

# Service

## DVP3136/94

# Service

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# Service Manual

## TABLE OF CONTENTS

	Page
. Technical Specifications.....	1-2
. Safety Instruction, Warning & Notes.....	1-3
. Mechanical and Dismantling Instructions.....	2-1
. Region Code, Software Version& Upgrades.....	3-1
. Trouble Shooting Chart.....	4-1
. Wiring Diagram.....	5-1
. Electrical Diagrams and Print-layouts.....	6-1
. Set Mechanical Exploded View & Electrical Part list.....	7-1
. Revision List.....	8-1

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**CLASS 1  
LASER PRODUCT**



3139 785 32840

# PHILIPS

## Technical Specifications

### TV standard (PAL/50Hz) (NTSC/60Hz)

Number of lines	625	525
Playback	Multi standard	(PAL/NTSC)

### Video performance

Video DAC	14 bit
YPbPr	0.7Vpp ---- 75 ohm
Video output	1Vpp ----- 75 ohm

### Video format

Digital Compression	MPEG 2 for DVD,SVCD MPEG 1 for VCD
---------------------	---------------------------------------

<b>DVD</b>	<b>50Hz</b>	<b>60Hz</b>
Horiz resolution	720 pixels	720 pixels
Vertical resolution	576lines	480 lines

<b>VCD</b>	<b>50Hz</b>	<b>60Hz</b>
Horiz. resolution	352 pixels	352 pixels
Vertical resolution	288lines	240 lines

### Audio format

Digital	<b>MPEG/AC-3/ PCM</b>	<b>Compressed Digital 16, 20, 24bits fs, 44.1, 48, 96kHz MP3(ISO 9660) 96,112,128,256kbps &amp; variable bit rate fs,32, 44.1,48 kHz</b>
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Analogue Sound Stereo

Dolby surround compatible downmix from Dolby Digital multi-channel sound

### Audio performance

DA converter	24bits, 192KHz
DVD	fs 96kHz 4Hz----44kHz fs 48kHz 4Hz----22kHz
SVCD	fs 48kHz 4Hz----22kHz fs 44.1kHz 4Hz----20kHz
CD/ VCD	fs 44.1kHz 4Hz----20kHz
Line Output	
Signal-Noise (1kHz)	>70dB
Dynamic Range (1kHz)	>60dB
Cross talk (1kHz)	>70dB
Distortion/Noise (1kHz)	>65dB

### Spearker Output

Signal-Noise(1KHz)	>70dB
Dynamic range(1KHz)	>60dB
Crosstalk (1KHz)	>60dB
Distortion/noise(1KHz)	>-62dB
Speaker Power Output @10%THD 6 Ω	<=10W rms/ch (2 channels)
Frequency Response	20Hz-20kHz
MPEG MP3	MPEG Audio L3

### Connections

YPbPr output	Cinch 3x
Video output	Cinch( yellow)
Audio output (L+R )	Cinch (white/red)
Digital output	1 coaxial IEC60958 for CDDA/ LPCM IEC61937 for MPEG1/2

6 channal analog output	
Audio Front L/R	Clinch (white/red)
Audio Rear L/R	Clinch (white/red)
Audio Center	Clinch (blue)
Audio Subwoofer	Clinch (black)
2 channel speaker output	
Audio+RCH-Clip (red/black)	
Audio+LCH-Clip (red/black)	

### Cabinet

Dimensions (w X h X d)	360 x 37 x 237mm
Weight	Approximately 2kg

### Power consumption

Power supply Rating	110V -240V; 50/60HZ
Power consumption	<12W
Power consumption in standby mode	<2W
Standby mode	

**Specifications subject to change without prior notice.**


# 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  $1\text{M}\Omega$ .
  - 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.

## 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](http://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.

## Mechanical and Dismantling Instructions

### Dismantling Instruction

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The following guideline is a general instruction for how to dismantle the player, Detailed operation done according the set unit.

**Step1:** Remove 5 screws around the Top Cover, then remove the Top Cover (Figure 1).



Figure 1

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

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 assembly.

Figure 2

## Mechanical and Dismantling Instructions

### Dismantling Instruction

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**Step3:** If the tray can't open in normal way, you can make it through the instruction as below (Figure 3).

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

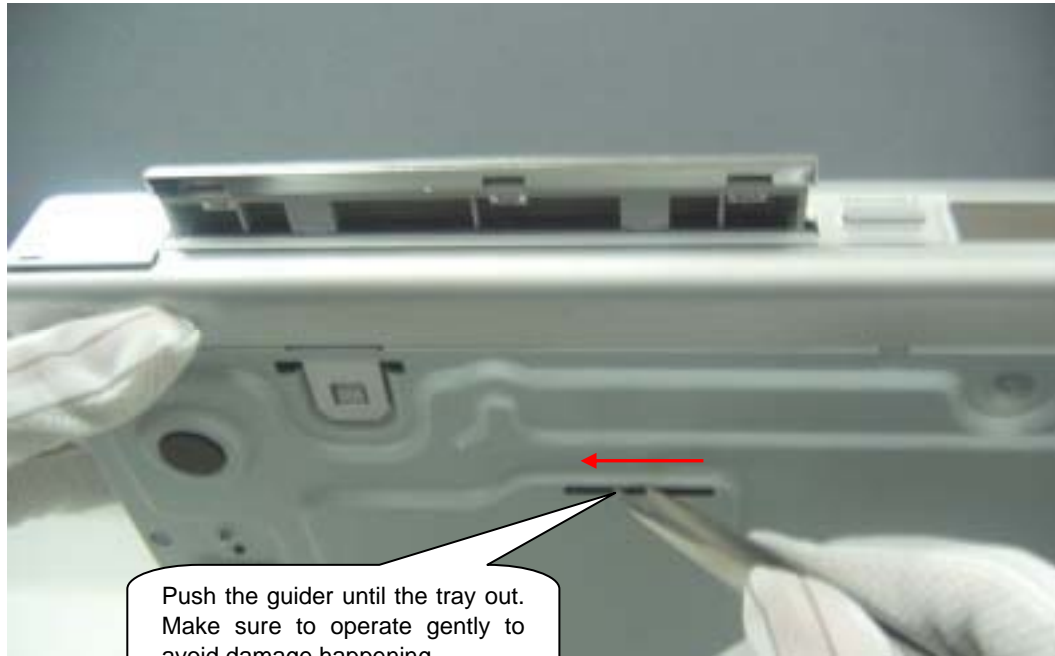


Figure 3

**Step4:** Dismantling Loader, disconnect the 3 connectors aiming in the below figure, and remove screw around the Loader. (Figure 4)

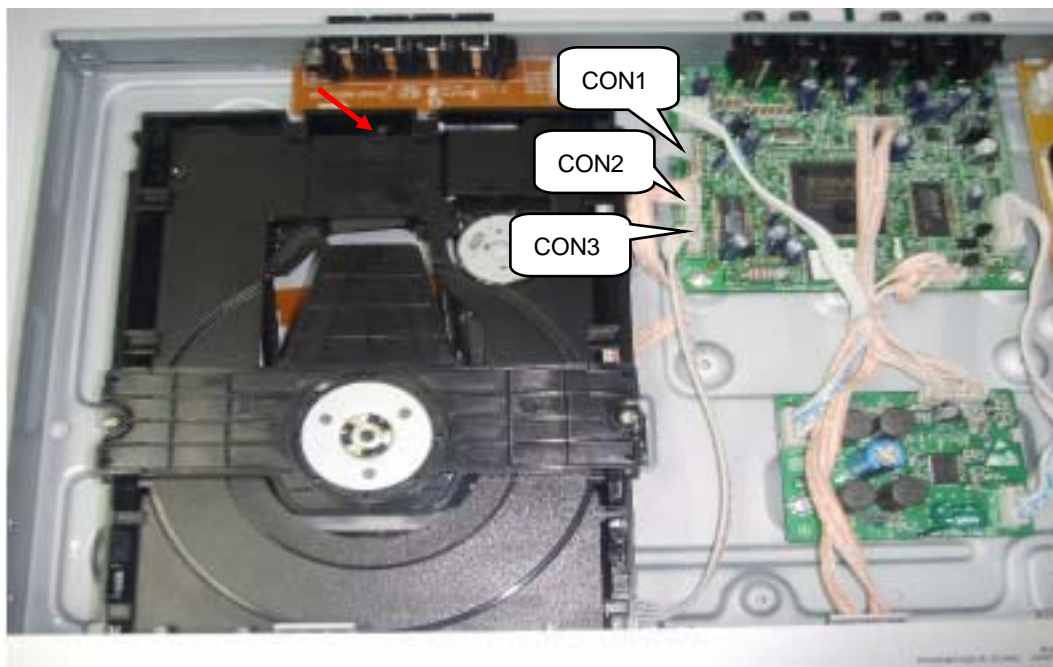


Figure 4



## Mechanical and Dismantling Instructions

### Dismantling Instruction

**Step5:** Dismantling Front Panel, disconnect the 1 connector, then release the snaps on the both sides of Front Panel and bottom cabinet , then gently pull the Panel out from the set. (Figure 5 & 6 & 7)

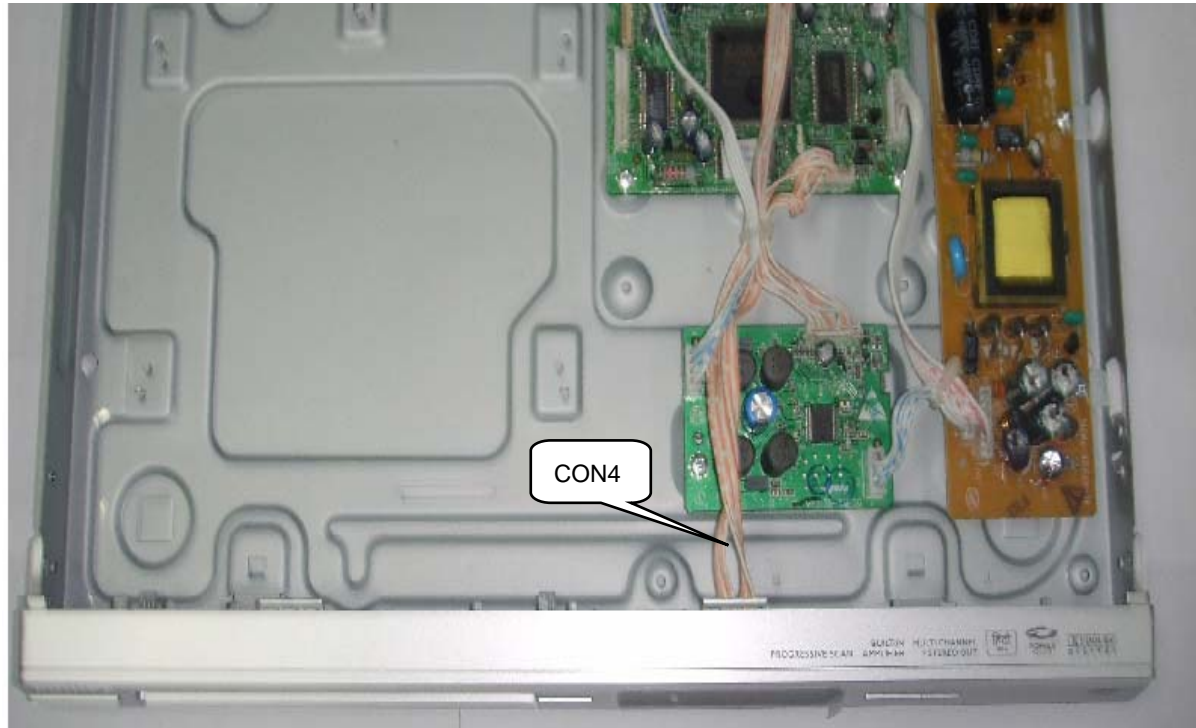


Figure 5

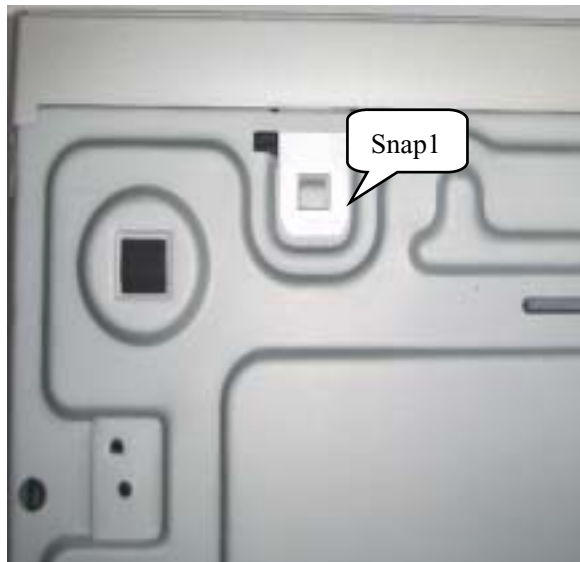


Figure 6

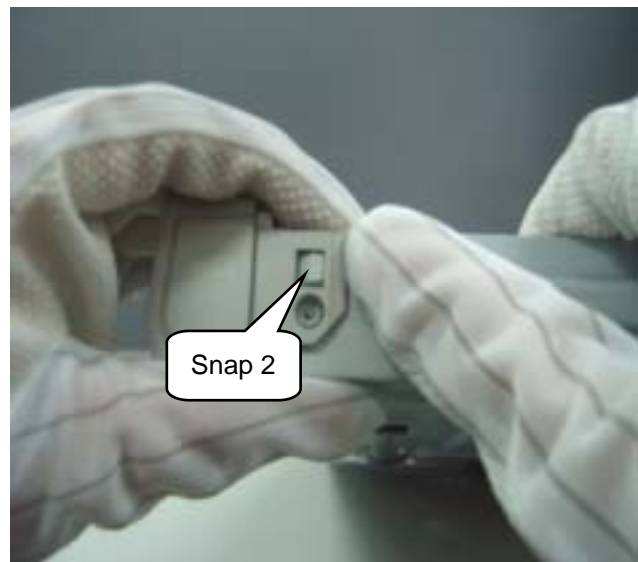


Figure 7



## Mechanical and Dismantling Instructions

### Dismantling Instruction

**Step6:** Dismantling Amplifier Board, first disconnect the 3 connector, then remove 1 screw. (Figure 8)

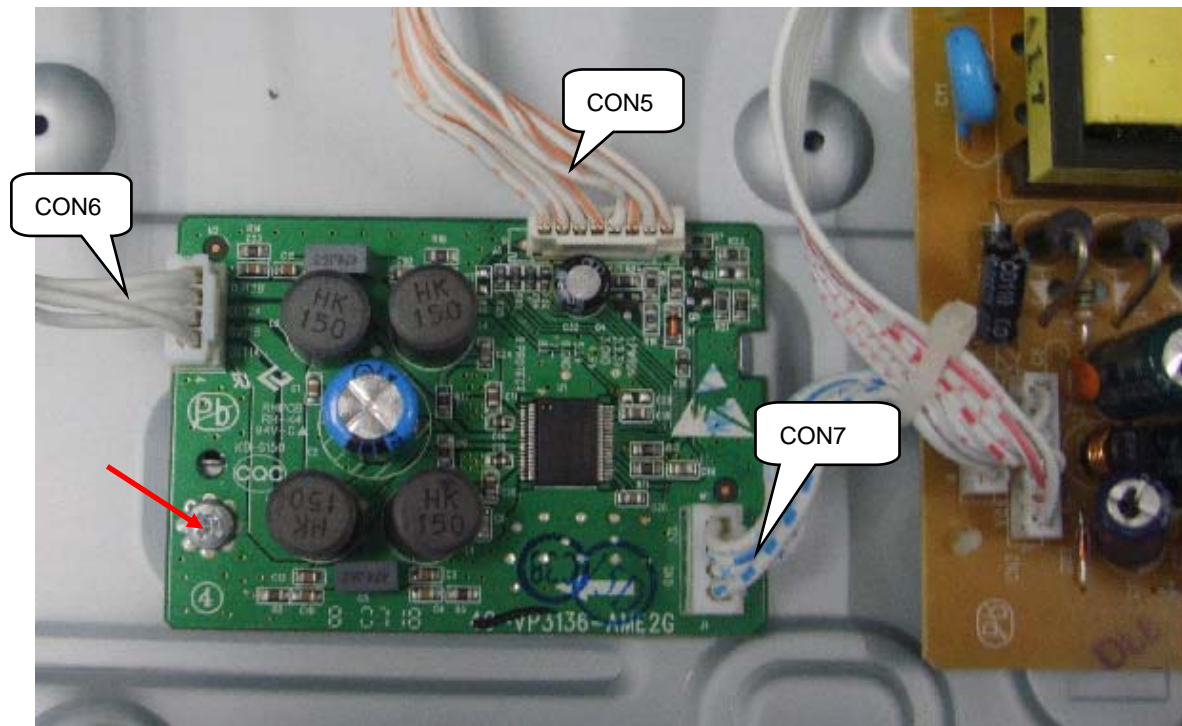


Figure 8

**Step7:** Dismantling Main Board, first disconnect the 1 connector, then remove 5 screws to remove the Main board. (Figure 9)

