

# Service Service **Service**



# Service Manual

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## 1.0 TECHNICAL SPECIFICATION

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### General

|                             |  |
|-----------------------------|--|
| Dimensions                  |  |
| - Main unit                 | 200 x 155 x 39 mm                                |
| - Second screen             | 200 x 155 x 21 mm                                |
| Weight                      |  |
| - Main unit                 | 0.7 kg   |
| - Second screen             | 0.4 kg   |
| Power supply                | Input: 100-240V 50/60Hz 0.3A<br>Output: DC 9V 1A |
| Power consumption           | 9W   |
| Operating temperature range | 0-45°C   |
| Laser wavelength            | 650 nm   |
| Video system                | NTSC & PAL                                       |
| Frequency response          | 20Hz-20KHz ± 1dB                                 |
| Signal/noise ratio          | ≥ 80 dB  |
| Audio distortion + noise    | ≤ -80 (1kHz)                                     |
| Channel separation          | ≥ 80 dB  |
| Dynamic range               | ≥ 80 dB  |
| Audio out (analog audio)    | Output level: 2V ± 10%                           |
| Load impedance              | 10 KΩ  |
| Video out                   | Output level: 1Vp - p ± 20%                      |
| Load impedance              | 75Ω  |

### Current consumption

|   |          |
|---|----------|
| Playback time                                       |          |
| Battery Capacity –<br>Lithium-ion 7.4V              | ≥1100mAH |
| Discharge cut-off<br>voltage(3.0 V for single cell) | NA       |
| Battery discharge cut-off<br>current                | NA       |
| Battery Charge<br>voltage(1.2V for single cell)     | NA       |
| Charging time                                       | NA       |

### Headphone out (headphone output load 2x16 ohm)

|                                   |                    |
|-----------------------------------|--------------------|
| Maximum output power:             | >/=1.5mW (typical) |
| Frequency response:               | +/-3dB             |
| SNR (A-wght):                     | >/=70dB            |
| THD (0.2-20kHz):                  | 1.0%               |
| Dynamic range 1kHz                | >/=65dB            |
| Left-Right Channel<br>Separation: | >/=55dB            |
| Left-Right Channel                | </=2dB             |

Balance:

### Supported disc type



Video  
Playback  
Formats:



Audio  
Playback  
Formats:



CD、+/-R/RW,DVD,  
DVD+/-R/RW  
DVD / VCD /MP3/  
JPEG image/MPEG4  
Divx5

Audio Playback Format:

CD/MP3, DVD

Disc Diameter

8cm / 12cm

### Pixel specification

Max. 0 bright-dot & max. 3 dark-dots

### Factory Service Mode (FSM)

## 1.0 TECHNICAL SPECIFICATION

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### Procedure to change region code of your DVD Portable

1. Power ON the DVD player and do not insert DISC inside player.
2. Setup→Prefer  
Press the key in the sequence as  
**▶▶| ↴ |◀◀ ↴ ▶▶| ↴ |◀◀ ↴ ▶▶| ↴  
▶▶| ↴ |◀◀**  
The LCD display showed the existing region Code.
3. Press **▲** (navigation up) or **▼** (navigation down) repeatedly to select the number from 0 to 6.
4. Then press OK to confirm your region code.
5. Refer below table for your region code setting

| Region Code | Region                        |
|-------------|-------------------------------|
| 1           | USA                           |
| 2           | EUROPE                        |
| 3           | ASIA PACIFIC                  |
| 4           | AUSTRALIA, NEW ZEALAND, LATAM |
| 5           | RUSSIA, INDIA                 |
| 6           | CHINA                         |

**Select "0" setting = Region Free (confidential)**

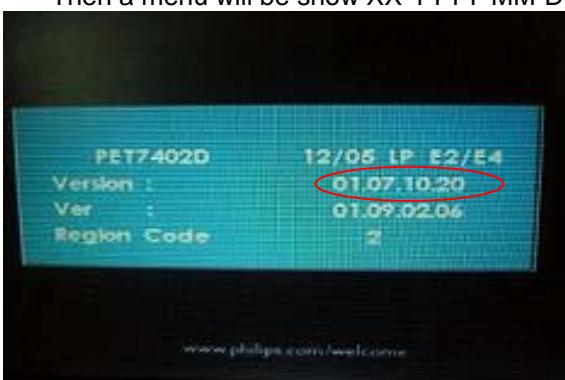
### Procedure for SW upgrade

1. Please burn the PHILIPS.BIN file into a empty Disc.
2. Power on PET7402D with AC/DC adaptor.
3. Insert the upgrade disc and PLAY
4. The set will detect the upgraded SW.
5. Press "OK" to confirm and proceed.
6. The set will reset once finished upgrade.

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

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

1. Setup→General  
Press the key in the sequence as  
**▲ ↴ ▼ ↴ ▲ ↴ ▼ ↴ ▲ ↴ ▲ ↴ ▼**  
Then a menu will be show XX-YYYY-MM-DD



## 1.0 TECHNICAL SPECIFICATION

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### Service Policy on PCBA of PET7402D

| Type          | /05 | /12 |
|---------------|-----|-----|
| Main PCBA     | MLR | MLR |
| TFT PCBA      | MLR | MLR |
| BATTERY PCBA  | MLR | MLR |
| KEY PCBA      | MLR | MLR |
| CCFL KEY PCBA | MLR | MLR |

MLR = module swap

## 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 ditzelfde 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 ridotta 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.

### GB Warning !

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

### S Varning !

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

### SF Varoitus !

Avatussa laitteessa ja suojalukituksen ohittaaessa olet alttiina näkymättömälle laserisäteilylle. Älä katso sääteenseen!

### DK Advarse !

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

### 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."

## 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.

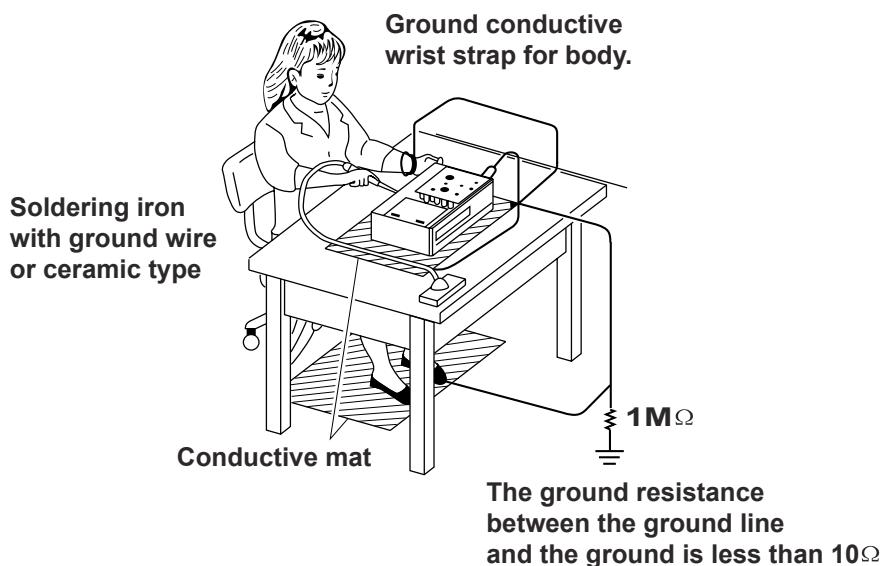
When the power supply is being turned on, you may not remove this laser cautions label. If it removes, radiation of laser may be received.

## PREPARATION OF SERVICING

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

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 from damage by static electricity.

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



## SAFTY NOTICE

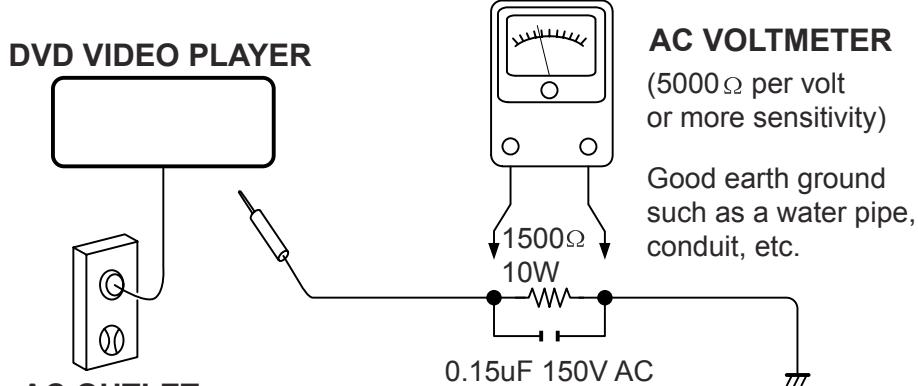
## SAFTY PRECAUTIONS

### 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  $0.15\mu F$  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.

### READING SHOULD NOT EXCEED 0.3V



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.

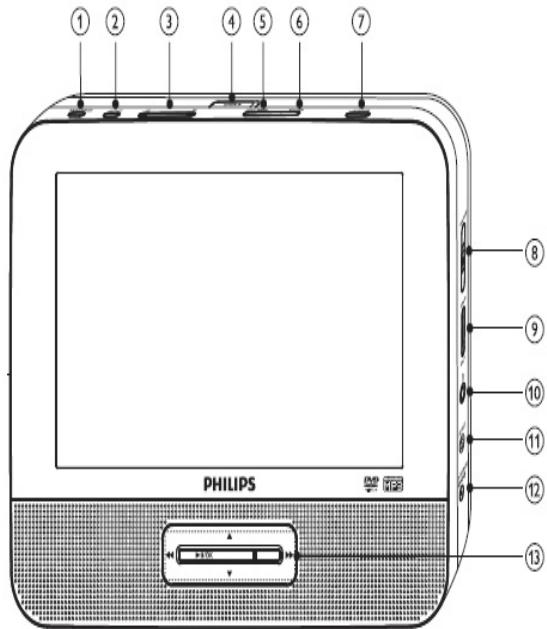
## 3.0 INSTRUCTION FOR USE

### What's in the box

Check and identify the contents of your package:

- Main unit x 1
- Second screen x 1
- AC power adaptor x 1, DSA-9W-09 F (DVE) or AY4132 (Philips)
- Car adaptor x 1
- AV cable x 2
- Fastening strap x 2
- User Manual x 1
- Quick Start Guide x 1

### Overview of the main unit



#### ① BRIGHTNESS

- Adjusts screen brightness.

