

Service
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Service Manual

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Published by Helen-RY 1207 Service Audio Printed in The Netherlands Subject to modification

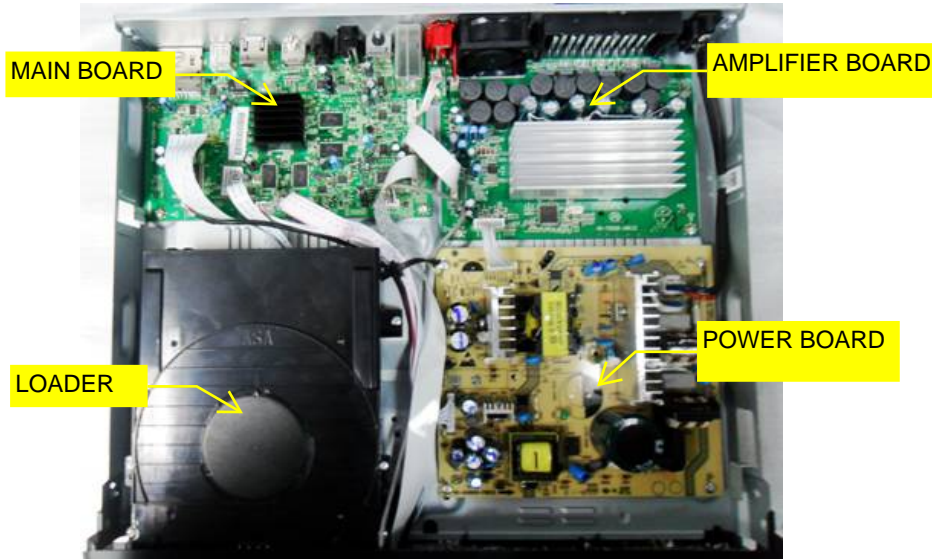
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Version 1.0



PHILIPS

PCB BOARD LOCATION:



Version Variation

Type/Versions Features	HTS3593	
	/12	/51
Power supply rating:220-240V ,50Hz	X	X
Power consumption:110W	X	X

Repair Scenario Matrix

Type/Versions Board in used	HTS3593	
	/12	/51
Main Board	Bd	C
Front Control Board	Bd	Bd
Amplifier Board	C	C
Power Board	C	C

*Bd:Board Level Replacement

*C:Component Level Repair

HTS3593/12/51:

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
- RMVB (Available only in Asia Pacific and China)

File formats

- Audio: .aac, .mka, .mp3, .wma, .wav, .mp4, .m4a
- Video:
 - .avi, .divx, .mp4, .mkv, .asf, .mpg, .mpeg,
 - .wmv, .rmvb, .rm (Available only in Asia Pacific and China)
- 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)

.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)

.asf 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)

.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: 600W RMS (30% THD)
- Frequency response: 20 Hz-20 kHz / ± 3 dB
- Signal-to-noise ratio: > 65 dB (CCIR) / (A-weighted)
- Input sensitivity:
 - AUX: 2V
 - Music iLink: 1V

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 > 45 dB
- Frequency response: FM 180 Hz-12.5 kHz / ± 3 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: 110-240 V~, 50-60 Hz
- Power consumption: 110 W
- Standby power consumption: 0.9 W - 0.5 W

- Dimensions (WxHxD): 360 x 58 x 325 mm
- Weight: 2.4 kg

Subwoofer

- Output power: 100 W RMS (30% THD)
- Impedance: 4 ohm
- Speaker drivers: 133 mm (5.25") woofer
- Dimensions (WxHxD): 160 x 267.5 x 265 mm
- Weight: 2.61 kg

Speakers

Center speaker:

- Output power: 100 W RMS (30% THD)
- Speaker impedance: 4 ohm
- Speaker drivers: 1 x 63.5 mm (2.5") woofer
- Dimensions (WxHxD): 160 x 85 x 95 mm
- Weight: 0.26 kg

Front/Rear speaker:

- Output power: 4 x 100 W RMS (30% THD)
- Speaker impedance: 4 ohm
- Speaker drivers: 1 x 63.5 mm (2.5") woofer
- Dimensions (WxHxD):
 - Satellite (small) speakers: 85 x 160 x 95 mm
 - Tallboy (tall) speakers: 240 x 1007 x 240 mm
- Weight:
 - Satellite (small) speakers: 0.34 kg each
 - Tallboy (tall) speakers: 1.57 Kg each

Remote control batteries

- 2 x AAA-R03-1.5 V

Laser

- Laser Type (Diode): InGaN/AlGaIn (BD), AlGaInP (DVD/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

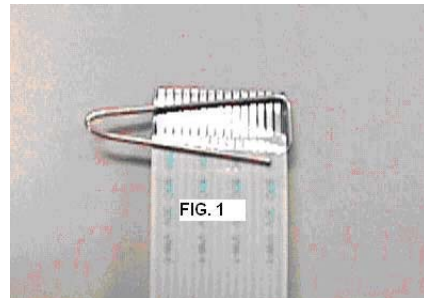
CHARGED CAPACITORS ON THE SERVO BOARD MAY DAMAGE THE DRIVE ELECTRONICS WHEN CONNECTING A NEW DRIVE. THAT'S WHY, BESIDES THE SAFETY MEASURES LIKE

- SWITCH OFF POWER SUPPLY
- ESD PROTECTION

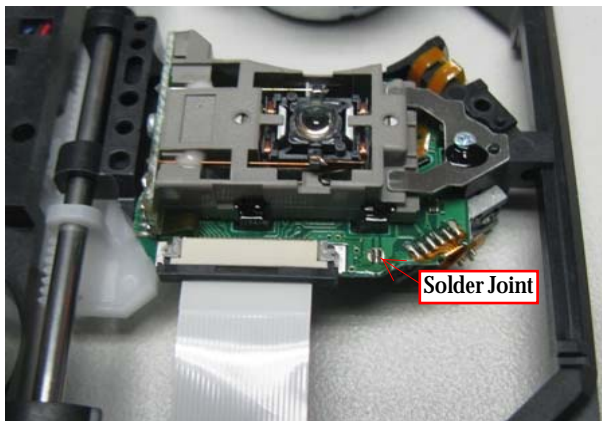
ADDITIONAL ACTIONS MUST BE TAKEN BY THE REPAIR TECHNICIAN.

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 (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:

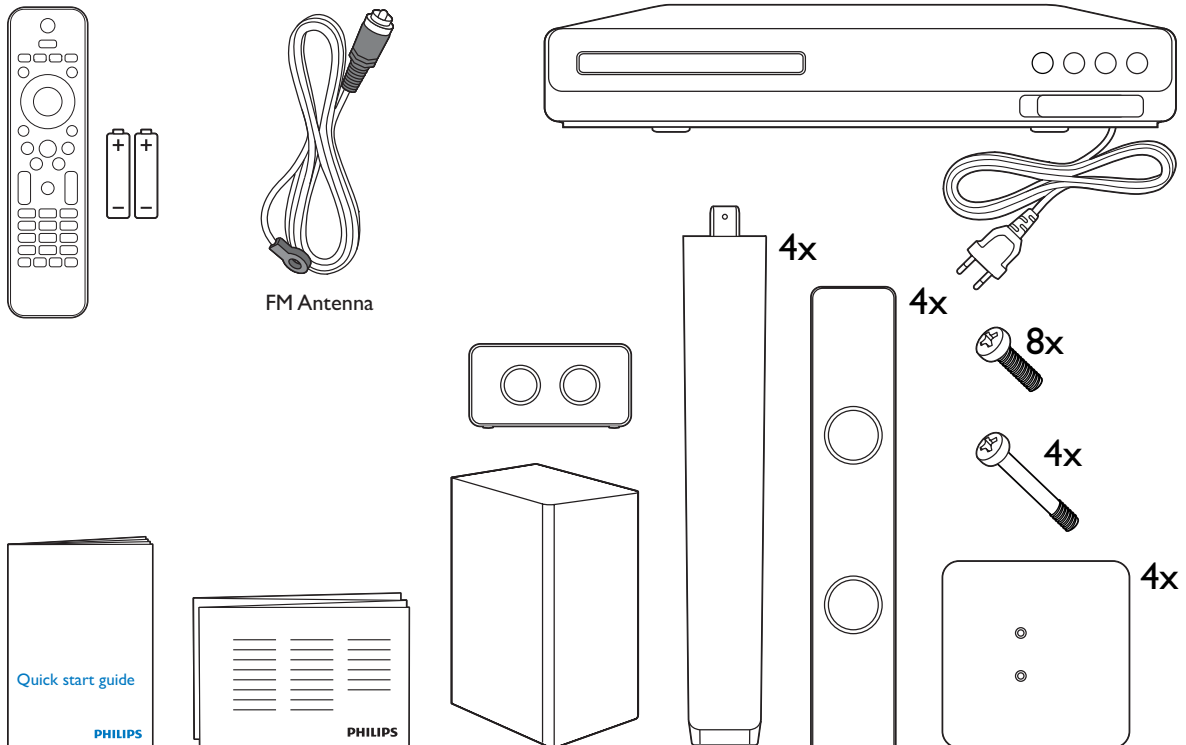
BGA-de-/soldering (+ baking instructions)
Heating-profiles of BGAs and other ICs used in Philips-sets

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
- CS** Před použitím produktu si přečtěte doprovodné bezpečnostní informace
- 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 turvallisuustiedot ennen tuotteen käyttöä
- FR** Avant d'utiliser votre produit, lisez l'intégralité des consignes de sécurité jointes
- HU** A termék használatá elótt alaposan olvassa el a mellékelt biztonsági tudnivalókat
- IT** Prima di utilizzare il prodotto, leggere tutte le relative informazioni sulla sicurezza

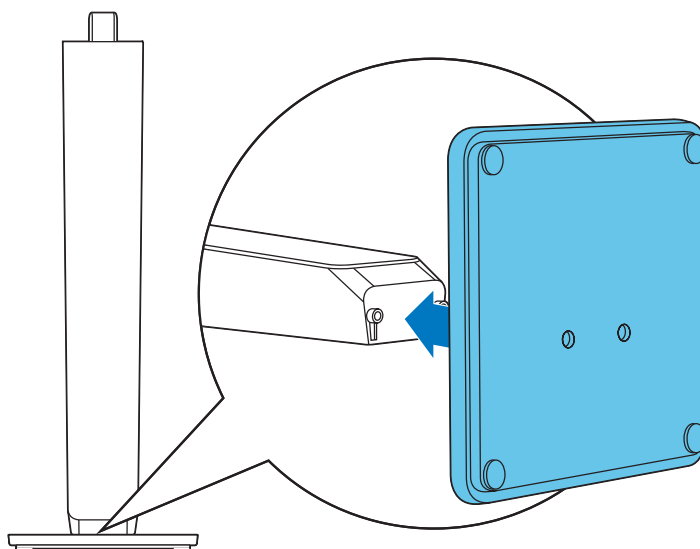
- NL** Lees voordat u het product gaat gebruiken eerst alle bijbehorende veiligheidsinformatie
- NO** Lees voordat u het product gaat gebruiken eerst alle bijbehorende veiligheidsinformatie
- PL** Przed rozpoczęciem korzystania z produktu należy zapoznać się z informacjami dotyczącymi bezpieczeństwa
- PT** Antes de utilizar o produto, leia todas as informações de segurança que o acompanham
- 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 maklumat keselamatan yang disertakan
- SV** Innan du använder produkten ska du läsa all tillhörande säkerhetsinformation
- TR** Ürününüzü kullanmadan önce ilgili tüm güvenlik bilgilerini okuyun



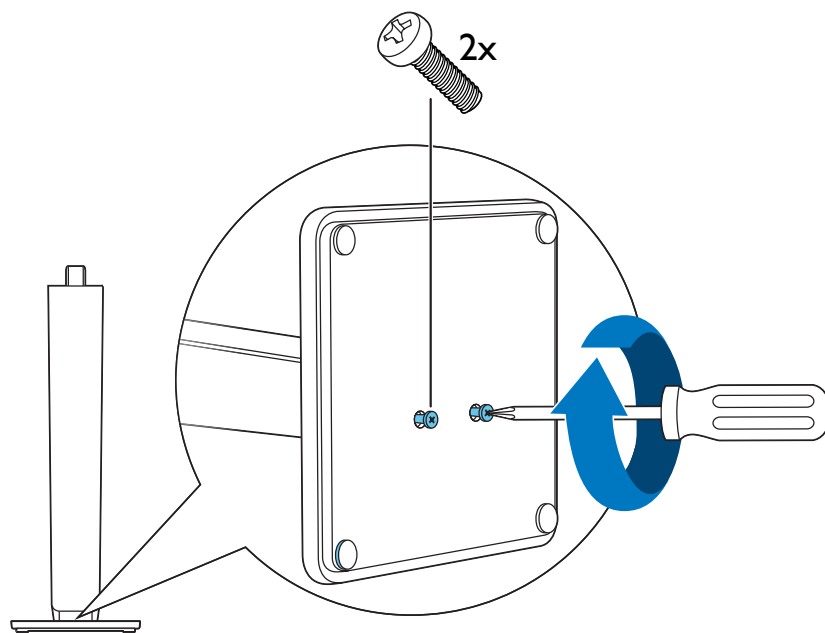
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EN Stand mount the speakers**CS** Nainstalujte reproduktory**DA** Monter højttalerne på fod**DE** Montage der Lautsprecher auf den Standfüßen**EL** Στήστε τα ηχεία πάνω στις βάσεις**ES** Monta los altavoces en la pared**FI** Kaiuttimien kiinnitys jalustaan**FR** Monter le pied des enceintes**HU** A hangsugázzók állványra szerelése**IT** Montaggio degli altoparlanti su supporto**NL** Monteer de luidsprekers op de standaarden**NO** Montere høyttalerne på stativ**PL** Montaż głośników na podstawie**PT** Colocar os altifalantes no suporte**RO** Montați pe suport boxe**SK** Montáž reproduktorov na stojan**SV** Montera högtalarna på stativ**TR** Hoparlörleri kaideye monte edin

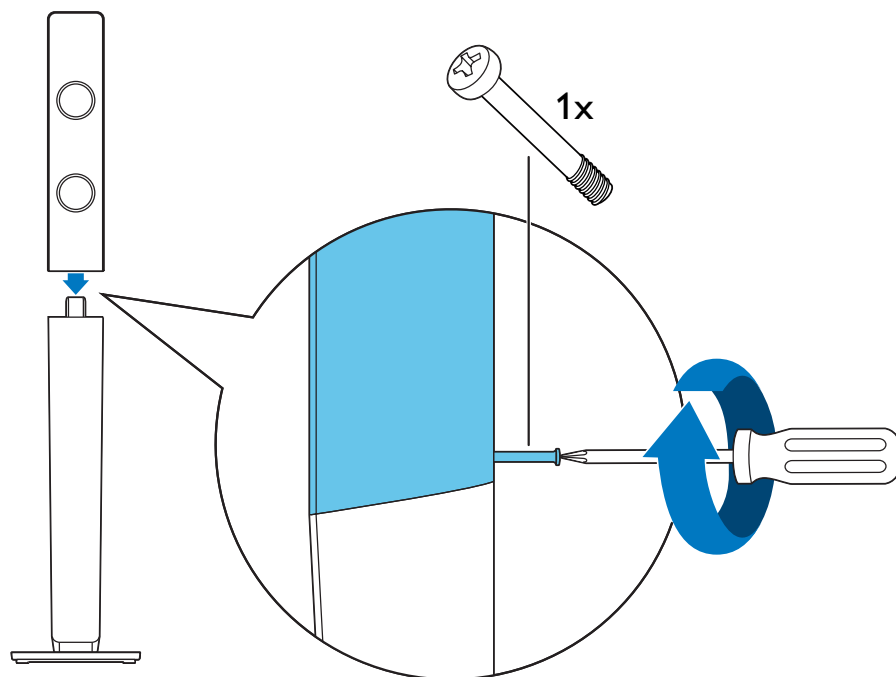
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3



2

EN Connect the home theater

CS Připojte domácí kino

DA Tilslut hjemmebiografen

DE Anschließen des Home Entertainment-Systems

EL Συνδέστε το home cinema

ES Conecta el sistema de cine en casa

FI Kotiteatterin liittäminen

FR Connecter les enceintes au Home Cinéma

HU A házimozi csatlakoztatása

IT Collegamento del sistema Home Theater

NL Sluit de home cinema aan

NO Koble til hjemmekinoanlegget

PL Podłączenie zestawu kina domowego

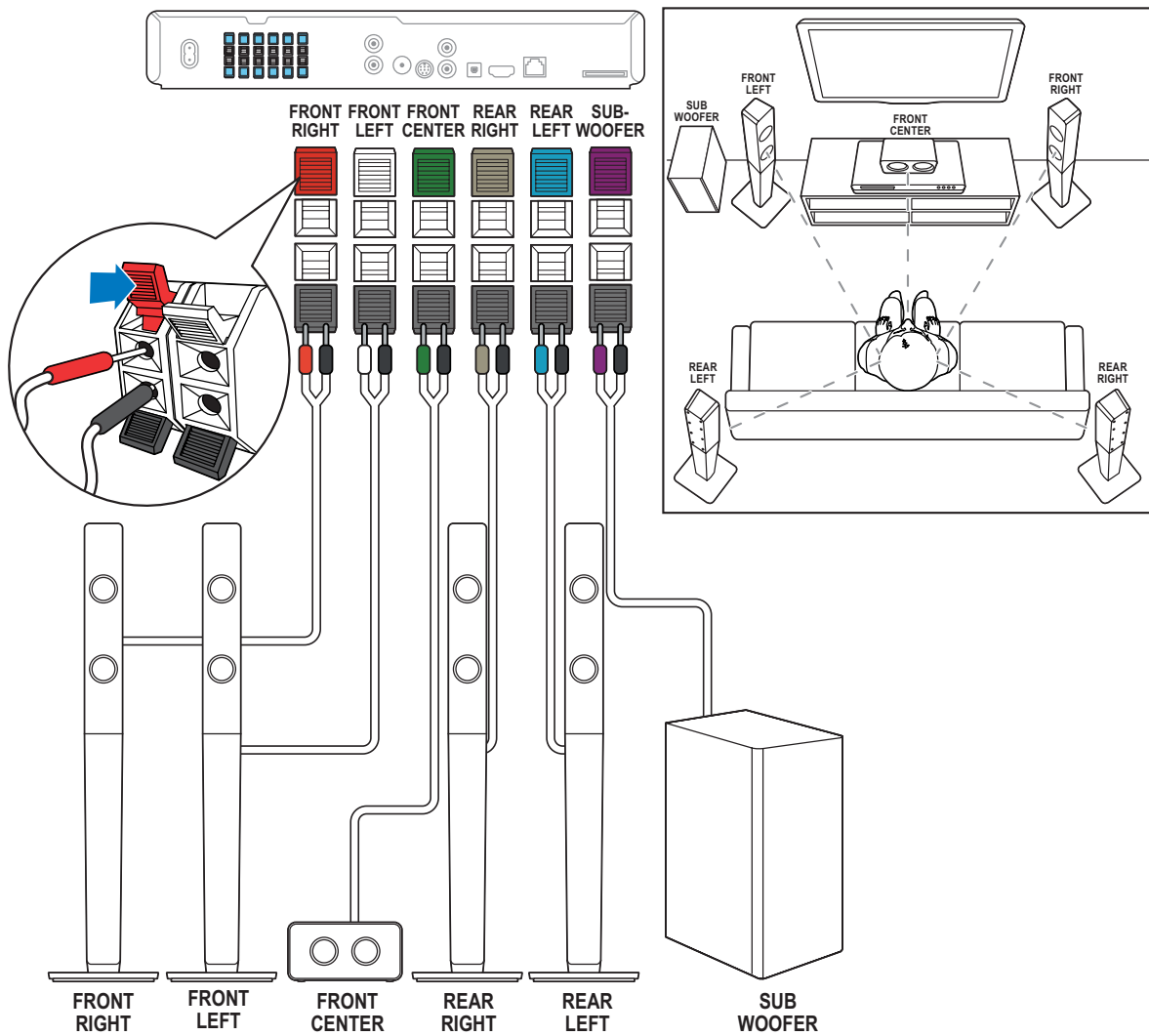
PT Efectuar as ligações ao sistema de cinema em casa

RO Conectați sistemul home theater

SK Pripojenie k domácemu kinu

SV Anslut hemmabiosystemet

TR Ev sinemasını bağlayın



3

EN Connect to TV in one of these ways

CS Připojení k televizoru provedte jedním z následujících způsobů

DA Tilslut til TV på en af følgende måder

DE Herstellen einer Verbindung mit dem Fernseher über einer dieser Möglichkeiten

EL Συνδεθείτε στην τηλεόραση με έναν από τους παρακάτω τρόπους

ES Conexión al televisor de una de estas maneras

FI Liitä televisioon jommallakummalla tavalla

FR Connectez-vous au téléviseur via l'une de ces méthodes

HU Csatlakoztassa a tv-készülékhez az alábbi módok egyike szerint

IT Eseguì il collegamento al TV in uno dei modi indicati di seguito

NL Maak op een van de volgende manieren verbinding met de TV

NO Koble til TV'en på en av følgende måter

PL Podłącz do telewizora przy użyciu jednej z tych metod

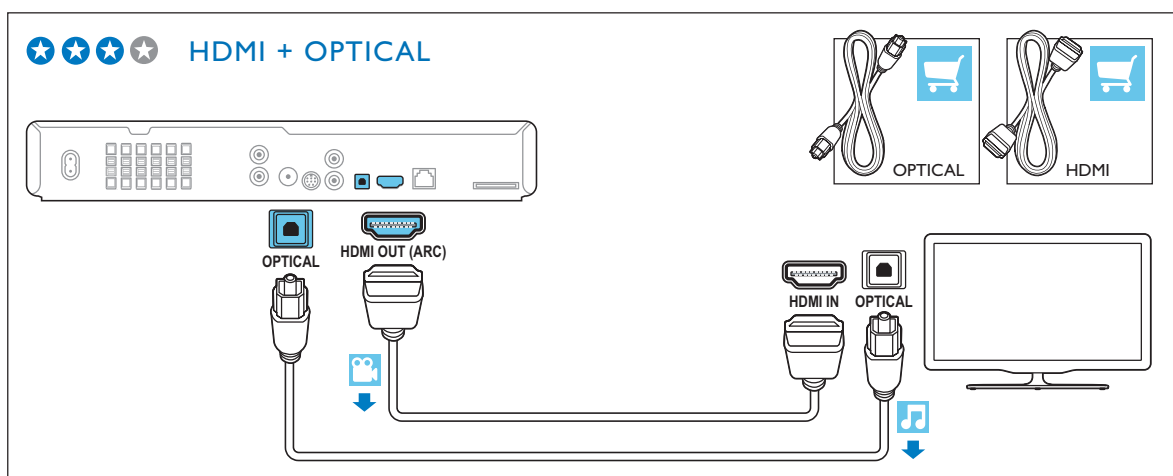
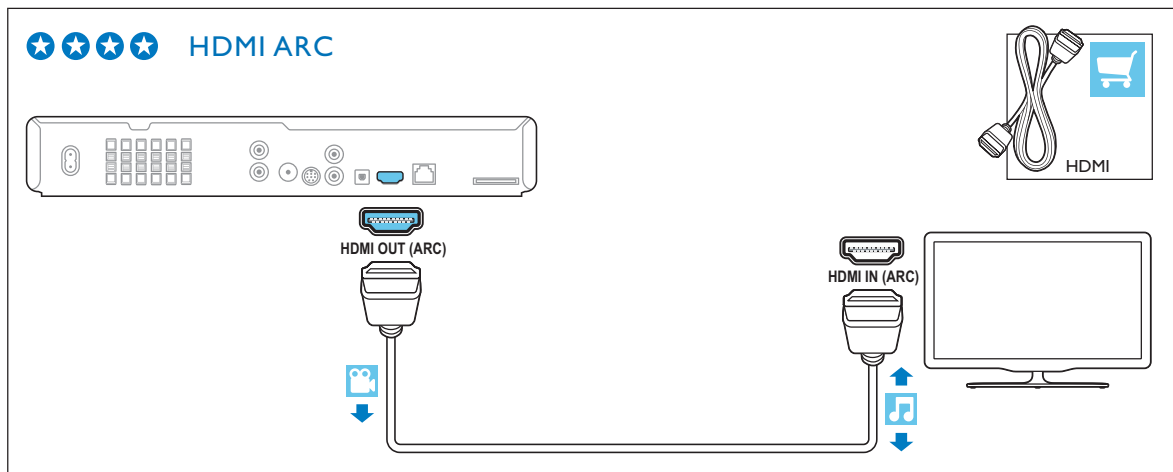
PT Ligar ao televisor de uma destas formas

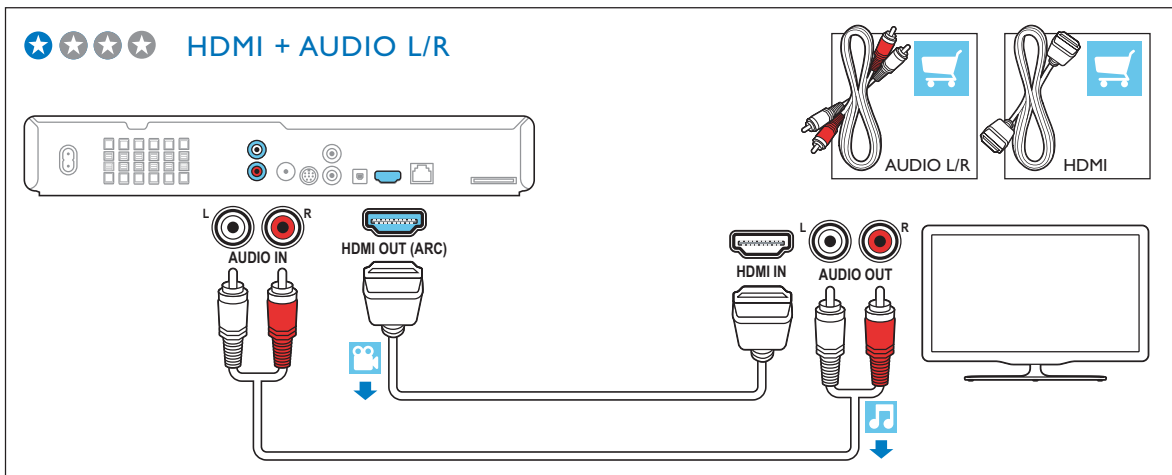
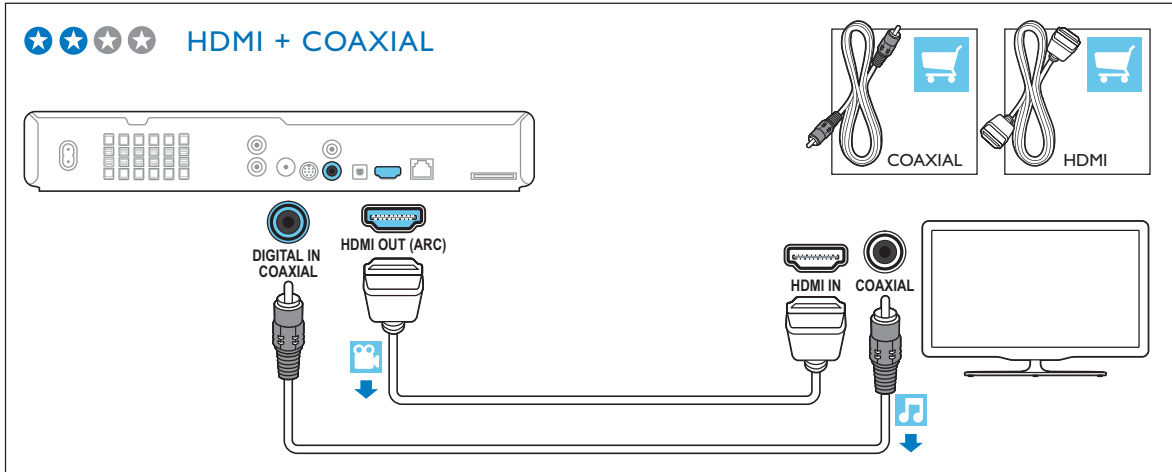
RO Conectați-vă la televizor într-unul din aceste moduri

