

Service

DVP5980/05/12

DVP5980K/55/75

DVP5982/37

DVP5986K/51/93/96/98

Service



Service Manual

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Version 1.0

**CLASS 1
LASER PRODUCT**



3139 785 324XX

PHILIPS

Technical Specifications

TV standard	(PAL/50Hz)	(NTSC/60Hz)	Audio performance
Number of lines	625	525	DA converter 24bits, 192KHz
Playback	Multi standard	(PAL/NTSC)	DVD fs 96kHz 4Hz---44kHz fs 48kHz 4Hz---22kHz
Video performance			
Video DAC	12 bit, 108MHz		SVCD fs 48kHz 4Hz---22kHz fs 44.1kHz 4Hz---20kHz
YPbPr	0.7Vpp ---- 75 ohm		CD/ VCD fs 44.1kHz 4Hz---20kHz
Video output	1Vpp ---- 75 ohm		Signal-Noise (1kHz) >90dB
RGB (SCART)	0.7Vpp ---- 75 ohm (For Version 05/12)		Dynamic Range (1kHz) >80dB
			Cross talk (1kHz) >80dB
			Distortion/Noise (1kHz) >80dB
			MPEG MP3 MPEG Audio L3
Video format			
Digital Compression	MPEG 2 for DVD,SVCD		Connections
	MPEG 1 for VCD		Scart Output Euroconnector (For Europe version)
	DivX®		YPbPr output Cinch 3x
DVD	50Hz	60Hz	Video output Cinch(yellow)
Horiz. resolution	720 pixels	720 pixels	Audio output (L+R) Cinch (white/red)
Vertical resolution	576lines	480 lines	Digital output 1 coaxial
VCD	50Hz	60Hz	IEC60958 for CDDA/ LPCM
Horiz. resolution	352 pixels	352 pixels	IEC61937 for MPEG1/2,
Vertical resolution	288lines	240 lines	Dolby Digital
Audio format			
Digital	MPEG/AC-3/ PCM	Compressed Digital 16, 20, 24bits fs, 44.1, 48, 96kHz	6 Channal analog ouput (For DVP5986K)
MP3(ISO 9660)		96,112,128,256kbps & variable bit rate fs,32, 44.1,48 kHz	Audio Front L/R Cinch(White/Red)
			Audio Rear L/R Cinch(White/Red)
			Audio Center Cinch(Blue)
			Audio Subwoofer Cinch(Black)
			HDMI Out
Cabinet			
		Dimensions (w X h X d)	435 x 38 x 210 mm
		Weight	Approximately 2 kg
Power consumption			
		Power supply Rating	110V-240V; 50/60HZ
		Power consumption	<12W
		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 $1M\Omega$.
 - 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 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

IDENTIFICATION:

Regardless of special logo (not always indicated) 

One must treat all sets from **1.1.2005** onwards, according next rules.

Important note: *In fact also products a little older can also be treated in this way as long as you avoid mixing solder-alloys (leaded/ lead-free). So best to always use SAC305 and the higher temperatures belong to this.*

Due to lead-free technology some rules have to be respected by the workshop during a repair:

- Use only lead-free solder alloy Philips SAC305 with order code 0622 149 00106. If lead-free solder-paste is required, please contact the manufacturer of your solder-equipment. In general use of solder-paste within workshops should be avoided because paste is not easy to store and to handle.
- Use only adequate solder tools applicable for lead-free solder alloy. The solder tool must be able
 - To reach at least a solder-temperature of 400°C,
 - To stabilize the adjusted temperature at the solder-tip
 - To exchange solder-tips for different applications.
- Adjust your solder tool so that a temperature around 360°C – 380°C is reached and stabilized at the solder joint. Heating-time of the solder-joint should not exceed ~ 4 sec. Avoid temperatures above 400°C otherwise wear-out of tips will rise drastically and flux-fluid will be destroyed. To avoid wear-out of tips switch off un-used equipment, or reduce heat.
- Mix of lead-free solder alloy / parts with leaded solder alloy / parts is possible but PHILIPS recommends strongly to avoid mixed solder alloy types (leaded and lead-free). If one cannot avoid, clean carefully the solder-joint from old solder alloy and re-solder with new solder alloy (SAC305).

- Use only original spare-parts listed in the Service-Manuals. Not listed standard-material (commodities) has to be purchased at external companies.

- **Special information for BGA-ICs:**

- always use the 12nc-recognizable soldering temperature profile of the specific BGA (for de-soldering always use highest lead-free temperature profile, in case of doubt)
- lead free BGA-ICs will be delivered in so-called 'dry-packaging' (sealed pack including a silica gel pack) to protect the IC against moisture. After opening, dependent of MSL-level seen on indicator-label in the bag, the BGA-IC possibly still has to be baked dry. This will be communicated via AYS-website.

Do not re-use BGAs at all.

- For sets produced before 1.1.2005, containing leaded soldering-tin and components, all needed spare-parts will be available till the end of the service-period. For repair of such sets nothing changes.

- On our website:

www.atyourservice.ce.Philips.com

You find more information to:

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

You will find this and more technical information within the "magazine", chapter "workshop news".

For additional questions please contact your local repair-helpdesk.

Mechanical and Dismantling Instructions

Dismantling Instruction

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

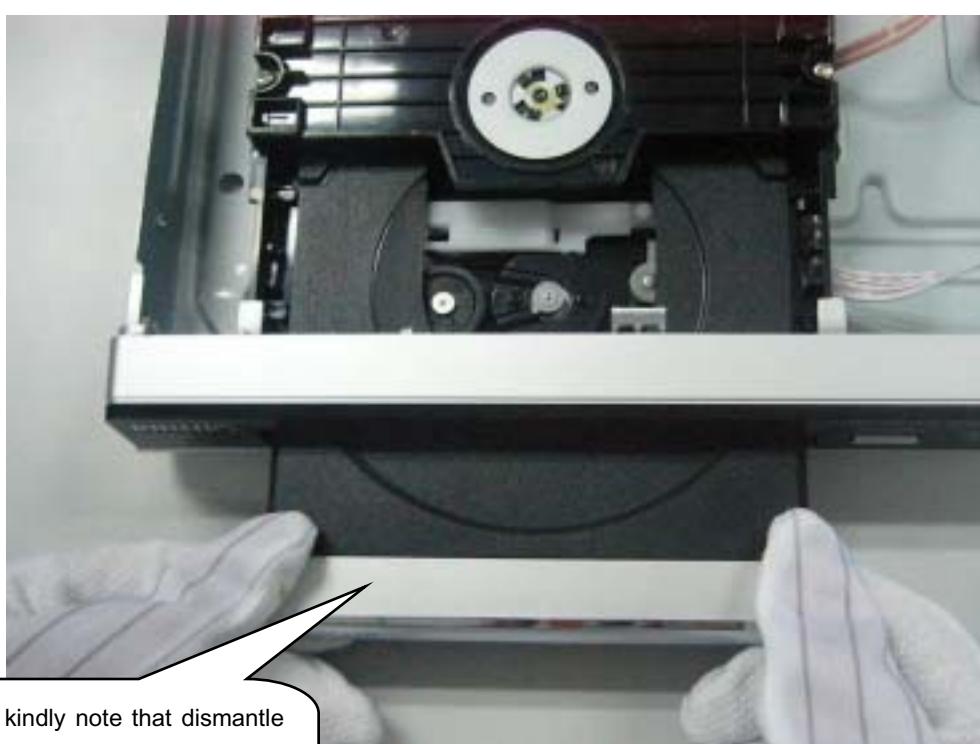
Step1: Remove 5 screws around the Top Cover, then remove the Top Cover (Figure 1).



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

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.

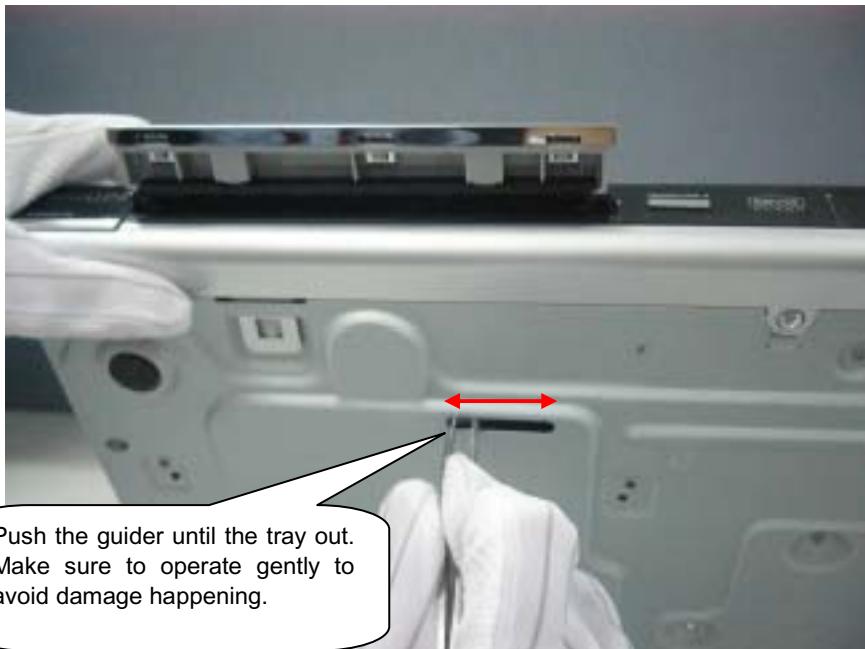


Figure 3

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

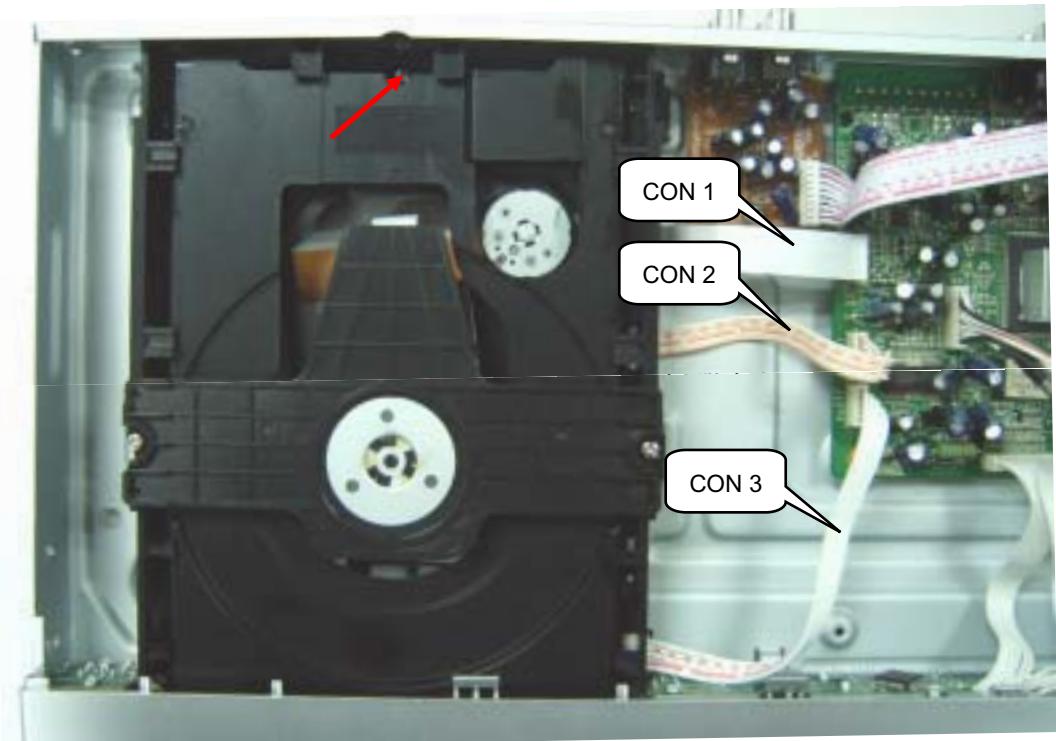


Figure 4

Mechanical and Dismantling Instructions

Dismantling Instruction

Step5: Dismantling Front Panel, disconnect the 3 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)

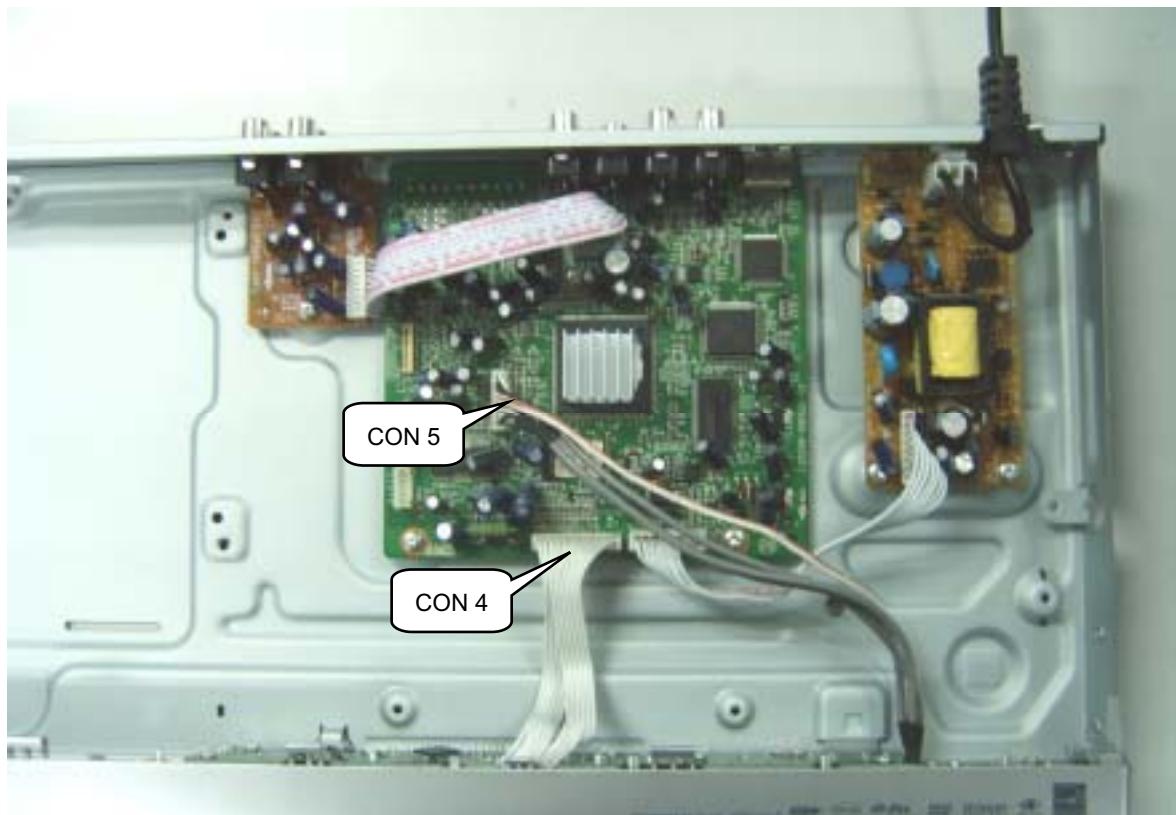


Figure 5

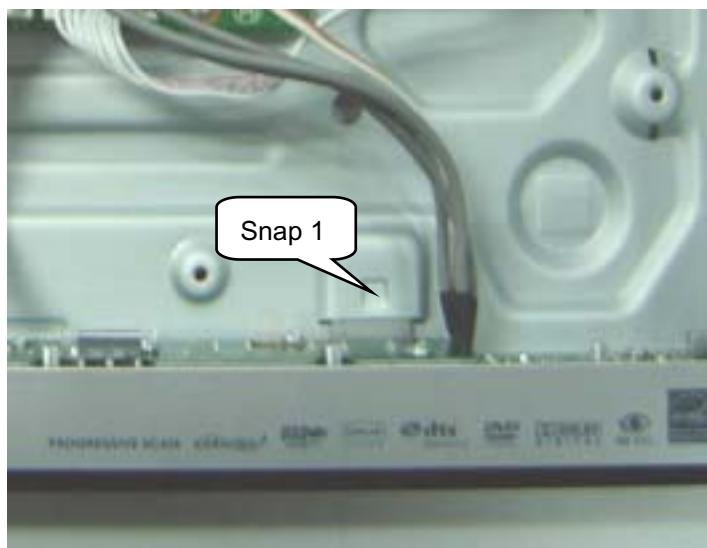


Figure 6



Figure 7

Mechanical and Dismantling Instructions

Dismantling Instruction

Step6: Dismantling AV Board, first disconnect the 1 connector, and then remove 2 screws to remove the AV board. (Figure 8)