#### ② SETUP

- Accesses or exits the setup menu.

#### ③ ▶▶

- Skips to the previous or next title, chapter, or track.

#### ④ OPEN▶

- Opens the disc compartment.

#### ⑤ DISC MENU

- For DVD, accesses or exits disc menu.
- For VCD, turns on or off PBC (Playback Control) mode.
- For VCD version 2.0 or SVCD with PBC turned on, returns to title menu.

#### ⑥ OPTION

- Accesses options relating to the current activity or selection.

#### ⑦ AV MODE

- Turns off the front panel display when the player is connected to a TV.

#### ⑧ ON/OFF

- Turns on/off DVD player.

#### ⑨ VOL +/-

- Increases or decreases volume.

#### ⑩ ▶

- Headphone jack.

#### ⑪ AV OUT

- Audio/video output jack.

#### ⑫ DC IN

- Power supply socket.

#### ⑬ ▲, ▼, ◀◀▶▶

- Navigates through the menus.

#### ◀◀▶▶

- Searches backward/forward at different speeds.

#### ▶▶/OK

- Confirms an entry or selection.
- Starts, pauses or resumes disc play.

#### ■

- Stops disc play.

## 4.0 MECHNICAL INSTRUCTIONS

PET7402D

1.Back View as Fig.1

Remove screws to remove base



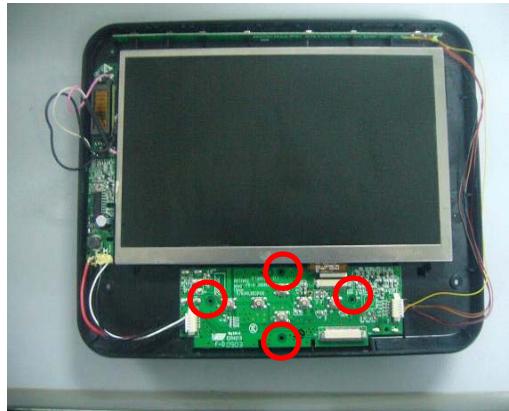
4.0 Remove top cover as Fig.5



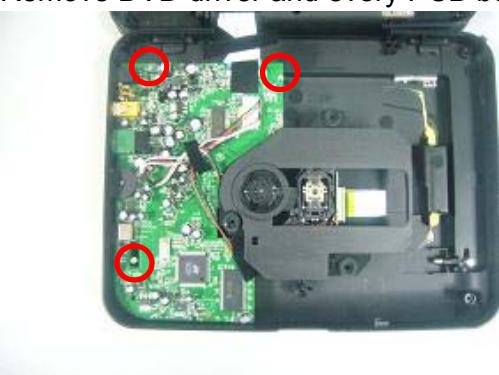
2.Open the DVD base as Fig.2



5.0 Remove screws to remove TFT PCB  
KEY PCBA and CCFL PCBA board.

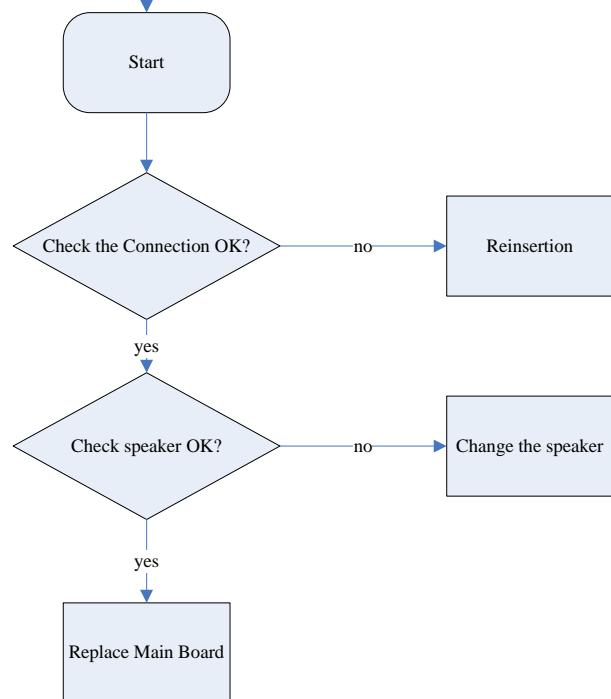
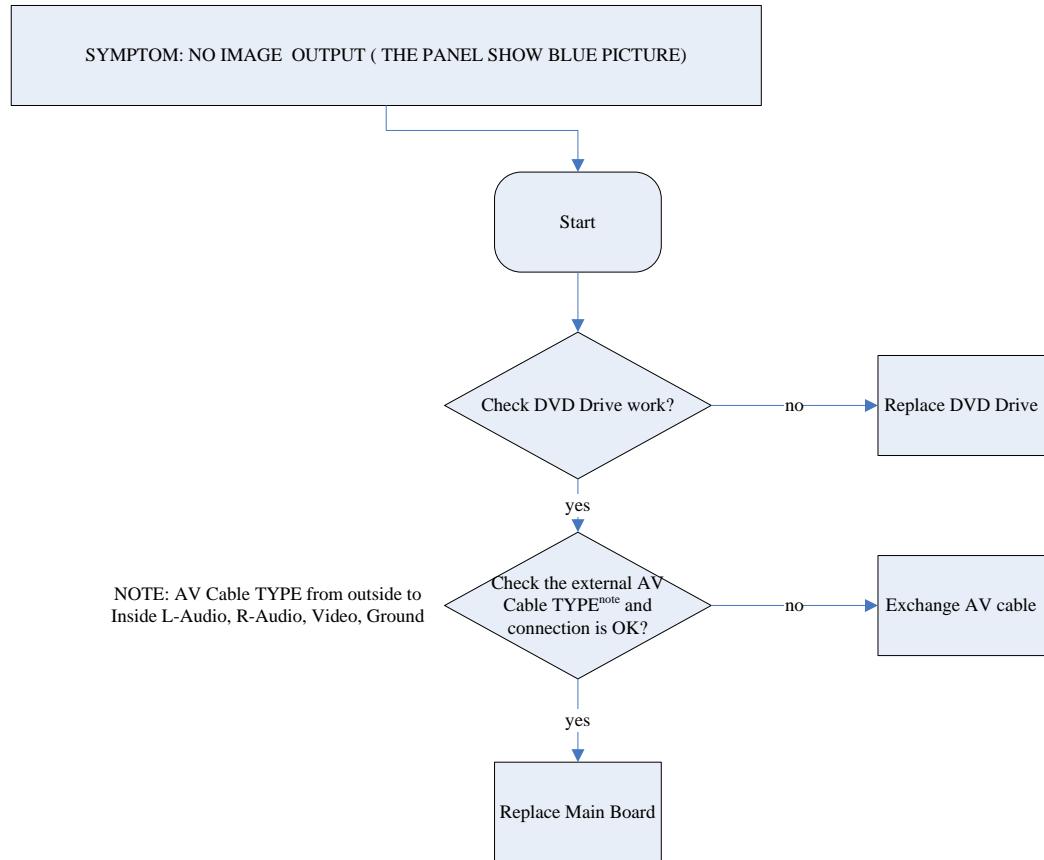