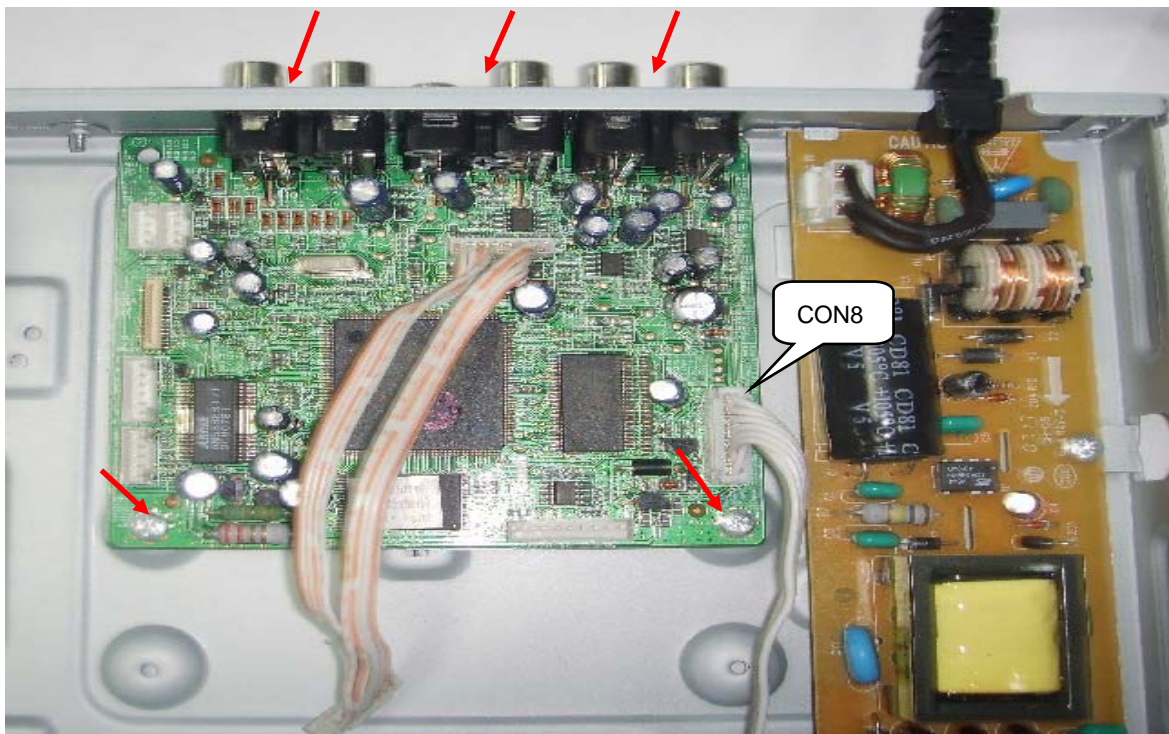


Figure 9

## Mechanical and Dismantling Instructions

### Dismantling Instruction

---

**Step8:** Remove the 2 screws on Power Board to dismantle the Power Board. (Figure 10)



Figure 10

### ATTENTION OF REPAIRING

Make sure adding silicon glue to fix the capacitor C4 after repairing, ( Avoid the hazard of C4 touching the Top Cover.)  
(Figure11)

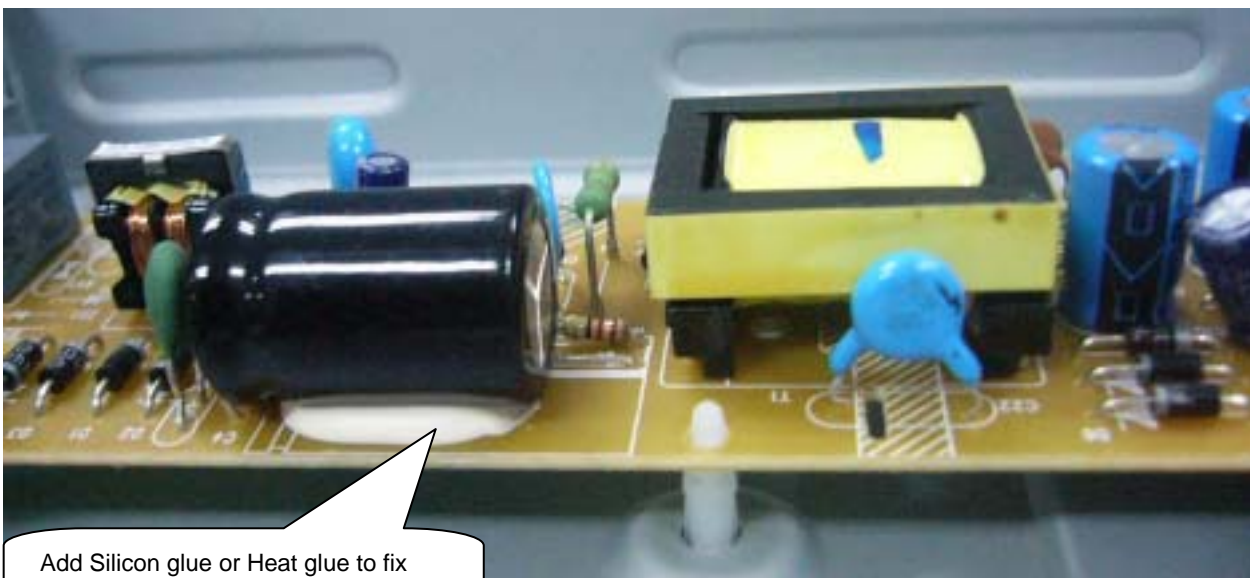


Figure 11

## Mechanical and Dismantling Instructions

### Dismantling Instruction

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**Step9:** Remove the 2 screws on Input/Output Board to dismantle the Input/Out Board. (Figure 12)



Figure12

## Software upgrade

### Preparation to upgrade software

- 1) Start the CD Burning software and create a new CD project (Data Disc) with the following setting:  
Label: DVP3XXX (No need the label name)

**Note: It is required capital letter for the File System name, and it no need have the File name during start the CD burning software for Zoran project.**

- 2) Burn the data onto a blank CDR

### B. Read out the software versions to confirm upgrading

- 1) Power on e set and Open the tray door.
- 2) Press <9><6><6>button to check the software information.

The software version and other information are display on the TV screen as follows:

BE Version: DVP3XXXXX\_XX.XX

FE Version: DCX.XXXXXX.XX.XX

DSP Version: DSP.XX

Region Code: X

### A. Procedure for software upgrade:

- 1) Power on the set and insert the prepared Upgrade CDR.
- 2) The set will starts reading disc & response with the following display TV screen:  

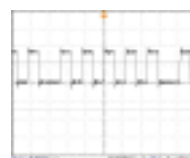
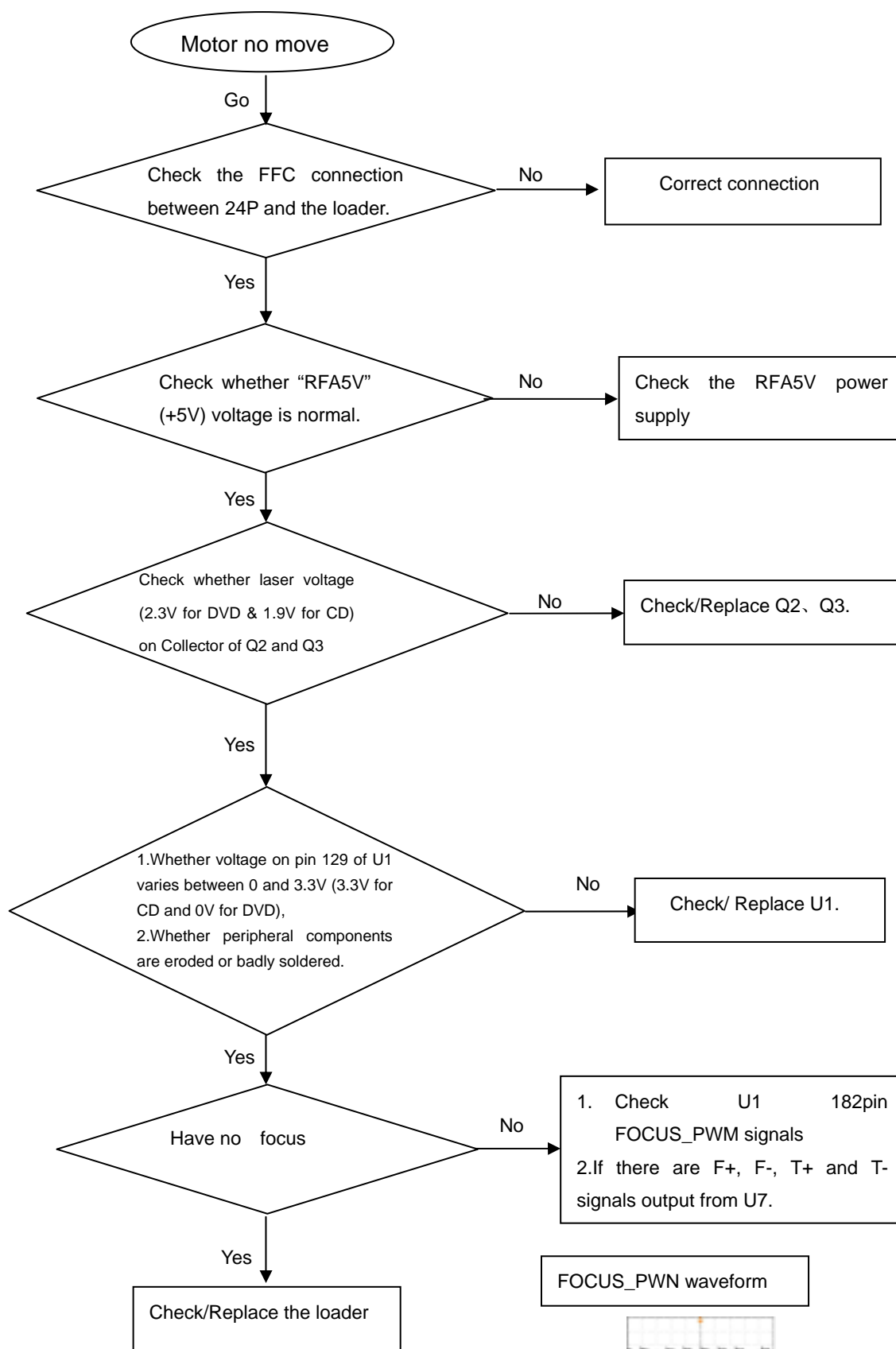
Loading

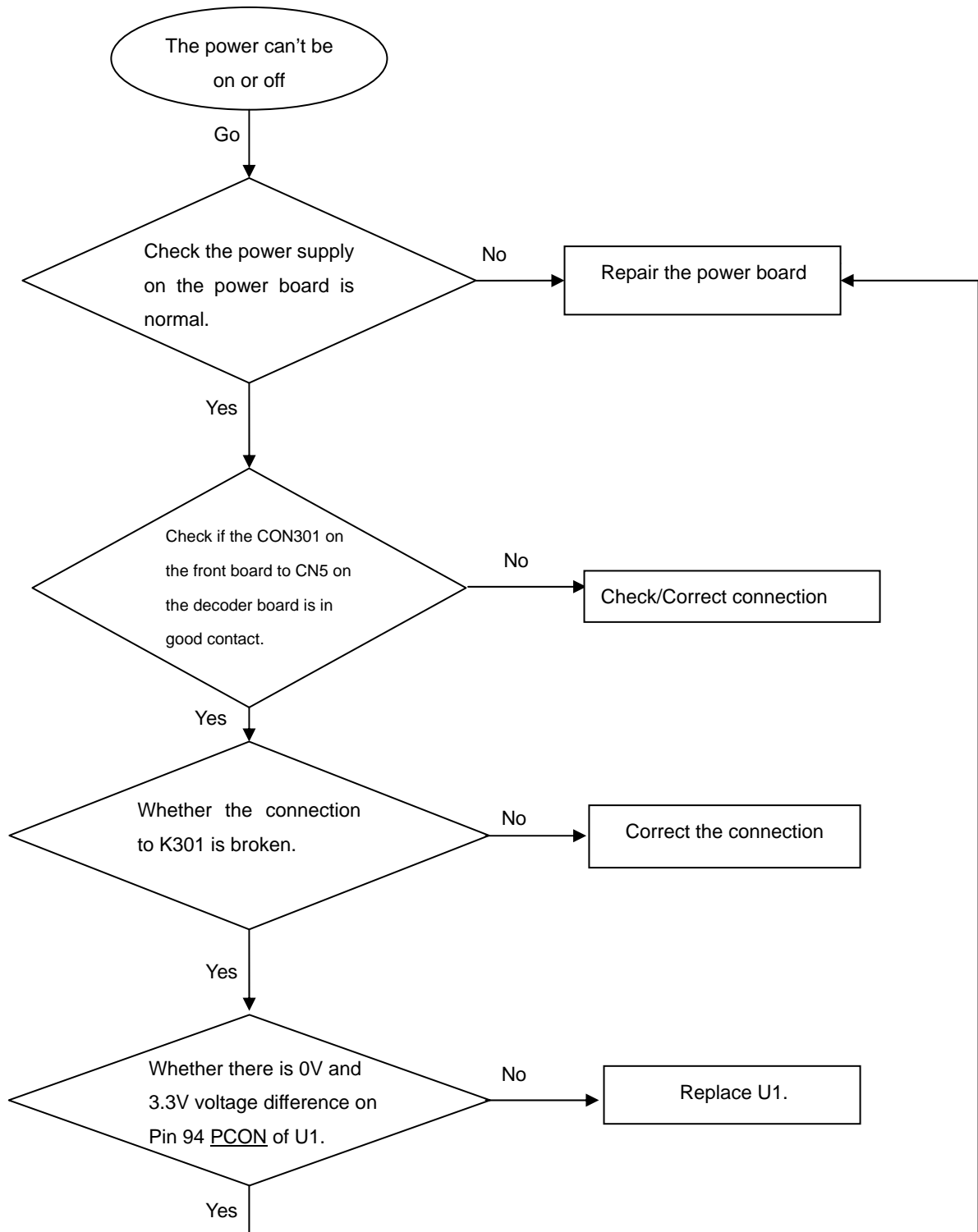
 Firmware Upgrade Erase and program.  