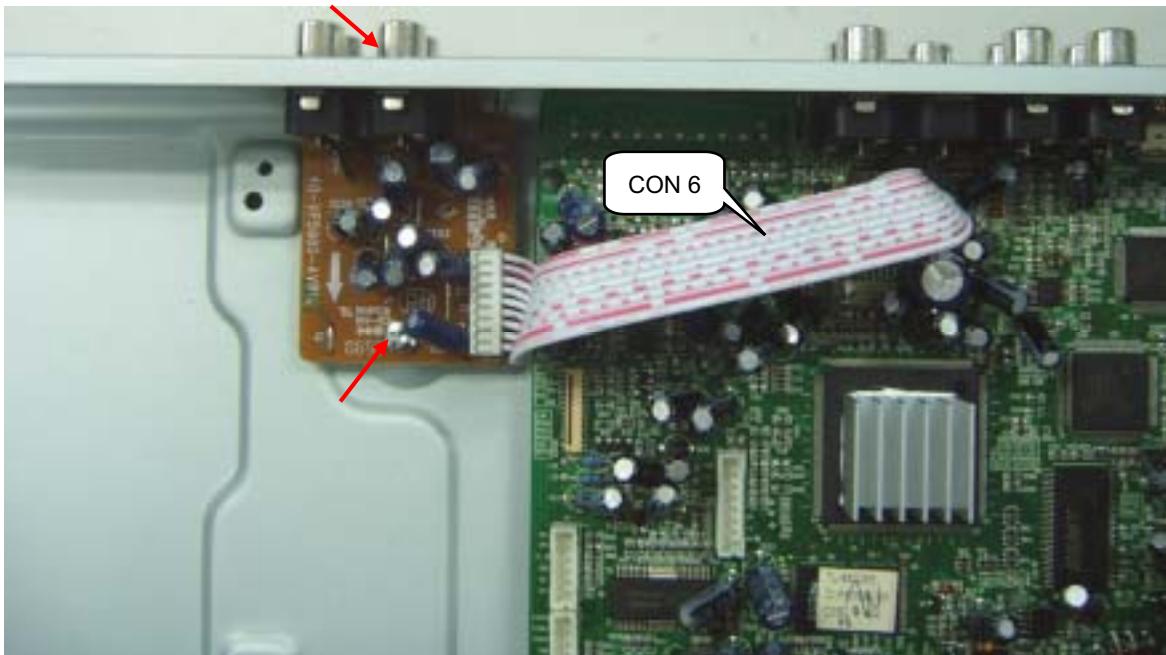


Figure 8

Step7: Dismantling Main Board, first disconnect the 1 connector, and then remove 4 screws. (Figure 9)

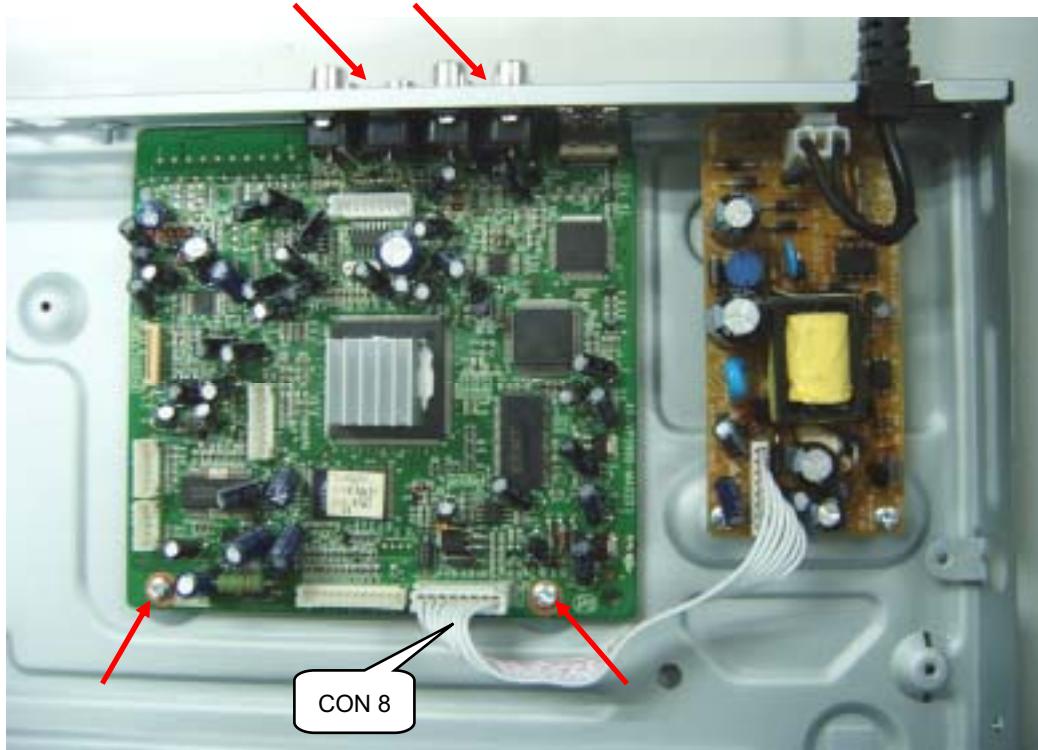


Figure 9

Mechanical and Dismantling Instructions

Dismantling Instruction

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

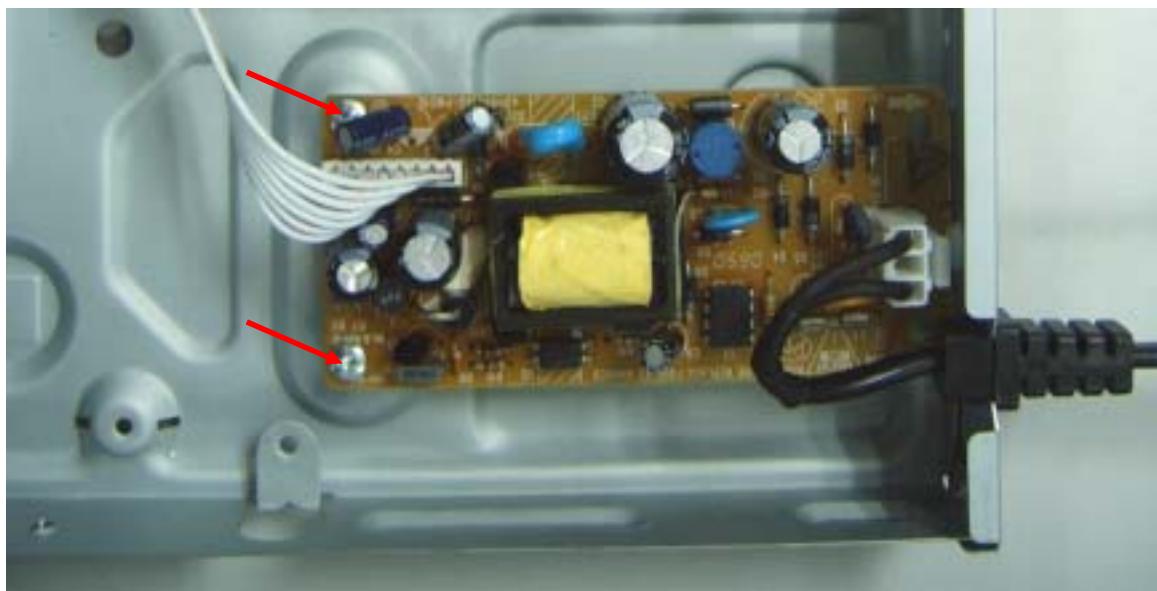


Figure 10

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: DVP5XXX **(No need the label name)**
File Name: **DVPXXXX_XX.BIN**
Power on the set and open the tray, then press <5><5> to check the File Name.

Note: It is required capital letter for the File System name

- 2) Burn the data onto a blank CDR

B. Read out the software versions to confirm upgrading

- 1) Power on the set and press <Setup> button on the remote control.
- 2) Press <1><3><7><9>button to check the software information.

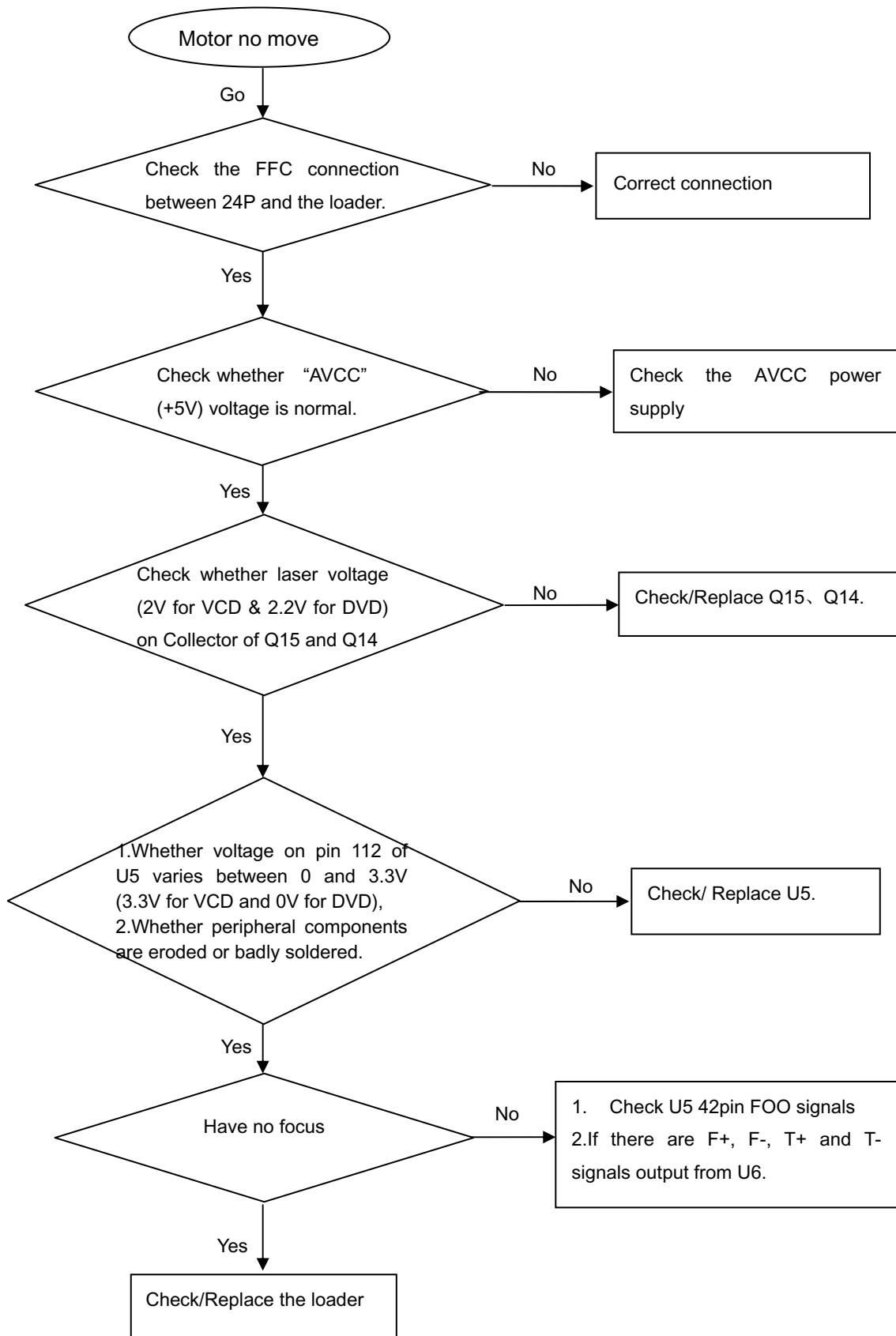
The software version and other information are display on the TV screen as follows:

Version	XX.XX.XX.XX (Main version)
SUB-VER	XX.XX.XX.XX (software version of application software)
8032	XX.XX.XX.XX
Servo	XX.XX.XX.XX (software version of Servo)
RISC	XX.XX.XX.XX
DSP	XX.XX.XX.XX
Region Code	X

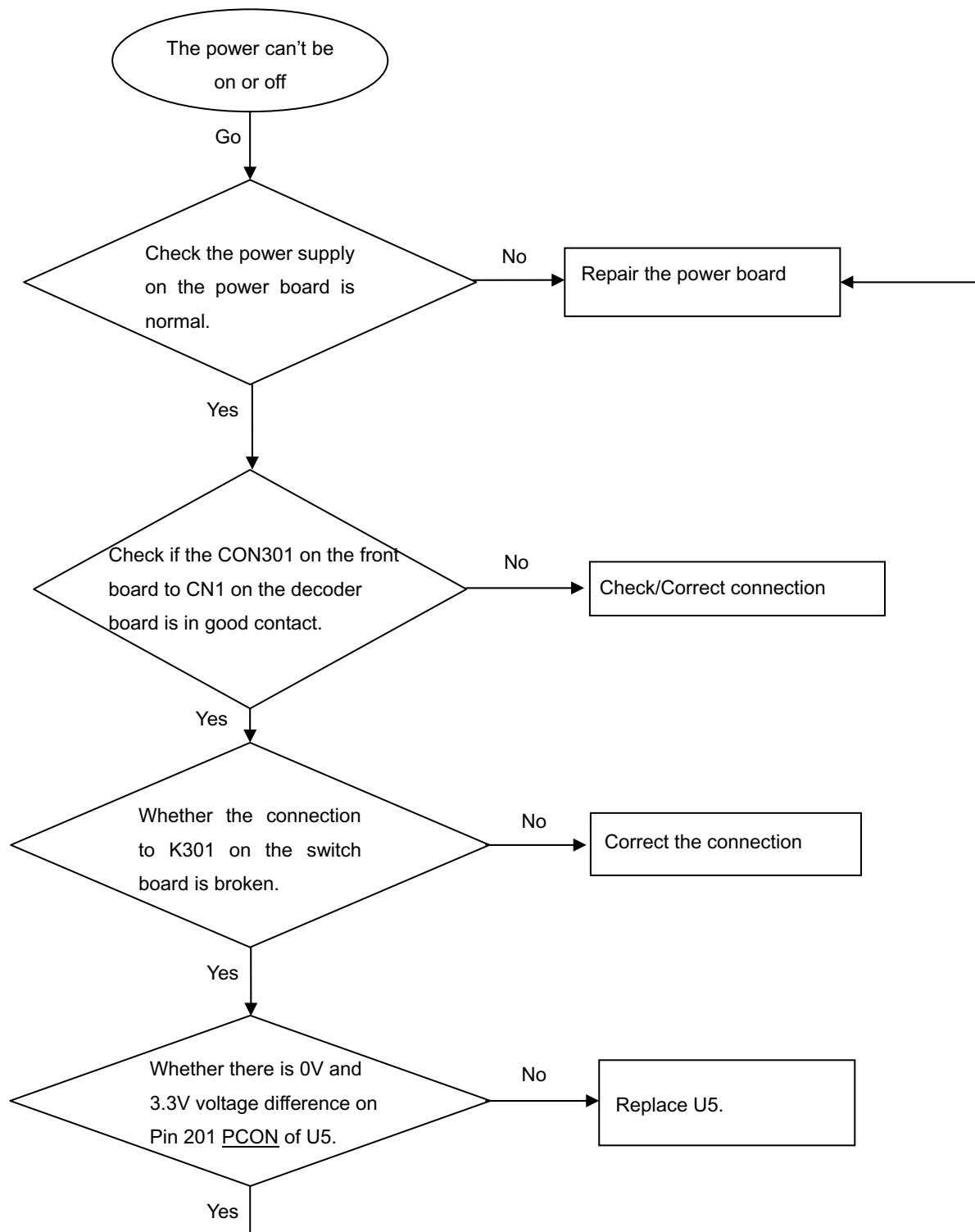
A. Procedure for software upgrade:

- 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:
Upgrade File DETECTED
Upgrade?
Press Play TO START.
- 3) Press <OK> button to confirm, then screen will display :
Files coping...
UPGRADING...
- 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.

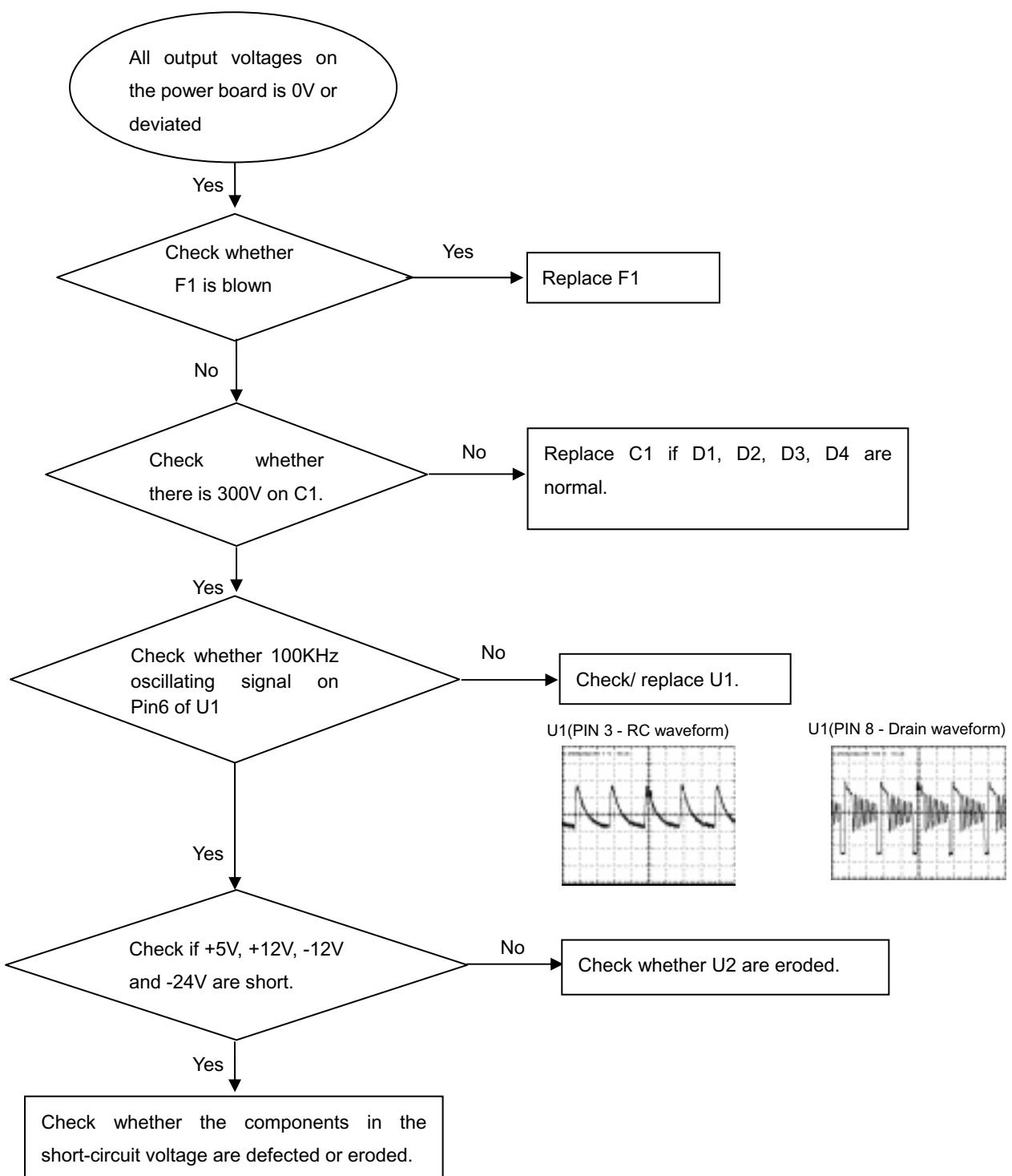
Caution: The set must not be power off during upgrading, Otherwise the Main board will be damaged entirely.

