

Service

**DVP3140/37  
DVP3142/12/51/55  
DVP3142K/55**

Service

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# Service Manual

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Version 1.0

**CLASS 1  
LASER PRODUCT**



3139 785 32450

**PHILIPS**

## Technical Specifications

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TV standard	(PAL/50Hz)	(NTSC/60Hz)
Number of lines	625	525
Playback	Multi standard	(PAL/NTSC)

Video performance		
Video DAC	12 bit, 108MHz	
YPbPr:	0.7Vpp ---- 75 ohm	
Video output	1Vpp ----- 75 ohm	
RGB(SCART)	0.7Vpp ---- 75 ohm	

Video format		
Digital Compression	MPEG 2 for DVD, SVCD	
	MPEG 1 for VCD	
	DivX®	
<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</b>
MP3(ISO 9660)		96,112,128,256kbps & variable bit rate fs,32, 44.1,48 kHz

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
Signal-Noise (1kHz)		>90dB
Dynamic Range (1kHz)		>80dB
Cross talk (1kHz)		>70dB
Distortion/Noise (1kHz)		>65dB
MPEG MP3		MPEG Audio L3

Connections	
Scart Output	Euroconnector
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, Dolby Digital

Cabinet	
Dimensions (w X h X d)	360 x 38 x 209 mm
	360 x 37 x 209 mm (Only for DVP3142K/XX)
Weight	Approximately 1.35 kg

Power consumption	
Power supply Rating	110V-240V; 50/60HZ
Power consumption	<10W
Power consumption in standby mode	<1W

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 1M .
  - 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

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### 1.General

. All ICs and many other semiconductors are susceptible to electrostatic discharges (ESD). Careless handing 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 "lightning 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

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#### 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

The following guidelines show how to dismantle the player.

**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.

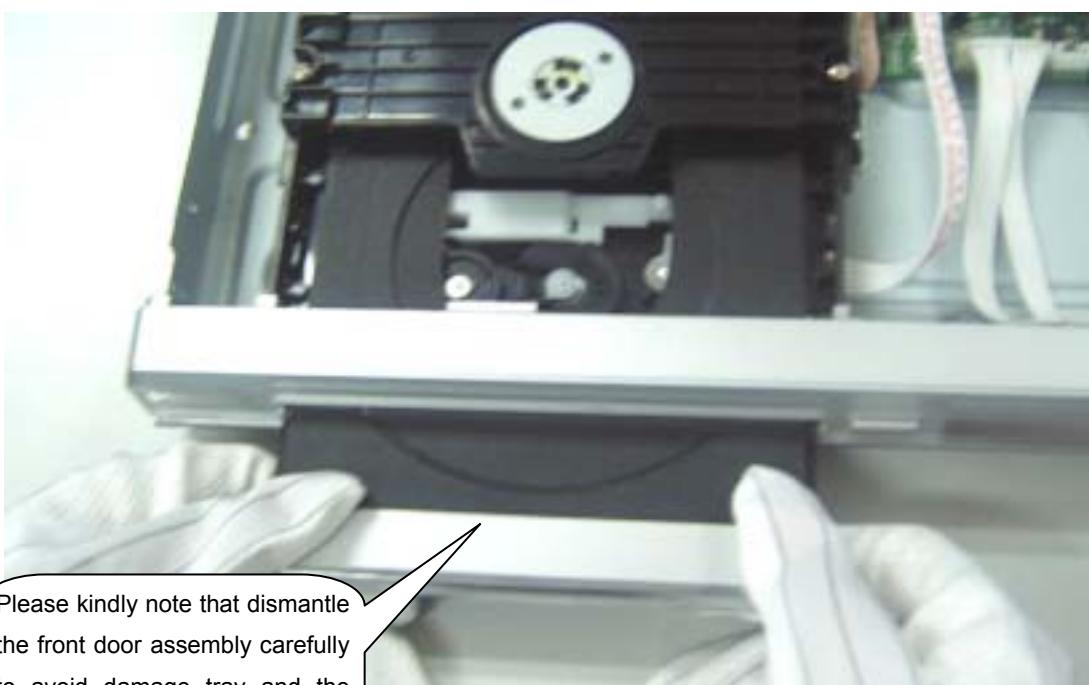


Figure 2

## Mechanical and Dismantling Instructions

### Dismantling Instruction

**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.

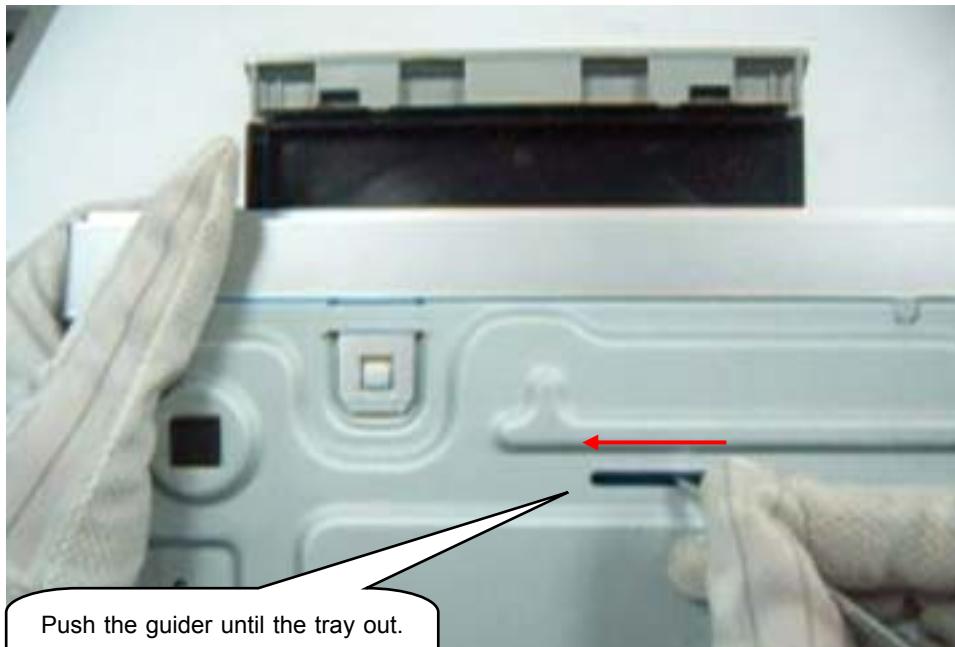


Figure 3

**Step4:** Dismantling Loader, disconnect the 3 connectors aiming in the below figure, and remove 1 screw at the bottom of Loader. (Figure 4)

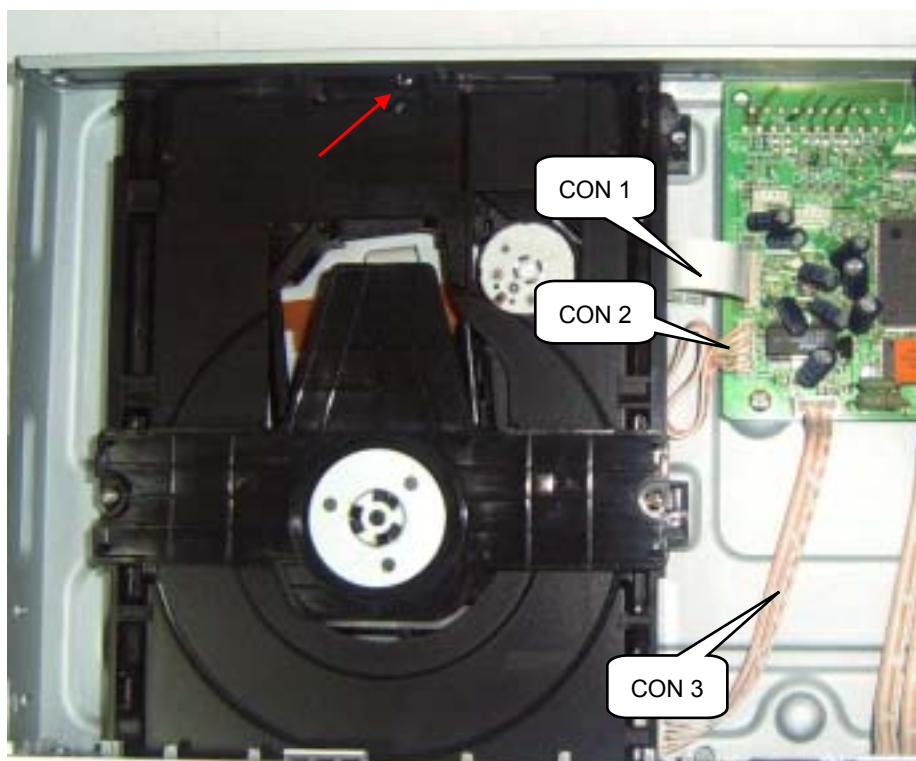


Figure 4

## 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)

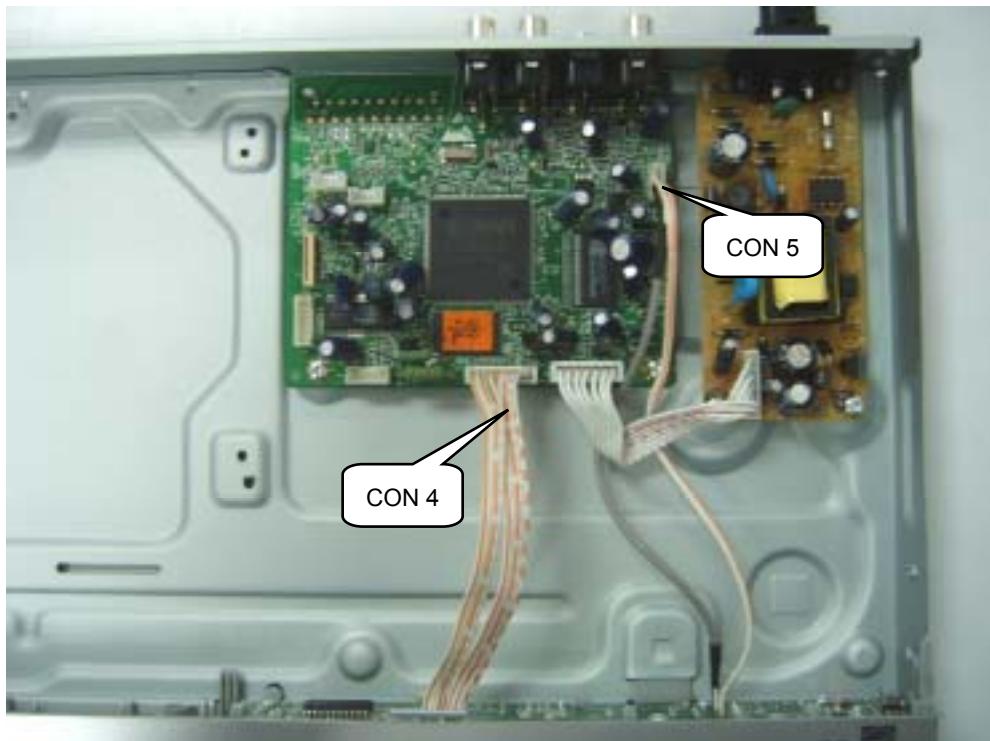


Figure 5

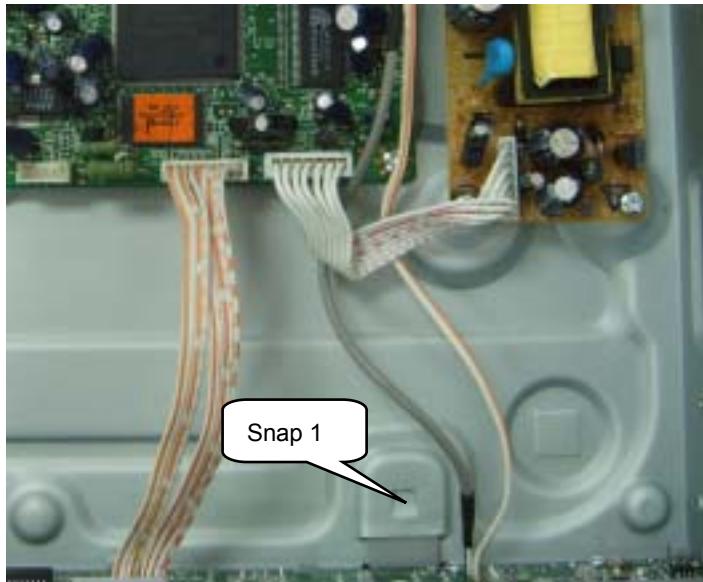


Figure 6



Figure 7

## Mechanical and Dismantling Instructions

### Dismantling Instruction

**Step6:** Dismantling Main Board, first disconnect the connector, and then remove 4 screws. (Figure 8)

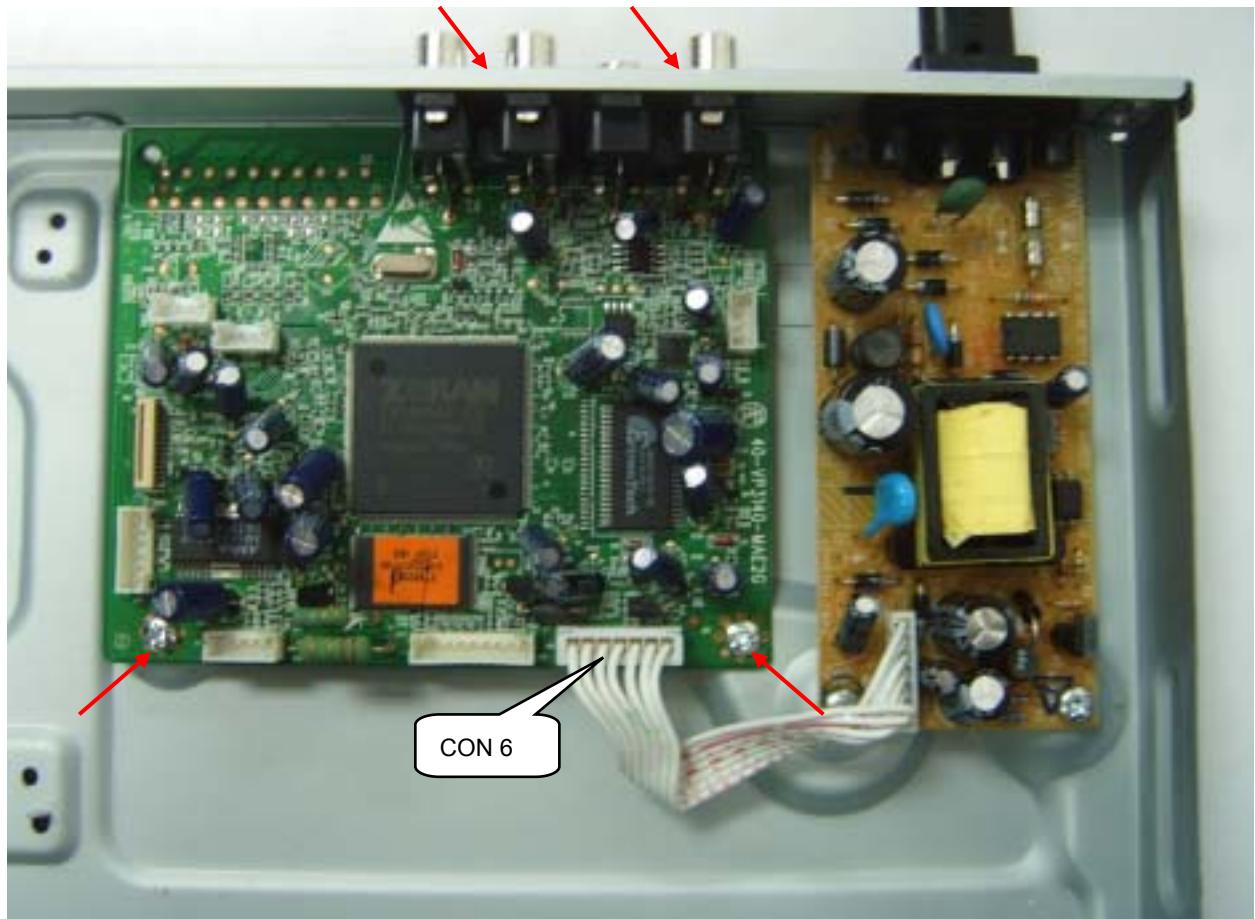


Figure 8

**Step7:** Remove the 2 screws on Power Board to dismantle the Power Board. (Figure 9)



Figure 9

## 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 up the 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.XXXXXXX.XX.XX

DSP Version: DSP.XX

Region Code: X

### A. Procedure for software upgrade:

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

**Loading**

Firmware Upgrade Erase and program.

**Start**      **Cancel**

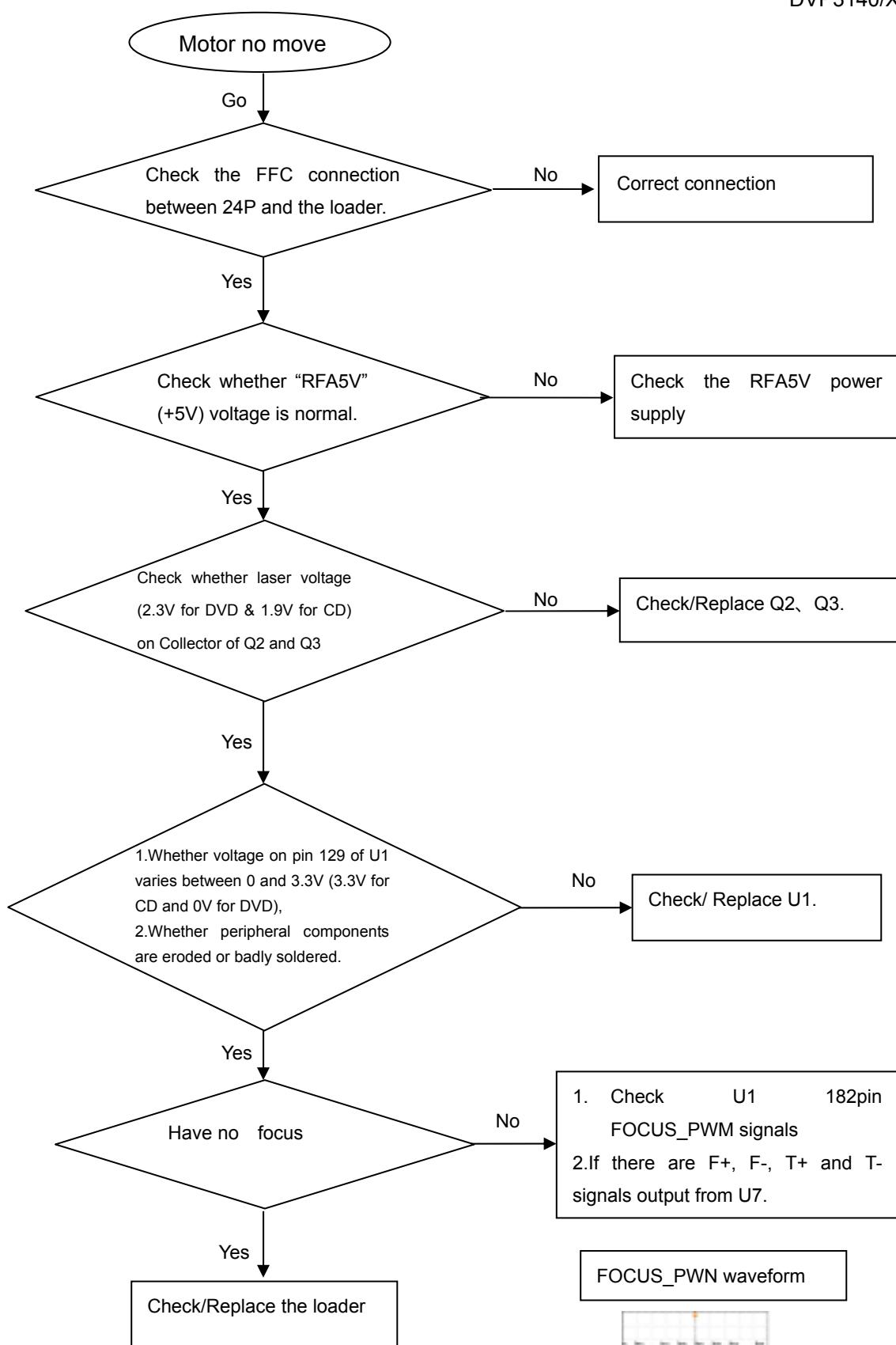
Select **Start** to start upgrade.