SK Pripojte zariadenie k televizoru jedným z týchto spôsobov

SV Anslut till TV:n på något av följande sätt

TR Aşağıdaki yöntemlerden biriyile TV'ye bağlanın





4

EN Switch on the home theater

CS Zapněte domácí kino

DA Tænd for hjemmebiografen

DE Einschalten des Home Entertainment-Systems

EL Ενεργοποιήστε το home cinema

ES Enciende el sistema de cine en casa

FI Virran kytkeminen kotiteatteriin

FR Mettre sous tension le Home Cinéma

HU A házimozi bekapcsolása

IT Accensione del sistema Home Theater

NL Schakel de home cinema in

NO Slå på hjemmekinoanlegget

PL Włączanie zestawu kina domowego

PT Ligar o sistema de cinema em casa

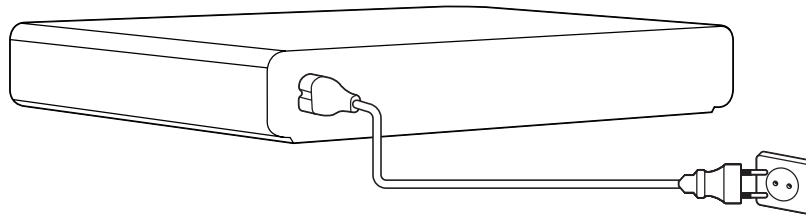
RO Porniți sistemul home theater

SK Zapnutie domáceho kina

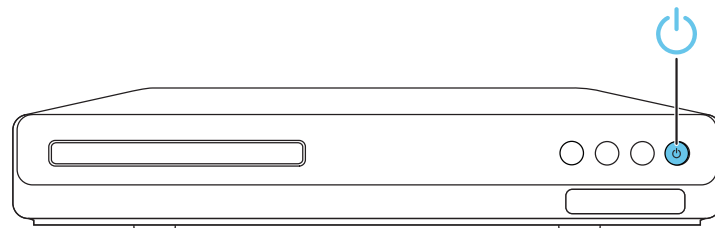
SV Sätt på hemmabiosystemet

TR Ev sinemasını açın

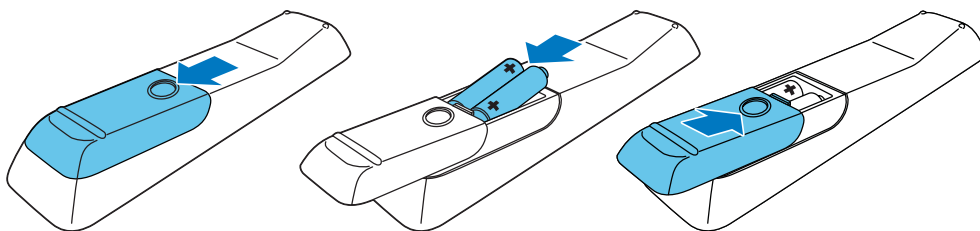
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5

EN Complete the first time setup

CS Dokončili jste nastavení při prvním zapnutí

DA Fuldfør den indledende opsætning

DE Abschließen der Ersteinrichtung

EL Ολοκληρώστε τη ρύθμιση για πρώτη φορά

ES Finaliza la configuración inicial

FI Ensiasennuksen suorittaminen loppuun

FR Effectuer la configuration initiale

HU Az első üzembe helyezés

IT Completamento della configurazione iniziale

NL Voltooi de eerste installatie

NO Fullfør den første konfigureringen

PL Pierwsza konfiguracja

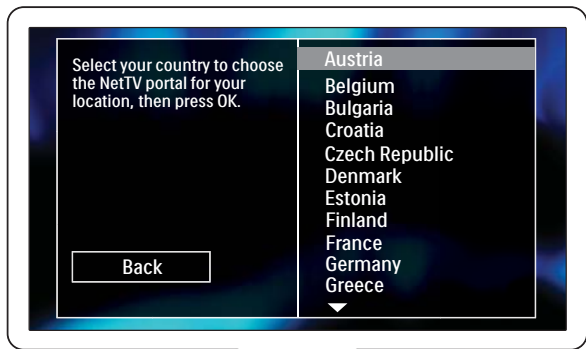
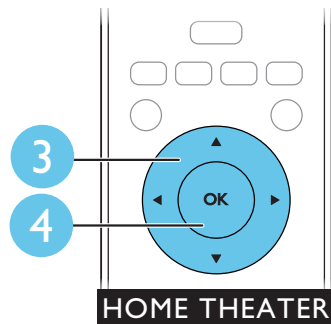
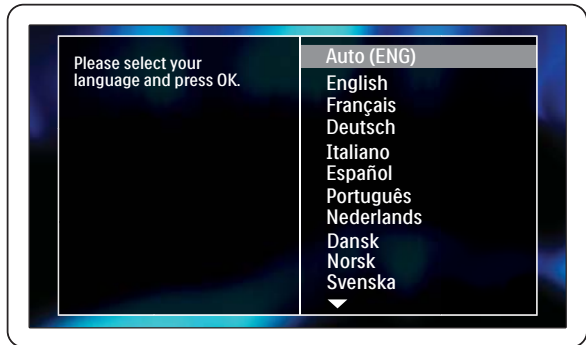
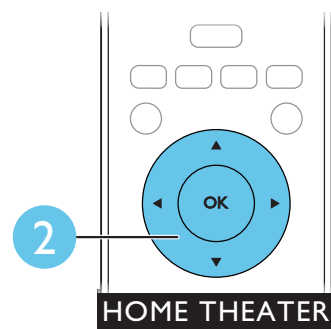
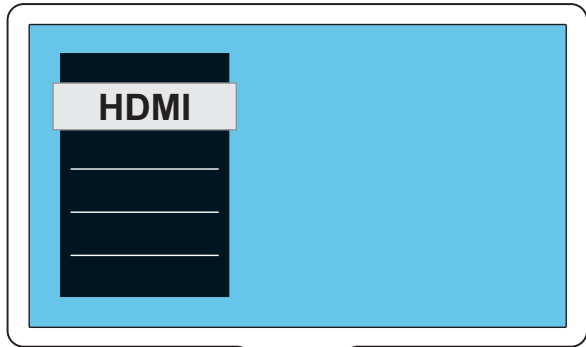
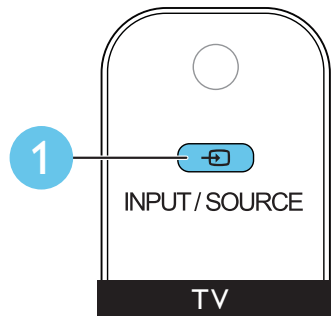
PT Executar a configuração inicial

RO Realizați prima configurare

SK Dokončenie prvého nastavenia

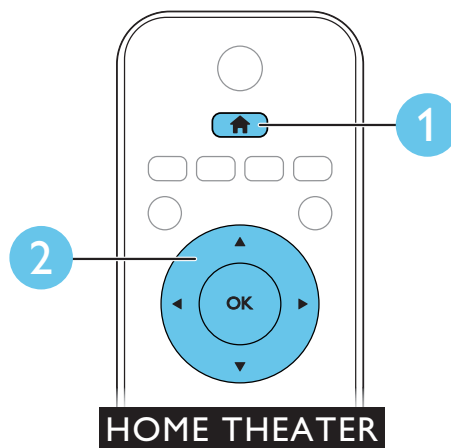
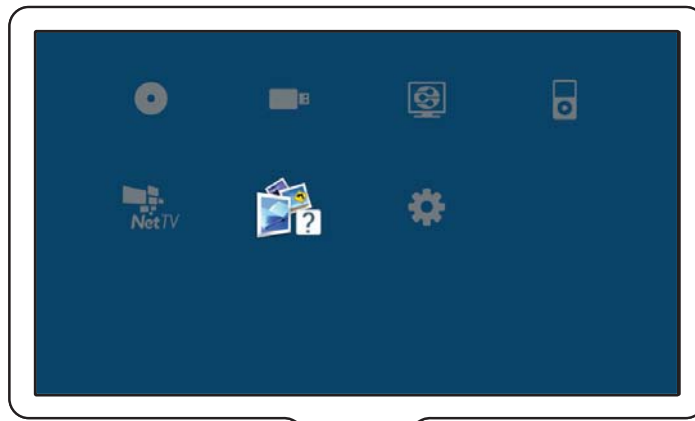
SV Slutför förstagångsinställningen

TR İlk kullanım öncesi kurulumunu tamamlayın



6

- EN** Need help with your product? Select Help to access the onscreen user manual
- CS** Potřebujete poradit s vaším výrobkem? Výběrem možnosti Nápověda zobrazíte elektronickou uživatelskou příručku
- DA** Har du brug for hjælp til dit produkt? Vælg Hjælp for at åbne brugervejledningen på skærmen
- DE** Benötigen Sie Hilfe mit Ihrem Produkt? Wählen Sie "Hilfe" aus, um auf das elektronische Benutzerhandbuch zuzugreifen
- EL** Χρειάζεστε βοήθεια; Επιλέξτε "Βοήθεια" για να δείτε το εγχειρίδιο χρήσης στην οθόνη
- ES** ¿Necesita ayuda con su producto? Seleccione la ayuda para acceder al manual de usuario en pantalla
- FI** Tarvitsetko apua laitteesi käytössä? Avaa käyttöopas näyttöön valitsemalla Ohje
- FR** Besoin d'aide pour votre produit ? Sélectionnez Aide pour accéder au mode d'emploi à l'écran
- HU** Segítségre van szüksége? A sűgóra kattintva megtekintheti a képernyőn látható felhasználói útmutatót
- IT** Hai bisogno di aiuto per il tuo prodotto? Fai clic sul pulsante di aiuto per accedere al manuale dell'utente su schermo
- NL** Hulp nodig bij uw product? Selecteer Help om de gebruikershandleiding op het scherm te openen
- NO** Trenger du hjelp med produktet? Velg Hjelp for å få tilgang til brukerveiledningen på skjermen
- PL** Potrzebujesz pomocy w obsłudze produktu? Wybierz opcję pomocy, aby przejść do ekranowej instrukcji obsługi
- PT** Precisa de ajuda com o seu produto? Seleccione Ajuda para aceder ao manual do utilizador no ecrã
- RO** Aveți nevoie de ajutor pentru produs? Selectați Asistență pentru a accesa manualul de utilizare de pe ecran
- SK** Potrebujete pomoc k vášmu výrobku? Vyberom pomocníka spustite návod na používanie na obrazovke
- SV** Behöver du hjälp med produkten? Öppna användarhandboken på skärmen genom att välja Hjälp
- TR** Ürünle ilgili yardıma mı ihtiyacınız var? Kullanım kılavuzuna erişmek için Yardım'a tıklayın



7

EN Use your home theater

CS Použití domácího kina

DA Brug af din hjemmebiograf

DE Verwenden des Home Entertainment-Systems

EL Χρησιμοποιήστε το home cinema

ES Uso del sistema de cine en casa

FI Kotiteatterin käyttäminen

FR Utiliser votre Home Cinéma

HU A házi mozi használat

IT Utilizzo del sistema Home Theater

NL Uw home cinema bedienen

NO Bruke hjemmekinoanlegget

PL Korzystanie z zestawu kina domowego

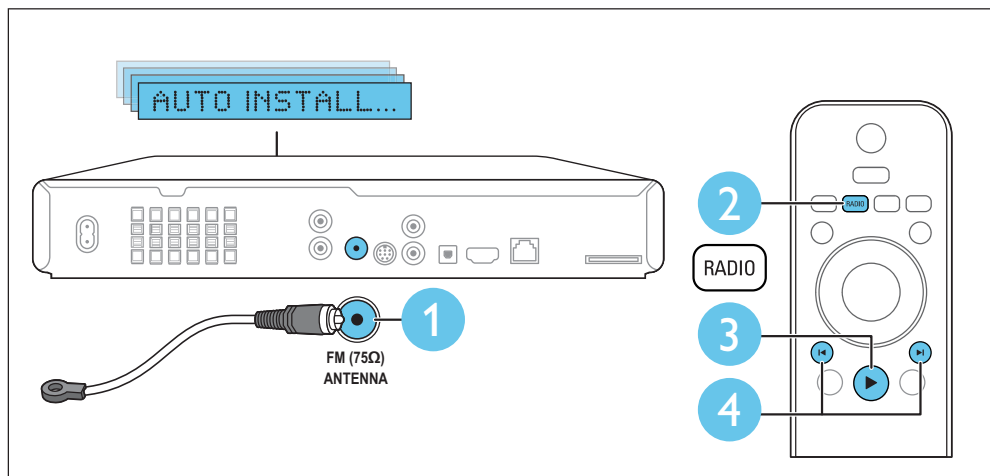
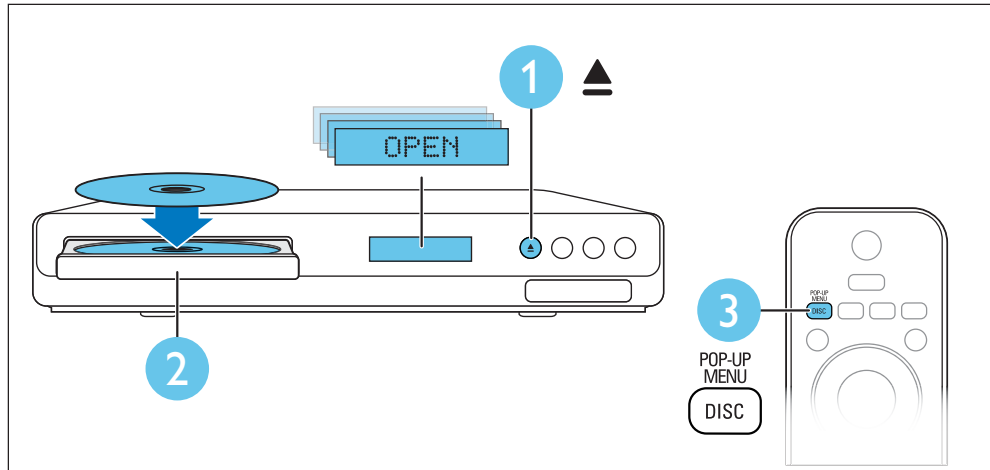
PT Utilizar o sistema de cinema em casa

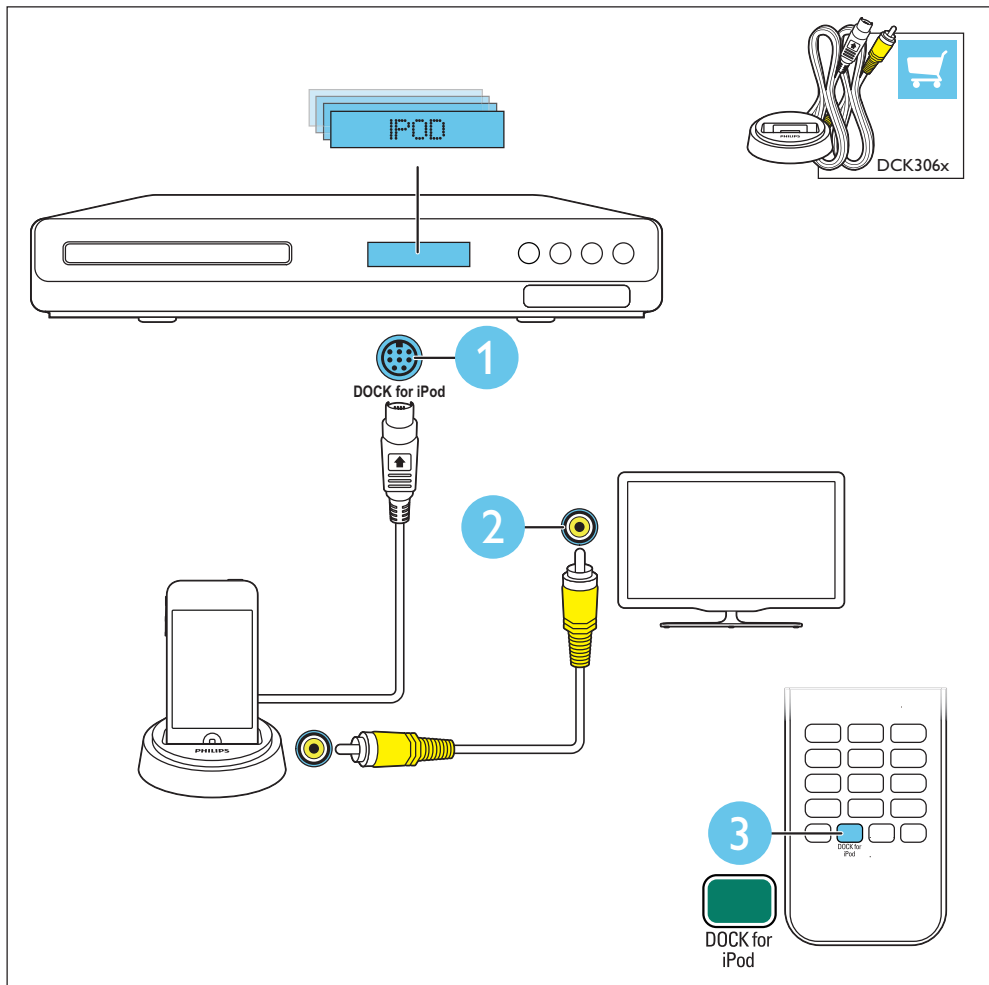
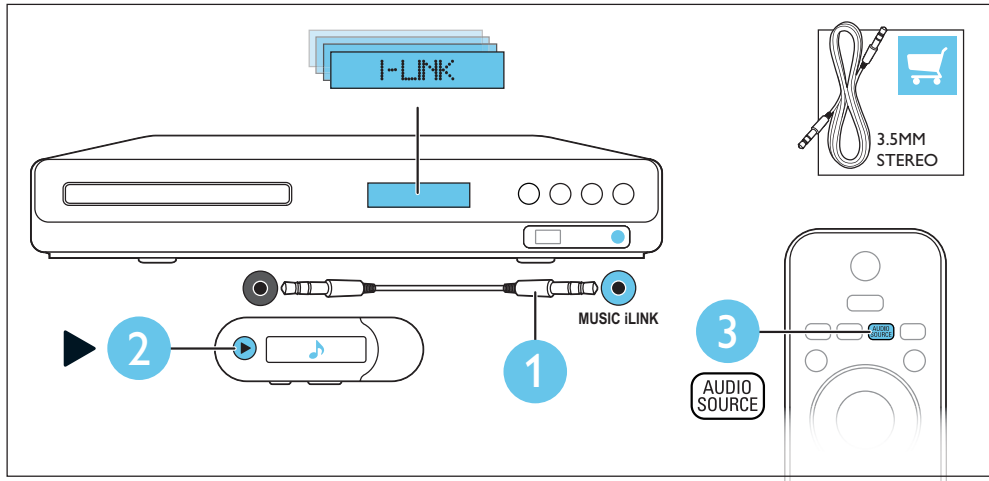
RO Utilizați sistemul home theater

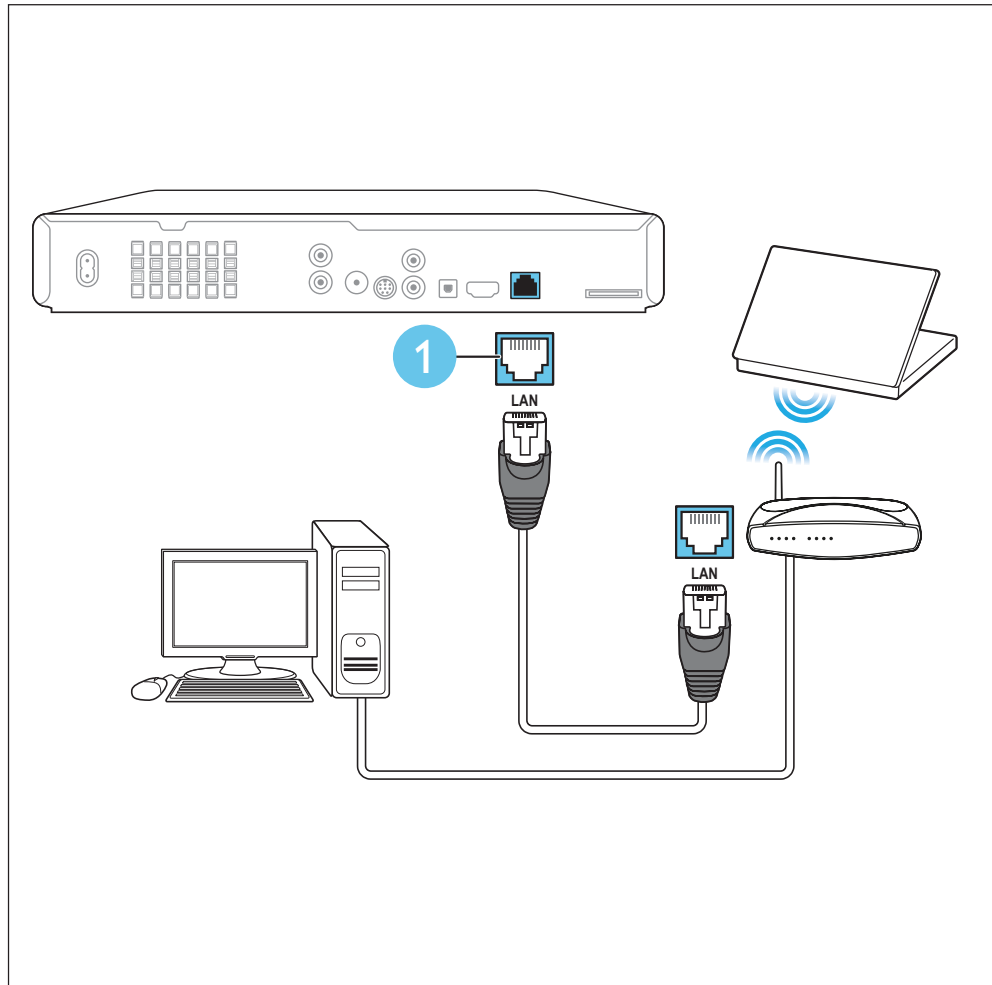
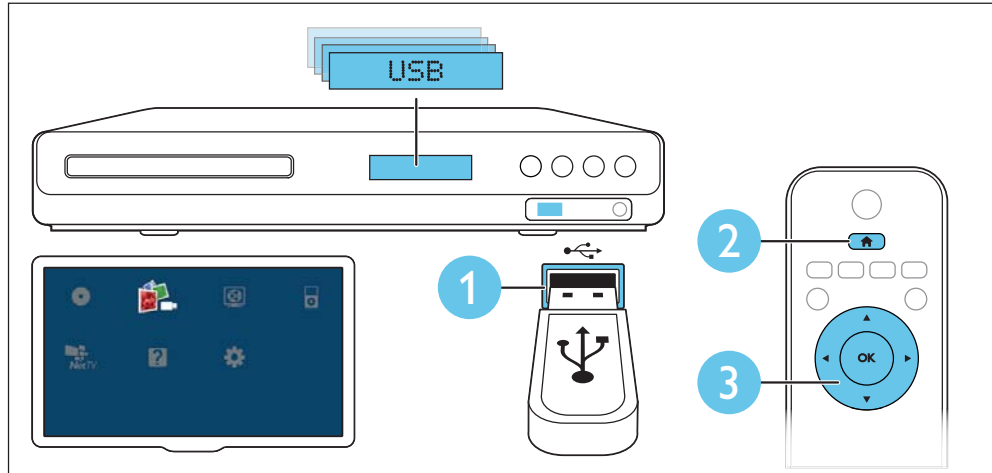
SK Používanie domáceho kina

SV Använda hemmabiosystemet

TR Ev sinema sisteminin kullanılması







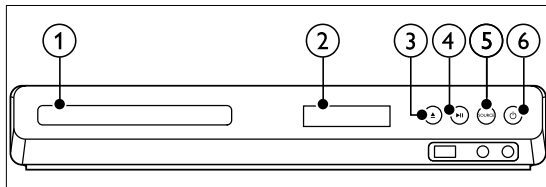
HTS3593/12/51

Your Home Theater

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

Main unit

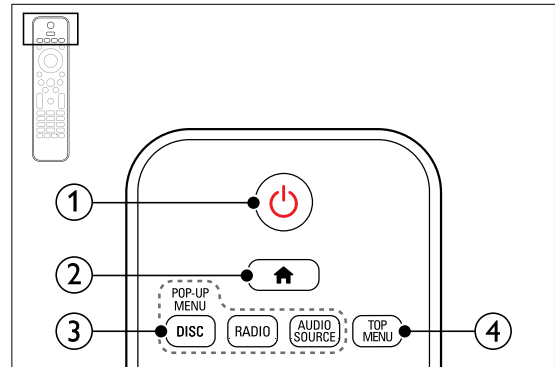
This section includes an overview of the main unit.



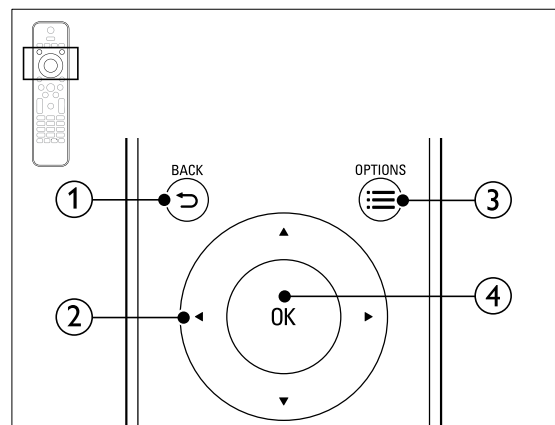
- ① **Disc compartment**
- ② **Display panel**
- ③ **▲ (Open/Close)**
Open or close the disc compartment, or eject the disc.
- ④ **▶|| (Play/Pause)**
Start, pause or resume play.
- ⑤ **SOURCE**
Select an audio or video source for the home theater.
- ⑥ **⏻ (Standby-On)**
Switch the home theater on or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

Remote control

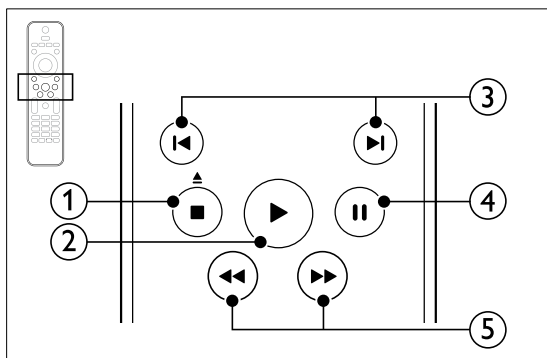
This section includes an overview of the remote control.



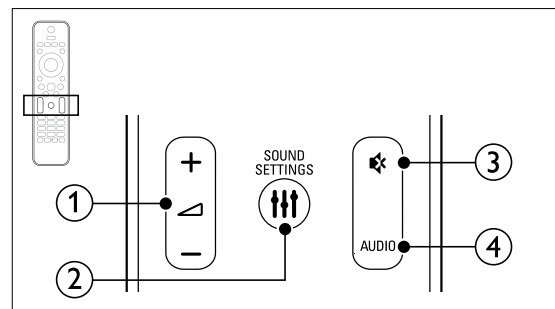
- ① **⏻ (Standby-On)**
 - Switch the home theater on or to standby.
 - When EasyLink is enabled, press and hold for at least three seconds to switch all connected HDMI CEC compliant devices to standby.
- ② **🏠 (Home)**
Access the home menu.
- ③ **Source buttons**
 - **DISC/POP-UP MENU:** Access or exit the disc menu when you play a disc.
 - **RADIO:** Switch to FM radio.
 - **AUDIO SOURCE:** Select an audio input source.
- ④ **TOP MENU**
Access the main menu of a video disc.



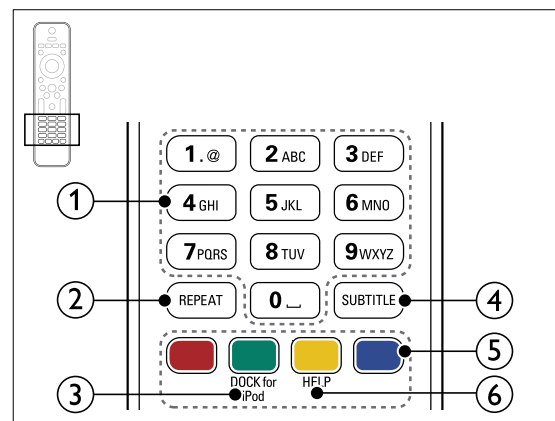
- ① **↶ BACK**
 - Return to a previous menu screen.
 - In radio mode, press and hold to erase the current preset radio stations.
- ② **Navigation buttons**
 - Navigate menus.
 - In radio mode, press left or right to start auto search.
 - In radio mode, press up or down to tune the radio frequency.
- ③ **☰ OPTIONS**
 - Access more play options while playing a disc or a USB storage device.
 - In radio mode, set a radio station.
- ④ **OK**
 - Confirm an entry or selection.



