

# Service Service **Service**



# Service Manual

## TABLE OF CONTENTS

|                                                | Chapter |
|------------------------------------------------|---------|
| Technical Specification, PCBs Location.....    | 1       |
| Safety Instruction .....                       | 2       |
| Instruction for Use.....                       | 3       |
| Mechanical and Dismantling Instructions.....   | 4       |
| Service Modes, Troubleshooting.....            | 5       |
| Overall Block Diagram, Wiring Diagram.....     | 6       |
| Electrical Diagram.....                        | 7       |
| Exploded View Diagram & Service Part List..... | 8       |
| Revision List.....                             | 9       |

©Copyright 2011 Philips Consumer Electronics B.V. Eindhoven, The Netherlands  
All rights reserved. No part of this publication may be reproduced, stored in a retrieval system or transmitted, in any form or by any means, electronic, mechanical, photocopying, or otherwise without the prior permission of Philips.

## 1.0 TECHNICAL SPECIFICATION

### VIDEO/ AUDIO Characteristic Testing discs

Test discs: DOLBY: Dolby Test disc  
ABEX: TDV-540A

#### Video (PAL / NTSC)

White bar : 714mV +10%/-20%  
Sync. Amplitude: 286mV  $\pm$ 40mV  
Burst/chroma ratio:  $\pm$  15%  
S/N luminance: >42 dB

### POWER CONSUMPTION

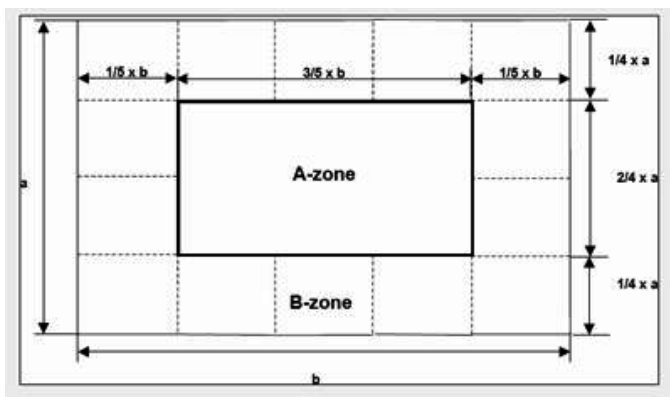
Power-Supply(AC-DC Adaptor):  
Supply voltage: AC 100~240V  $\pm$ 10%  
Supply Power consumption(AC adaptor 100/240V): 9V 0.8A +10%  
DC Power supply(Operate voltage range): 6.3V-15.49V $\pm$ 10%  
Standby Power (AC adaptor, no load),264VAC: <0.75W

### GENERAL DESCRIPTION

9" TFT portable DVD player  
Key Components: N/A  
Optical Pickup: Sanyo 870PH  
Loader:ASA PM2371-D/FORYOU DM520  
Solution: MTK MT1389Q-DE  
Disc Size: 12/8cm  
Regional code: region 2 ,/12 version  
Playable disc type: DVD-RW/DVD-R/CD/CD-R/CD-RW  
Video format: DVD / SVCD / JPEG / MPEG4 / DIVX3, 4,5,6(Home theater)  
Video output signal: PAL /NTSC  
Audio format: CD / MP3(32 - 320 kbps)  
Video DAC: 10 bit / 54 MHz  
Audio D/A converter: 96KHz / 24-bit  
User Interface: Philips GUI same as PET745  
OSD language: English/French /Germany/Spanish/ Italian for /00, /05 version.  
Screen Saver function: Yes  
Button functions: Refer to MUS  
SD/MMC slot:N/A  
USB:YES

### DVD PORTABLE PANEL ACCEPTANCE

DVD Portable panel acceptance  
/37/17 region: 0 bright dot, 2 color dot, 3 dead dot  
Other region: 1 bright, 2 color dot, 3 dead dot  
Distance between dot  $\geq$  2cm  
No bright dot is permitted for A-zone



## 1.1 PCBs Location

---

### VERSION VARIATIONS

| <div> <div>Type/Versions:</div> <div>Service policy</div> </div> | PD9030 |    |    |    |    |  |  |
|------------------------------------------------------------------|--------|----|----|----|----|--|--|
|                                                                  | 05     | 12 | 51 | 79 | 37 |  |  |
| Board in used:                                                   |        |    |    |    |    |  |  |
| MAIN BOARD                                                       | C      | C  | C  | C  | C  |  |  |
| KEY BOARD                                                        | M      | M  | M  | M  | M  |  |  |
| TFT BOARD                                                        | M      | M  | M  | M  | M  |  |  |

**\*TIPS:** C -- Component Lever Repair.  
 M -- Module Lever Repair  
 X -- OCX

## 1.2 Software Upgrade procedure

---

### Procedure for SW upgrade

1. unzip the .bin file from RAR package
2. copy the file in a CD-ROM or USB
3. read the CD-ROM or USB, followed the display tips, press "OK" key to start the upgrade

PS:

Write the file to a CD-ROM like the way to create a data disc:

- 1, make sure your PC has disc recorder
- 2, draw the file to DVD/CD RAM
- 3, your PC might show the tip to insert a disc to the DVD/CD RAM, then pls insert a CDROM
- 4, click the "write" to start the copy process

**Warning: Do not unplug the AC adapter during firmware upgrade to prevent flash corrupt of the set!!**

### Procedure to check SW version of your DVD Portable

1. OPEN
2. Press SETUP MENU
3. Select Preferences
4. Select Version Info
5. Press "OK" key

## 2.0 SAFETY INSTRUCTIONS

**(GB)** WARNING

All ICs and many other semi-conductors are susceptible to electrostatic discharges (ESD). Careless handling during repair can reduce life drastically. When repairing, make sure that you are connected with the same potential as the mass of the set via a wrist wrap with resistance. Keep components and tools also at this potential.

**ESD****(NL)** WAARSCHUWING

Alle IC's en vele andere halfgeleiders zijn gevoelig voor electrostatische ontladingen (ESD). Onzorgvuldig behandelen tijdens reparatie kan de levensduur drastisch doen verminderen. Zorg ervoor dat u tijdens reparatie via een polsband met weerstand verbonden bent met hetzelfde potentiaal als de massa van het apparaat. Houd componenten en hulpmiddelen ook op hetzelfde potentiaal.

**(F)** ATTENTION

Tous les IC et beaucoup d'autres semi-conducteurs sont sensibles aux décharges statiques (ESD). Leur longévité pourrait être considérablement écourtée par le fait qu'aucune précaution n'est prise à leur manipulation. Lors de réparations, s'assurer de bien être relié au même potentiel que la masse de l'appareil et enfiler le bracelet serti d'une résistance de sécurité. Veiller à ce que les composants ainsi que les outils que l'on utilise soient également à ce potentiel.

**(D)** WARNUNG

Alle ICs und viele andere Halbleiter sind empfindlich gegenüber elektrostatischen Entladungen (ESD). Unsorgfältige Behandlung im Reparaturfall kann die Lebensdauer drastisch reduzieren. Veranlassen Sie, dass Sie im Reparaturfall über ein Pulsarmband mit Widerstand verbunden sind mit dem gleichen Potential wie die Masse des Gerätes. Bauteile und Hilfsmittel auch auf dieses gleiche Potential halten.

**(I)** AVVERTIMENTO

Tutti IC e parecchi semi-conduttori sono sensibili alle scariche statiche (ESD). La loro longevità potrebbe essere fortemente ridatta in caso di non osservazione della più grande cauzione alla loro manipolazione. Durante le riparazioni occorre quindi essere collegato allo stesso potenziale che quello della massa dell'apparecchio tramite un braccialetto a resistenza. Assicurarsi che i componenti e anche gli utensili con quali si lavora siano anche a questo potenziale.

**(GB)**

Safety regulations require that the set be restored to its original condition and that parts which are identical with those specified, be used.

"Pour votre sécurité, ces documents doivent être utilisés par des spécialistes agréés, seuls habilités à réparer votre appareil en panne".

**(NL)**

Veiligheidsbepalingen vereisen, dat het apparaat bij reparatie in zijn oorspronkelijke toestand wordt teruggebracht en dat onderdelen, identiek aan de gespecificeerde, worden toegepast.

**(F)**

Les normes de sécurité exigent que l'appareil soit remis à l'état d'origine et que soient utilisées les pièces de rechange identiques à celles spécifiées.

**(D)**

Bei jeder Reparatur sind die geltenden Sicherheitsvorschriften zu beachten. Der Originalzustand des Geräts darf nicht verändert werden; für Reparaturen sind Original-Ersatzteile zu verwenden.

**(I)**

Le norme di sicurezza esigono che l'apparecchio venga rimesso nelle condizioni originali e che siano utilizzati i pezzi di ricambio identici a quelli specificati.

"After servicing and before returning set to customer perform a leakage current measurement test from all exposed metal parts to earth ground to assure no shock hazard exist. The leakage current must not exceed 0.5mA."

**(GB)** Warning !

Invisible laser radiation when open. Avoid direct exposure to beam.

**(S)** Varning !

Osynlig laserstrålning när apparaten är öppnad och spårren är urkopplad. Betrakta ej strålen.

**(SF)** Varoitus !

Avatussa laitteessa ja suojalukituksen ohitettaessa olet alttiina näkymättömälle laserisäteilylle. Älä katso säteeseen!

**DK** Advarsel !

Usynlig laserstråling ved åbning når sikkerhedsafbrydere er ude af funktion. Undgå udsættelse for stråling.

Caution: These servicing instructions are for use by qualified service personnel only.

To reduce the risk of electric shock do not perform any servicing other than that contained in the operating instructions unless you are qualified to do so.

## 2.1 ESD PROTECTION

- レンズには絶対に触れないでください。
- DO NOT TOUCH THE LENS.
- LINSE NICHT BRÜHREN.
- NE PAS TOUCHER LA LENTILLE.

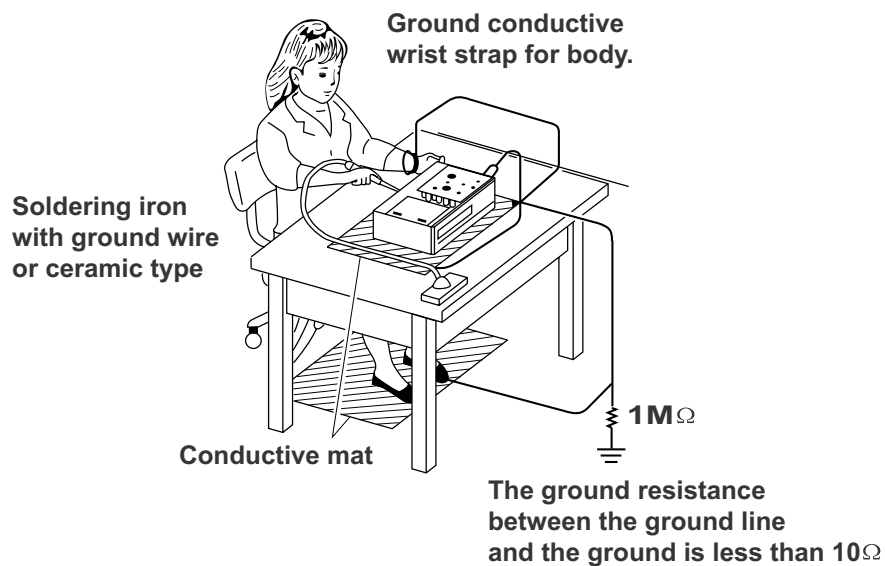
When the power supply is being turned on, you may not remove this laser cautions label. If it removes, radiation of laser may be received.

## PREPARATION OF SERVICING

Pickup Head consists of a laser diode that is very susceptible to external static electrocity.

Although it operates properly after replacement, if it was subject to electrostatic discharge during replacement, its life might be shortened. When replacing, use a conductive mat, soldering iron with ground wire, etc. to protect the laser diode form damage by static electricity.

And also, the LSI and IC are same as above.



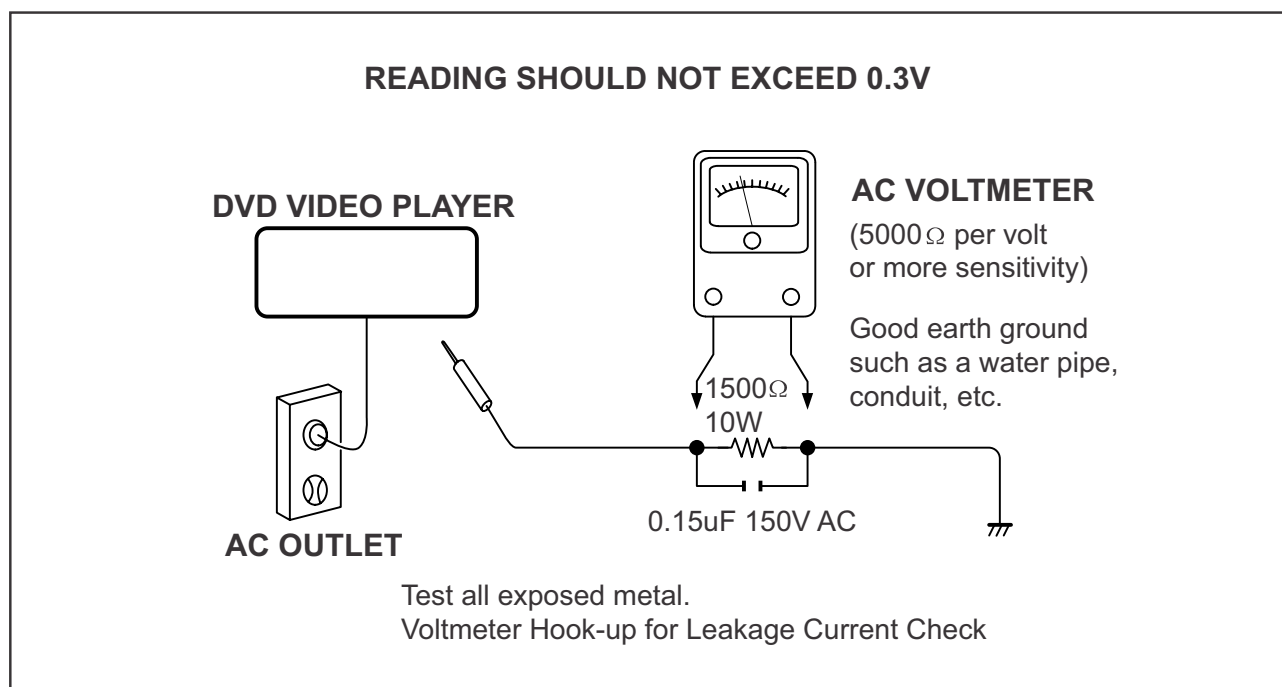
## SAFTY NOTICE

### SAFTY PRECAUTIONS

#### LEAKAGE CURRENT CHECK

Plug the AC line cord directly into a 120V AC outlet (do not use an isolation transformer for this check). Use an AC voltmeter, having  $5000\Omega$  per volt or more sensitivity. Connect a  $1500\Omega$  10W resistor, paralleled by a  $0.15\mu\text{F}$  150V AC capacitor between a known good earth ground (water pipe, conduit, etc.) and all exposed metal parts of cabinet (antennas, handle bracket, metal cabinet screwheads, metal overlays, control shafts, etc.).