Spindle motor does not move

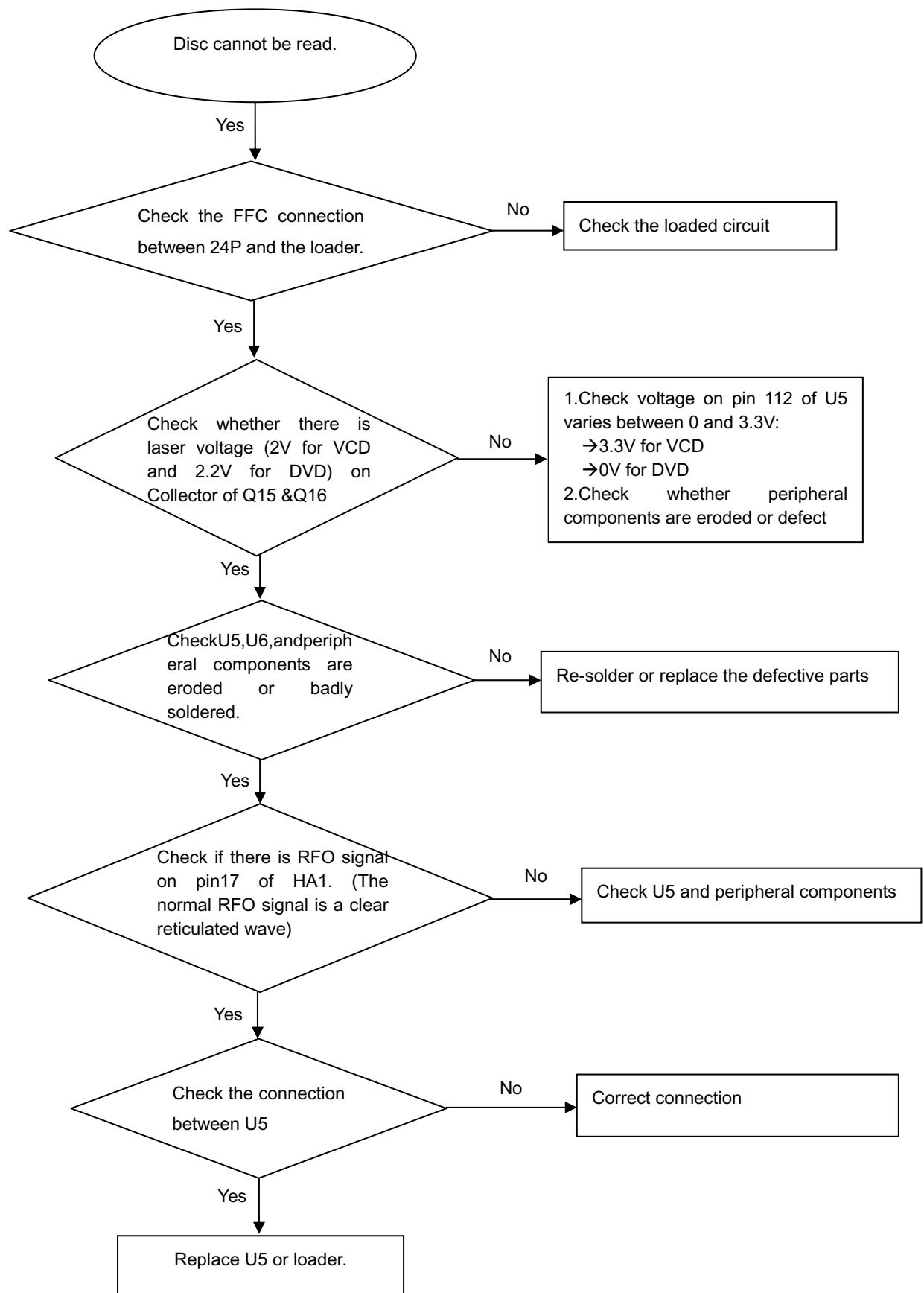
The power can not be on or off

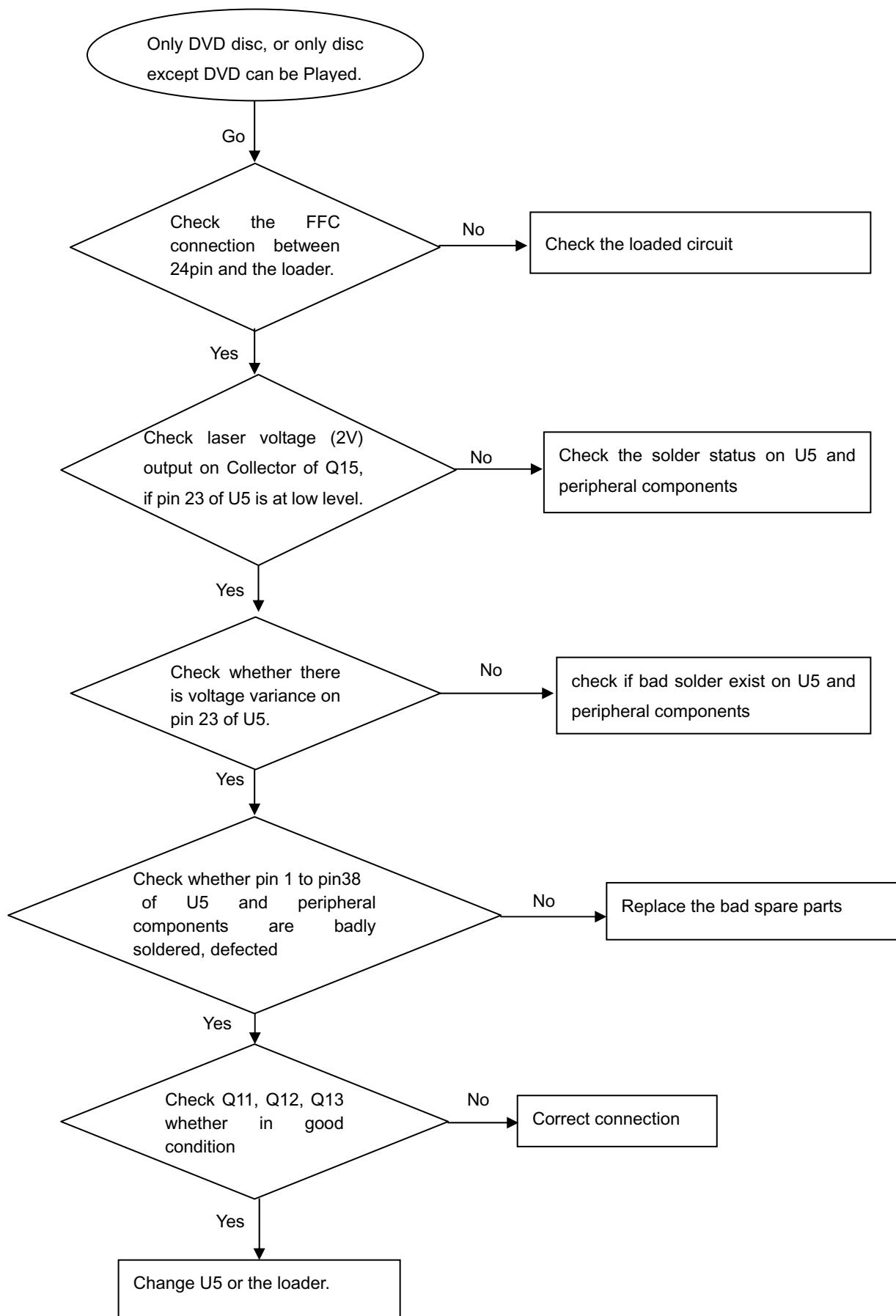


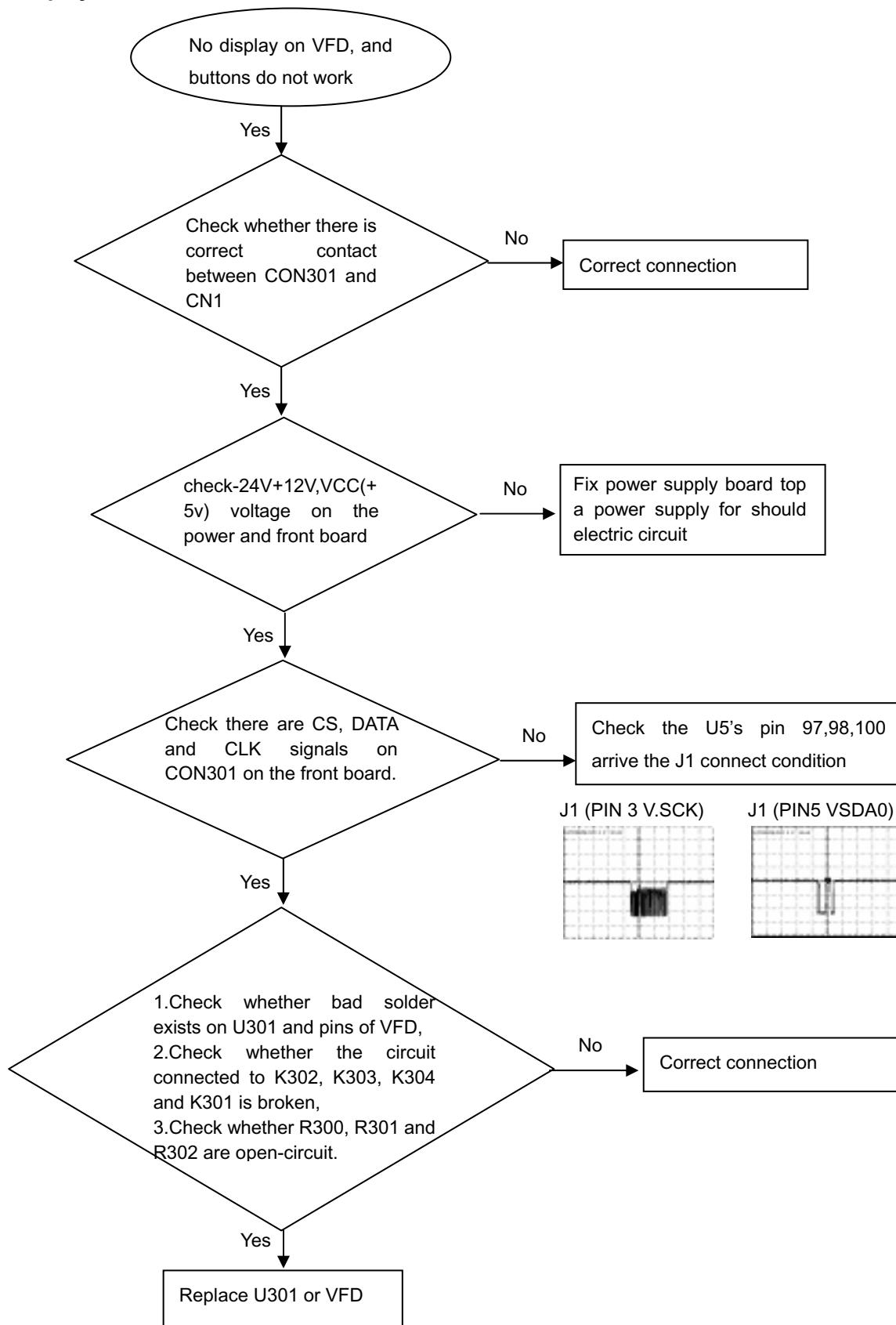
All output voltages on the power board is 0V or deviated.

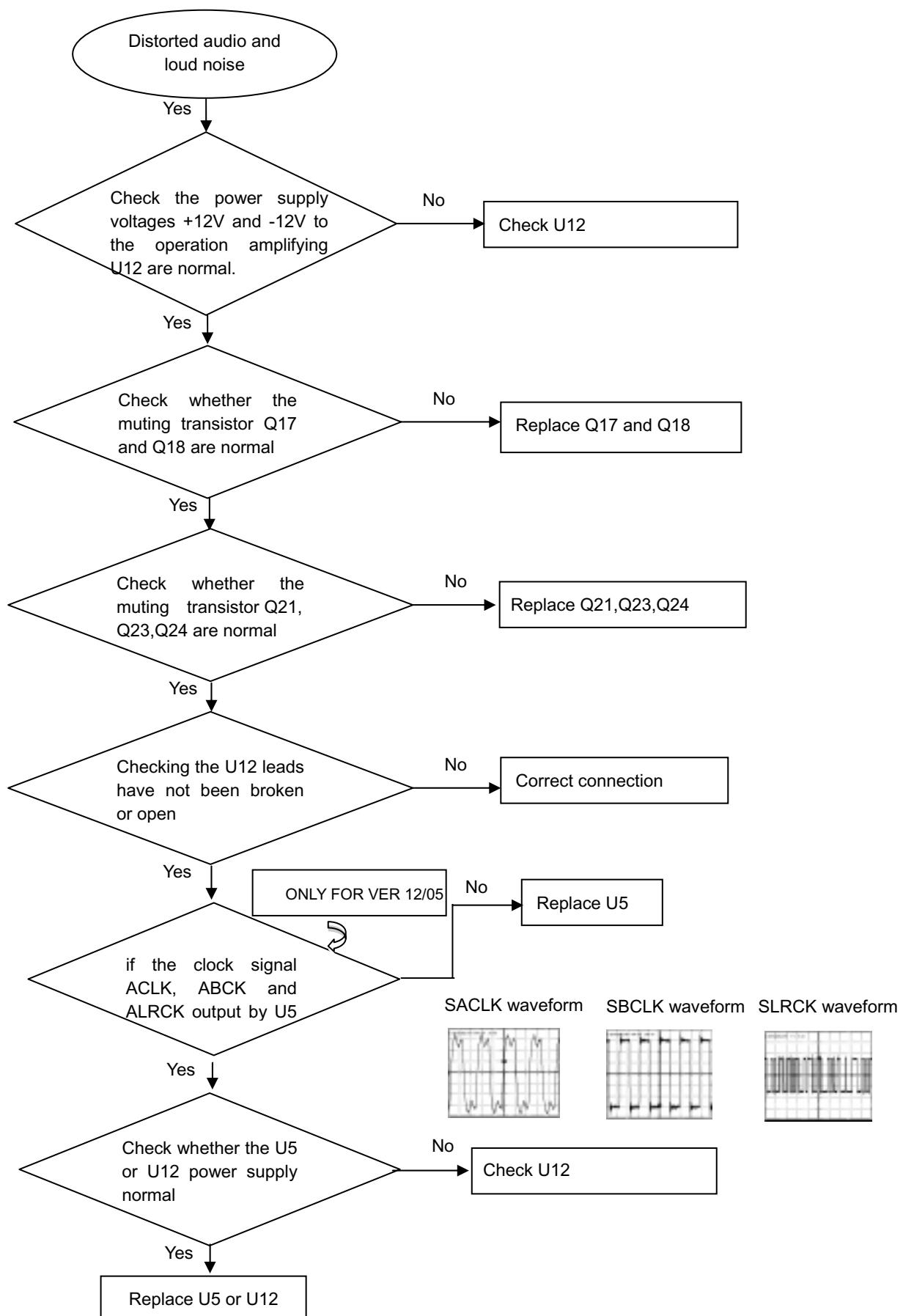


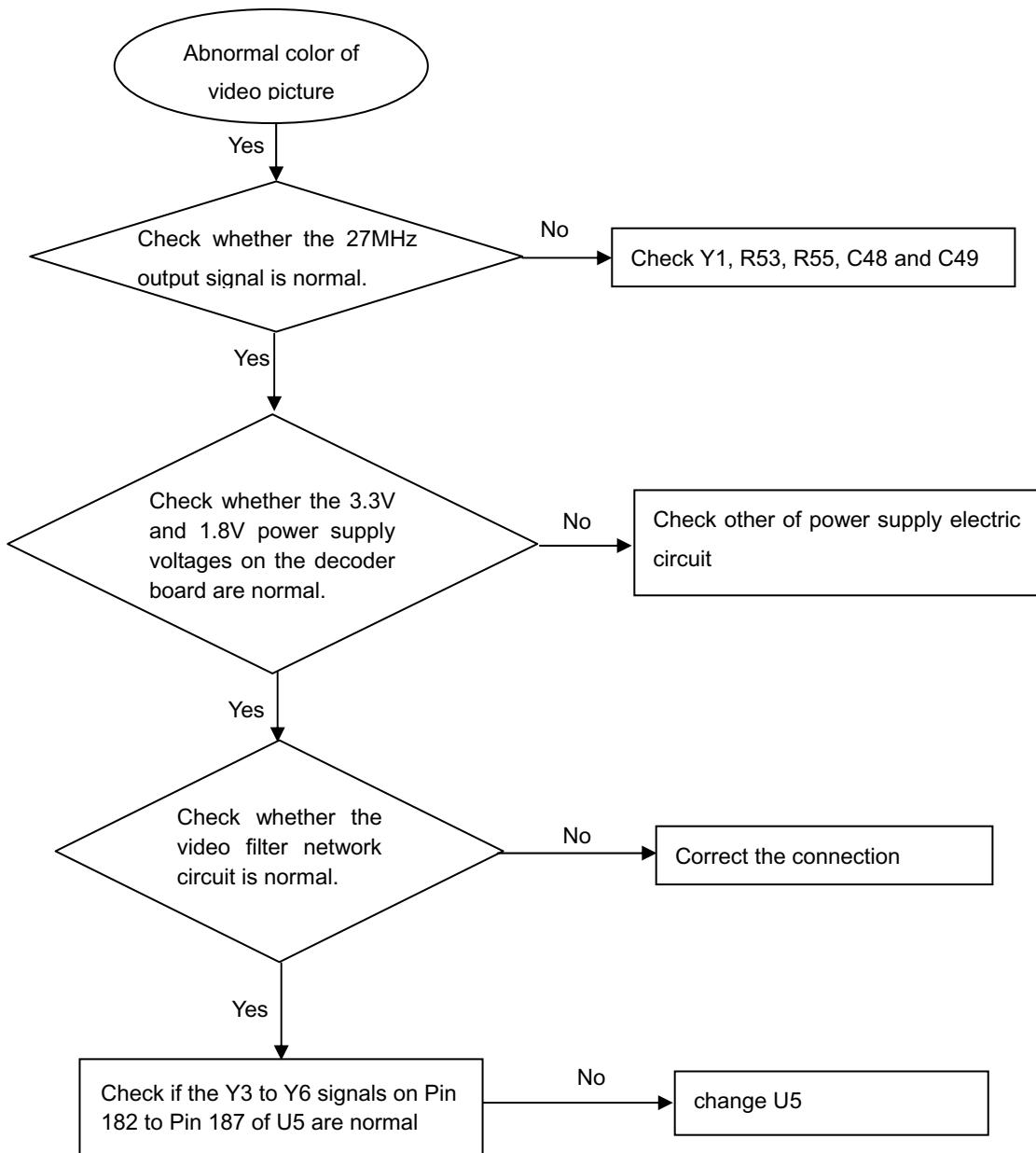
Disc cannot be read.