3.Remove DVD driver and every PCB board as Fig.3



## 5.0 TROUBLESHOOTING

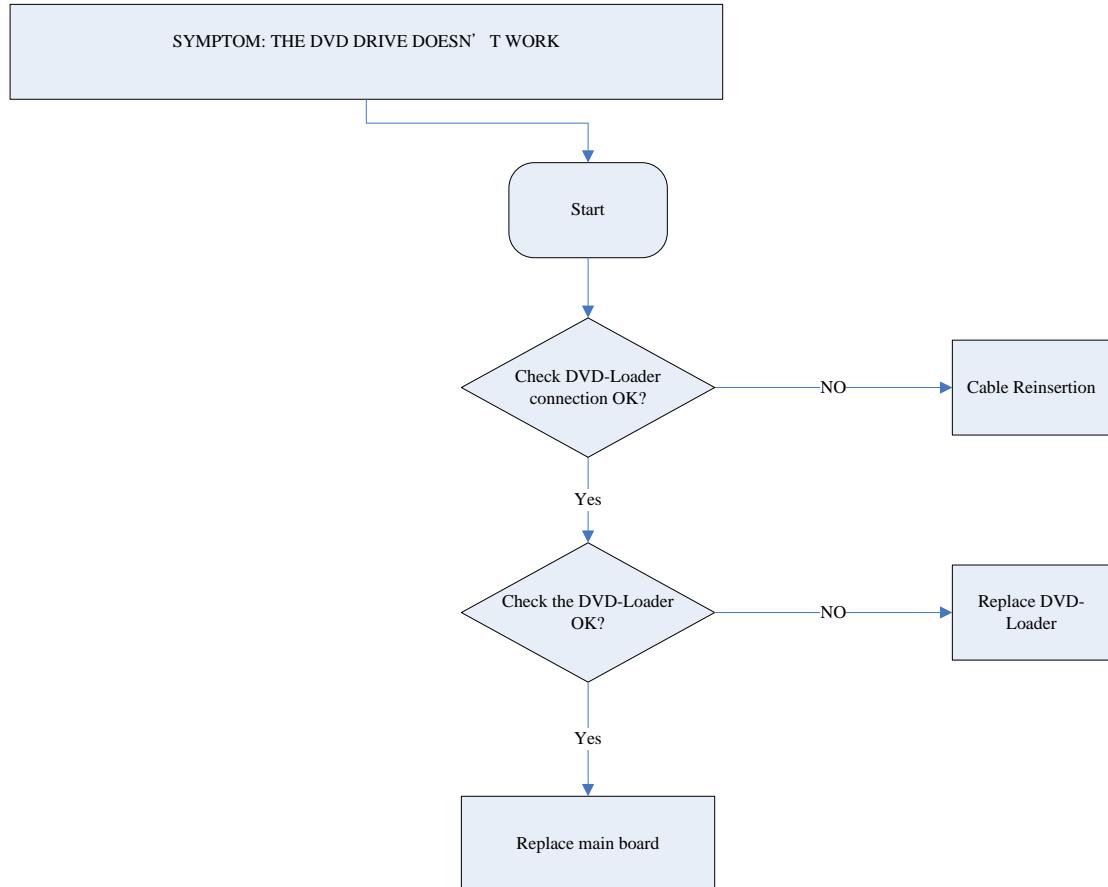
### SYMPTOM: NO IMAGE / NO SOUND



## 5.0 TROUBLESHOOTING

---

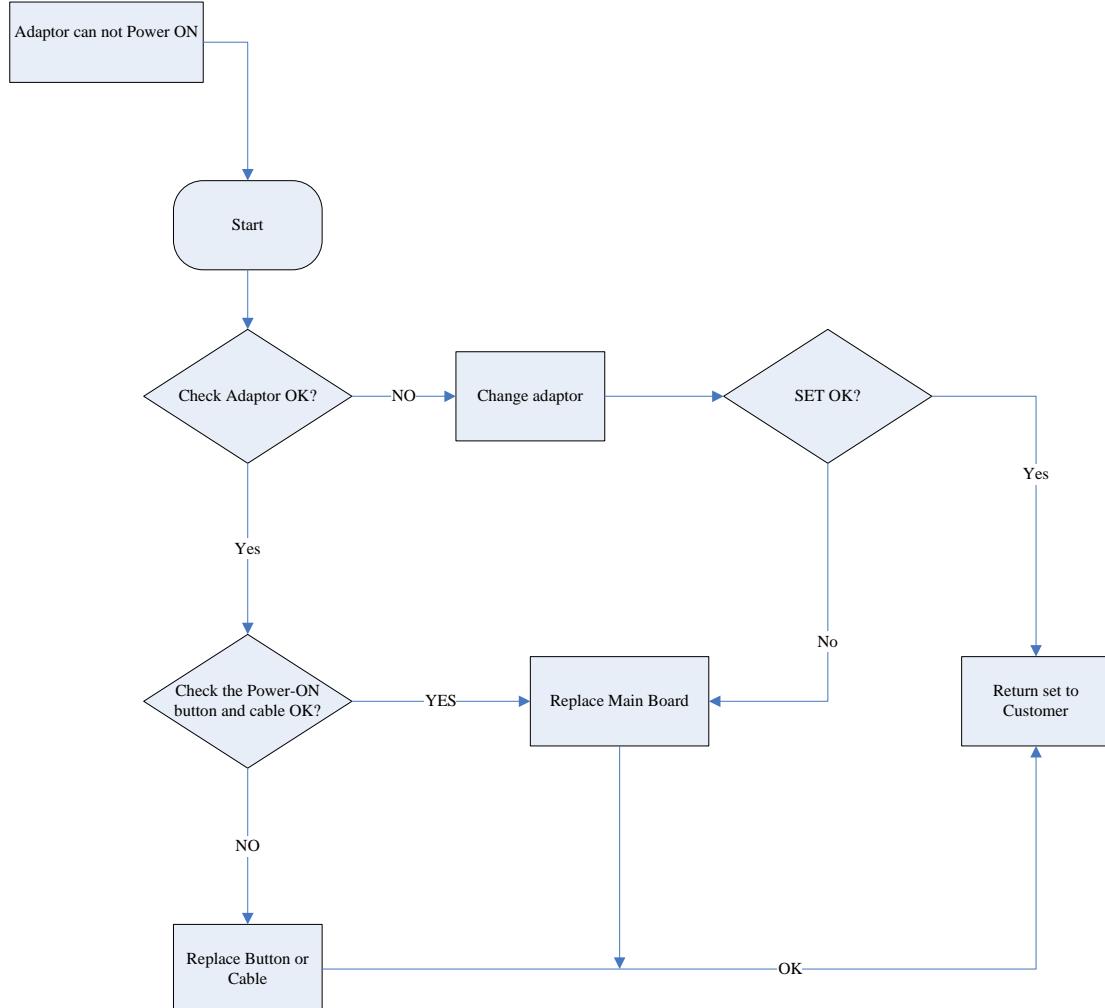
### SYMPTOM: THE DVD DRIVE DOES NOT WORK



## 5.0 TROUBLESHOOTING

---