Measure the AC voltage across the  $1500\Omega$  resistor. The test must be conducted with the AC switch on and then repeated with the AC switch off. The AC voltage indicated by the meter may not exceed 0.3V. A reading exceeding 0.3V indicates that a dangerous potential exists, the fault must be located and corrected. Repeat the above test with the DVD VIDEO PLAYER power plug reversed. NEVER RETURN A DVD VIDEO PLAYER TO THE CUSTOMER WITHOUT TAKING NECESSARY CORRECTIVE ACTION.



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

## 2.2 SAFETY INSTRUCTIONS

---

### **Battery Handling Guideline**

Since the battery is packed in soft package, to ensure its better performance, it's very important to carefully handle the battery

#### 2.2.1 Soft Aluminium foil

The soft aluminum packing foil is very easily damaged by sharp edge parts such as Ni-tabs, pins and needles.

- Don't strike battery with any sharp edge parts
- Trim your nail or wear glove before taking battery
- Clean worktable to make sure no any sharp particle



#### 2.2.2 Sealed edge

Sealing edge is very flimsy

- Don't bend or fold sealing edge



#### 2.2.3 Folding edge

The folding edge is form in battery process and passed all hermetic test.

- Don't open or deform folding edge



#### 2.2.4 Tabs

The battery tabs are not so stubborn especially for aluminum tab.

- Don't bend tab



#### 2.2.5 Mechanical shock

- Don't Fall, hit, bend battery body



#### 2.2.6 Short

Short terminals of battery is strictly prohibited, it may damage battery.

Caution: Danger of explosion if battery is incorrectly replaced.  
Replace only with the same or equivalent type.

### 3.0 Instruction for Use

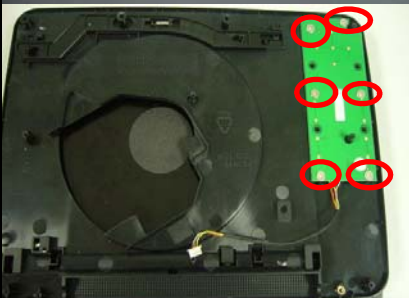
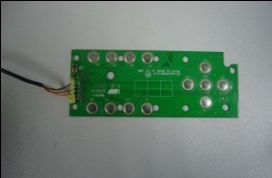
---

You can download this information from the following websites:

<http://www.philips.com/support>

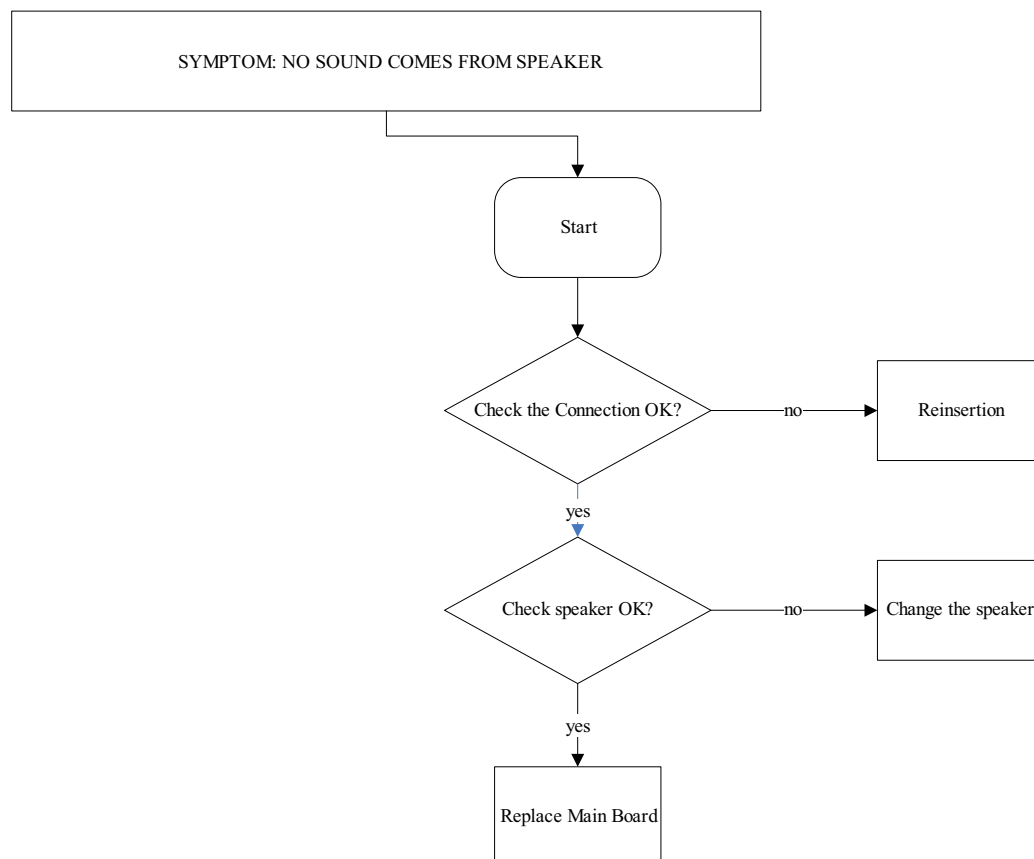
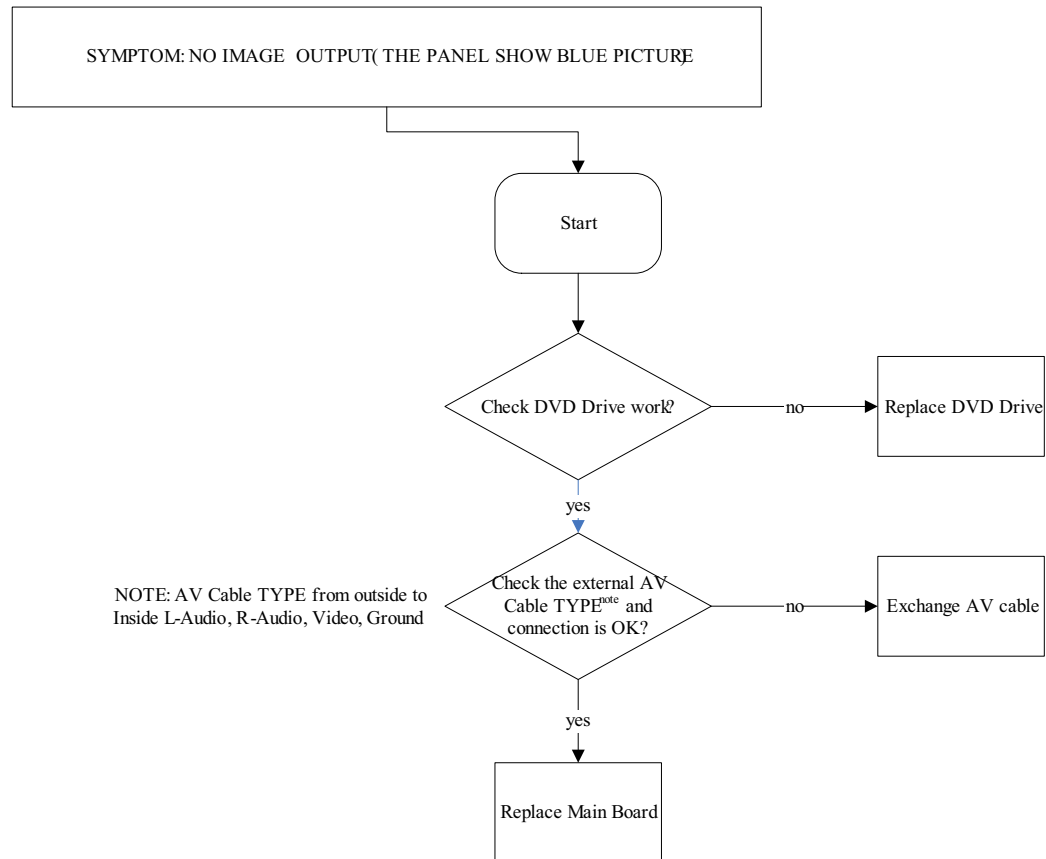
<http://www.p4c.philips.com>

## 4.0 MECHANICAL AND DISMANTLING INSTRUCTIONS

|                                                                                     |                                                                                        |                                                                                       |
|-------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|    | <p>Remove nine screws on back cabinet to separate top cabinet and back cabinet.</p>    | <p>screws 9pcs</p>                                                                    |
|    | <p>Generally open the front cabinet.</p>                                               |                                                                                       |
|   | <p>Remove 3 screws and disassemble the connector on the DVD LOADER.</p>                |    |
|  | <p>Remove four screws and disassemble the connector on the Main board and Battery.</p> | <p>screws 4pcs.</p>                                                                   |
|  | <p>Remove six screws on the key board.</p>                                             |  |
|  | <p>Remove the speaker grill and 4pcs screws. .</p>                                     |                                                                                       |