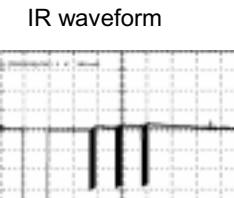
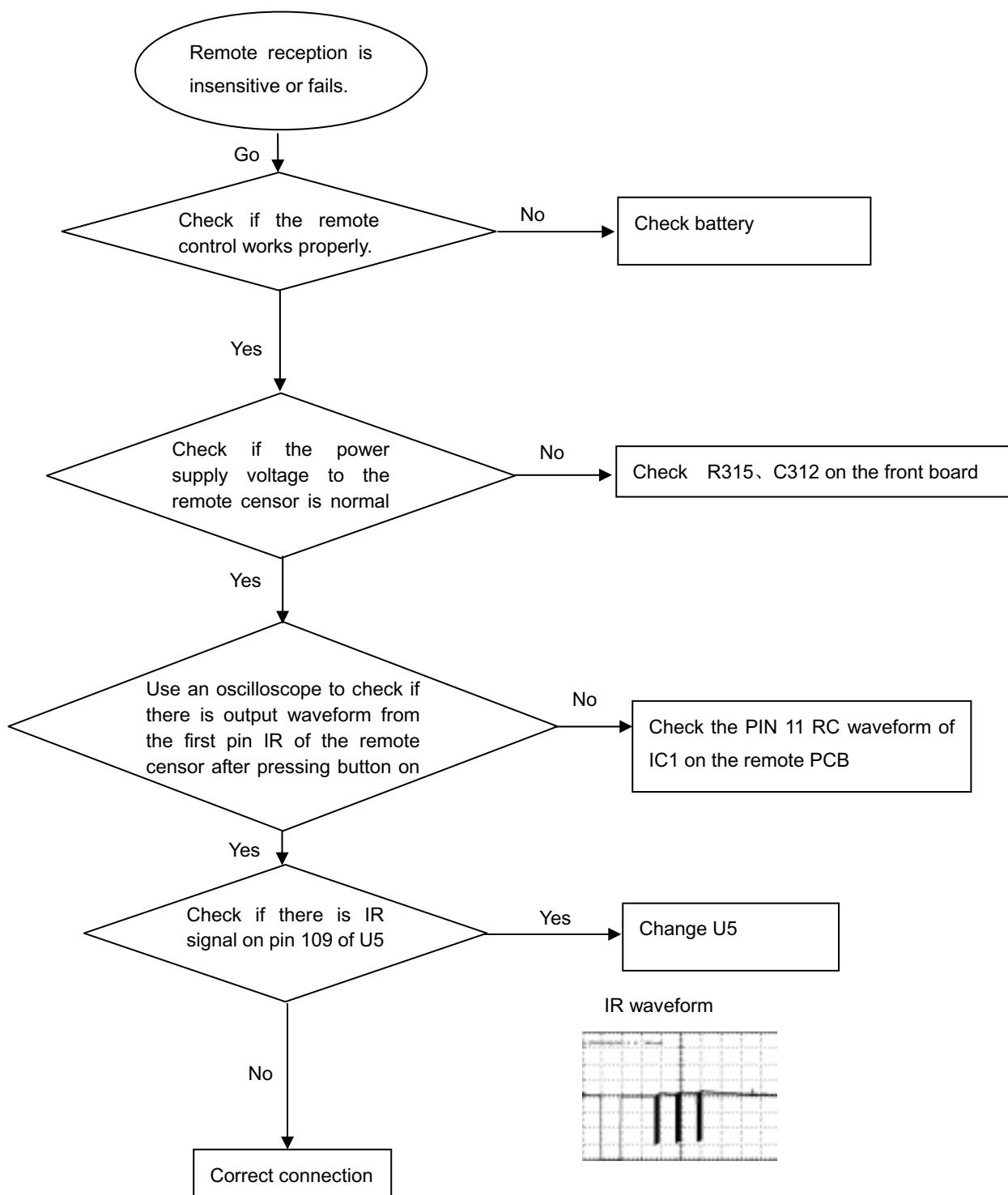


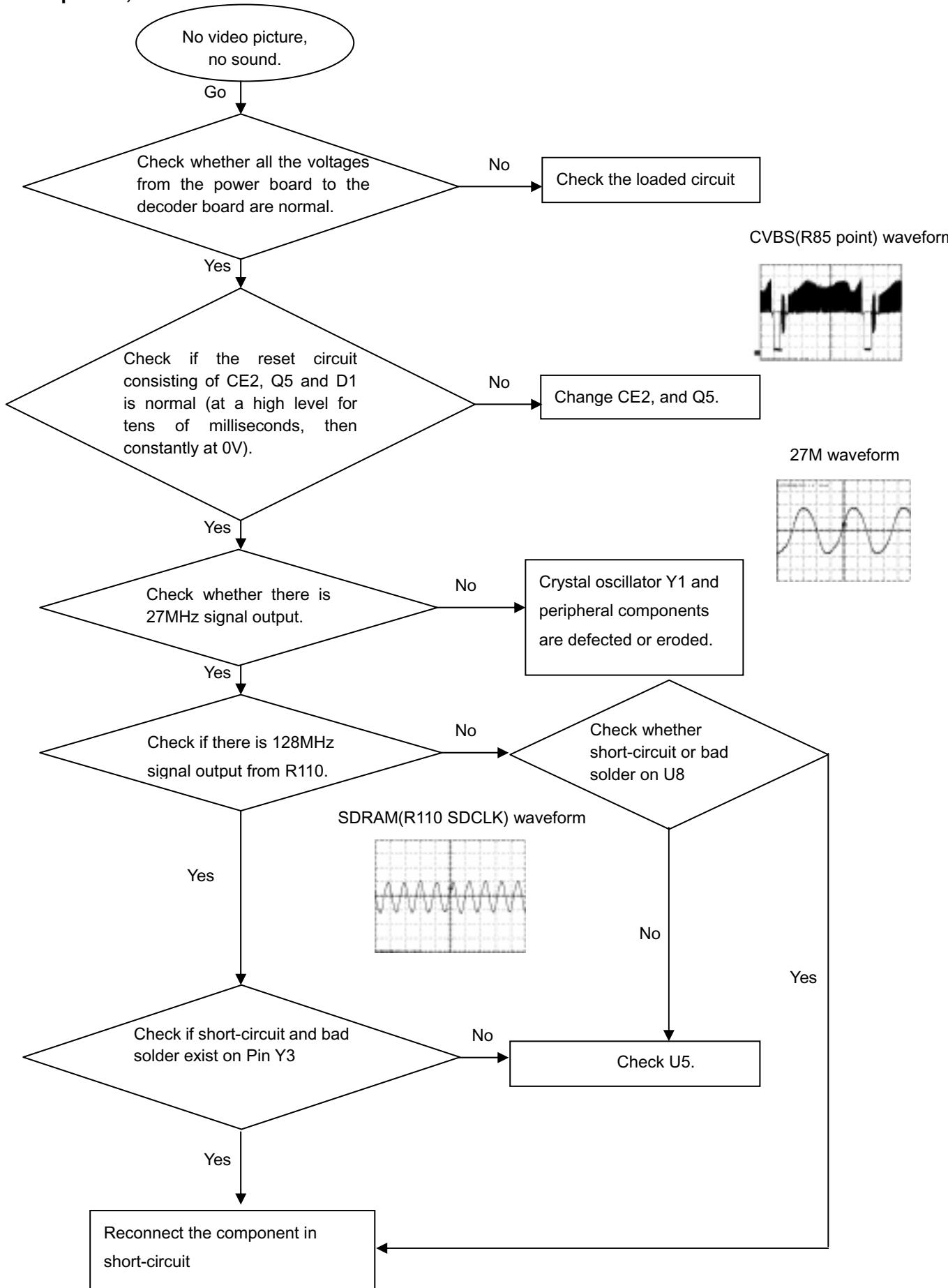
Only DVD disc or only disc except DVD can be played

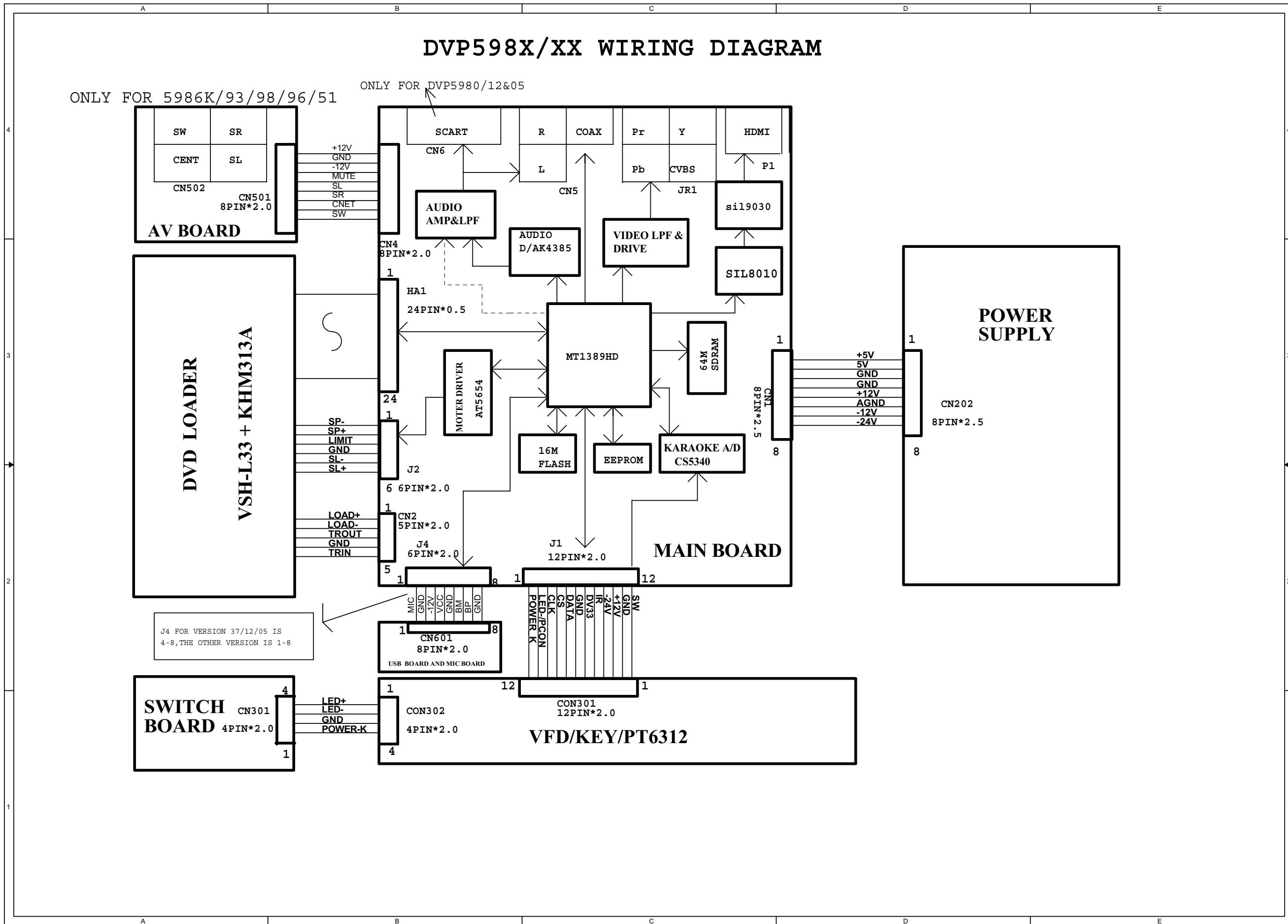
No display on VFD, and buttons do not work


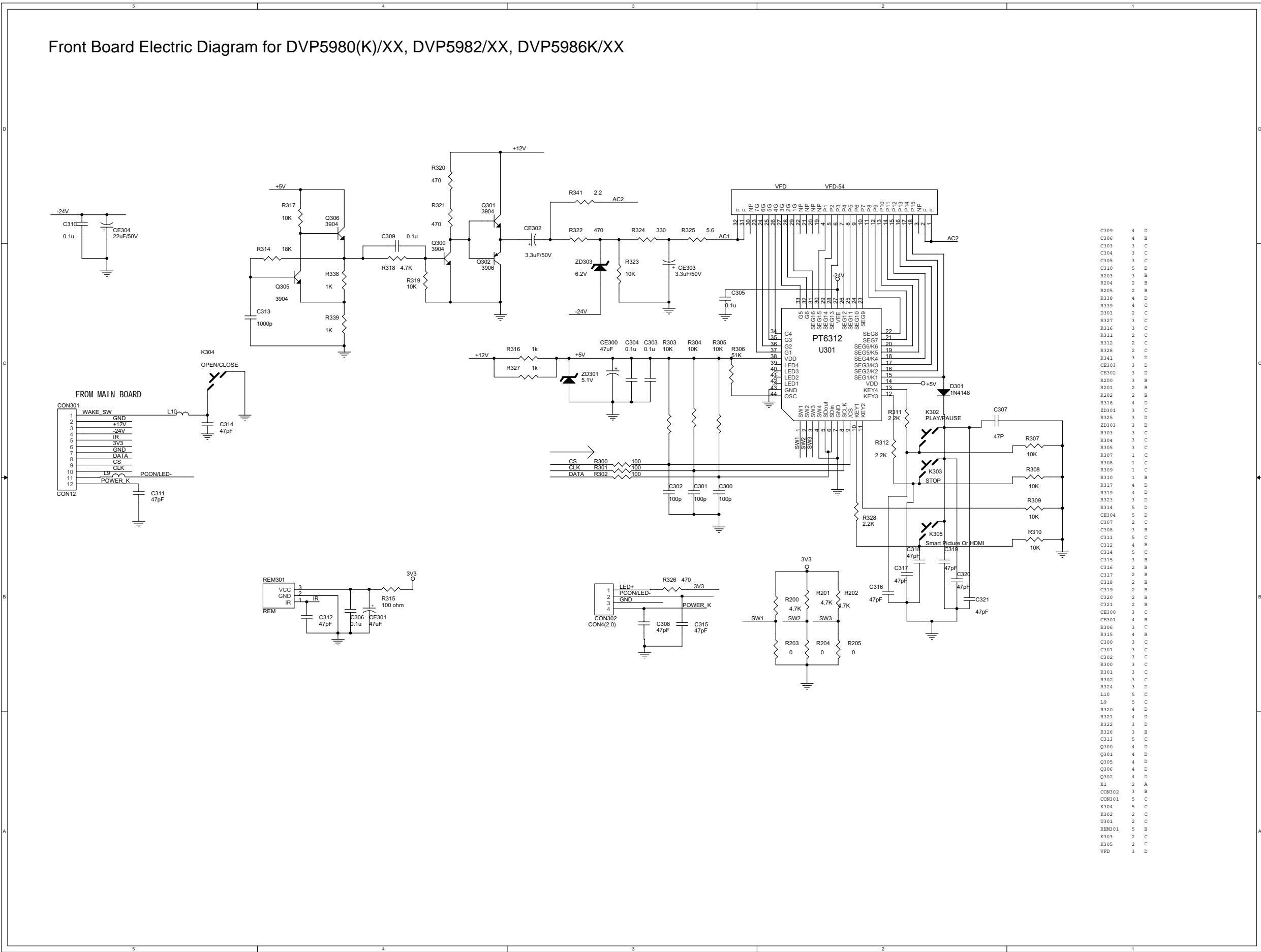
Distorted audio and loud noise

Abnormal color of video picture

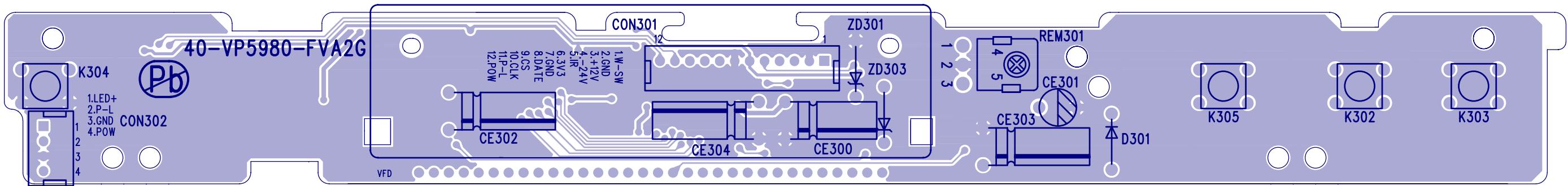
Remote reception is insensitive or fails.


