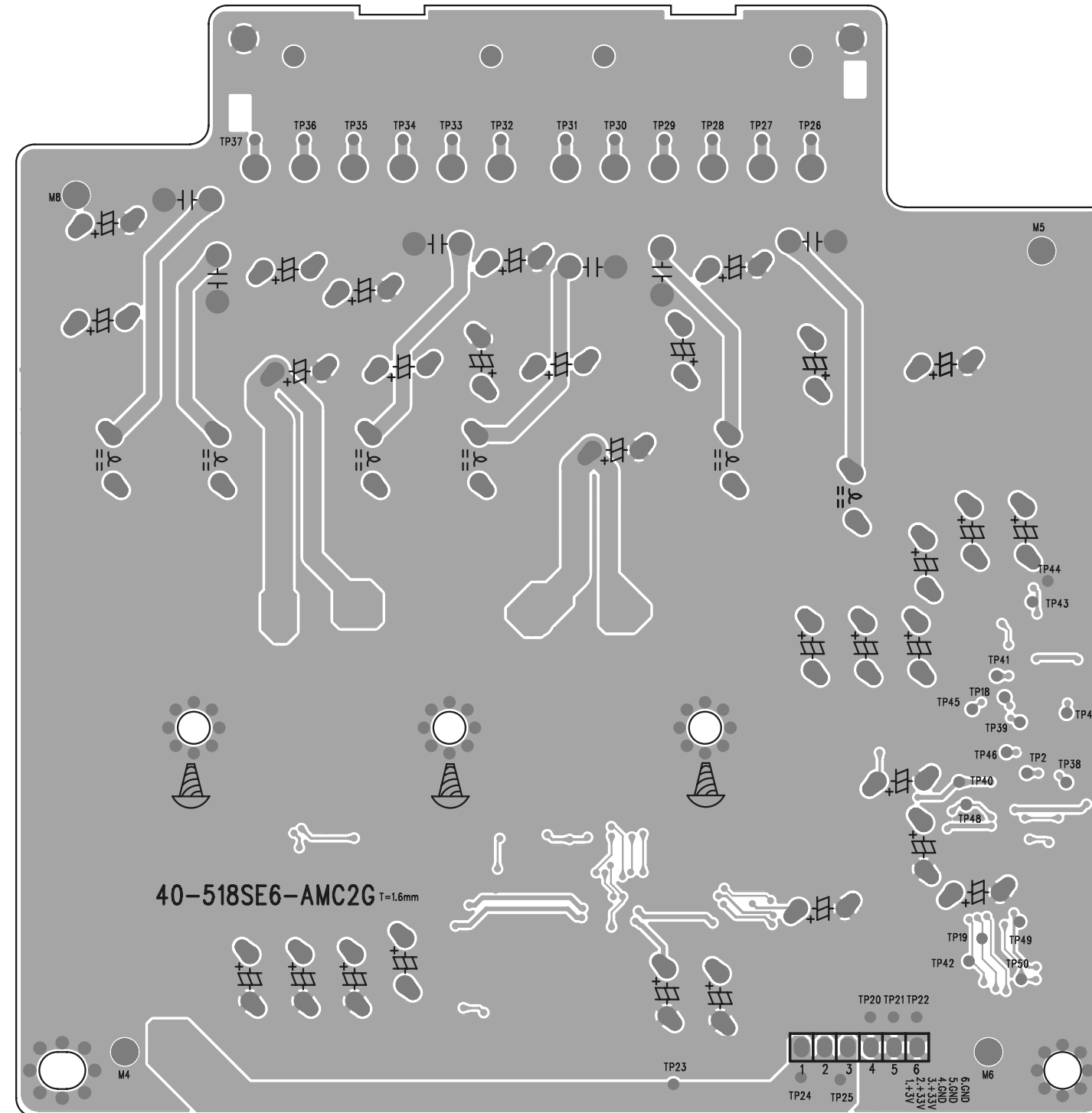
Front Control Board Print-layout (top side):