## 5.0 TROUBLESHOOTING

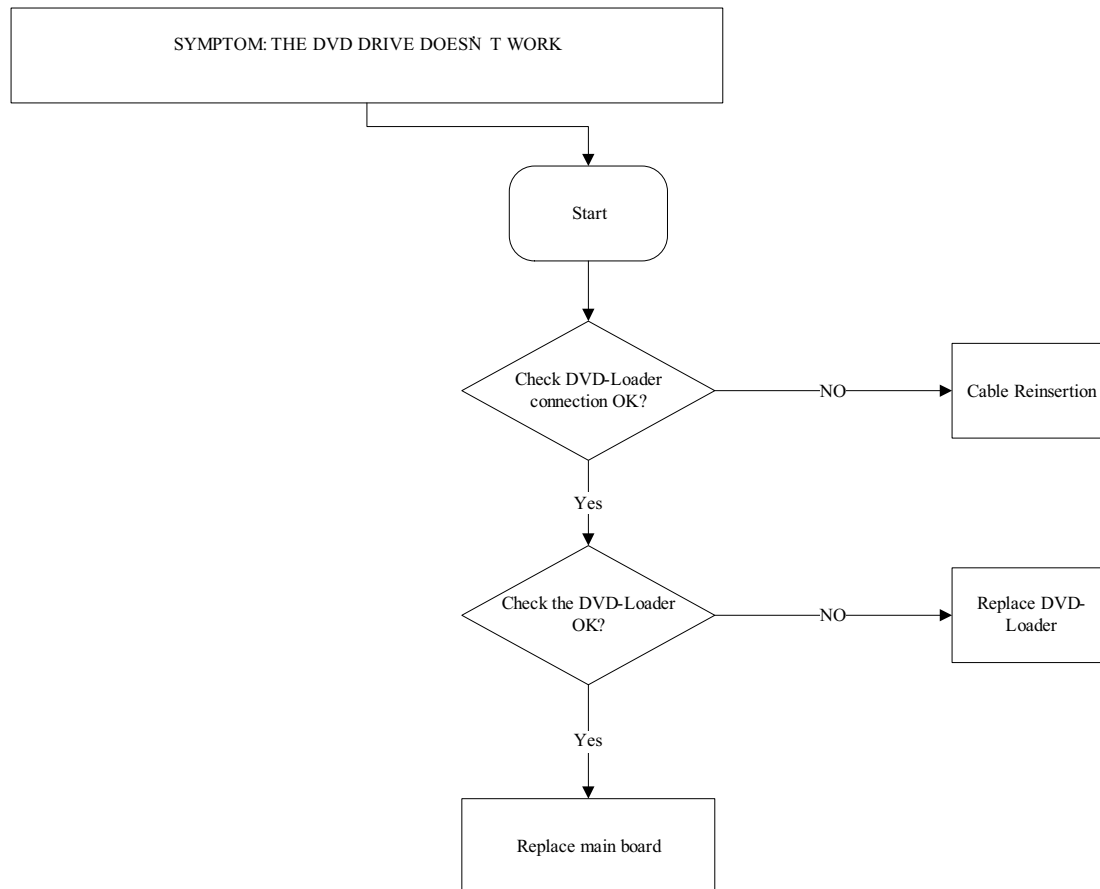
### SYMPTOM: NO IMAGE / NO SOUND



## 5.0 TROUBLESHOOTING

---

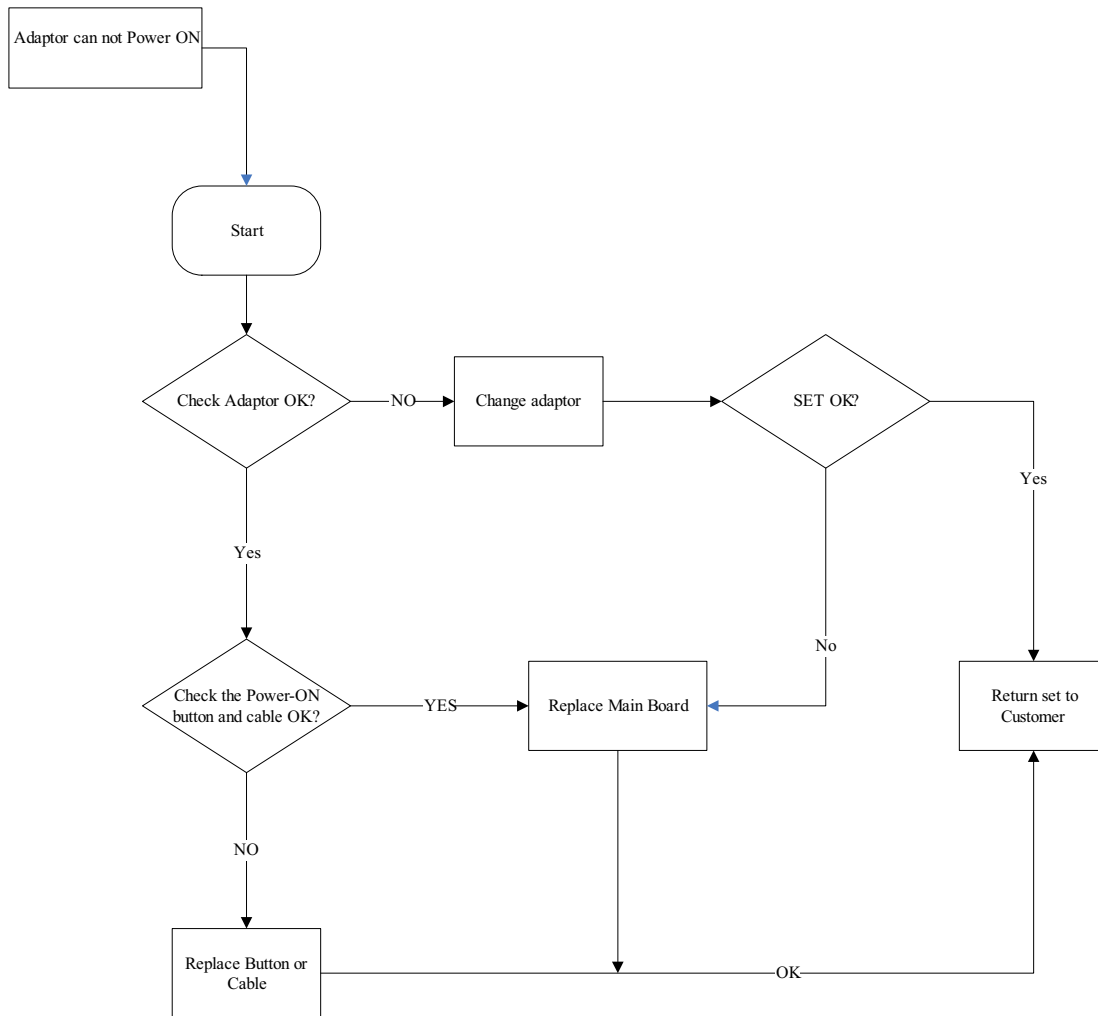
### SYMPTOM: THE DVD DRIVE DOES NOT WORK



## 5.0 TROUBLESHOOTING

---

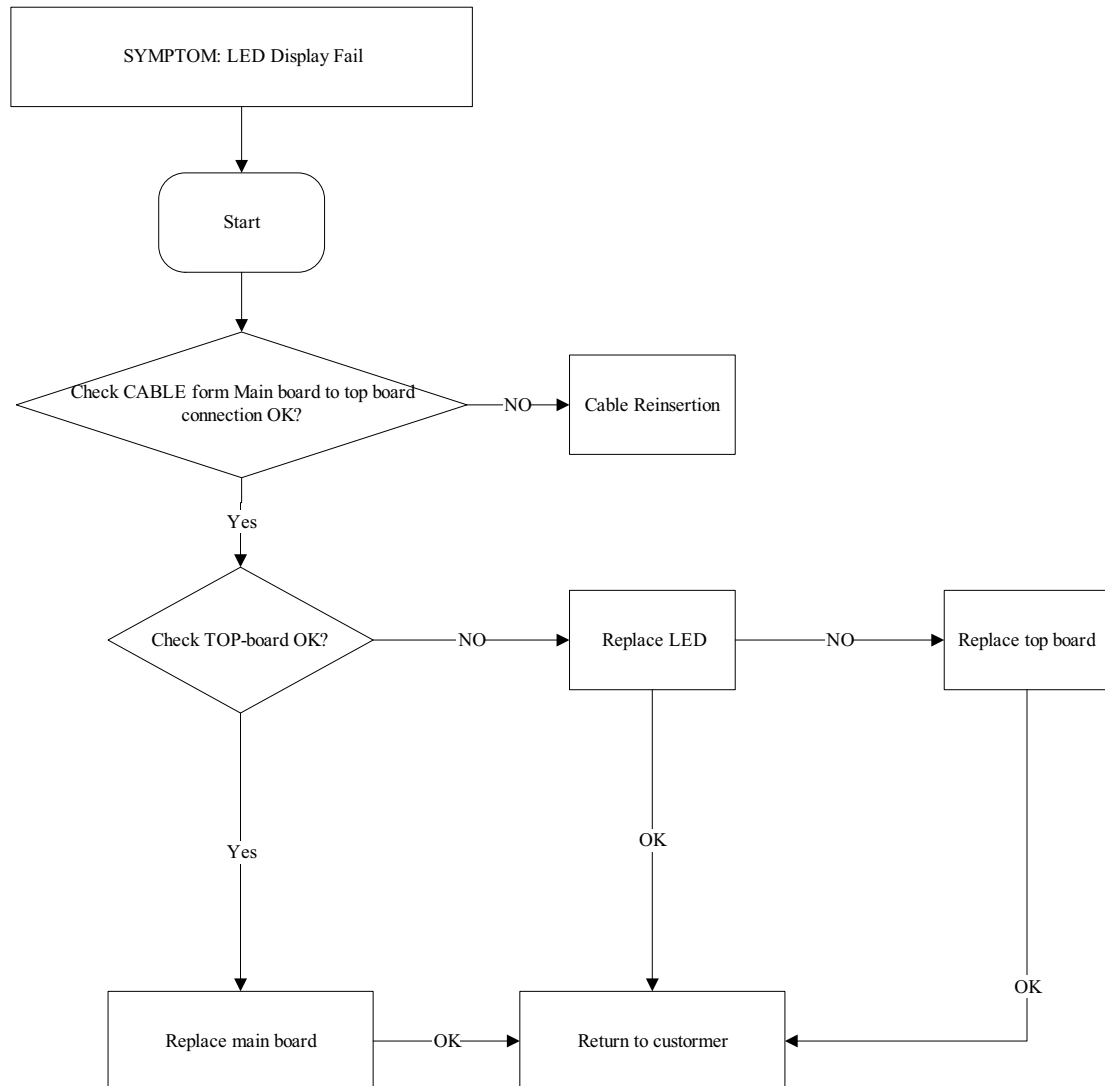
### SYMPTOM: ADAPTOR CANNOT POWER ON



## 5.0 TROUBLESHOOTING

---

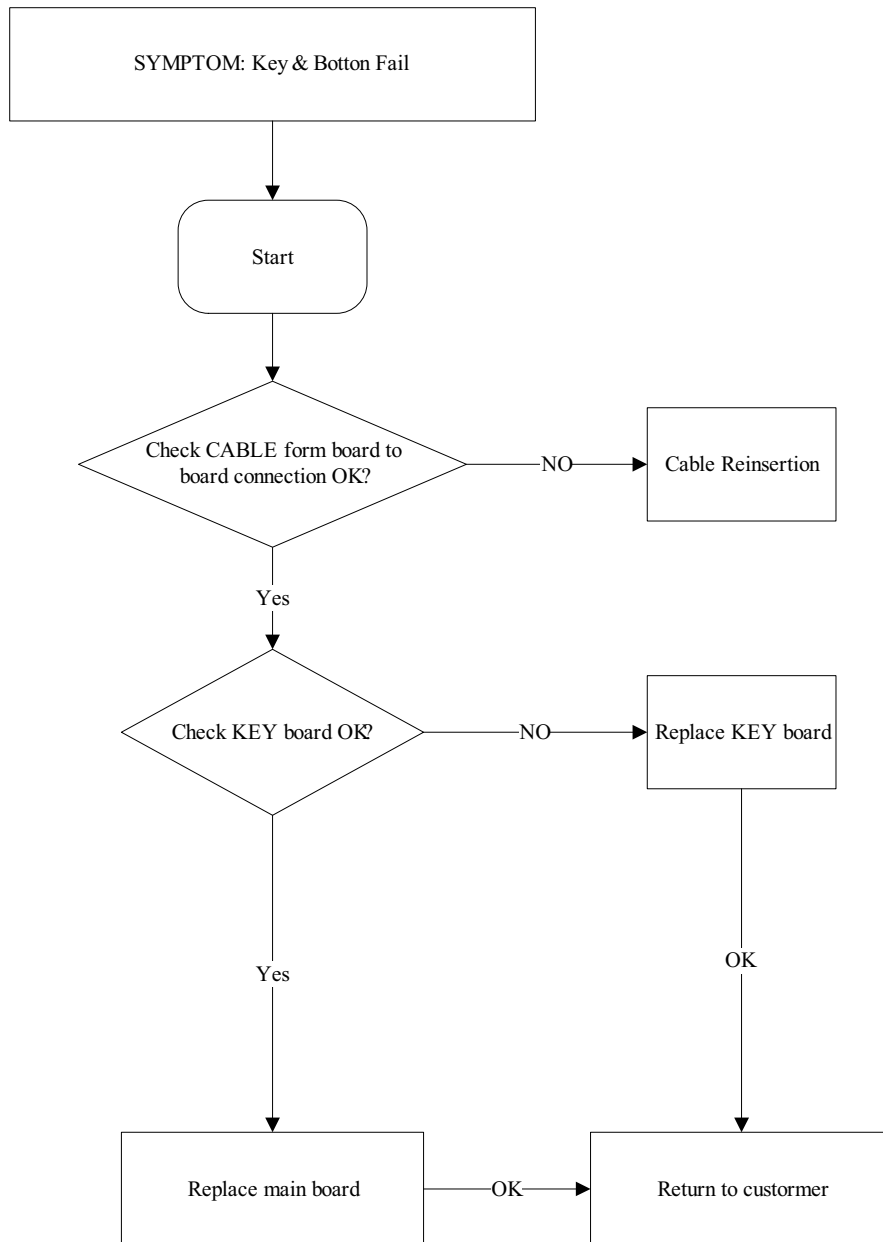
### SYMPTOM: LED DISPLAY FAILURE



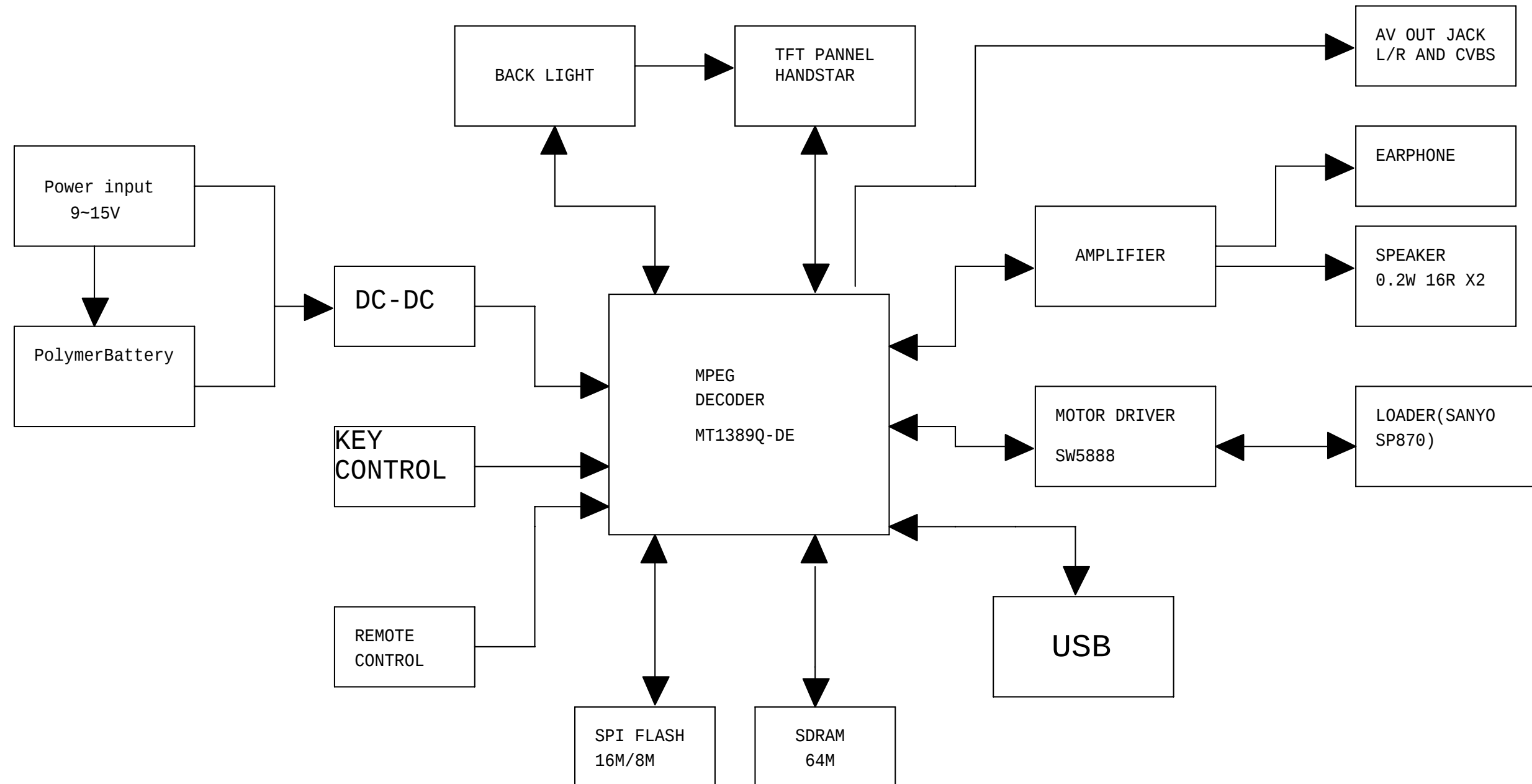
## 5.0 TROUBLESHOOTING

---