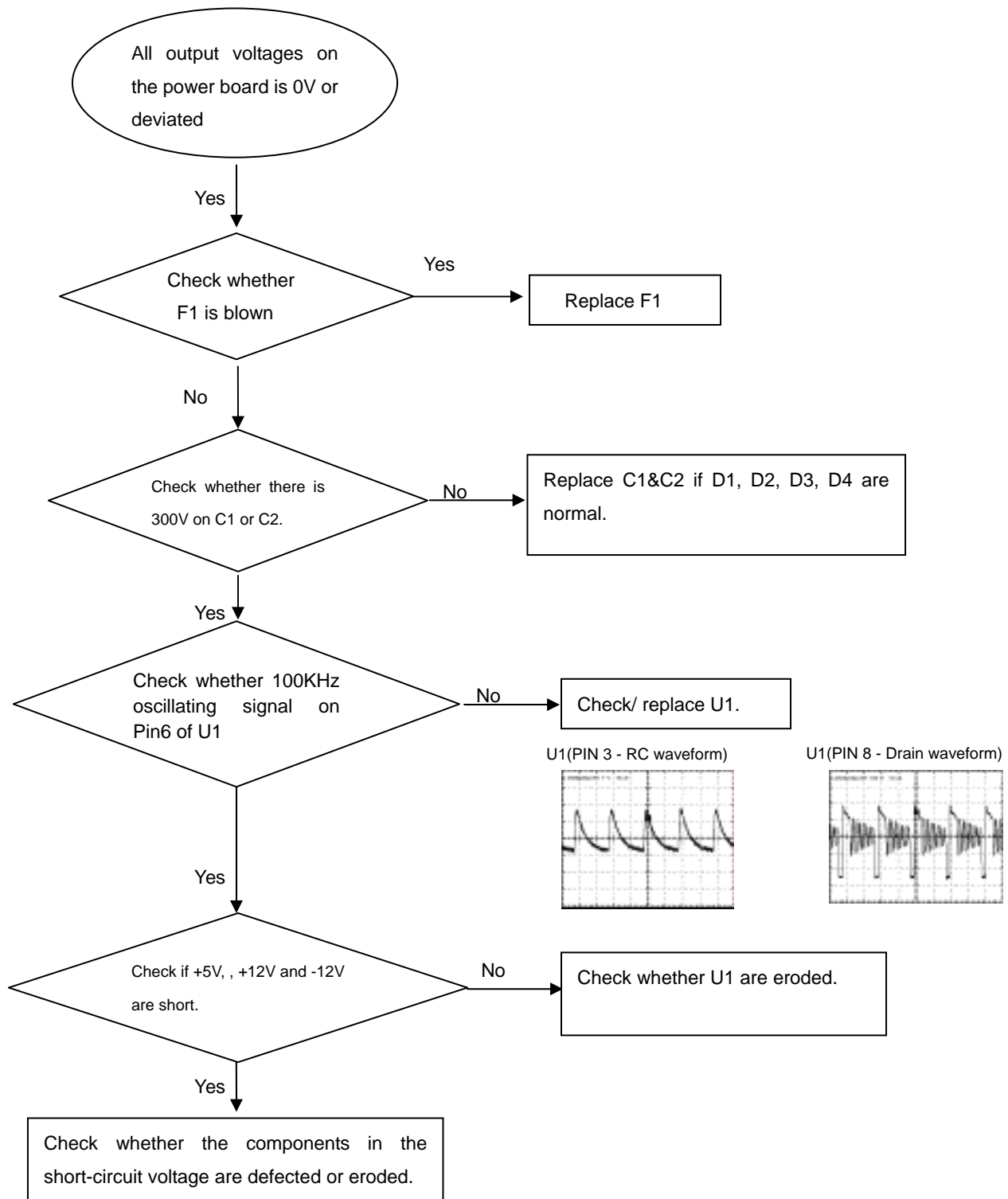
Start
Cancel

 Select Start to start upgrade.
- 3) Press <OK> button to confirm, then screen will display :  
 Firmware Upgrade Programming, Please Wait...  
 Do not Switch the Player Off !
- 4) The upgraded disc will automatically out when files coping complete, then take out the disc.
- 5) About 1 minute later, the tray will automatically close when upgrading complete.

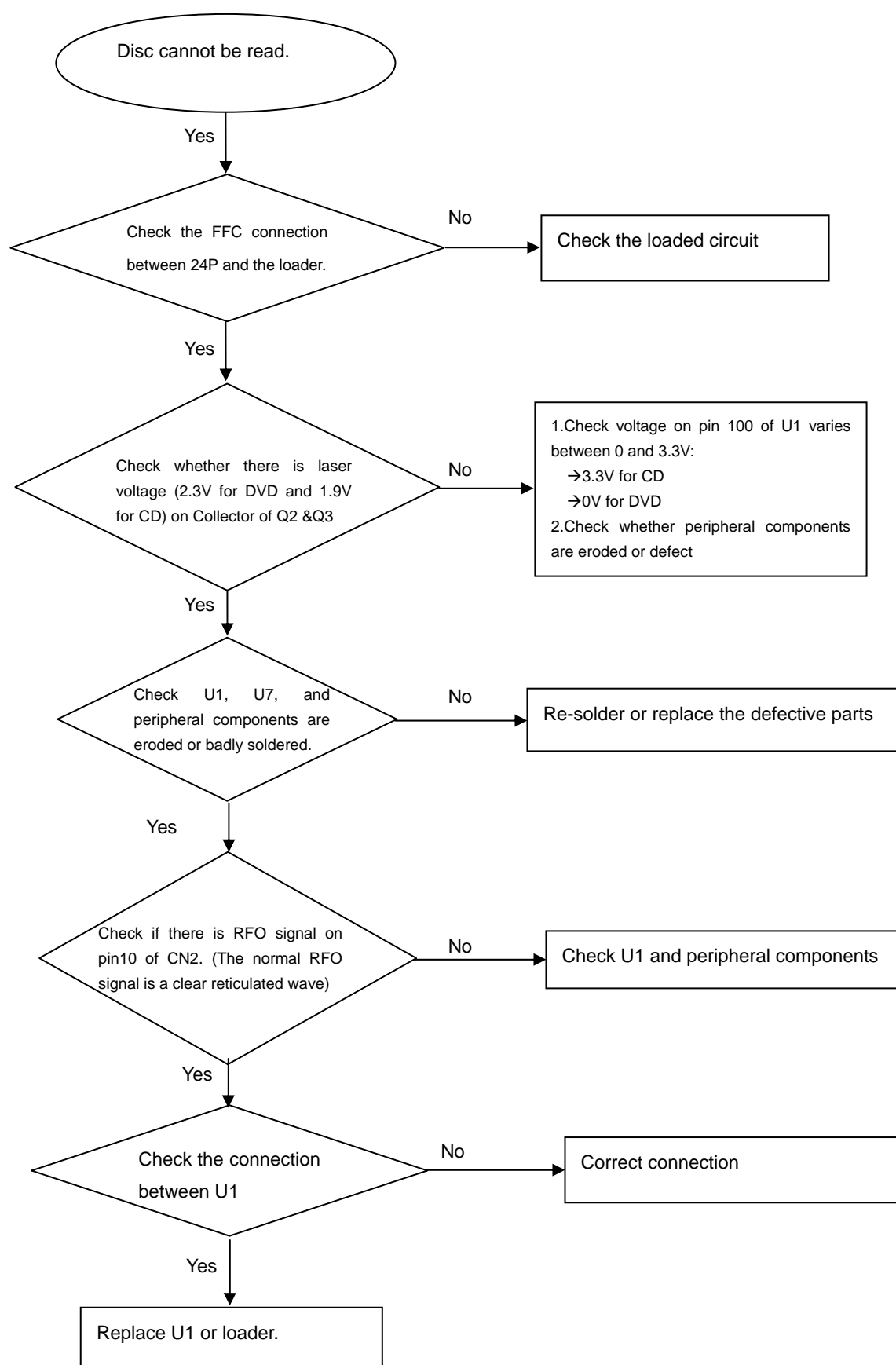
**Caution:** The set must not be power off during upgrading, Otherwise the Main board will be damaged entirely.