No video picture, no sound.

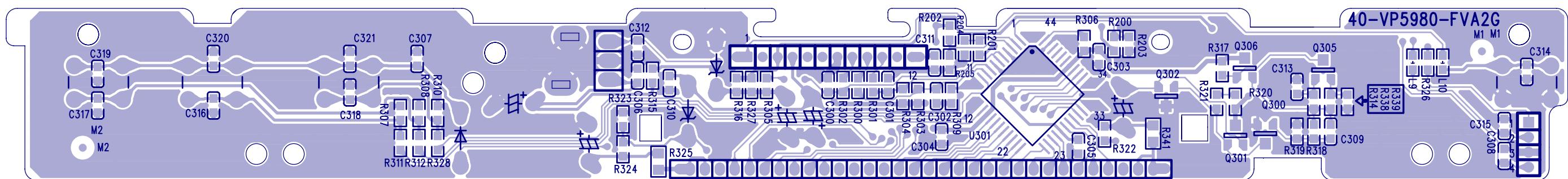


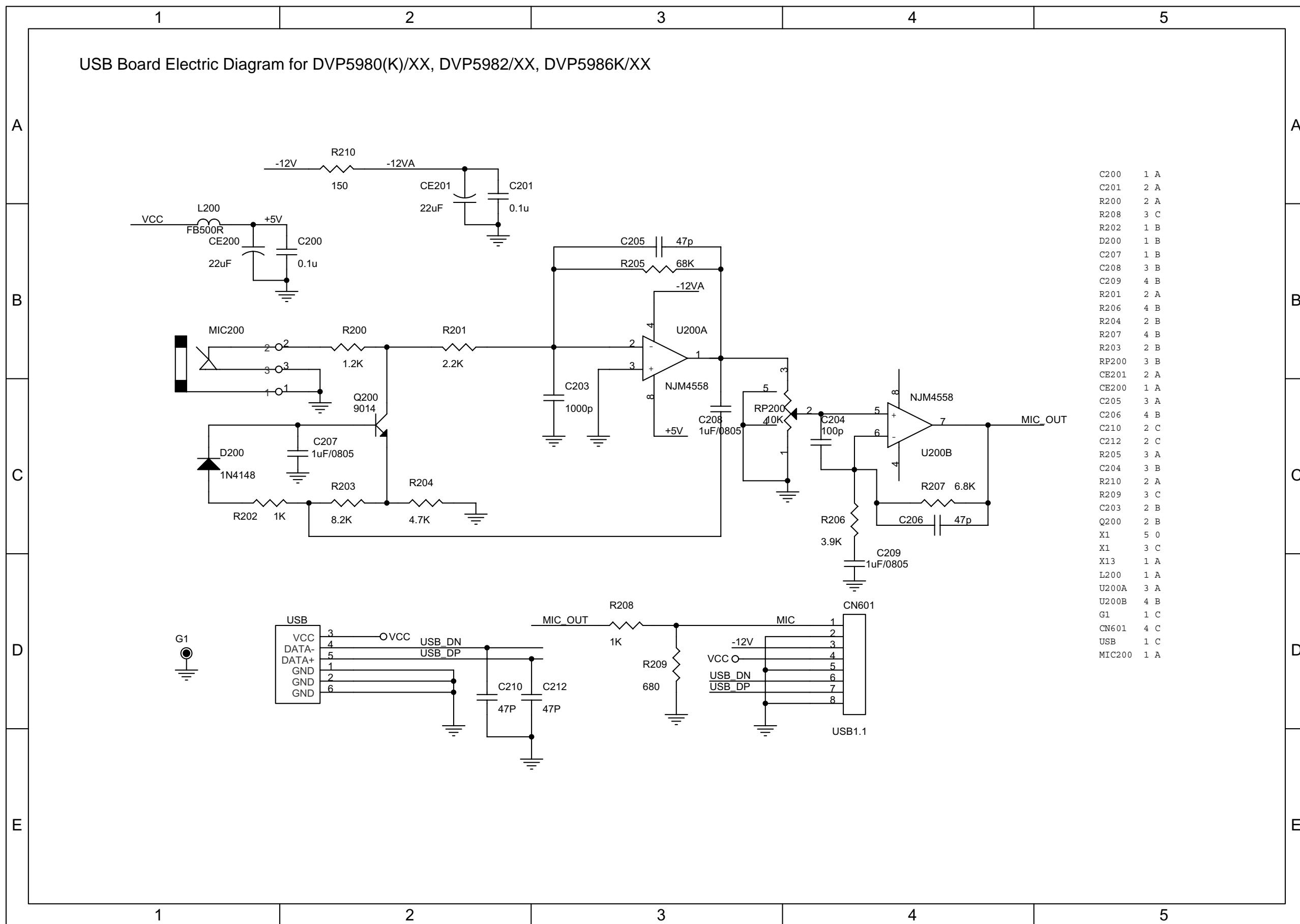


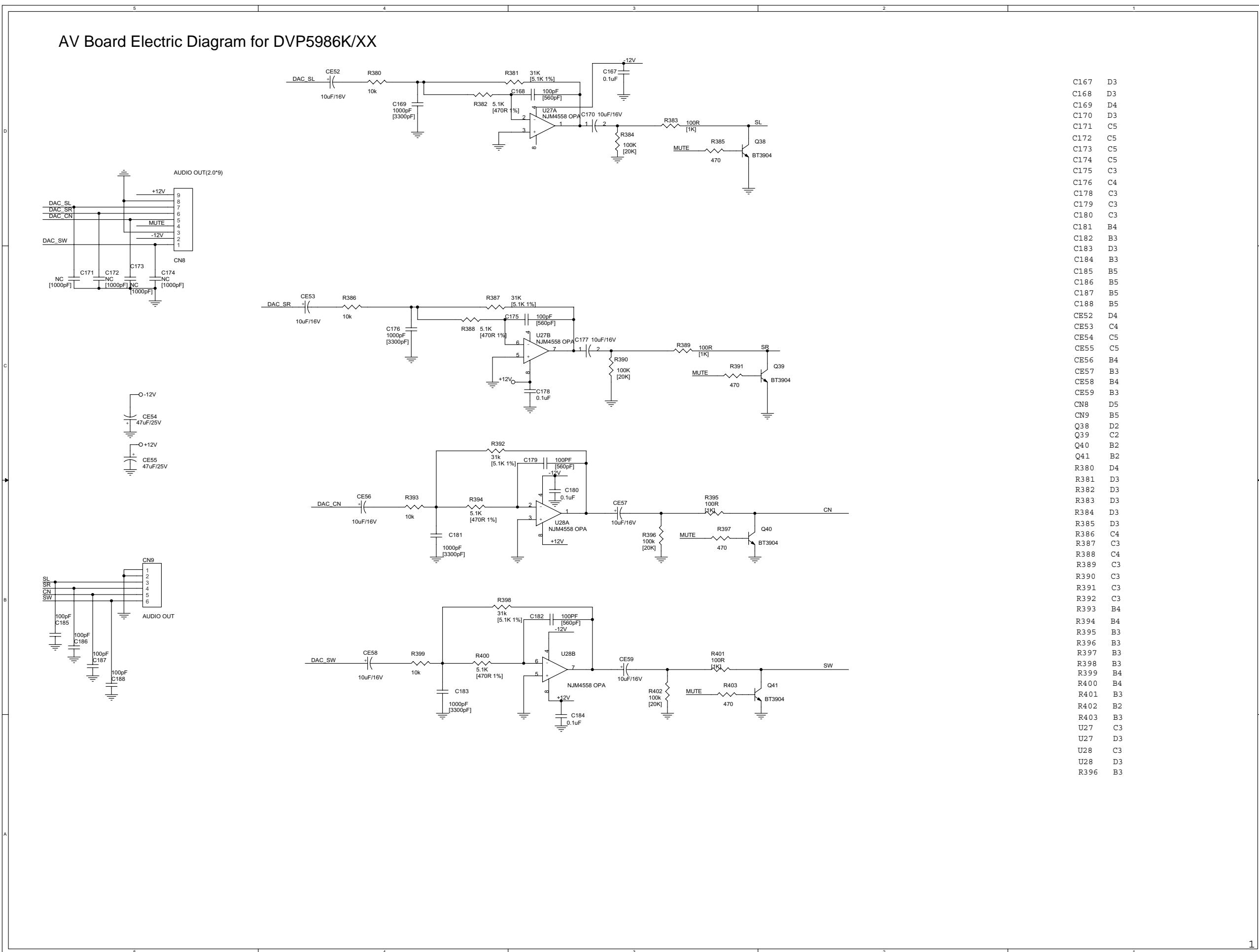
Front Board Print-Layout (Top Side) for DVP5980(K)/XX, DVP5982/XX, DVP5986K/XX



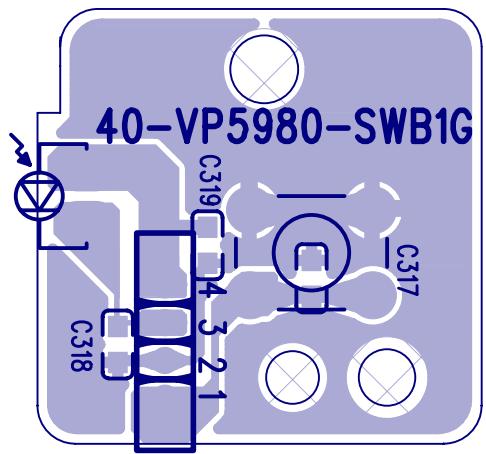
Front Board Print-Layout (Bottom Side) for DVP5980(K)/XX, DVP5982/XX, DVP5986K/XX



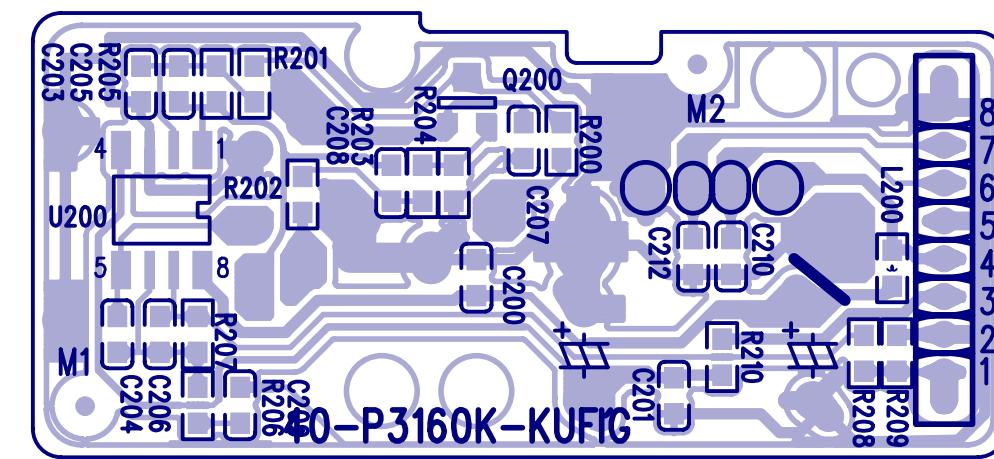




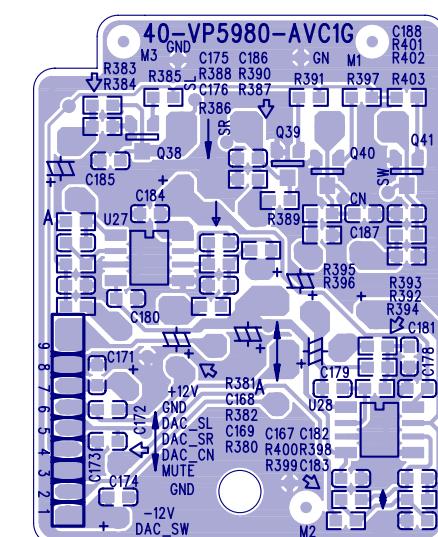
Switch Board Print-Layout (Bottom Side) for DVP5980(K)/XX, DVP5982/XX, DVP5986K/XX