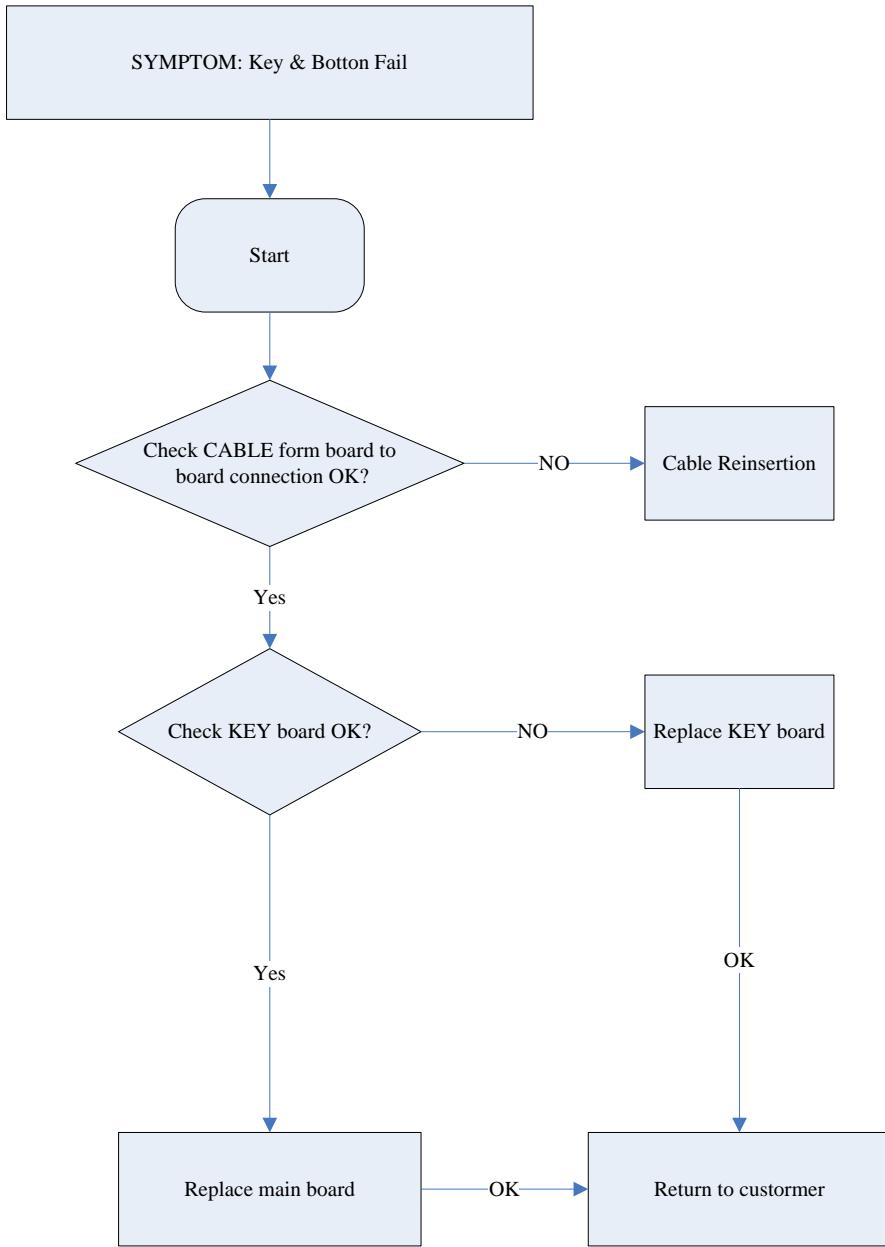
### SYMPTOM: ADAPTOR CANNOT POWER ON



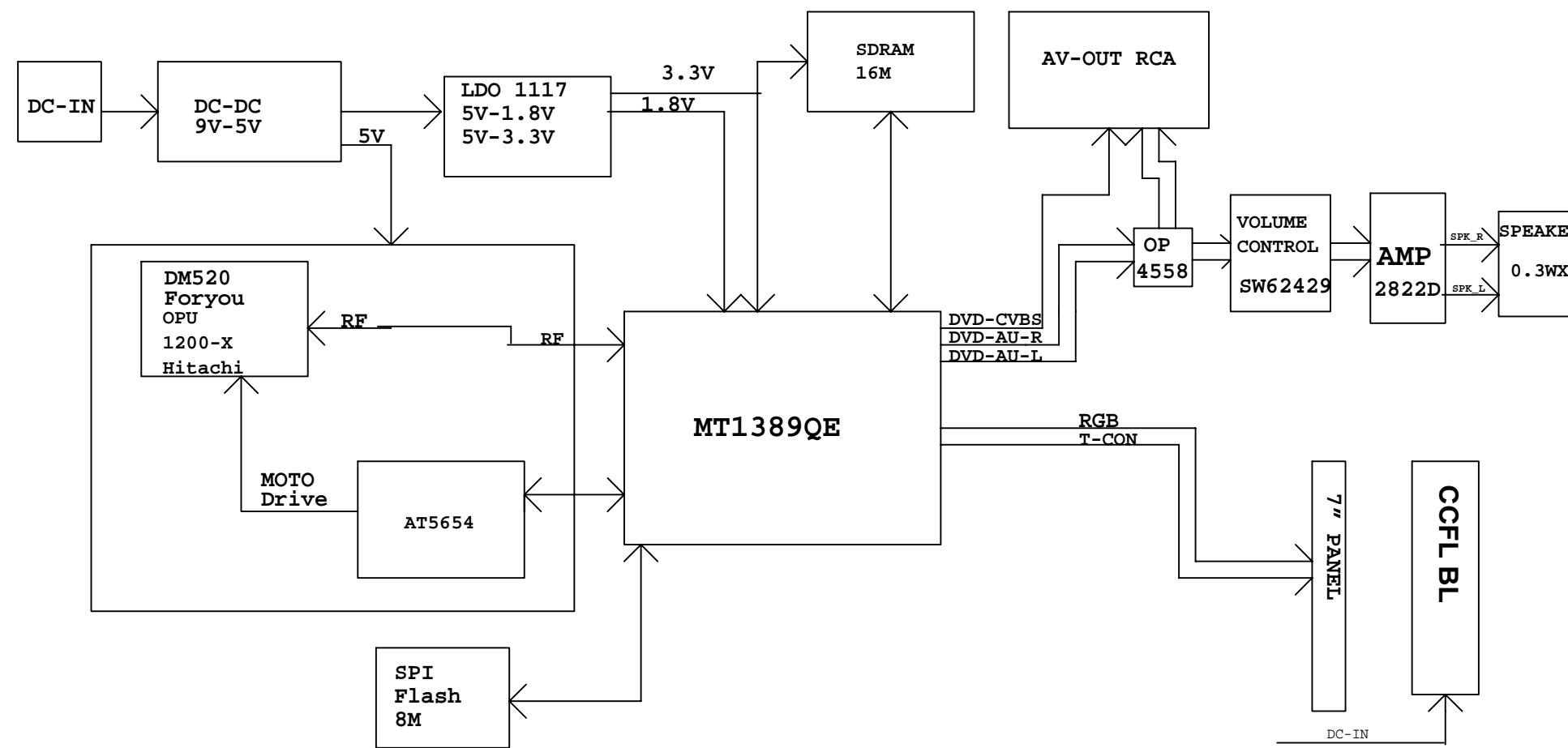
## 5.0 TROUBLESHOOTING

---

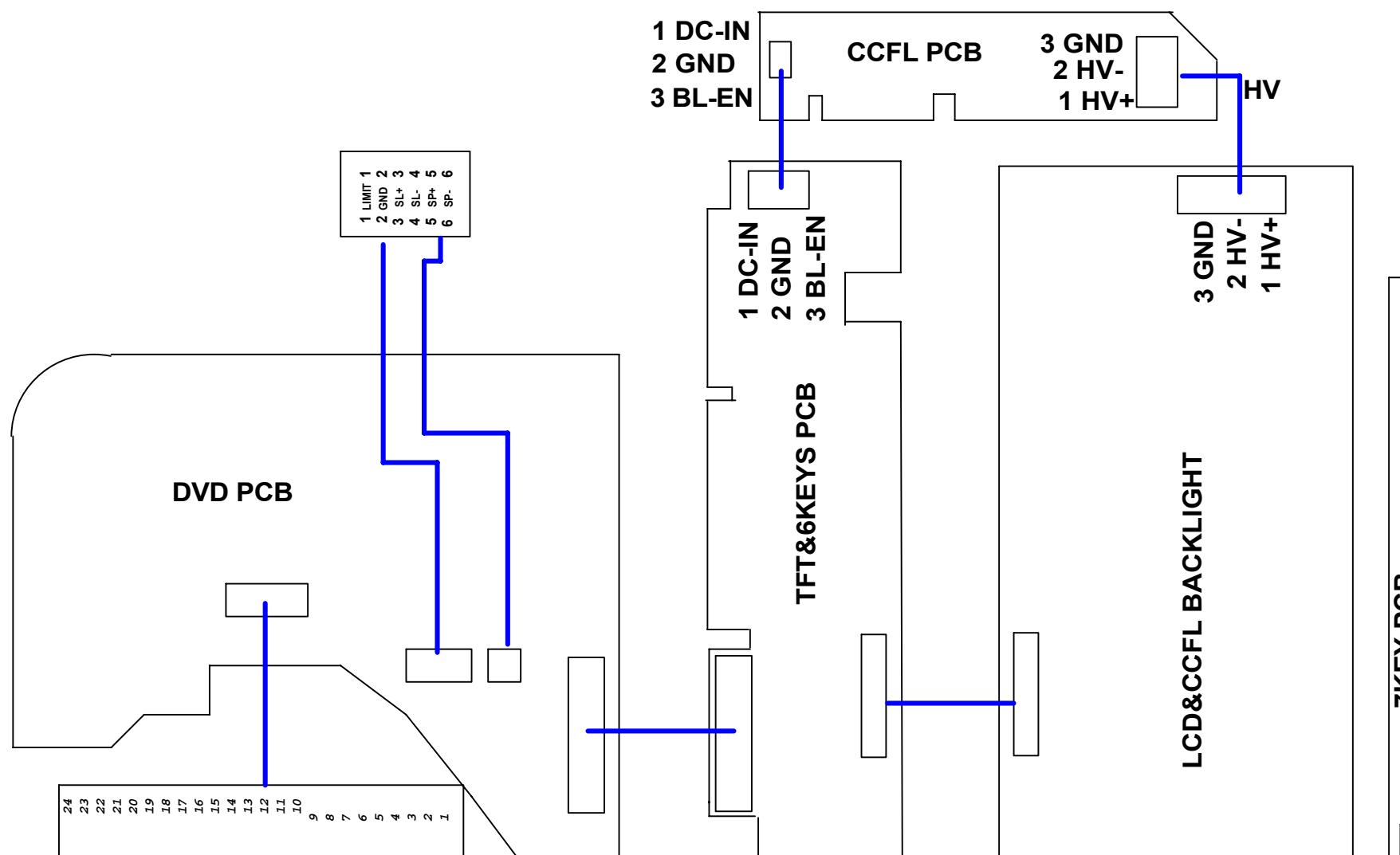
### SYMPTOM: KEY & BOTTON FAILURE



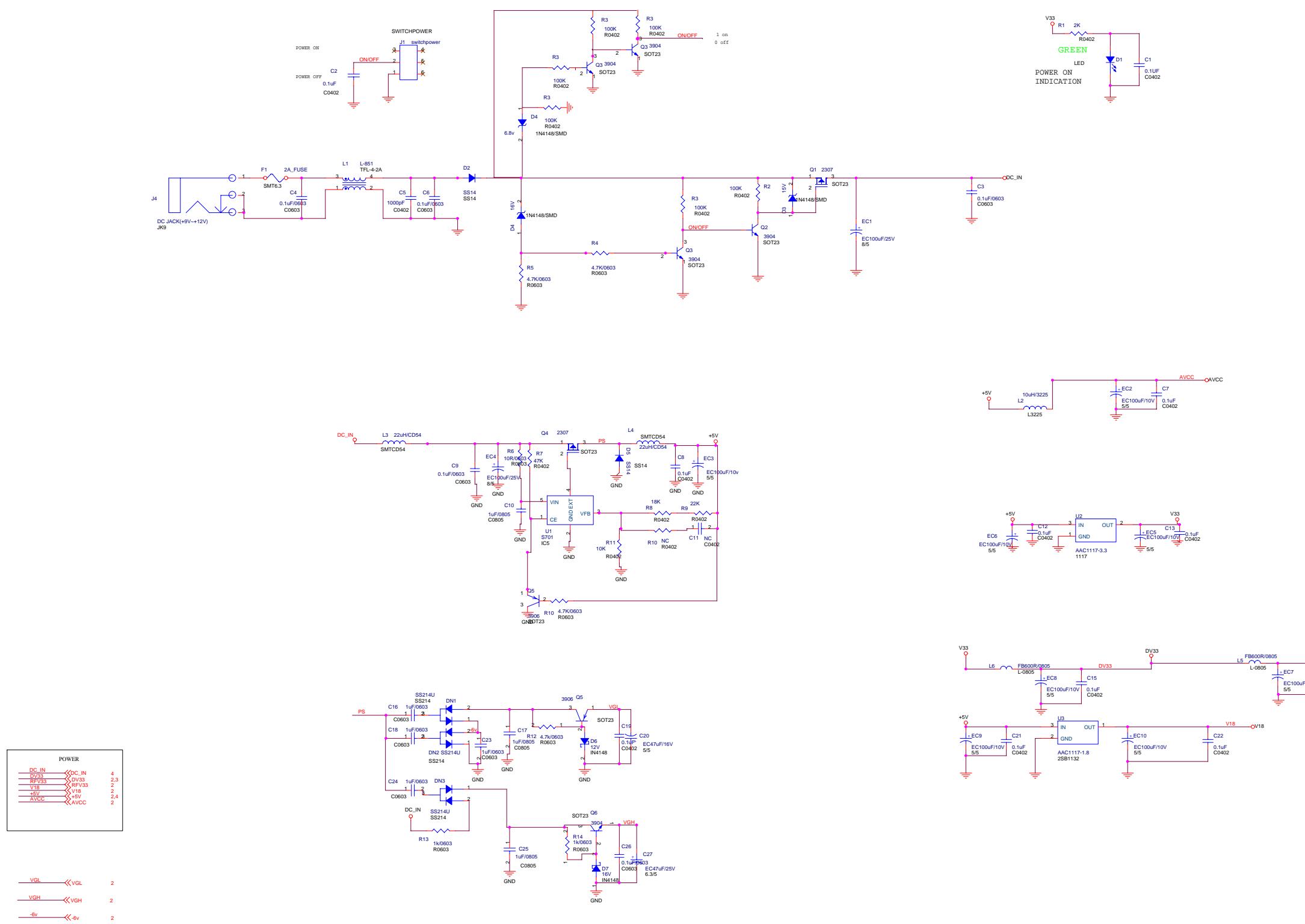