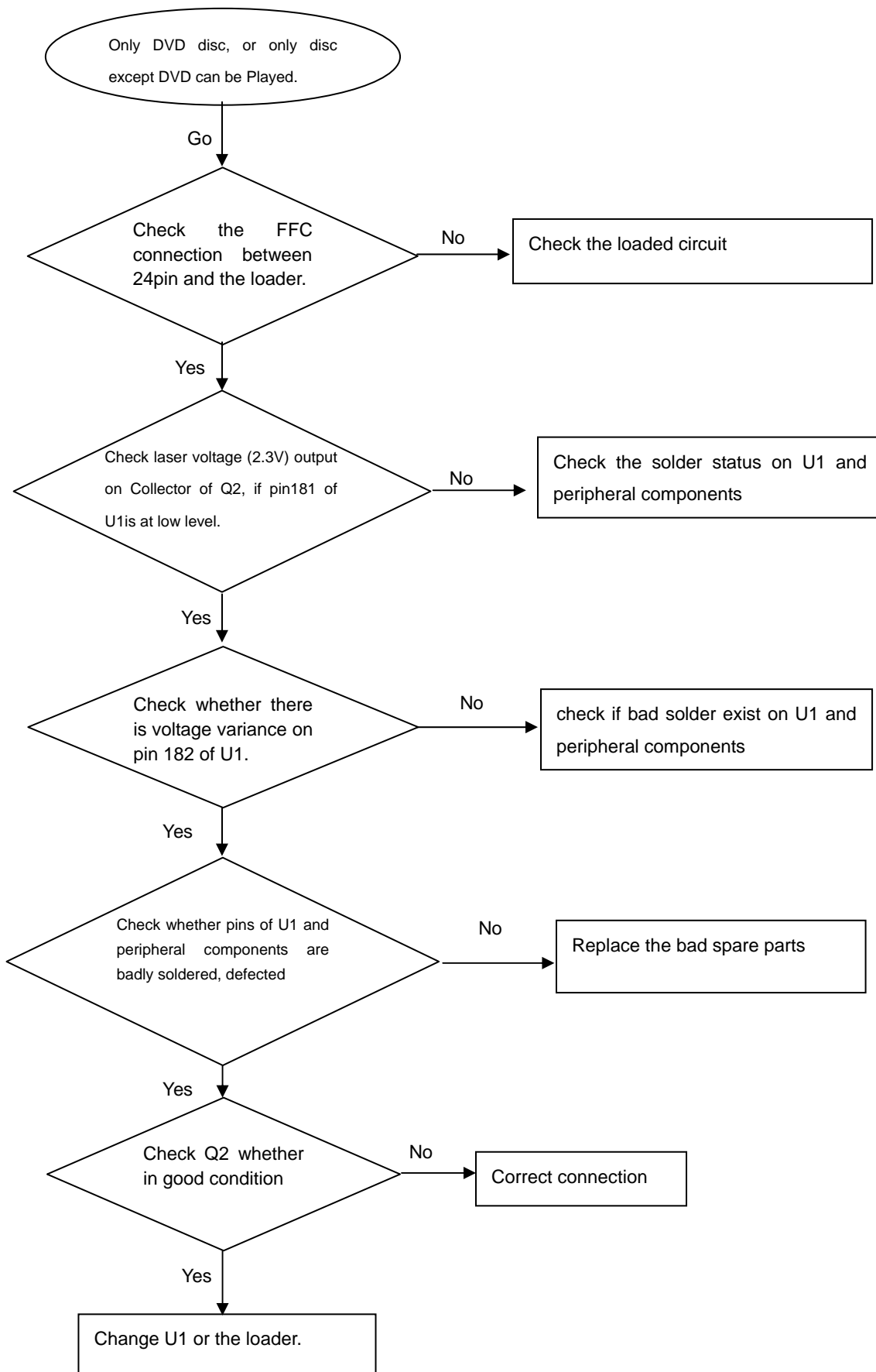
**Spindle motor does not move**

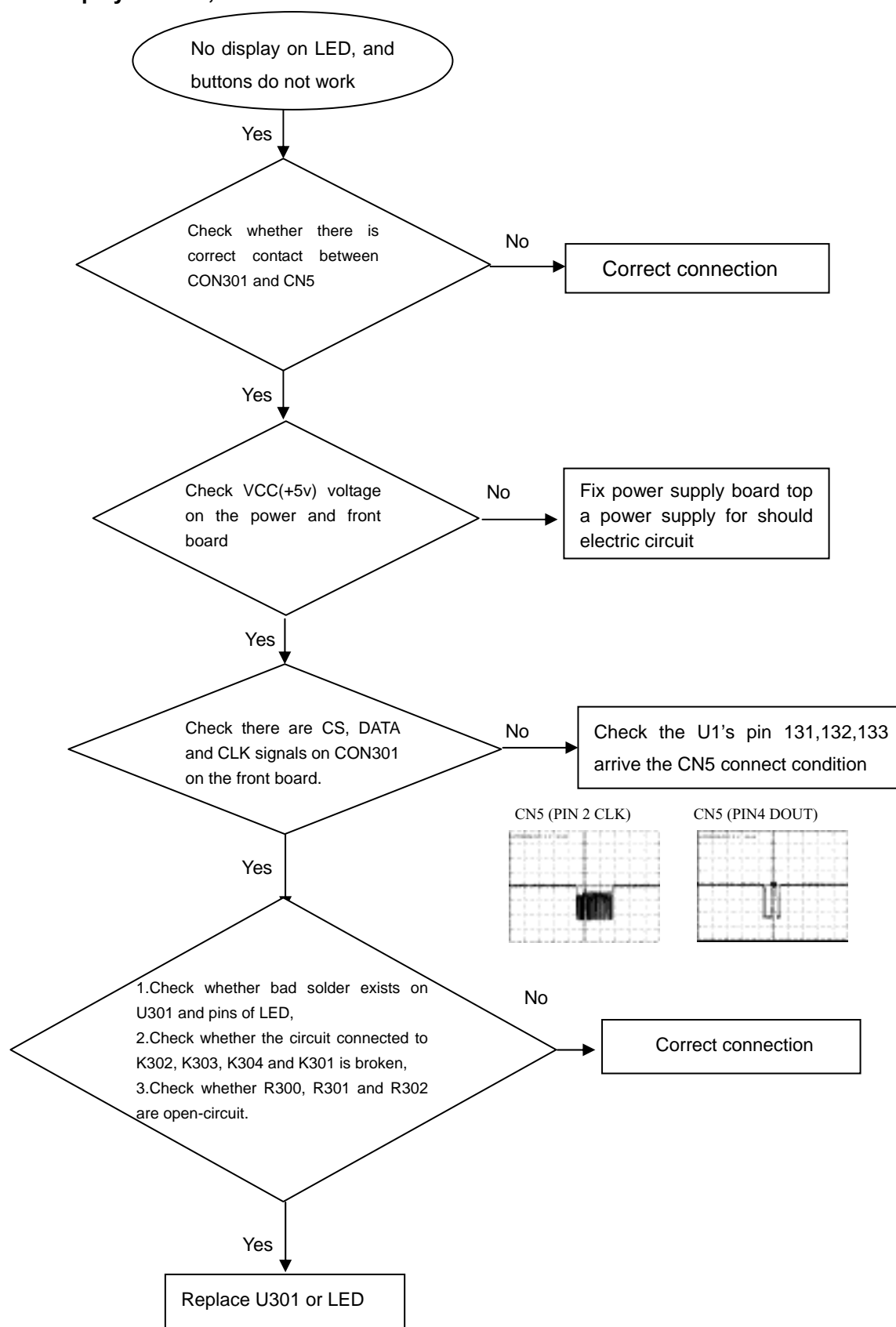
**The power can not be on or off**

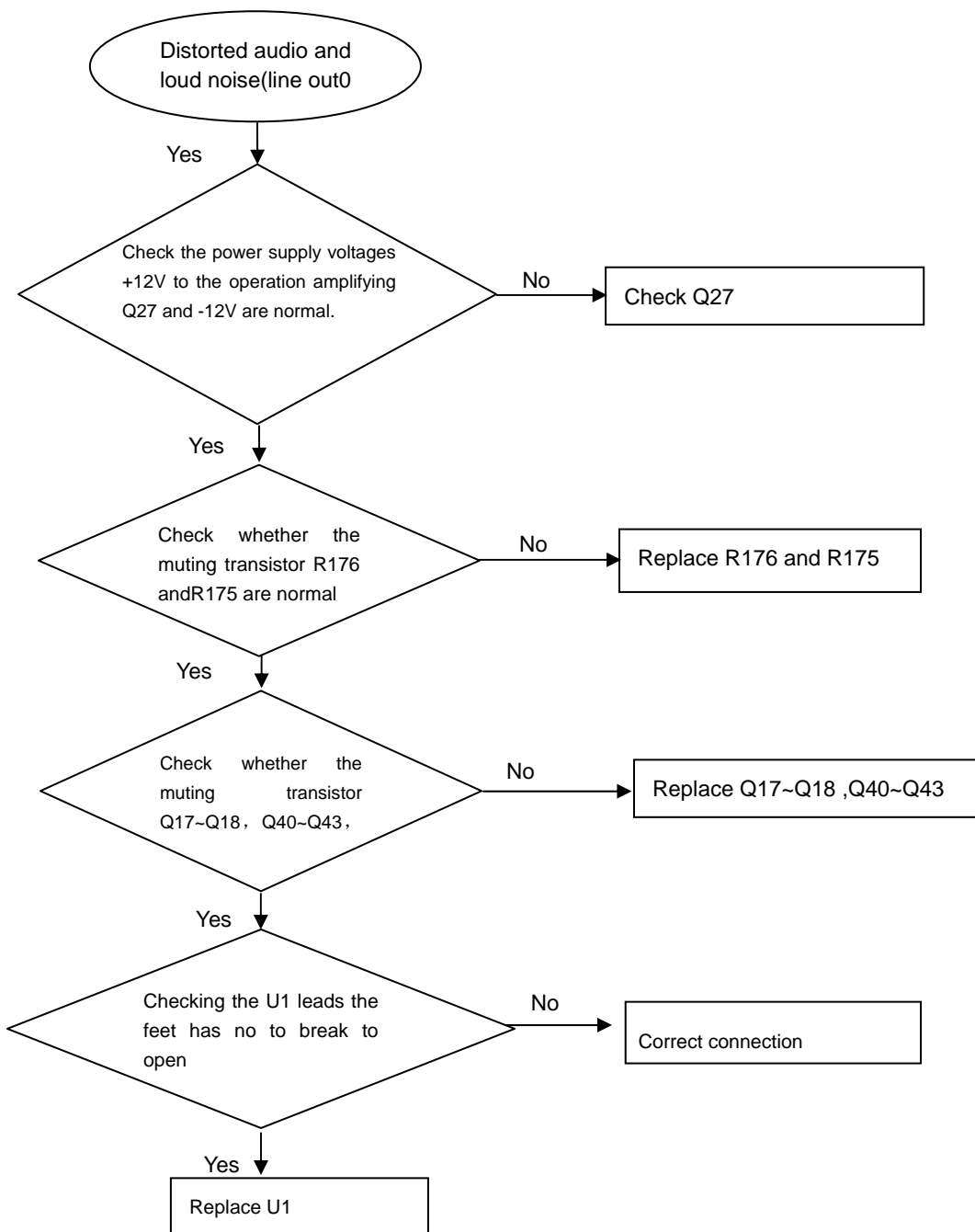
**All output voltages on the power board is 0V or deviated.**

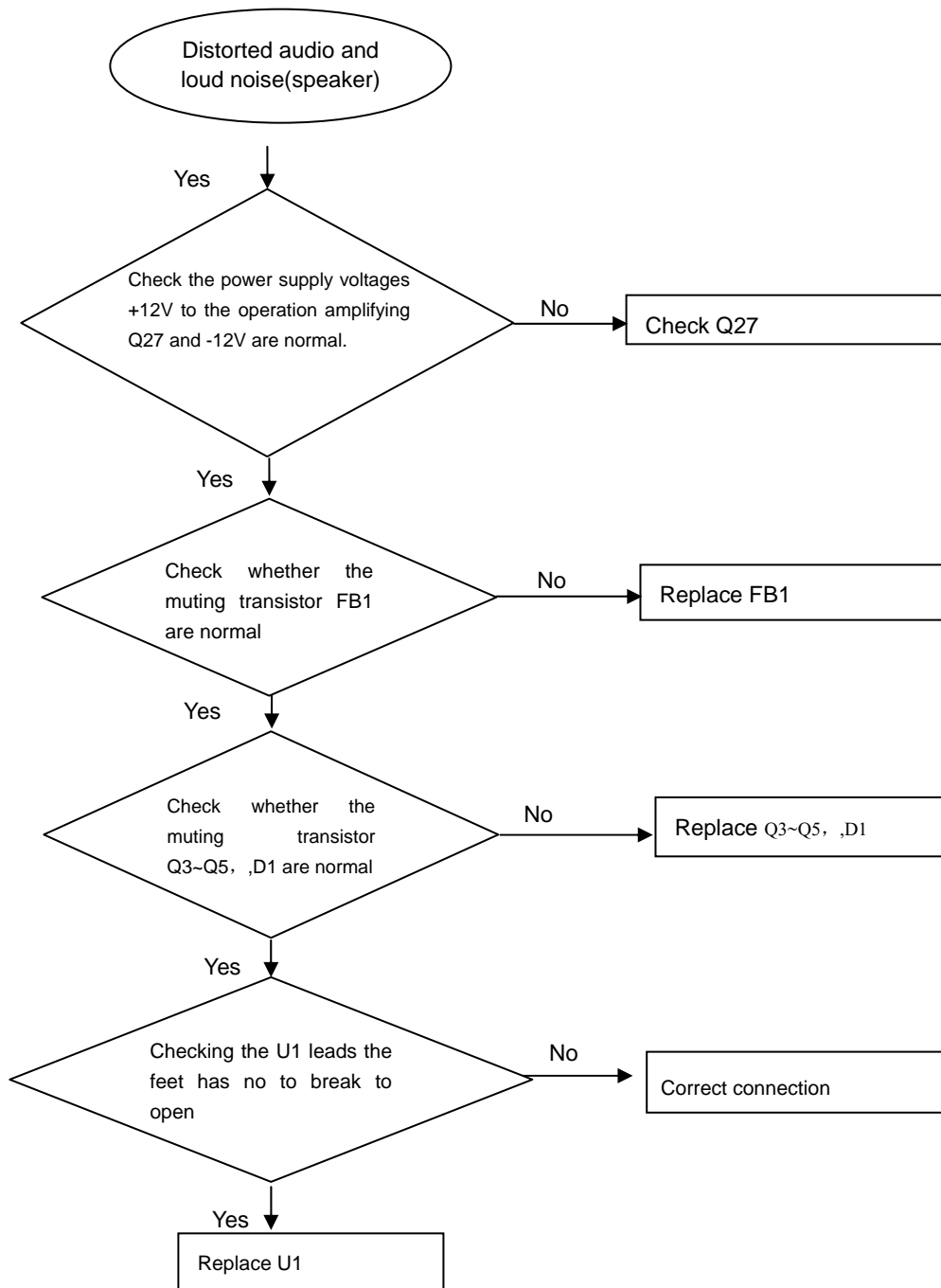


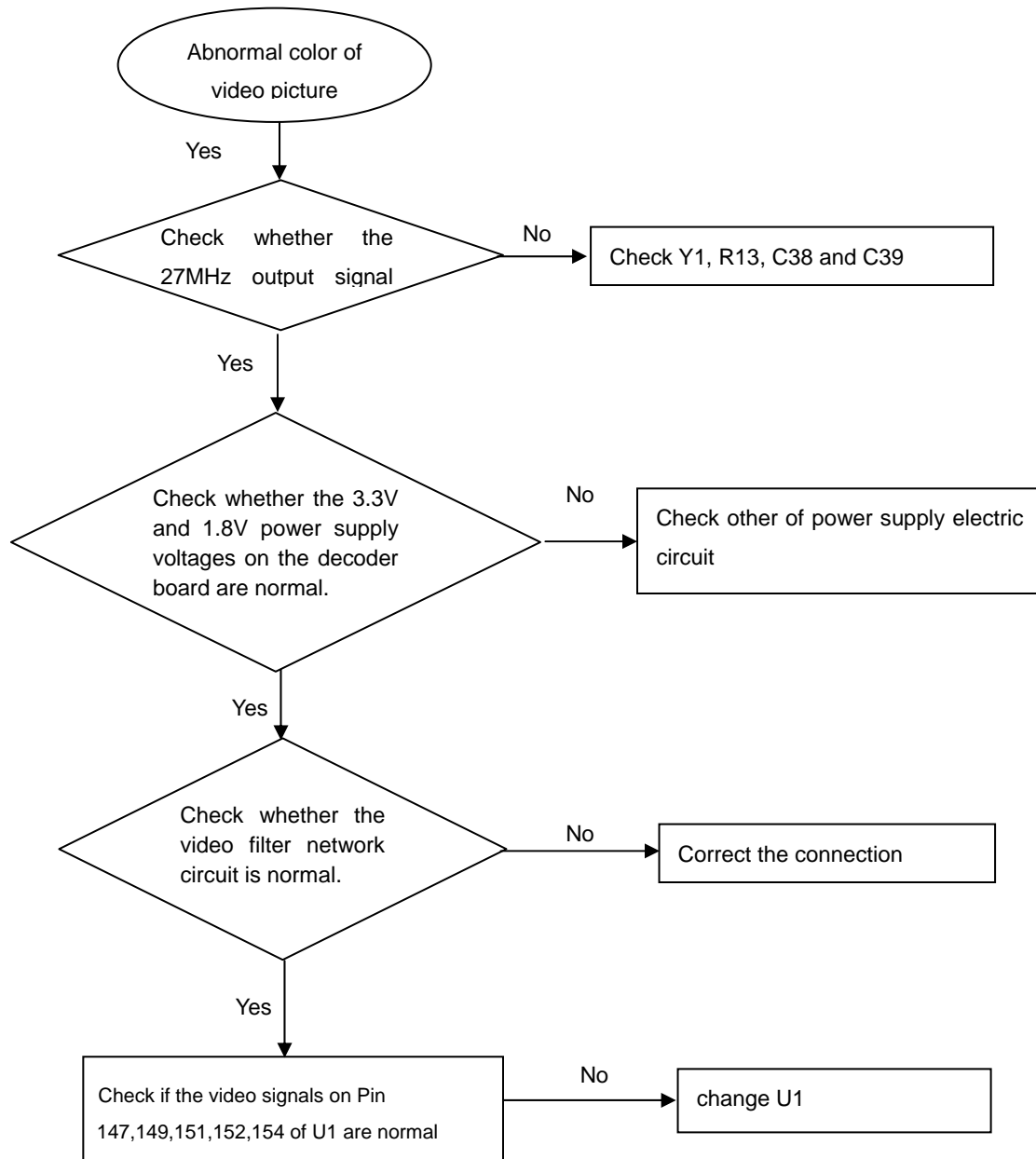
**Disc cannot be read.**

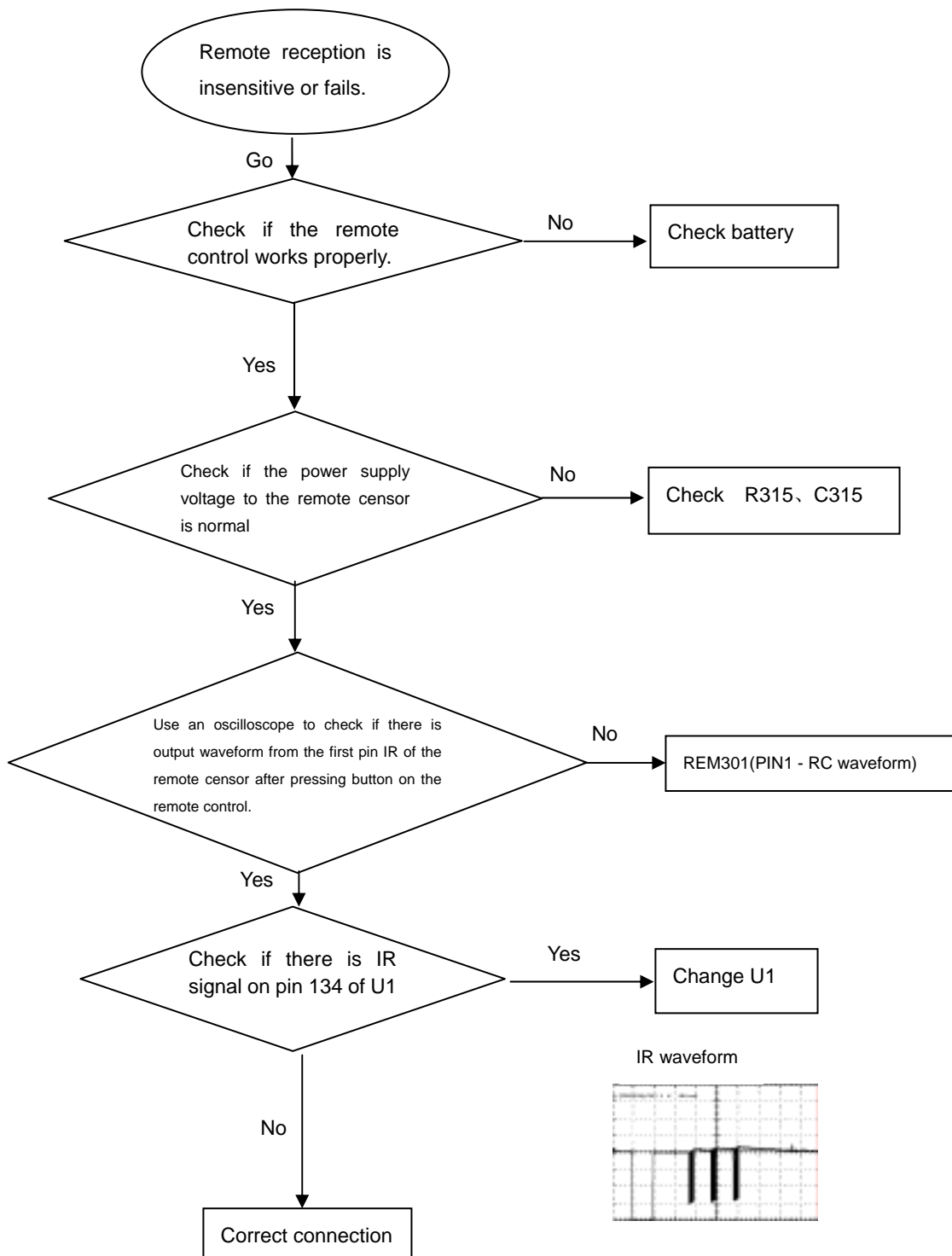
**Only DVD disc or only disc except DVD can be played**