- ① **■ (Stop) / ▲ (Eject/Open/Close)**
 - Stop play.
 - Press and hold for three seconds to open or close the disc compartment, or eject the disc.
- ② **▶ (Play)**
 - Start or resume play.
- ③ **◀ / ▶ (Previous/Next)**
 - Skip to the previous or next track, chapter or file.
 - In radio mode, select a preset radio station.
- ④ **⏸ (Pause)**
 - Pause play.
- ⑤ **◀◀ / ▶▶ (Fast Backward/Fast Forward)**
 - Search backwards or forward. Press repeatedly to change the search speed.



- ① **▲ +/- (Volume)**
 - Increase or decrease volume.
- ② **⚙ SOUND SETTINGS**
 - Access or exit sound options.
- ③ **⊘ (Mute)**
 - Mute or restore volume.
- ④ **AUDIO**
 - Select an audio language or channel.



- ① **Alphanumeric buttons**
 - Enter values or letters (using SMS style entry).
- ② **REPEAT**
 - Select or turn off repeat mode.
- ③ **DOCK for iPod**
 - Switch to Philips dock for iPod or iPhone.
- ④ **SUBTITLE**
 - Select subtitle language for video.
- ⑤ **Color buttons**
 - Select tasks or options for Blu-ray discs.
- ⑥ **HELP**
 - Access the onscreen help.

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).

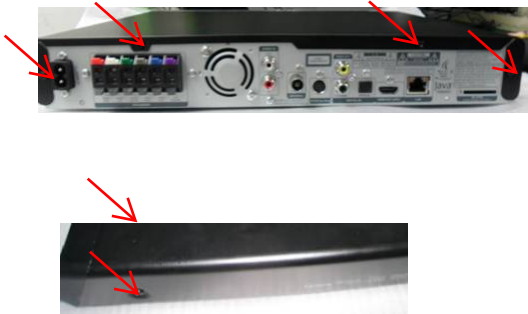


Figure 1

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

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 :Dismantle Front Panel, disconnect the connectors (XP6, XP605 .XP8), need release 2 snaps of Front Panel & 2 snaps of bottom cabinet , then gently pull the Panel out from the set. (Figure 3)

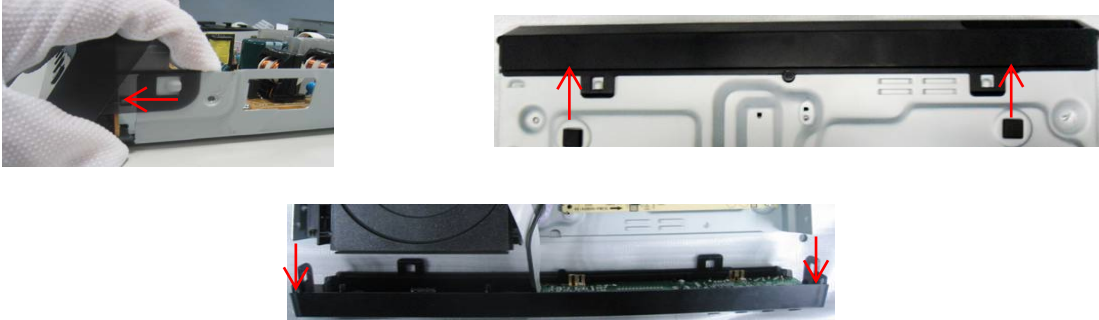


Figure 3

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

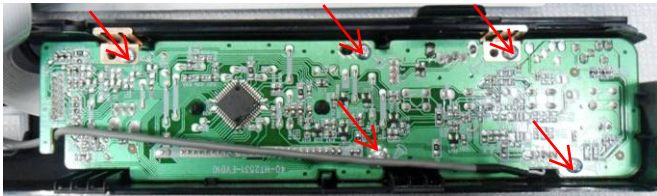


Figure 4

Step5: Dismantle Loader, disconnect the 3 connectors (XP7, XP10,XP5) aiming in the below figure, and remove 2 screws that connects the loader and the bottom cabinet. (Figure 5)

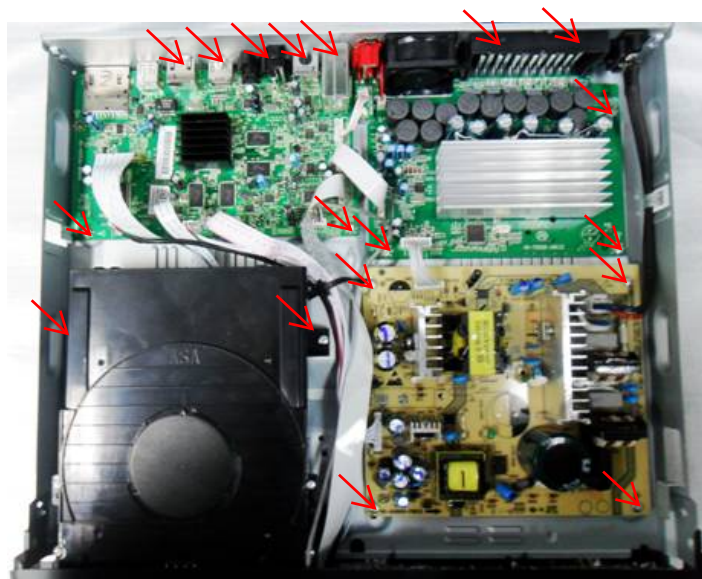


Figure 5

Mechanical and Dismantling Instructions

Dismantling Instruction

Detailed information please refer to the model set.

Step6: Dismantle Main Board, first disconnect 3 connector (XP1,XP11,XP13), and then remove 7screws. (Figure 5/6)

Step7: Dismantle Power Board, disconnect the connector XP702 ,then remove 4 screws.(Figure 5/6)

Step8: Dismantle Amplifier Board, first disconnect 1 connector(XP703),and then remove 5 screws (Figure 5/6)

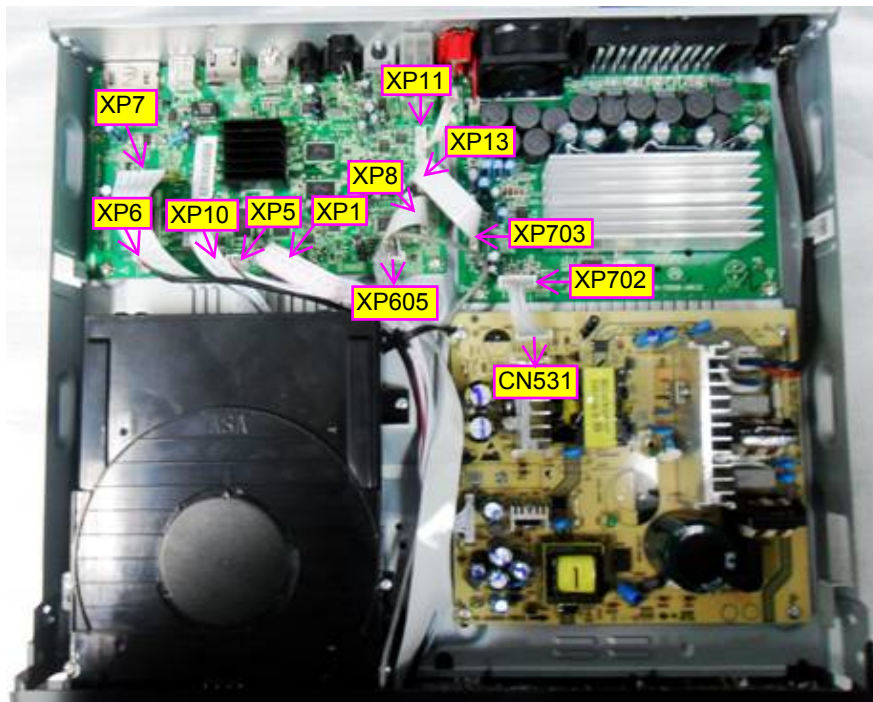


Figure 6

Software upgrade

Software upgrade method:

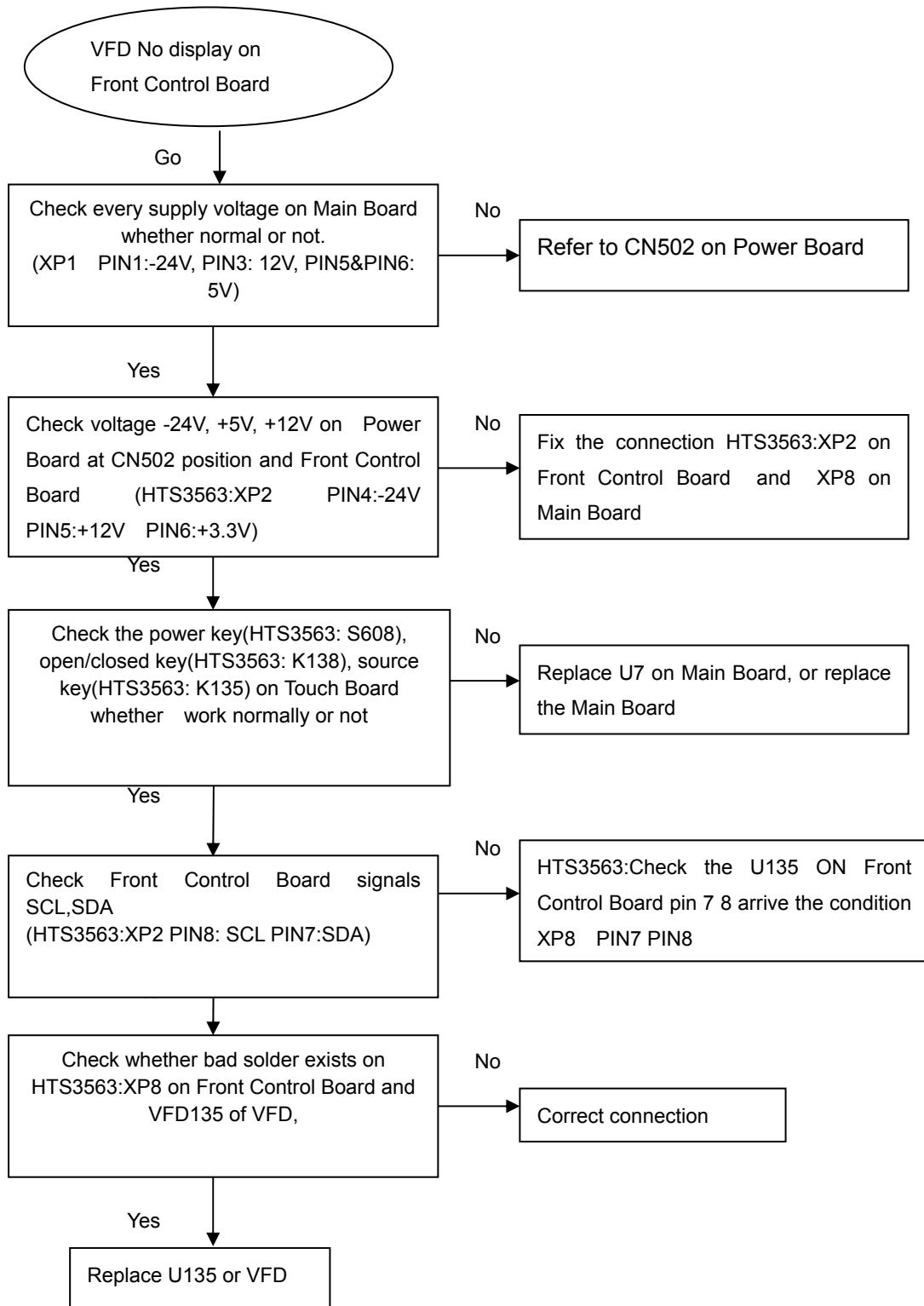
- 1.Copy the bin file as "HTS3593_XX.bin".
- 2.Then use the file to burn the upgrade CD-R/CD-RW.
- 3.Put the CD in the tray ,let the player loading the disc.
- 4.If the CD is correct ,it will display the Upgrade Menu ,press the PLAY key on the remote control to start upgrade
- 5.Afer a while, the tray will open automatically ,but must not power off the player.
- 6.Don't power off ,wait until the player reset automatically ,the whole upgrade process may need 2 minutes .HTS will auto standby after complete upgrade.

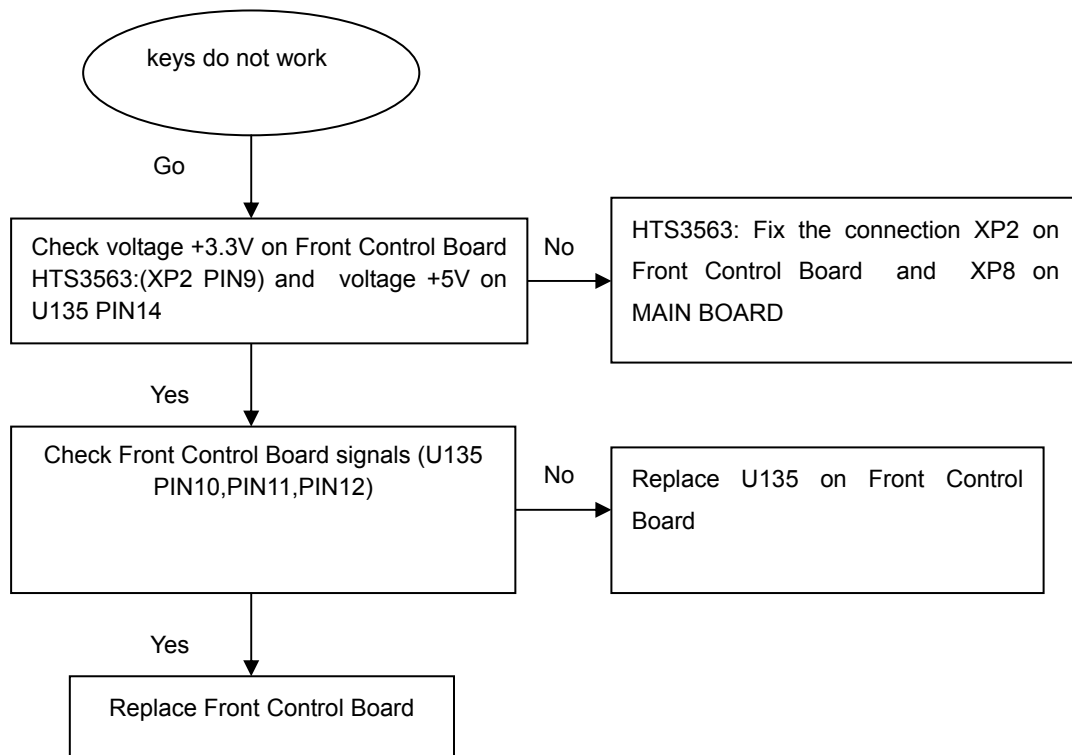
if you upgrade with USB device:

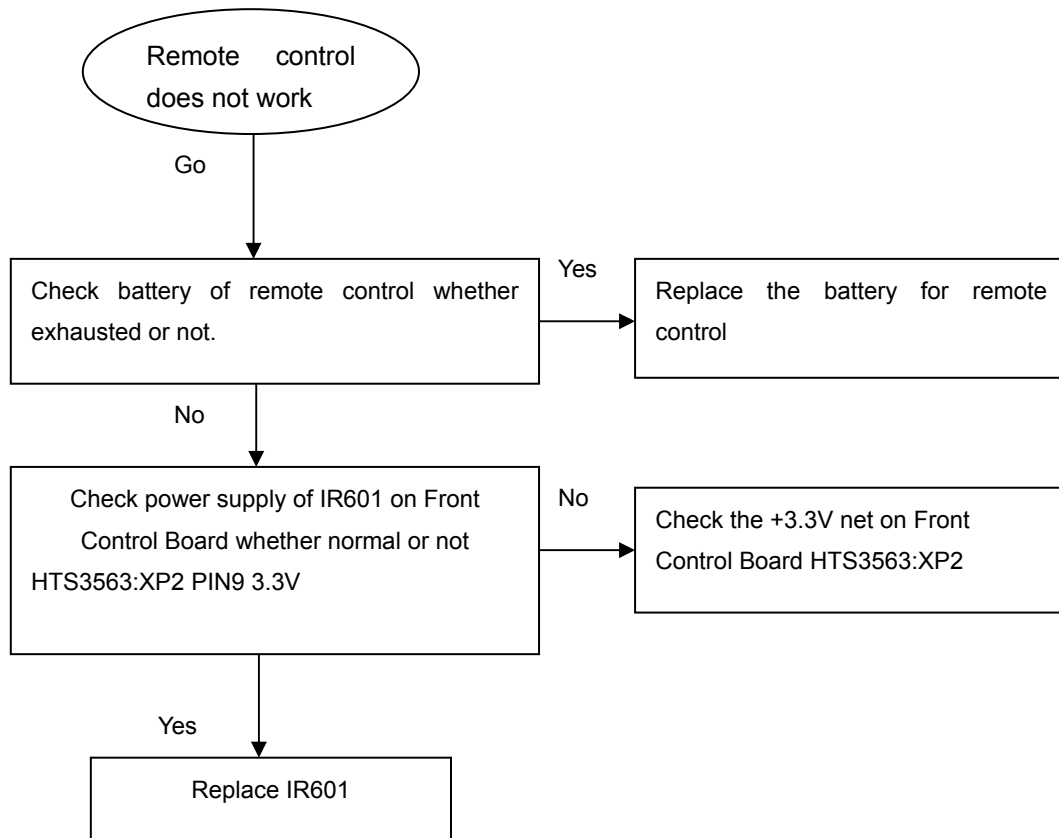
- 1.step1 is same with DISC upgrade;
- 2.Copy the renamed bin file(upgrade file) to the root menu of USB device.
- 3.connect the USB device to HTS ,and switch to USB source;
- 4.The rest is same to step 4,step 5 and step 6 with DISC upgrade.

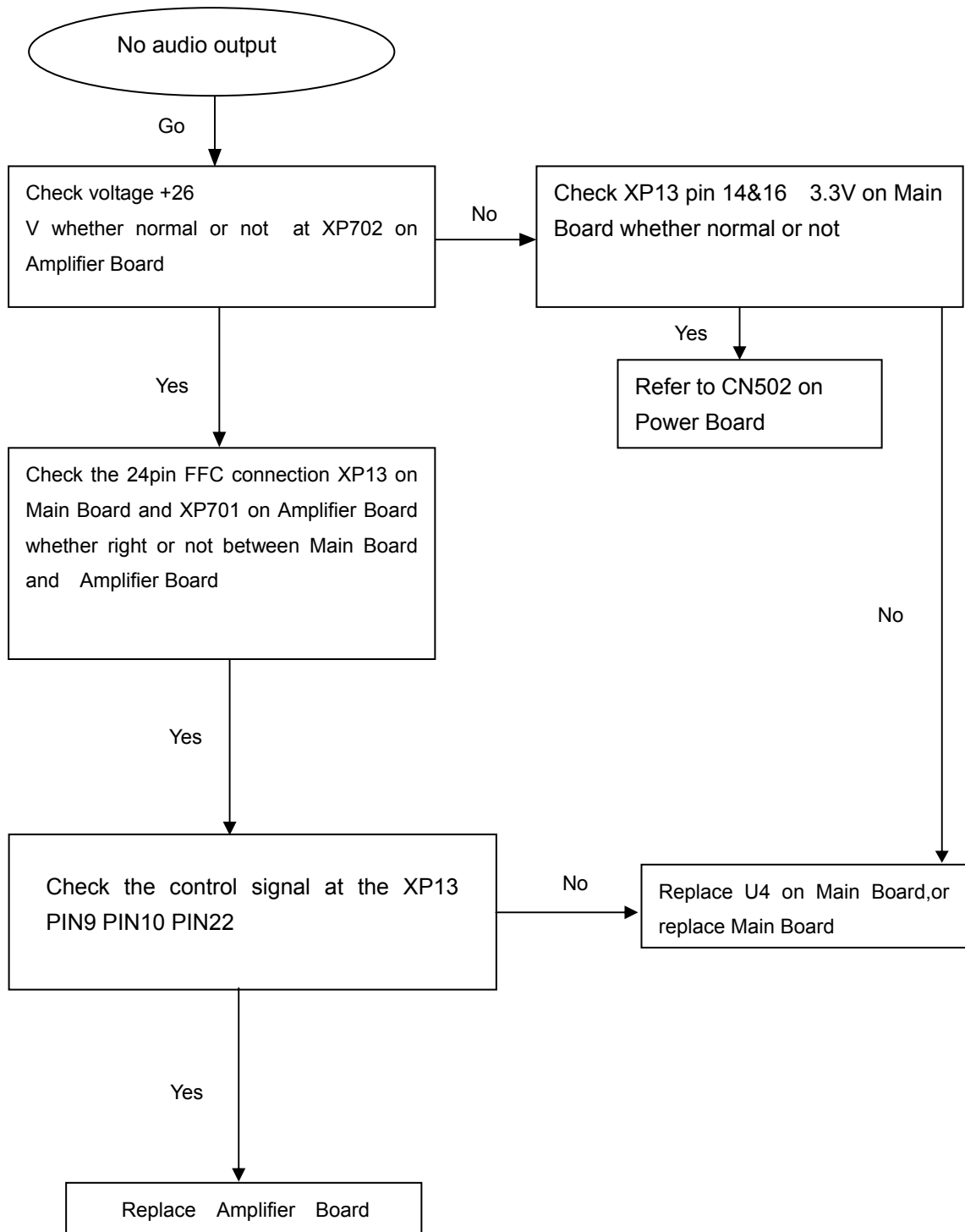
Caution: The set must not be power off during upgrading, Otherwise the Main board will be damaged entirely.