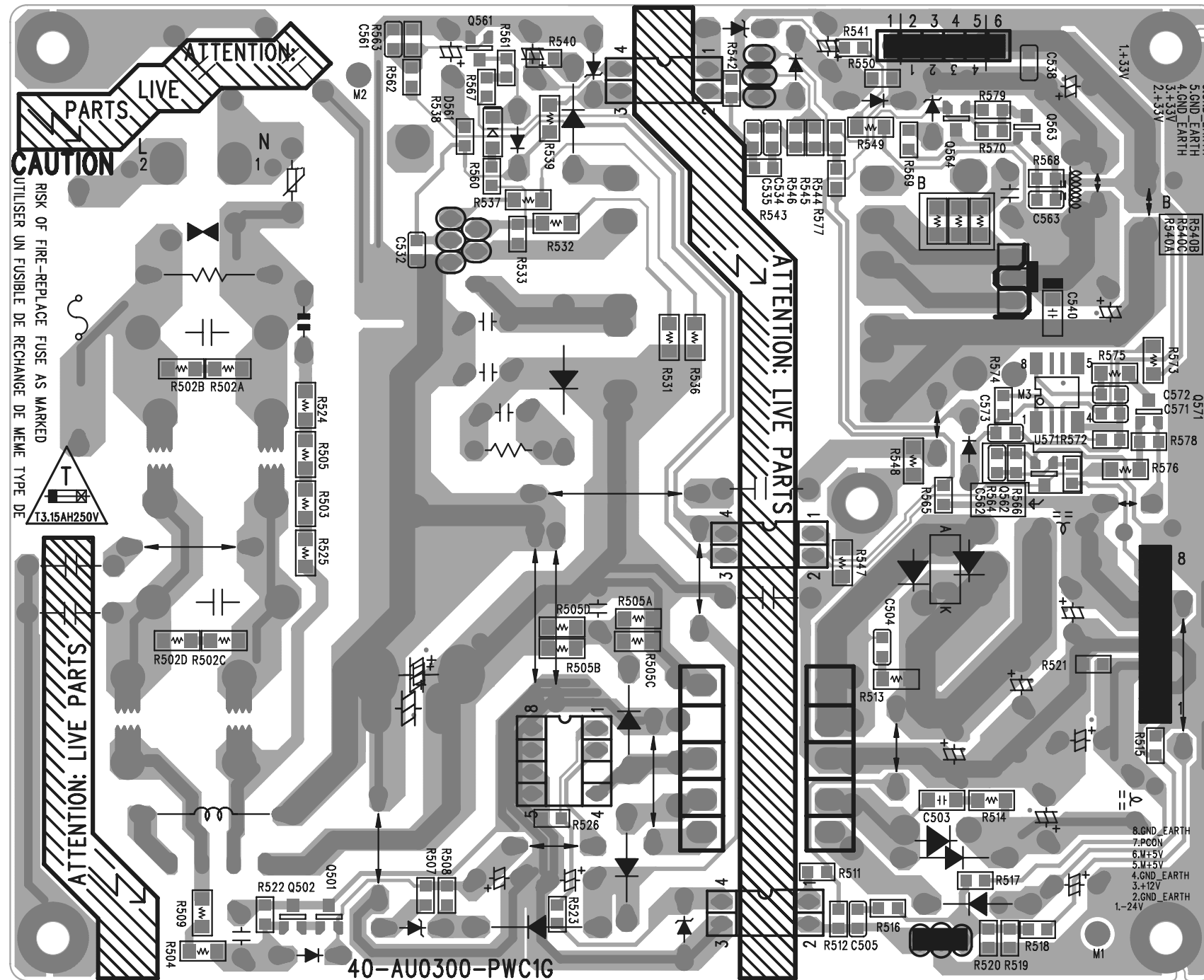
Amplifier Board Print-layout (top side):