**No display on LED, and buttons do not work**

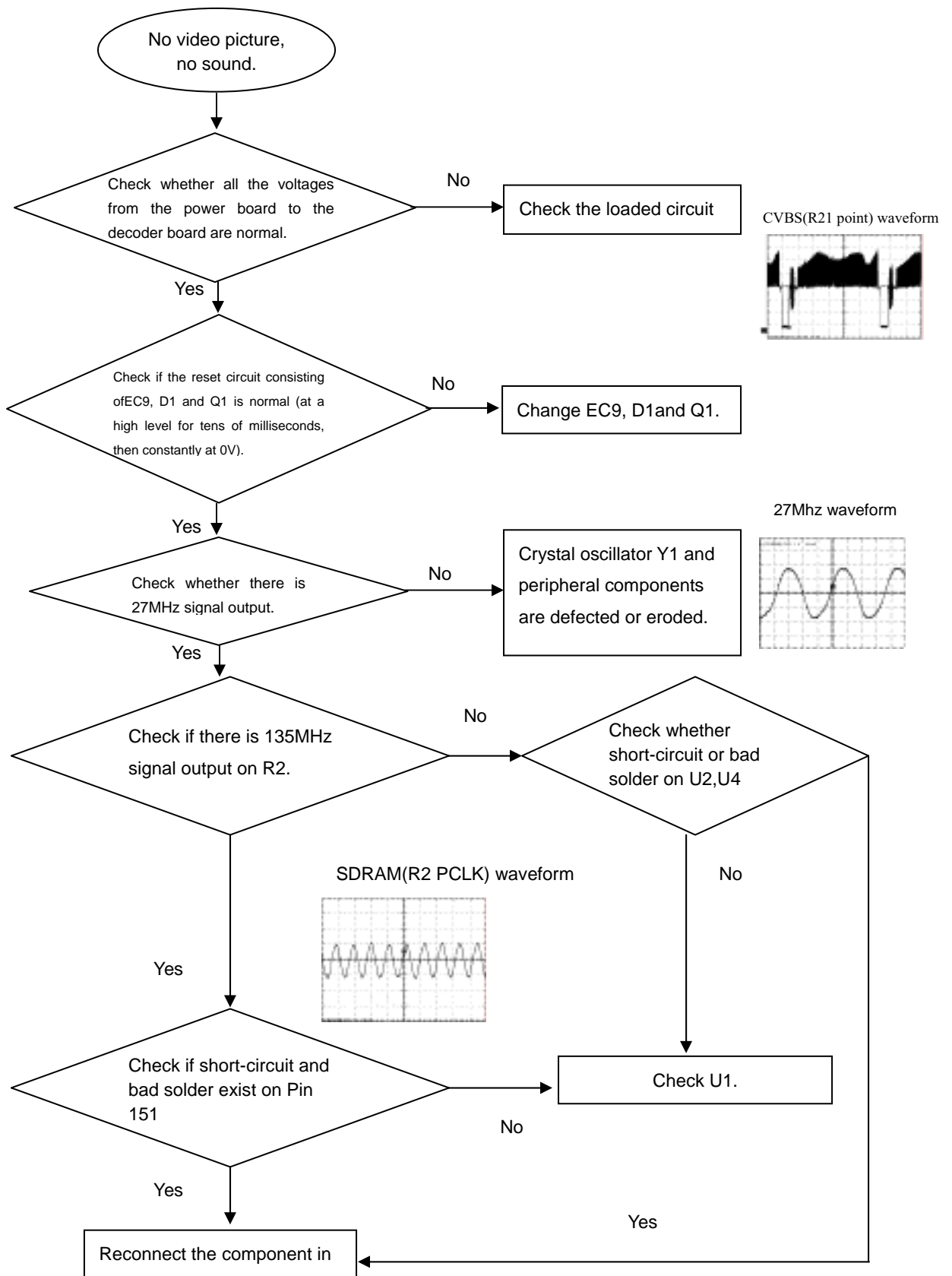
**Distorted audio and loud noise(Line out)**

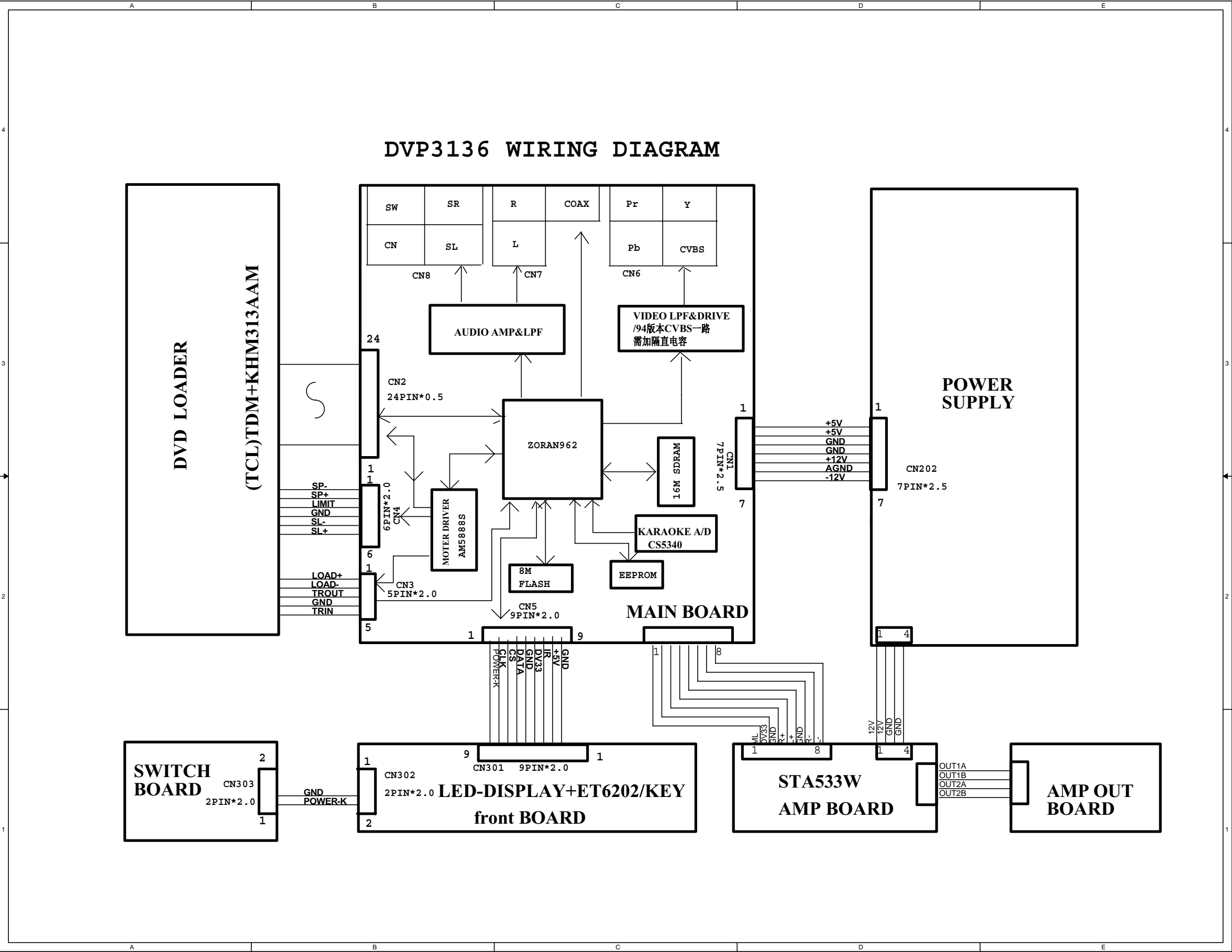
**Distorted audio and loud noise(Speaker)**

**Abnormal color of video picture**

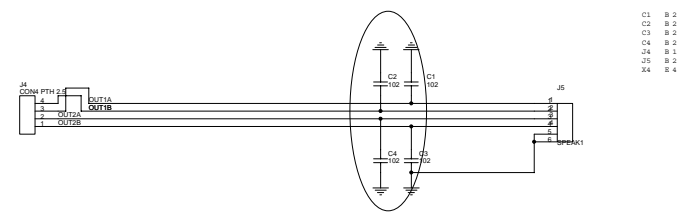
**Remote reception is insensitive or fails.**



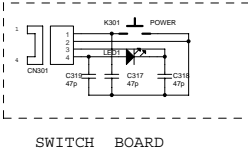
**No video picture, no sound.**



Input/Output Electric Diagram for DVP3136/94

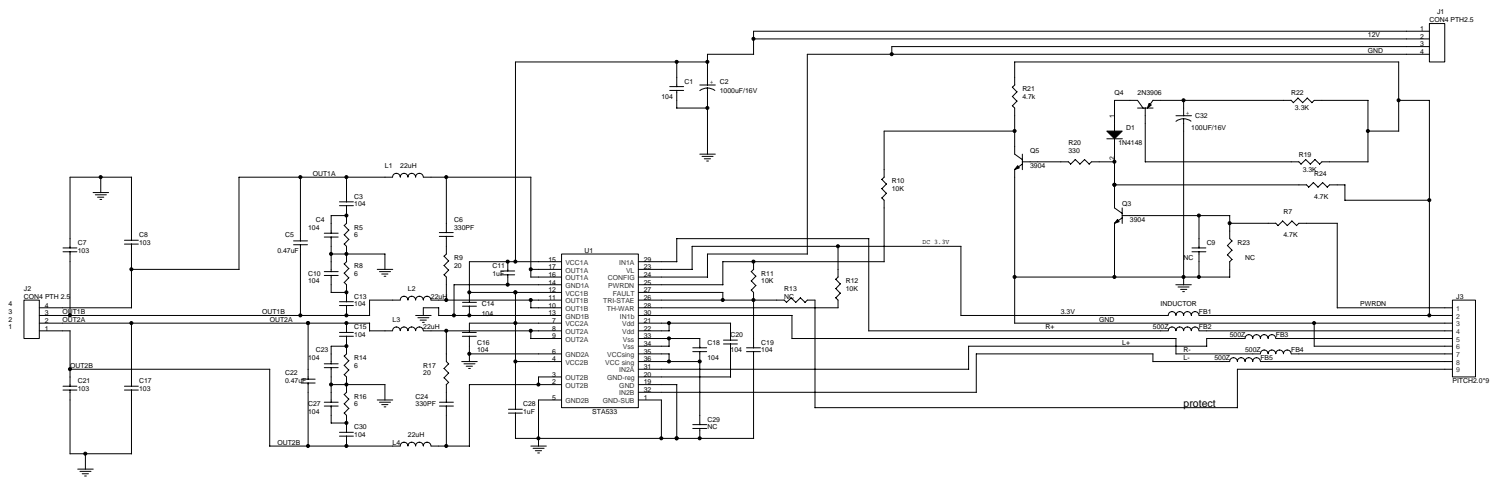


Switch Board Electric Diagram for DVP3136/94

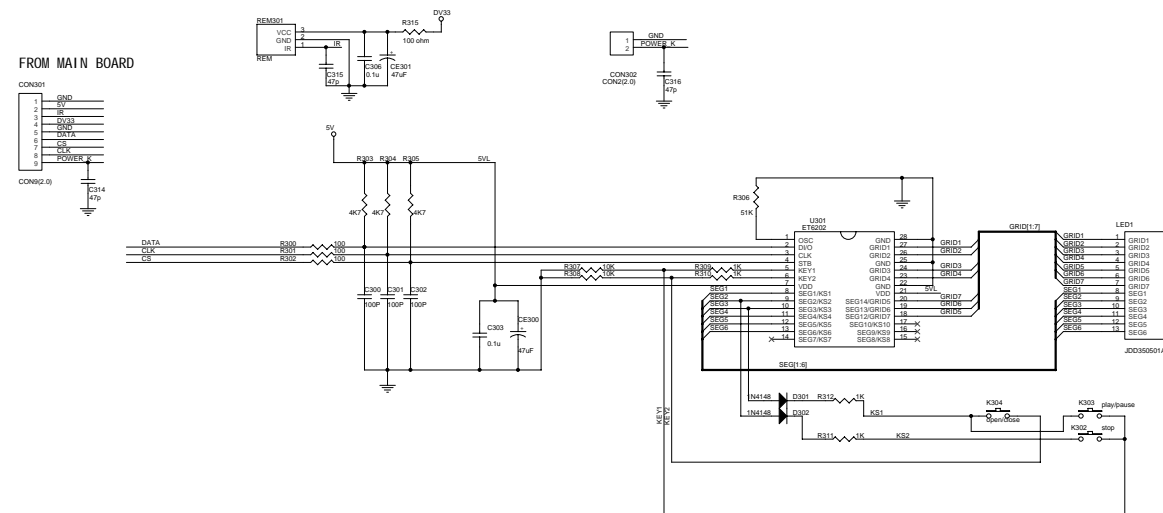


C316	47p
C317	47p
C318	47p
K301	POWER
X1	47p

Amplifier Board Electric Diagram for DVP3136/94



## FROM MAIN BOARD

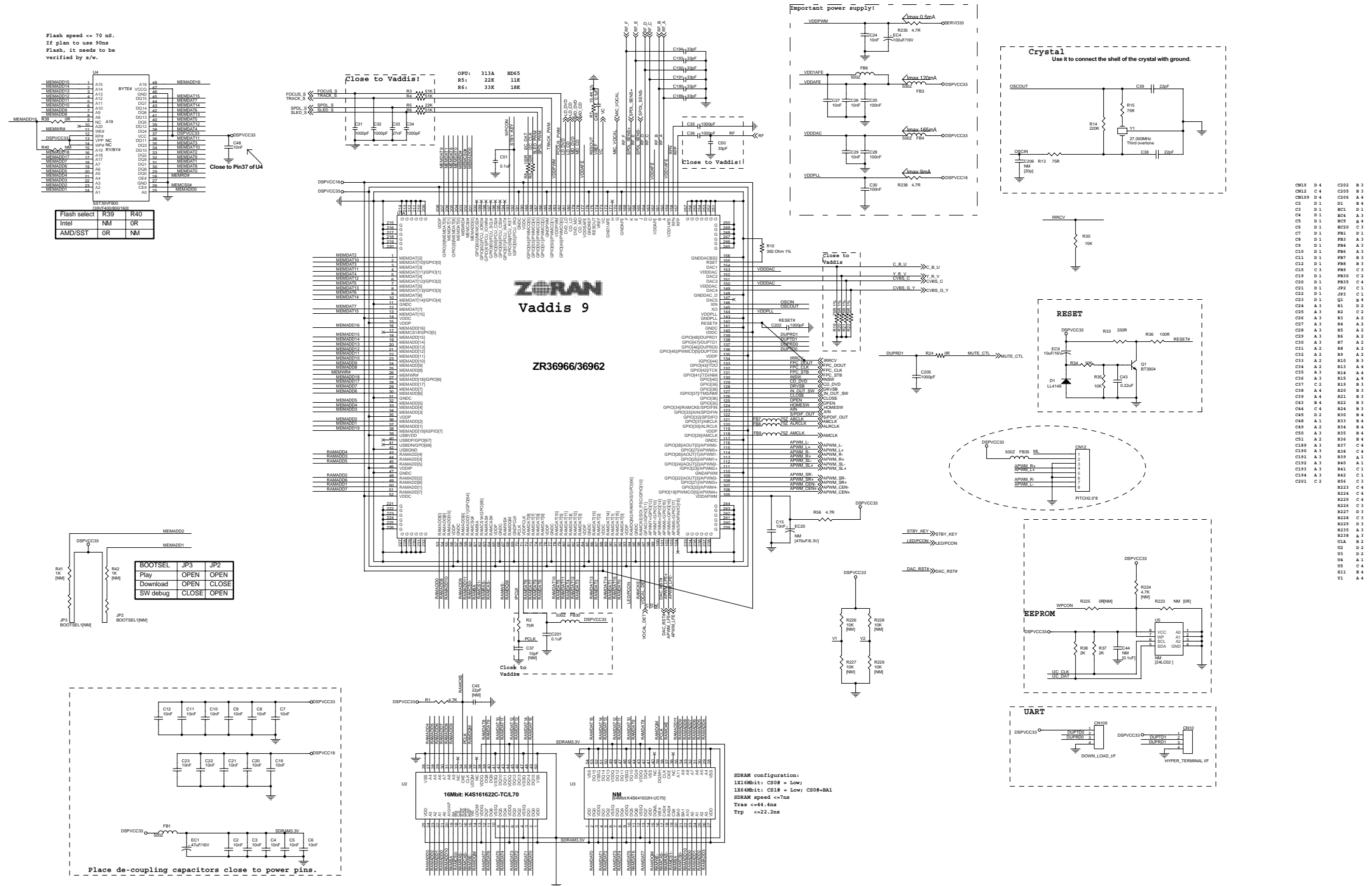


CR300	C 2
CR301	B 2
CON301	B 1
CON302	B 2
CR306	C 2
CR301	C 2
CR302	C 2
CR303	C 2
CR306	B 2
CR314	B 1
CR315	B 2
CR316	B 2
DR301	C 3
CR302	C 3
CR302	C 3
CR303	C 3
K304	C 3
LED31	B 1
REM301	B 2
R300	C 2
R301	C 2
R302	C 2
R303	B 2
R304	B 2
R305	B 2
R306	B 2
R307	C 2
R308	C 2
R309	C 2
R310	C 2
R311	C 3
R312	C 3
R315	B 2
U301	B 3
X1	E 4