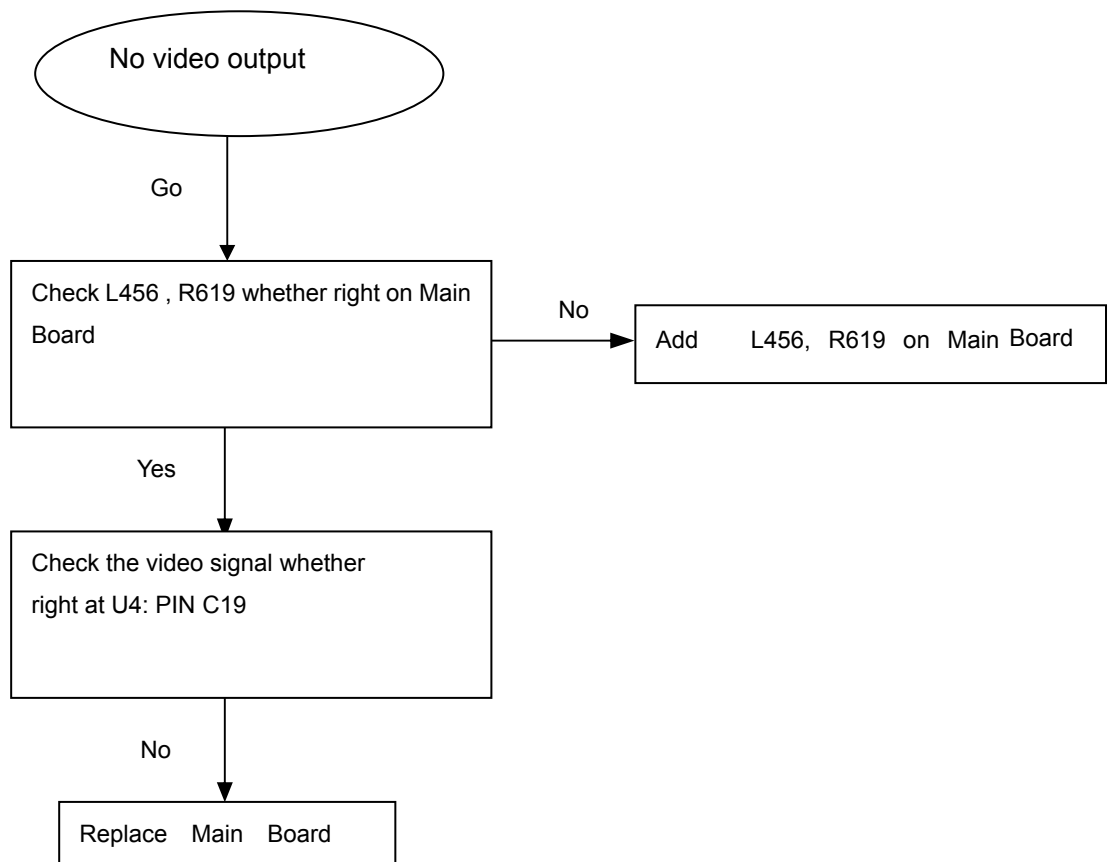
VFD No display on Front Control Board

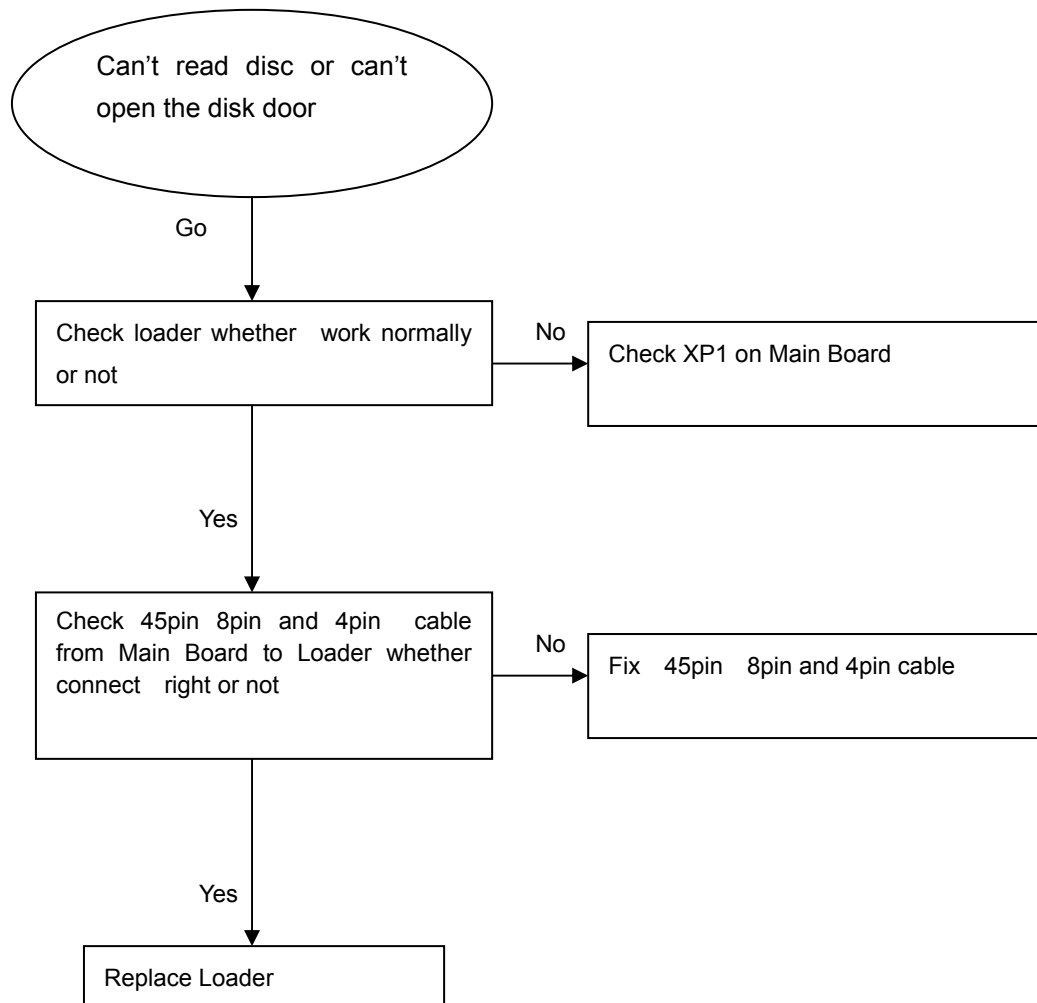


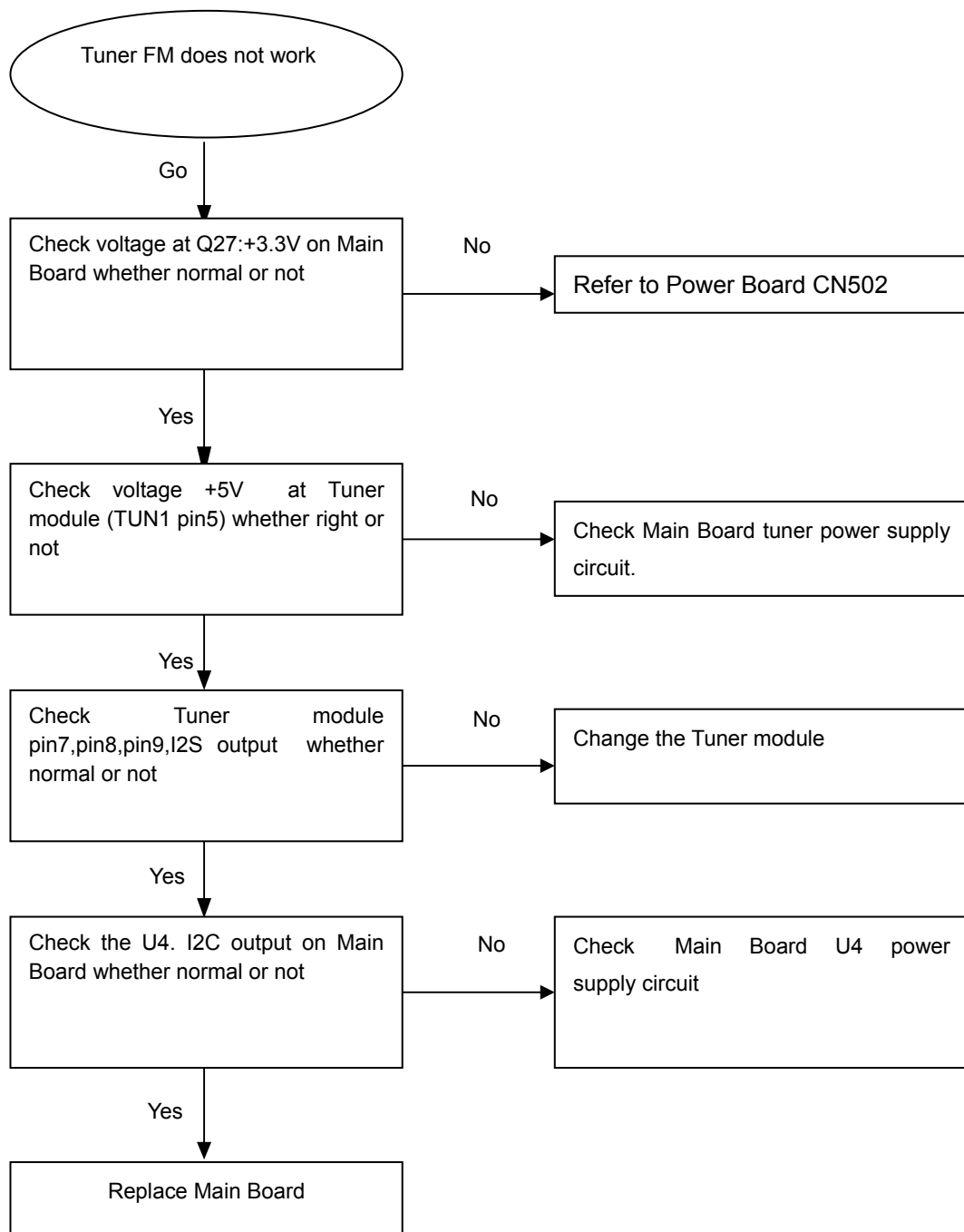
keys do not work

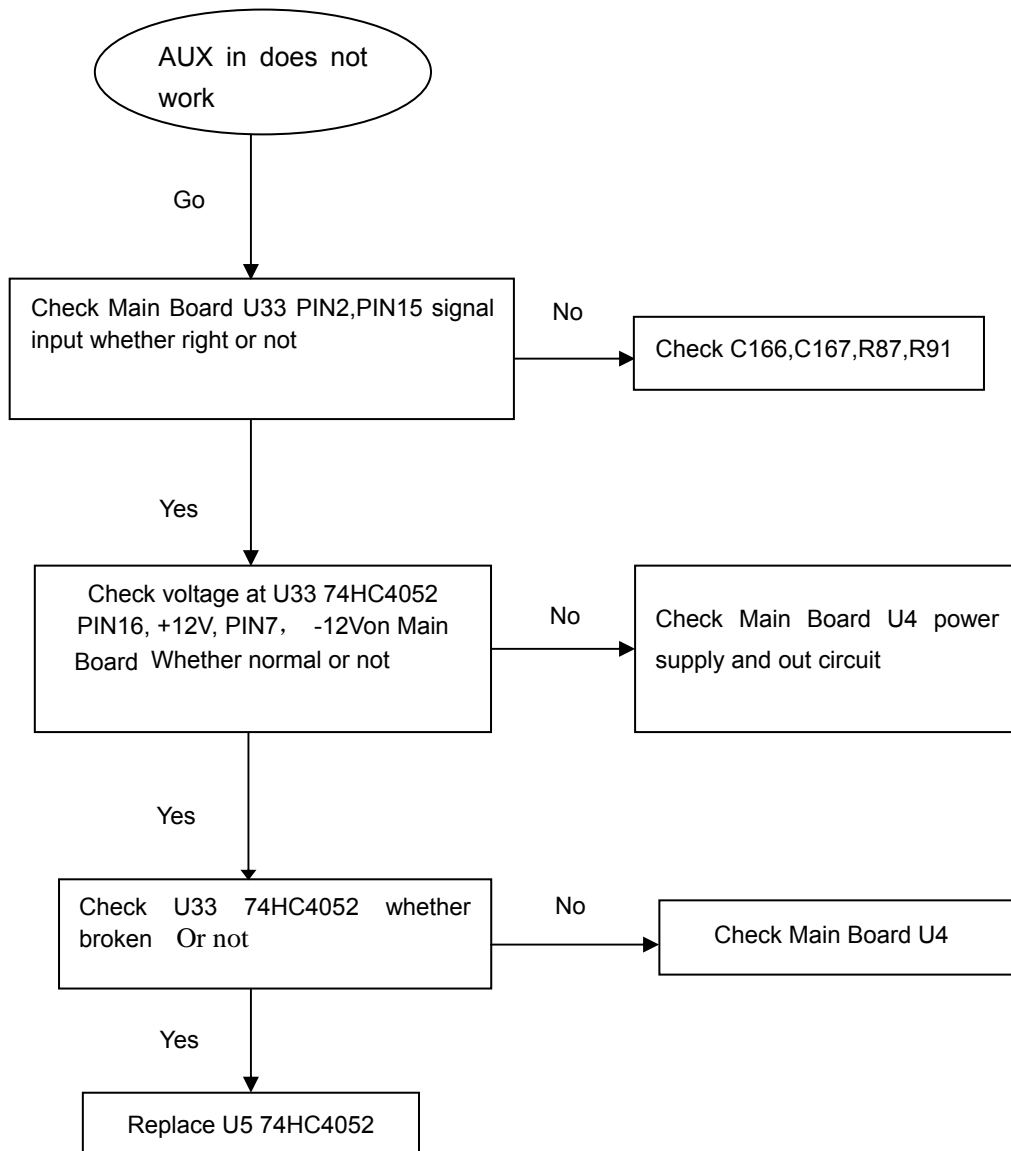
Remote control does not work

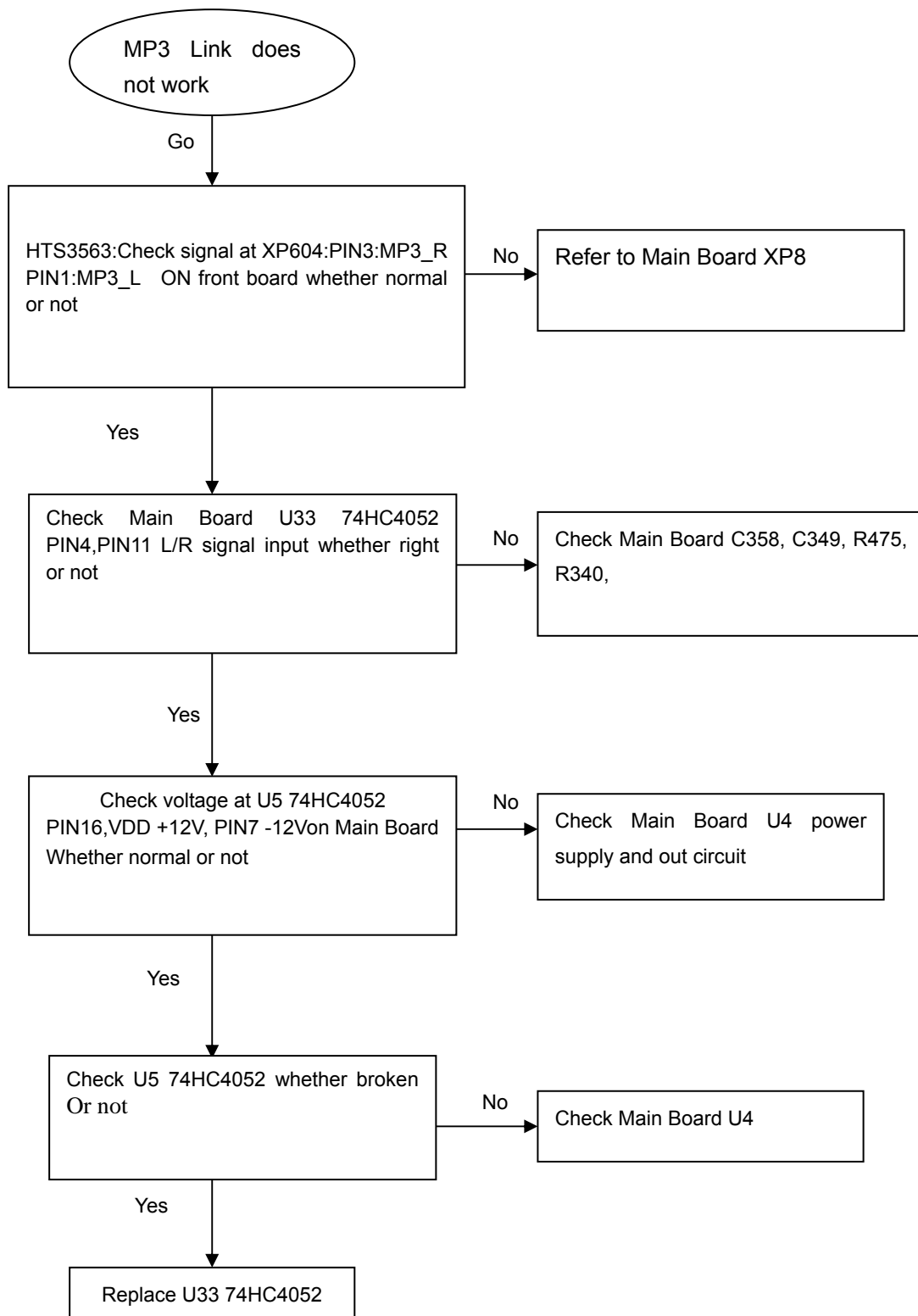
No audio output

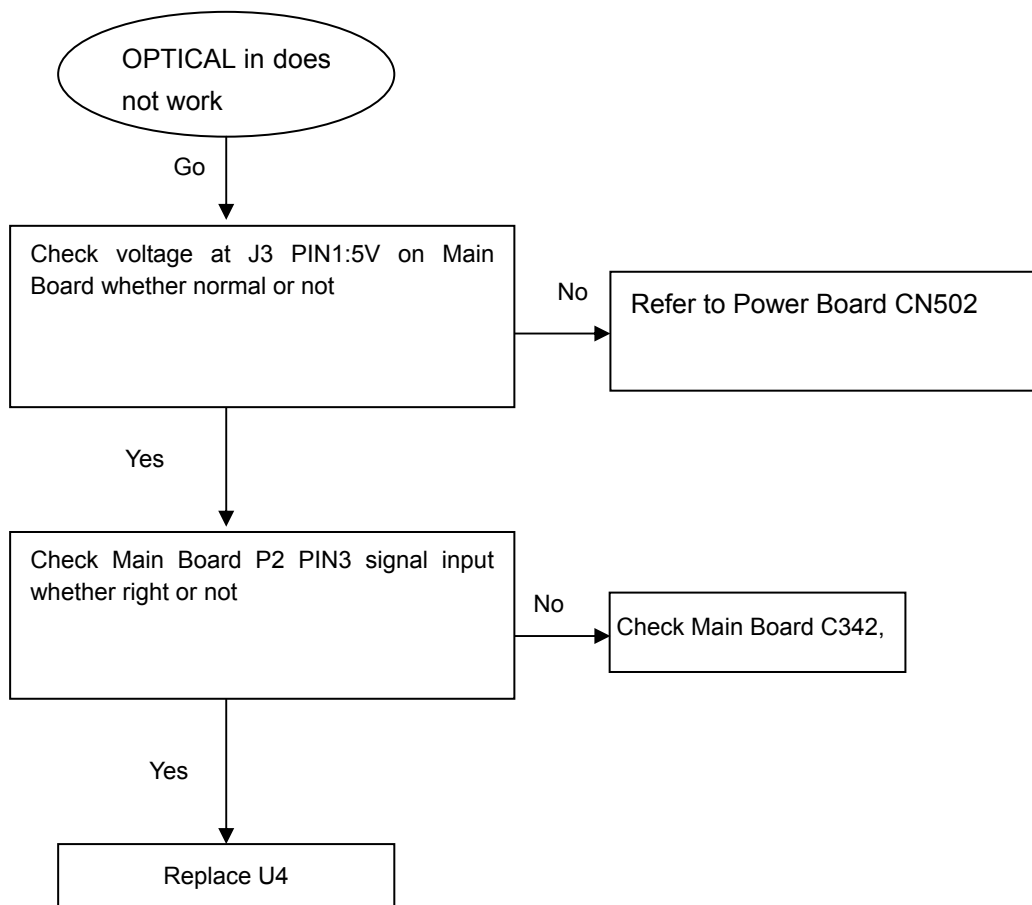
No video output

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

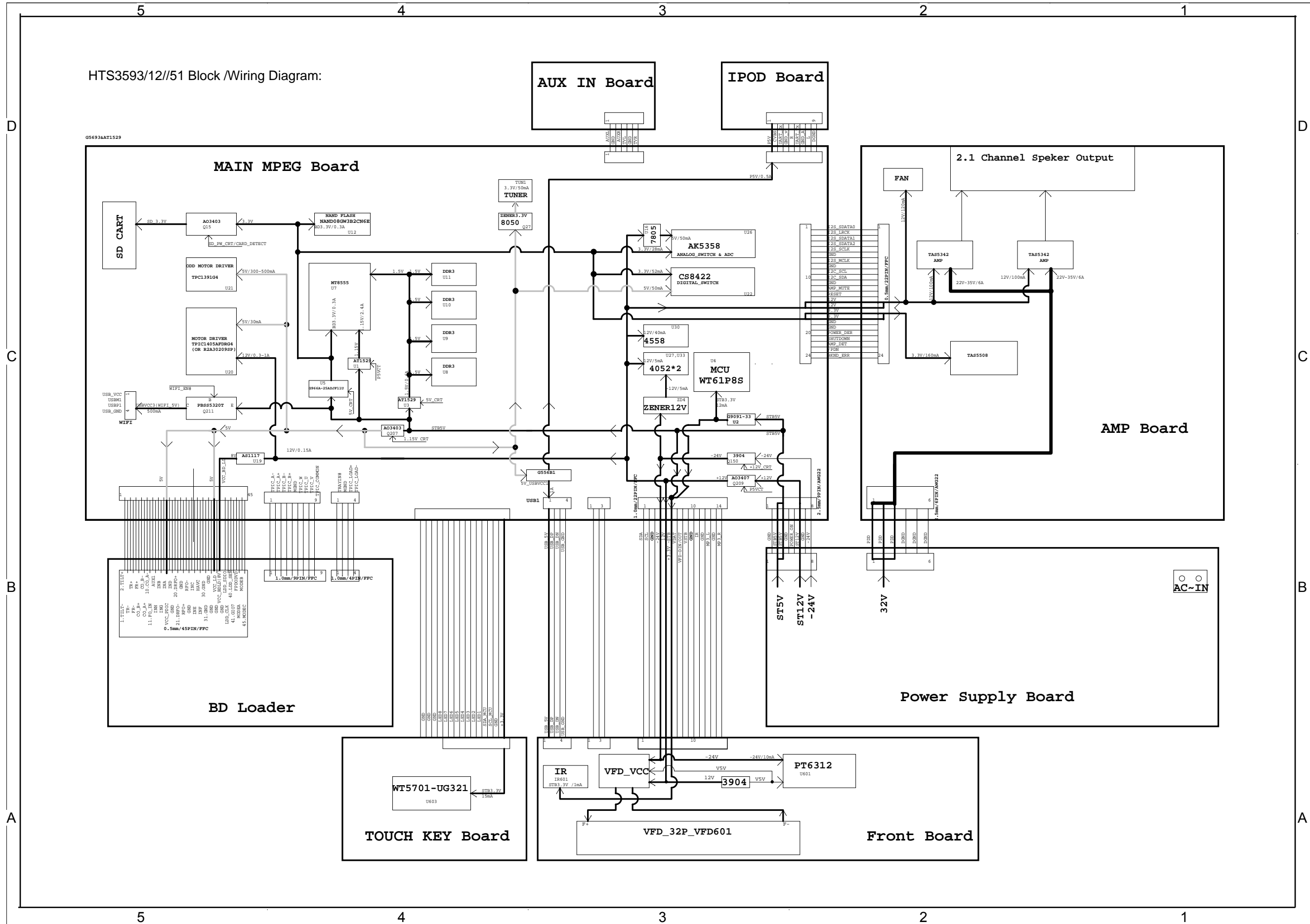
Tuner FM does not work

AUX in does not work

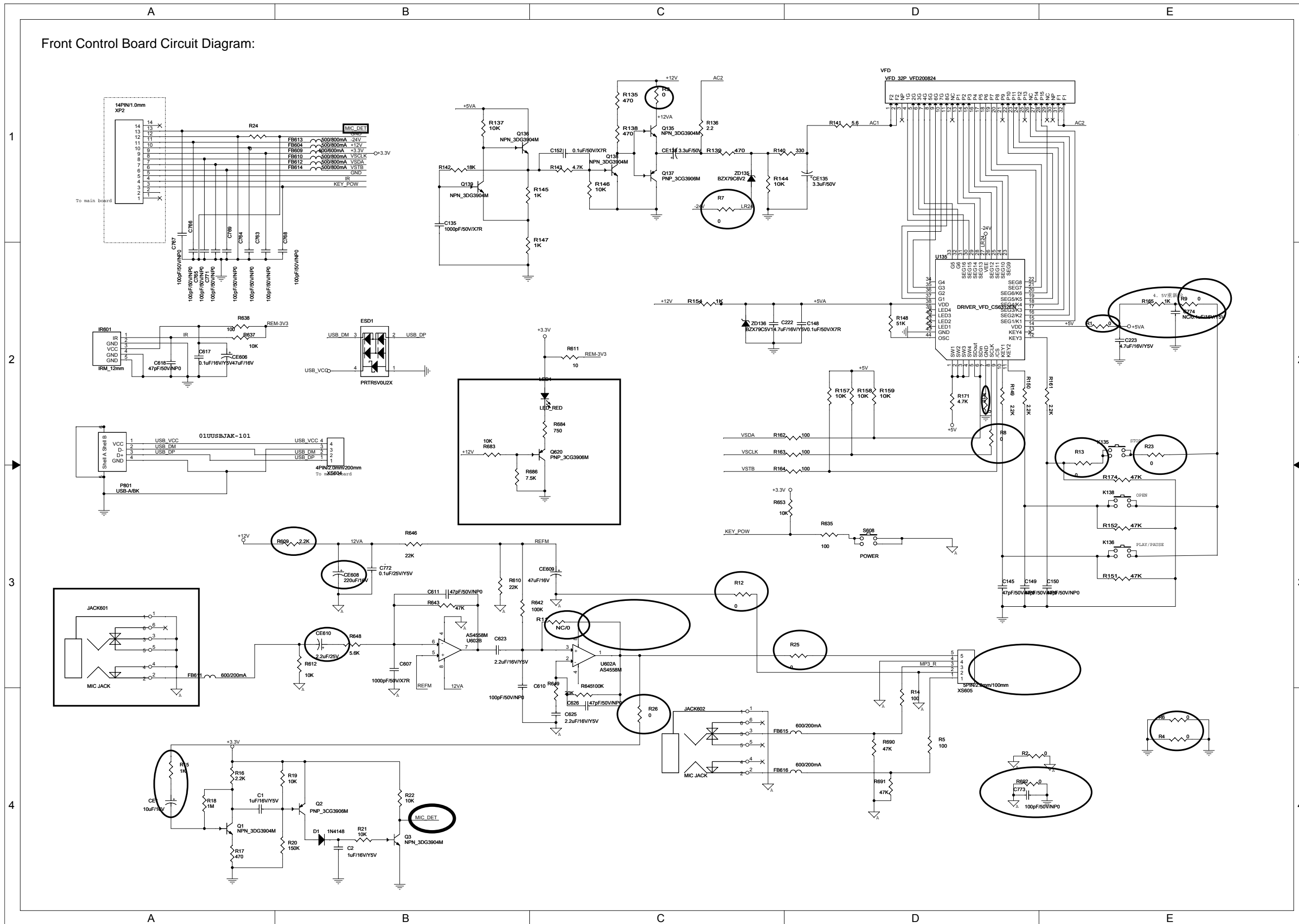
MP3 Link does not work

OPTICAL IN does not work

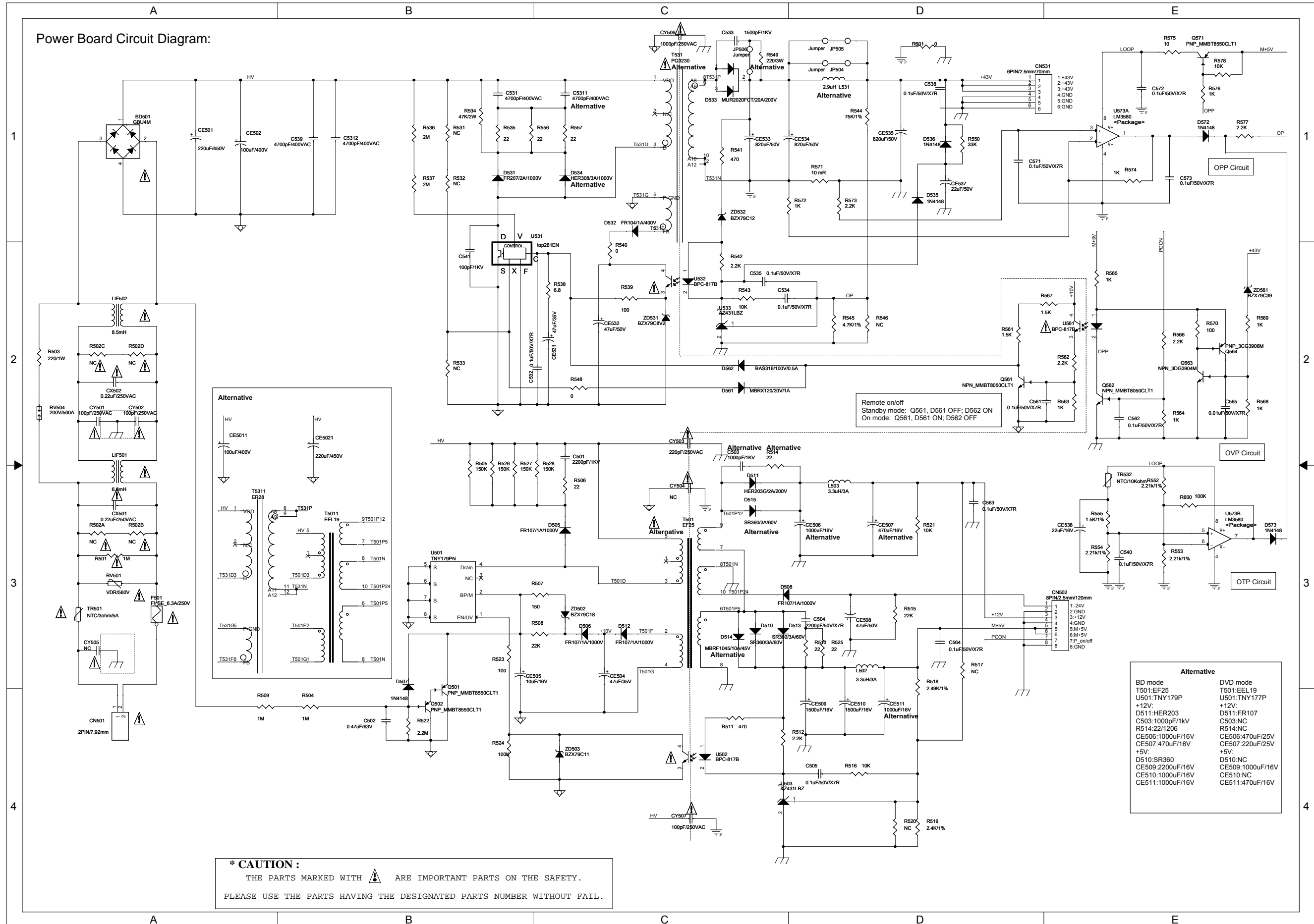
HTS3593/12//51 Block /Wiring Diagram:



Front Control Board Circuit Diagram:



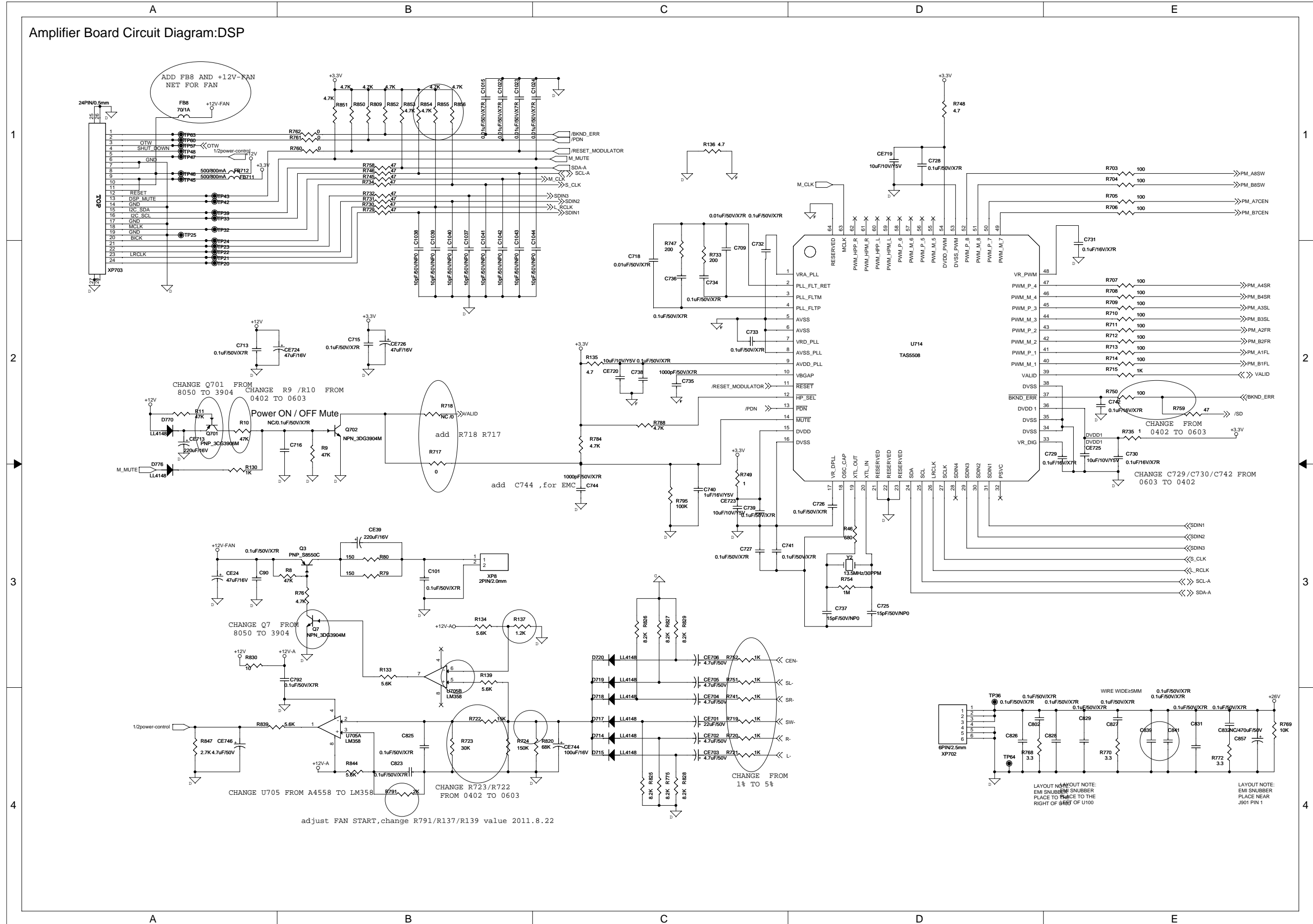
Power Board Circuit Diagram:



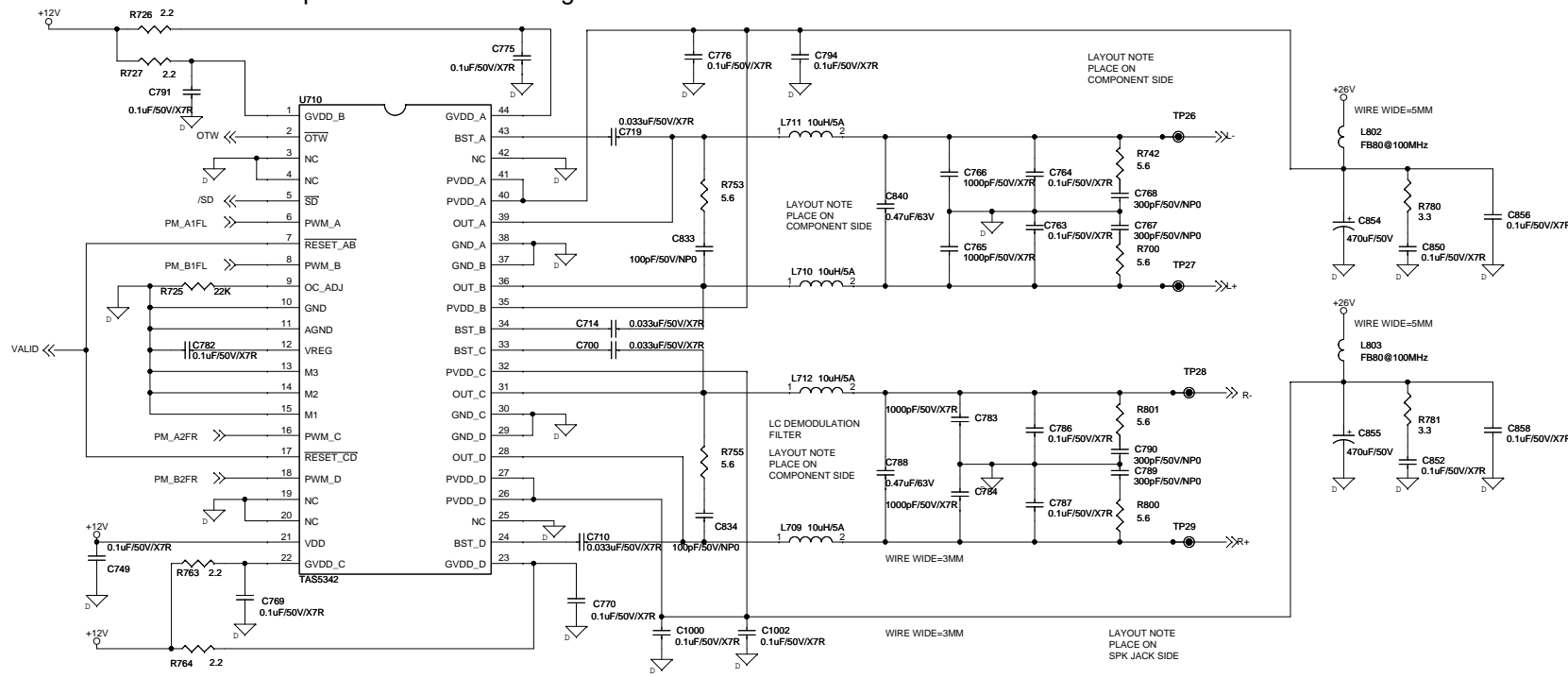
*** CAUTION :**
 THE PARTS MARKED WITH ⚠ ARE IMPORTANT PARTS ON THE SAFETY.
 PLEASE USE THE PARTS HAVING THE DESIGNATED PARTS NUMBER WITHOUT FAIL.

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

Amplifier Board Circuit Diagram:DSP



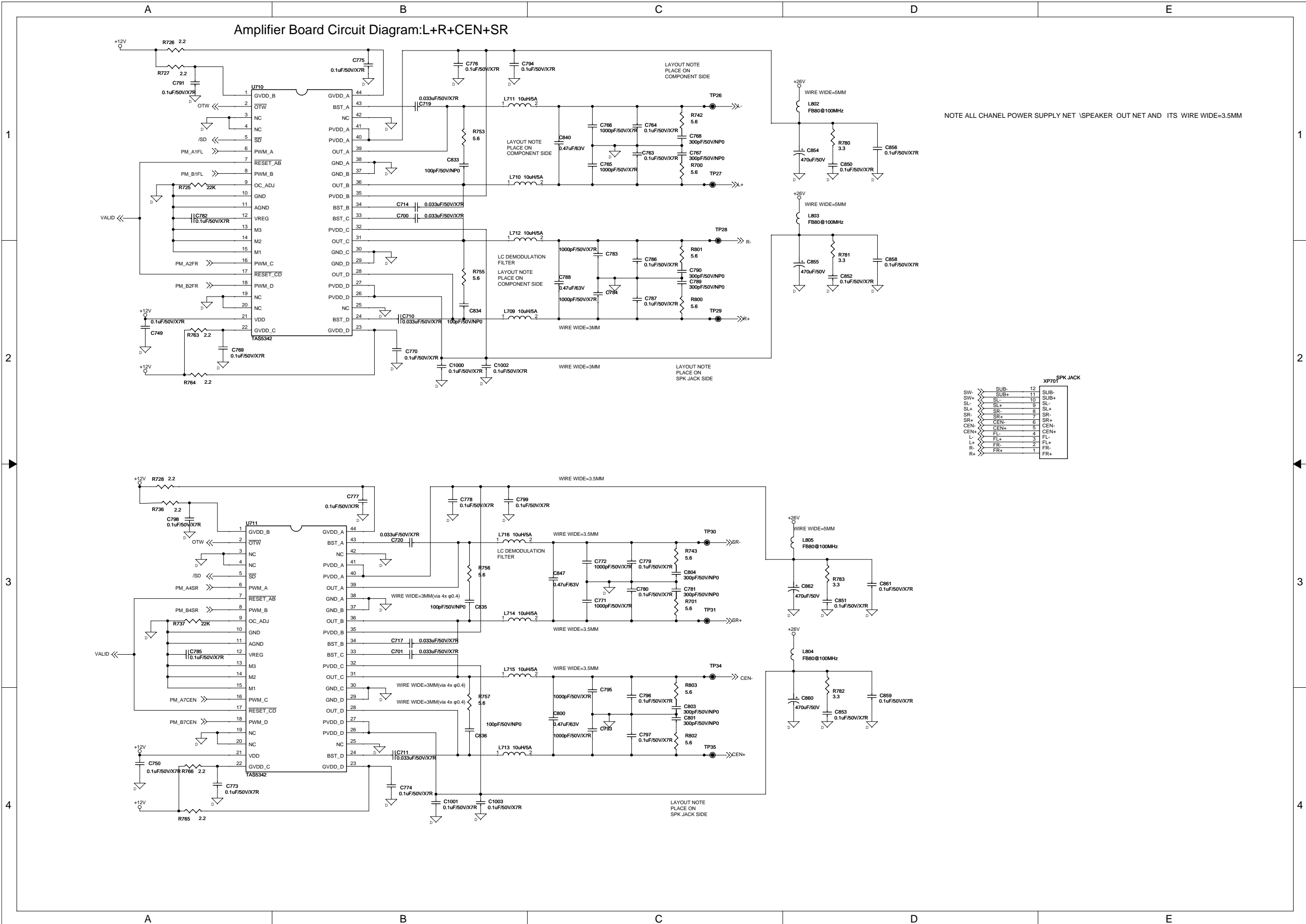
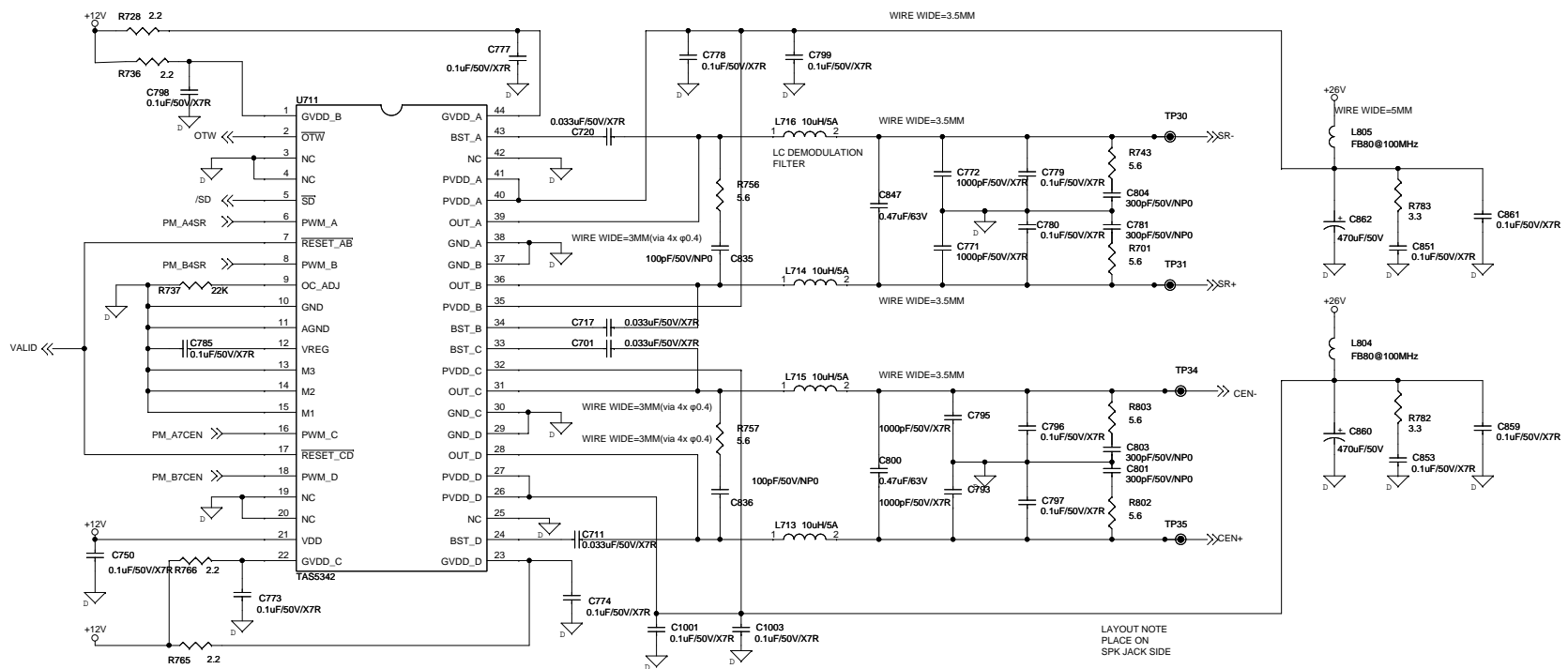
Amplifier Board Circuit Diagram:L+R+CEN+SR



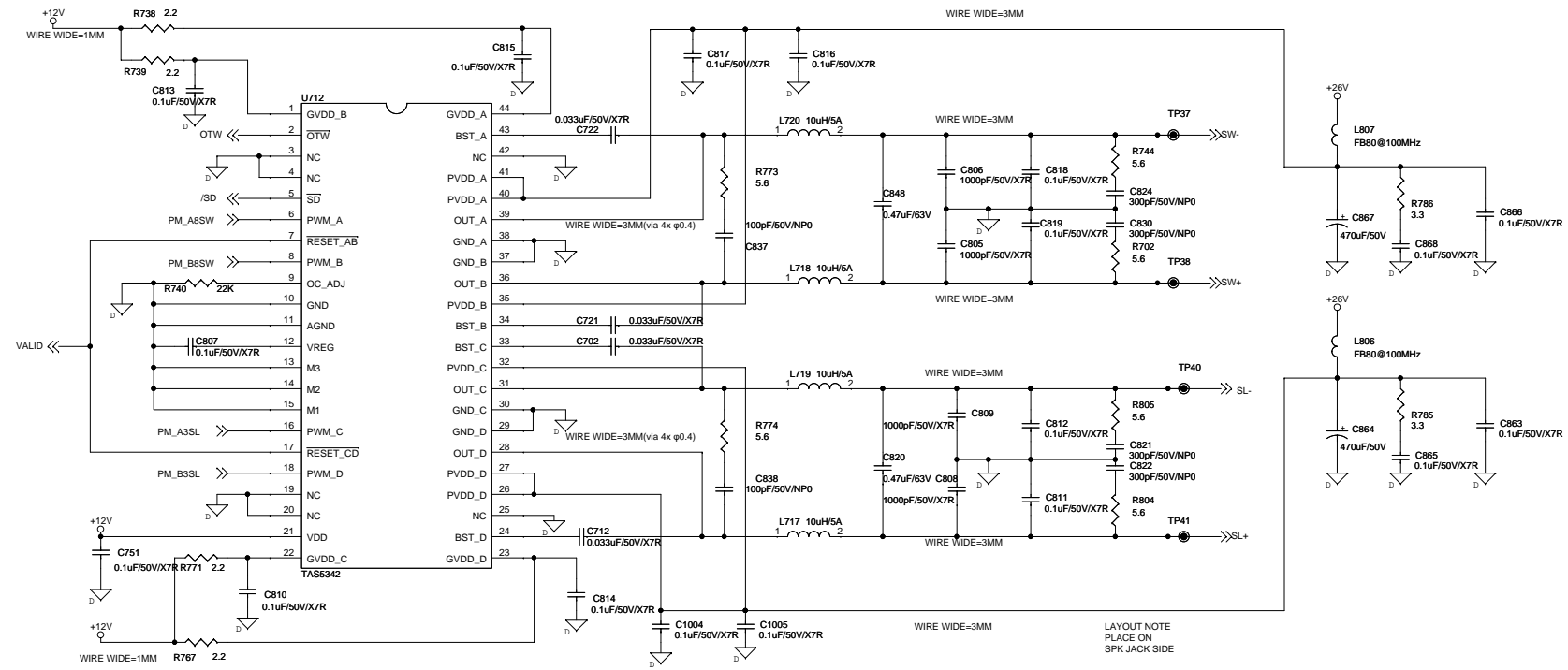
NOTE ALL CHANEL POWER SUPPLY NET \SPEAKER OUT NET AND ITS WIRE WIDE=3.5MM

XP701 SPK JACK

SW	SUB	12	SUB-
SW	SUB+	11	SUB-
SL-	SL-	10	SL+
SL+	SL+	9	SL-
SR-	SR-	8	SR+
SR+	SR+	7	SR-
CEN-	CEN-	6	CEN+
CEN+	CEN+	5	CEN-
L-	FL+	4	CEN+
L+	FR+	3	FL-
R-	FR-	2	FR+
R+	FR+	1	FR-



Amplifier Board Circuit Diagram:SL+SW



1

2

3

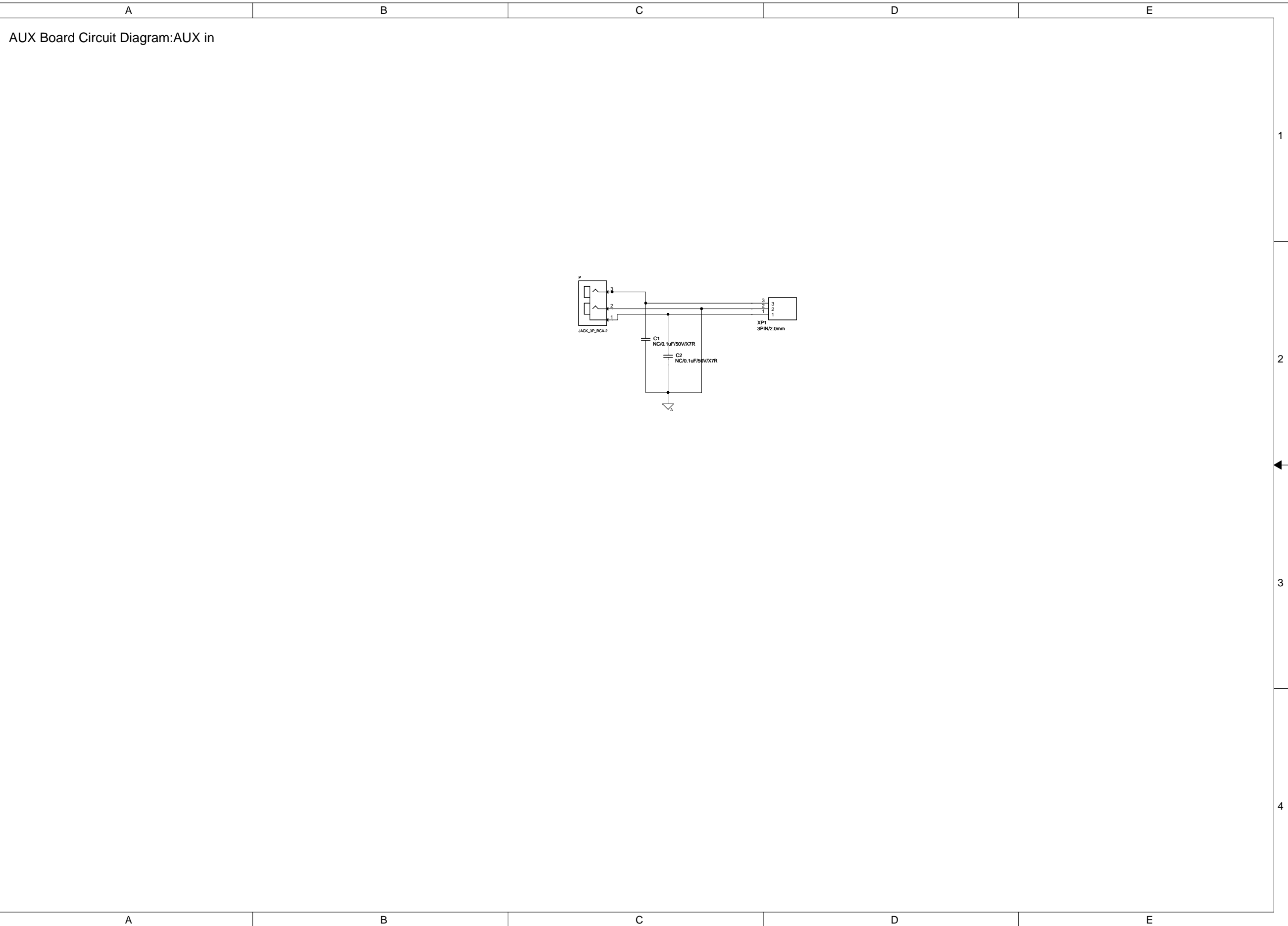
4

1

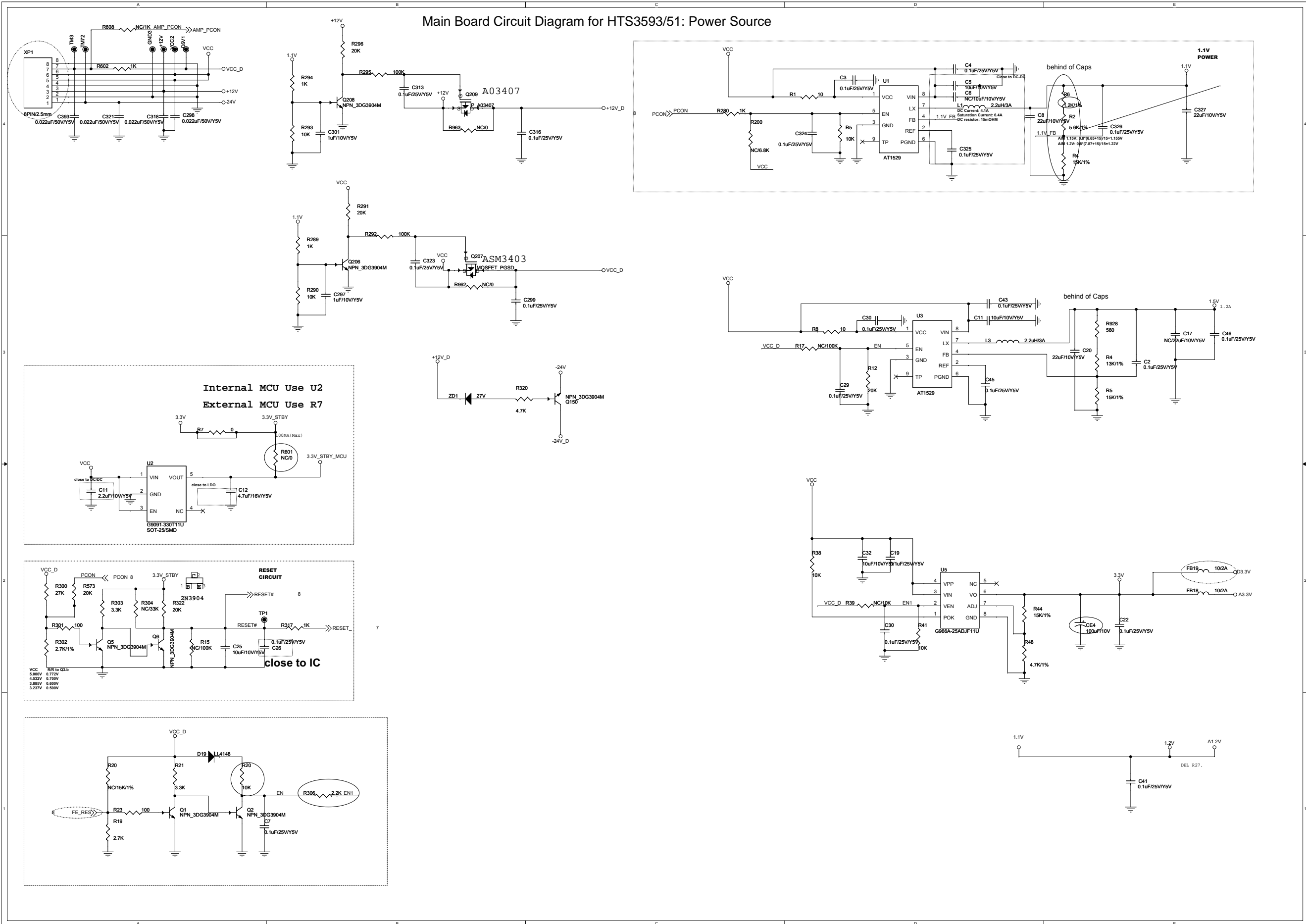
2

3

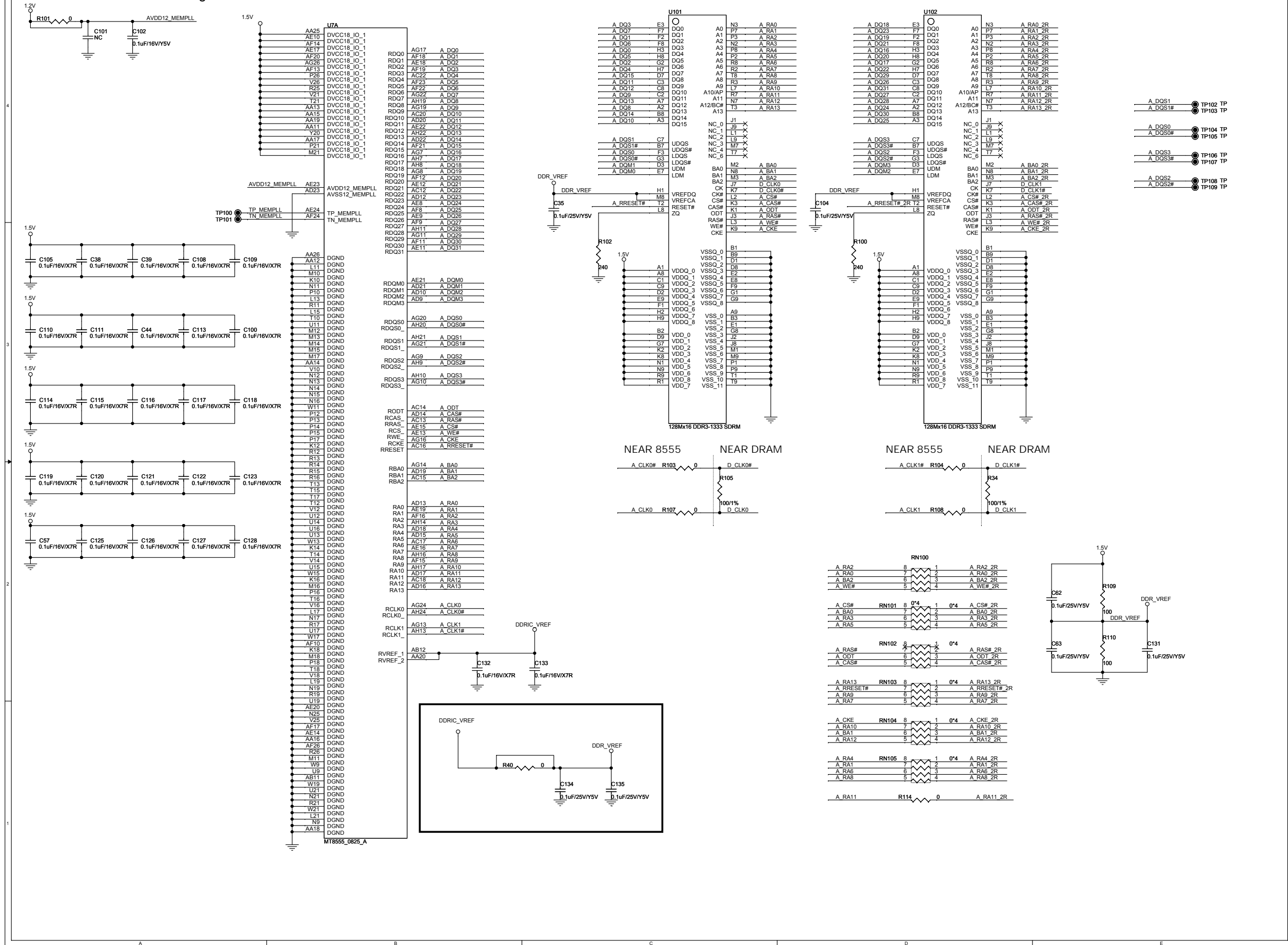
4



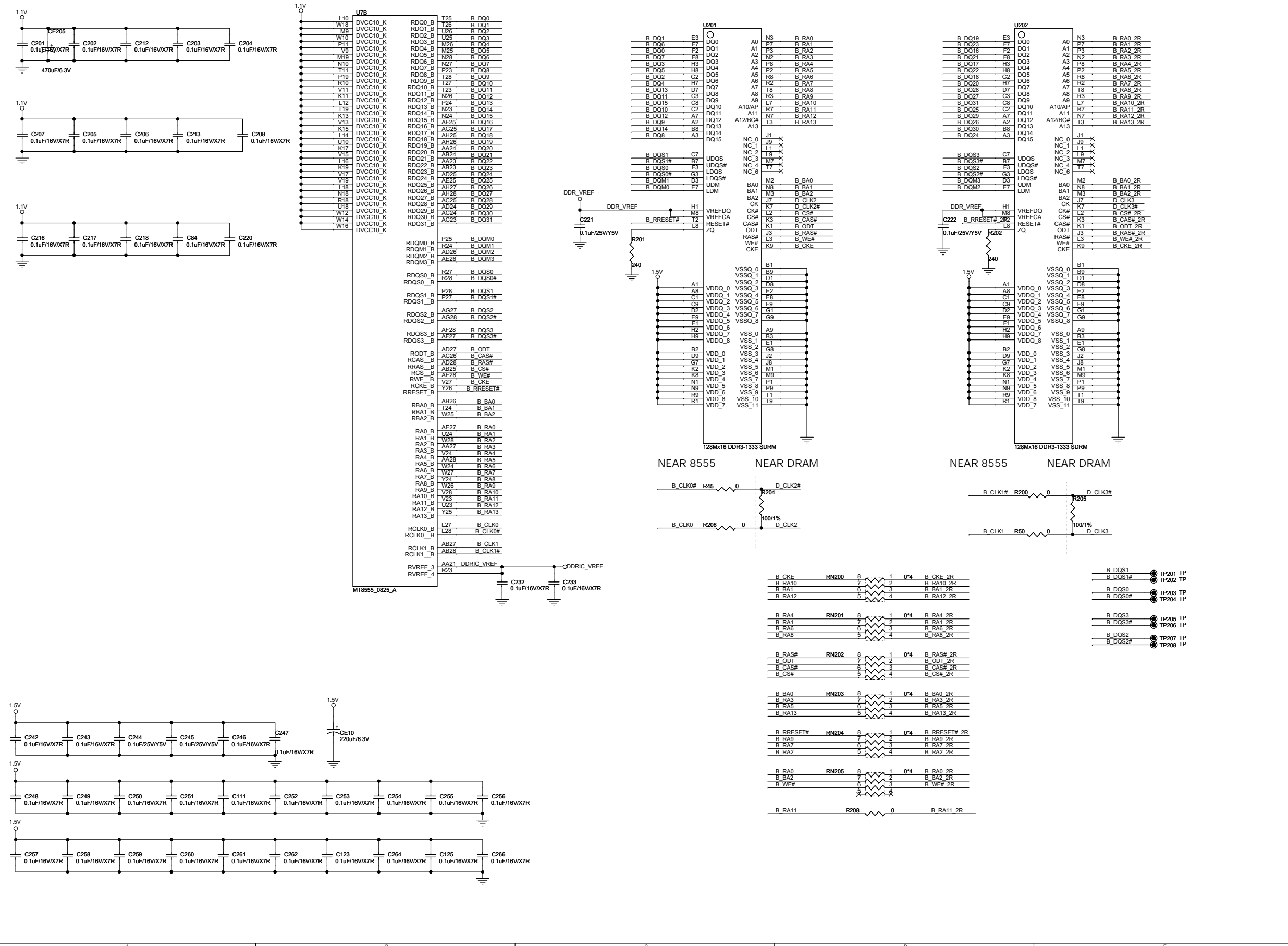
Main Board Circuit Diagram for HTS3593/51: Power Source