- 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 trace 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**

Remark: Trouble shooting chart for  
DVP3140/XX

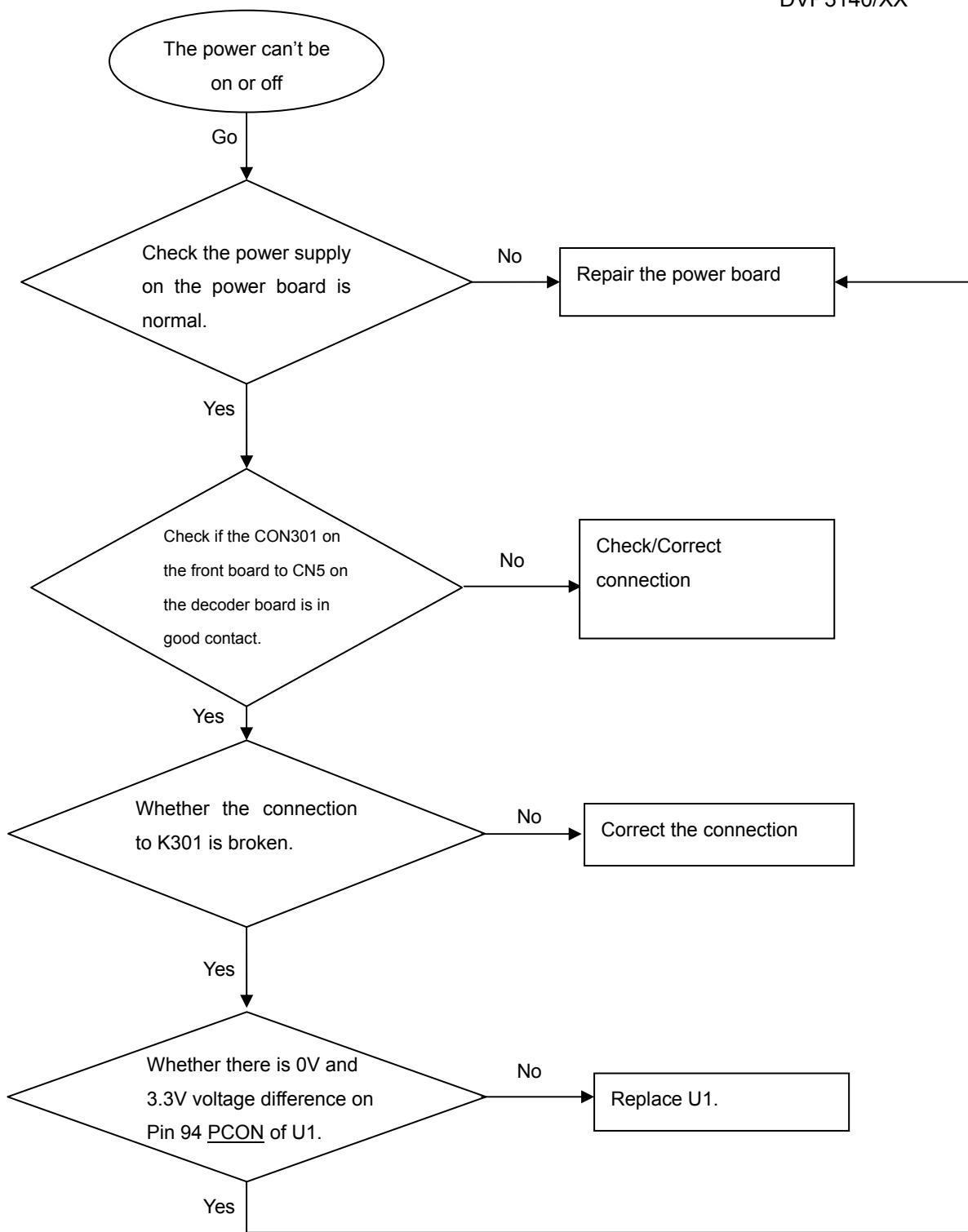


FOCUS\_PWN waveform



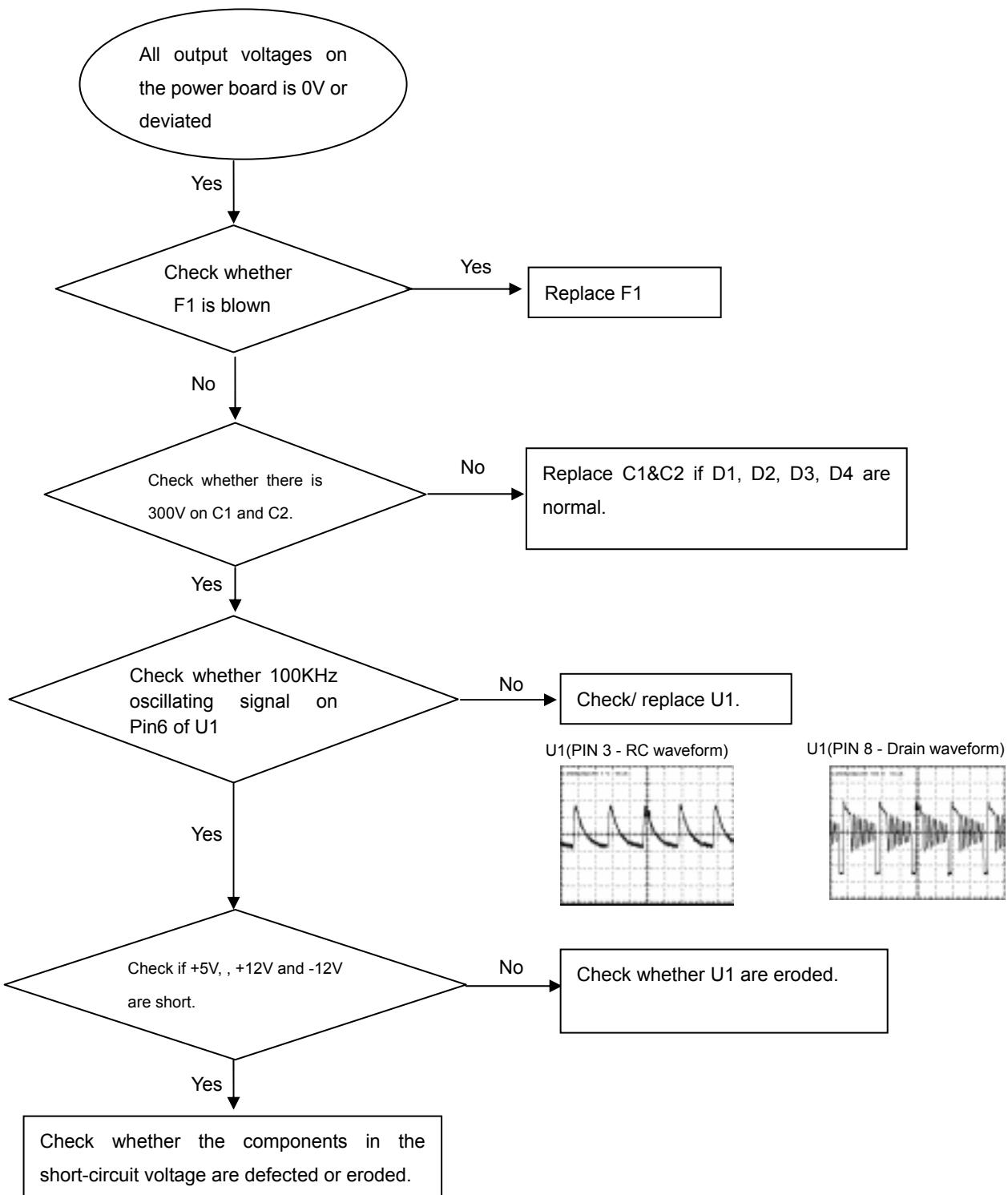
**The power can not be on or off**

Remark: Trouble shooting chart for  
DVP3140/XX



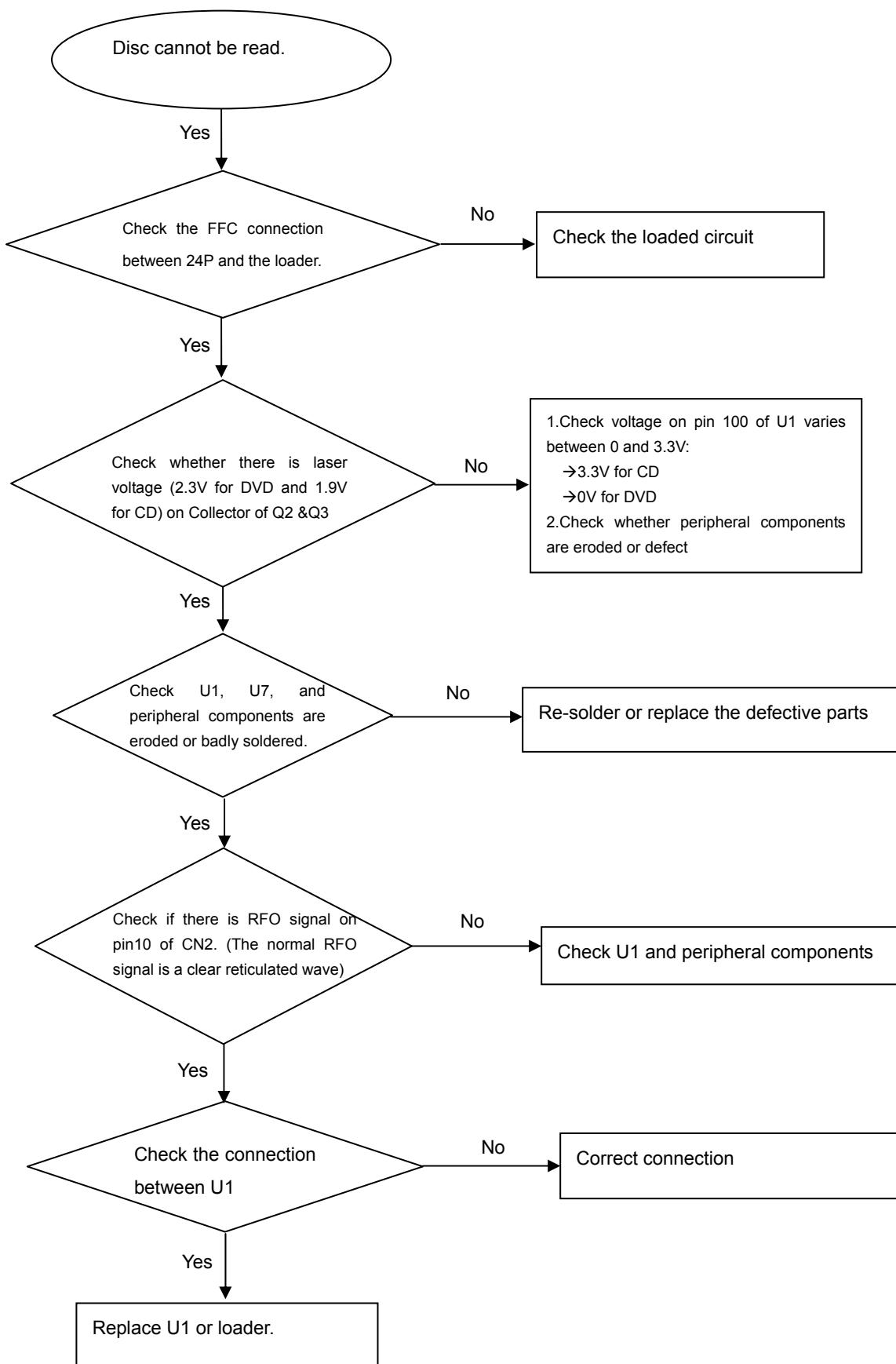
All output voltages on the power board is 0V or deviated.

Remark: Trouble shooting chart for DVP3140/XX



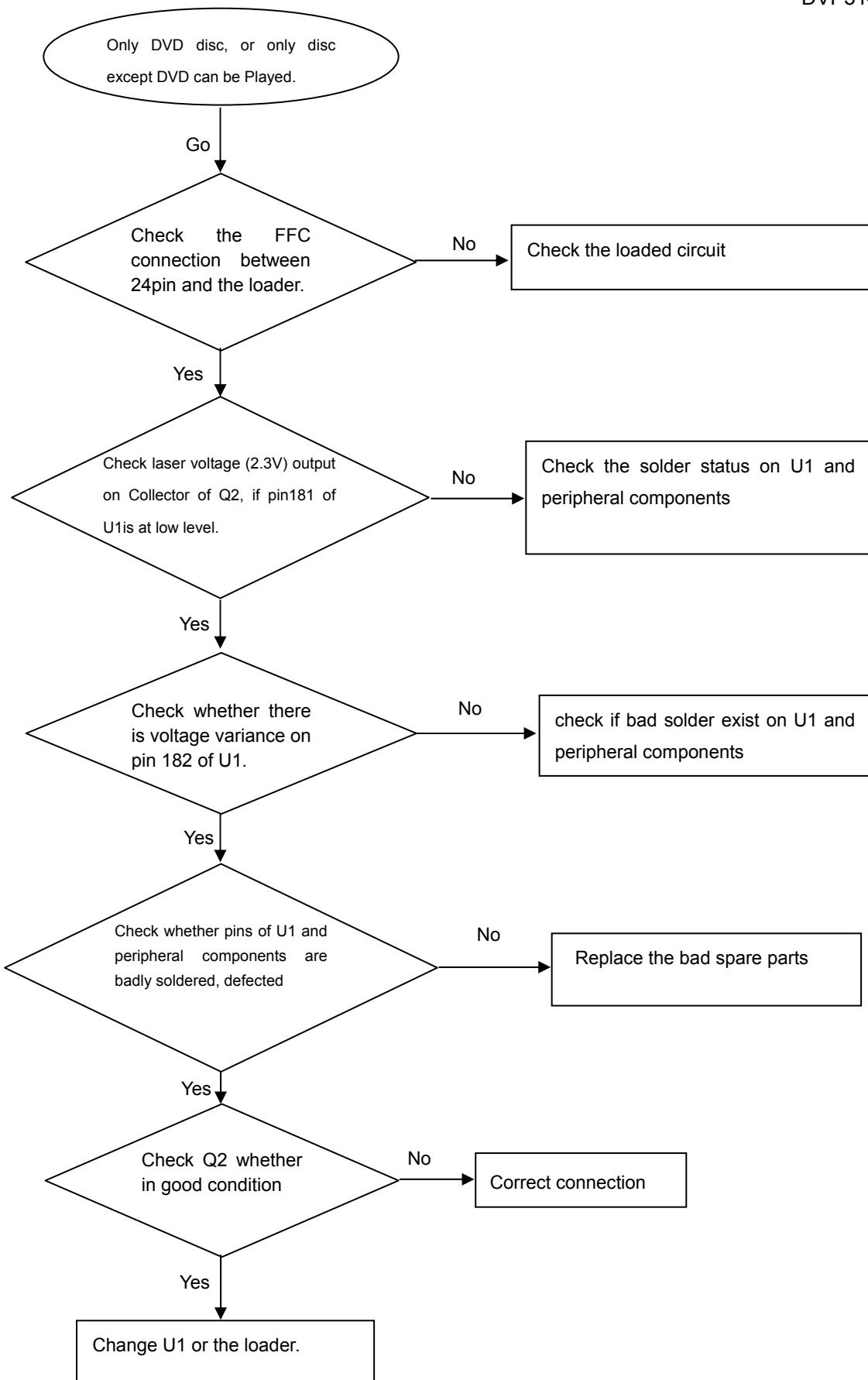
**Disc cannot be read.**

Remark: Trouble shooting chart for DVP3140/XX



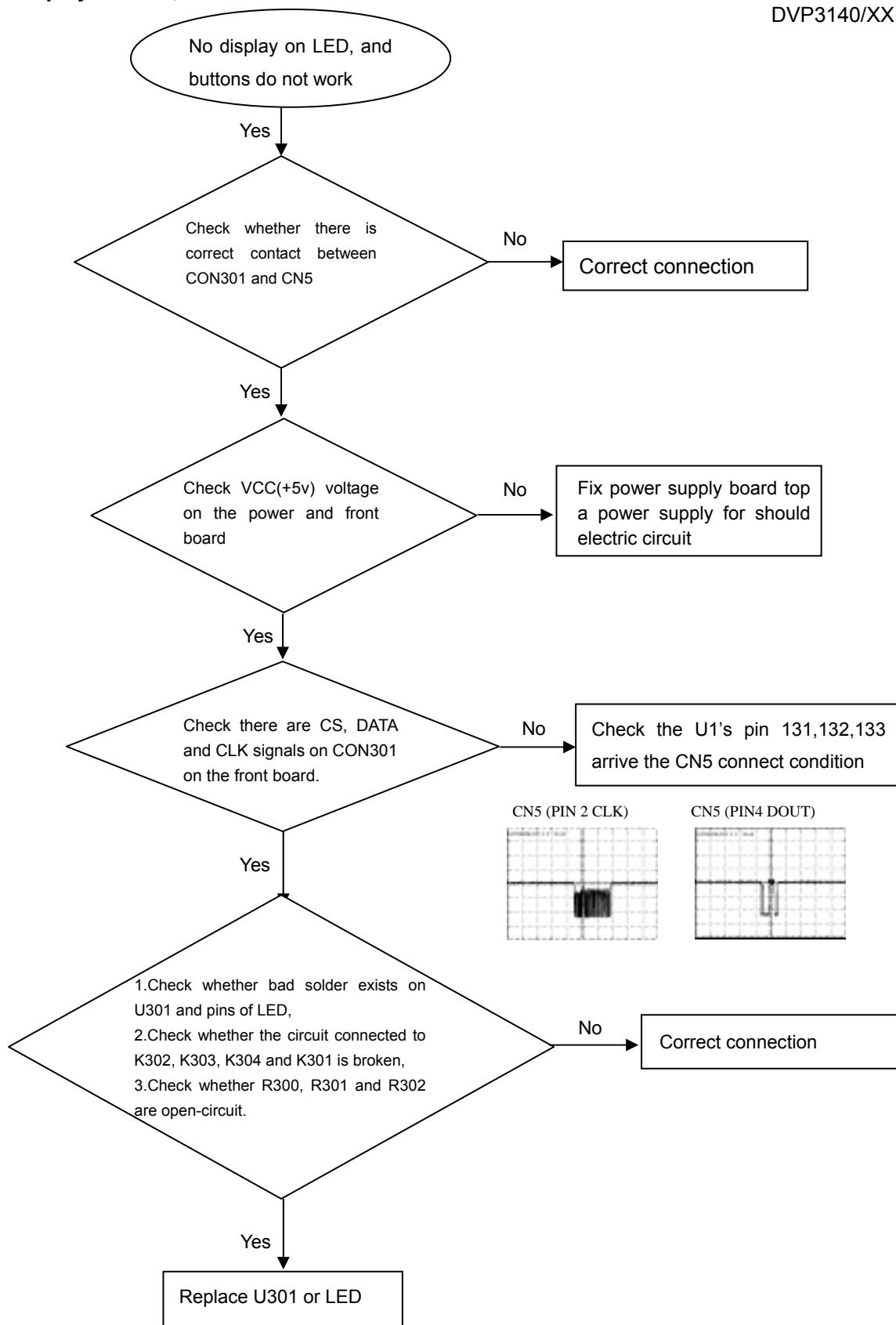
**Only DVD disc or only disc except DVD can be played**

Remark: Trouble shooting chart for  
DVP3140/XX



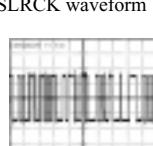
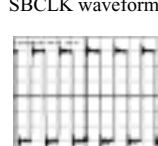
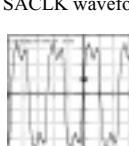
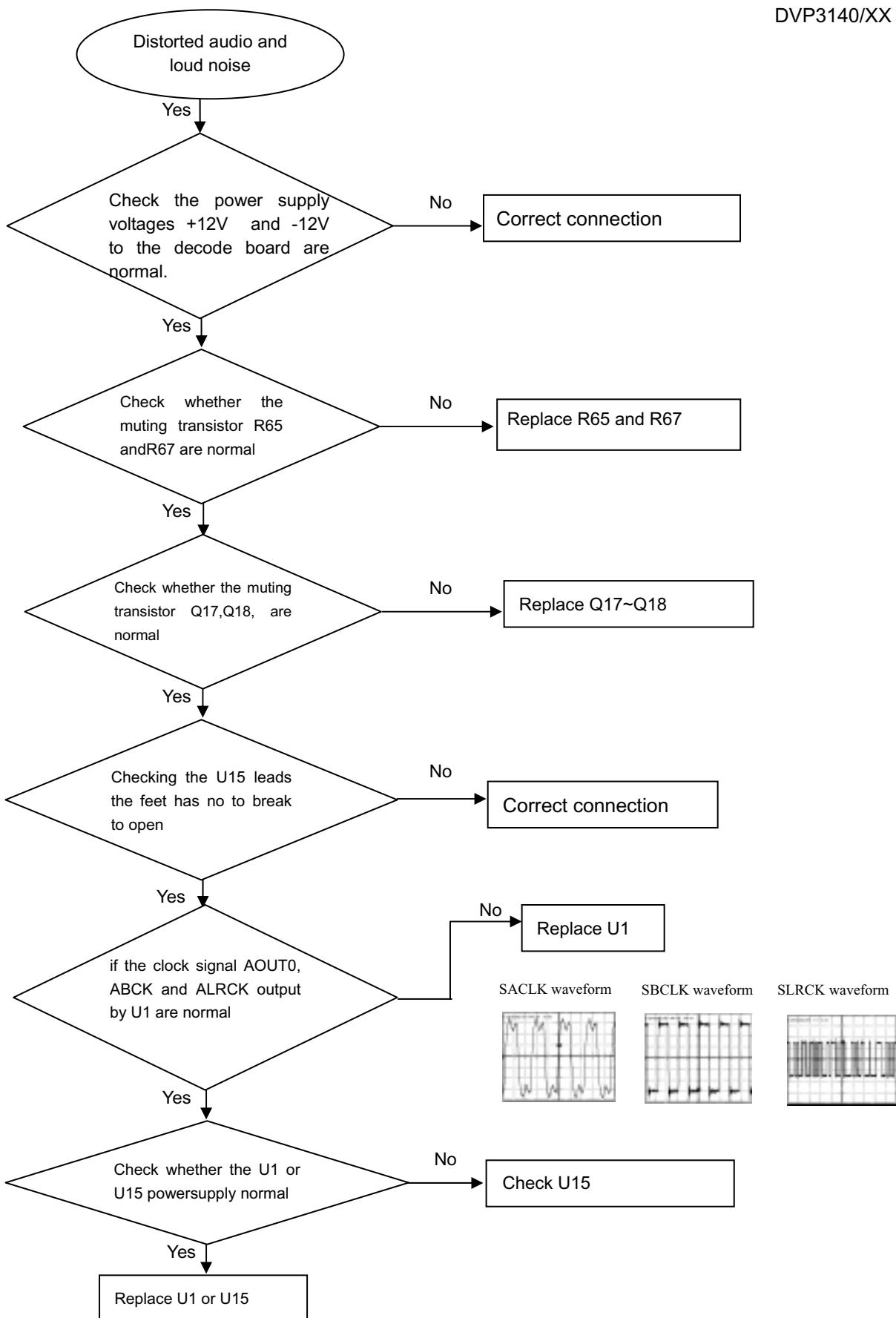
**No display on LED, and buttons do not work**