## OVERALL BLOCK DIAGRAM



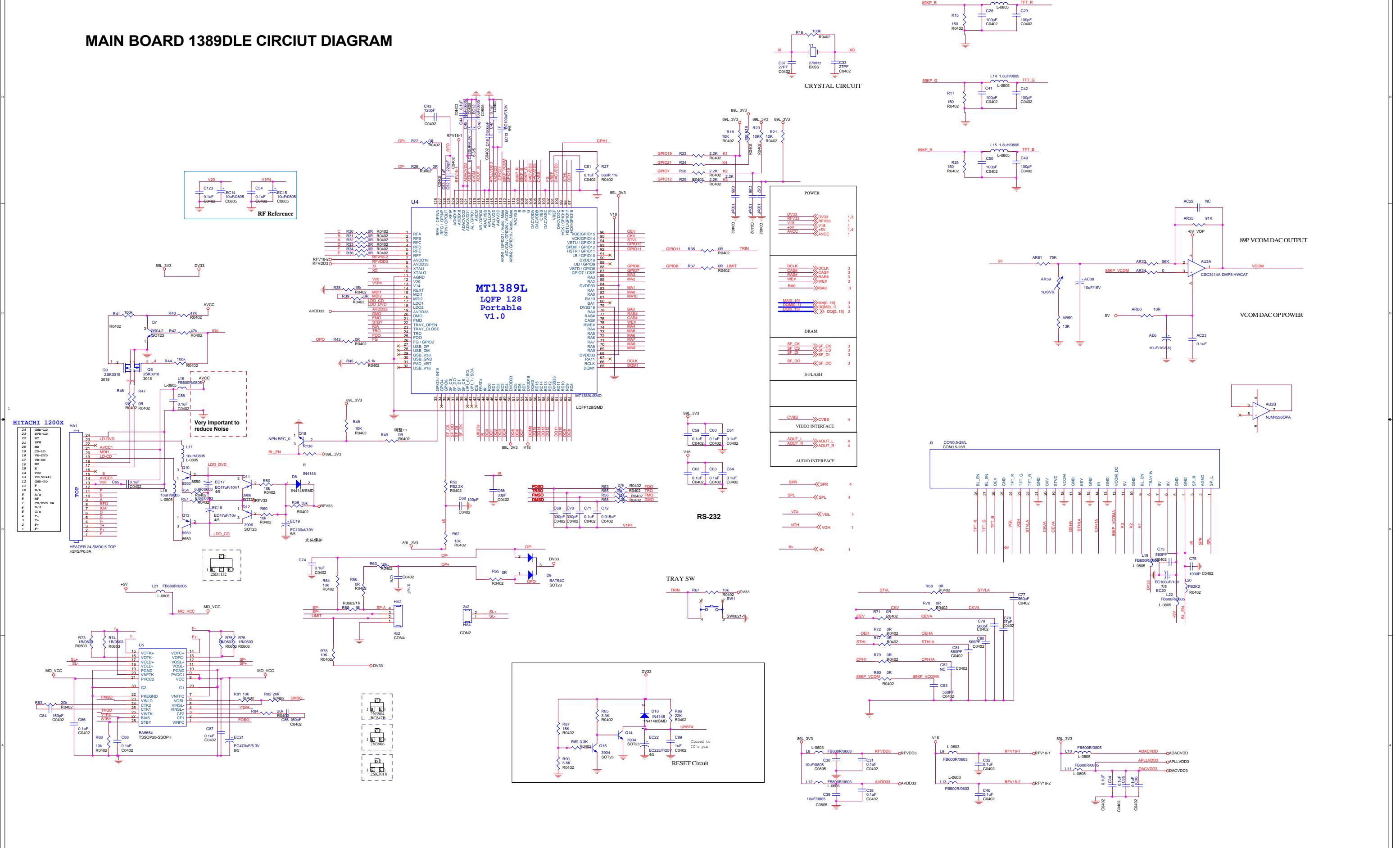
## OVERALL WIRING DIAGRAM



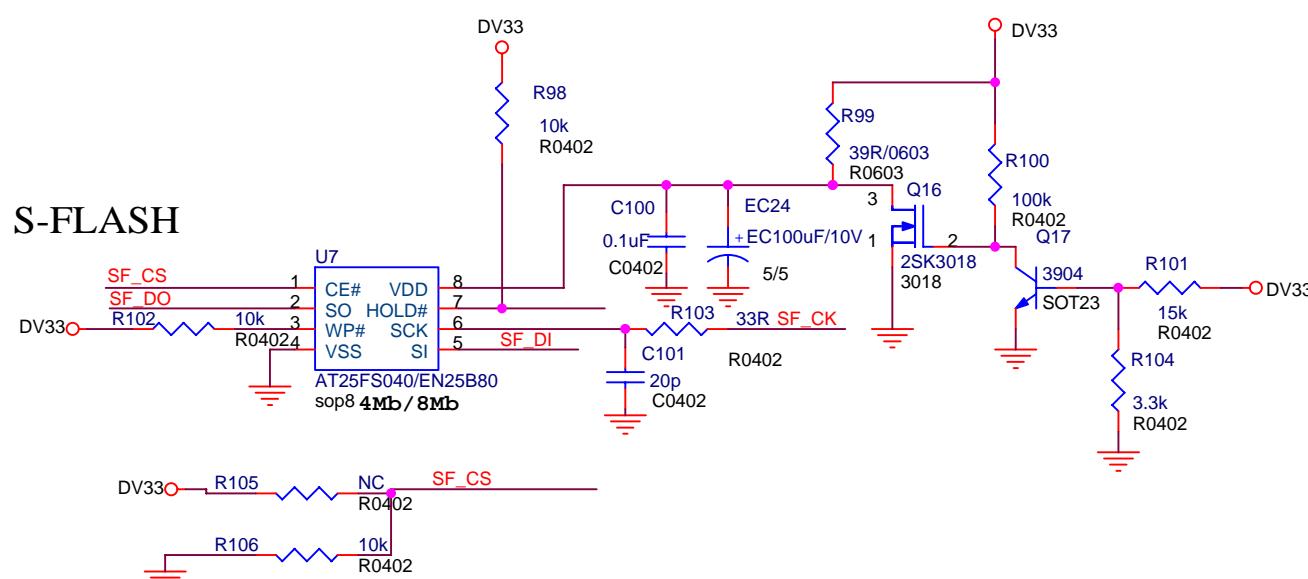
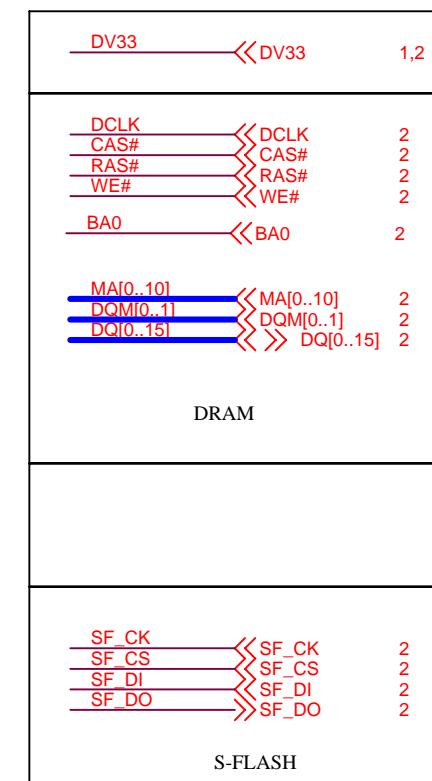
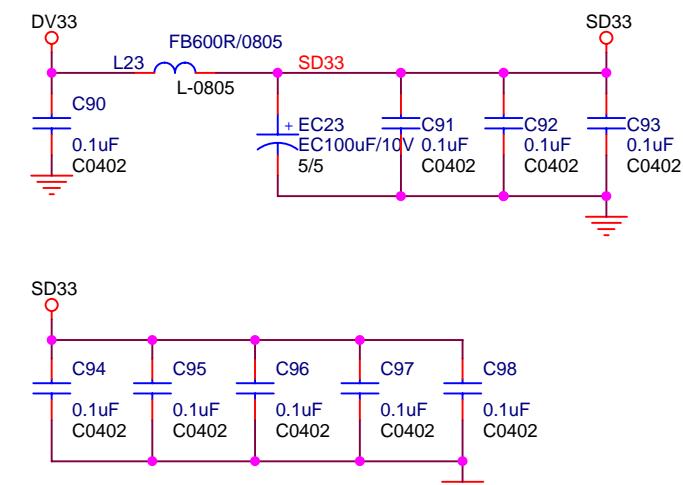
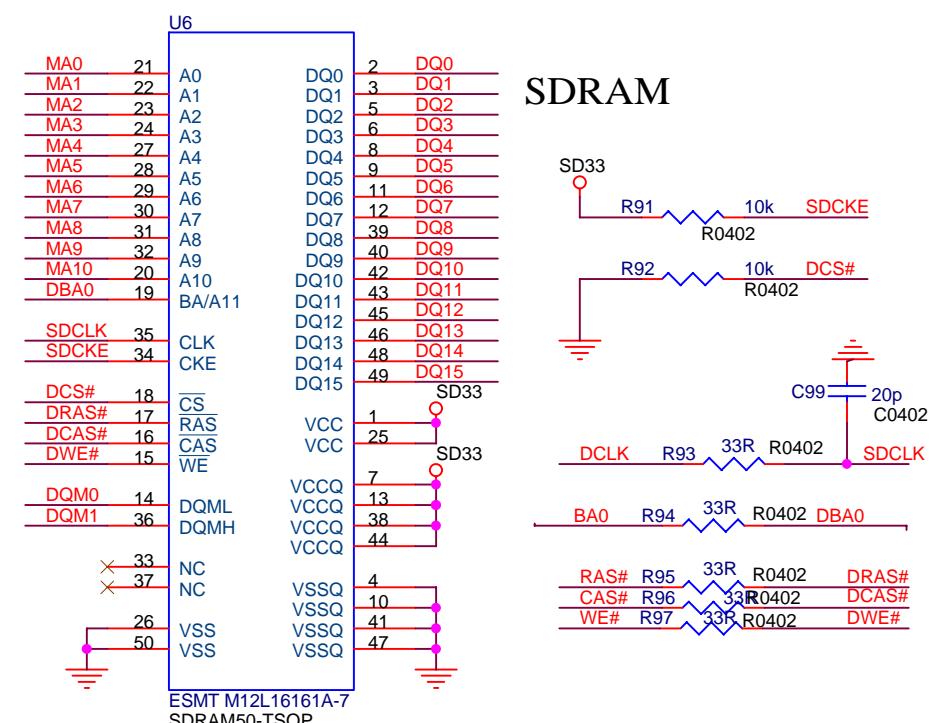
# MAIN BOARD POWER CIRCUIT DIAGRAM