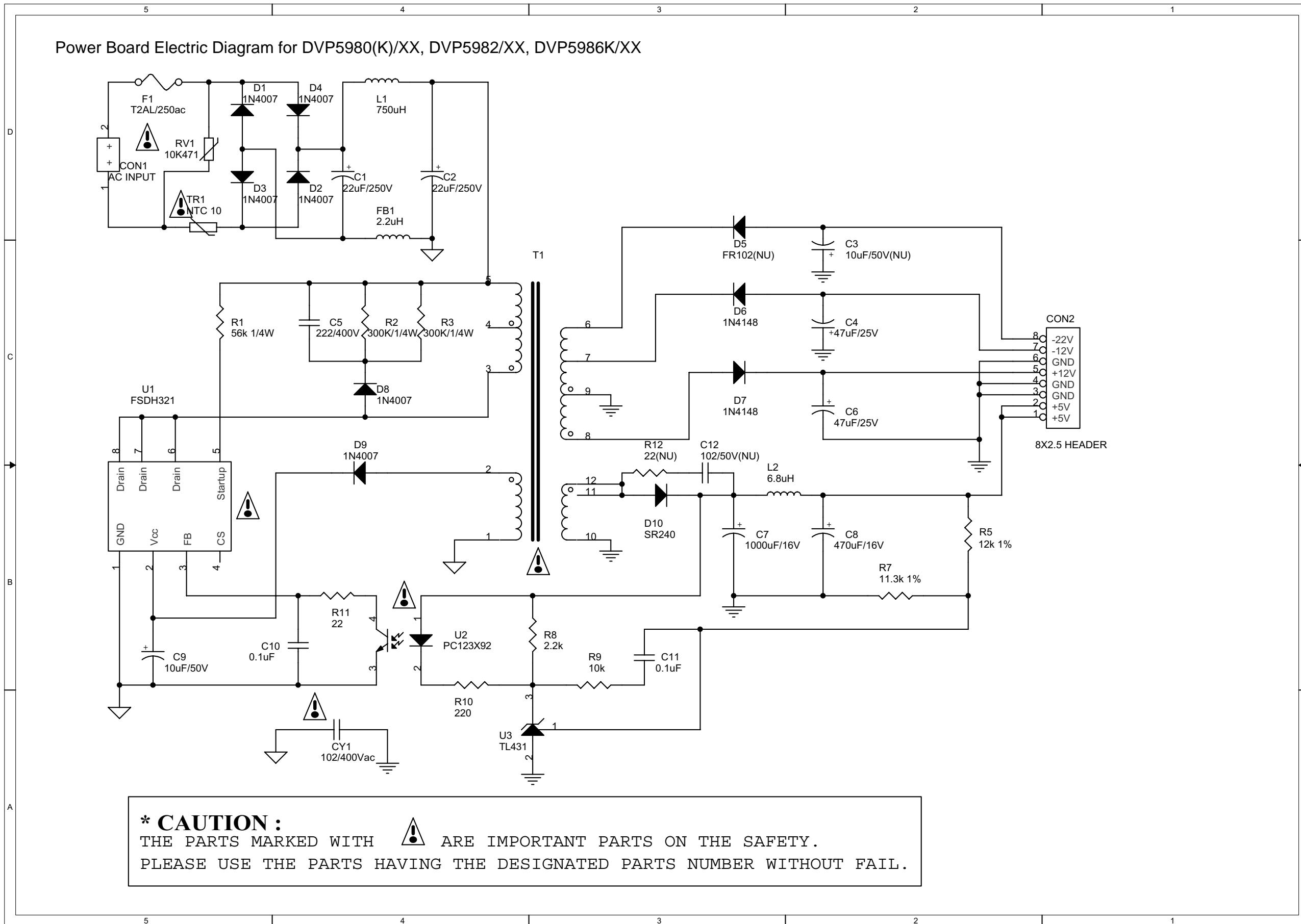


USB Board Print-Layout (Bottom Side) for DVP5980(K)/XX, DVP5982/XX, DVP5986K/XX

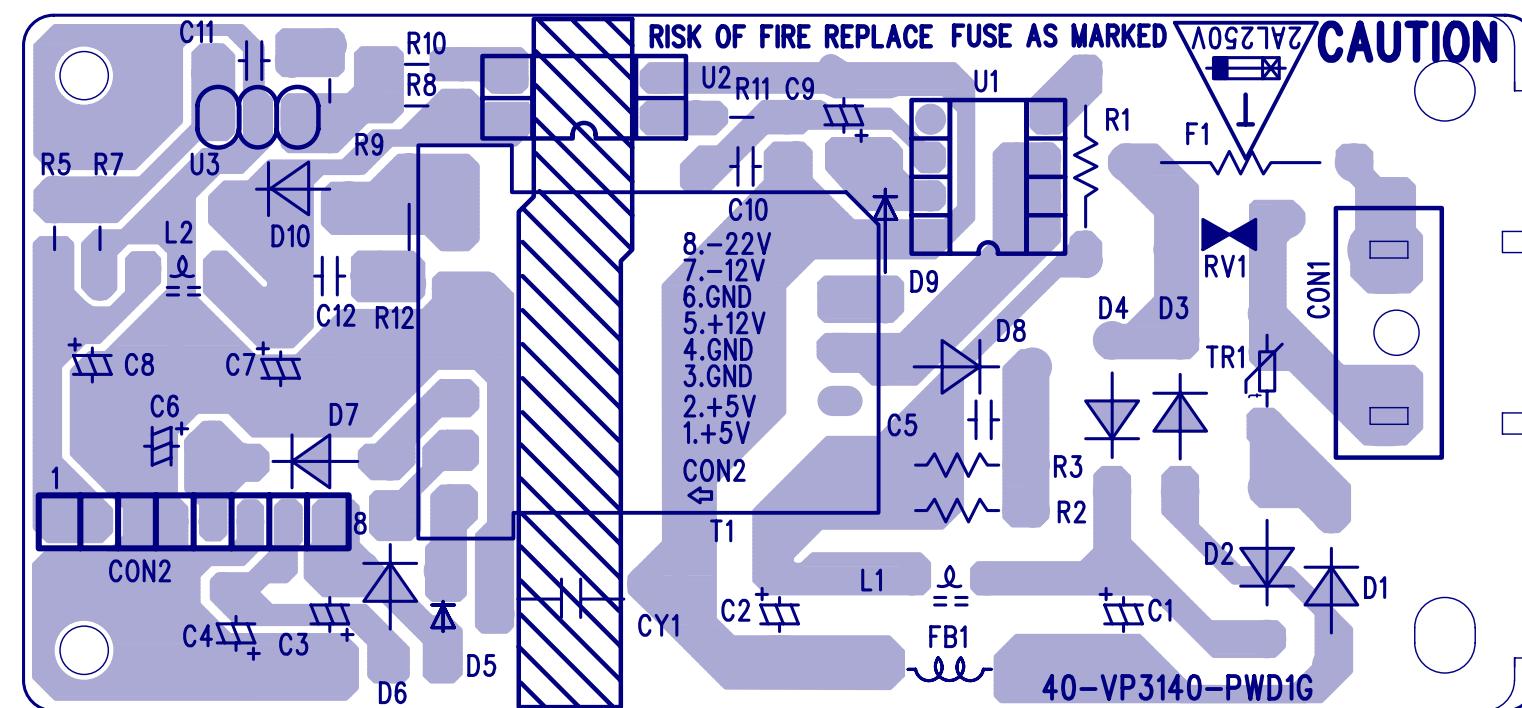


AV Board Print-Layout (Bottom Side) for DVP5986K/XX

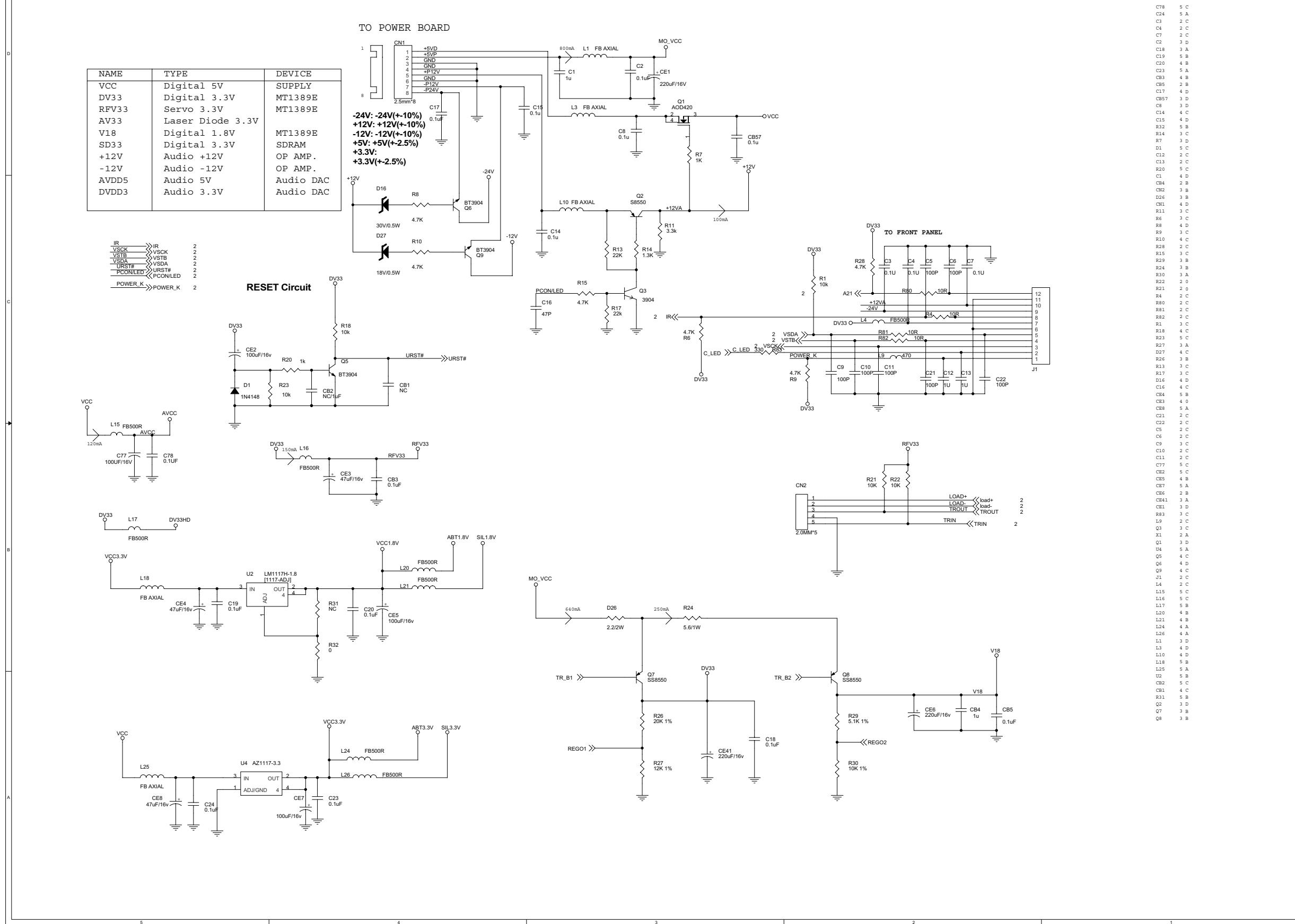




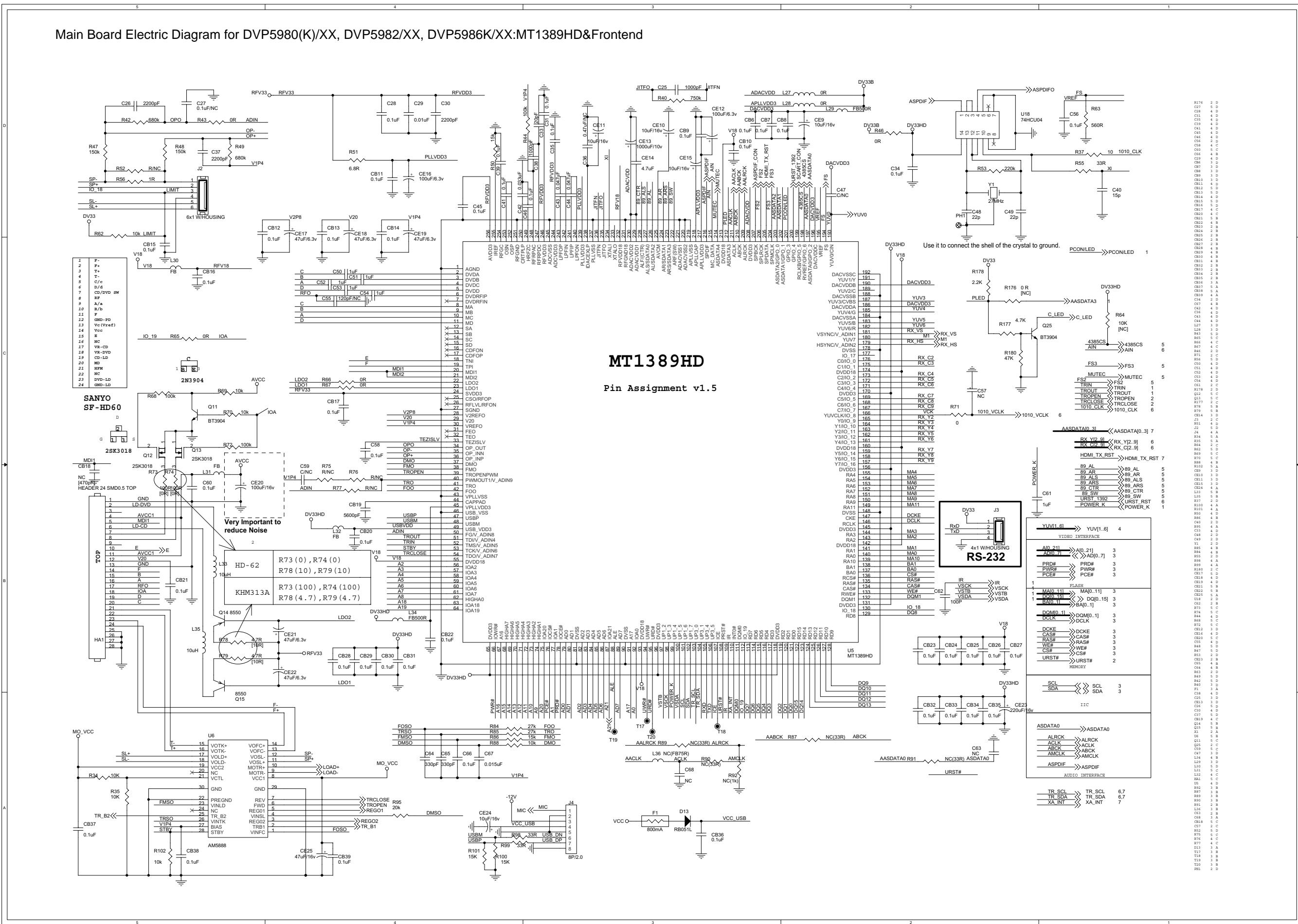
Power Board Print-Layout (Bottom Side) for DVP5980(K)/XX, DVP5982/XX, DVP5986K/XX

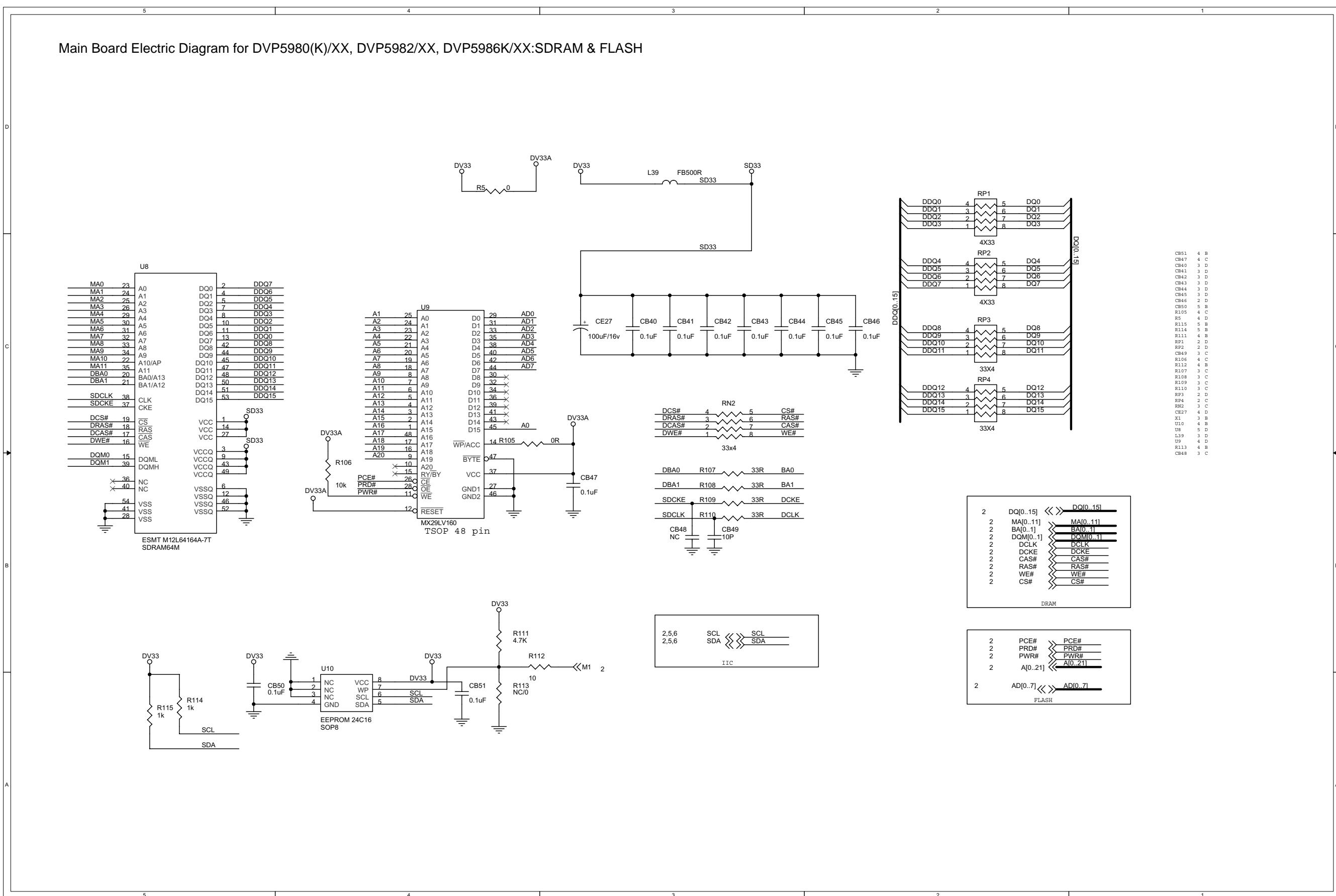


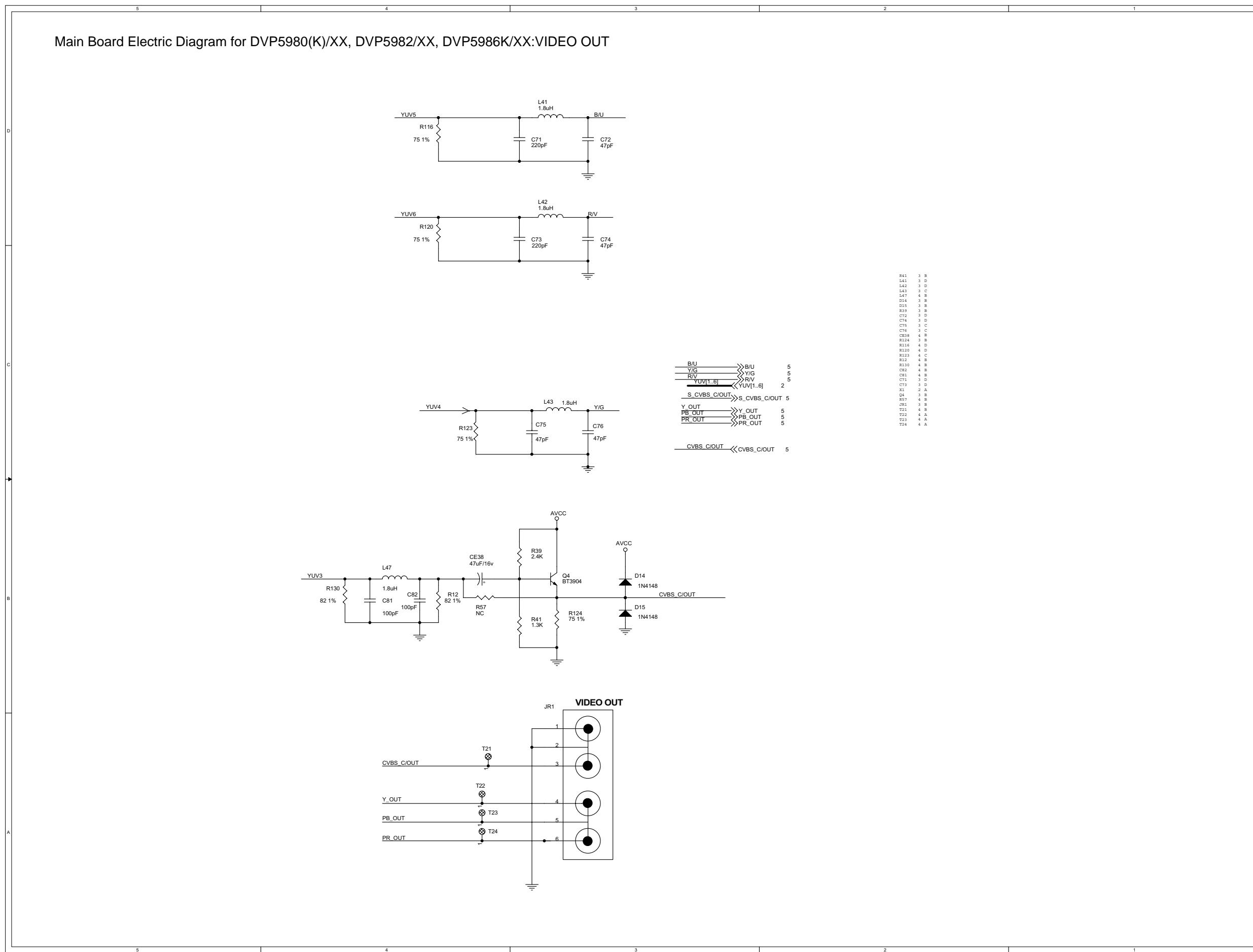
Main Board Electric Diagram for DVP5980(K)/XX, DVP5982/XX, DVP5986K/XX: POWER&CONNECTOR