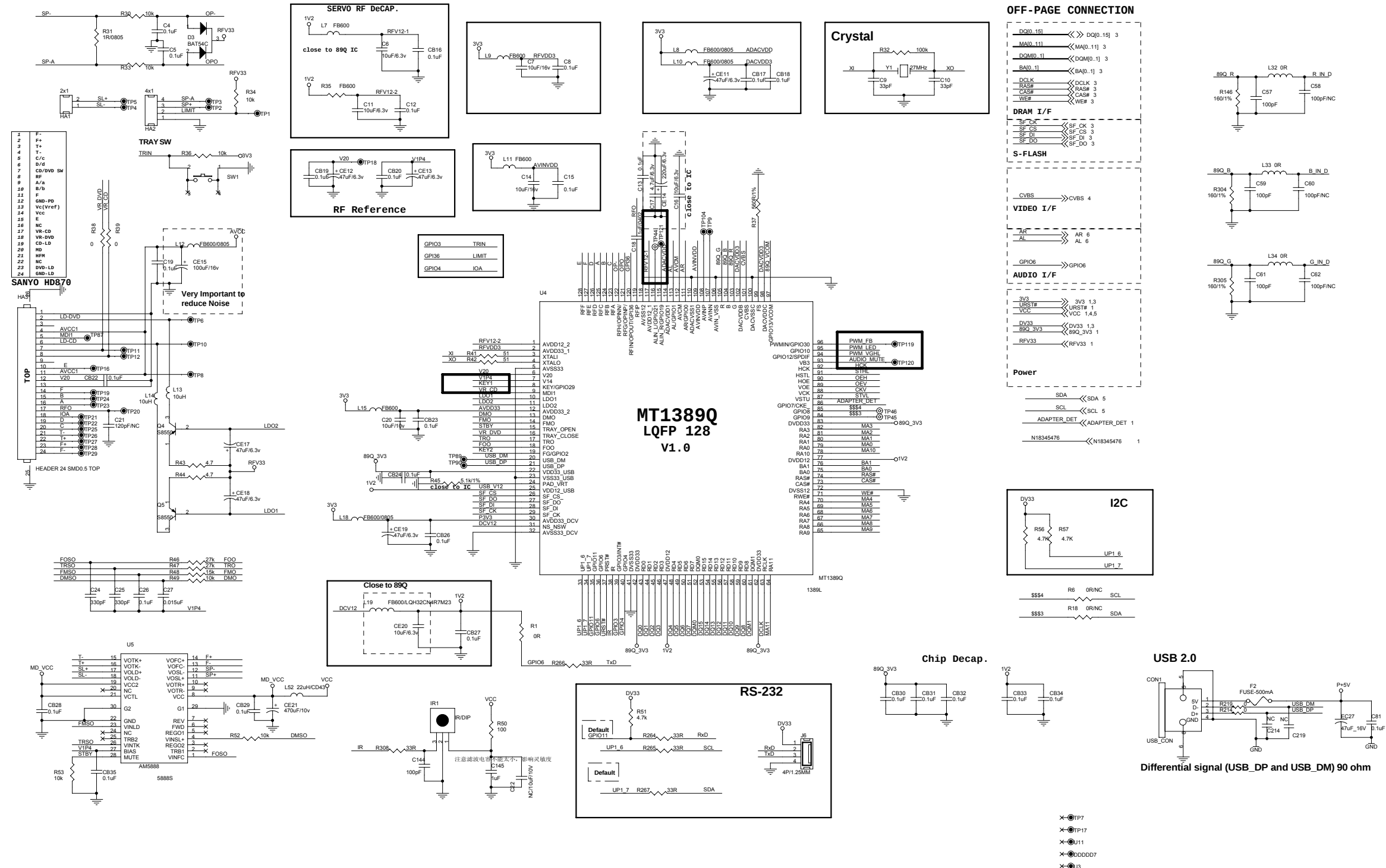
### SYMPTOM: KEY & BOTTON FAILURE



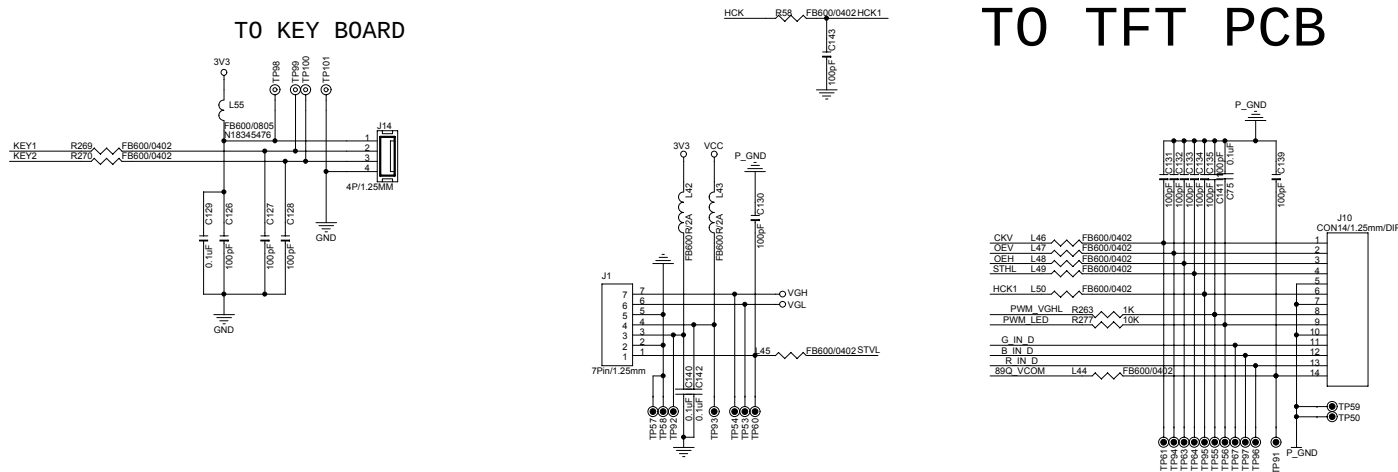
## OVERALL BLOCK DIAGRAM

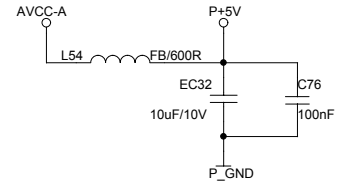
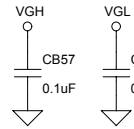
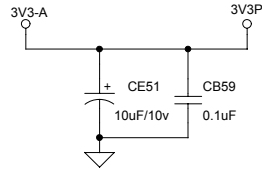
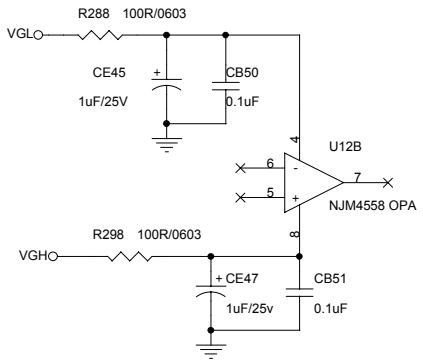
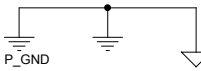
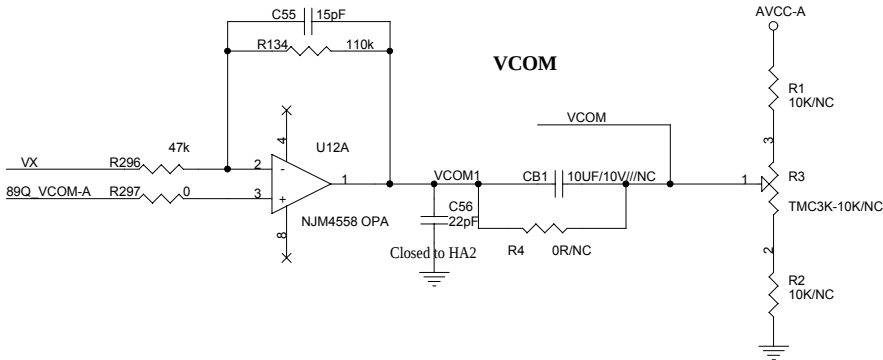
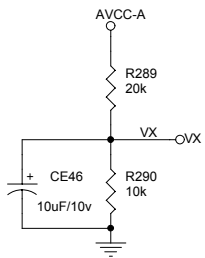
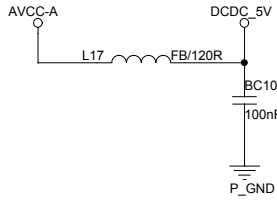
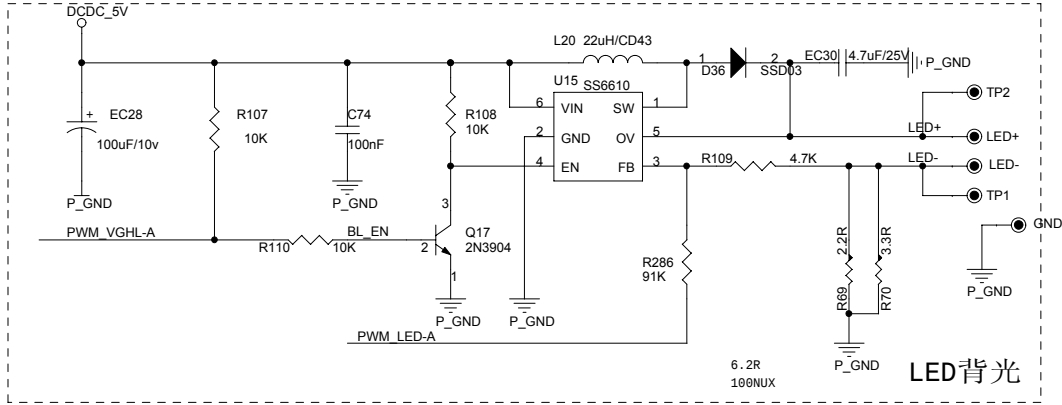