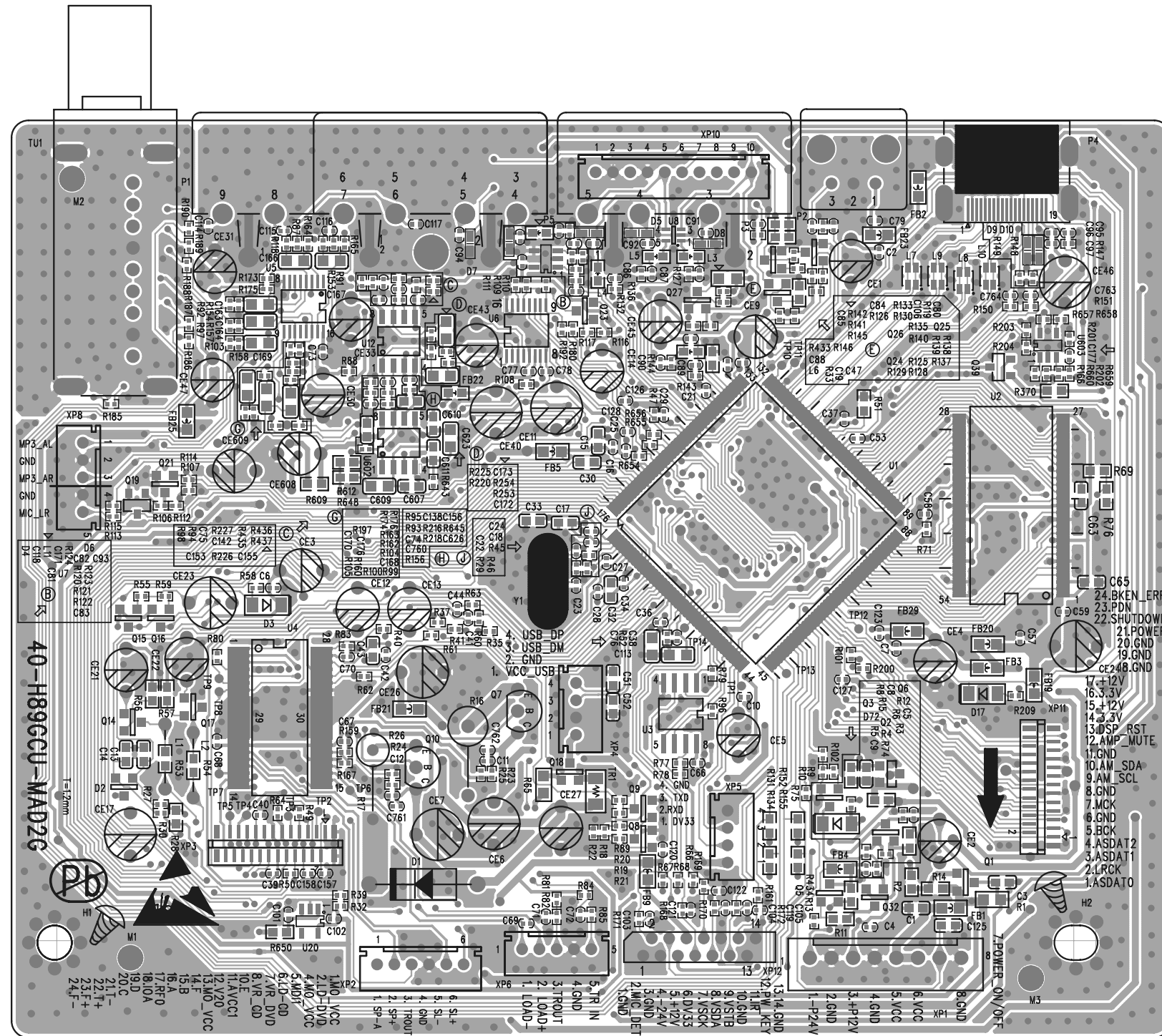
Amplifier Board Print-layout (bottom side):