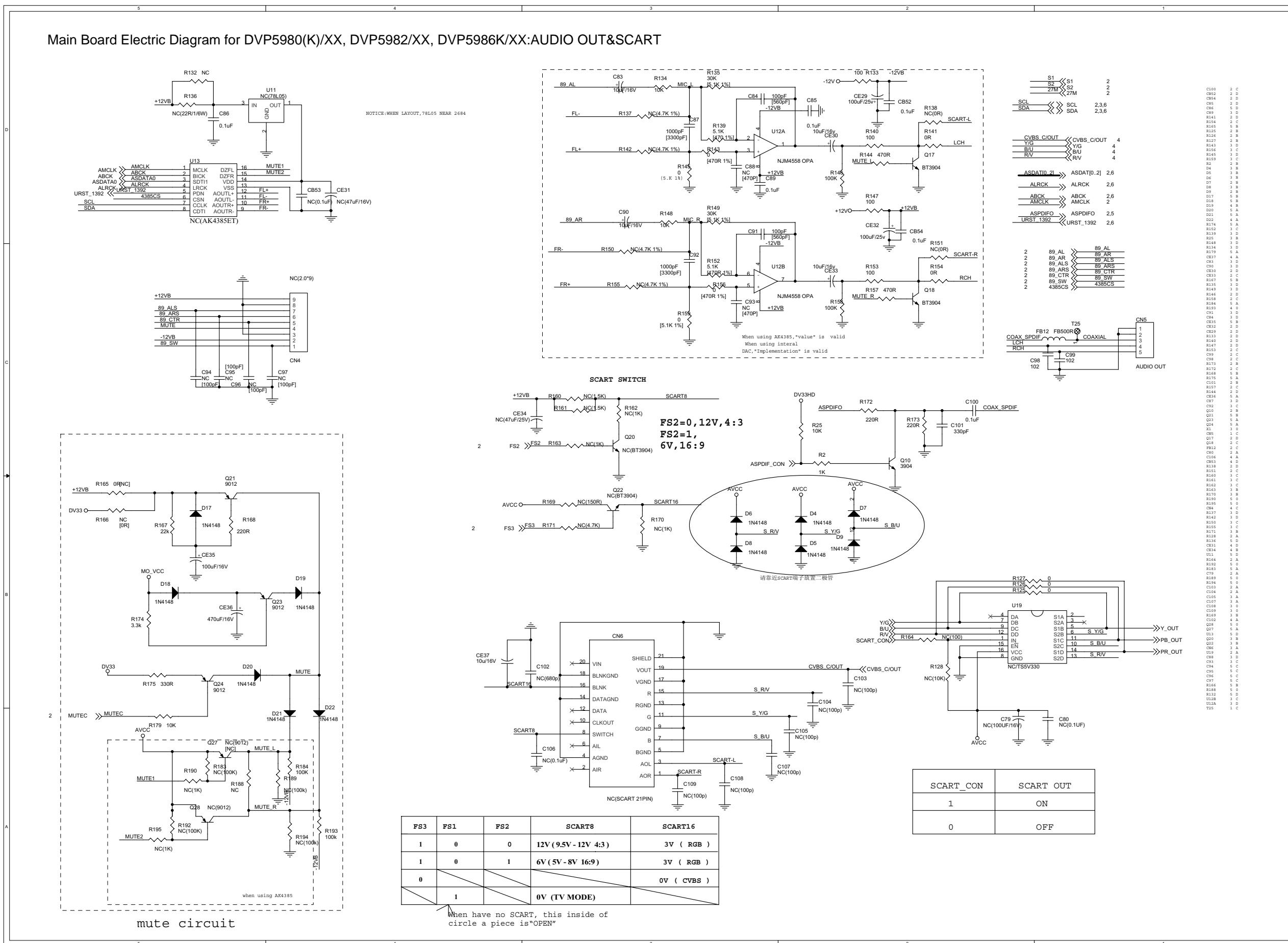


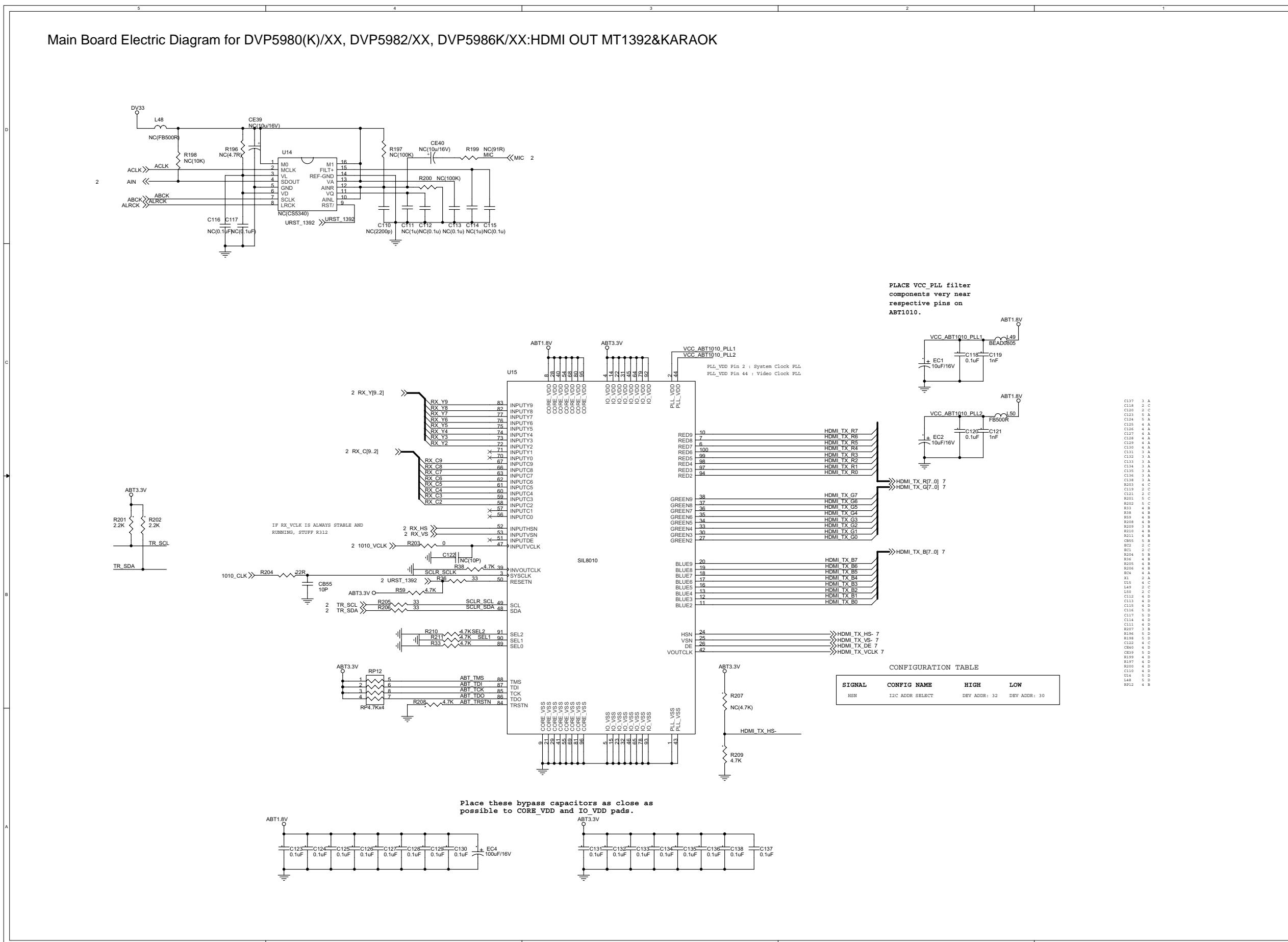
Main Board Electric Diagram for DVP5980(K)/XX, DVP5982/XX, DVP5986K/XX:MT1389HD&Frontend



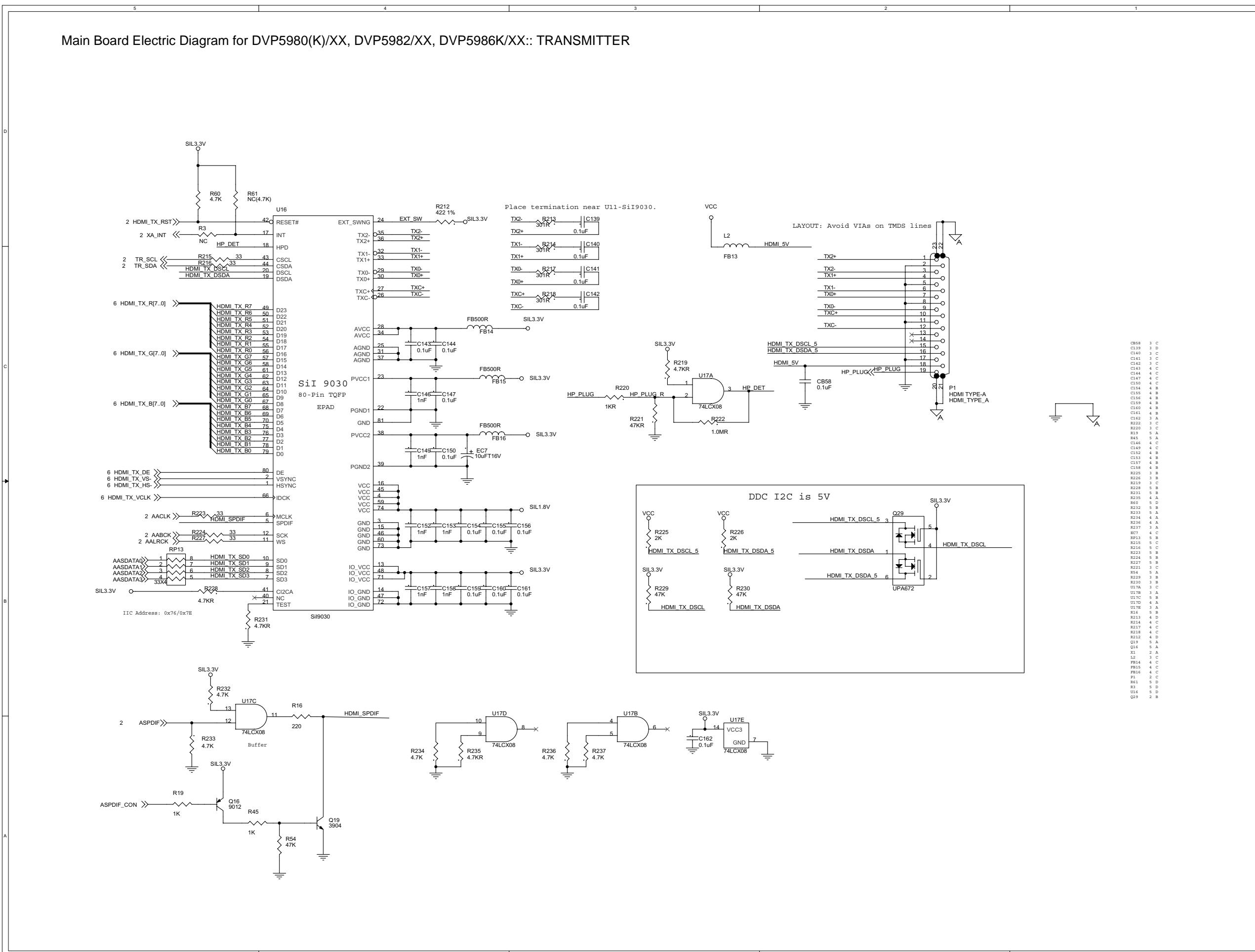




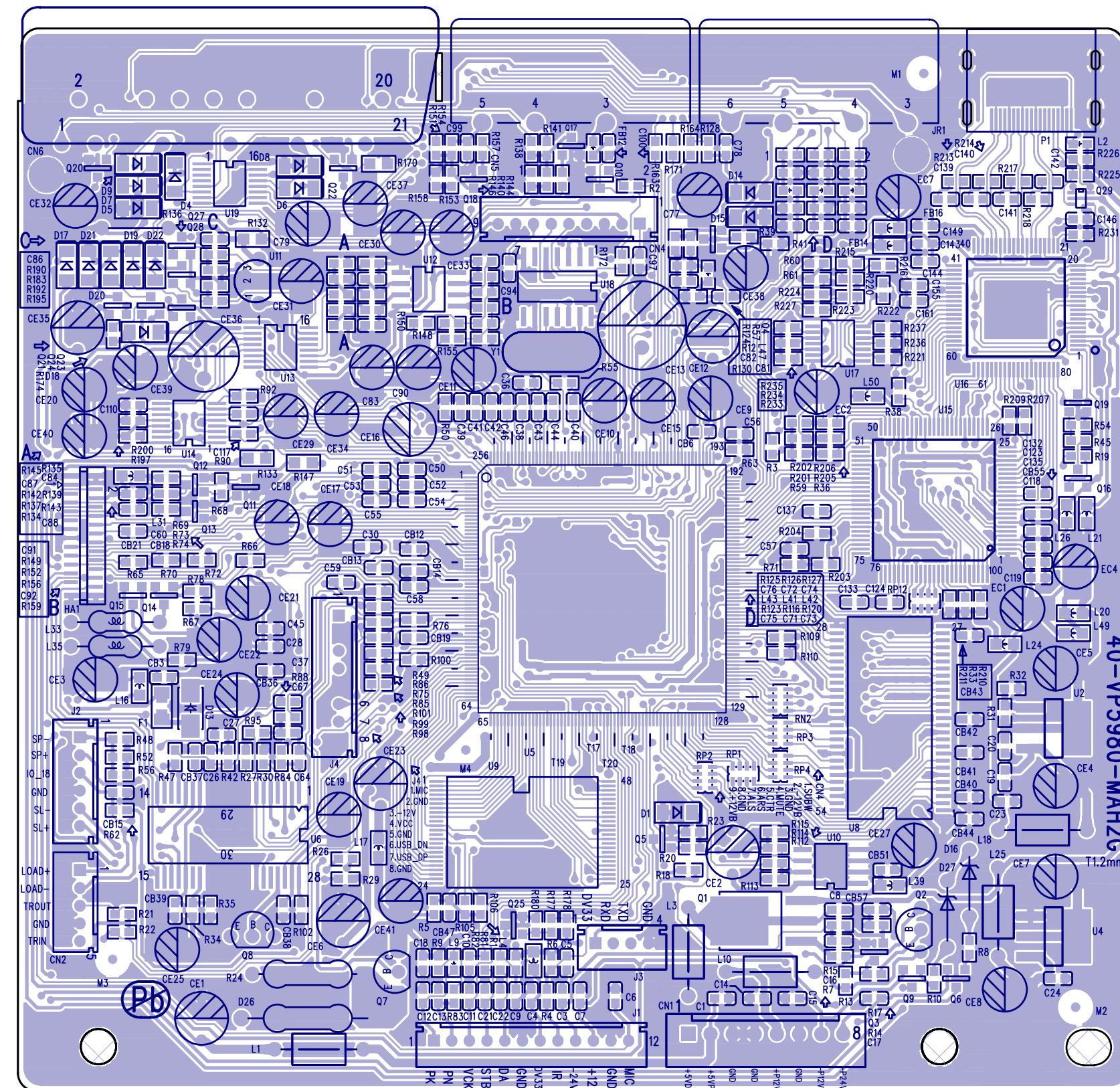




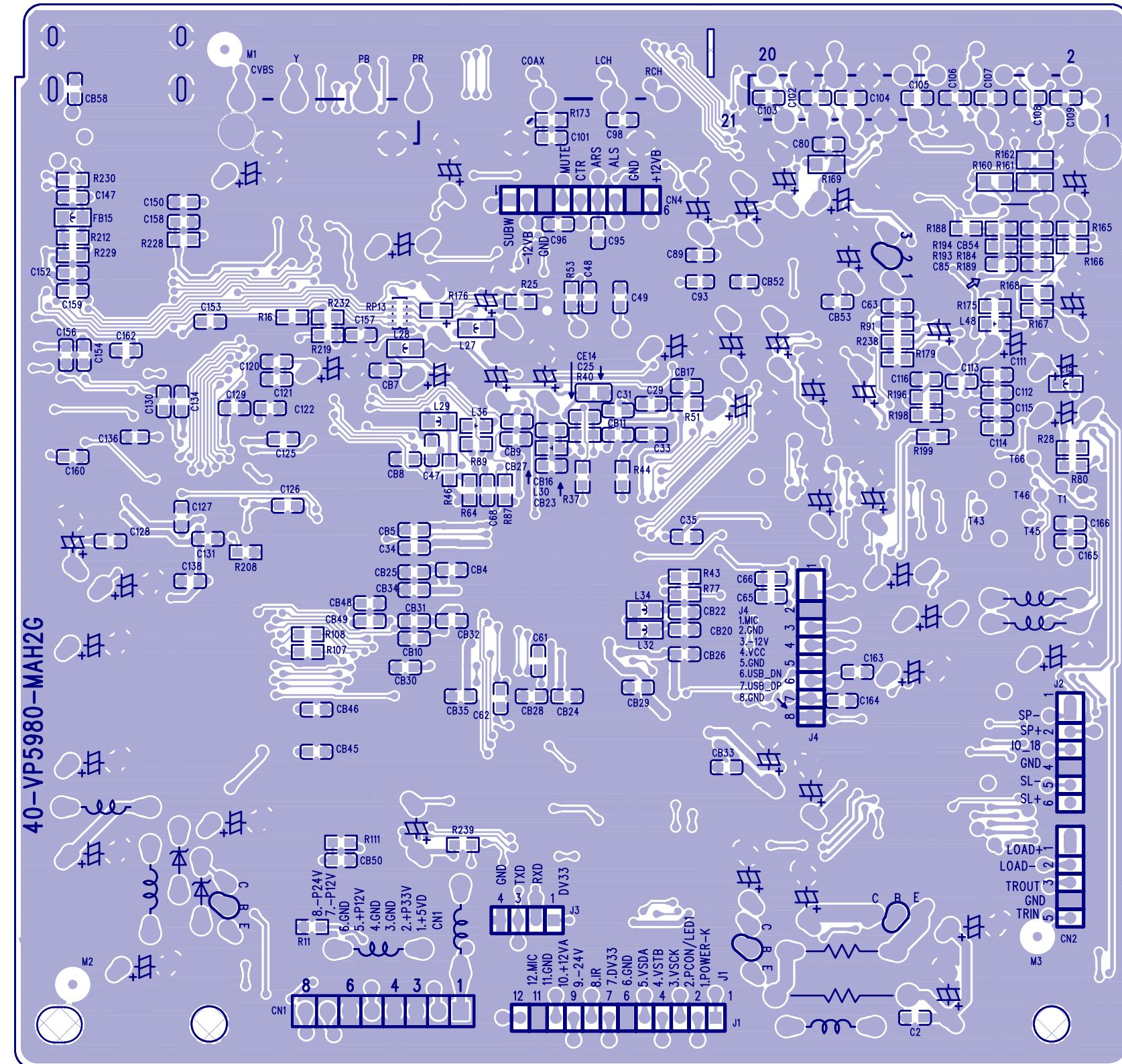
Main Board Electric Diagram for DVP5980(K)/XX, DVP5982/XX, DVP5986K/XX:: TRANSMITTER