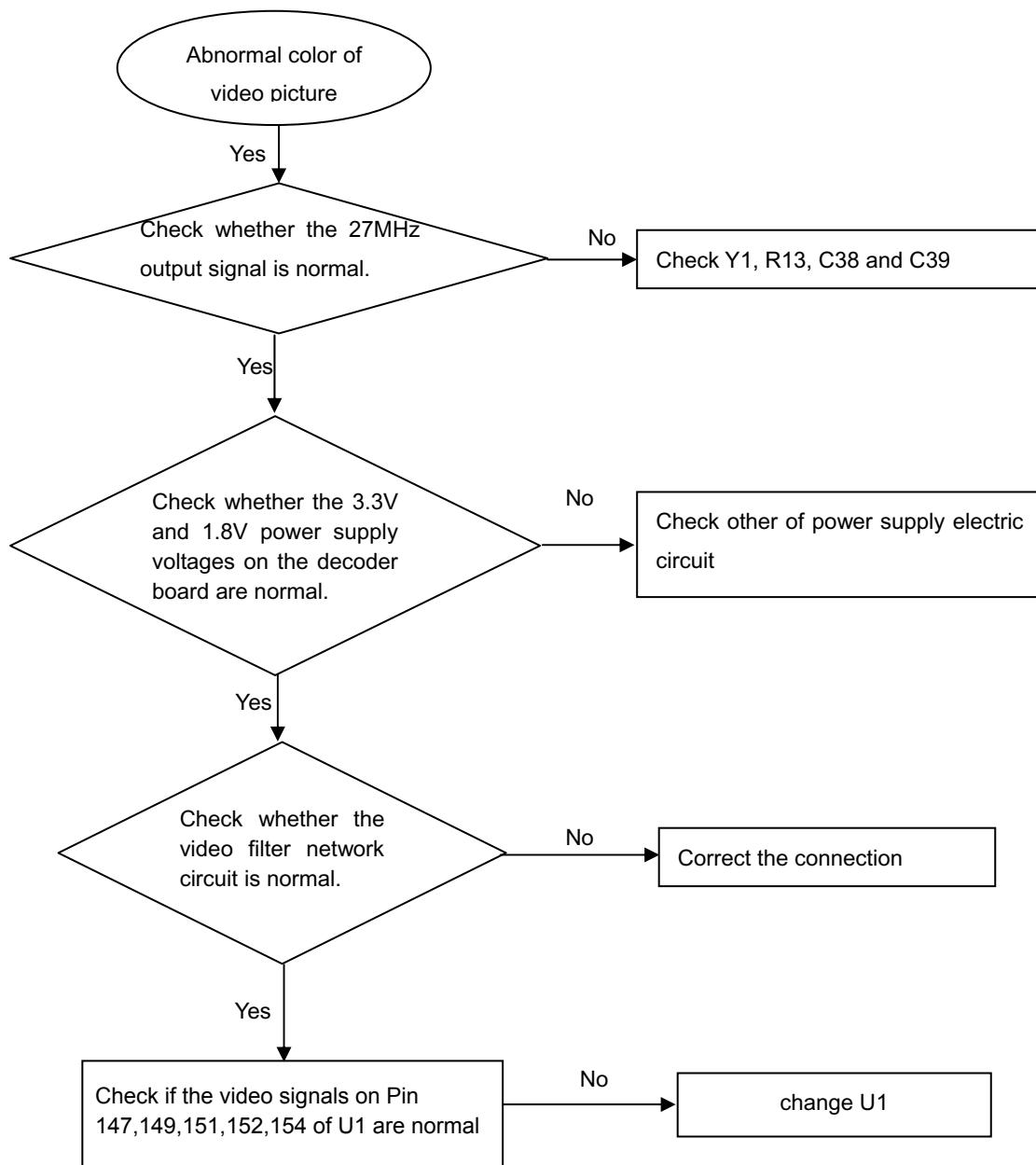
Remark: Trouble shooting chart for  
DVP3140/XX



**Distorted audio and loud noise**

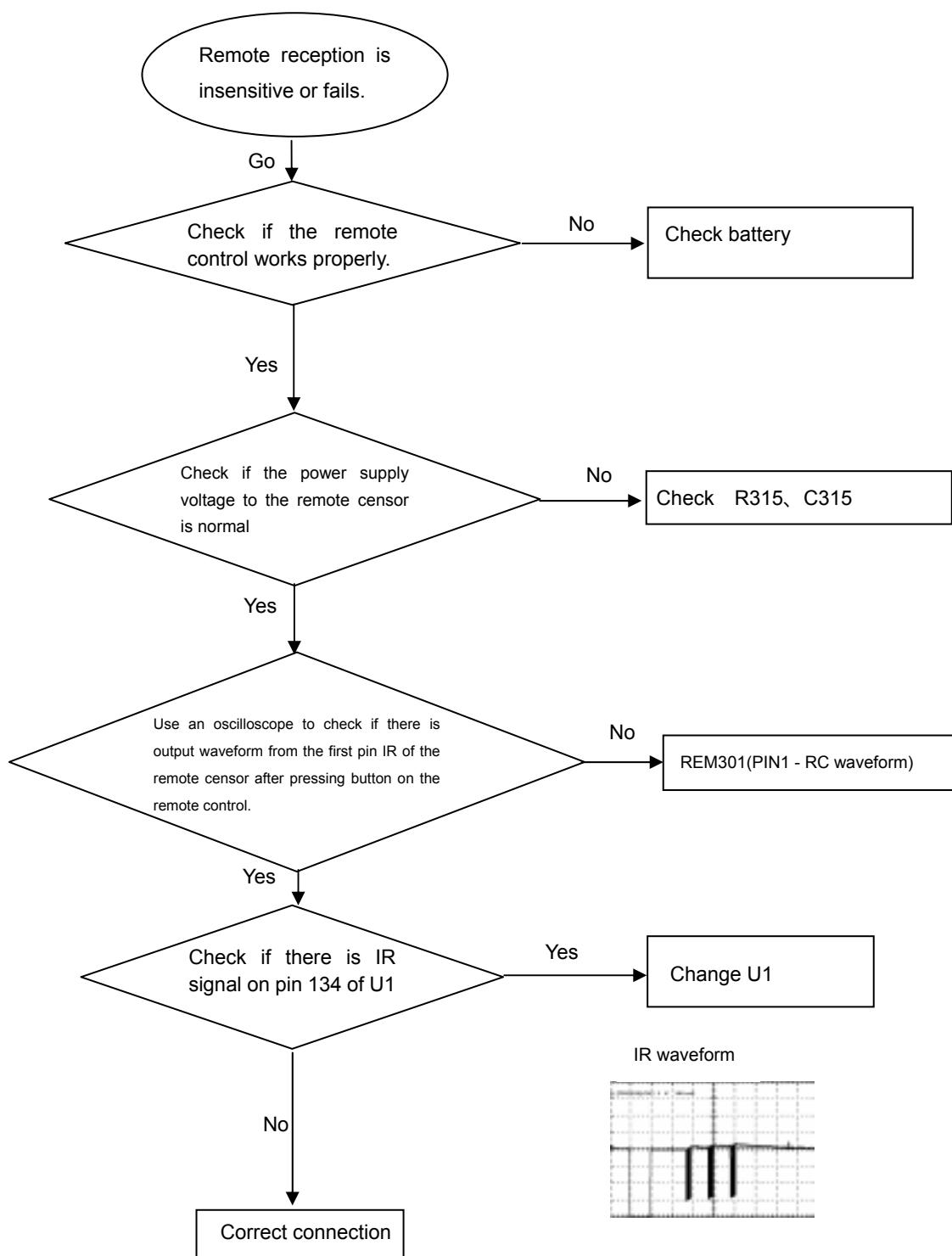
Remark: Trouble shooting chart for  
DVP3140/XX



**Abnormal color of video picture**Remark: Trouble shooting chart for  
DVP3140/XX

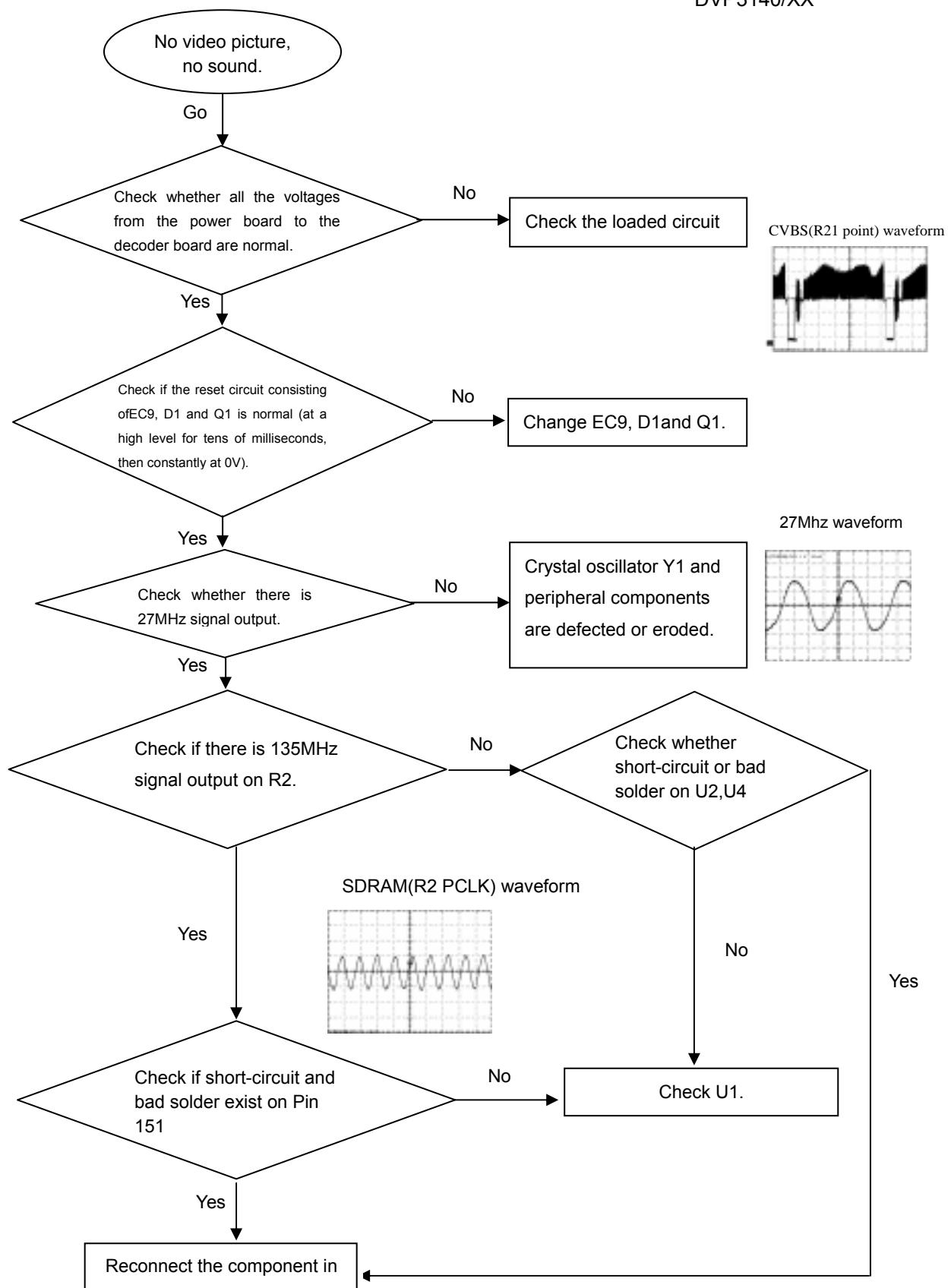
**Remote reception is insensitive or fails.**