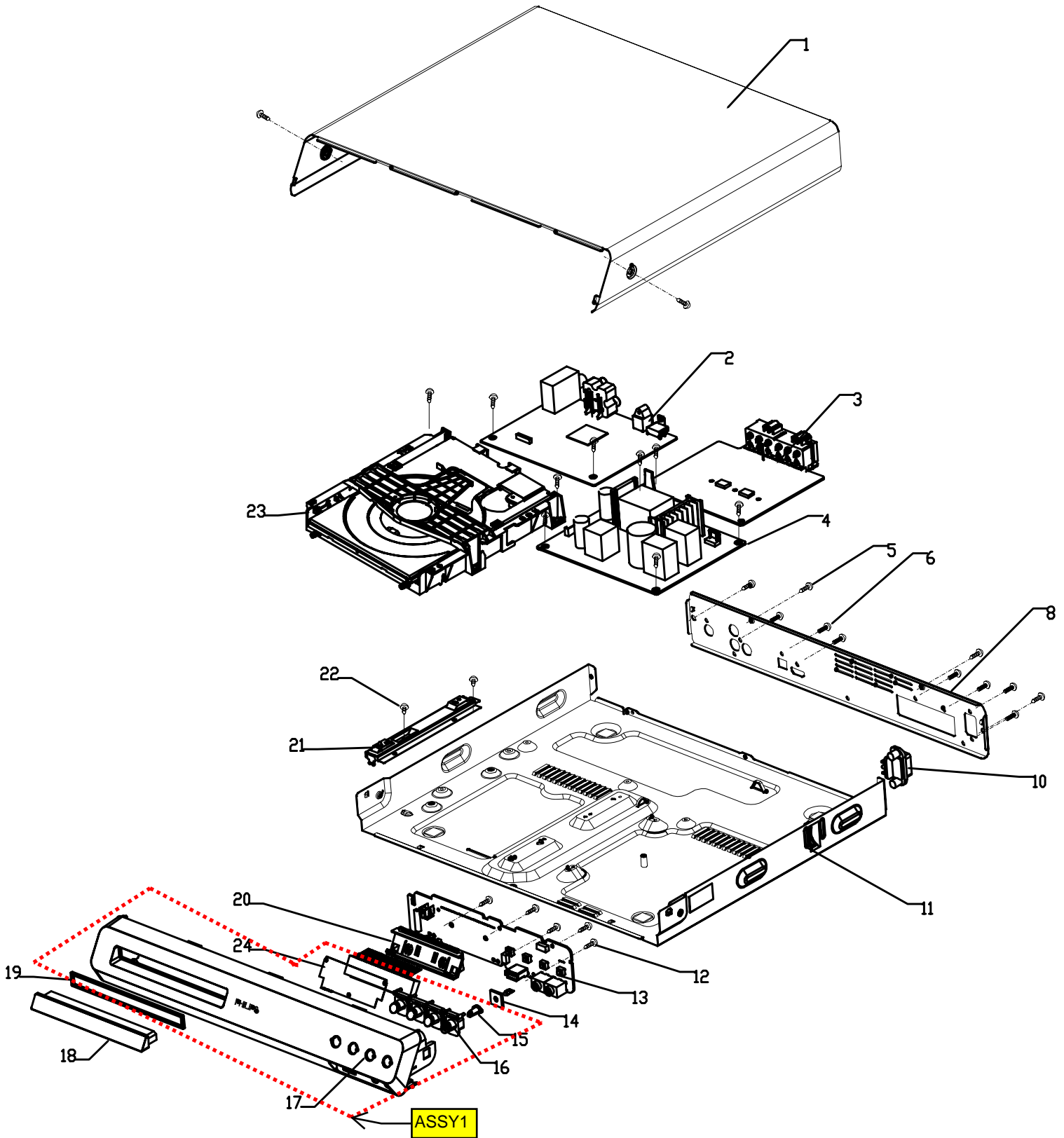
Power Supply Print-layout (top side):



Main Board Print-layout (top side):



EXPLODED VIEW FOR HTS3531/12/51/94/98/F7/55/78/93



This is general mechanical exploded view .Please refer to the model set for the detailed information.

ASSY1 includes components:15,16,17,19,24

REVISION LIST

Version 1.0

* Initial release for HTS3531/12/51/94/98

Version 1.1

*Add HTS3531/F7

Version 1.2

*Add HTS3531/55/78

Version 1.3

*Add HTS3531/93