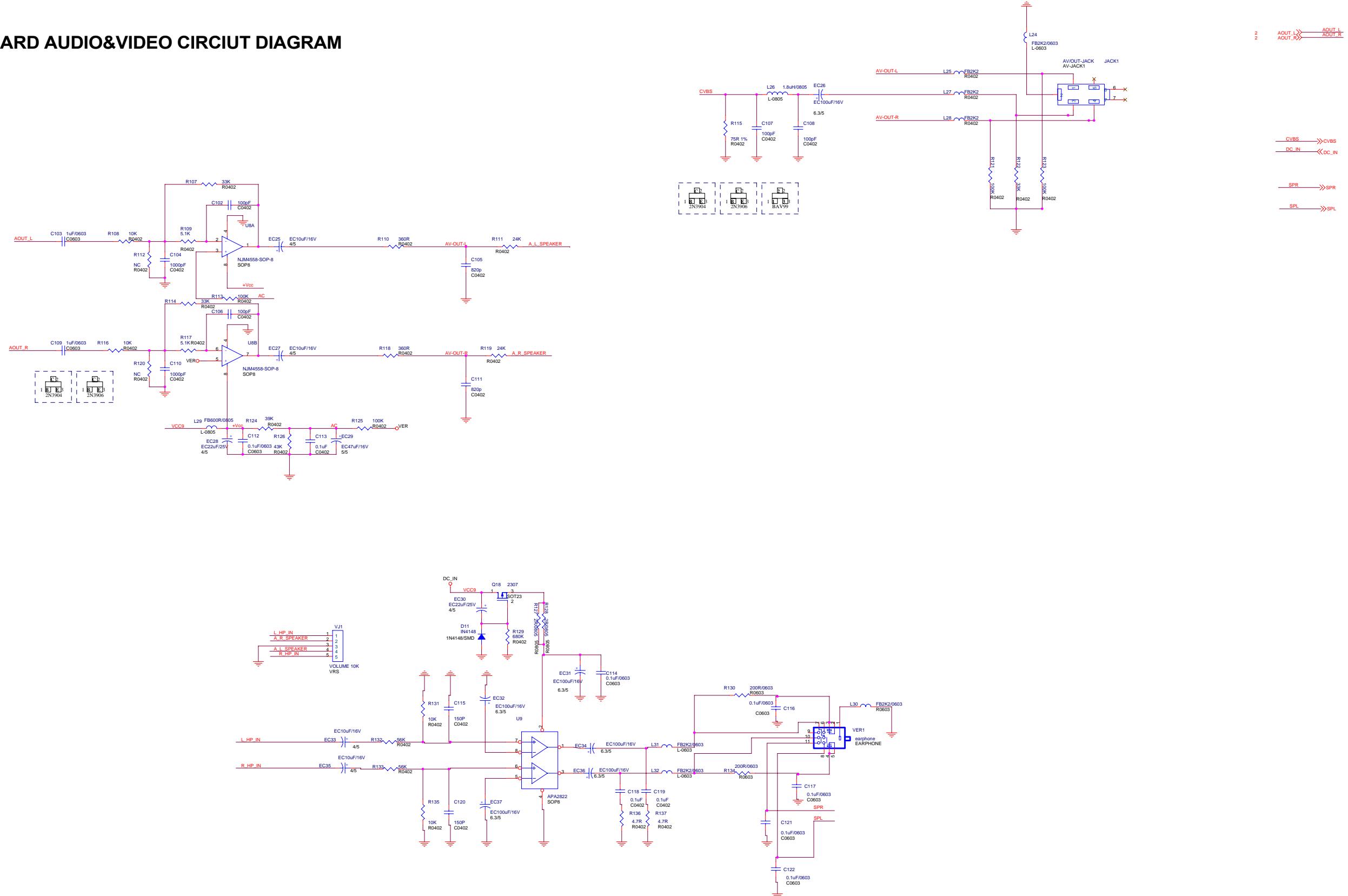
# MAIN BOARD 1389DLE CIRCUIT DIAGRAM



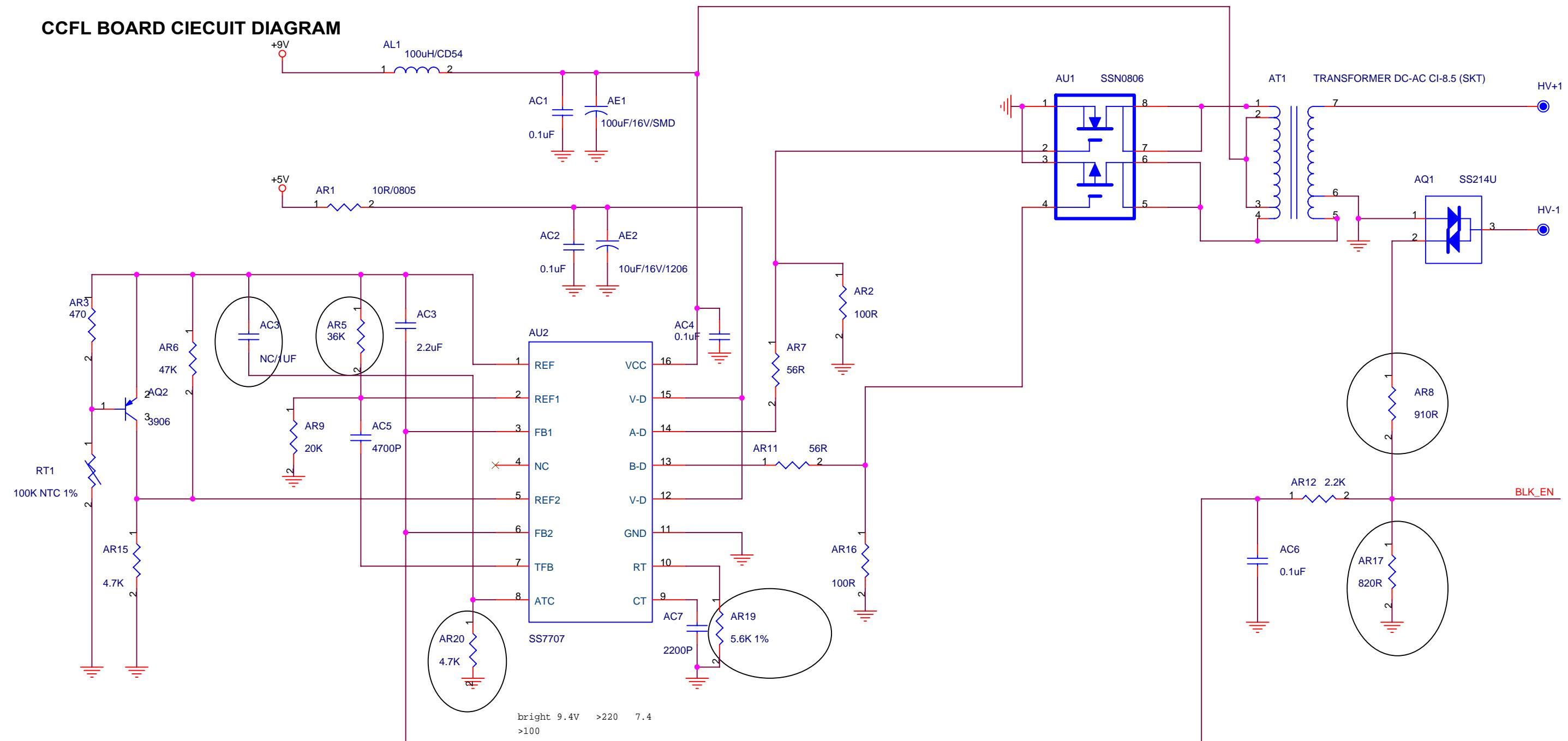
## MAIN BOARD SDRAM&FLASH CIRCIUT DIAGRAM



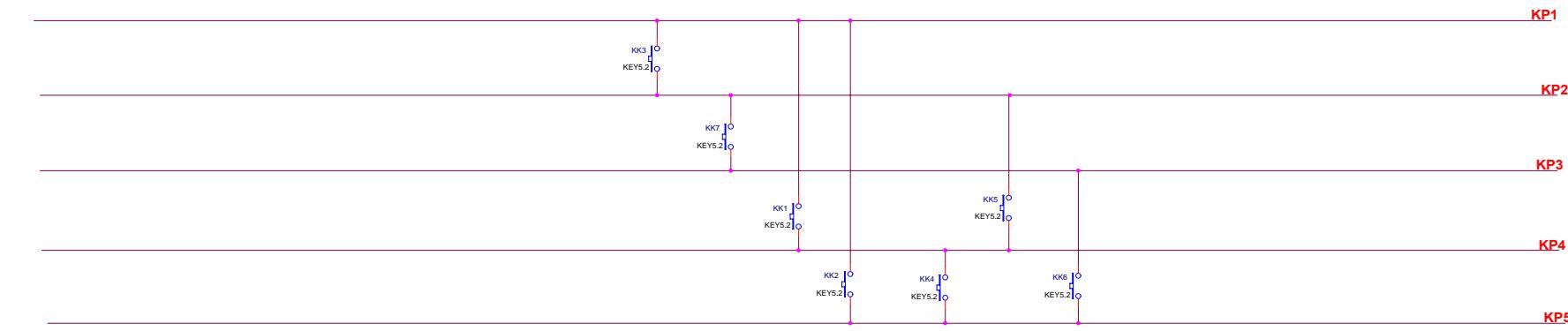
## MAIN BOARD AUDIO&VIDEO CIRCIUT DIAGRAM



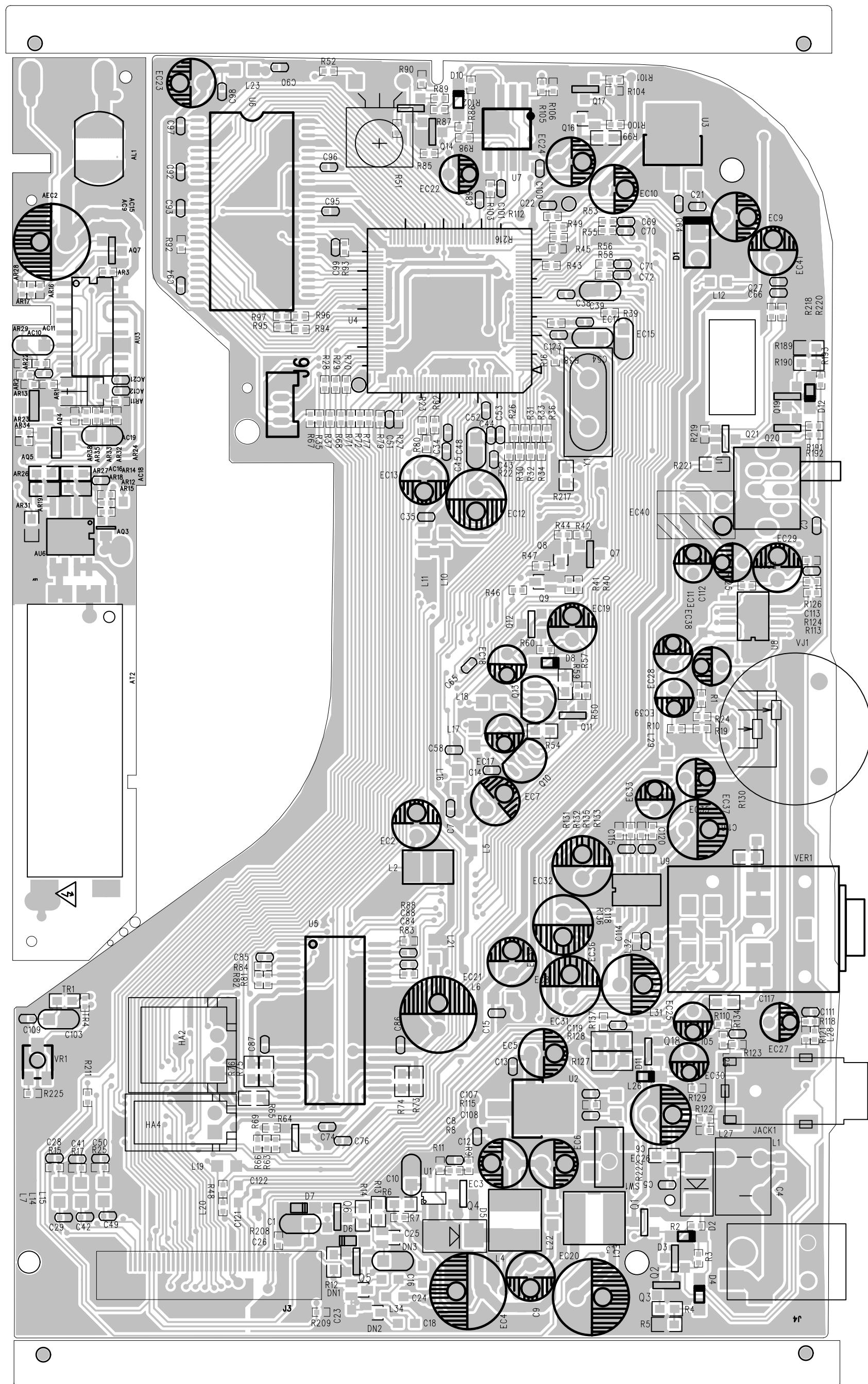
## CCFL BOARD CIECUT DIAGRAM



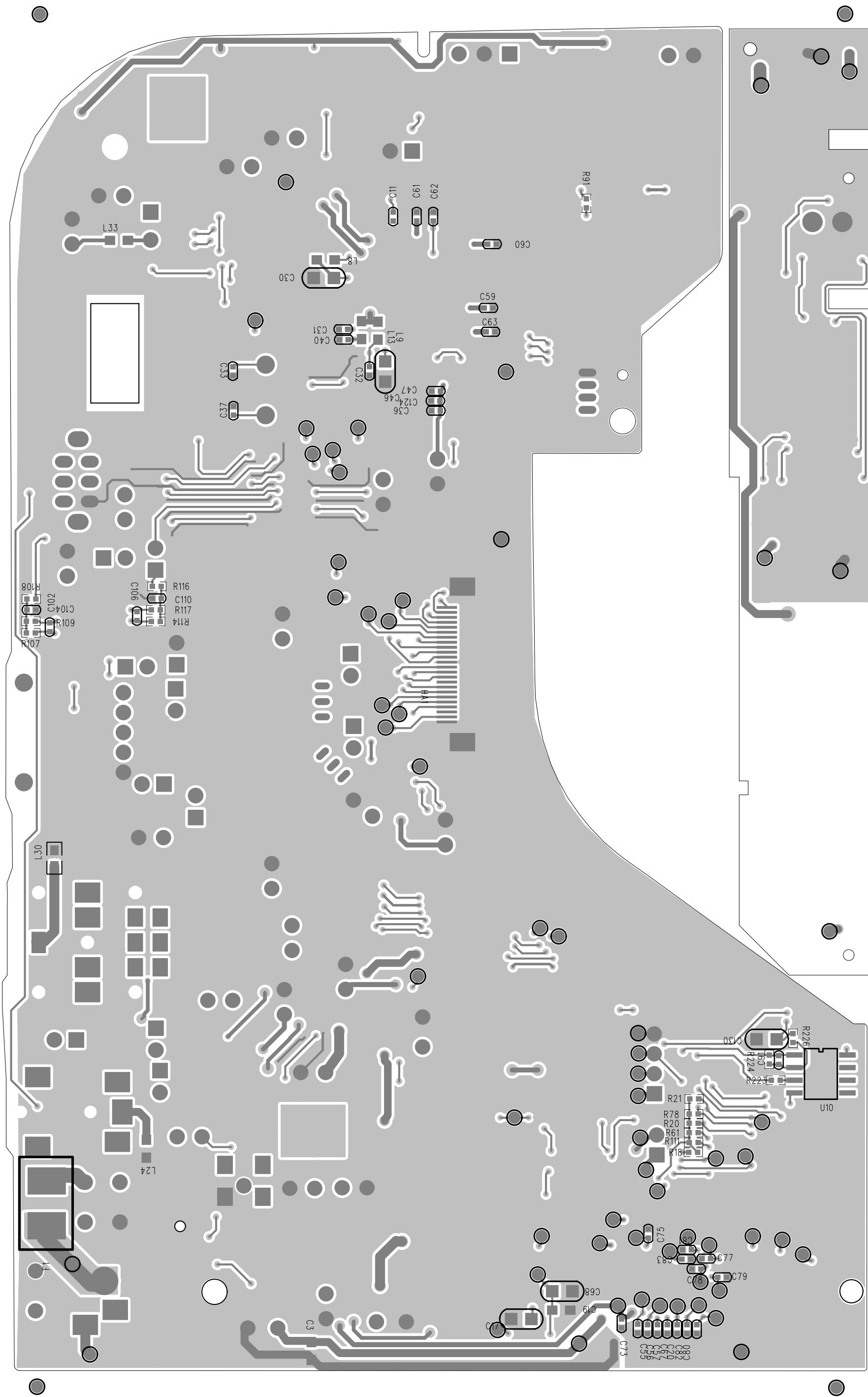
## 7KEYS BOARD CIRCUIT DIAGRAM



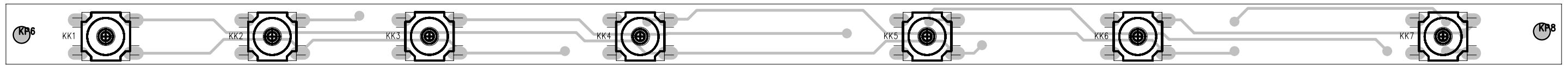
# PET7402D MAIN&CCFL BOARD



PET7402D MAIN&CCFL BOARD



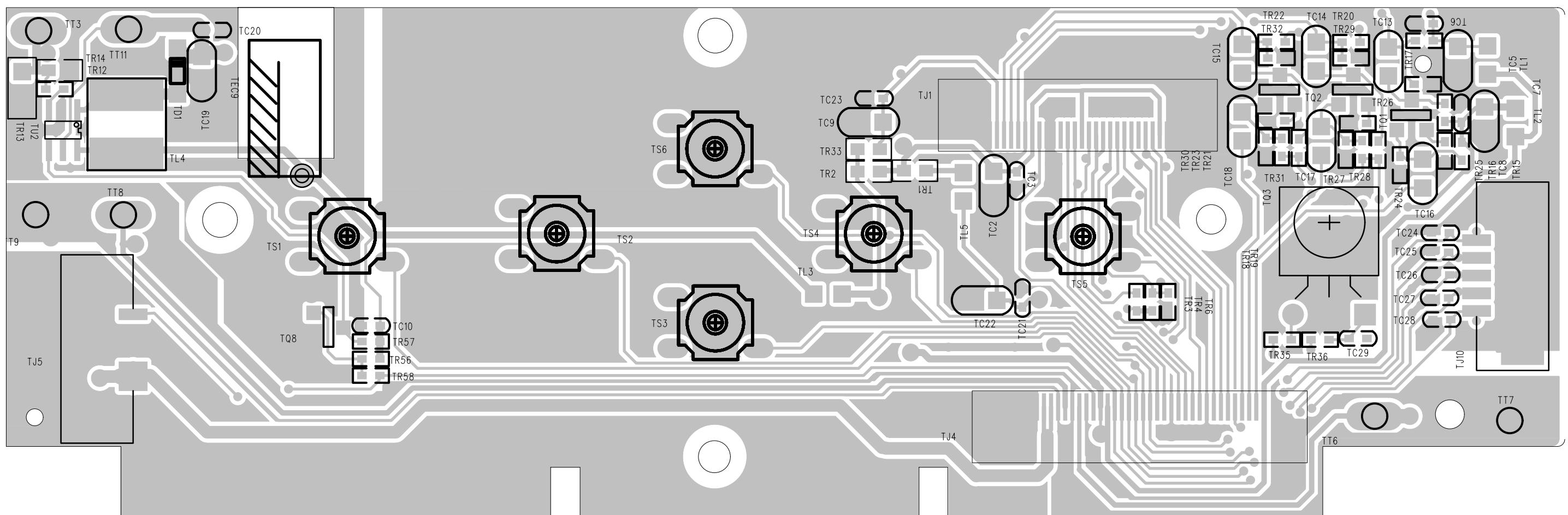
## PET7402D 7KEYS BOARD



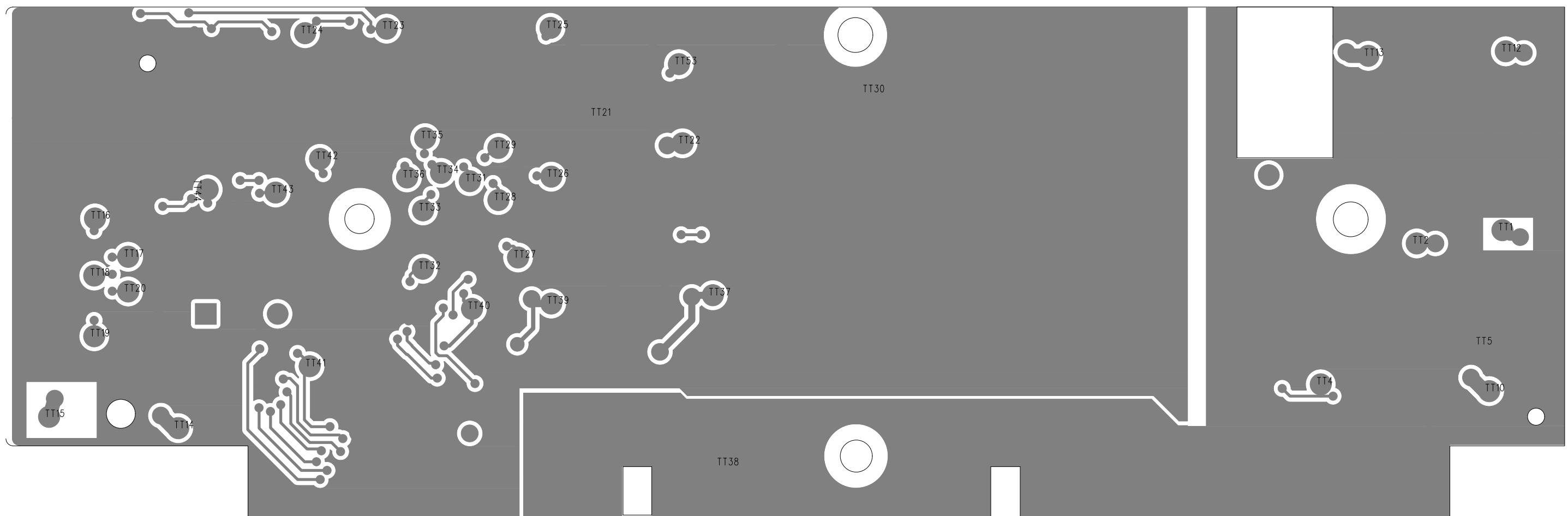
## PET7402D 7KEYS BOARD



## PET7402D TFT&6KEYS BOARD



## PET7402D TFT&6KEYS BOARD



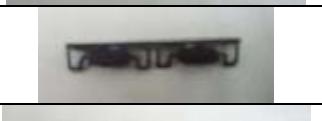
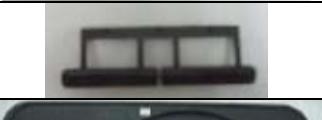
## 8.0 SERVICE PART LIST

### Electrical Part List:

| CTN                        | Service 12NC | Service Description                      | Photo   | Pos. No. |
|----------------------------|--------------|--|---|----------|
| PET7402D/05<br>PET7402D/12 | 996510021392 | MAIN PCBA ASSY PET7402 FOR GS1X          |    | 100      |
|                            | 996510026559 | MAIN PCBA ASSY PET7402 HANNSTAR FOR GS2X |   |          |
| PET7402D/05<br>PET7402D/12 | 996510021378 | TFT PCBA ASSY PET7402 FOR GS1X           |    | 110      |
|                            | 996510026565 | TFT PCBA HANNSTAR FOR GS2X               |   |          |
| PET7402D/05<br>PET7402D/12 | 996510021384 | 7KEYS PCBA ASSY PET7402 FOR GS1X         |    | 120      |
|                            |              | 7KEYS PCBA HANNSTAR FOR GS2X             |   |          |