Remark: Trouble shooting chart for  
DVP3140/XX



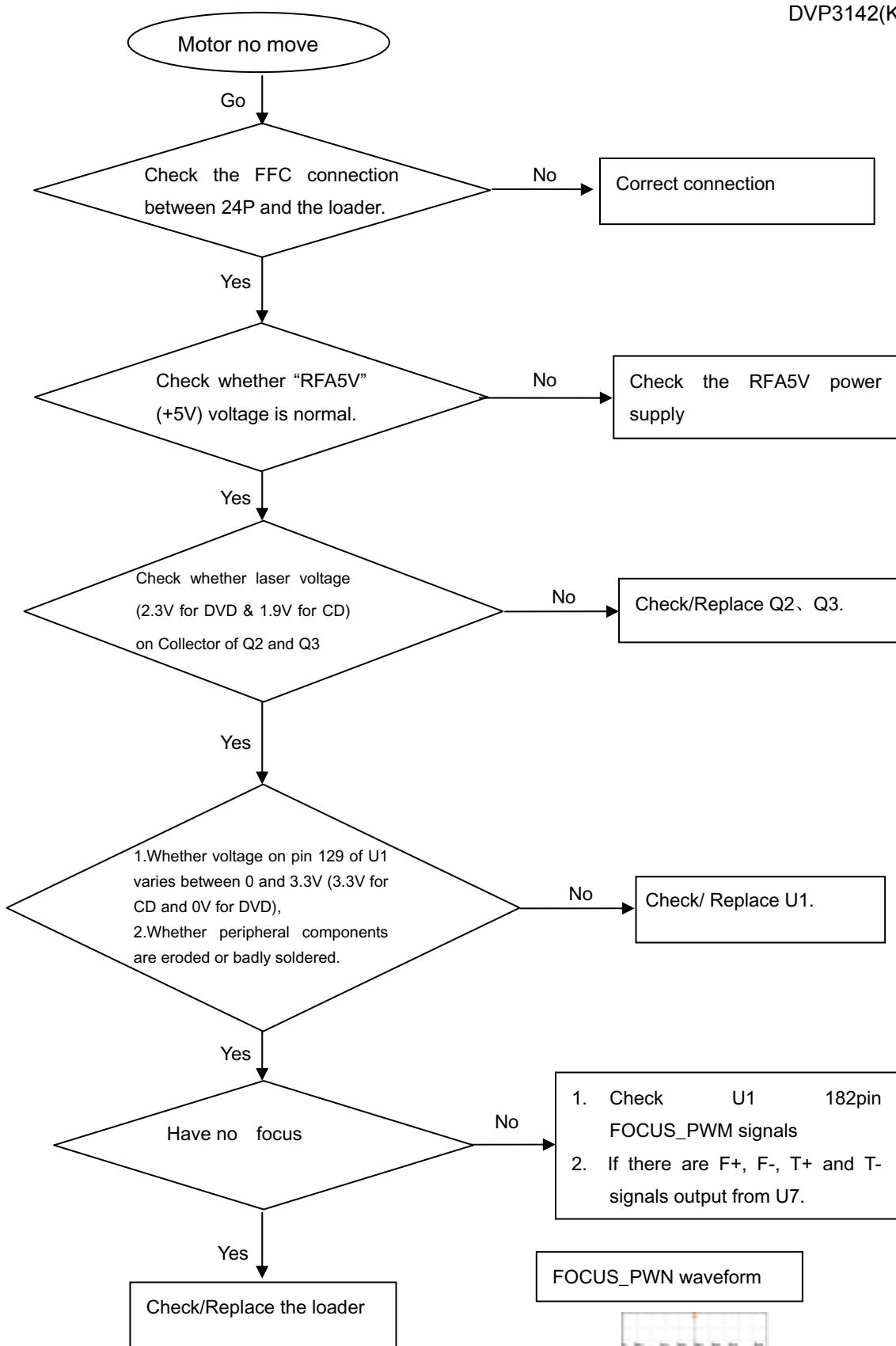
**No video picture, no sound.**

Remark: Trouble shooting chart for DVP3140/XX



**Spindle motor does not move**

Remark: Trouble shooting chart for  
DVP3142(K)/XX

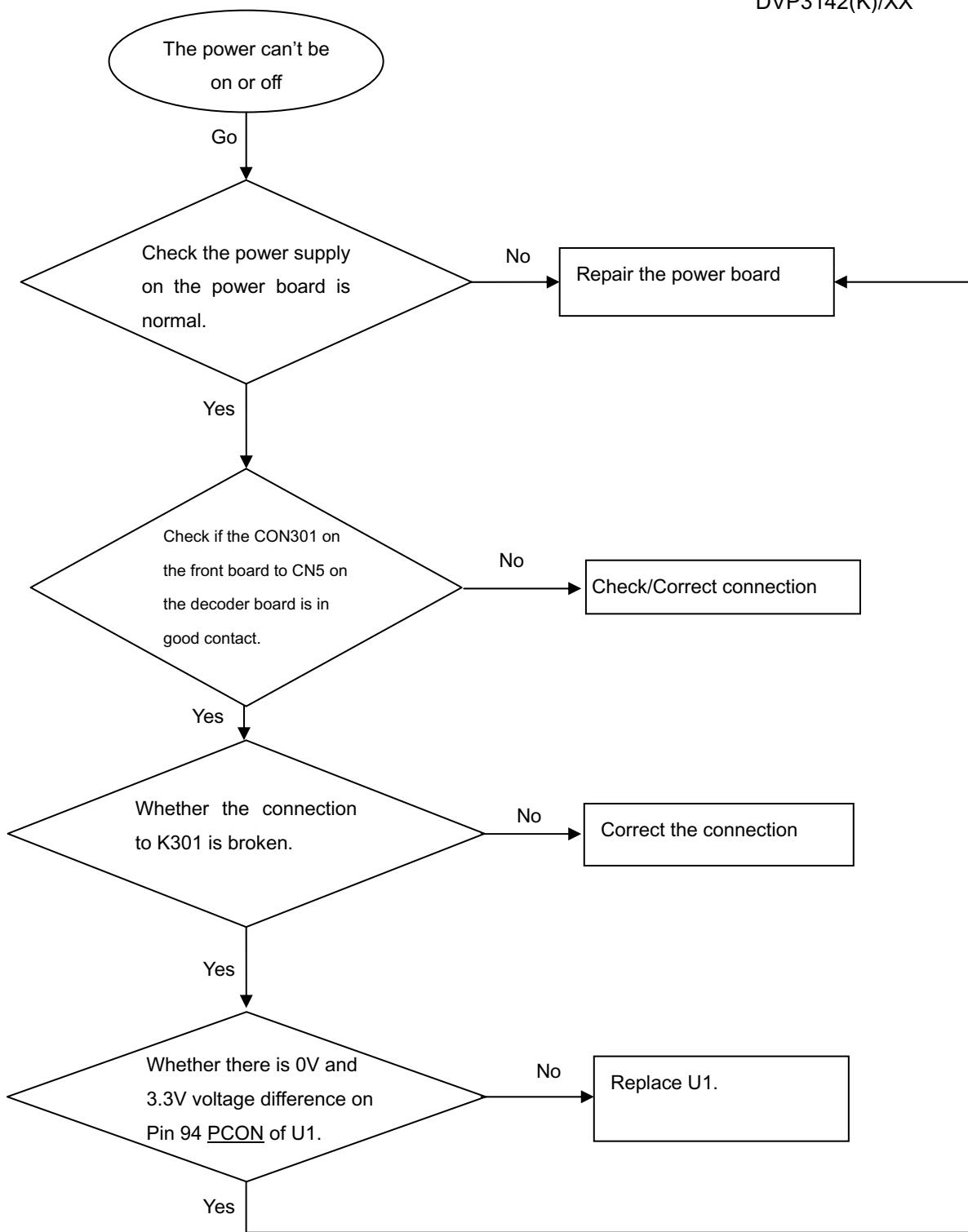


FOCUS\_PWN waveform



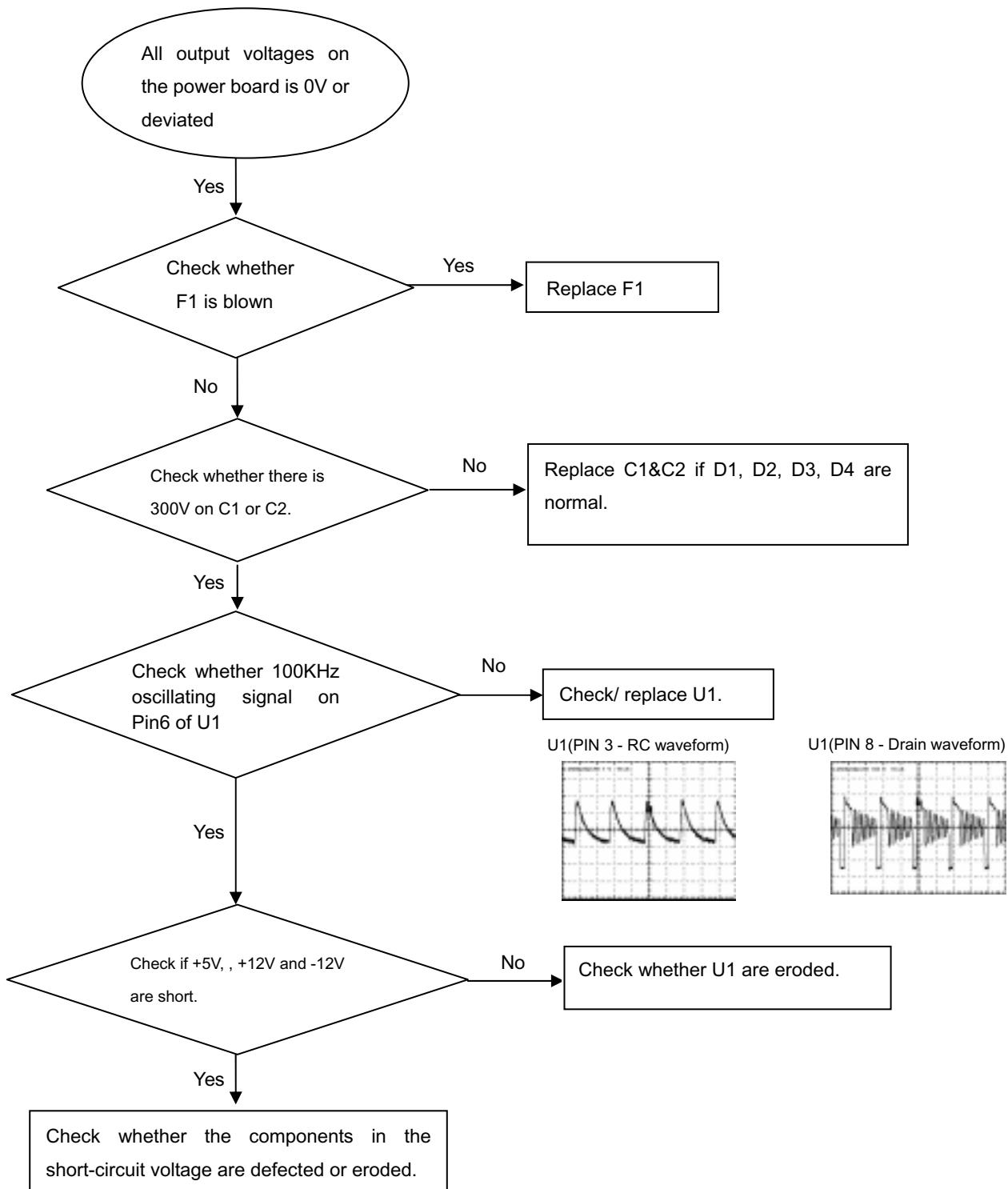
**The power can not be on or off**

Remark: Trouble shooting chart for  
DVP3142(K)/XX



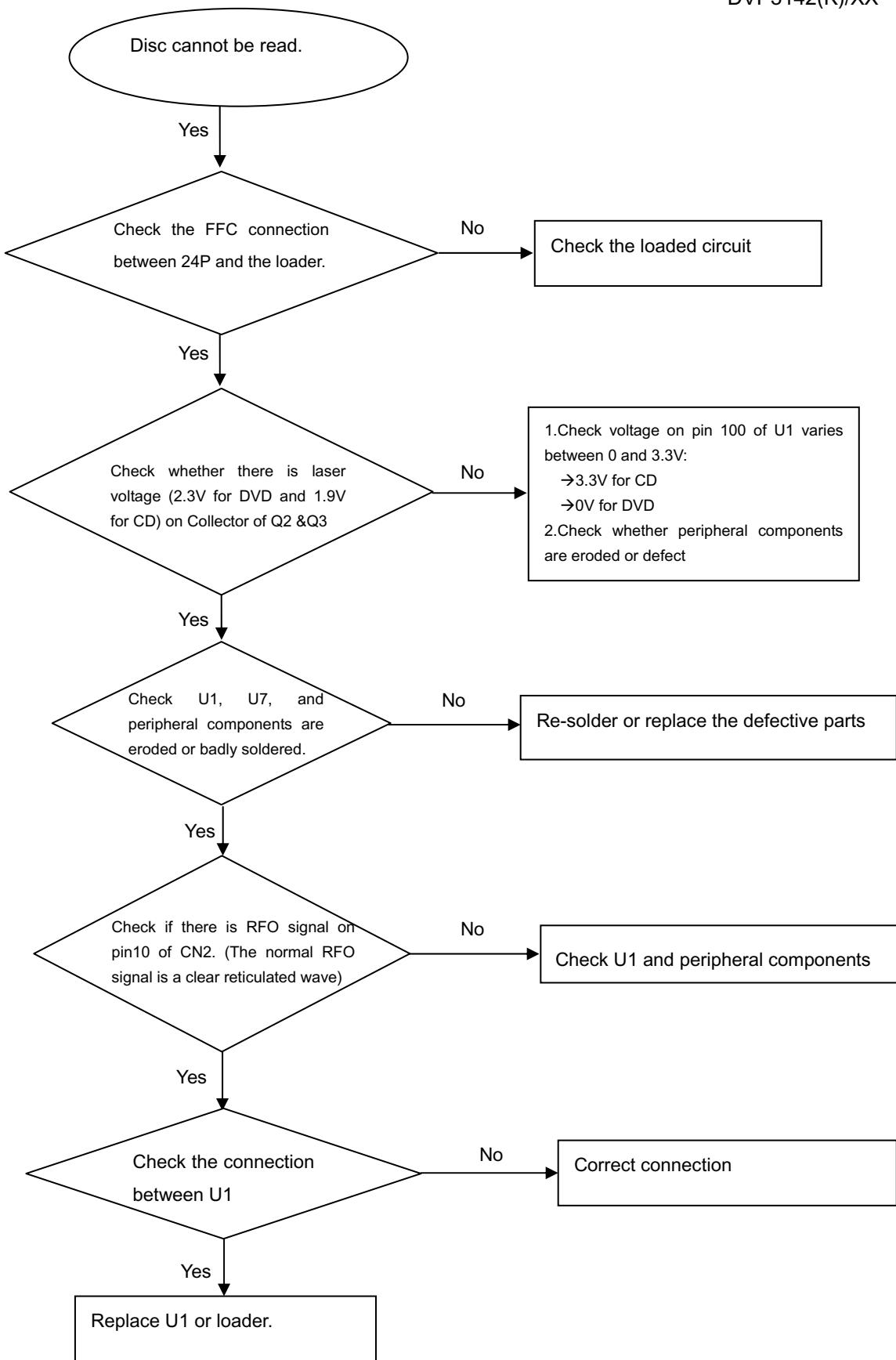
**All output voltages on the power board is 0V or deviated.**

Remark: Trouble shooting chart for DVP3142(K)/XX



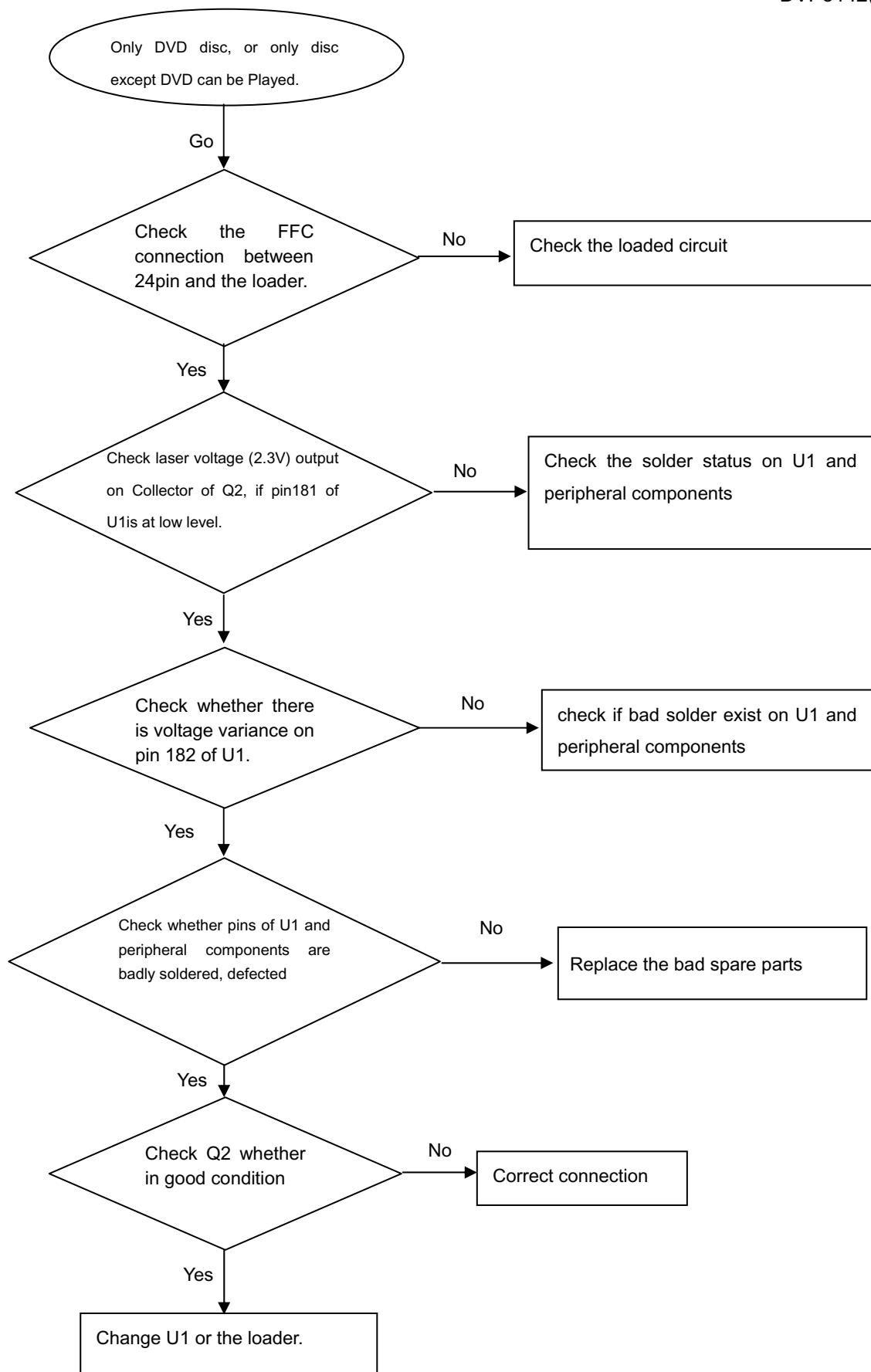
**Disc cannot be read.**

Remark: Trouble shooting chart for  
DVP3142(K)/XX



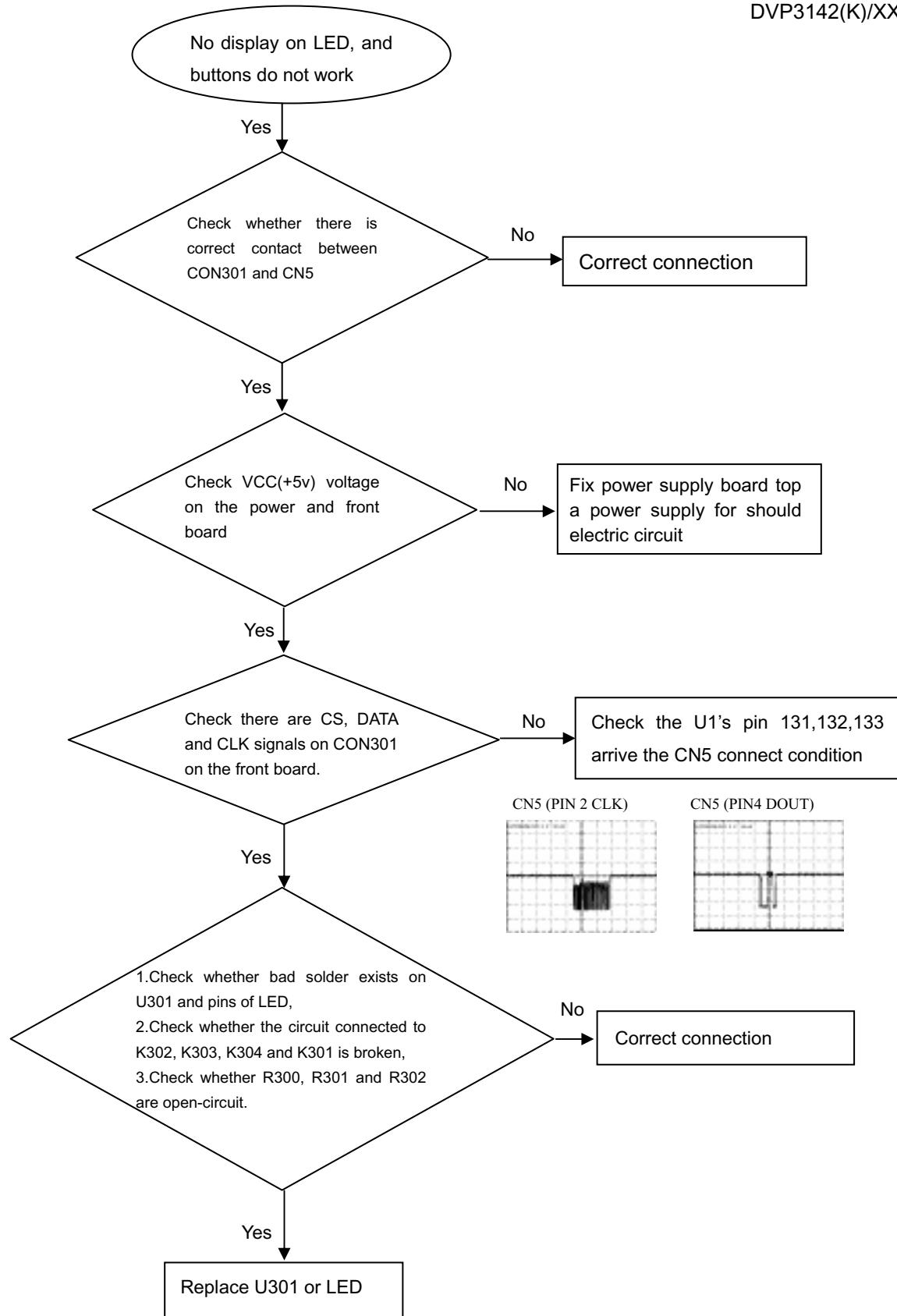
**Only DVD disc or only disc except DVD can be played**

Remark: Trouble shooting chart for  
DVP3142(K)/XX



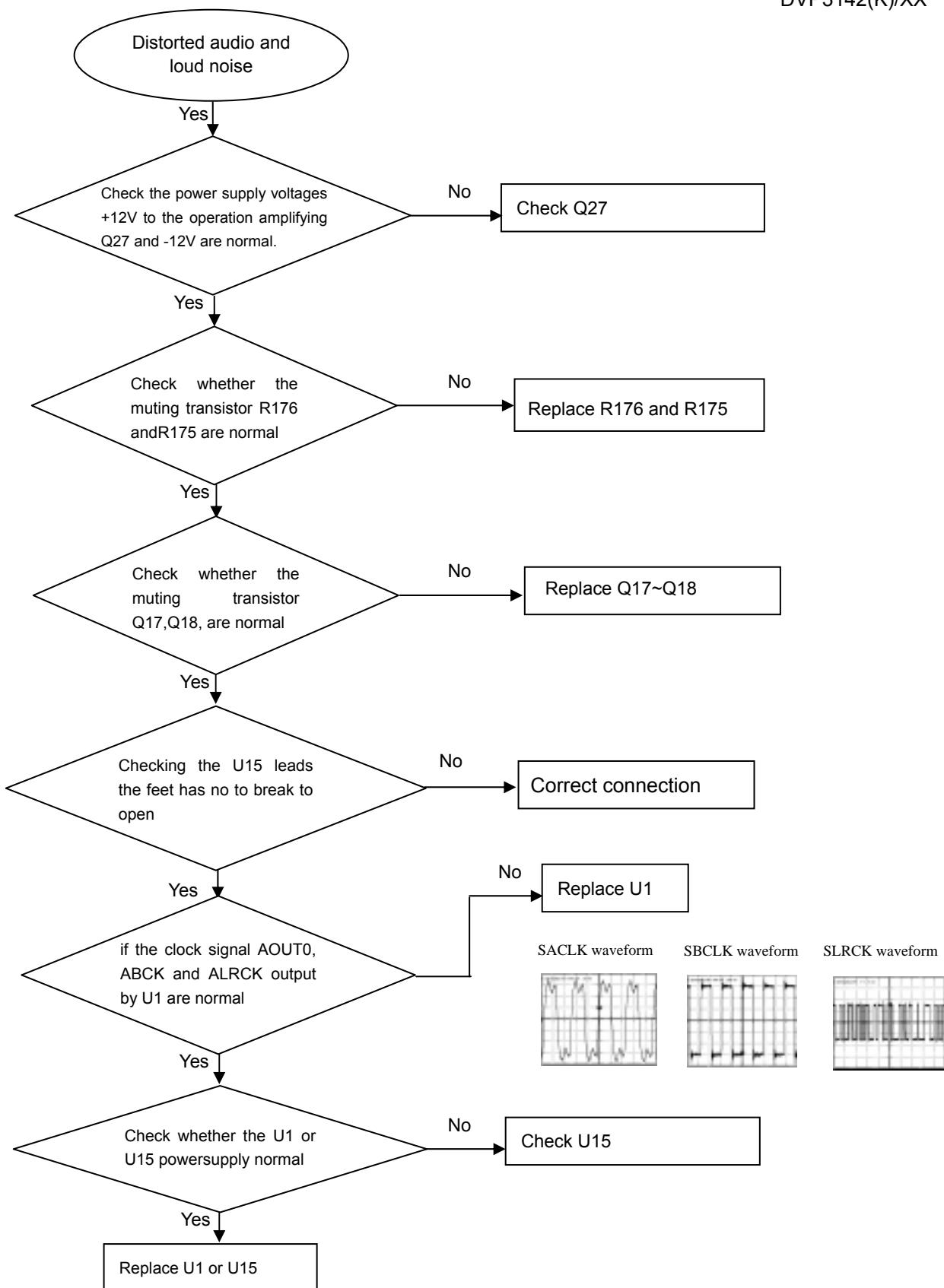
**No display on LED, and buttons do not work**

Remark: Trouble shooting chart for  
DVP3142(K)/XX



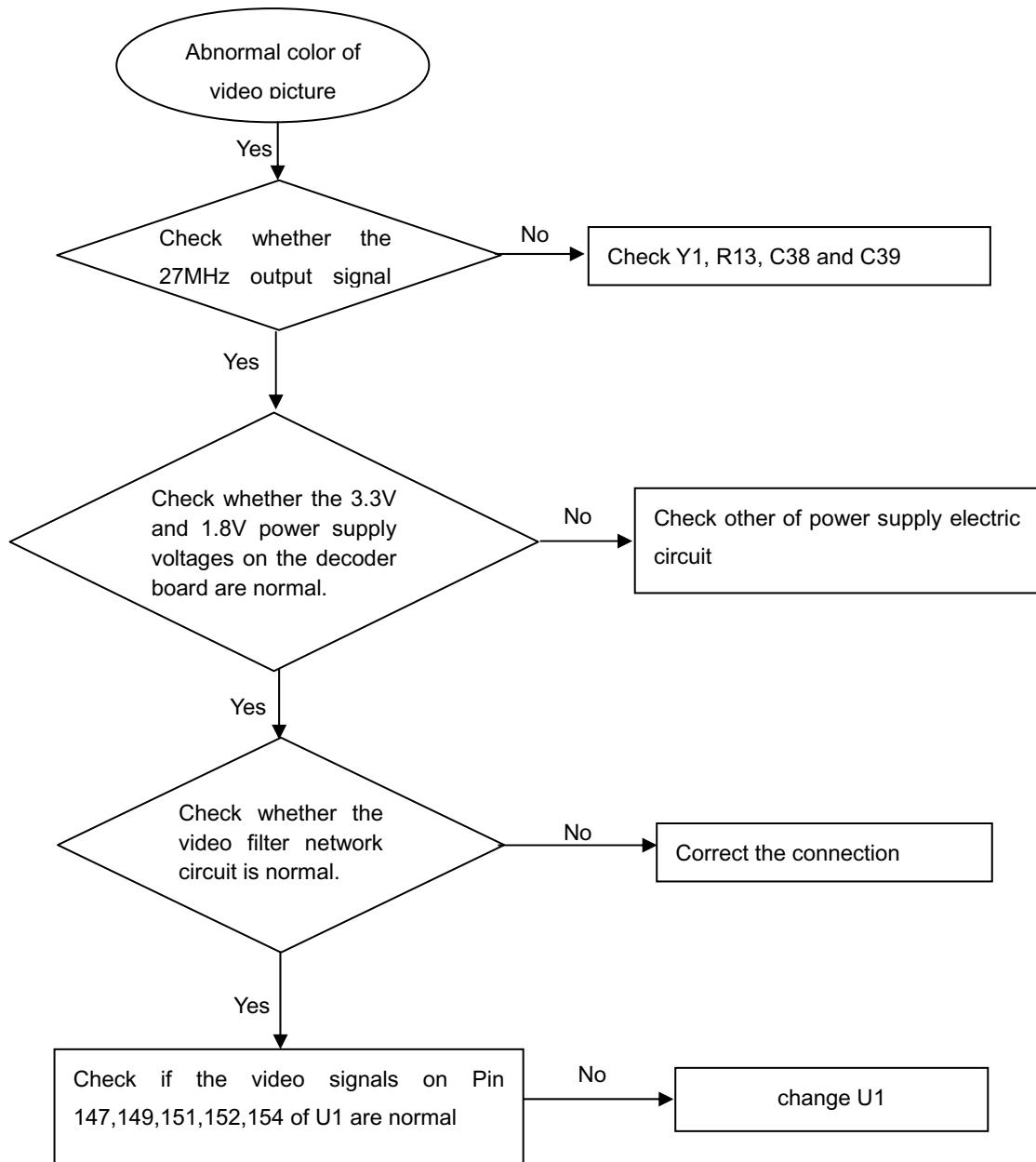
**Distorted audio and loud noise**

Remark: Trouble shooting chart for  
DVP3142(K)/XX



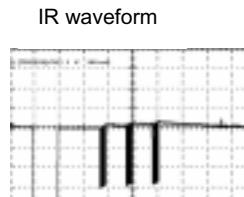
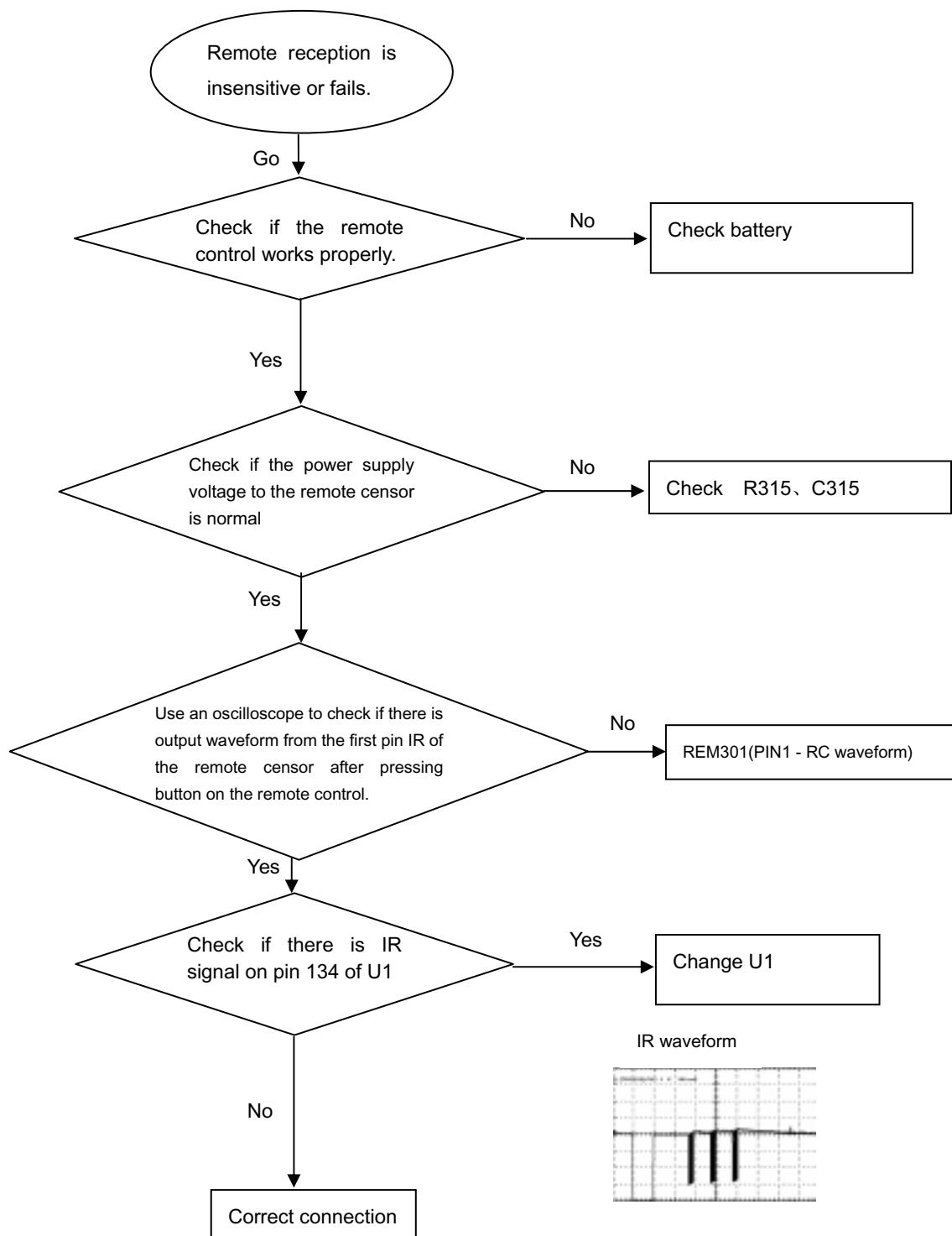
**Abnormal color of video picture**