Main Board Circuit Diagram for HTS3593/51: MT8555 - DDR Part1

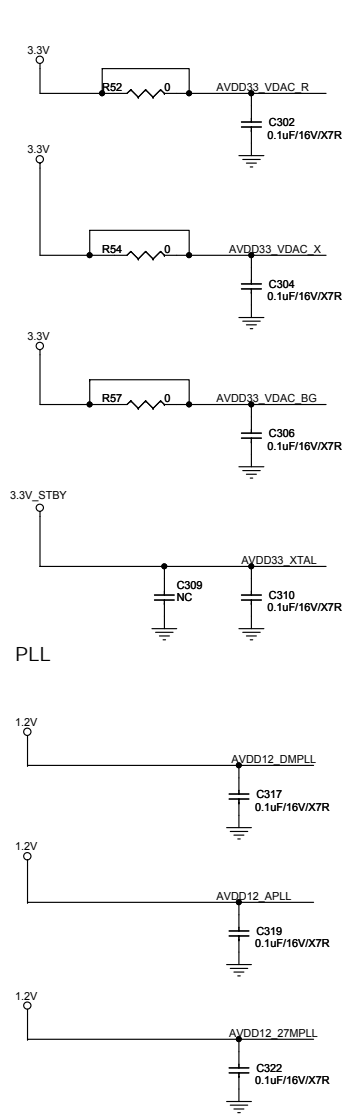


Main Board Circuit Diagram for HTS3593/51: MT8555 - DDR Part2



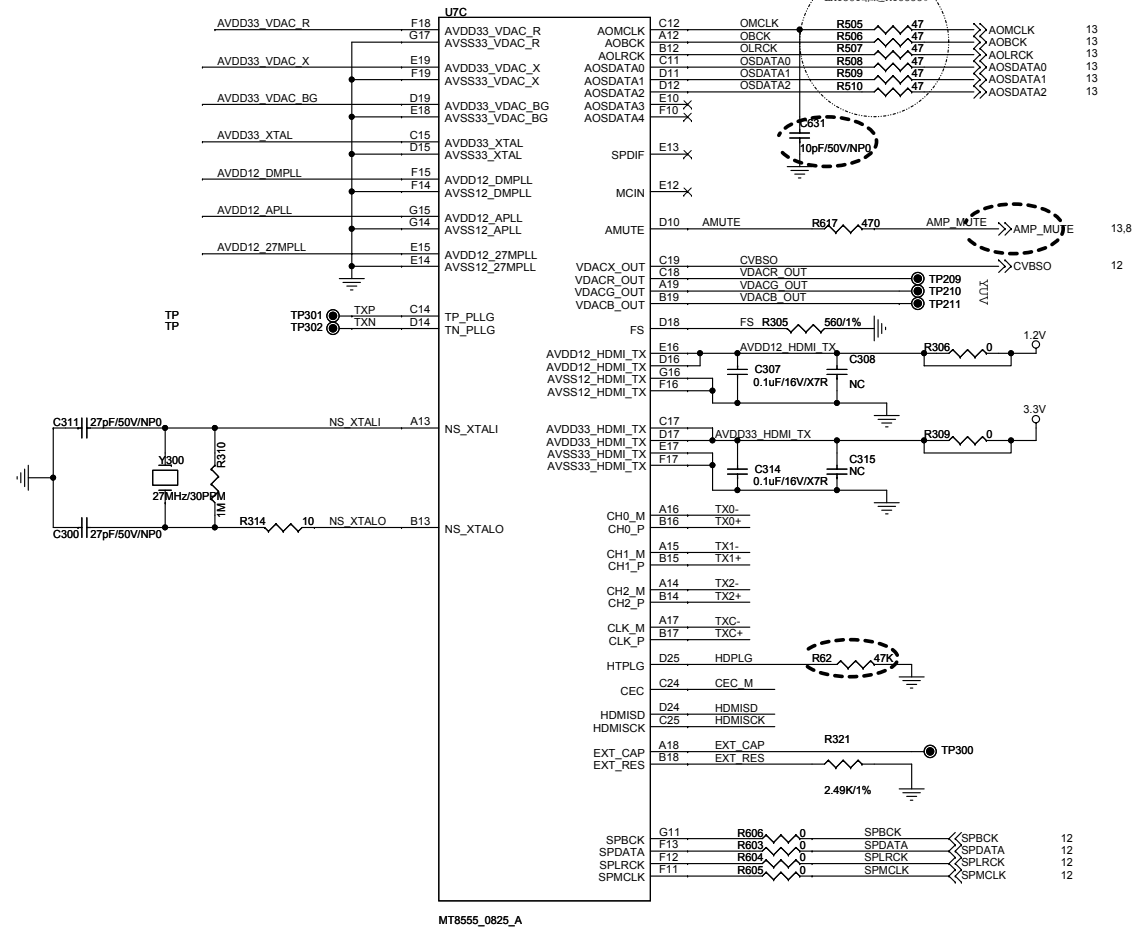
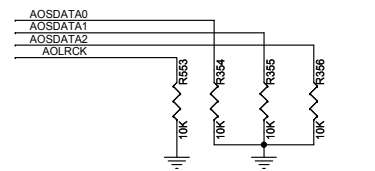
Main Board Circuit Diagram for HTS3593/51: MT555_HDMI_Output

3.3V Analog Power



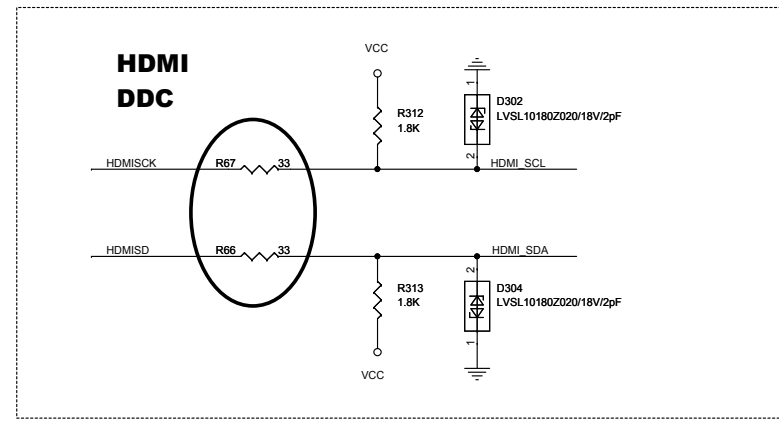
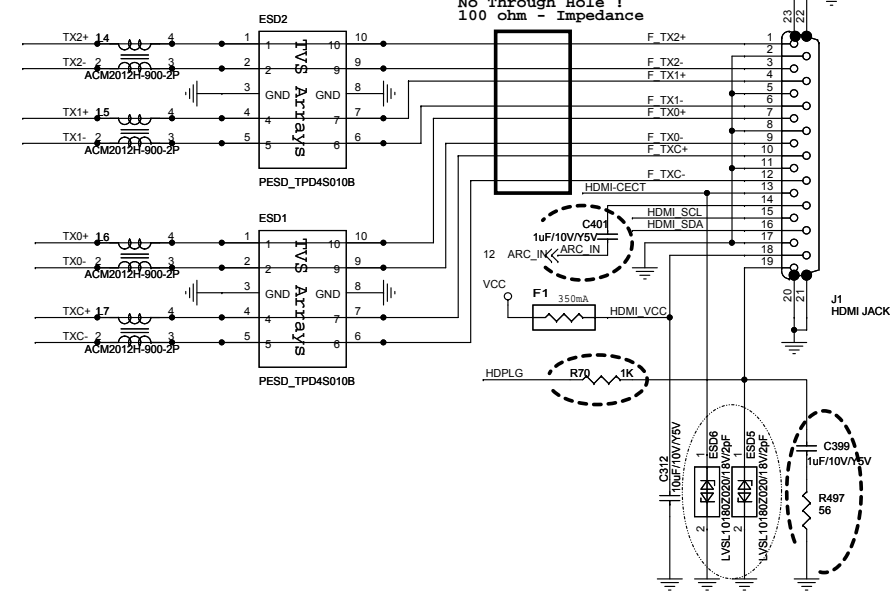
For PLL testing

Reserved hardware trap

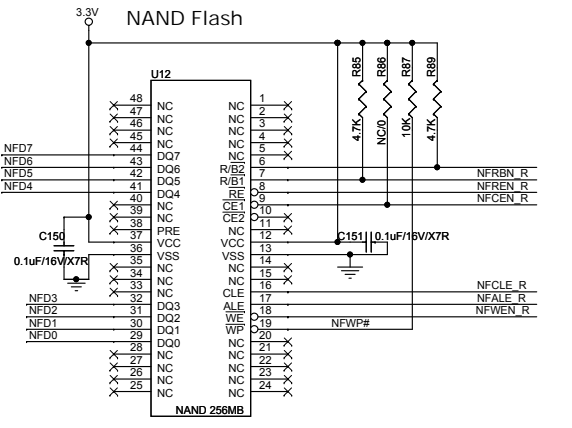
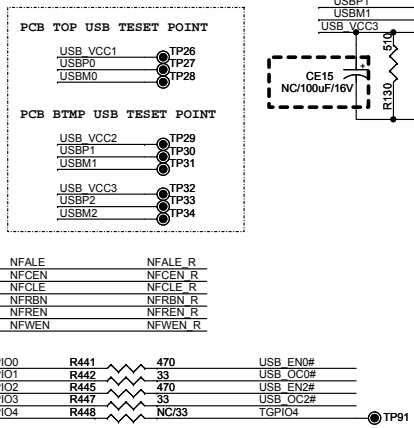
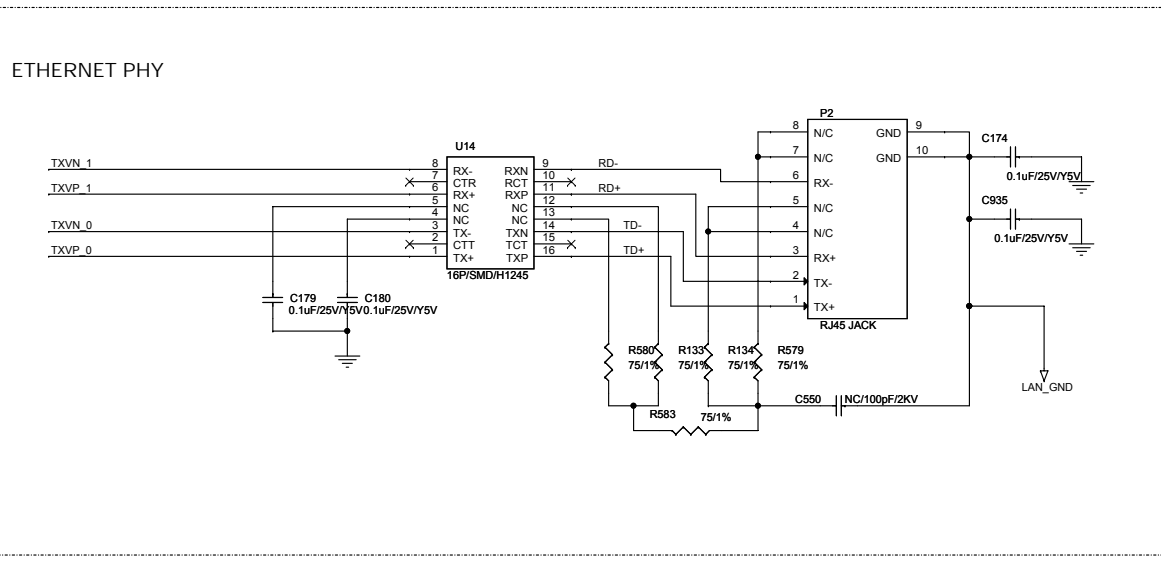
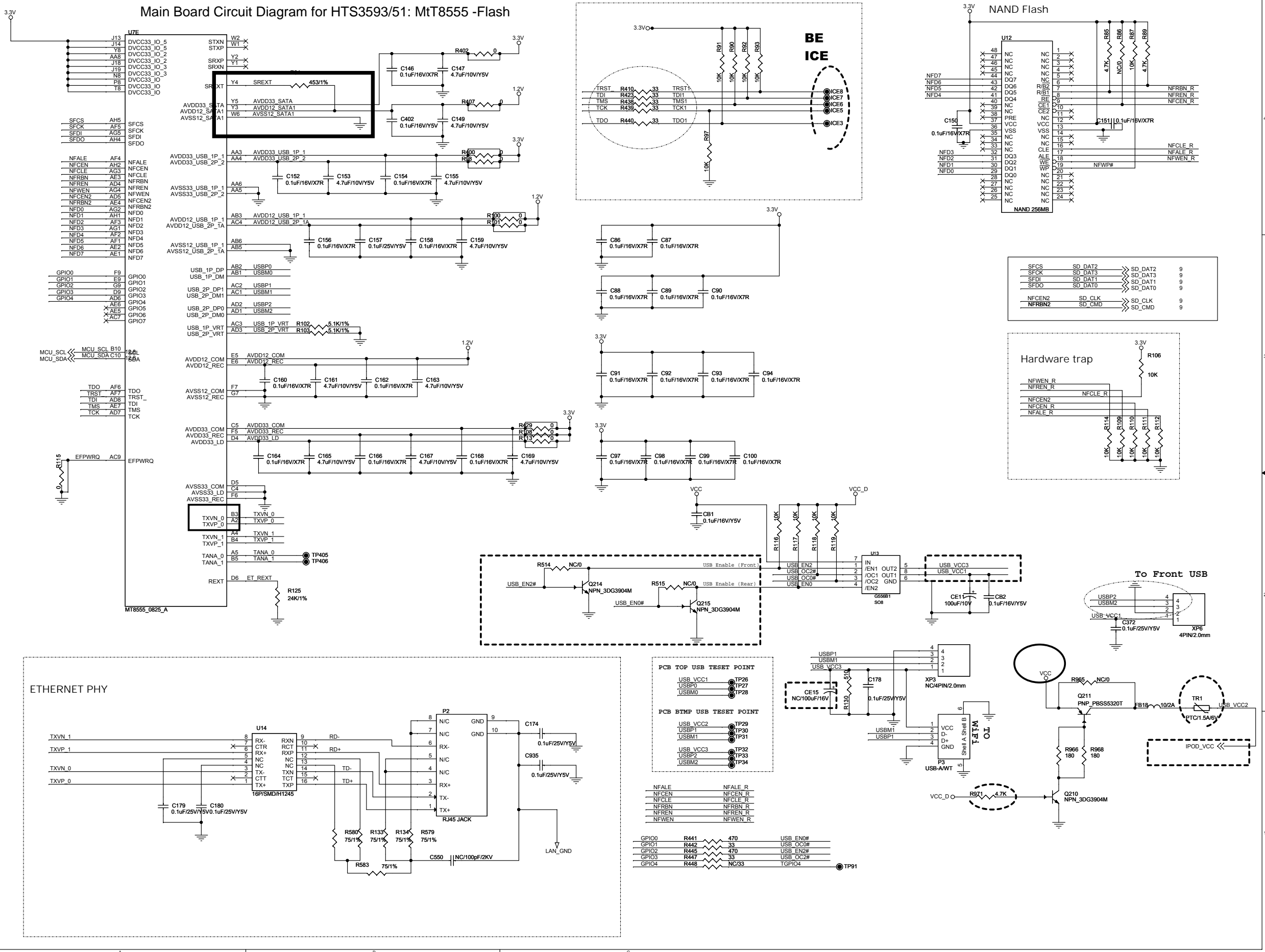


MT8555_0825_A

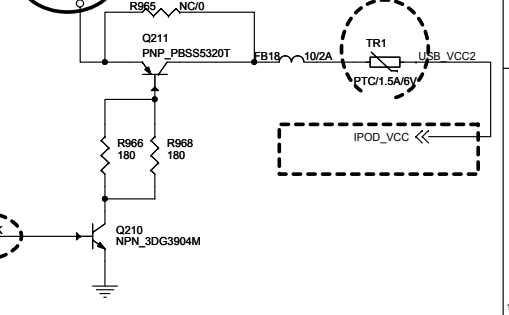
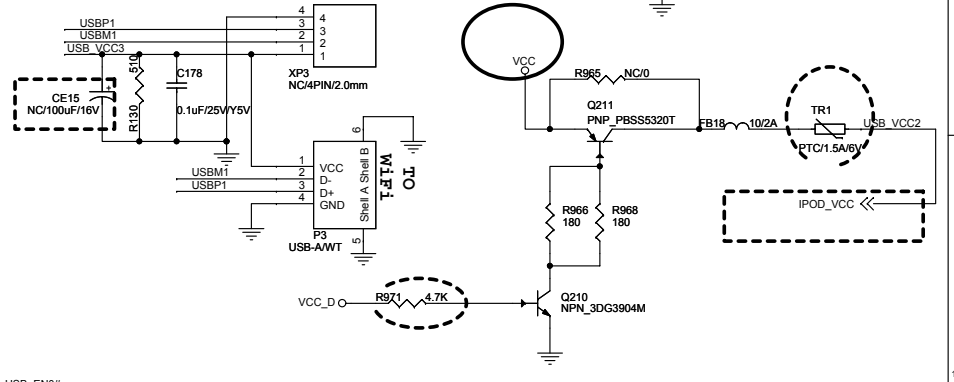
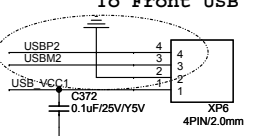
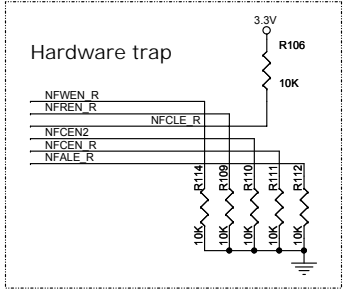
HDMI Port



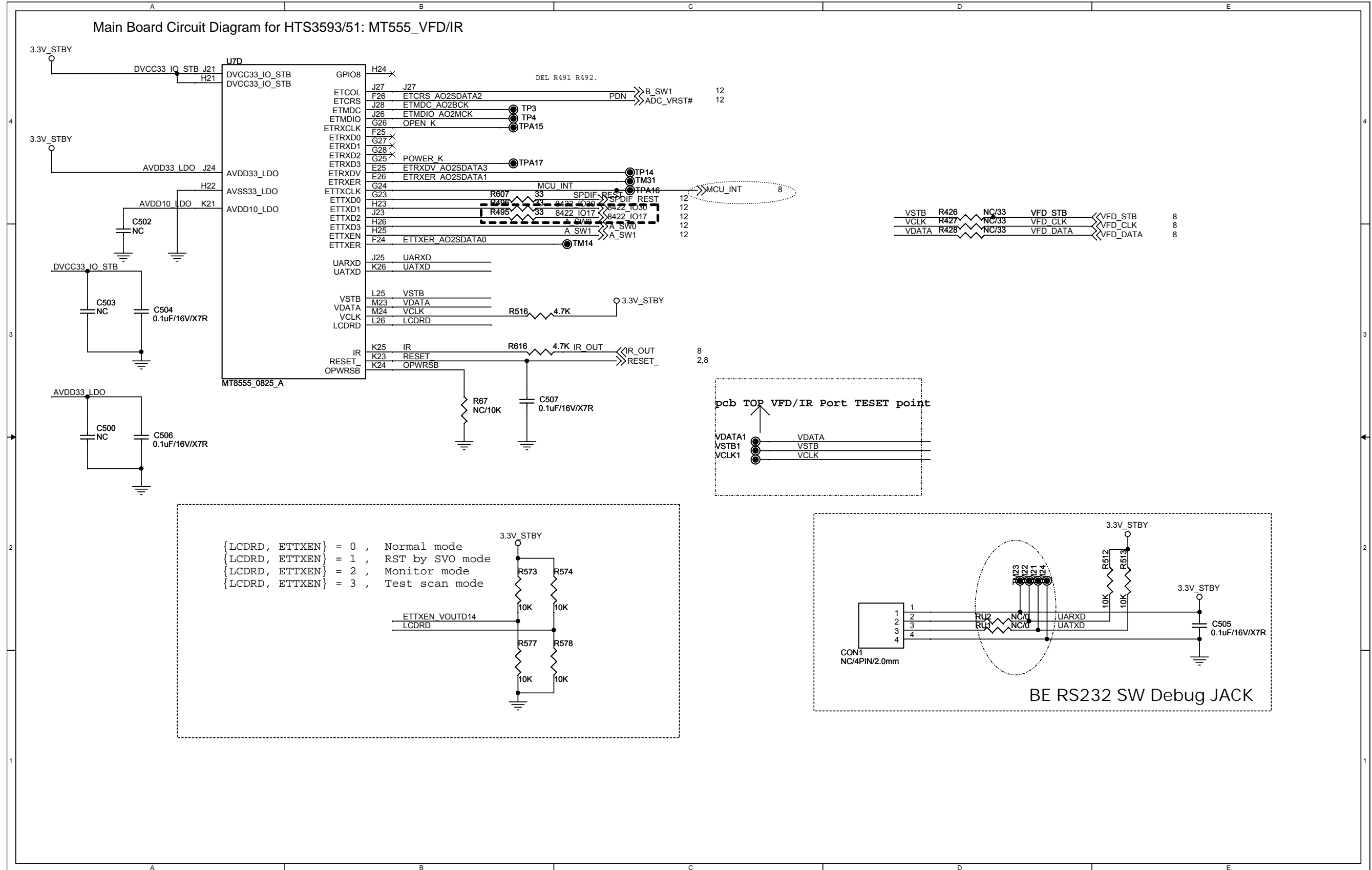
Main Board Circuit Diagram for HTS3593/51: MtT8555 -Flash



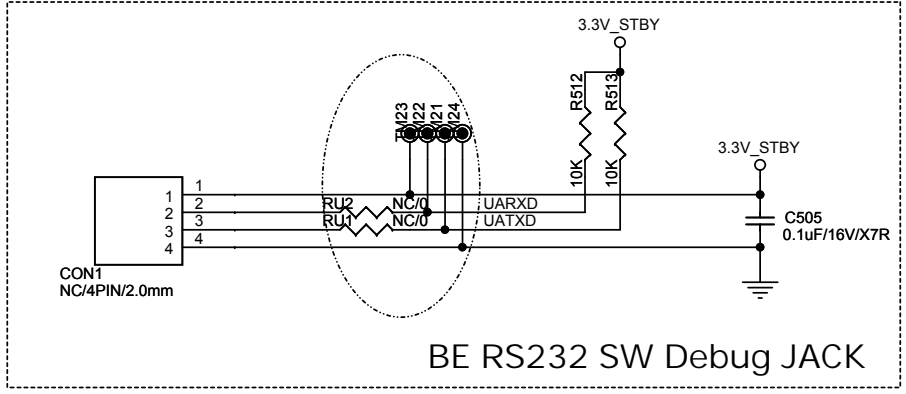
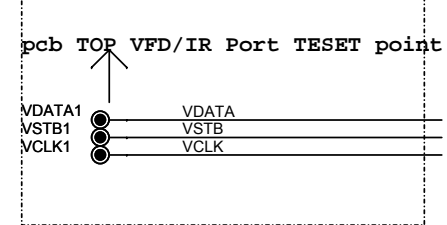
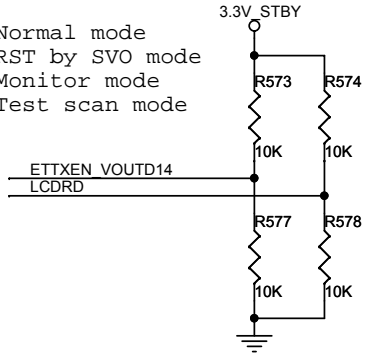
SFCs	SD_DAT2	SD_DAT2	9
SFCk	SD_DAT3	SD_DAT3	9
SFDI	SD_DAT1	SD_DAT1	9
SFDQ	SD_DAT0	SD_DAT0	9
NFCEN2	SD_CLK	SD_CLK	9
NFRBN2	SD_CMD	SD_CMD	9