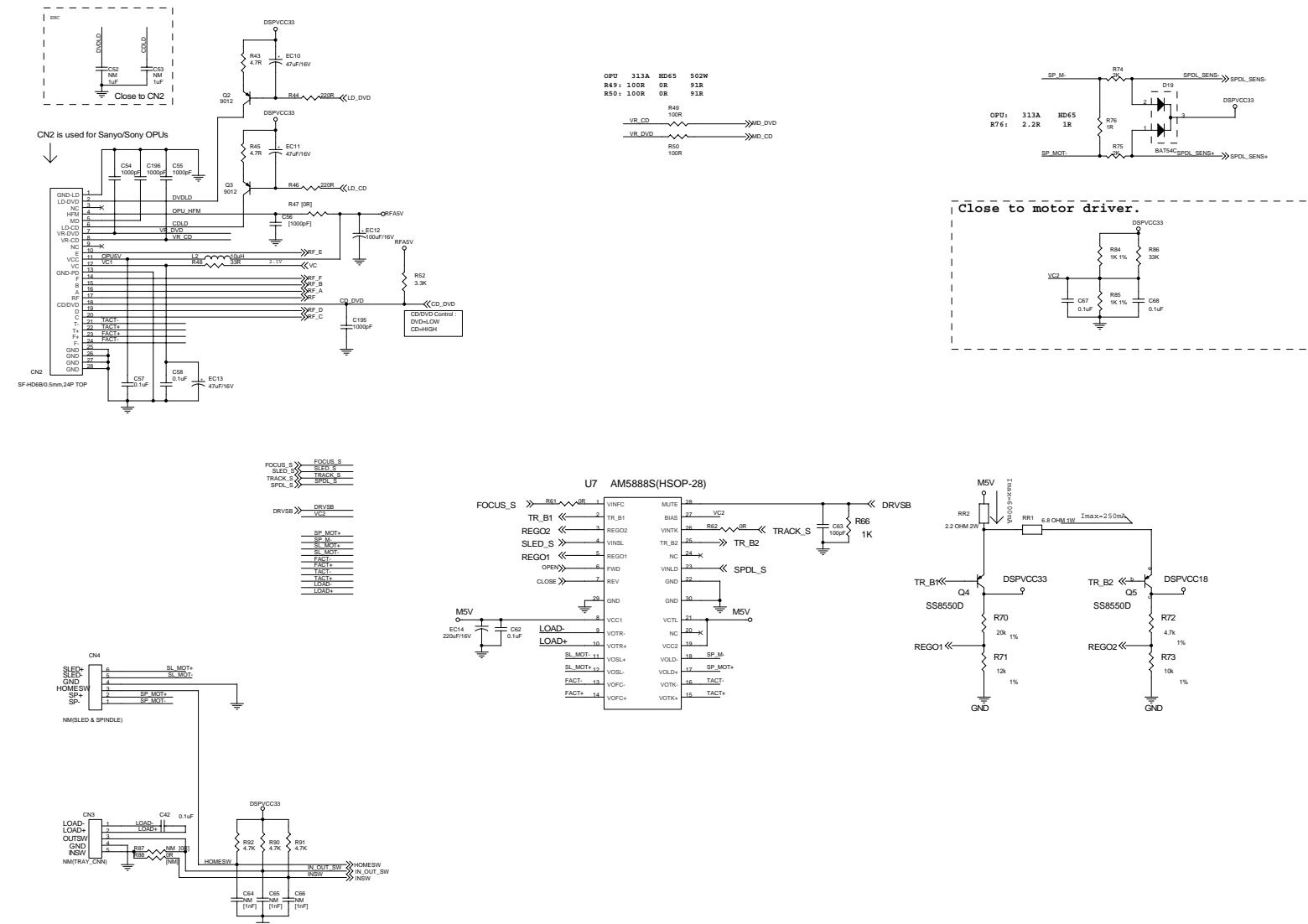




## Main Board Electric Diagram for DVP3136/94: Vaddis\_SDRAM\_Flash

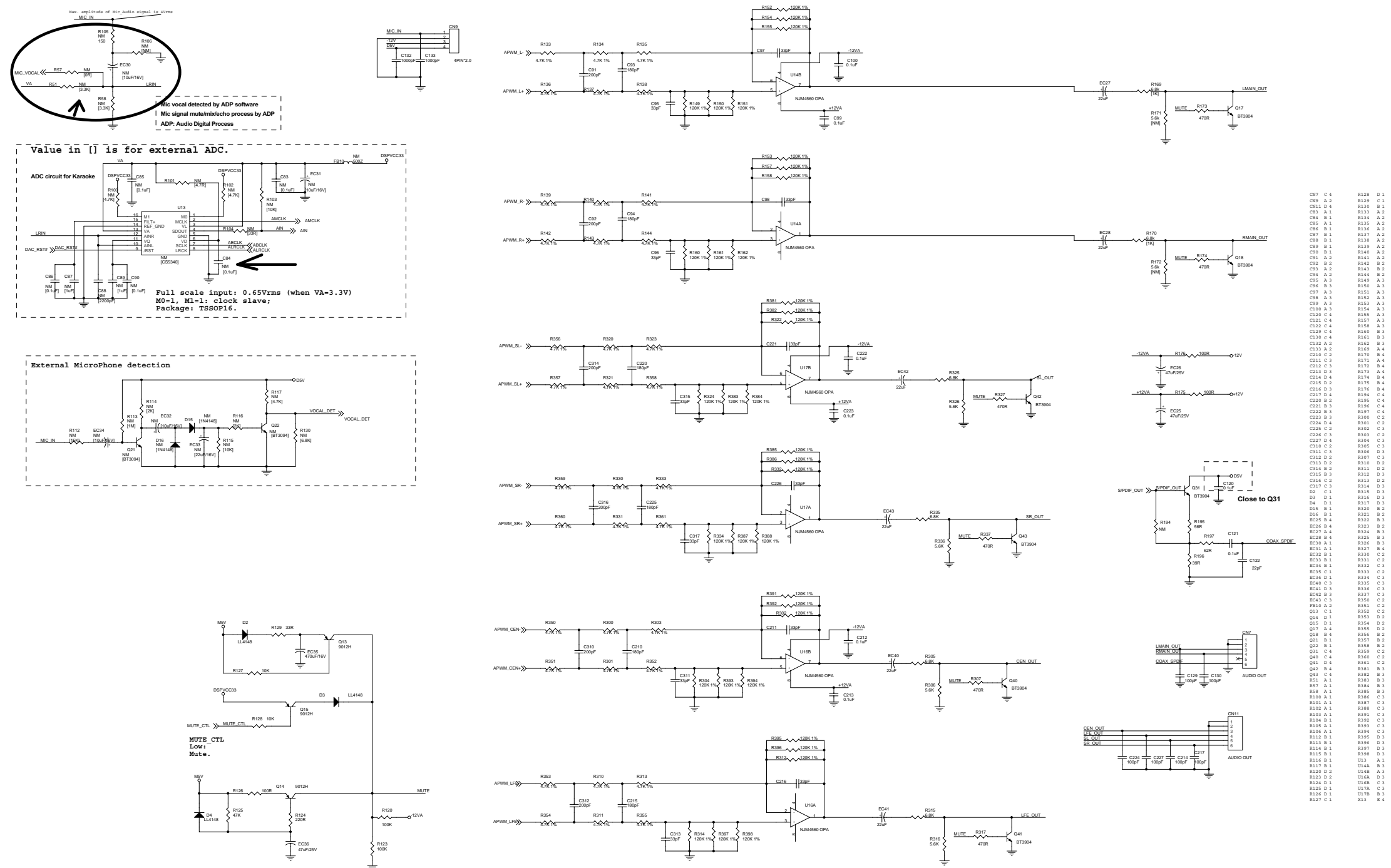


## Main Board Electric Diagram for DVP3136/94: Front End

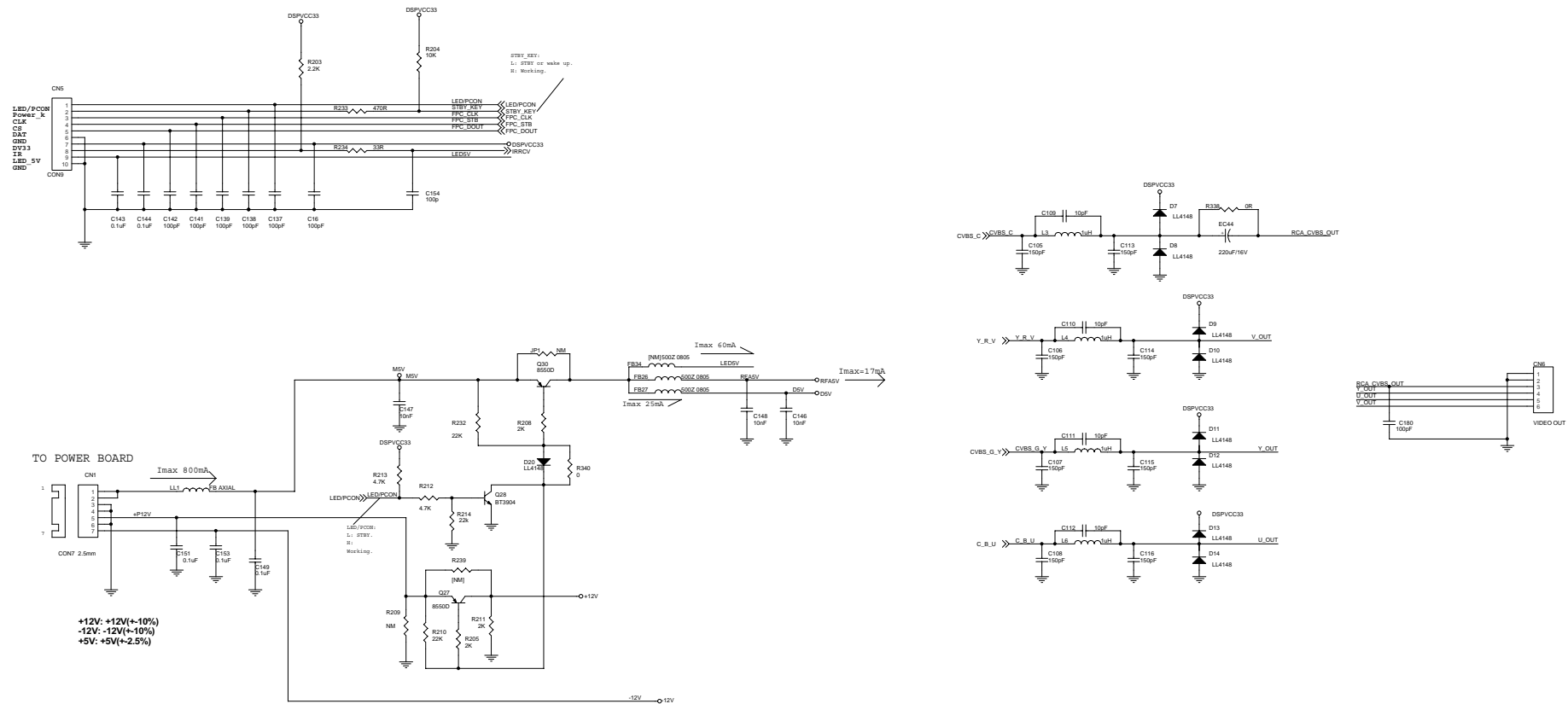


C82	B1
C83	D1
C84	A1
C85	A2
C86	A1
C87	A1
C88	B1
C89	B1
C90	C1
C91	C1
C92	D1
C93	D1
C94	D1
C95	D1
C96	D1
C97	D1
C98	D1
C99	D1
C100	D1
C101	D1
C102	D1
C103	D1
C104	D1
C105	D1
C106	D1
C107	D1
C108	D1
C109	D1
C110	D1
C111	D1
C112	D1
C113	D1
C114	D1
C115	D1
C116	D1
C117	D1
C118	D1
C119	D1
C120	D1
C121	D1
C122	D1
C123	D1
C124	D1
C125	D1
C126	D1
C127	D1
C128	D1
C129	D1
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C134	D1
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C140	D1
C141	D1
C142	D1
C143	D1
C144	D1
C145	D1
C146	D1
C147	D1
C148	D1
C149	D1
C150	D1
C151	D1
C152	D1
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C158	D1
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C161	D1
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C163	D1
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C167	D1
C168	D1
C169	D1
C170	D1
C171	D1
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C174	D1
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C178	D1
C179	D1
C180	D1
C181	D1
C182	D1
C183	D1
C184	D1
C185	D1
C186	D1
C187	D1
C188	D1
C189	D1
C190	D1
C191	D1
C192	D1
C193	D1
C194	D1
C195	D1
C196	D1
C197	D1
C198	D1
C199	D1
C200	D1