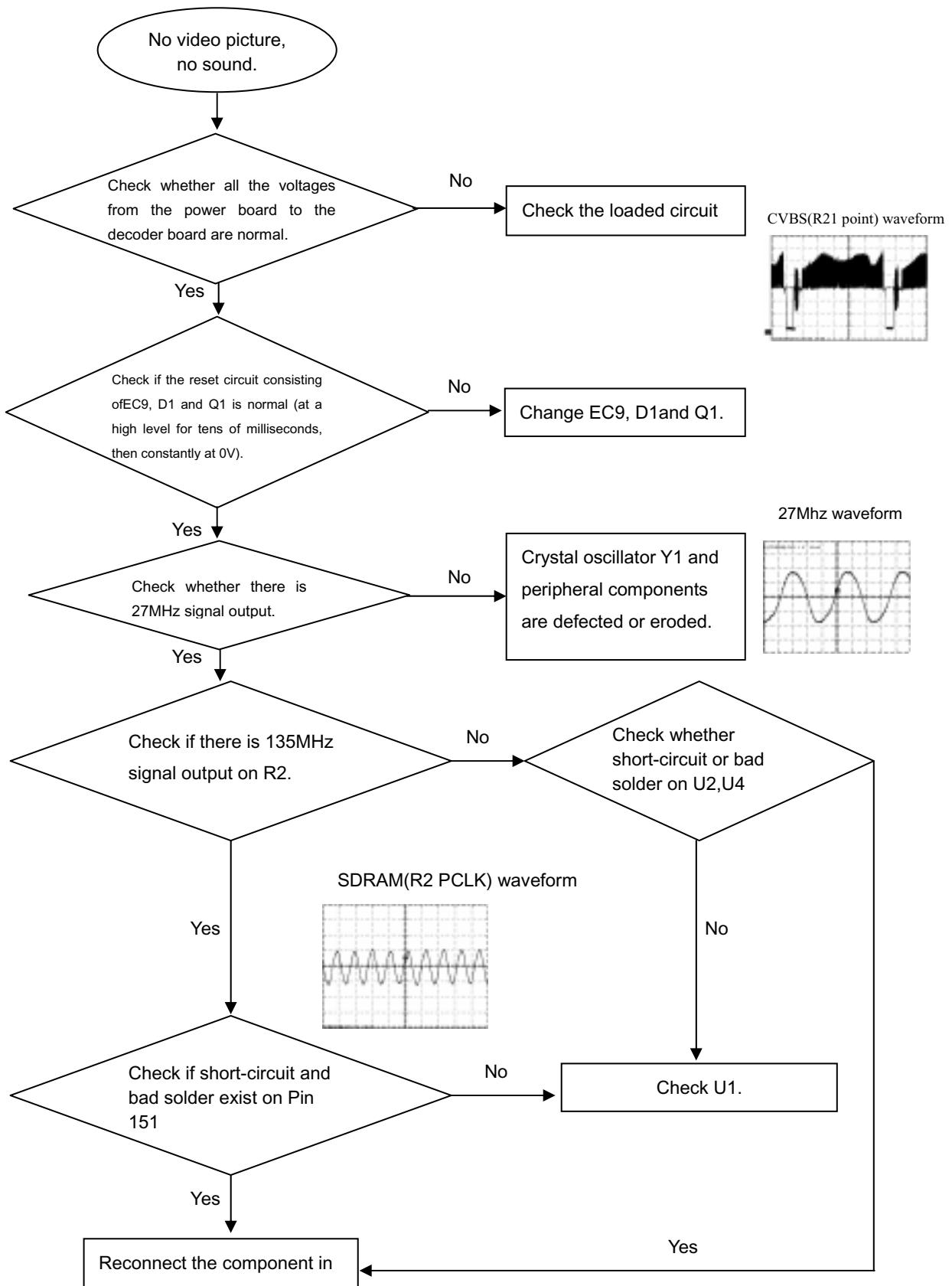
Remark: Trouble shooting chart for  
DVP3142(K)/XX

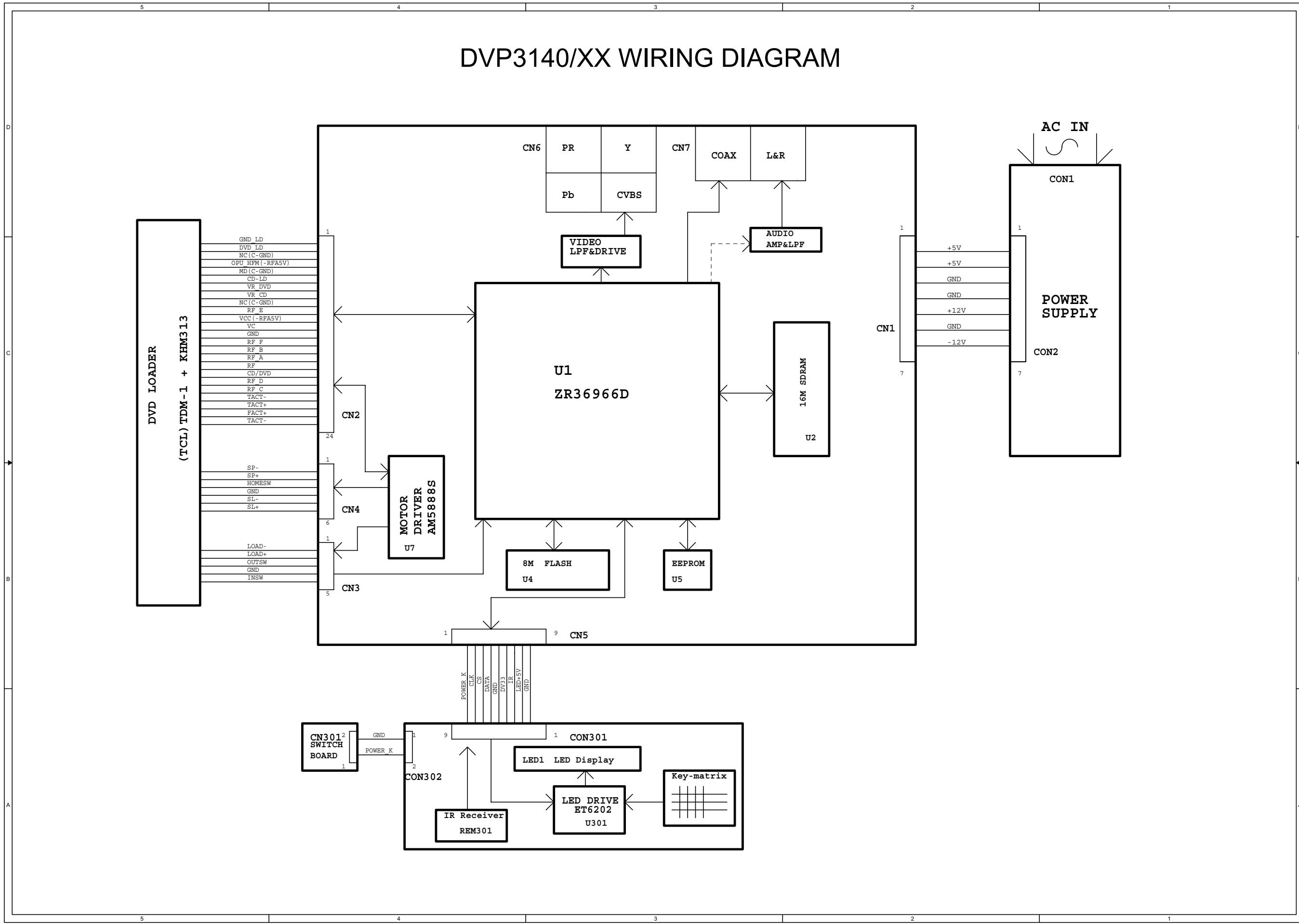


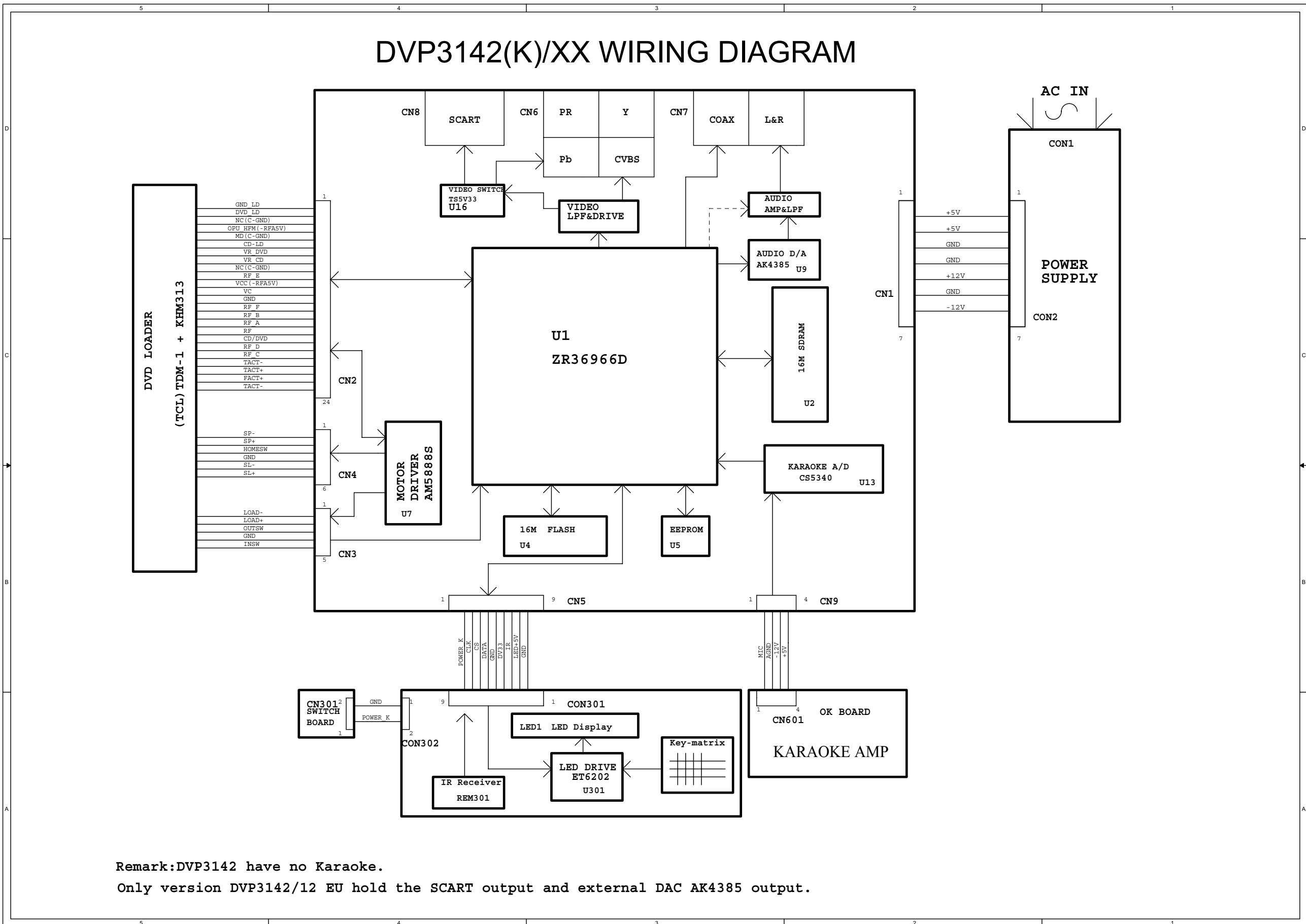
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**Remote reception is insensitive or fails.**

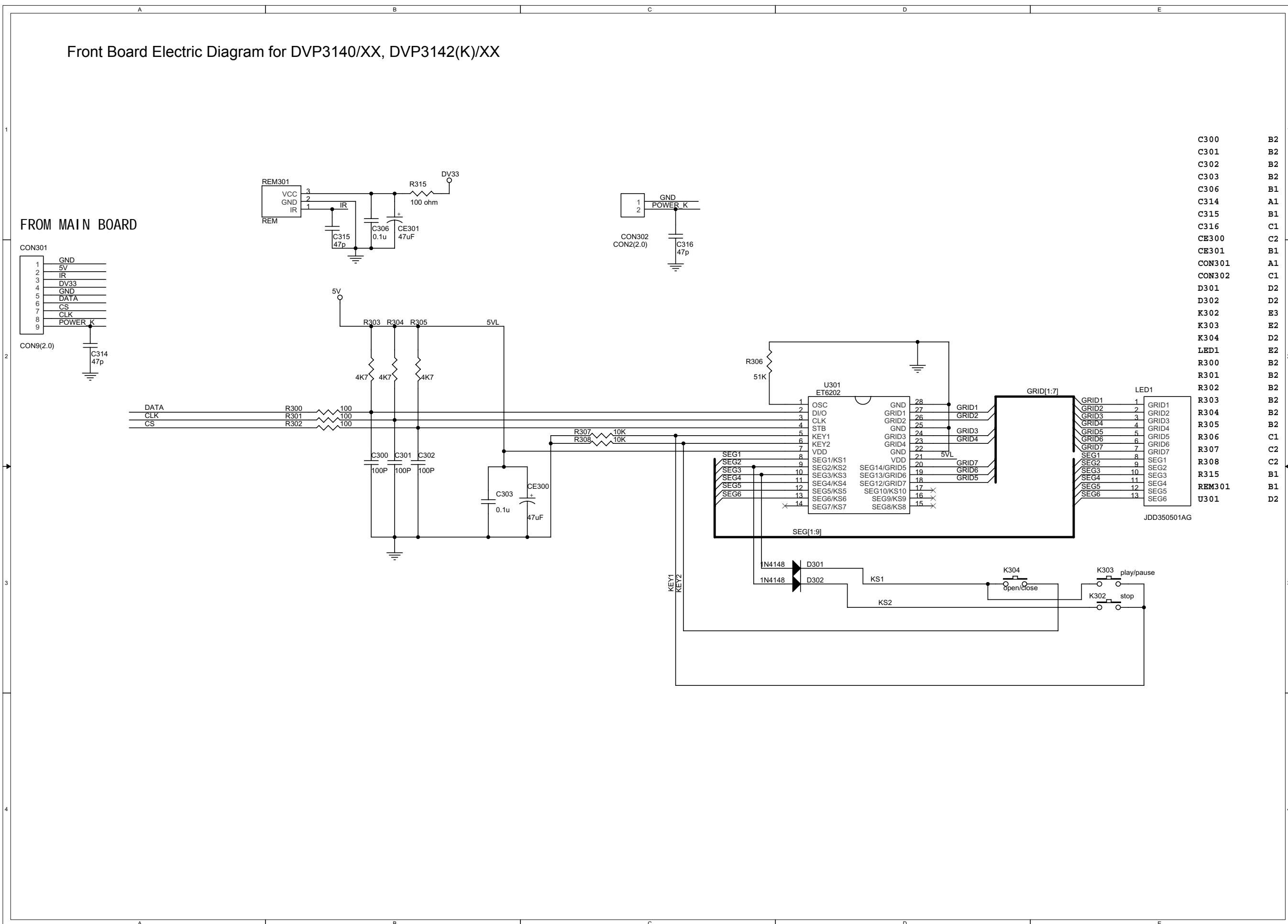
 Remark: Trouble shooting chart for  
DVP3142(K)/XX


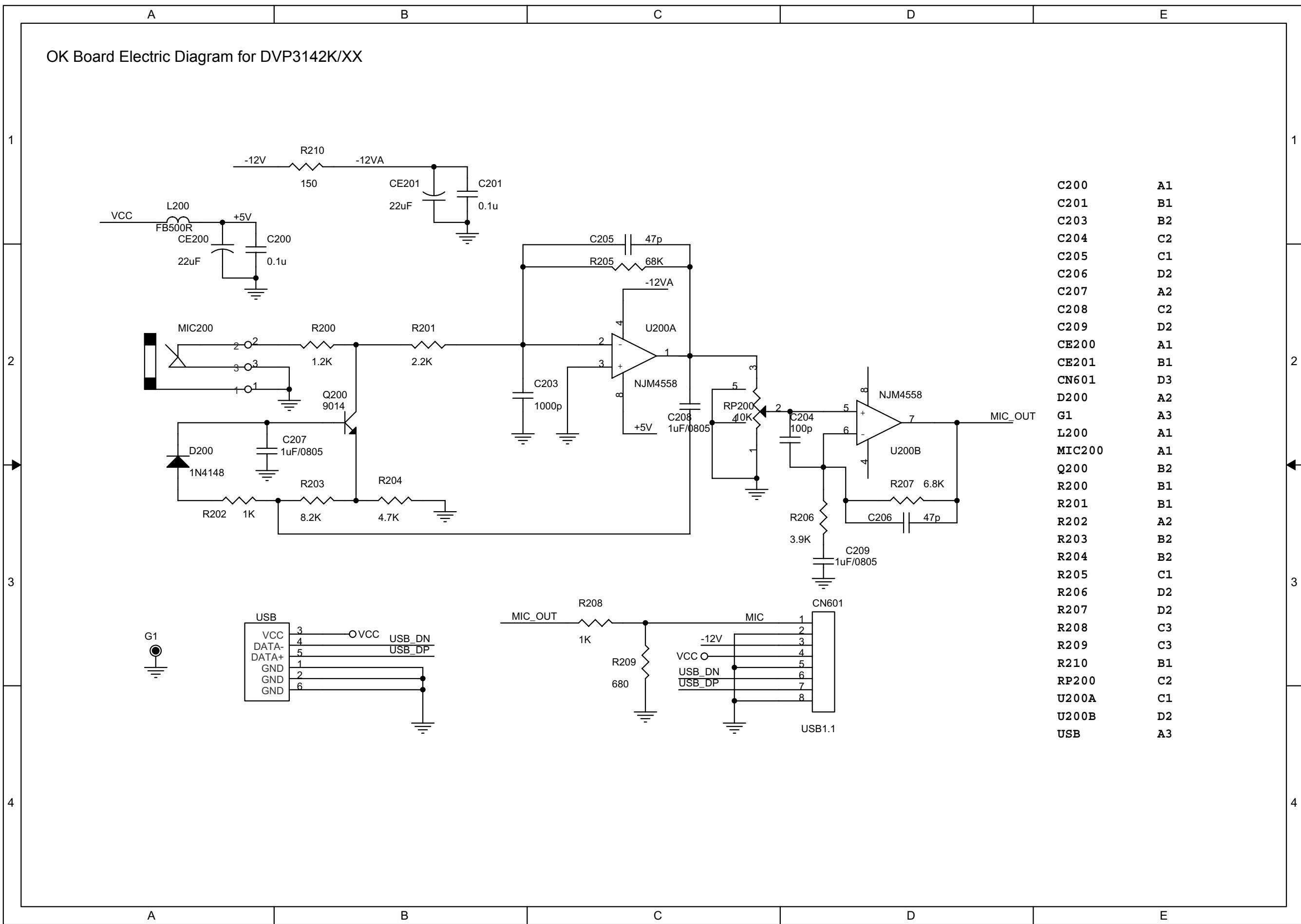
**No video picture, no sound.**Remark: Trouble shooting chart for  
DVP3142(K)/XX



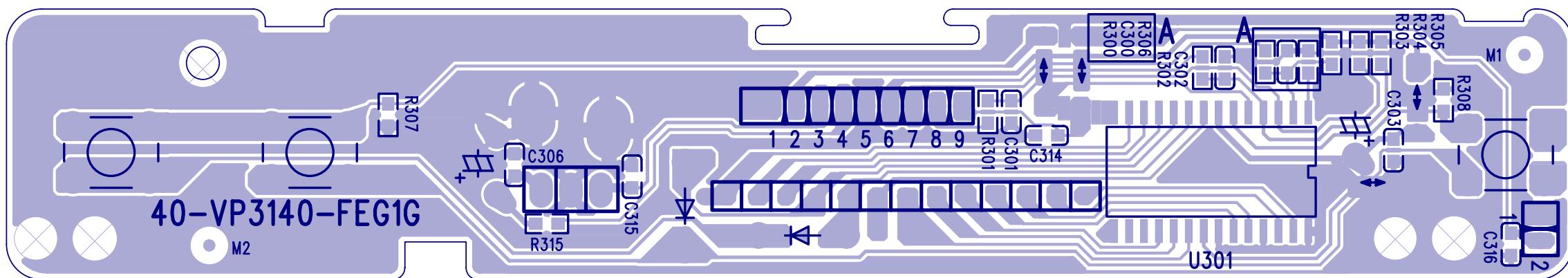


## Front Board Electric Diagram for DVP3140/XX, DVP3142(K)/XX

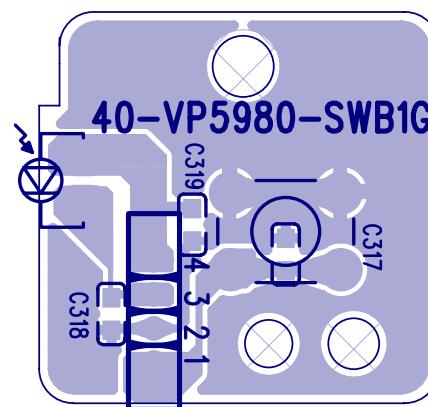




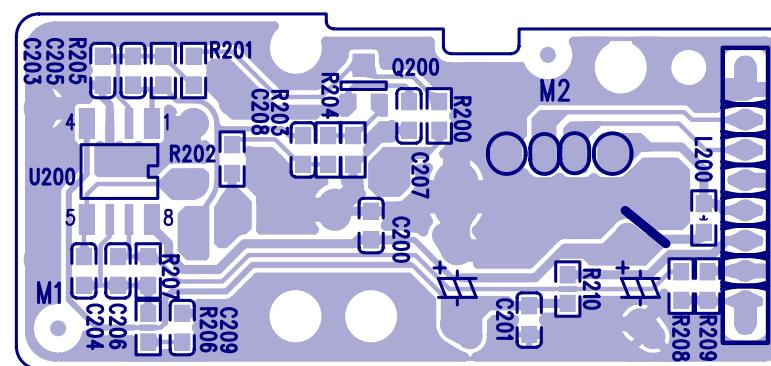
Front Board Print-Layout (Bottom Side) for DVP3140/XX, DVP3142(K)/XX