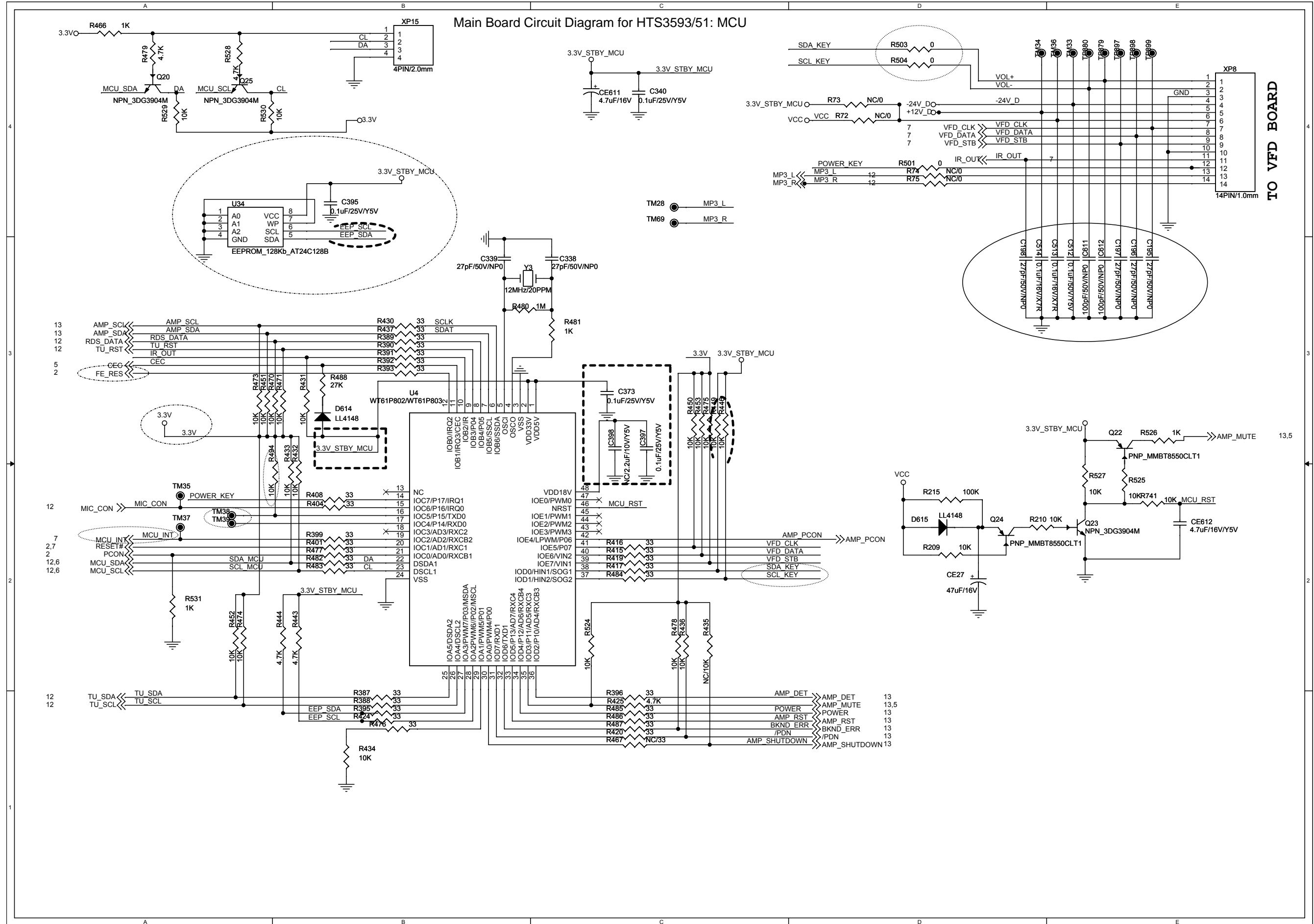
Main Board Circuit Diagram for HTS3593/51: MT555_VFD/IR

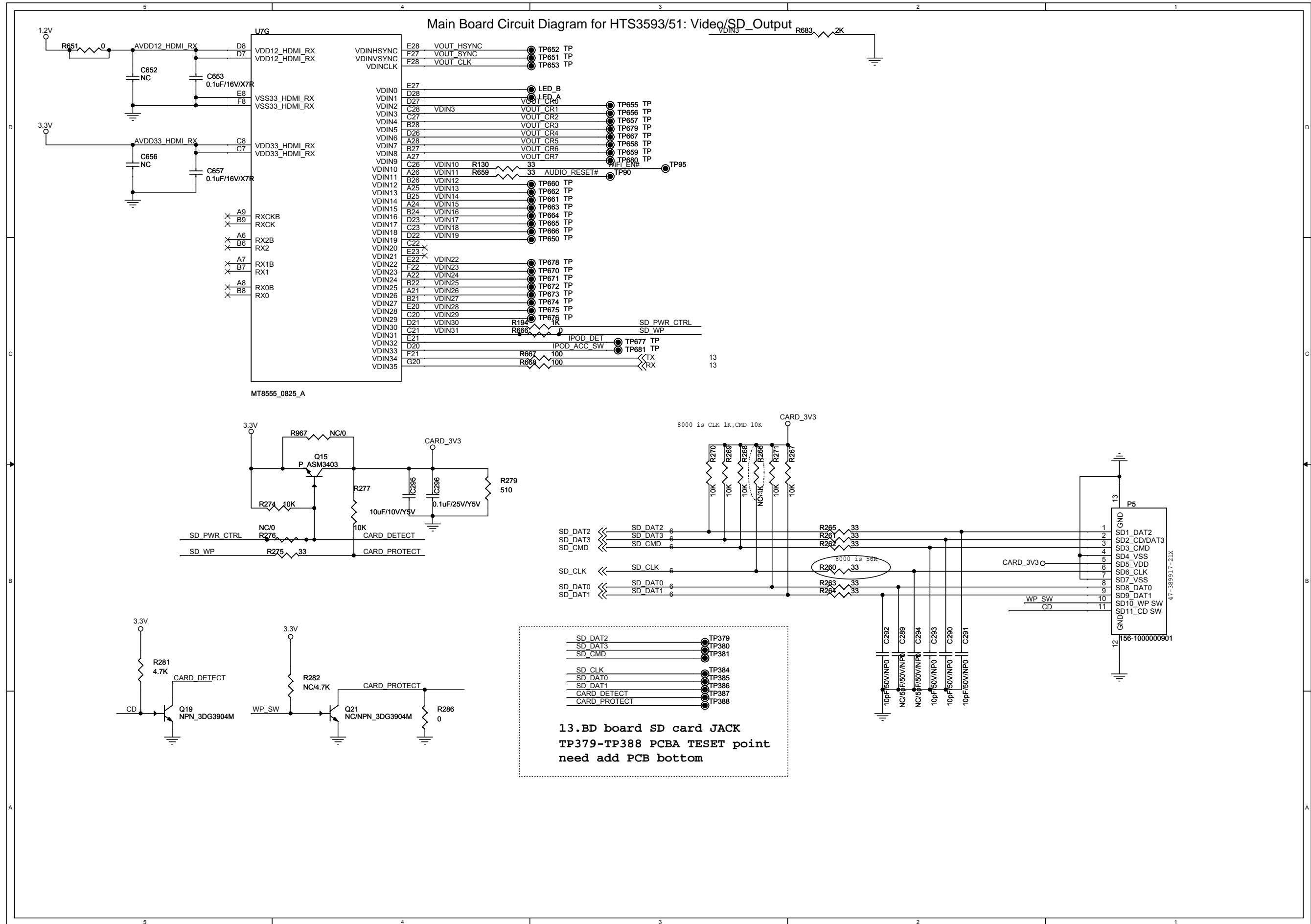


{LCDRD, ETTXEN} = 0 , Normal mode
 {LCDRD, ETTXEN} = 1 , RST by SVO mode
 {LCDRD, ETTXEN} = 2 , Monitor mode
 {LCDRD, ETTXEN} = 3 , Test scan mode

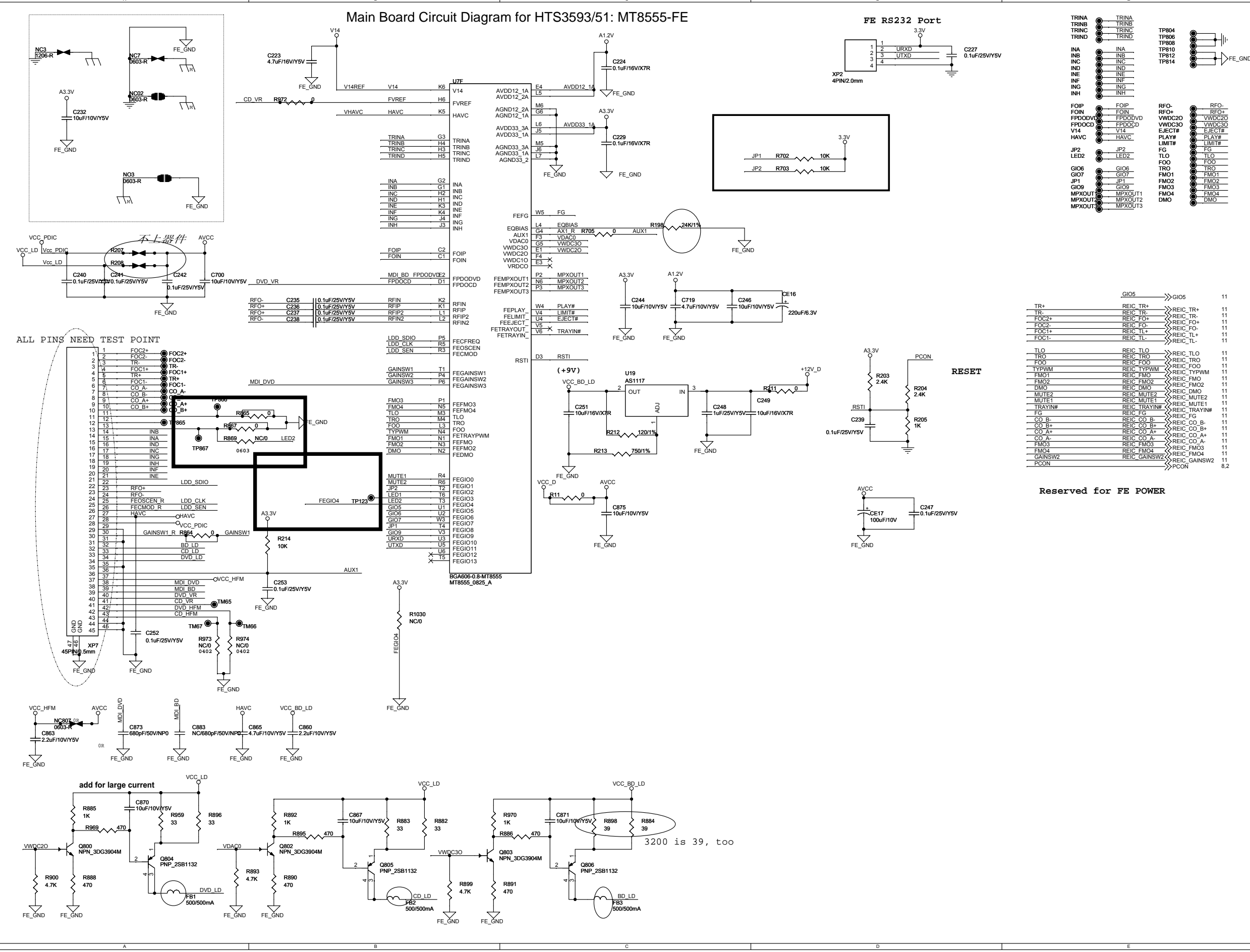


Main Board Circuit Diagram for HTS3593/51: MCU





Main Board Circuit Diagram for HTS3593/51: MT8555-FE



ALL PINS NEED TEST POINT

不上器件

FE RS232 Port

TRINA	TRINA	TRINA	TRINA
TRINB	TRINB	TRINB	TRINB
TRINC	TRINC	TRINC	TRINC
TRIND	TRIND	TRIND	TRIND
INA	INA	INA	INA
INB	INB	INB	INB
INC	INC	INC	INC
IND	IND	IND	IND
INE	INE	INE	INE
INF	INF	INF	INF
ING	ING	ING	ING
INH	INH	INH	INH
FOIP	FOIP	FOIP	FOIP
FOIN	FOIN	FOIN	FOIN
FPD0V1	FPD0V1	FPD0V1	FPD0V1
FPD0C1	FPD0C1	FPD0C1	FPD0C1
V14	V14	V14	V14
HAVC	HAVC	HAVC	HAVC
JP2	JP2	JP2	JP2
LED2	LED2	LED2	LED2
GIO6	GIO6	GIO6	GIO6
GIO7	GIO7	GIO7	GIO7
JP1	JP1	JP1	JP1
GIO9	GIO9	GIO9	GIO9
MPXOUT1	MPXOUT1	MPXOUT1	MPXOUT1
MPXOUT2	MPXOUT2	MPXOUT2	MPXOUT2
MPXOUT3	MPXOUT3	MPXOUT3	MPXOUT3
RFO-	RFO-	RFO-	RFO-
RFO+	RFO+	RFO+	RFO+
VWDC20	VWDC20	VWDC20	VWDC20
VWDC30	VWDC30	VWDC30	VWDC30
EJECT#	EJECT#	EJECT#	EJECT#
PLAY#	PLAY#	PLAY#	PLAY#
LIMIT#	LIMIT#	LIMIT#	LIMIT#
TLO	TLO	TLO	TLO
FOO	FOO	FOO	FOO
TRO	TRO	TRO	TRO
FMO1	FMO1	FMO1	FMO1
FMO2	FMO2	FMO2	FMO2
FMO3	FMO3	FMO3	FMO3
FMO4	FMO4	FMO4	FMO4
DMO	DMO	DMO	DMO

GIO5	GIO5	GIO5	GIO5
TR+	REIC TR+	REIC TR+	REIC TR+
TR-	REIC TR-	REIC TR-	REIC TR-
FOC2+	REIC FO+	REIC FO+	REIC FO+
FOC2-	REIC FO-	REIC FO-	REIC FO-
FOC1+	REIC TL+	REIC TL+	REIC TL+
FOC1-	REIC TL-	REIC TL-	REIC TL-
TLO	REIC TLO	REIC TLO	REIC TLO
TRO	REIC TRO	REIC TRO	REIC TRO
FOO	REIC FOO	REIC FOO	REIC FOO
TYPWM	REIC TYPWM	REIC TYPWM	REIC TYPWM
FMO1	REIC FMO	REIC FMO	REIC FMO
FMO2	REIC FMO2	REIC FMO2	REIC FMO2
DMO	REIC DMO	REIC DMO	REIC DMO
MUTE2	REIC MUTE2	REIC MUTE2	REIC MUTE2
MUTE1	REIC MUTE1	REIC MUTE1	REIC MUTE1
TRAYIN#	REIC TRAYIN#	REIC TRAYIN#	REIC TRAYIN#
FG	REIC FG	REIC FG	REIC FG
CO B-	REIC CO B-	REIC CO B-	REIC CO B-
CO B+	REIC CO B+	REIC CO B+	REIC CO B+
CO A+	REIC CO A+	REIC CO A+	REIC CO A+
CO A-	REIC CO A-	REIC CO A-	REIC CO A-
FMO3	REIC FMO3	REIC FMO3	REIC FMO3
FMO4	REIC FMO4	REIC FMO4	REIC FMO4
GAINSW2	REIC GAINSW2	REIC GAINSW2	REIC GAINSW2
PCON	PCON	PCON	PCON

Reserved for FE POWER

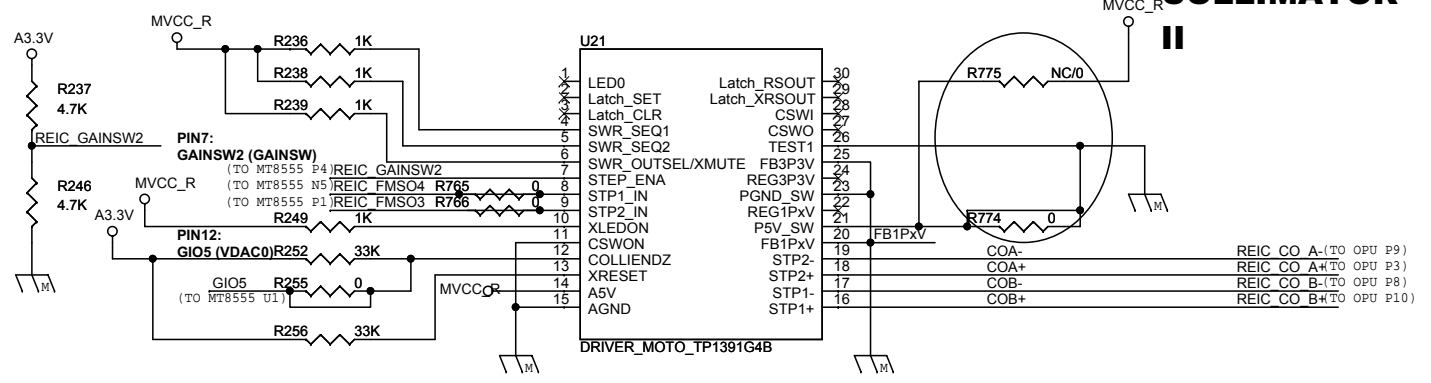
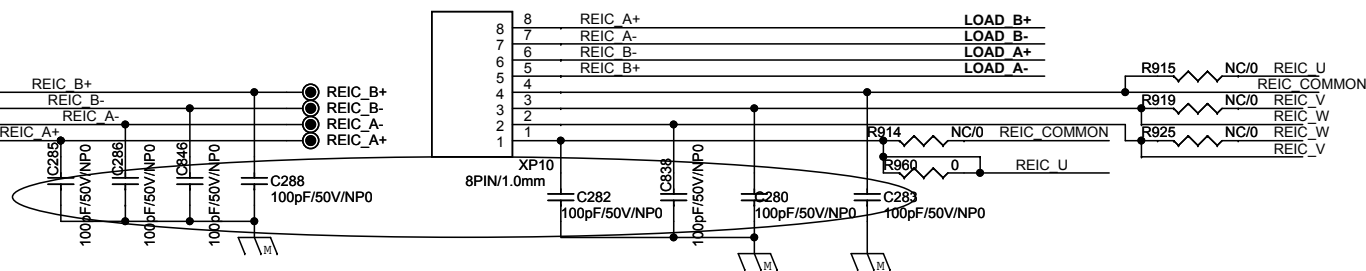
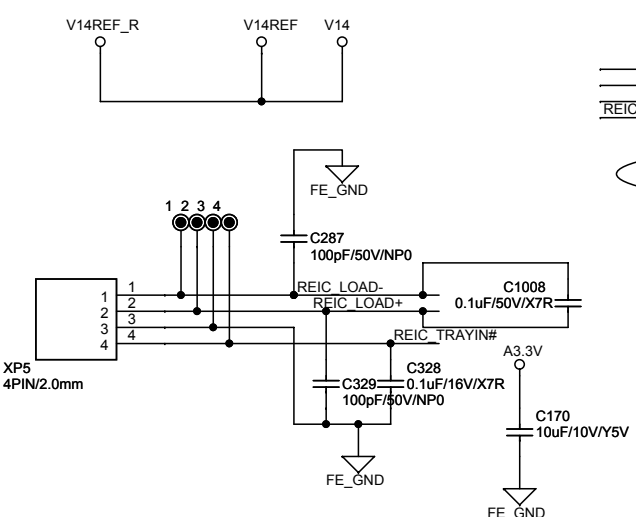
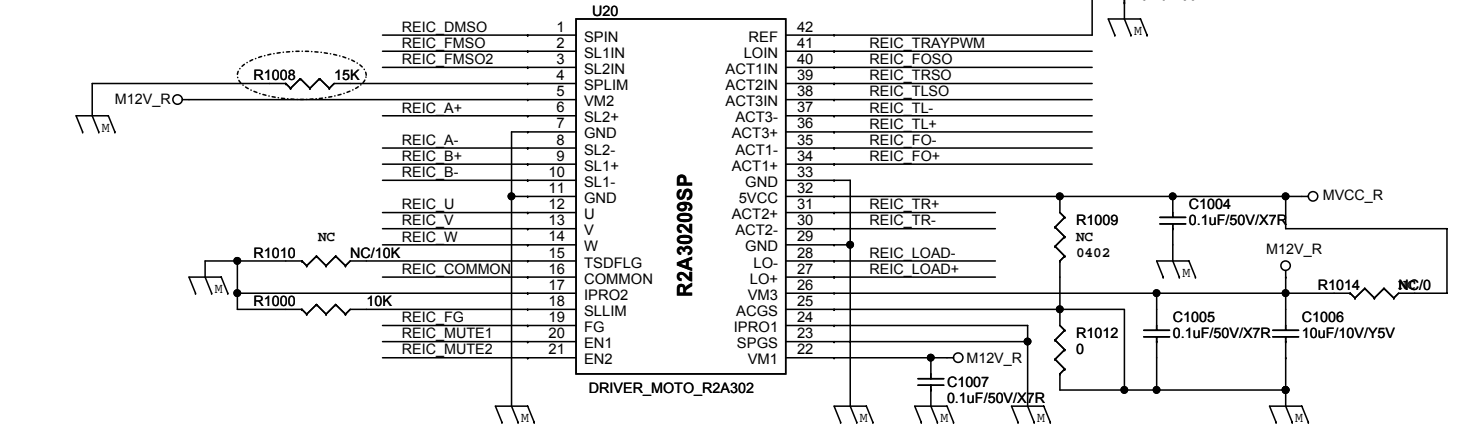
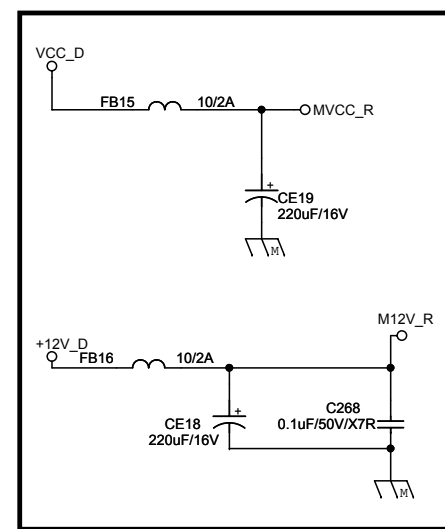
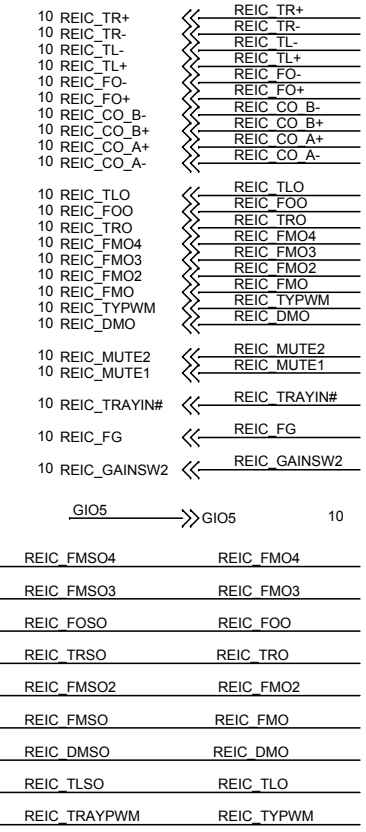
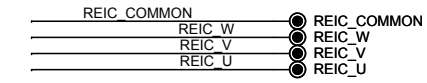
(+9V)

RESET

3200 is 39, too

Main Board Circuit Diagram for HTS3593/51: MOTOR-Driver

Motor Driver
Sensorless

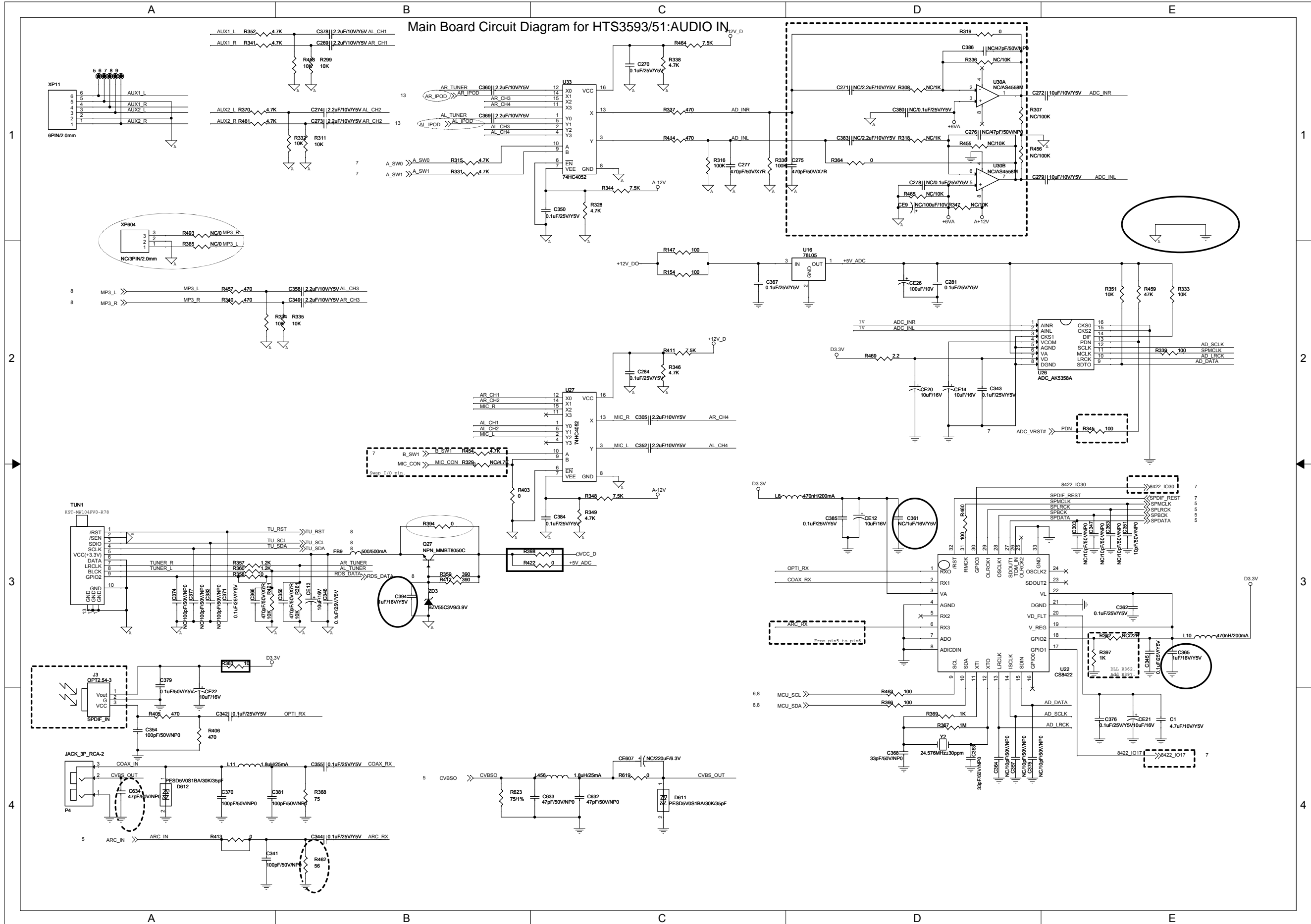


COLLIMATOR

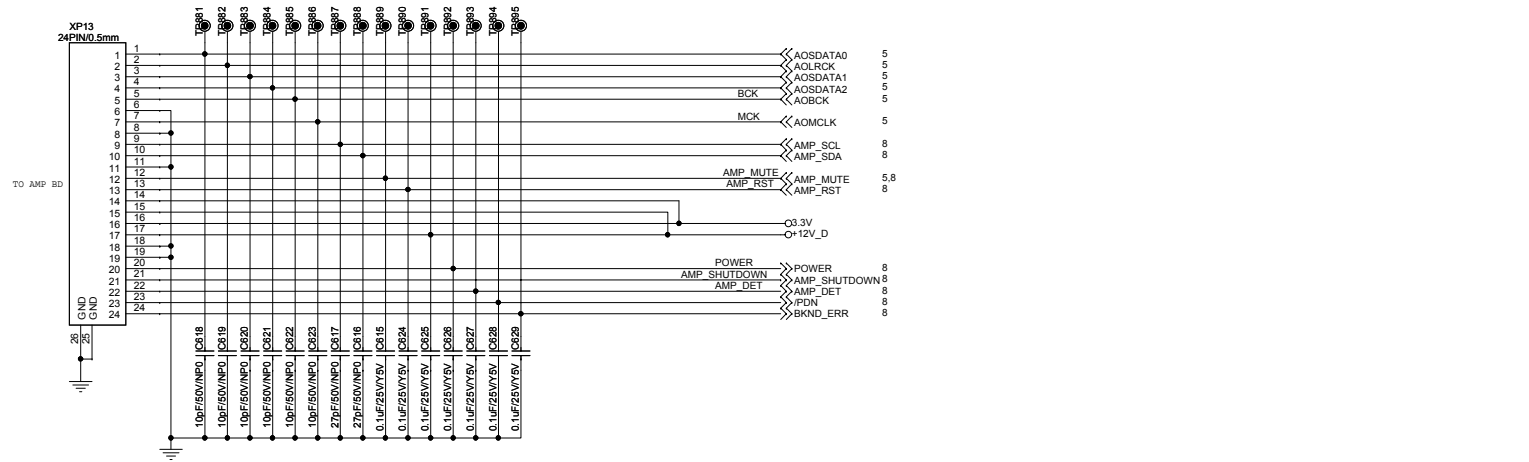
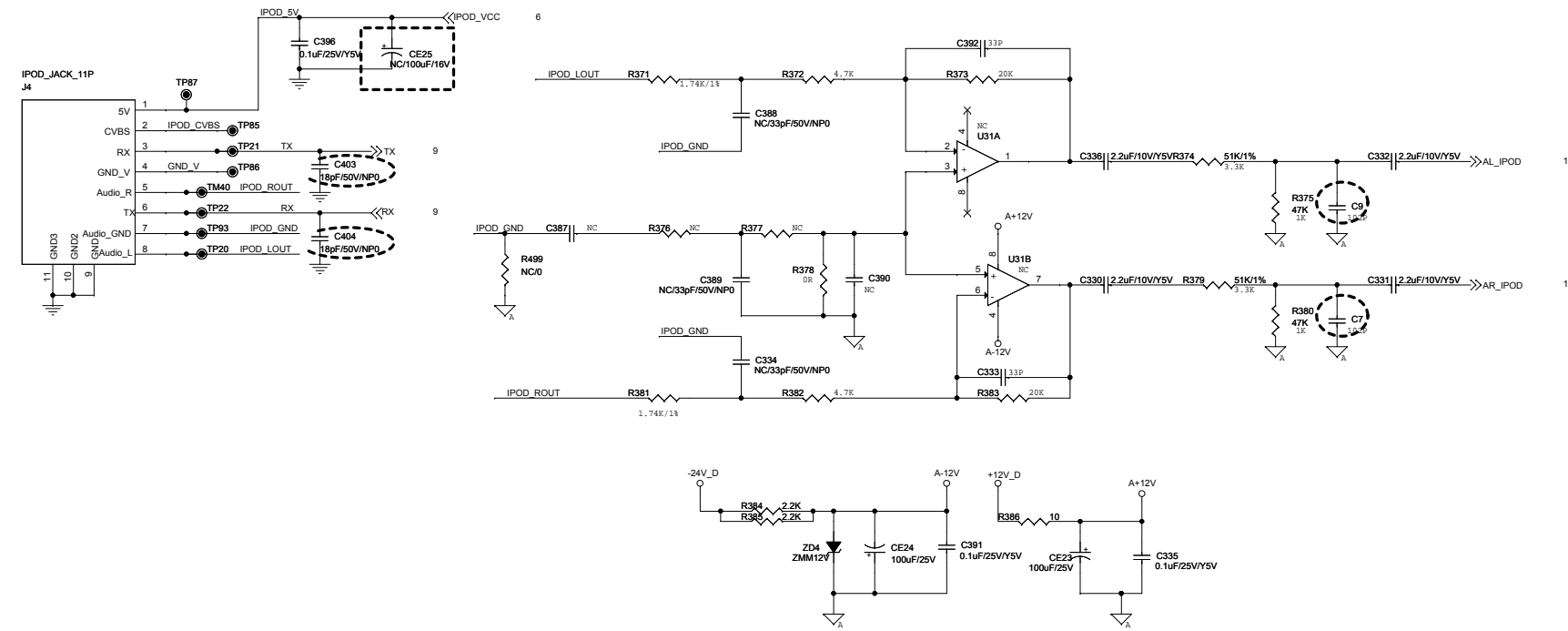
sanyo 414H08	R915	R919	R925	R914	R947	R962	NC
	R918	R924	R932	R960	R946	R961	0 R
Hitach HOP-B1350	R918	R924	R932	R960	R946	R961	NC
	R915	R919	R925	R914	R947	R962	0 R