## Main Board Electric Diagram for DVP3136/94: Audio Input\_Output

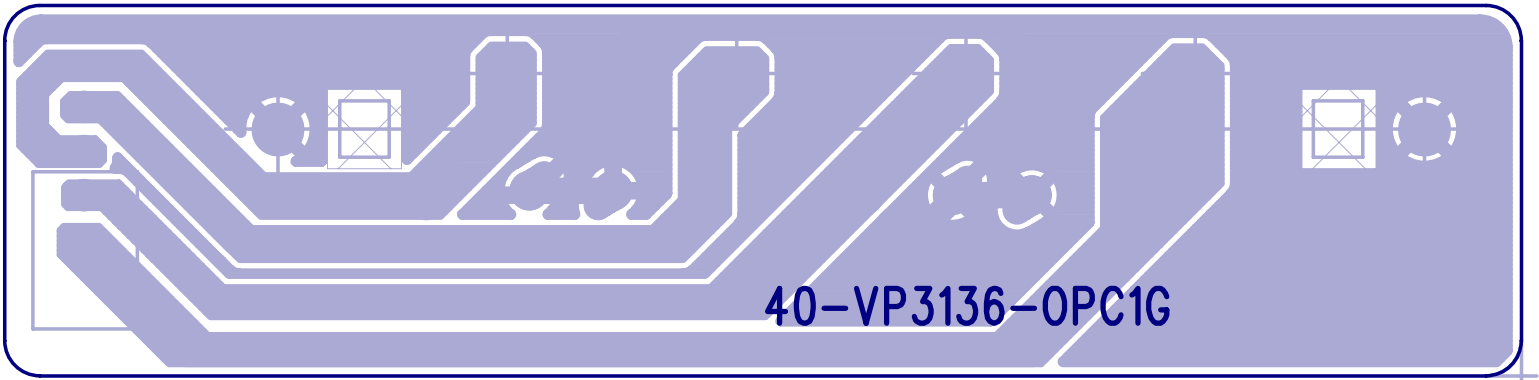


Main Board Electric Diagram for DVP3136/94: Power\_Video Out

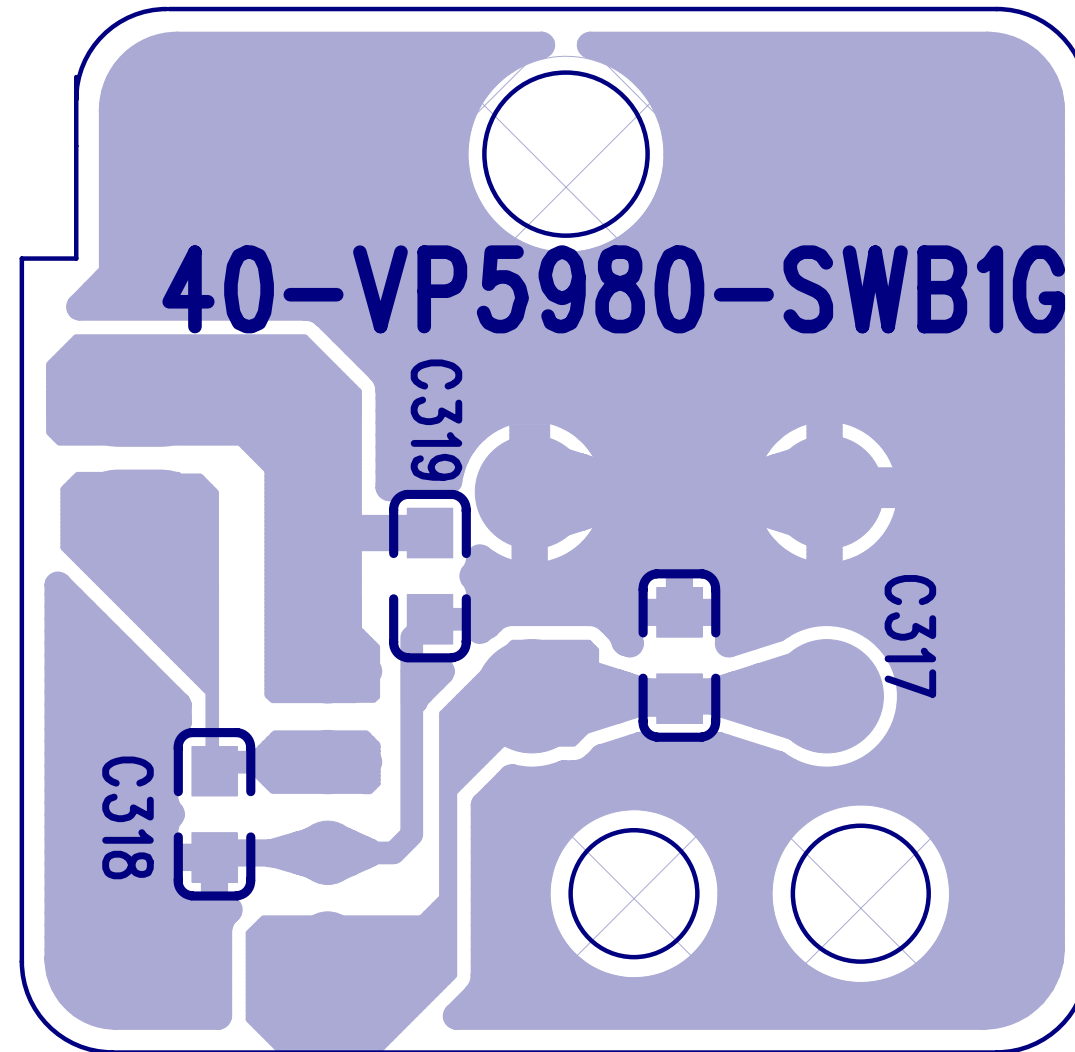


CN1	B 1
CN5	A 1
CN6	B 4
C16	A 1
C105	B 3
C108	B 3
C107	B 3
C108	C 3
C109	B 3
C110	B 3
C111	B 3
C112	C 2
C113	B 3
C114	B 3
C115	B 3
C116	C 3
C137	A 1
C138	A 1
C139	A 1
C140	A 1
C141	A 1
C143	A 1
C144	A 1
C146	B 2
C147	B 1
C148	B 2
C149	C 1
C153	C 1
C154	A 1
C180	B 4
D7	B 3
D8	B 3
D9	B 3
D10	B 3
D11	B 3
D12	B 3
D13	C 3
D14	C 3
D20	B 2
D21	B 2
FE26	B 2
FE27	B 2
FE34	B 2
JP1	B 2
LL1	B 1
L3	B 3
L4	B 3
L5	B 3
L6	C 2
Q27	C 3
Q28	B 2
Q30	B 2
Q33	B 2
R204	A 1
R205	C 2
R208	B 2
R209	C 1
R210	C 2
R211	C 2
R212	C 2
R213	B 1
R232	B 2
R233	A 1
R234	A 1
R239	C 2
R248	B 3
R340	B 3
R341	E 2

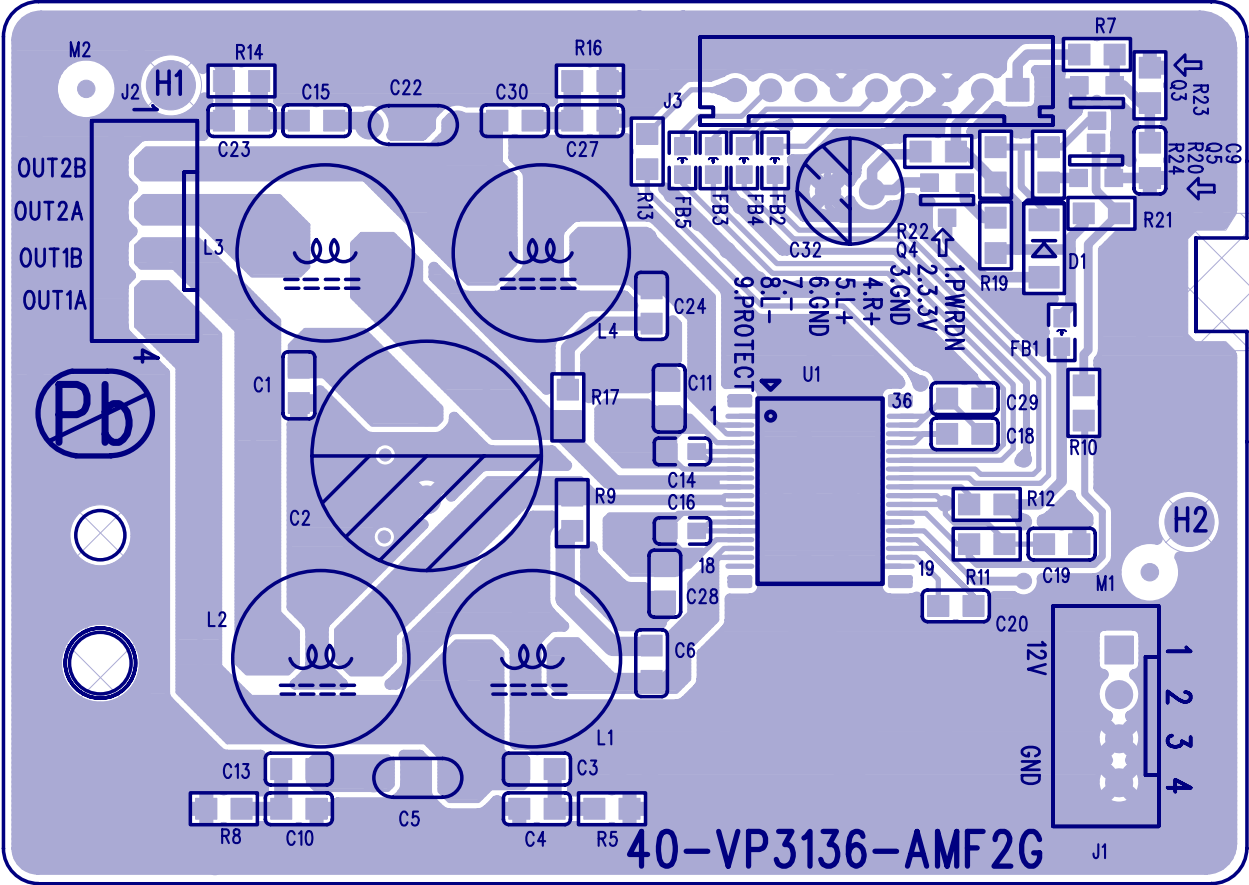
Input/Output Board Print\_Layout (Bottom Side) for DVP3136/94



Switch Board Print\_Layout (Bottom Side) for DVP3136/94

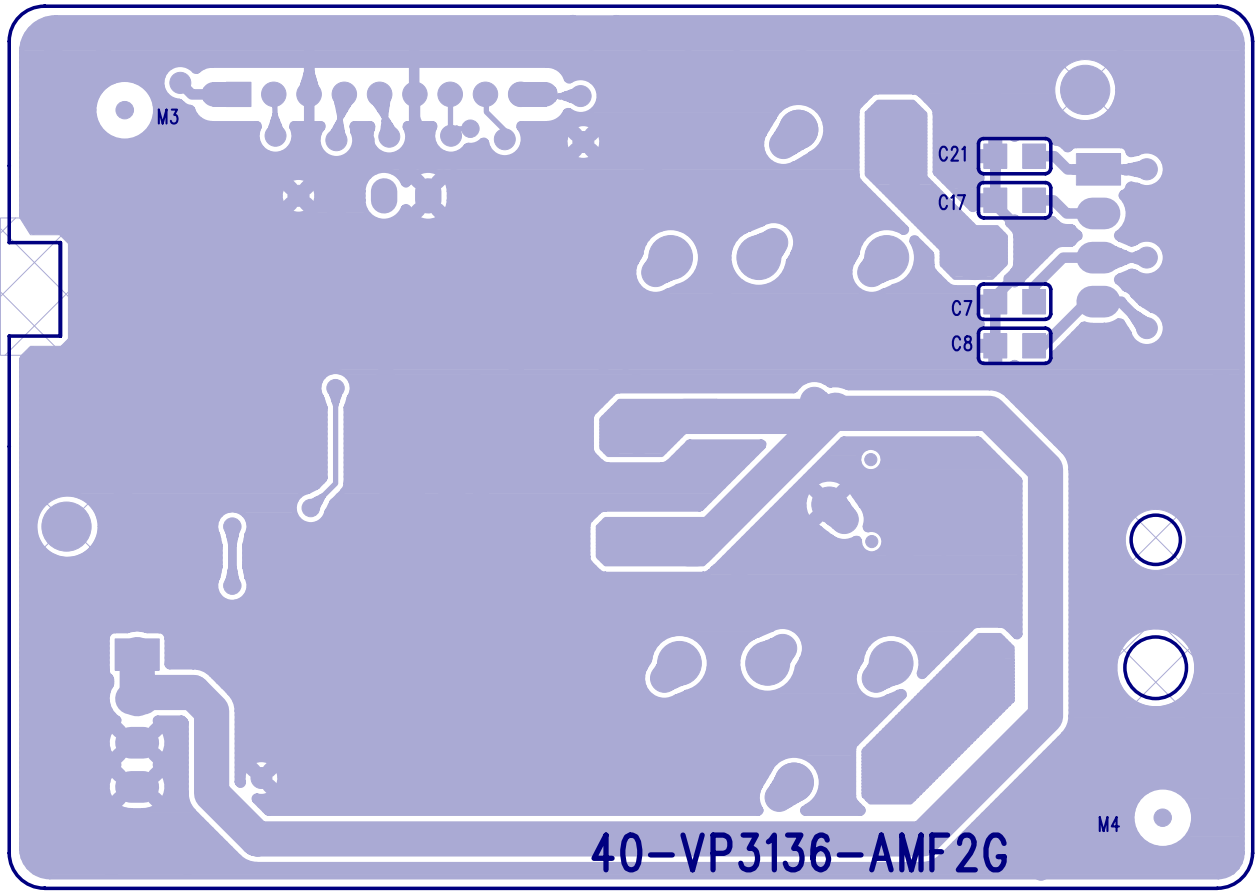


Amplifier Board Print\_Layout (Top Side) for DVP3136/94

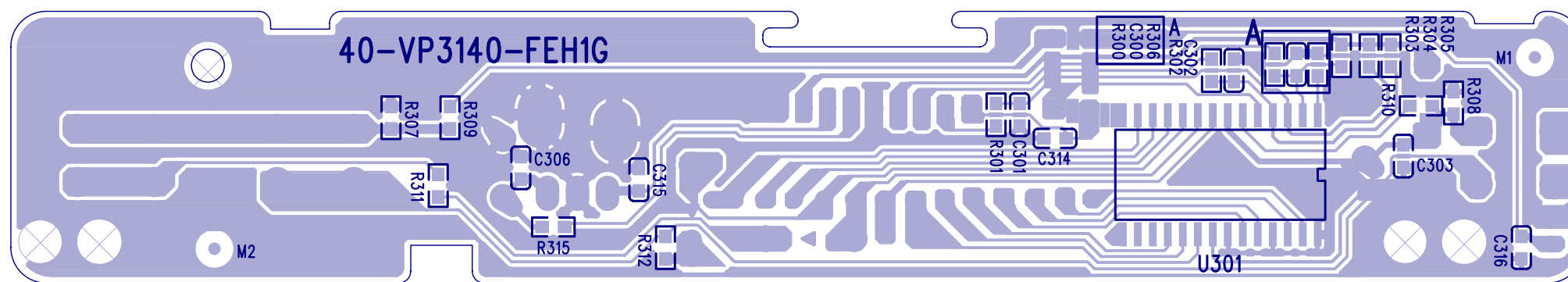




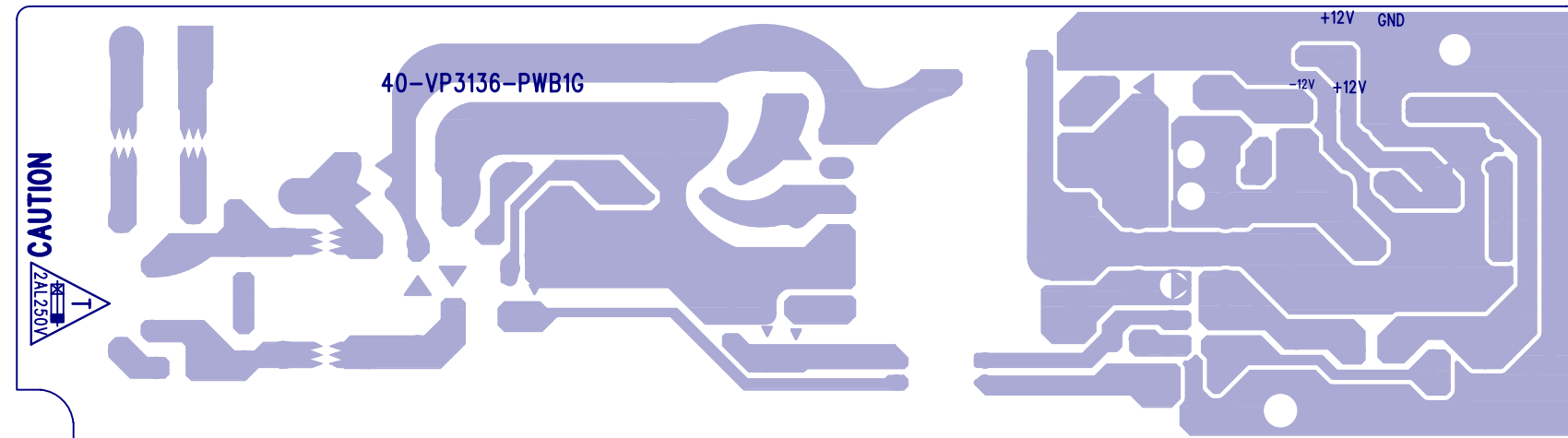
Amplifier Board Print\_Layout (Bottom Side) for DVP3136/94