| PET7402D/05<br>PET7402D/12 | 996510021376 | CCFL PCBA ASSY PET7402                   |   | 130      |
| PET7402D/05<br>PET7402D/12 | 996510021379 | 7" PANEL ASSY FOR PET7402 FOR GS1X       |  | 200      |
|                            | 996510022848 | 7" PANEL ASSY HANNSTAR FOR GS2X          |   |          |
| PET7402D/05<br>PET7402D/12 | 996510007686 | DVD LOADER                               |    | 220      |

## 8.0 SERVICE PART LIST

### Mechanical Part List:

| CTN                        | Service<br>12NC | Service Description  | Photo   | Pos.<br>No. |
|----------------------------|-----------------|----------------------|---|-------------|
| PET7402D/05<br>PET7402D/12 | 996510021395    | MONITOR BACK CABINET |    | 310         |
| PET7402D/05<br>PET7402D/12 | 996510021387    | MONITOR SIDE KEY1    |    | 320         |
| PET7402D/05<br>PET7402D/12 | 996510021389    | MONITOR SIDE KEY2    |    | 330         |
| PET7402D/05<br>PET7402D/12 | 996510021398    | MONITOR 4-BUTTON     |    | 340         |
| PET7402D/05<br>PET7402D/12 | 996510021397    | MONITOR 2-BUTTON     |   | 350         |
| PET7402D/05<br>PET7402D/12 | 996510021373    | DVD TOP CABINET      |   | 360         |
| PET7402D/05<br>PET7402D/12 | 996510021375    | DVD BASE CABINET     |  | 370         |
| PET7402D/05<br>PET7402D/12 | 996510021394    | OPEN KNOB            |  | 380         |
| PET7402D/05<br>PET7402D/12 | 996510021374    | POWER KNOB           |  | 390         |