When use Hitach OPU R863 is 10K

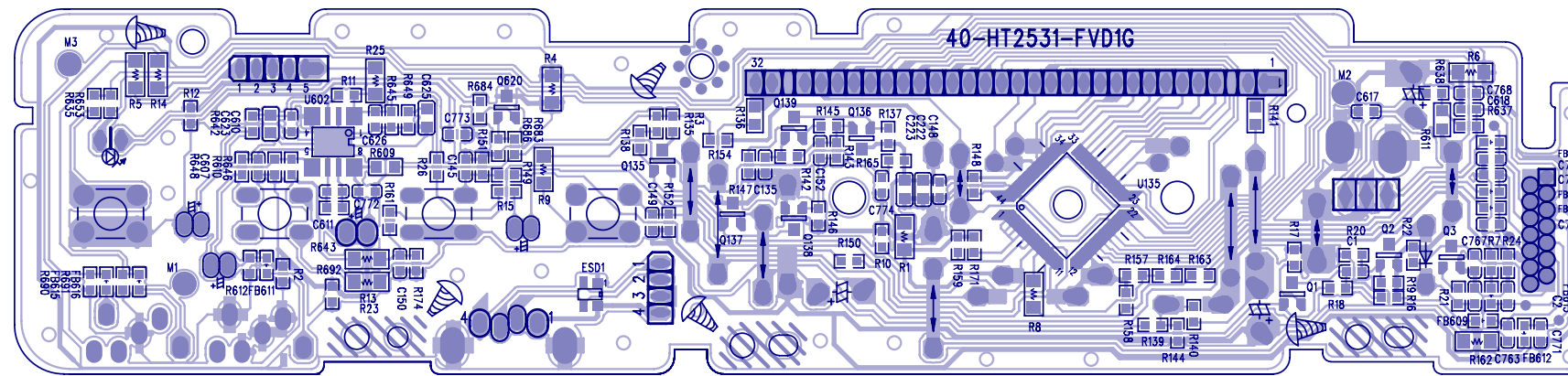
Main Board Circuit Diagram for HTS3593/51:AUDIO IN



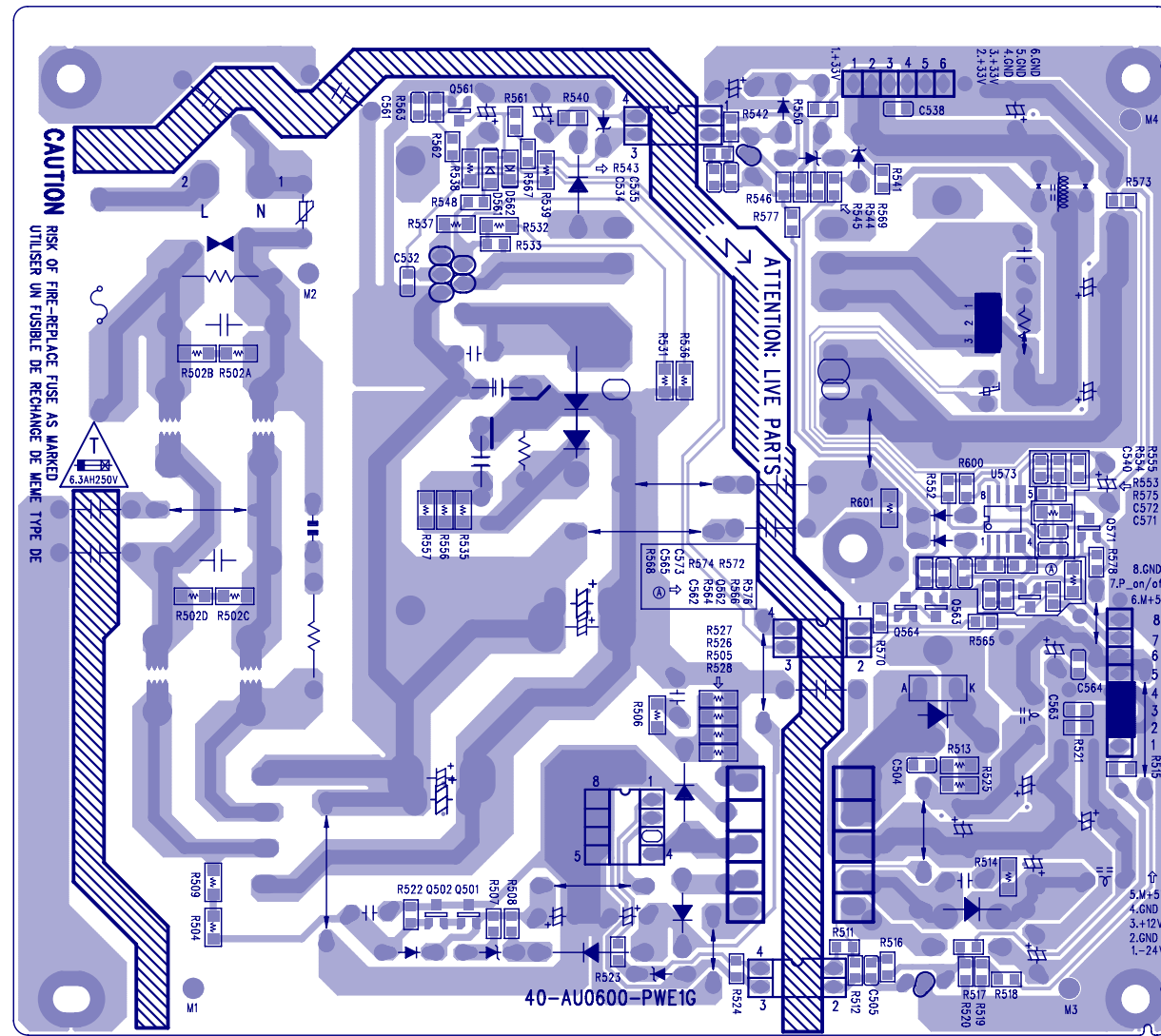
Main Board Circuit Diagram for HTS3593/51: IPOD



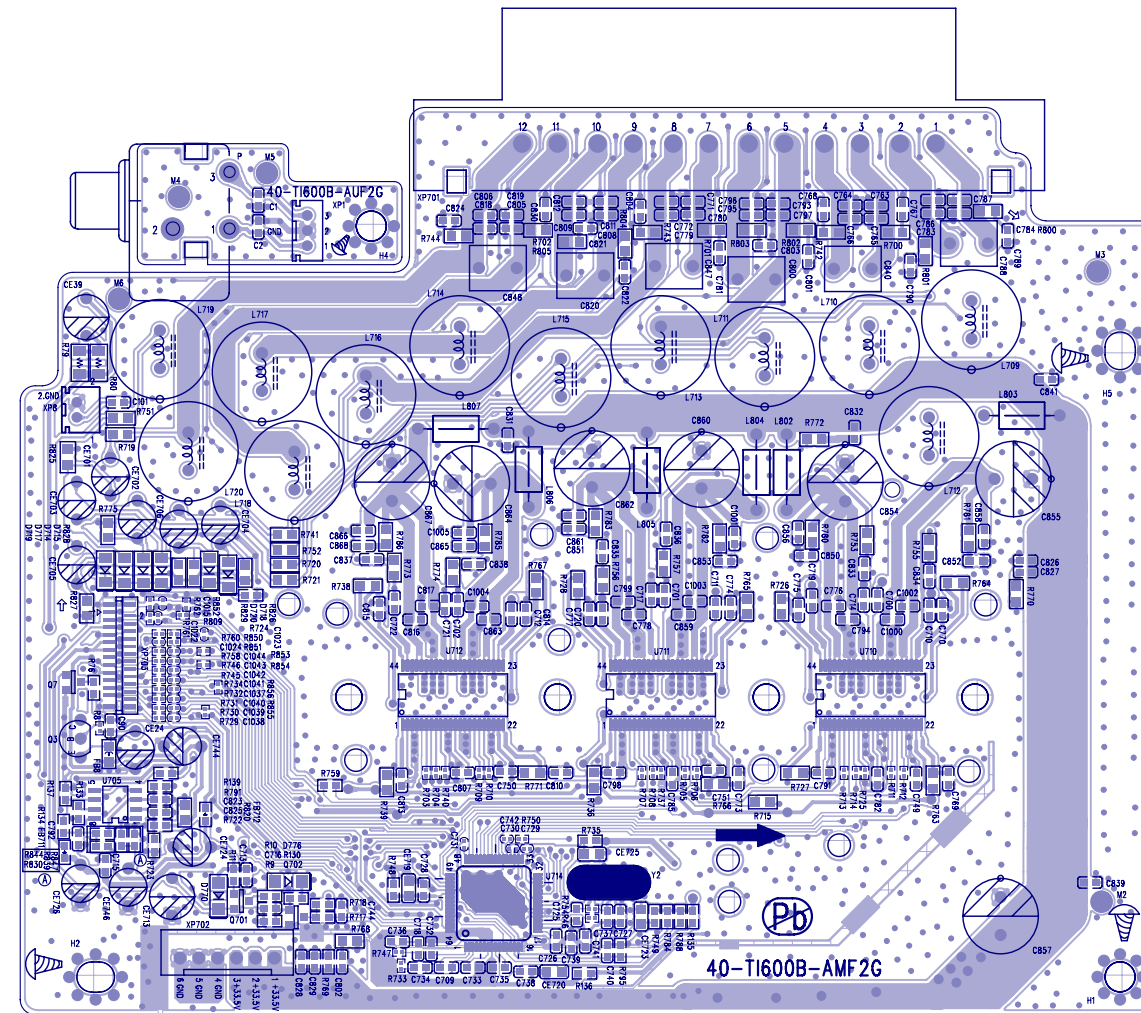
Front Control Board Print-layout (Bottom Side):



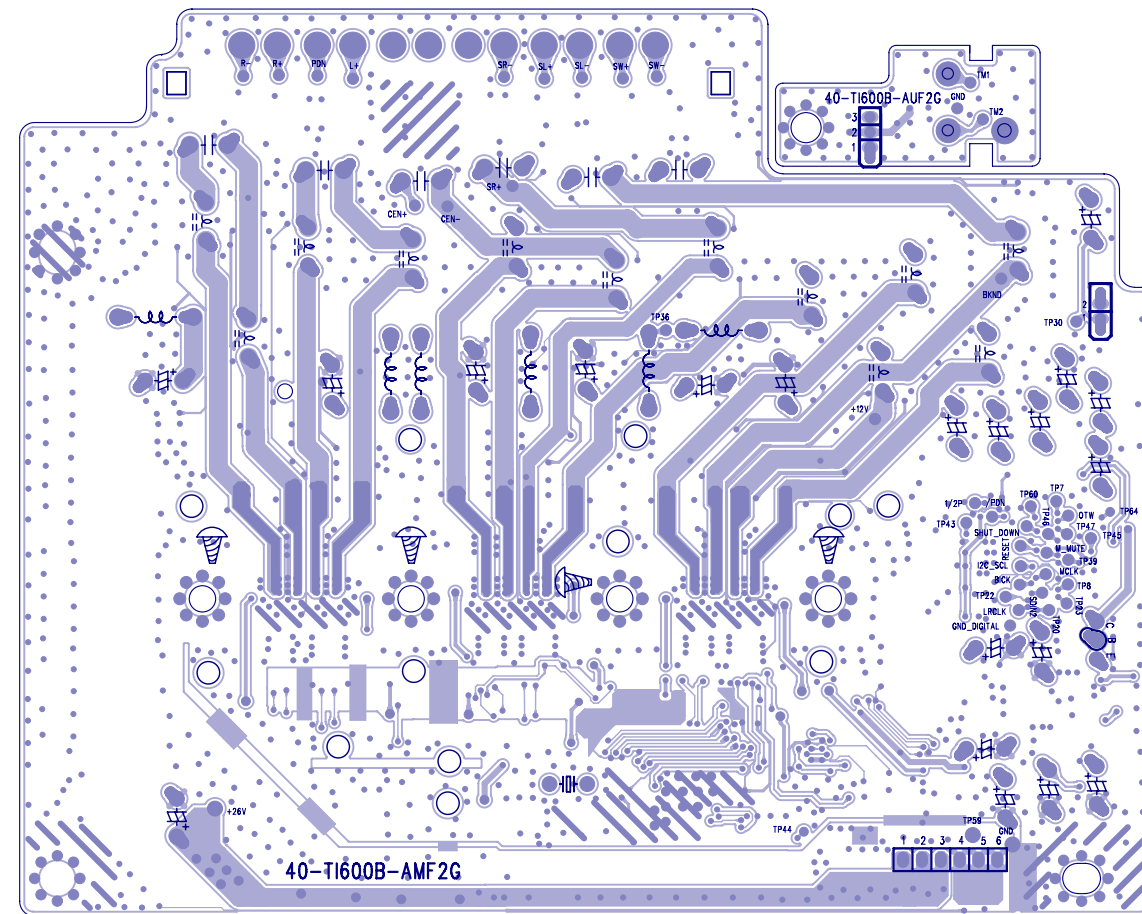
Power Supply Print-layout (Bottom Side):



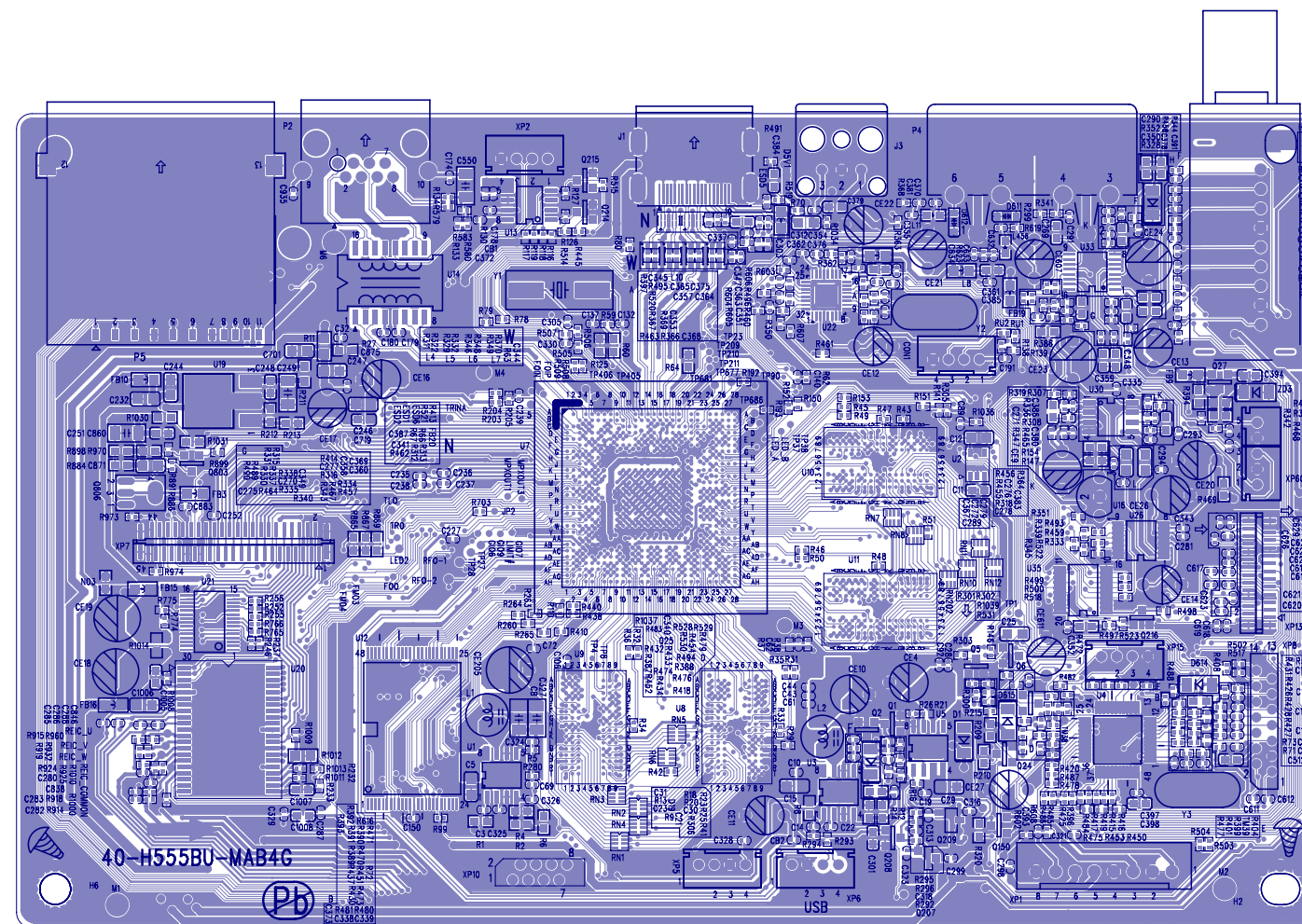
Amplifier Board Print-layout (Top Side):



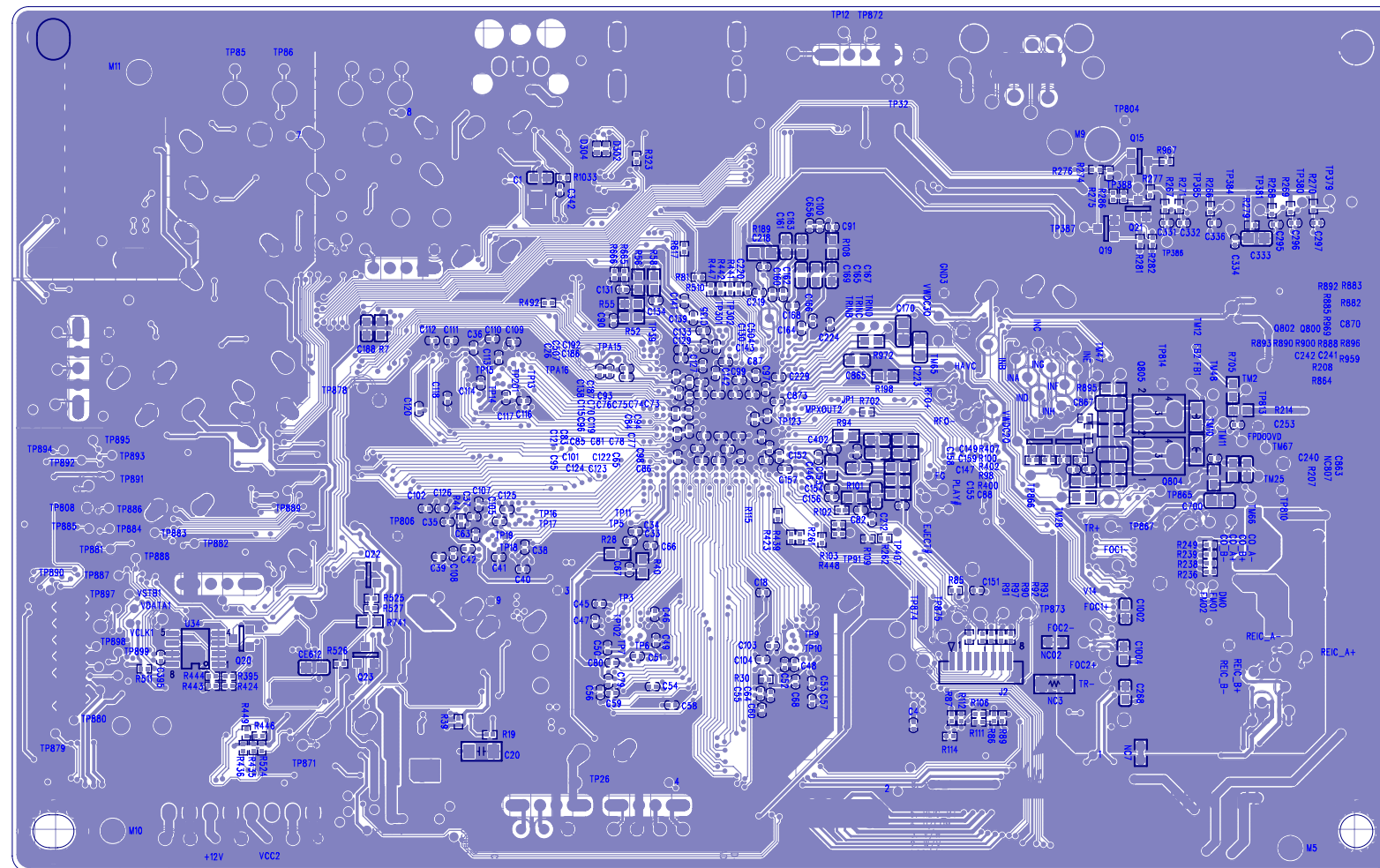
Amplifier Board Print-layout (Bottom Side):



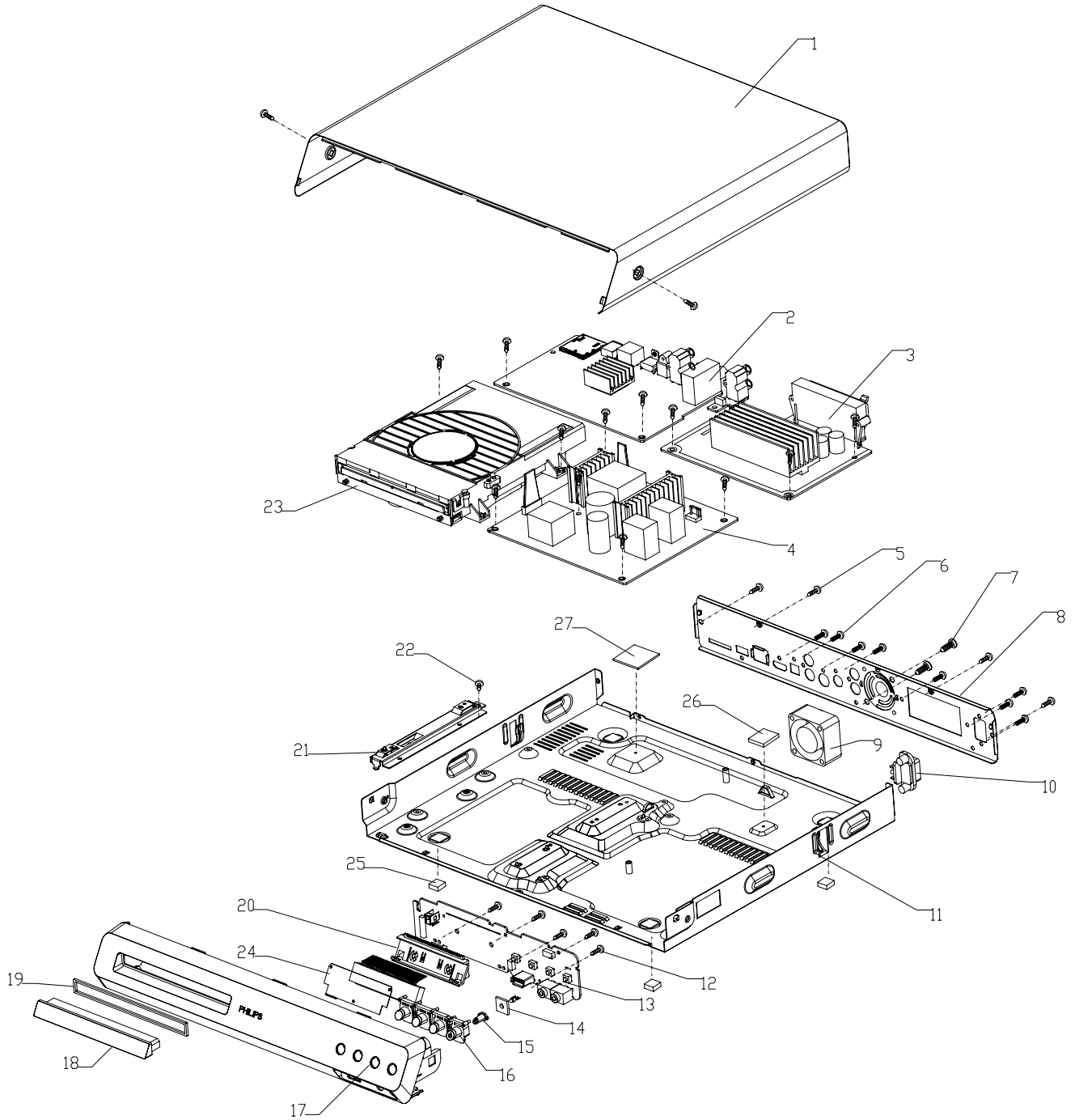
Main Board Print-layout (Top Side):



Main Board Print-layout (Bottom Side):



Exploded View for HTS3593/12/51:



REVISION LIST

Version 1.0

* Initial release for HTS3593/12/51