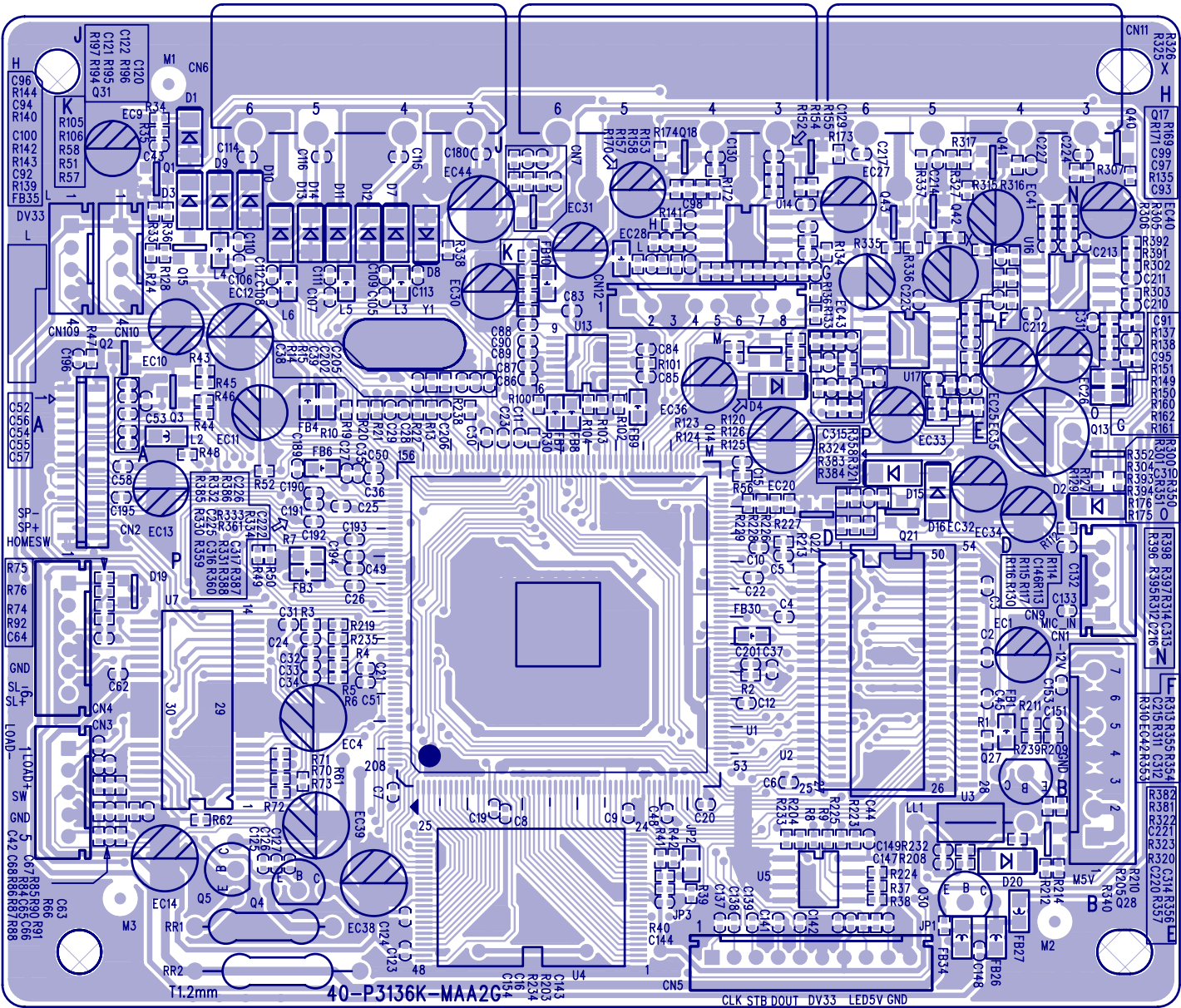
Front Board Print\_Layout (Bottom Side) for DVP3136/94



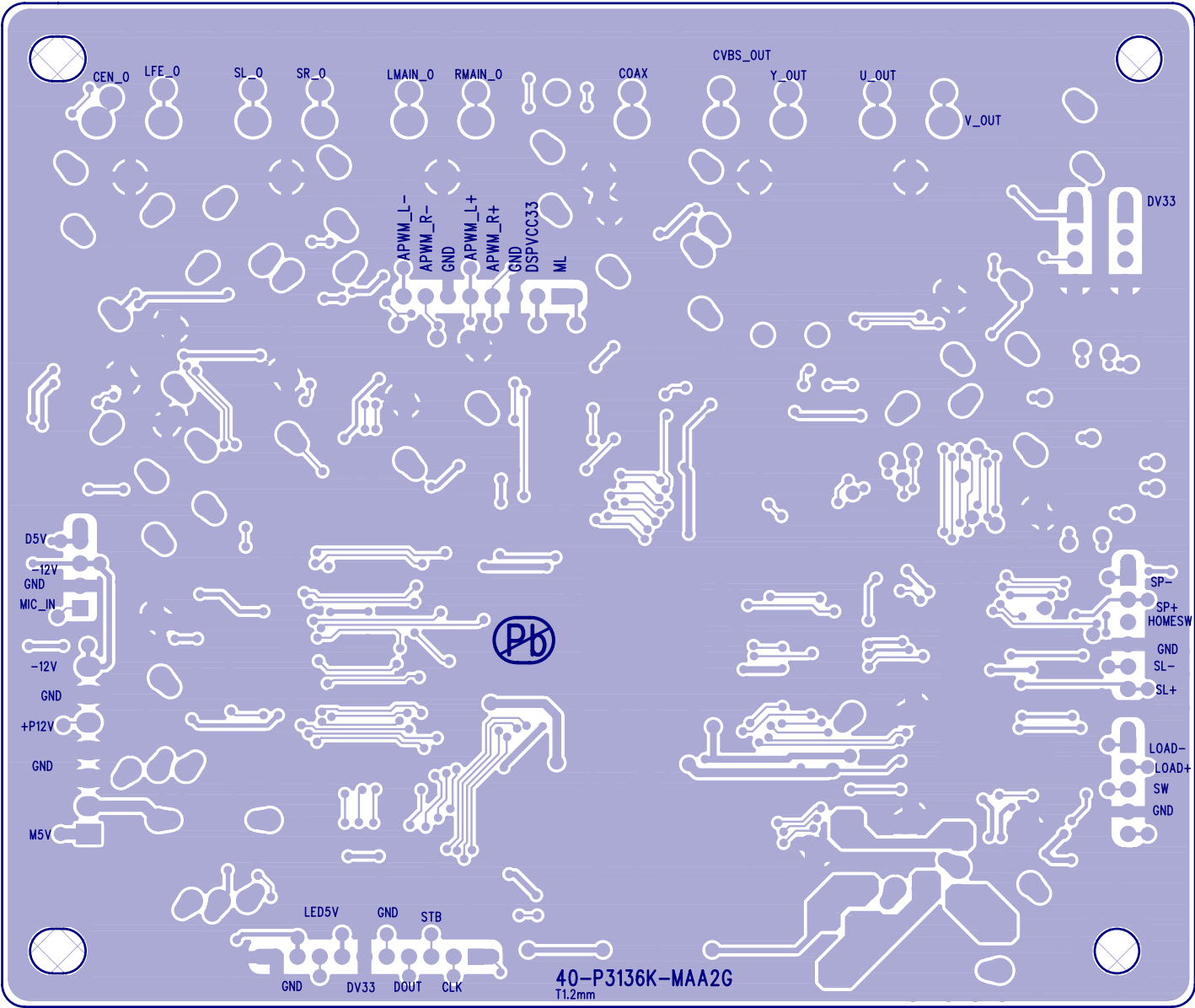
Power Board Print \_Layout (Bottom Side) for DVP3136/94



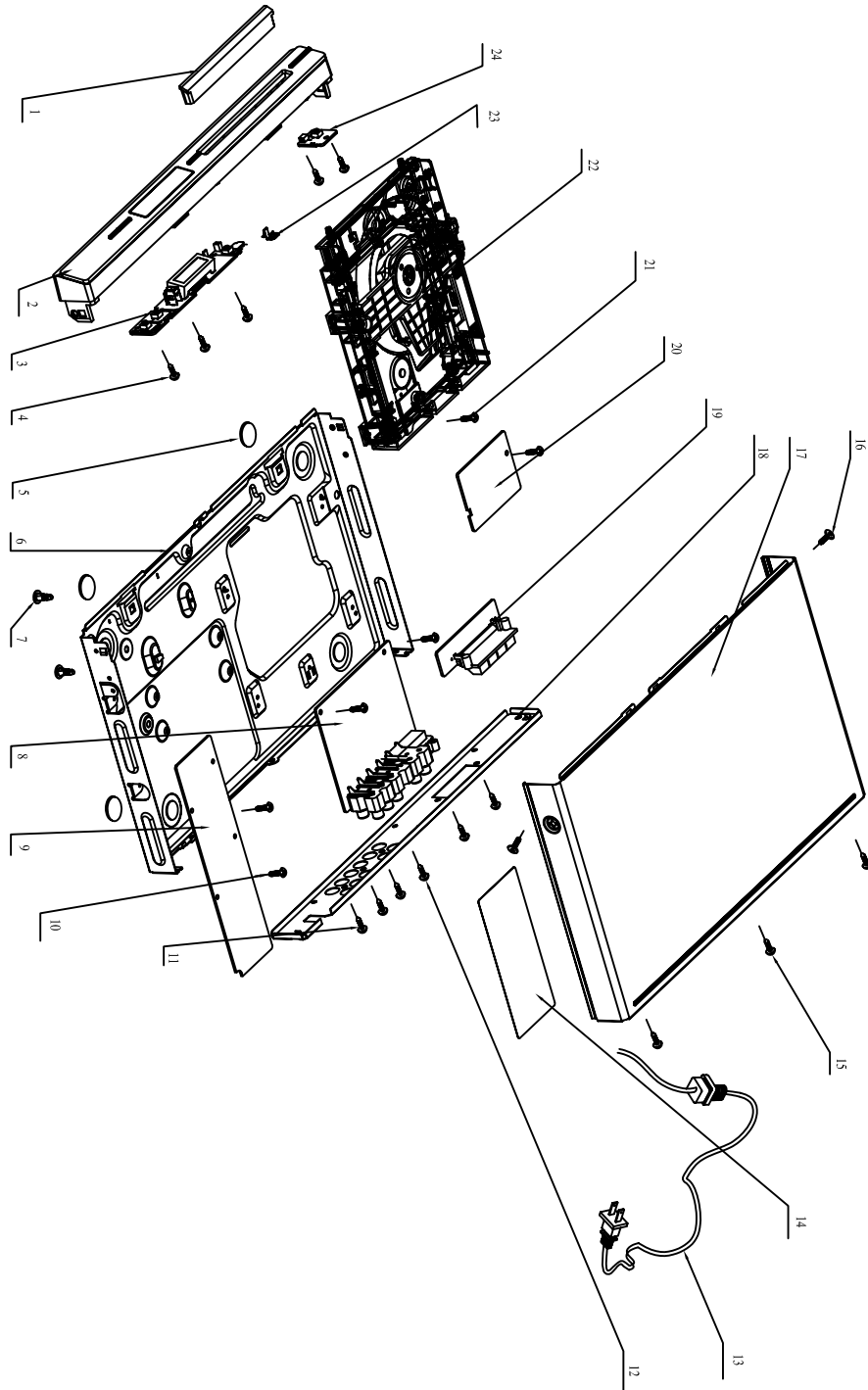
Main Board Print\_Layout (Top Side) for DVP3136/94



Main Board Print\_Layout (Bottom Side) for DVP3136/94



## DVP3136/94 Mechanical Exploded View



Remark: It's a general Mechanical Exploded View for DVP3136/94

Detailed information please refer to Model set.

**ENCASING & ACCESSORIES PARTS LIST**

No	12NC No.	Part Name	Q'ty
1	996510005288	Front Door	1
2	996510005289	Front Panel Ass'y for DVP3136/94	1
3	996510005282	Front Board	1
5	996510001815	PAD	4
6	996510005291	Bottom Cabinet	1
7	/	PCB Supportor	2
8	996510005280	Main Board	1
9	996510005281	Power Board	1
13	996510001179	Power Code	1
14	/	Insulator PAD	1
17	996510001775	Top cover	1
18	996510005290	Rear Cabinet	1
19	/	Input/Output Board	1
20	/	Amplifier Board	1
22	996510005283	Loader	1
23	996510001163	Switch Board	1
24	/	ESD PAD	1

**Accessory**

RBuffer	996510005287	RIGHT BUFFER	1
LBuffer	996510001202	LEFT BUFFER	1
RC	996510001822	REMOTE CONTROL	1
AVCAB	996510001106	VIDEO CABLE 1500mm	1
DBOX	996510005286	DISPLAY BOX	1

**Cable**

CON302	996510004064	2P HS	1
CON301	996510005285	HS 9PIN	1
6P	996510001222	HS 6P PH-6Y/PH-6Y	1
5P	996510005284	5PIN HS	1
CN2	996510001108	24PIN HS	1

**SCREW LIST**

No	12NC No.	Part Name	Q'ty
4	/	S/T Screw B2.6X8 BF	5
10	/	TRIANGLE M/C SCREW B 3 X 6	5
11	/	TRIANGLE M/C SCREW B 3 X6	5
12	/	S/T SCREW B 3 X 8 BF	1
15	/	TRIANGLE M/C SCREW B 3 X6	3
16	/	M/C SCREW TRIANGLE W 3 X 6	2
21	/	MACHINE SCREW	2

Note: Only the parts mentioned in this list are normal service spare parts

## REVISION LIST

Version 1.0

\* Initial release

Remark: This Service manual only for Philips Service repairment, Please Don't transmittte or forward it to others.