## CIRCUIT DIAGRAM-DVD MAIN BOARD



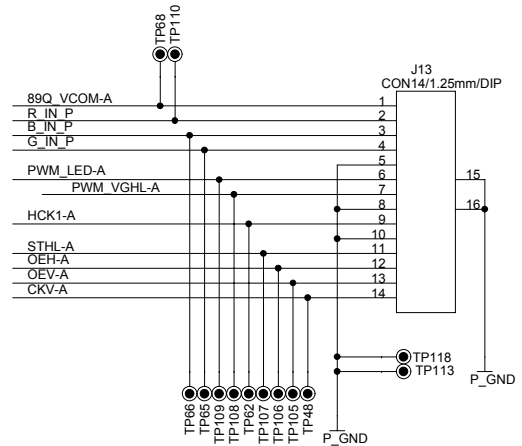
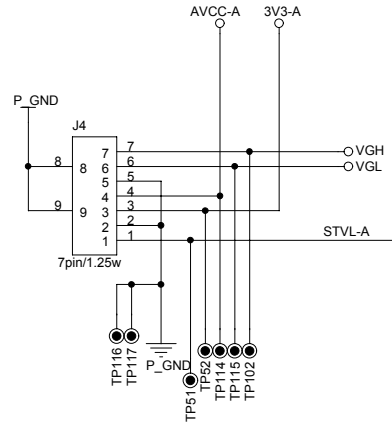
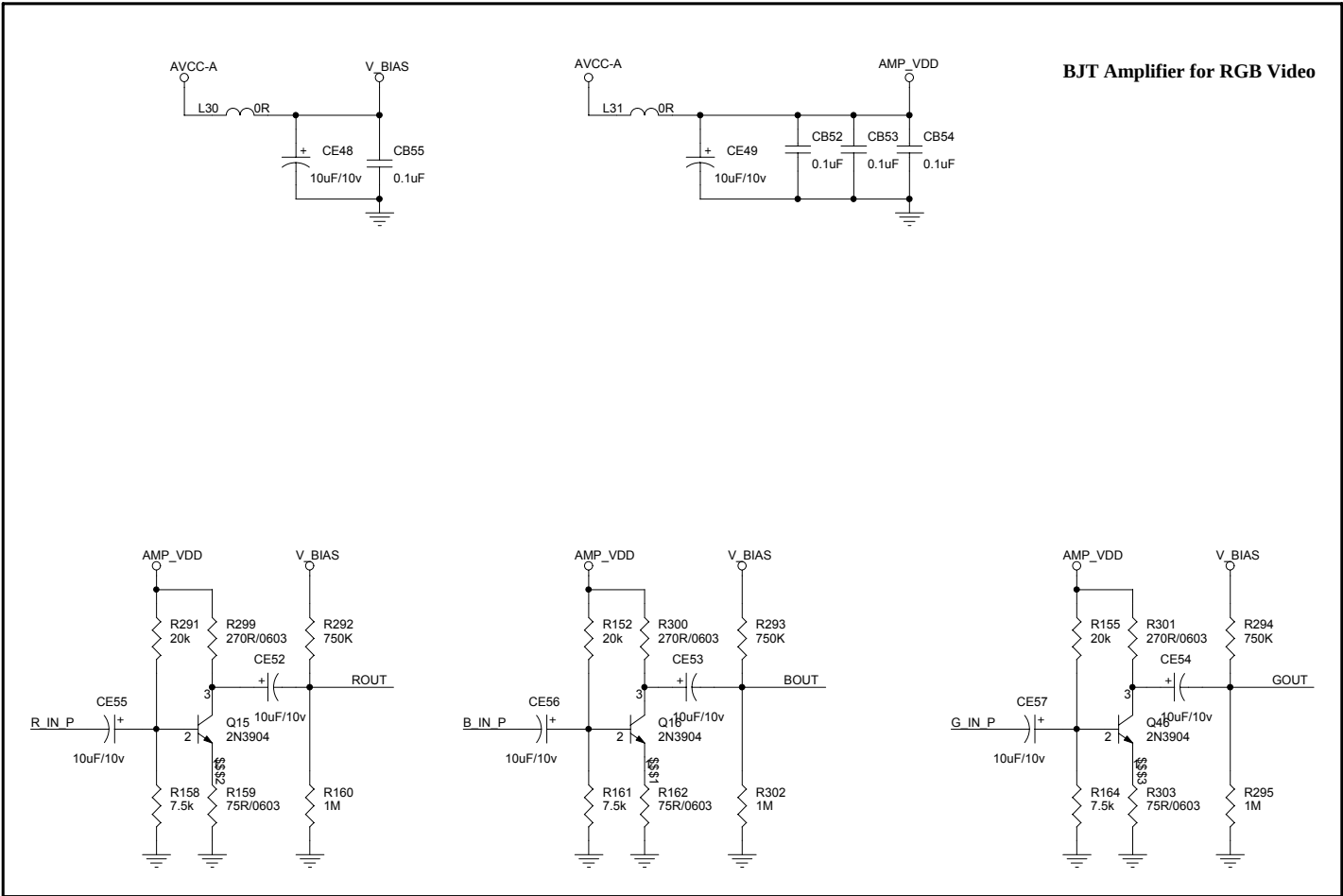
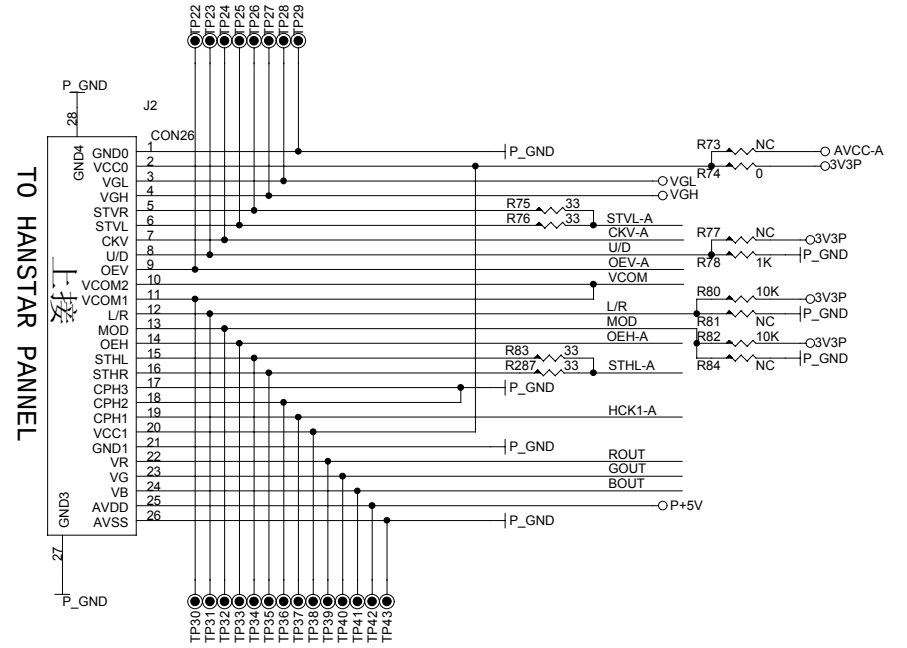
T0 TFT PCB

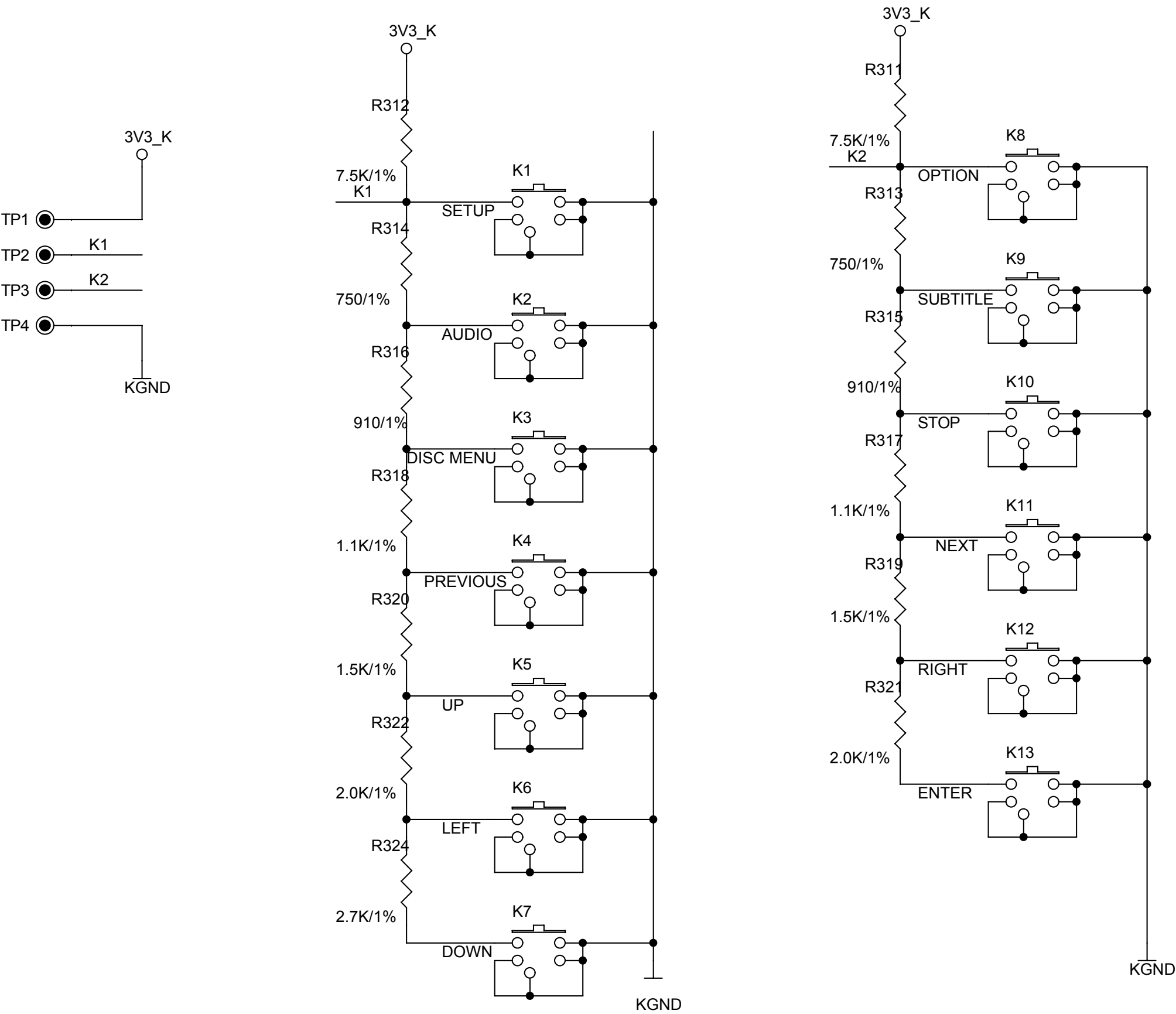




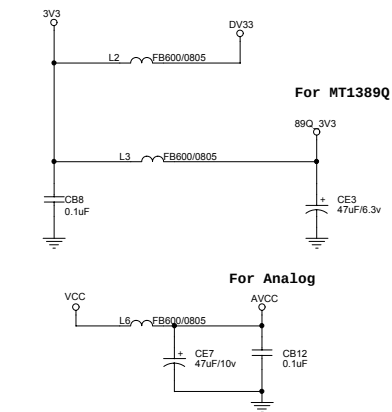
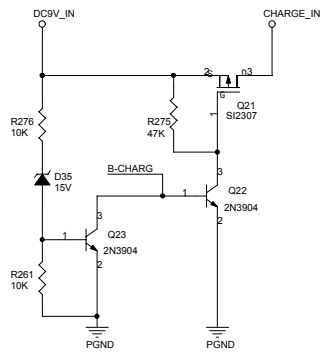
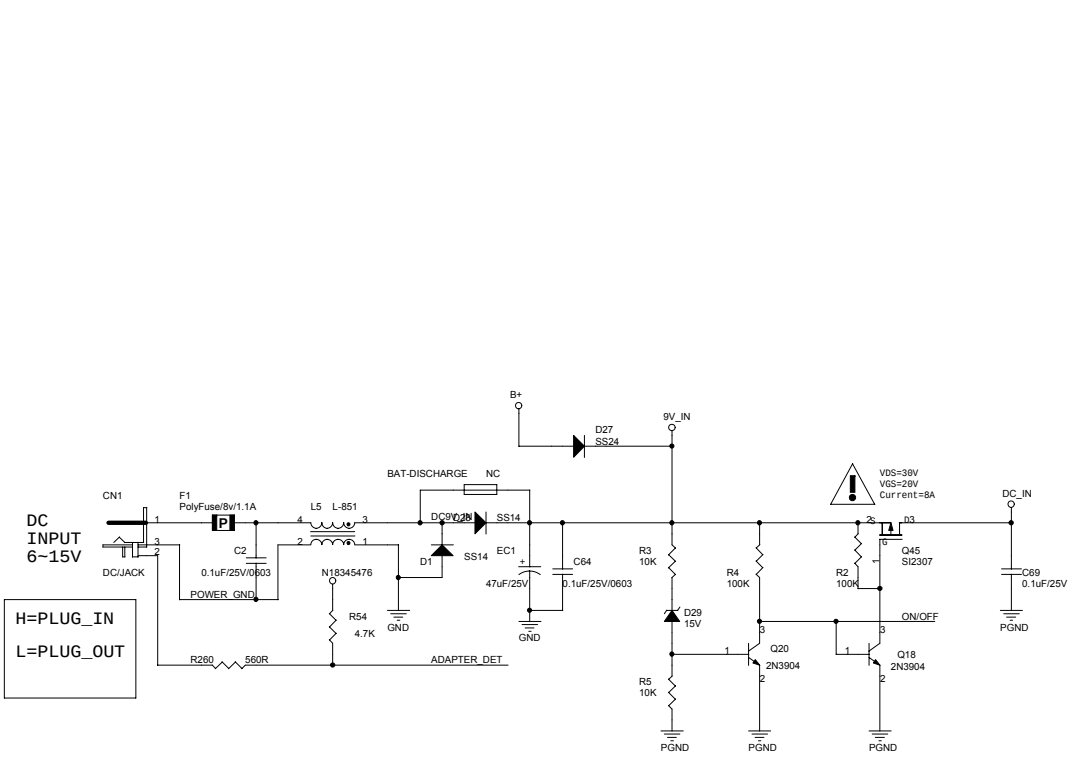
CLAA070JC01; HSD070I651;

V: 9.6V; 10.5V  
I: 80mA; 100mA  
VGH: 18V; 15V  
VGL: -6V; -10V  
VCOM-AC: 5.6V; 5.5V  
VCOM-DC: 1.9V; 1.8V

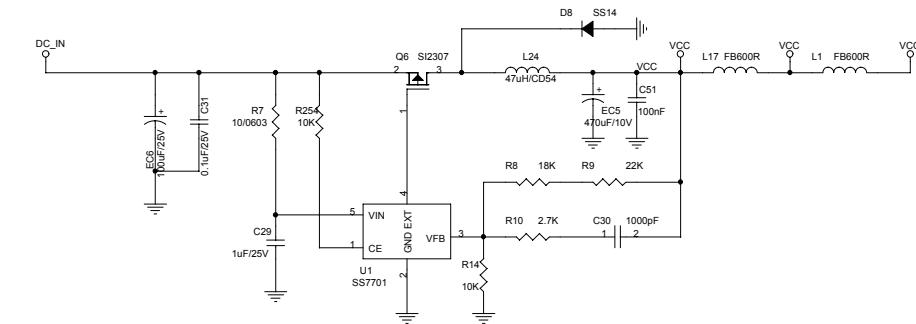
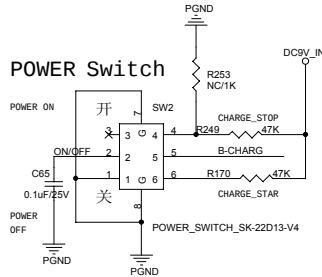