## 8.0 SERVICE PART LIST

### Mechanical Part List:

| CTN                        | Service<br>12NC | Service Description   | Photo   | Pos.<br>No. |
|----------------------------|-----------------|-----------------------|---|-------------|
| PET7402D/05<br>PET7402D/12 | 996510021383    | SUPPORT               |    | 391         |
| PET7402D/05<br>PET7402D/12 | 996510021377    | LATCH STAND POM       |    | 392         |
| PET7402D/05<br>PET7402D/12 | 996510021386    | DISPLAY FRAME AND SPK |    | 393         |
| PET7402D/05<br>PET7402D/12 | 996510002384    | PPC 24PIN             |     | 400         |
| PET7402D/05<br>PET7402D/12 | 996510021391    | PPC 32P/0.5MM 8MM     |    | 410         |
| PET7402D/05<br>PET7402D/12 | 996510021385    | HINGE LIFT TURN       |  | 420         |

## 8.0 SERVICE PART LIST

### Accessories Part List:

| Service 12NC | Service Description                                 | Photo  | Pos. No. |
|--------------|---|--|----------|
| 996510021382 | PAC134 2 <sup>ND</sup> MONITOR FOR GS1X             |    |          |
| 996510026561 | PAC134 2 <sup>ND</sup> MONITOR<br>HANNSTAR FOR GS2X |    | 210      |
| 996510010377 | ADAPTER FOR UK<br>(PET7402D/05)                     |    | ADT      |
| 996510002353 | ADAPTER FOR EU<br>(PET7402D/12)                     |    | ADT      |
| 996510010459 | AV CABLE  |   | AVCABLE  |
| 996510021372 | CAR ADAPTER   |  | CARADT   |

## **9.0 REVISION LIST**

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### Version 1.0

- Initial release PET7402D/05, PET7402D/12

### Version 1.1

- Updated drawing & partlist for 2<sup>nd</sup> generation (change to Hannstar panel)