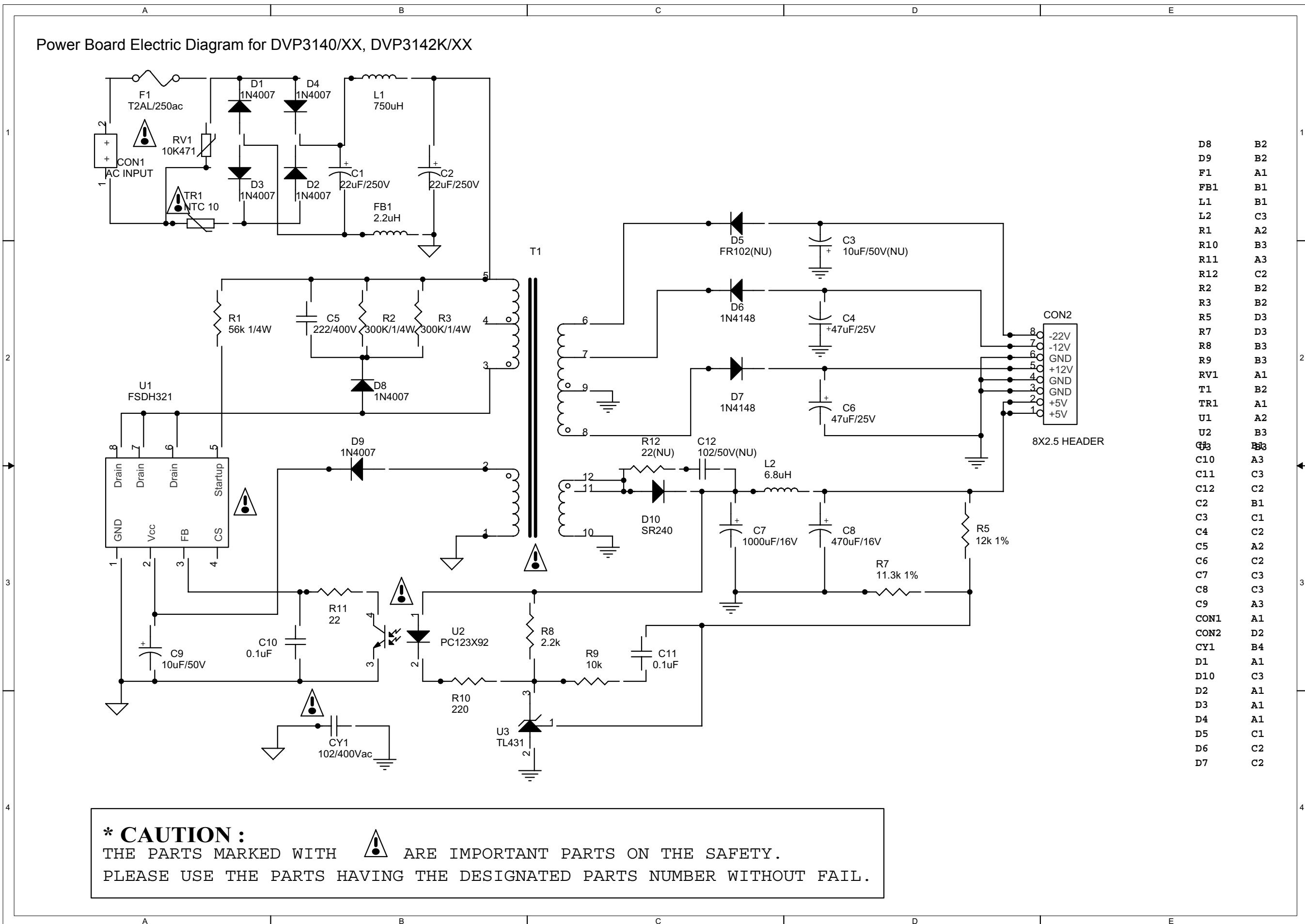


Switch Board Print-Layout (Bottom Side) for DVP3140/XX, DVP3142(K)/XX

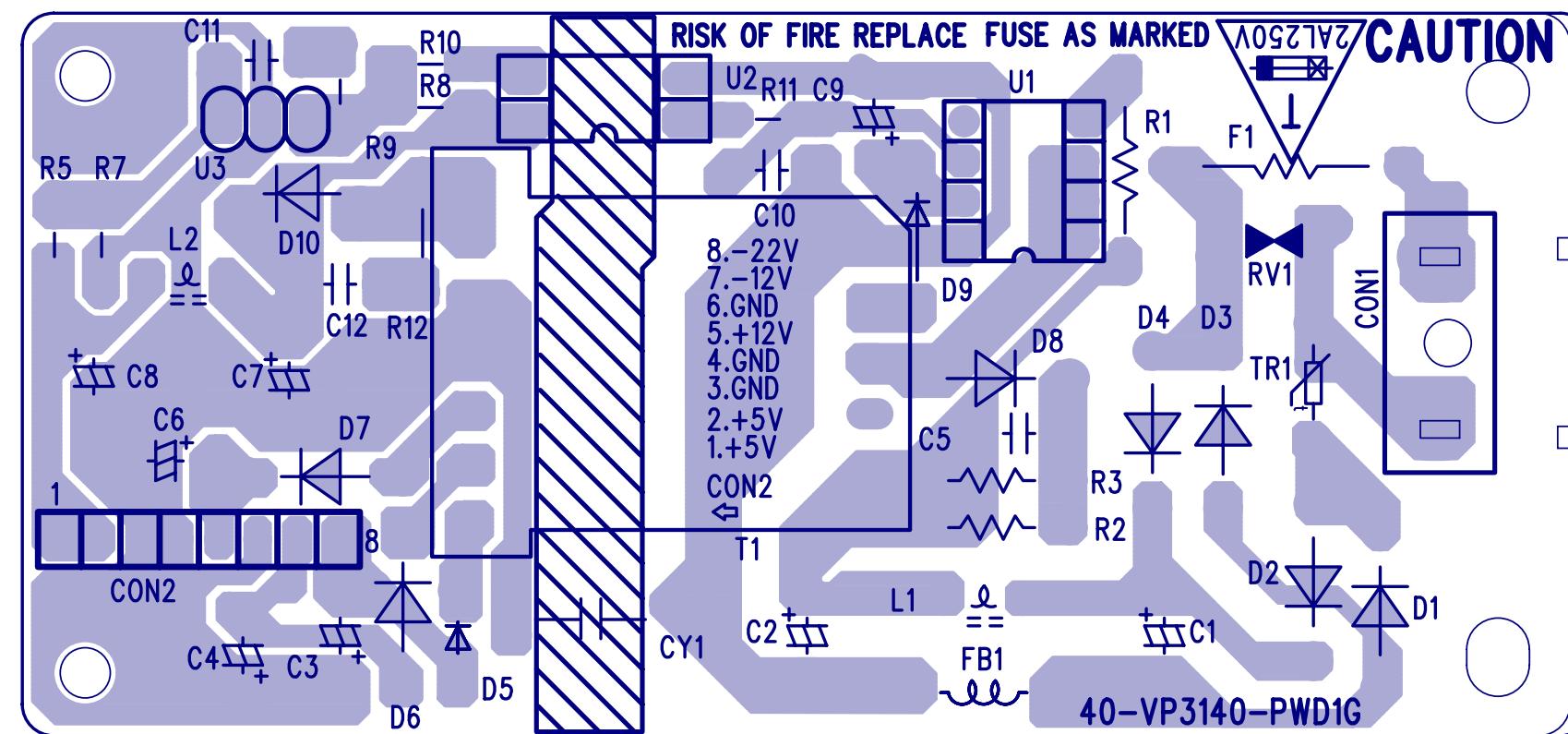


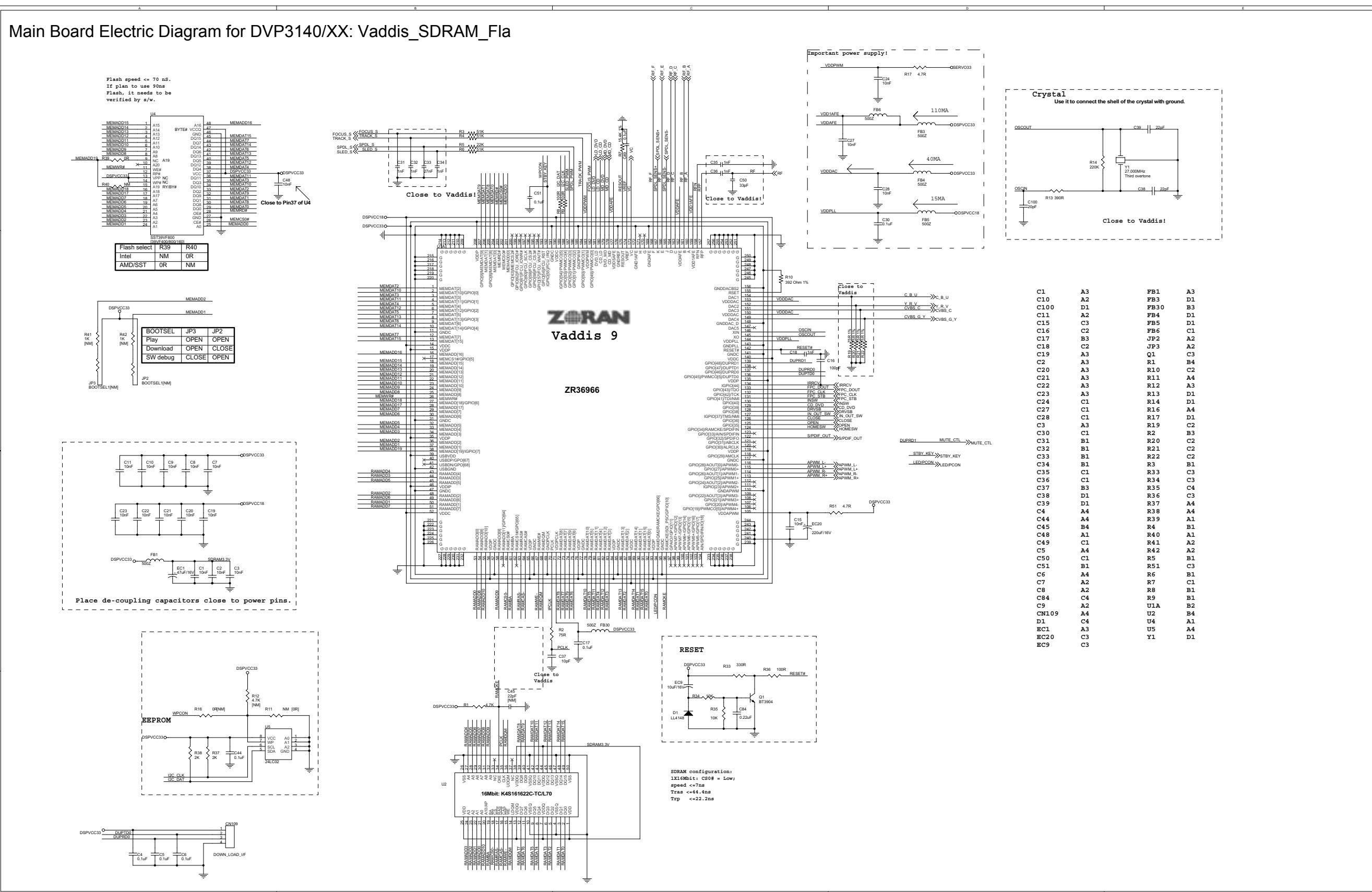
OK Board Print-Layout (Bottom Side) for DVP3142K/XX