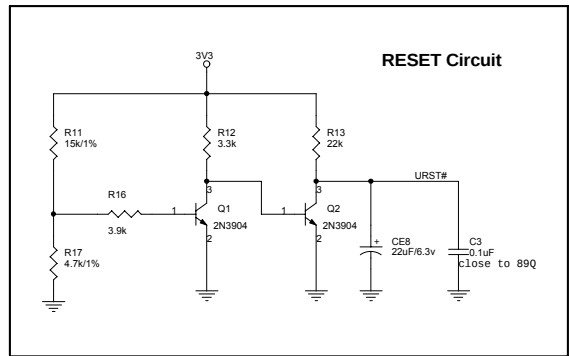
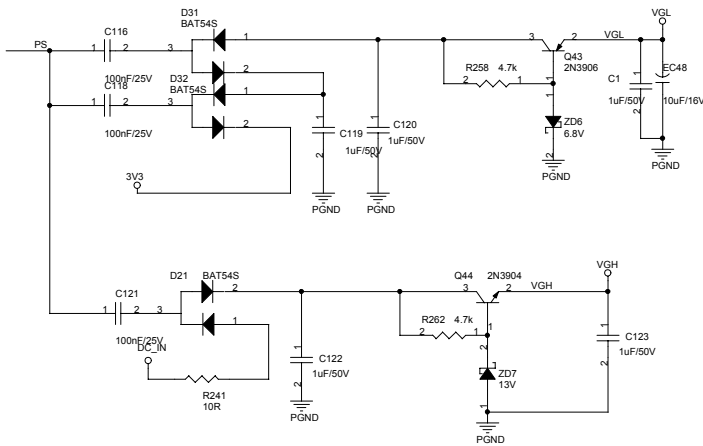
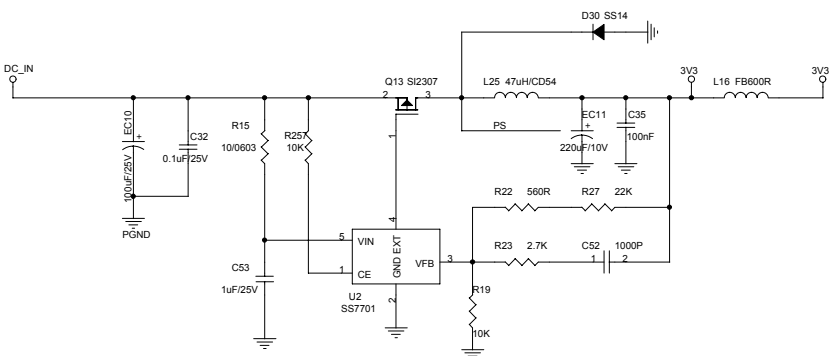
CIRCUIT DIAGRAM-DVD MAIN BOARD



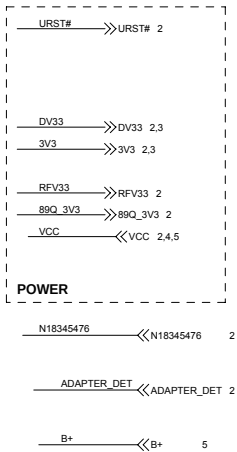
POWER Switch

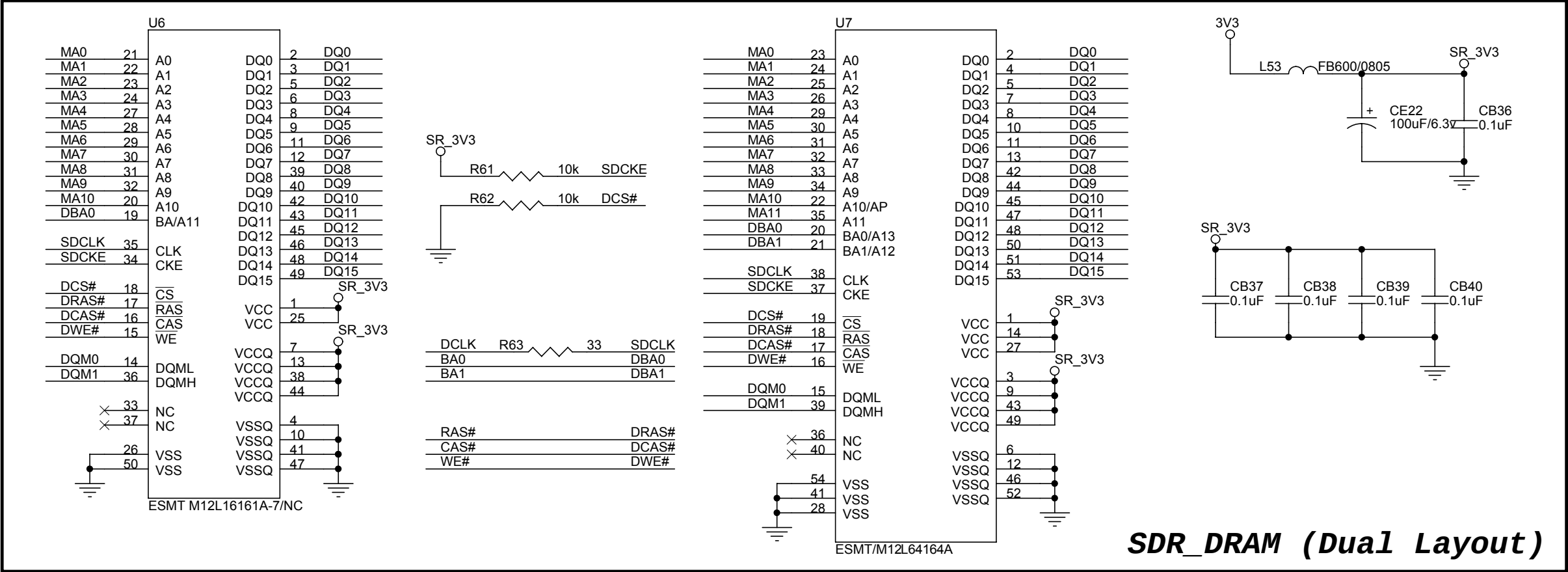


+3.3V POWER

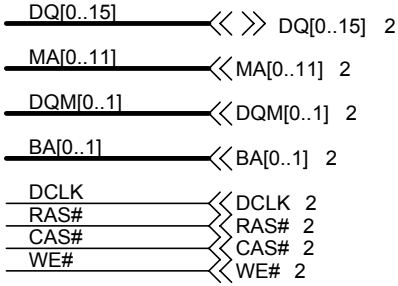


OFF-PAGE CONNECTION

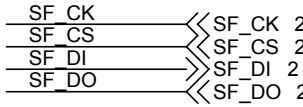




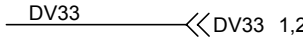
OFF-PAGE CONNECTION



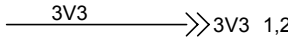
DRAM I/F



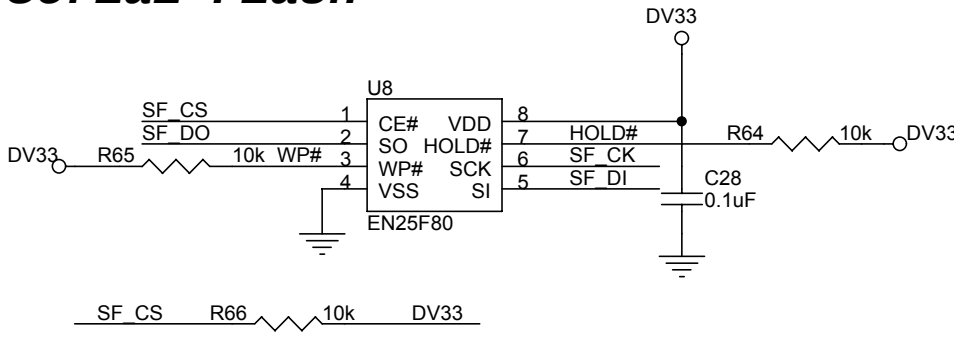
S-FLASH

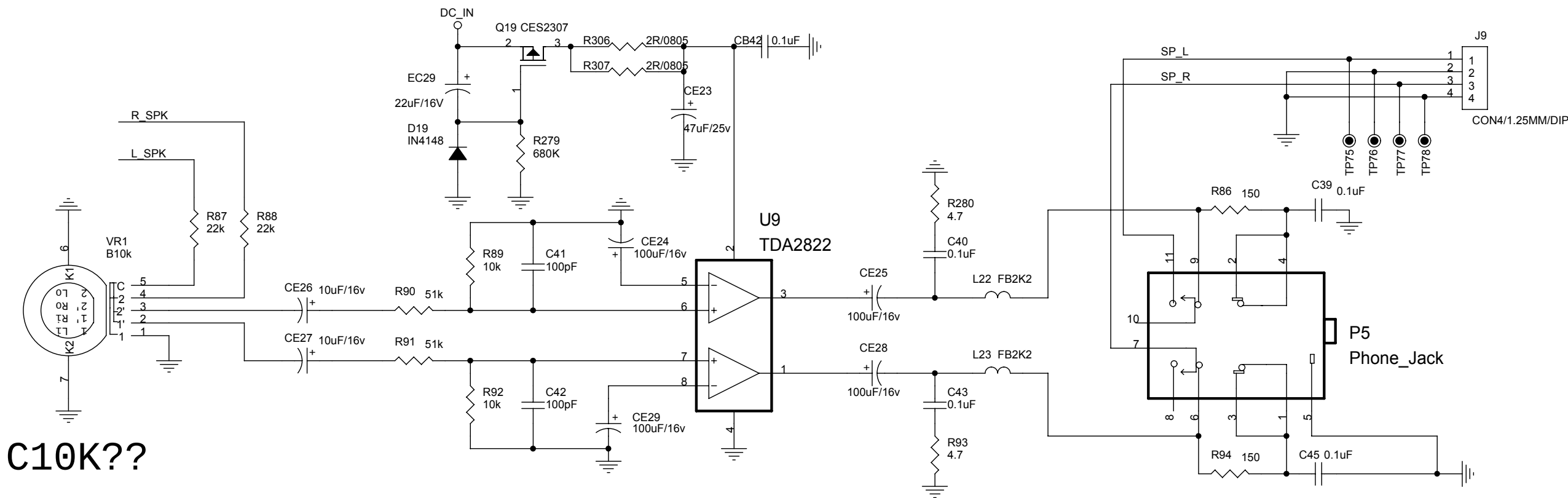


POWER

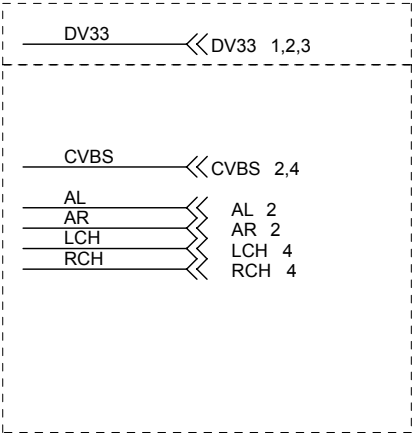
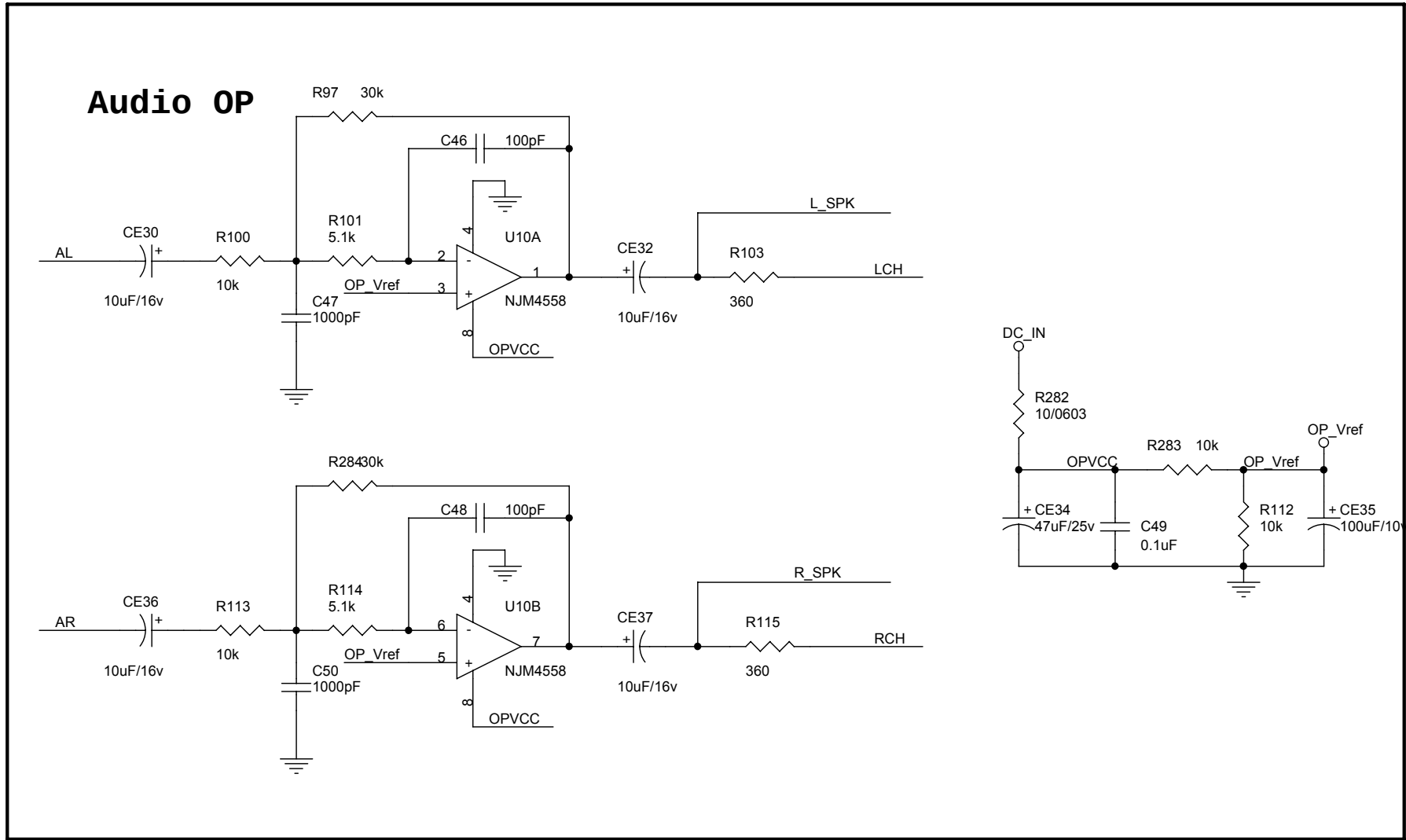


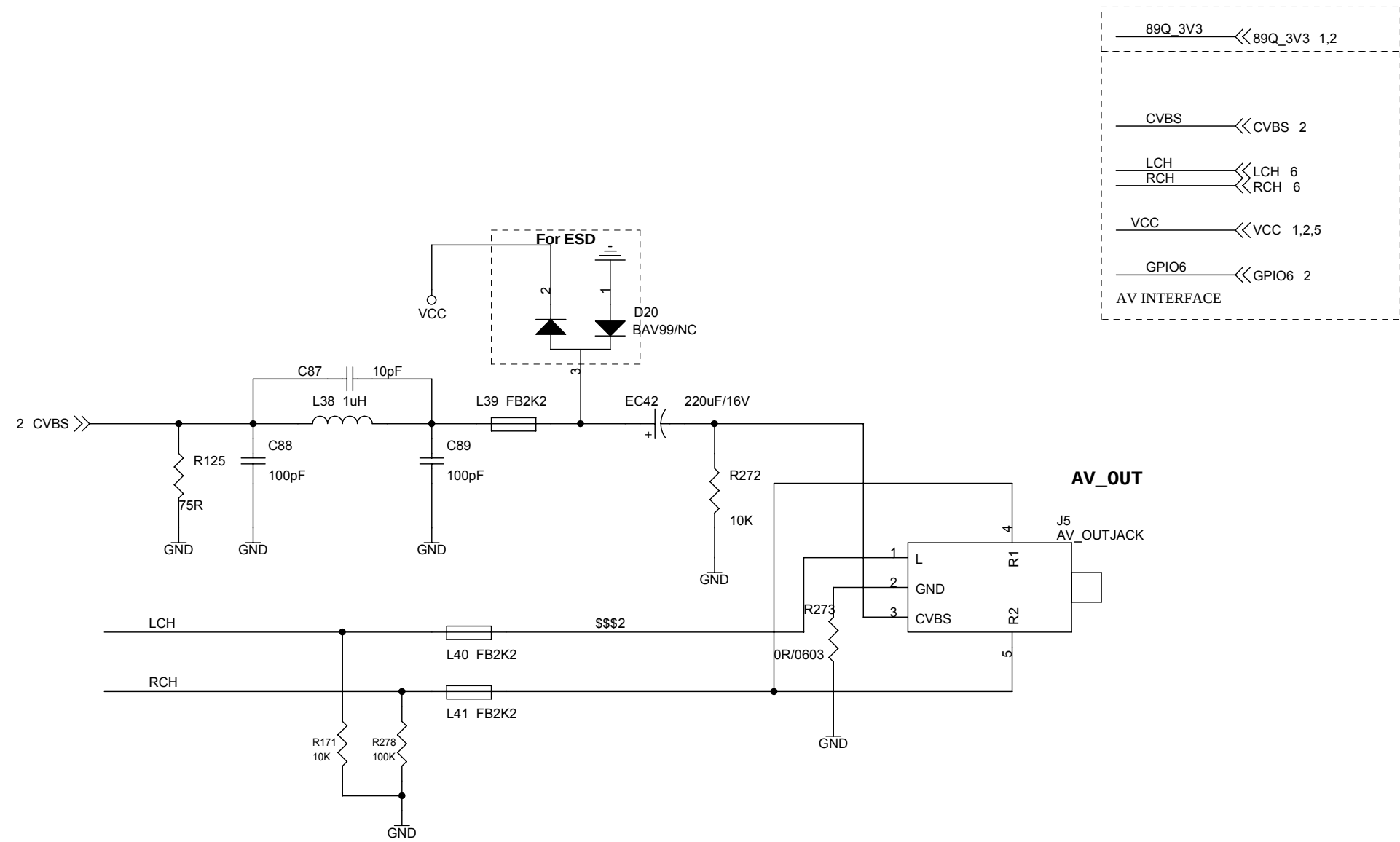
Serial Flash



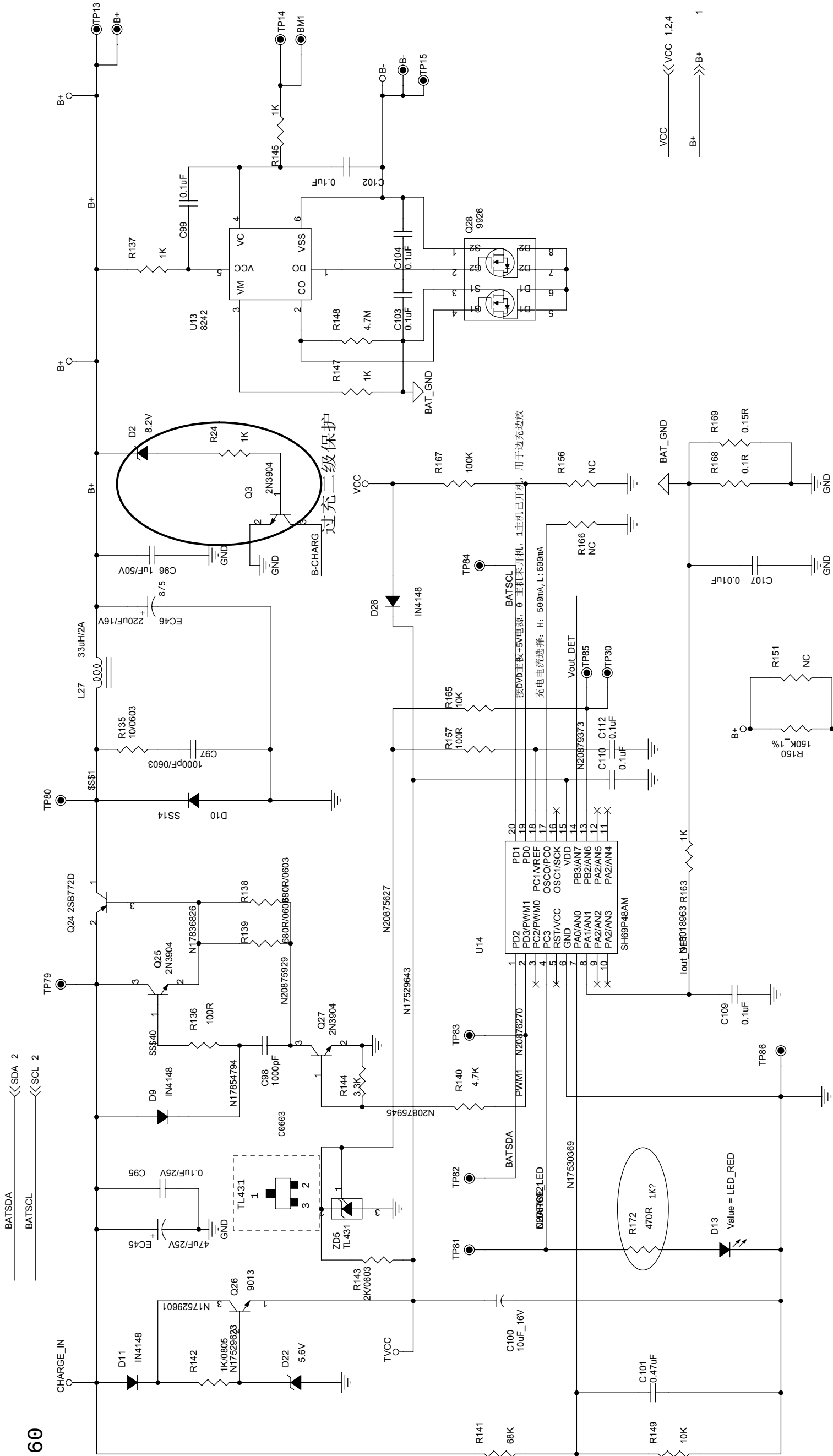


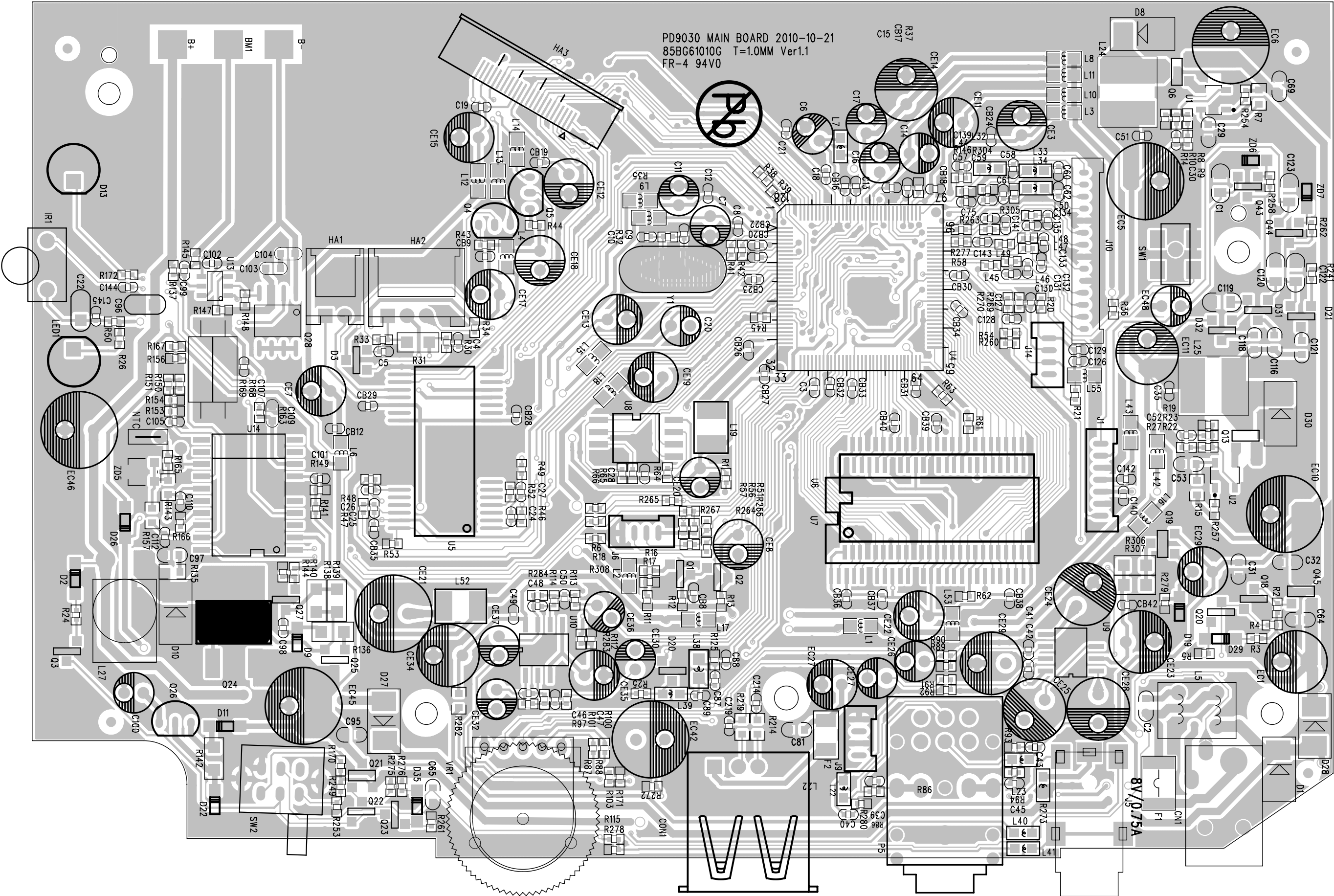
C10K??