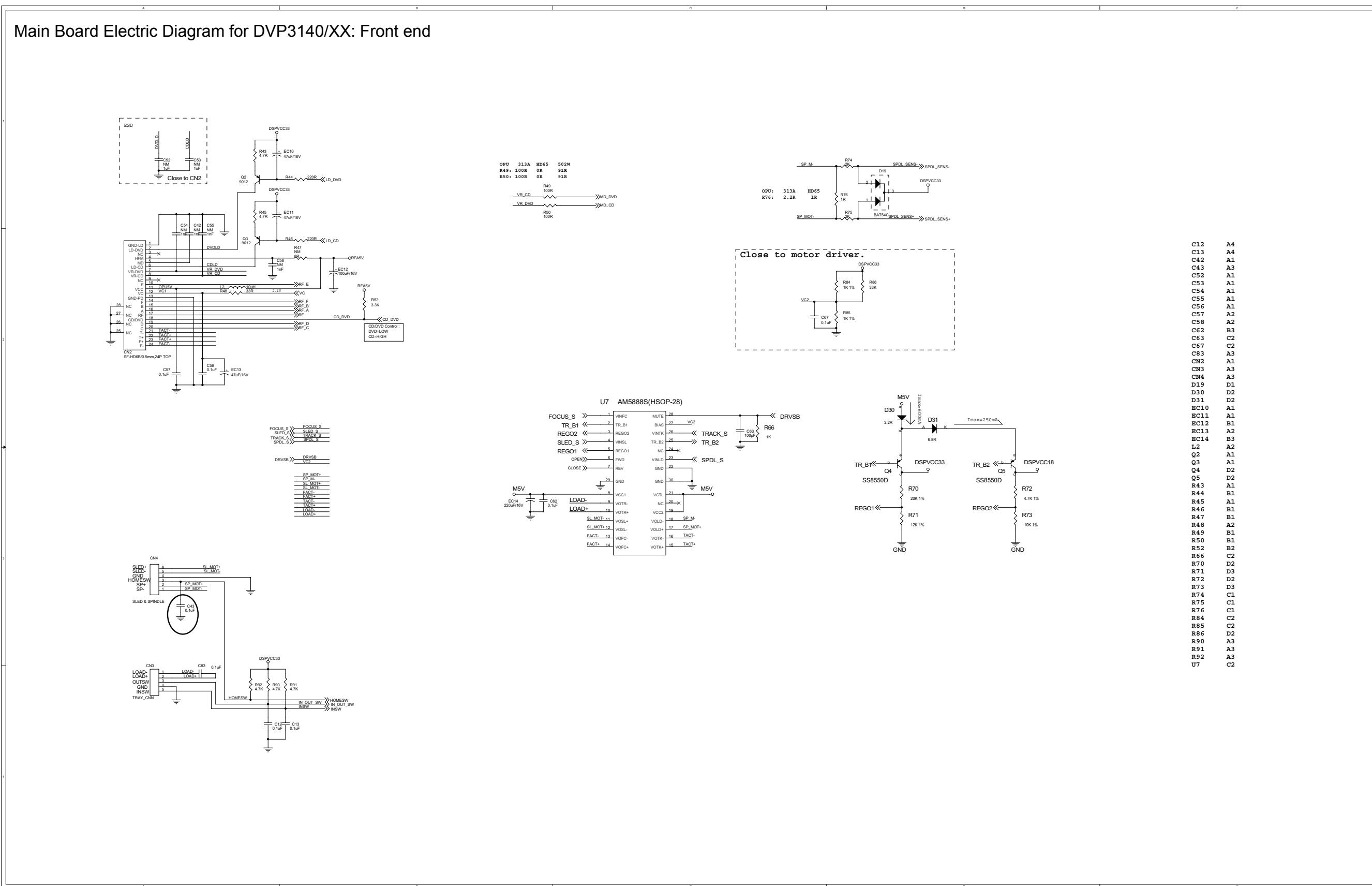


Power Board Print-Layout (Bottom Side) for DVP3140/XX, DVP3142(K)/XX

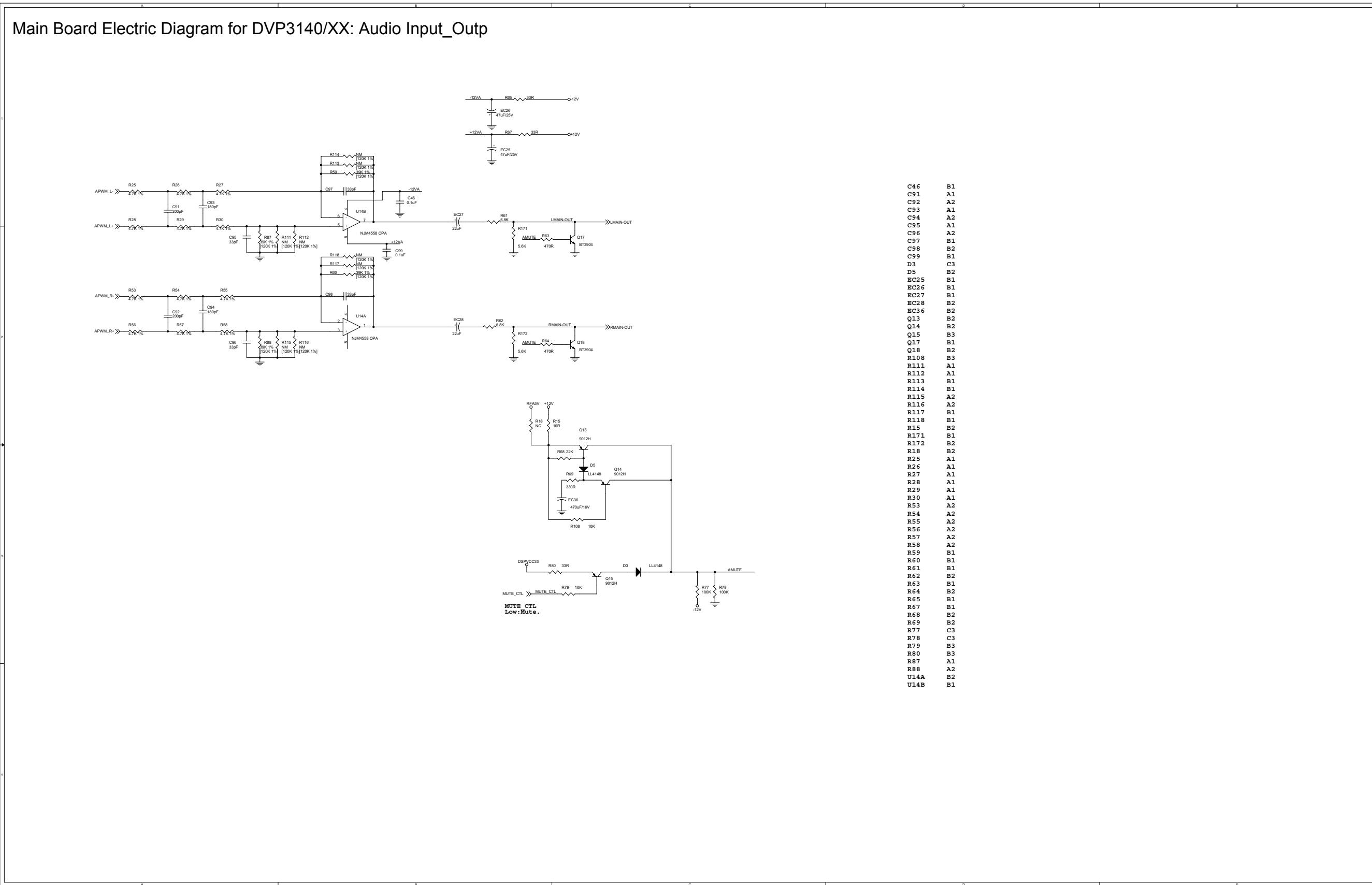


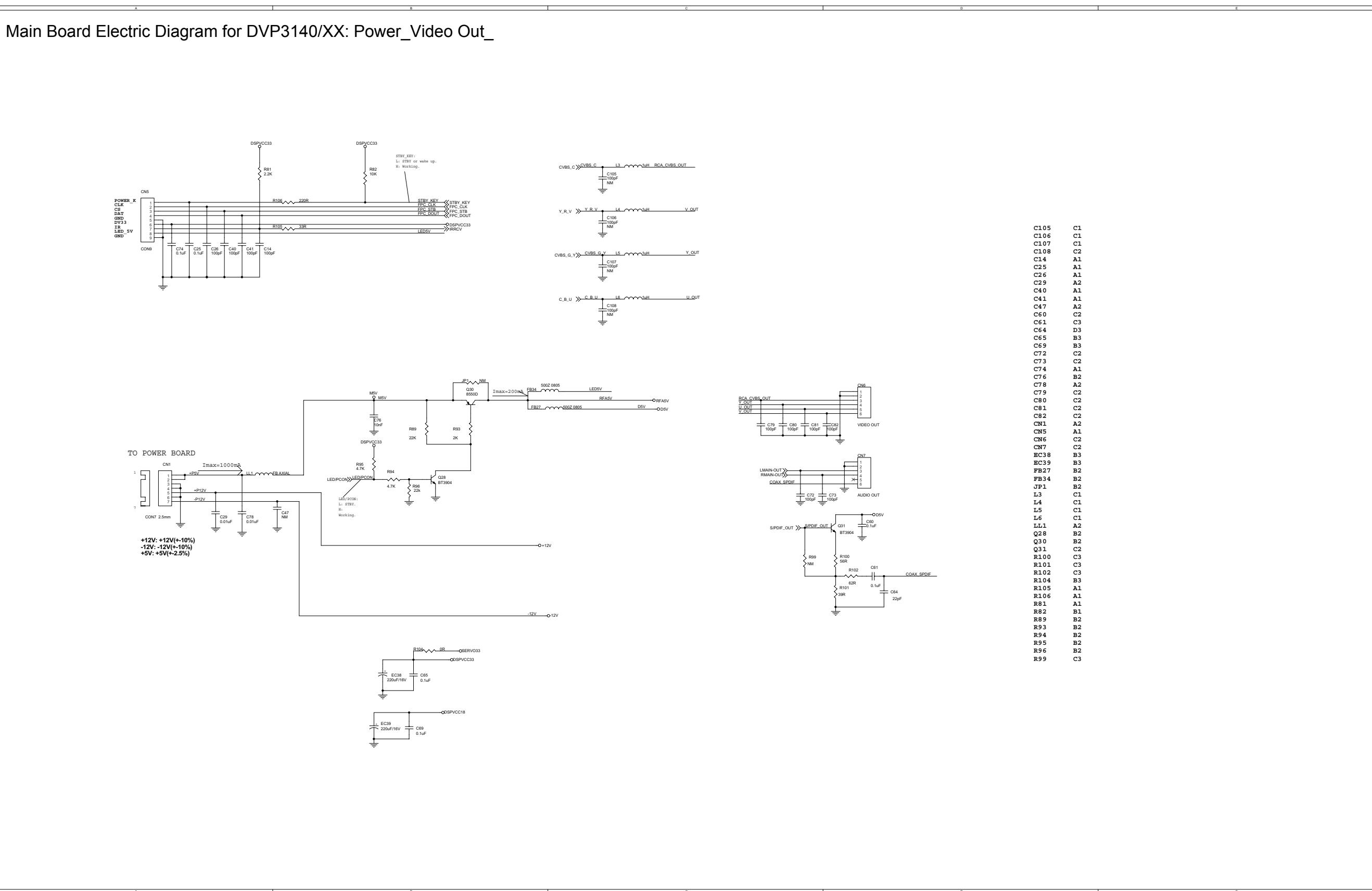


## Main Board Electric Diagram for DVP3140/XX: Front end

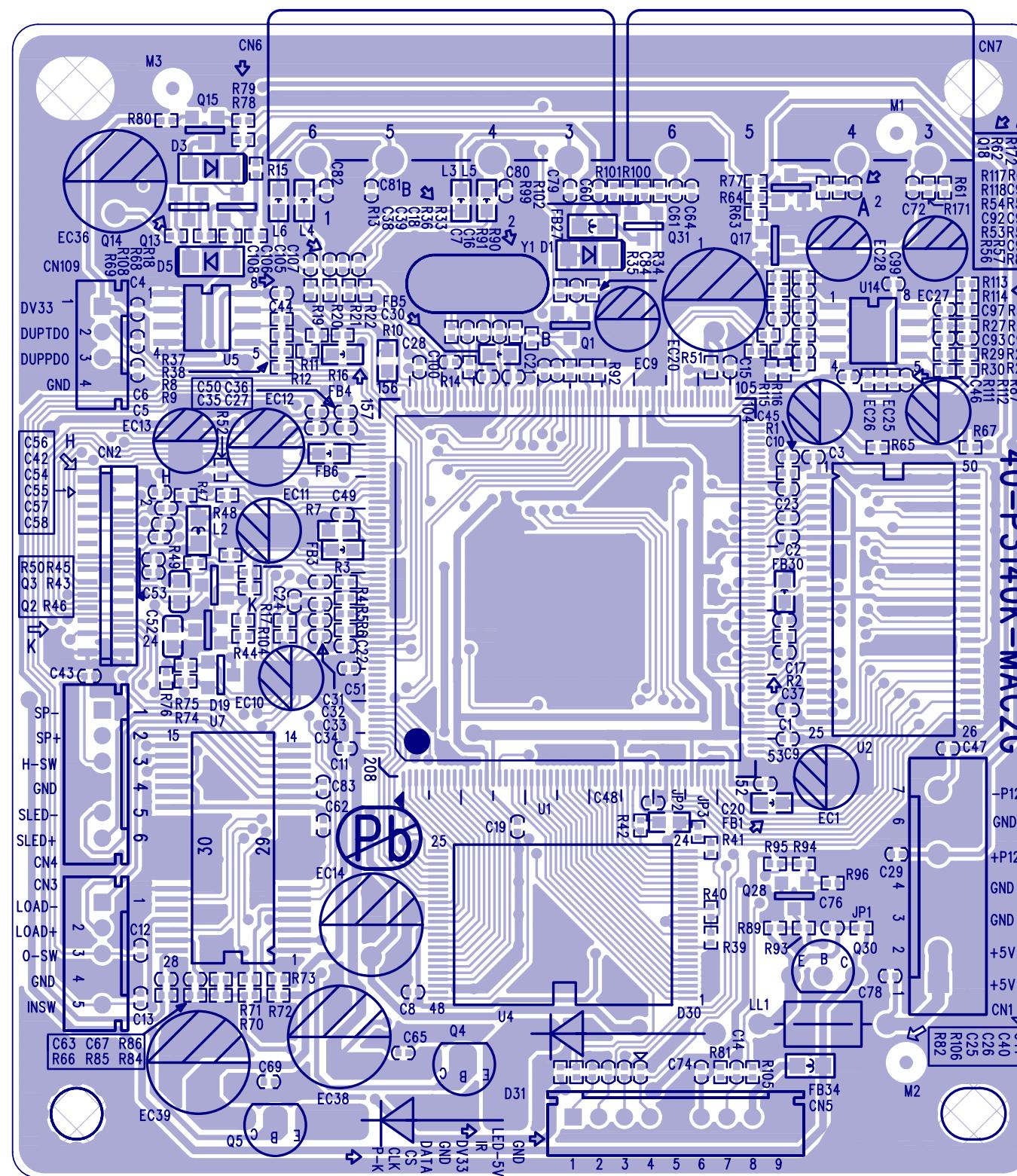


Main Board Electric Diagram for DVP3140/XX: Audio Input\_Outp

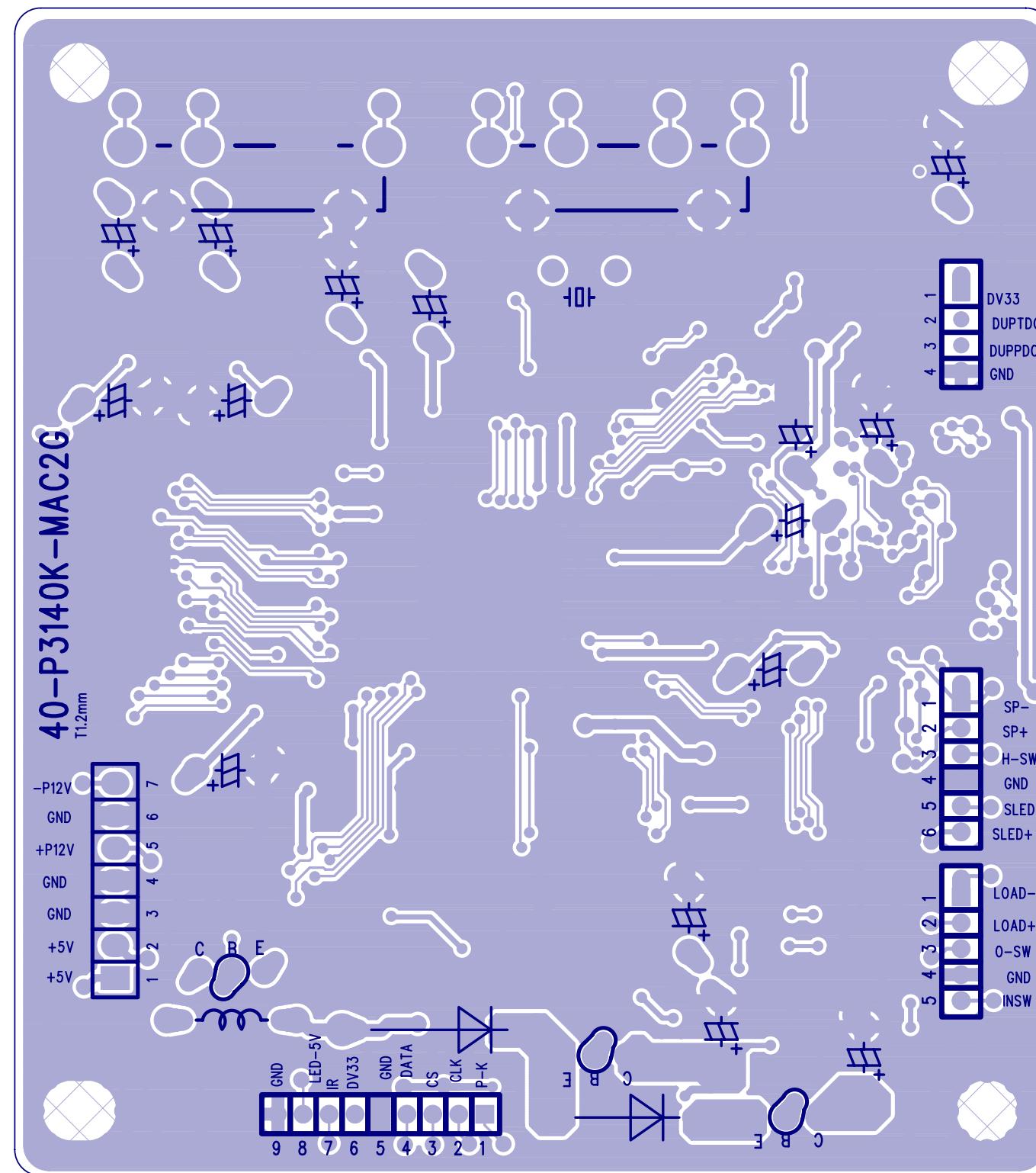


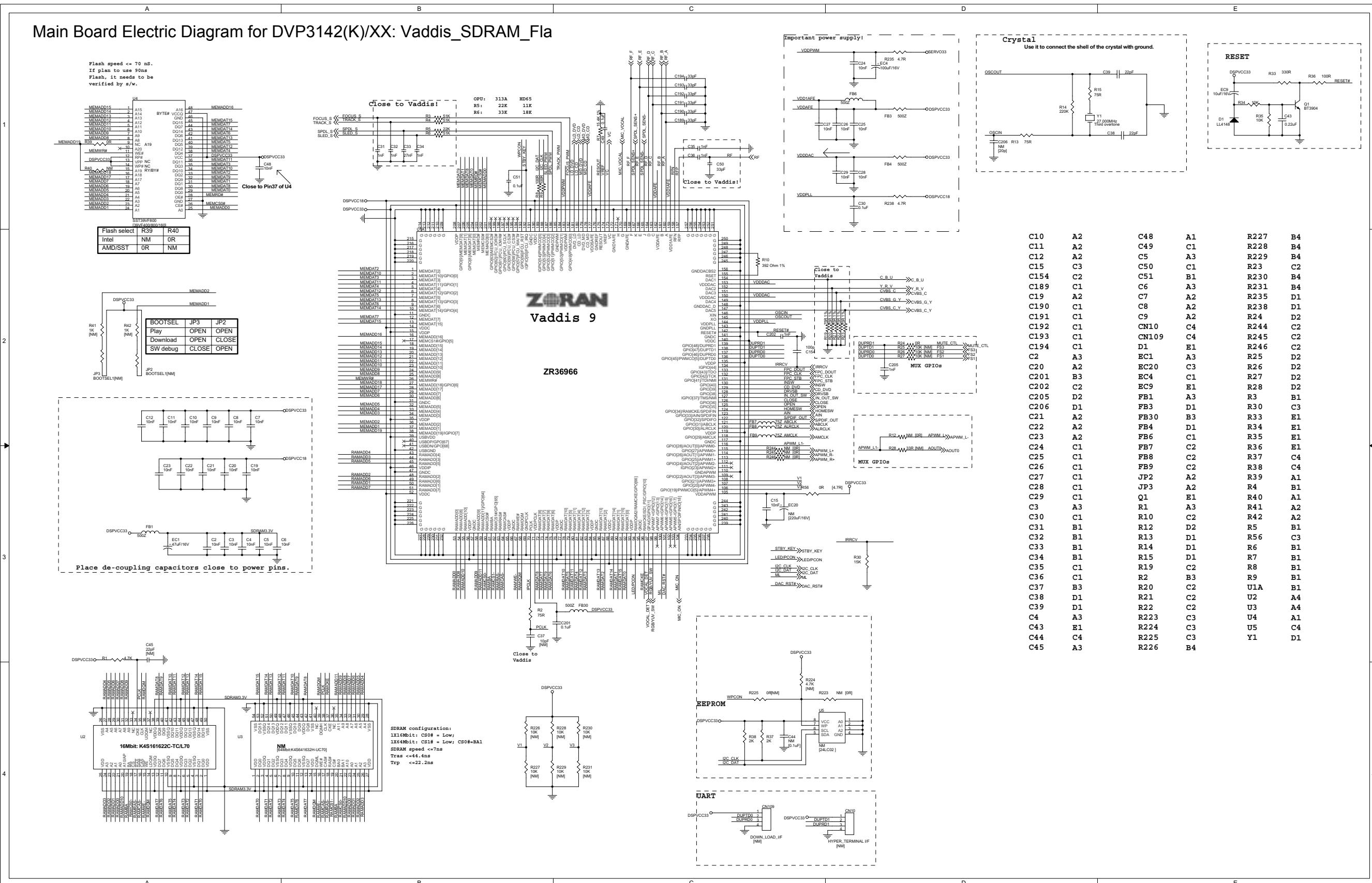


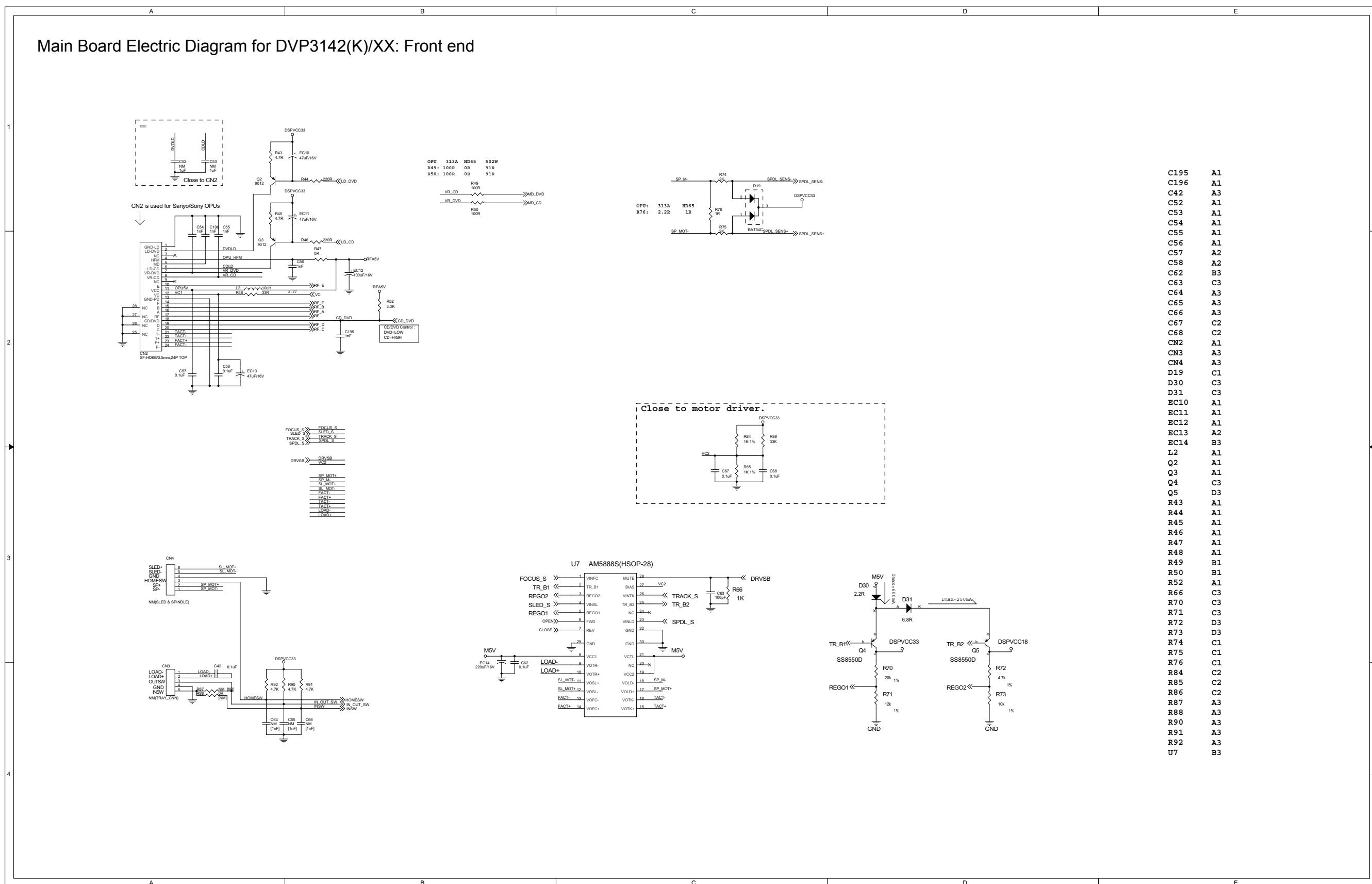
Main Board Print-Layout (Top Side) for DVP3140/XX

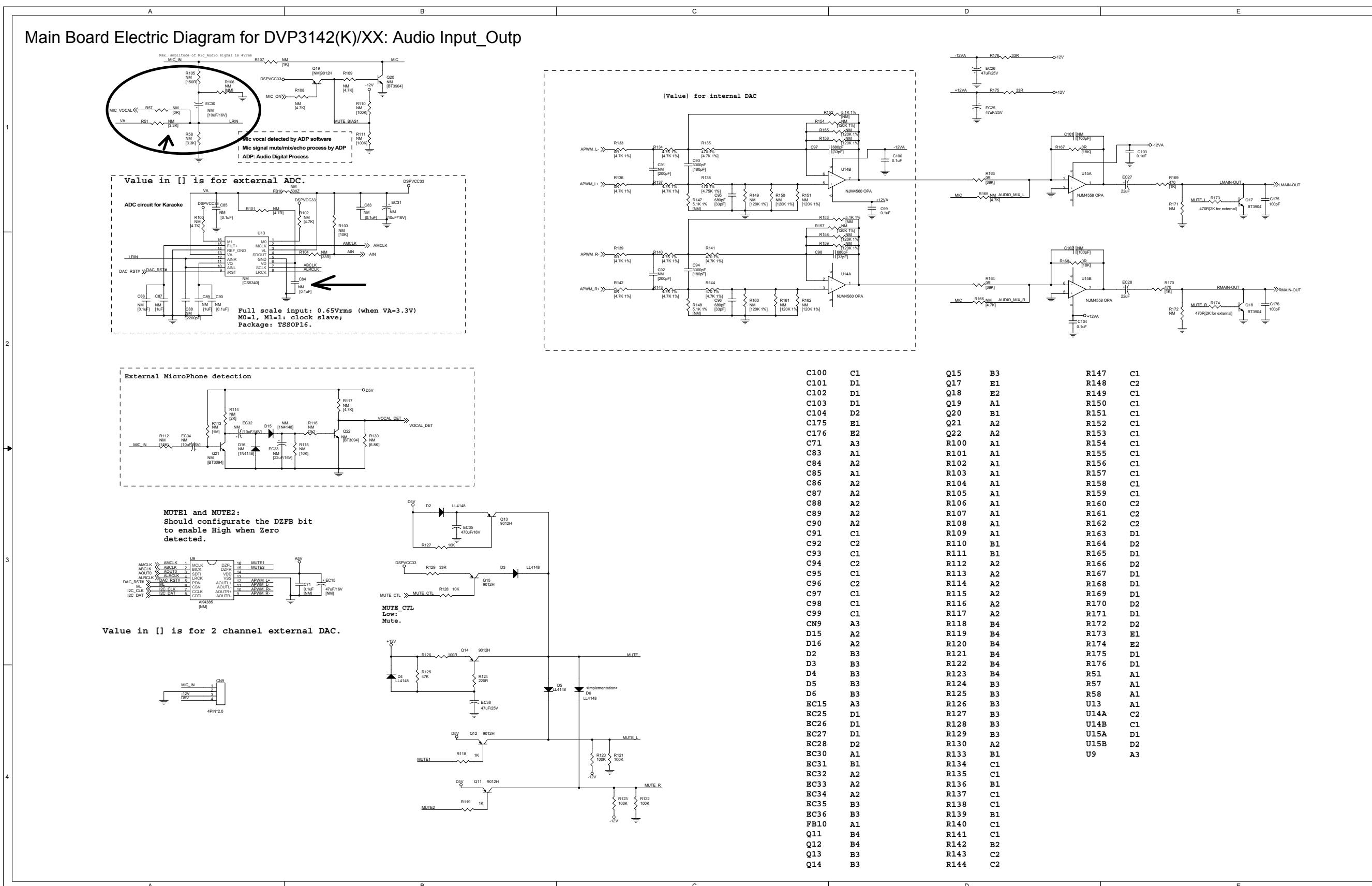


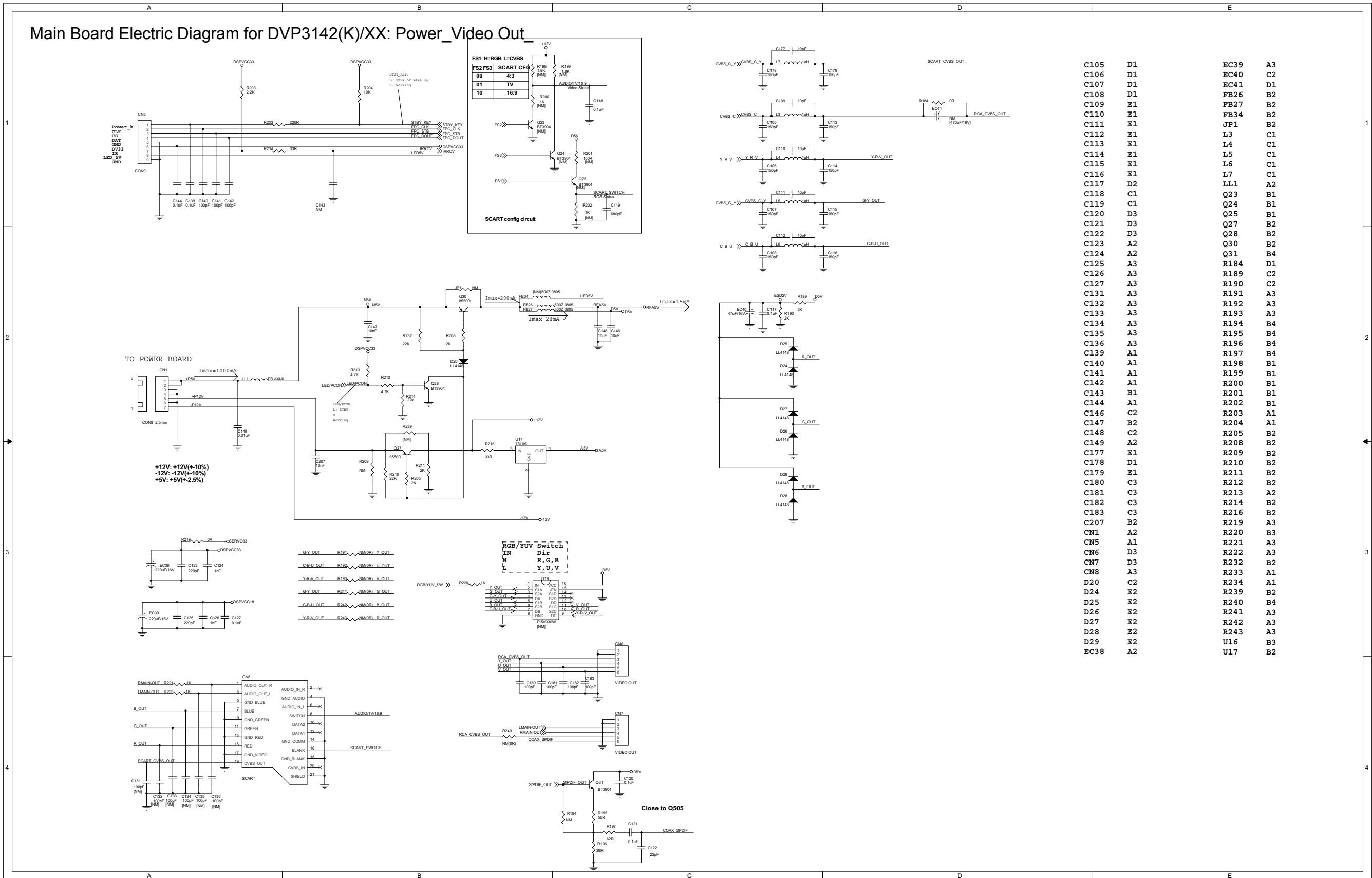
Main Board Print-Layout (Bottom Side) for DVP3140/XX



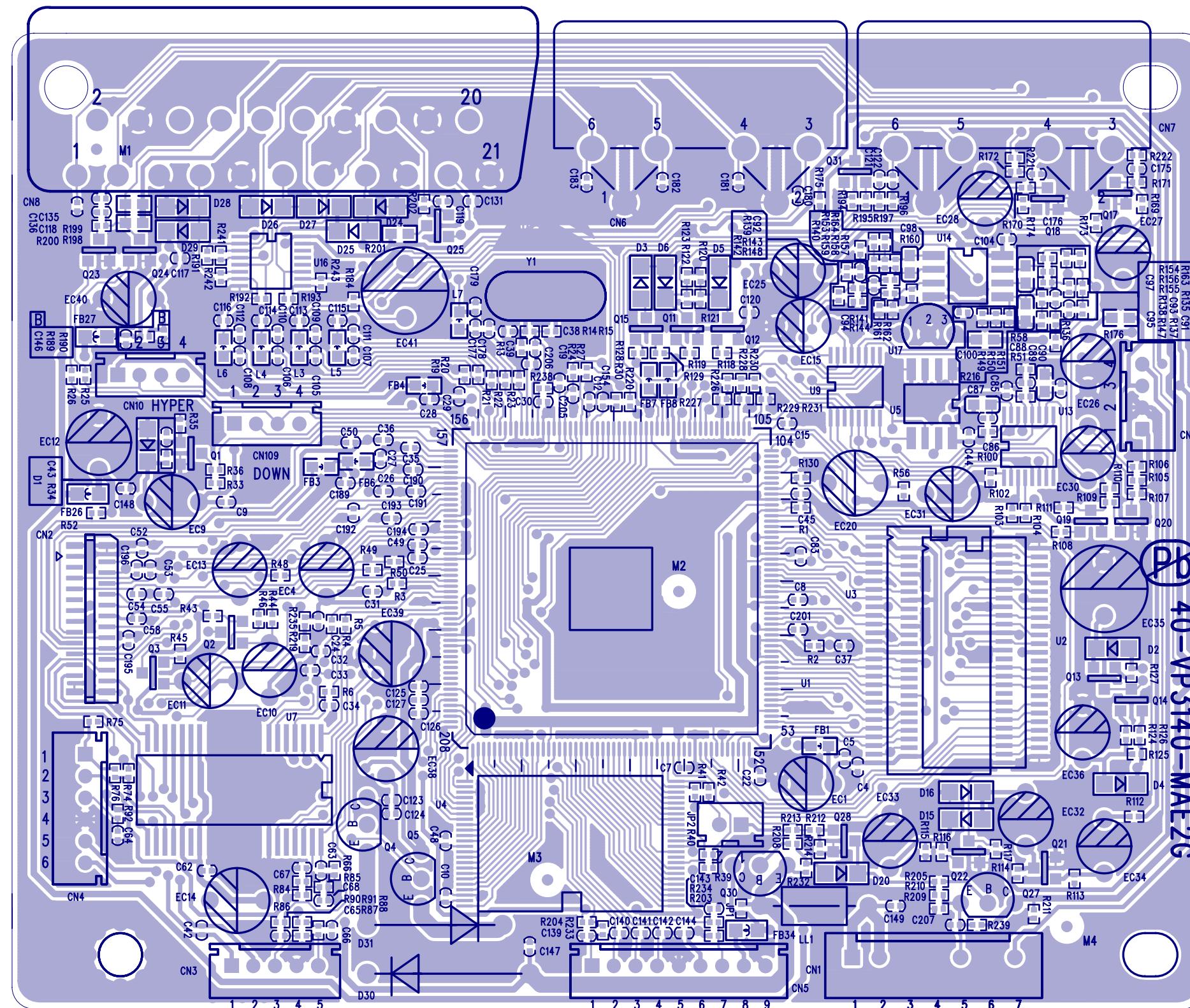




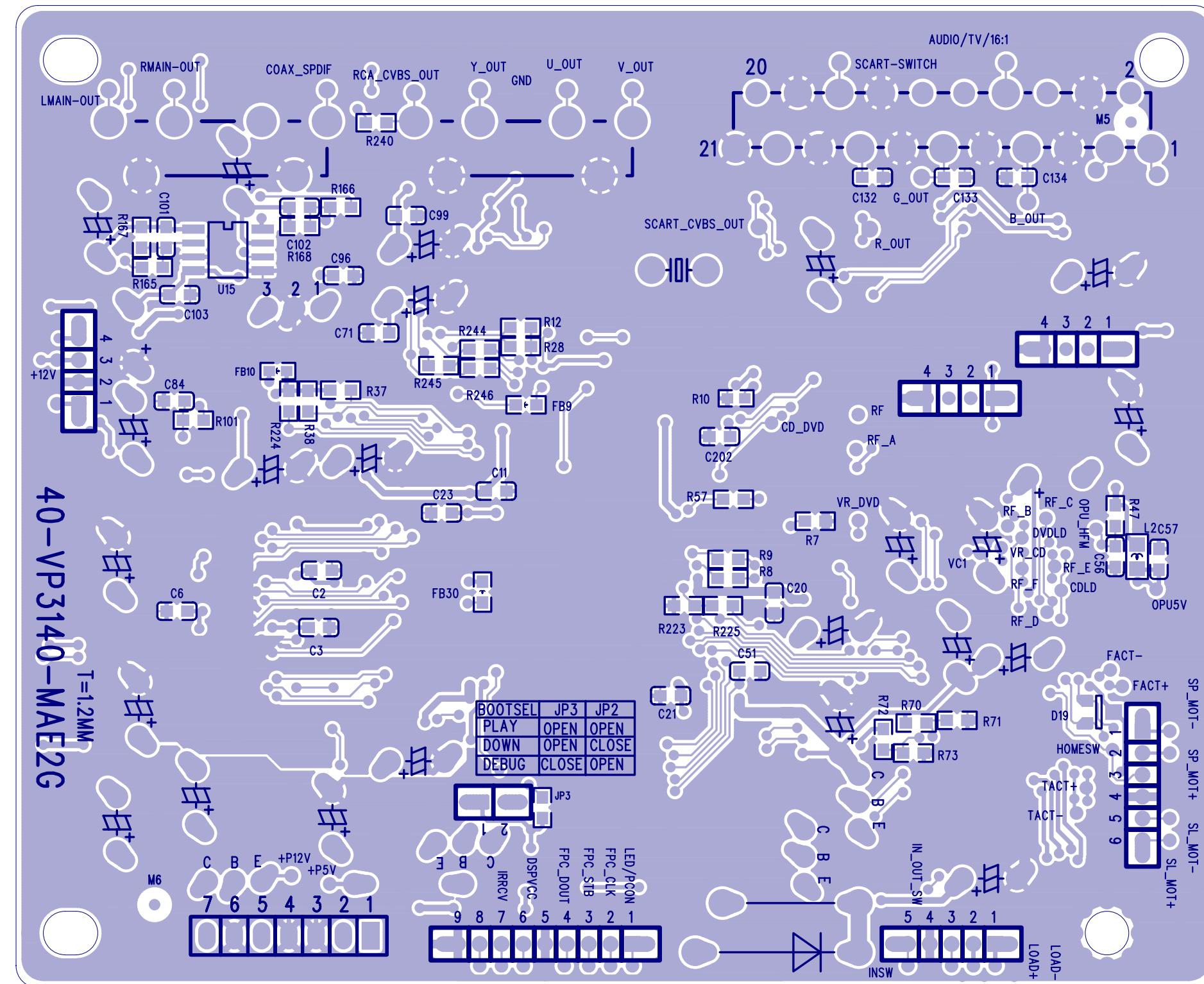




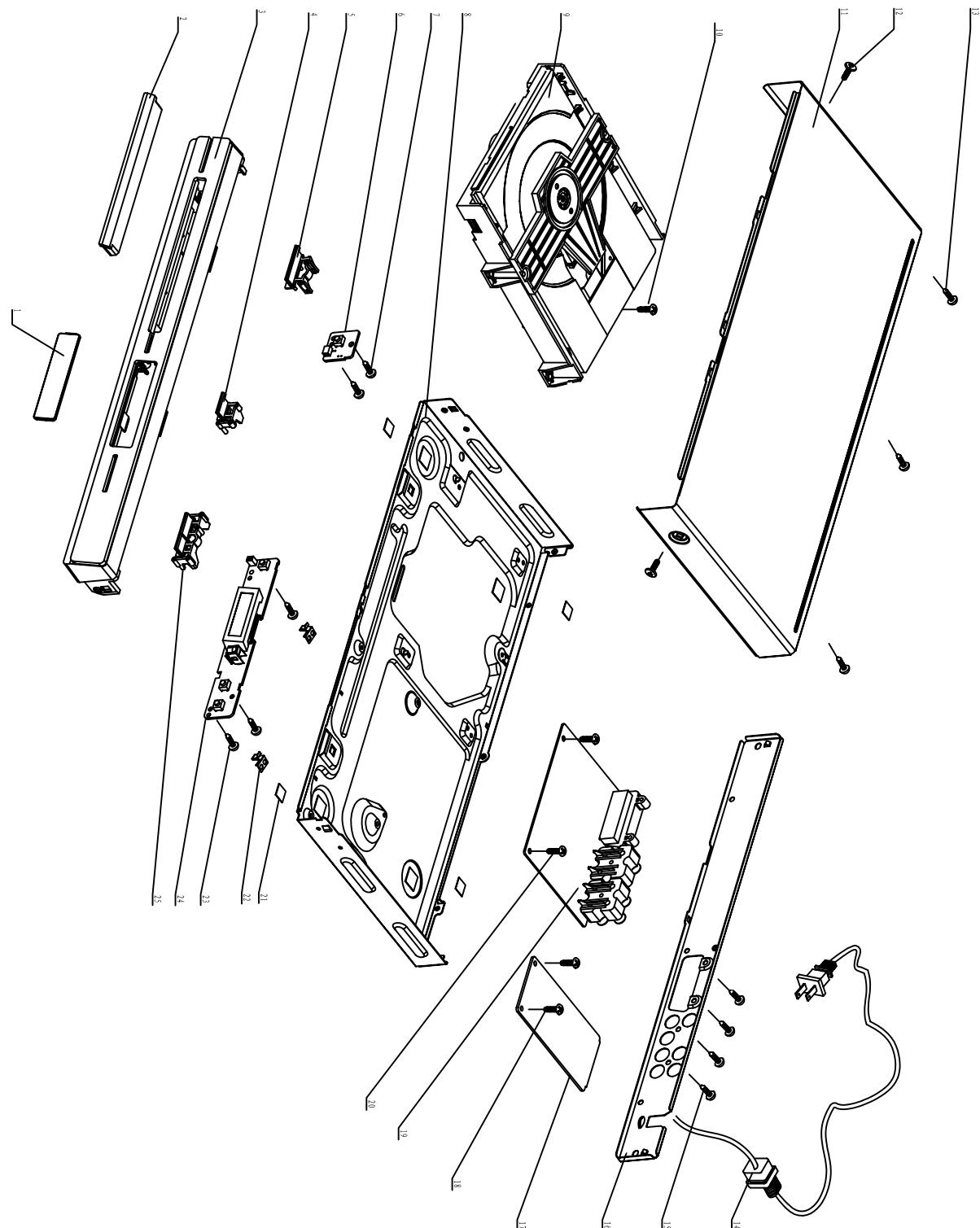
Main Board Print-Layout (Top Side) for DVP3142(K)/XX



Main Board Print-Layout (Bottom Side) for DVP3142(K)/XX



## DVP3140/XX,DVP3142/XX Mechanical Exploded View



Remark: It's a general Mechanical Exploded View for DVP3140/XX,DVP3142/XX, Detailed information please refer to Model set.

Ass'y1 is the assembled component for location1,3,4,5,25

**ENCASING & ACCESSORIES PARTS LIST**

No	12NC No.	Part Name	Q'ty
Ass'y1	996510001174	Front panel Ass'y	1
2	996510001173	Front door Ass'y	1
6	996510001163	Ass'y-Switch Board	1
8	996510001177	Bottom Cabinet	1
9	996510001166	Loader for DVP3142/51/55/12	1
	/	Loader for DVP3140/37	
11	996510001178	Top cover	1
	/	Power cord for DVP3142/5/12	
14	996510001175	Power cord for DVP3142/55	1
	/	Power cord for DVP3140/37	
	/	Rear Cabinet for DVP3142/51	
16	996510001176	Rear Cabinet for DVP3142/55	1
	/	Rear Cabinet for DVP3142/12	
	/	Rear Cabinet for DVP3140/37	
	/	A'ssy-Power Board for DVP3142/51/12	
17	996510001165	A'ssy-Power Board for DVP3142/55	1
	/	A'ssy-Power Board for DVP3140/37	
	996510001162	A'ssy-Main Board for DVP3142/51/55	
19	/	A'ssy-Main Board for DVP3142/12	1
	/	A'ssy-Main Board for DVP3140/37	
21	/	Pad	4
22	/	Earthing Plate	1
24	996510001164	A'ssy-Front Board	1

**SCREW LIST**

No	12NC No.	Part Name	Q'ty
7	/	S/T Screw B 2.6 X 8 BF	2
10	/	Machine Screw	4
12	/	M/C Screw Triangle W 3 X 6	2
13	/	Triangle M/C Screw B 3 X 6	3
15	/	Triangle M/C Screw B 3 X 6	2
18	/	Triangle M/C Screw B 3 X 6	3
20	/	Triangle M/C Screw B 3 X 6	3
23	/	S/T Screw B 2.6 X 8 BF	2
24	/	S/T Screw B 2.6 X 8 BF	2

**Accessory**

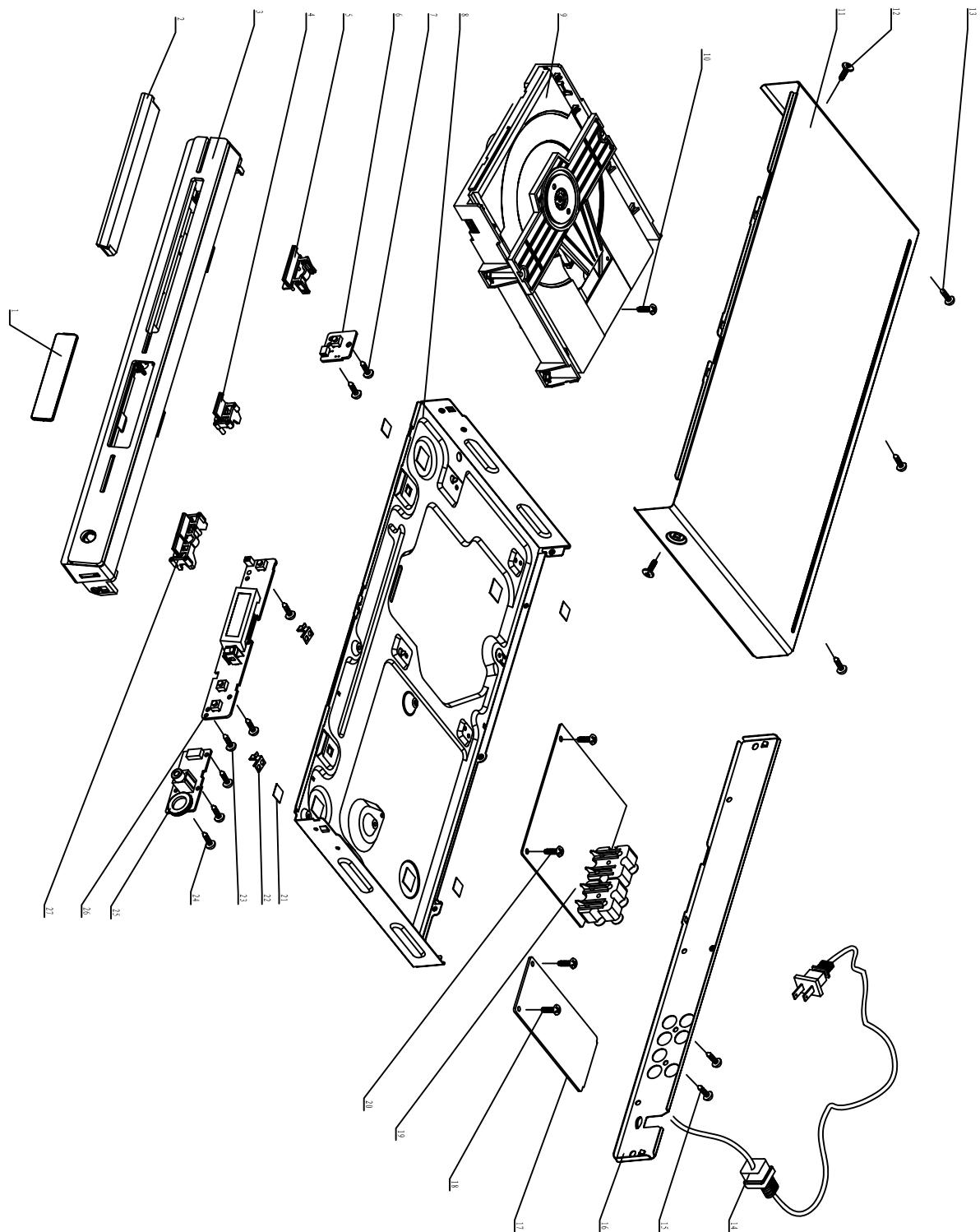
RC	996500034176	REMOTE CONTROL	1
AV	996510001106	AUDIO/VIDEO CABLE 1500mm	1

**Cable**

CN3	996510001167	HS 5P 20080#26 110mm PH-5Y*2	1
CN2	996510001168	CONNECTOR 24PIN HS	1
CN1	996510001169	TJC3-7Y/SCN-7P L=80MM	1
CN4	996510001170	CONNECTOR 6PIN	1
CON302	996510001171	2P HS CONNECTOR 2P	1
CON301	996510001172	CONNECTOR 9PIN	1

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

## DVP3142K/XX Mechanical Exploded View



Remark: It's a general Mechanical Exploded View for DVP3142K/XX, Detailed information please refer to Model set.

Ass'y1 is the assembled component for location1,3,4,5,27

<b>ENCASING &amp; ACCESSORIES PARTS LIST</b>				<b>SCREW LIST</b>			
No	12NC No.	Part Name	Q'ty	No	12NC No.	Part Name	Q'ty
Ass'y1	996510001186	Front panel Ass'y	1	7	/	S/T Screw B 2.6 X 8 BF	2
2	996510001185	Front door Ass'y	1	10	/	Machine Screw	4
6	996510001163	Ass'y-Switch Board	1	12	/	M/C Screw Triangle W 3 X 6	2
8	996510001177	Bottom Cabinet	1	13	/	Triangle M/C Screw B 3 X 6	3
9	996510001166	Loader	1	15	/	Triangle M/C Screw B 3 X 6	2
11	996510001178	Top cover	1	18	/	Triangle M/C Screw B 3 X 6	2
14	996510001175	Power cord	1	20	/	Triangle M/C Screw B 3 X 6	2
16	996510001176	Rear Cabinet	1	23	/	S/T Screw B 2.6 X 8 BF	3
17	996510001182	A'ssy-Power Board	1	24	/	S/T Screw B 2.6 X 8 BF	3
19	996510001181	A'ssy-Main Board	1				
21	/	Pad	4				
22	/	Earthing Plate	1				
25	996510001183	A'ssy-OK Board	1				
26	996510001164	A'ssy-Front Board	1				
<hr/>							
<b>Accessory</b>							
RC	996500034181	REMOTE CONTROL	1				
AV	996510001106	VIDEO CABLE 1500mm	1				
<b>Cable</b>							
CN3	996510001167	HS 5P 20080#26 110mm PH-5Y*2	1				
CN2	996510001168	CONNECTOR 24PIN HS	1				
CN1	996510001169	TJC3-7Y/SCN-7P L=80MM	1				
CN4	996510001170	CONNECTOR 6PIN HS	1				
CON302	996510001171	2P HS CONNECTOR 2P	1				
CON301	996510001172	HS 9PIN CONNECTOR	1				
CN601	996510001184	4P HS CONNECTOR 4PIN	1				

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 transmitte or forward it to others.