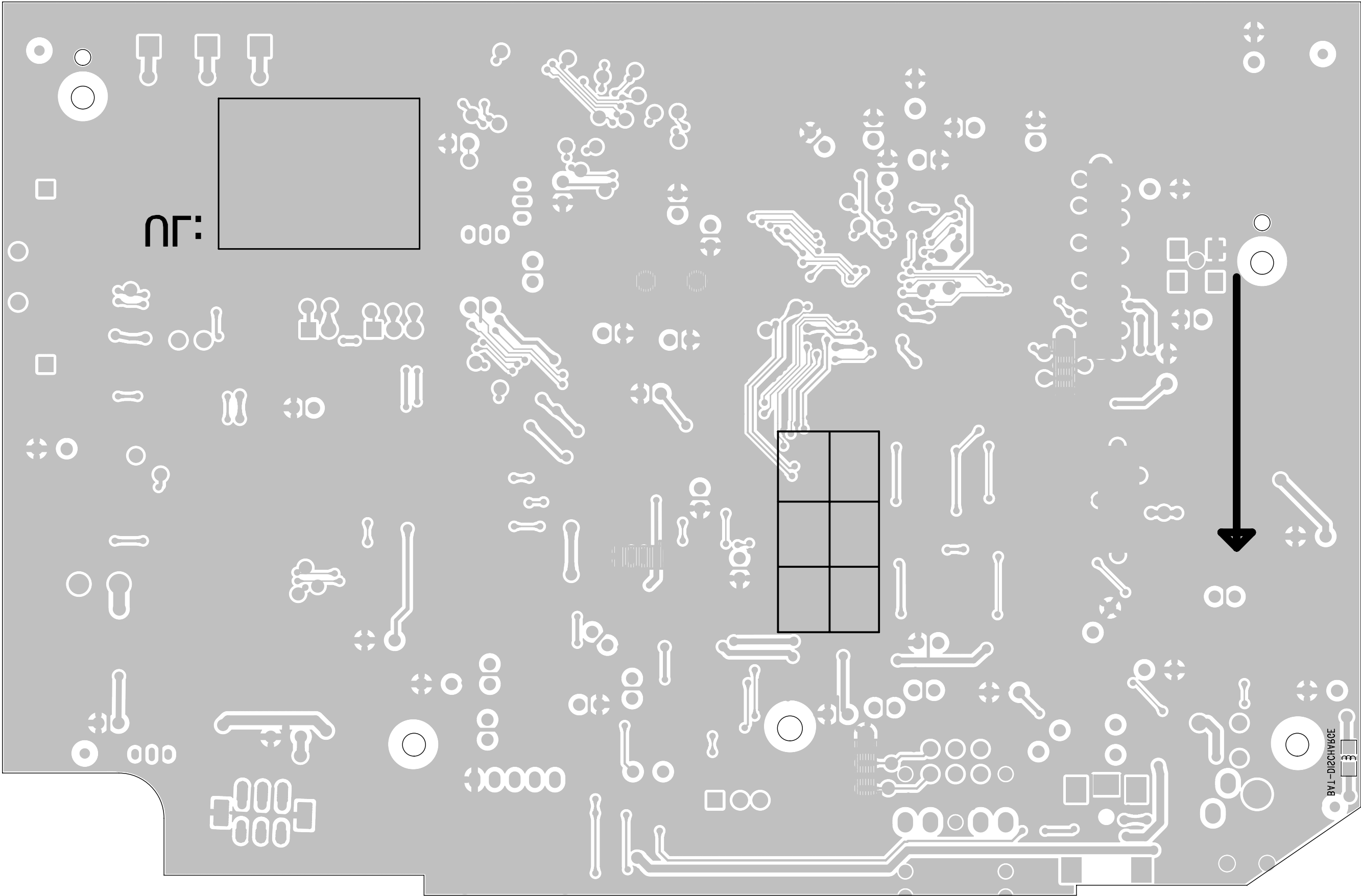


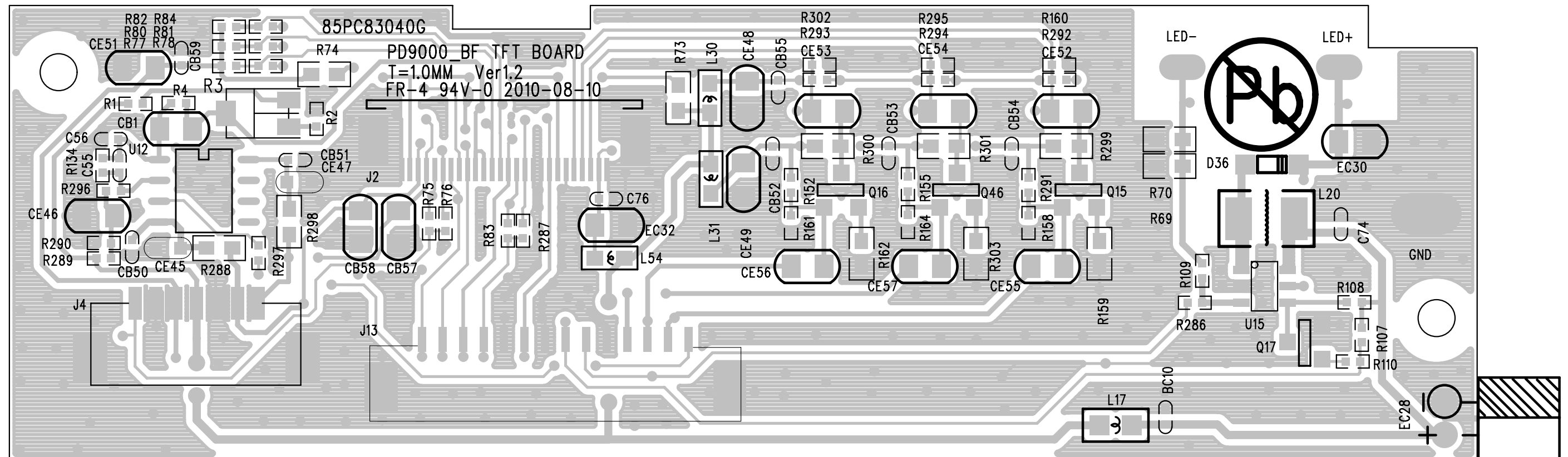


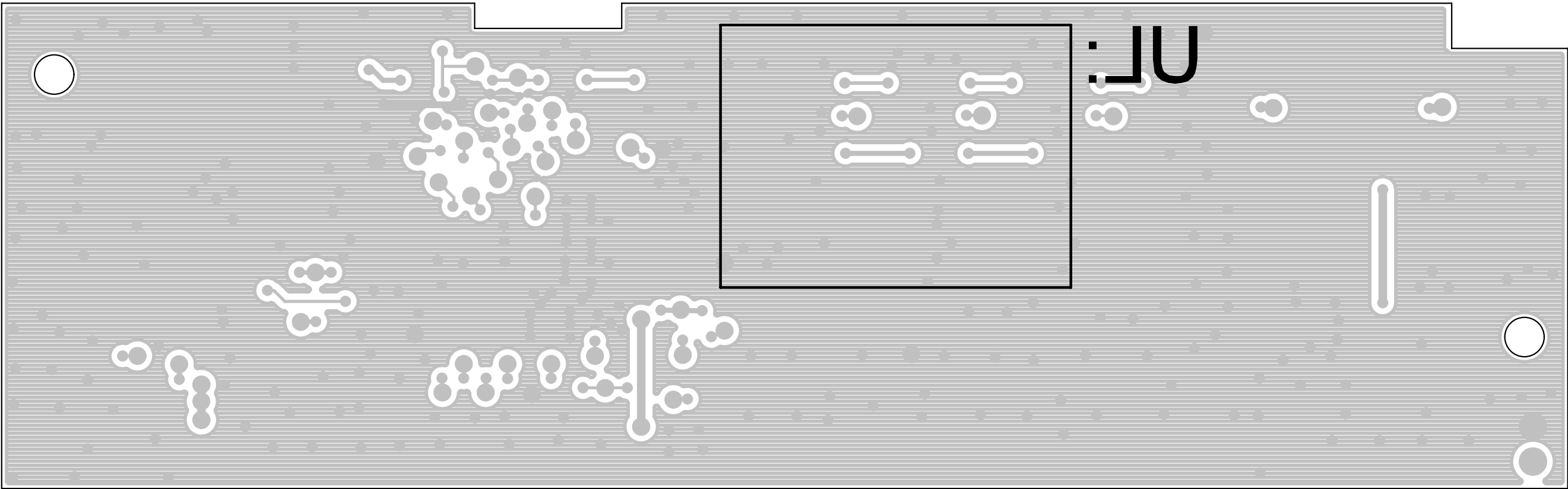
CIRCUIT DIAGRAM-MAIN BOARD



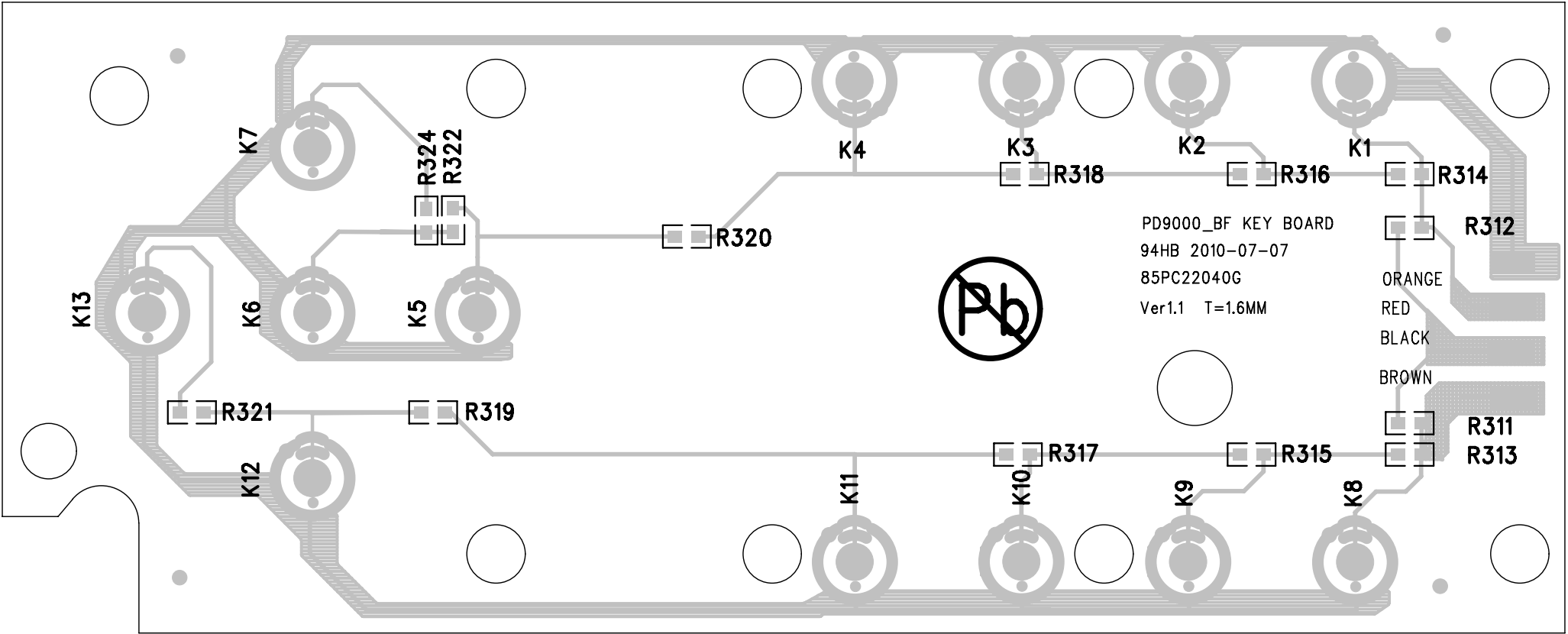


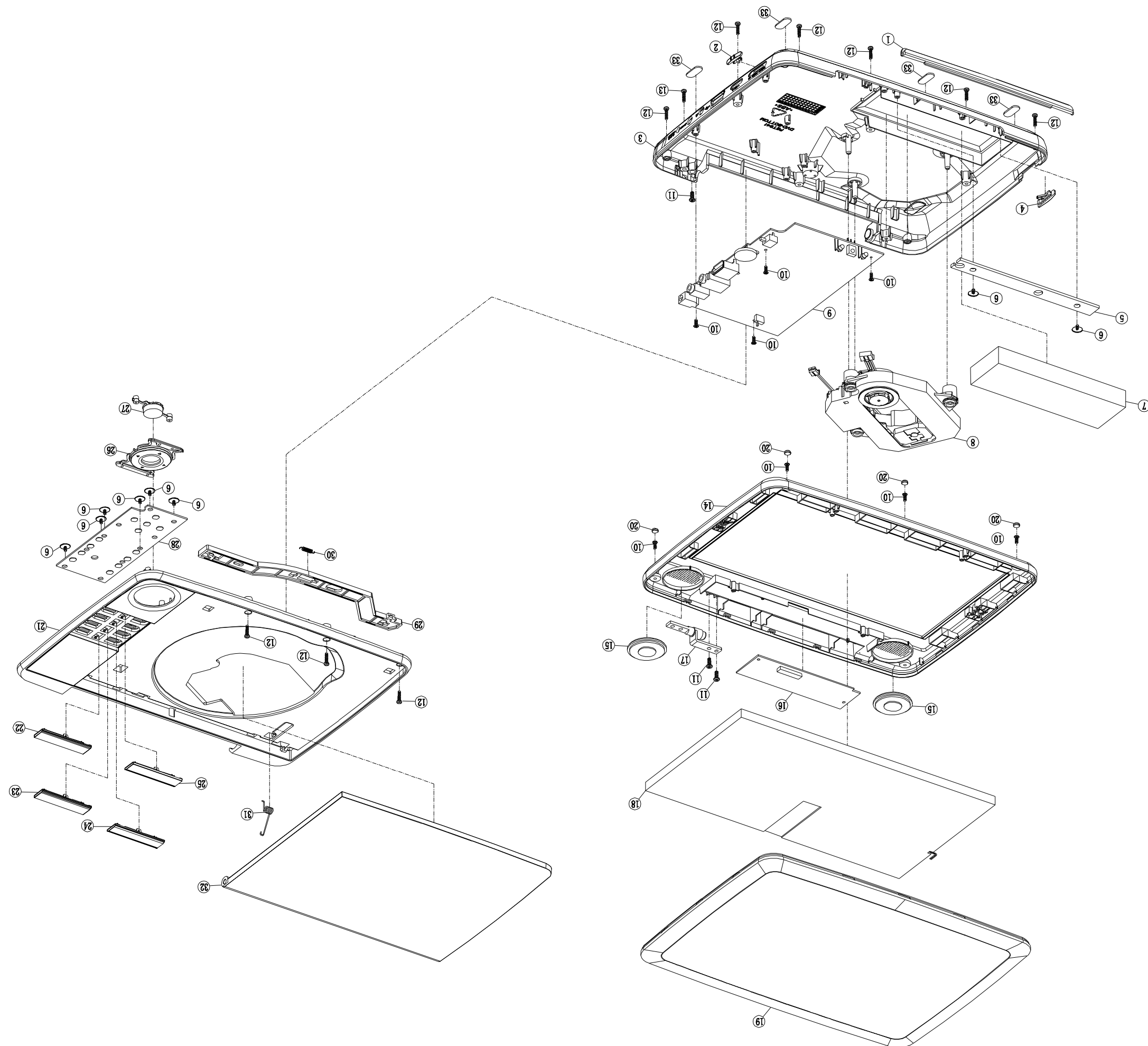






KEY BOARD - TOP





## 9.0 REVISION LIST

---

### Version 1.0

- Initial release

### Version 1.1

- Add /79 version

### Version 1.2

- Add /37 version