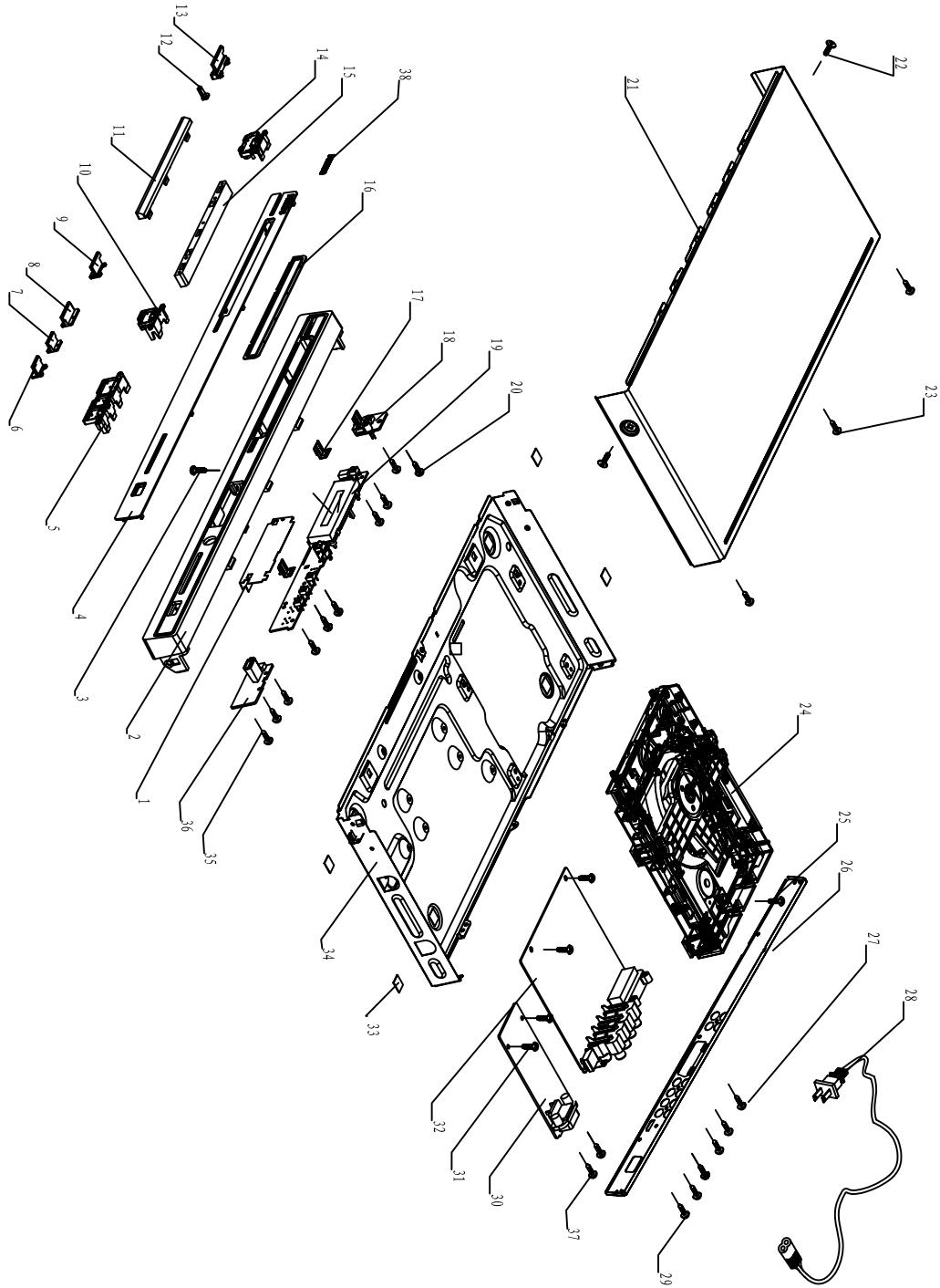
Main Board Print-Layout (Top Side) for DVP5980(K)/XX, DVP5982/XX, DVP5986K/XX



Main Board Print-Layout (Bottom Side) for DVP5980(K)/XX, DVP5982/XX, DVP5986K/XX



DVP5980/XX,DVP5982/XX Mechanical Exploded View

**Remark:**

Ass'y1 is the assemble component for location 2,4,5,6,7,8,9,10,12,13,14,16,38
 Ass'y2 is the assemble component for location 11,15

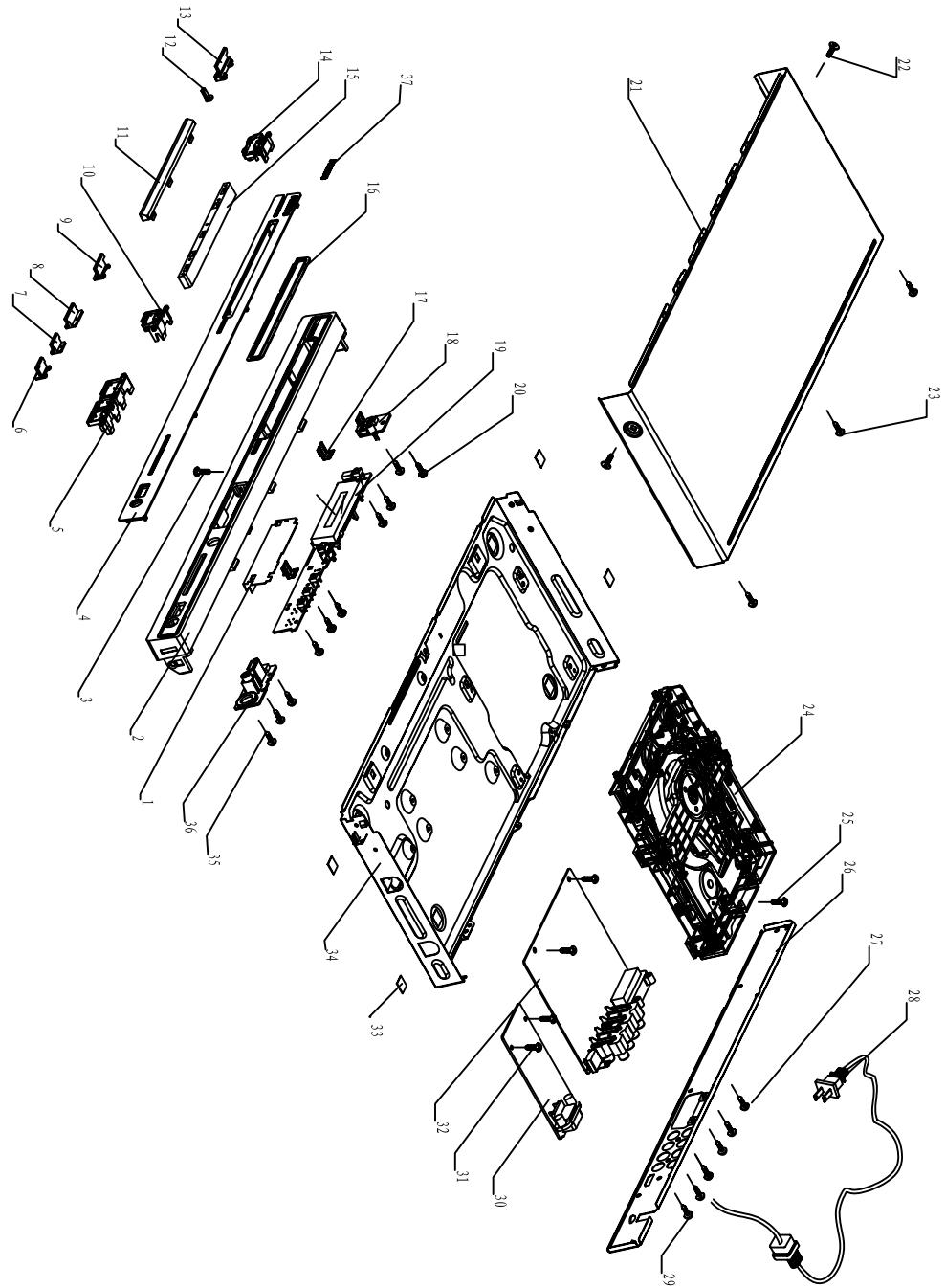
It's a general Mechanical Exploded View for DVP5980/XX,DVP5982/XX, Detailed information please refer to Model set.

ENCASING & ACCESSORIES PARTS LIST**SCREW LIST**

No	12NC No.	Part Name	Q'ty	No	12NC No.	Part Name	Q'ty
1	/	ESD Plate	1	3	/	Machine Screw	1
Ass'y1	/	Front Panel Ass'y for DVP5980/05/12	1	20	/	S/T Screw B 2.6 X 8 BF	7
	/	Front Panel Ass'y for DVP5982/37		22	/	Machine Screw	2
Ass'y2	/	Front Door Ass'y for DVP5980/05/12	1	23	/	Machine Screw	3
	/	Front Door Ass'y for DVP5982/37		25	/	Machine Screw	1
17	/	Earthing Plate	1	27	/	Machine Screw	2
18	/	Ass'y-Switch Board	1	29	/	Machine Screw	1
				31	/	Machine Screw	5
19	/	Ass'y- Front Board	1	35	/	Triangle M/C Screw B 3 X 6	2
21	/	Top cover	1	37	/	S/T SCREW B 3 X 8 BF	2
24	/	Loader	1				
26	/	Rear Cabinet for DVP5980/05/12	1				
	/	Rear Cabinet for DVP5982/37					
28	/	Power Cord for DVP5980/05	1				
	/	Power Cord for DVP5980/12					
	/	Power Cord for DVP5982/37					
30	/	Ass'y-Power Board for DVP5980/05/12	1				
	/	Ass'y-Power Board for DVP5982/37					
32	/	Ass'y-Main Board for DVP5980/05/12	1				
	/	Ass'y-Main Board for DVP5982/37					
33	/	Pad	4				
34	/	Bottom Cabinet	1				
36	/	Ass'y -USB Board	1				

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

DVP5980K/XX Mechanical Exploded View

**Remark:**

Ass'y1 is the assemble component for location 2,4,5,6,7,8,9,10,12,13,14,16,38
 Ass'y2 is the assemble component for location 11,15

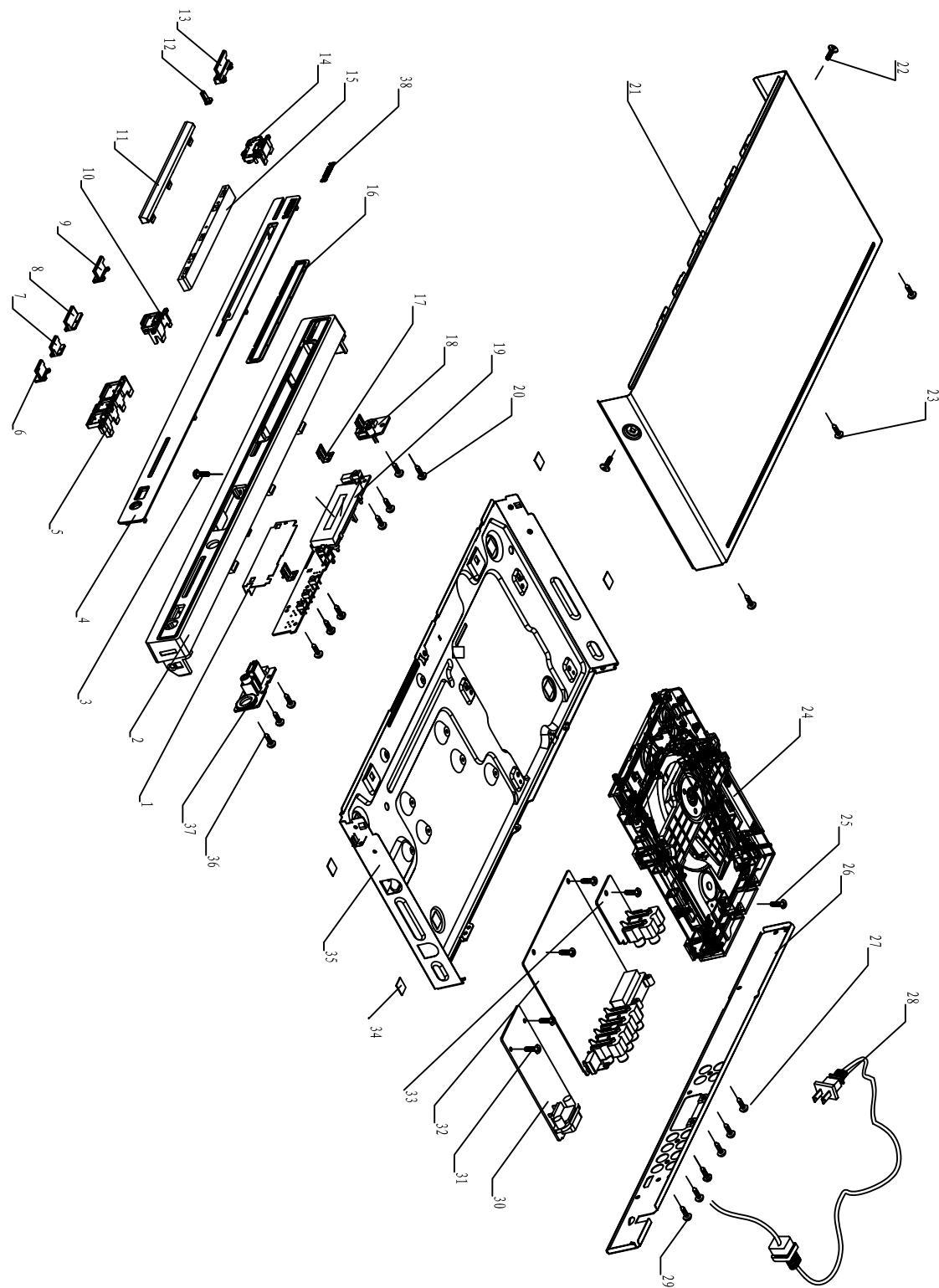
It's a general Mechanical Exploded View for DVP5980K/XX, Detailed information please refer to Model set.

ENCASING & ACCESSORIES PARTS LIST**SCREW LIST**

No	12NC No.	Part Name	Q'ty	No	12NC No.	Part Name	Q'ty	
1	/	ESD Plate	1	3	/	Machine Screw	1	
Ass'y1	996510002165	Front Panel Ass'y	1	20	/	S/T Screw B 2.6 X 8 BF	7	
Ass'y2	996510002164	Front Doorl Ass'y	1	22	/	Machine Screw	2	
17	/	Earthing Plate	1	23	/	Machine Screw	3	
18	996510001860	Ass'y-Switch Board	1	25	/	Machine Screw	1	
19	996510001861	Ass'y- Front Board	1	27	/	Machine Screw	2	
21	/	Top cover	1	29	/	Machine Screw	1	
24	996510001864	Loader	1	31	/	Machine Screw	5	
26	/	Rear Cabinet for DVP5980K/55	1	35	/	Triangle M/C Screw B 3 X 6	3	
	/	Rear Cabinet for DVP5980K/75						
28	/	Power Cord for DVP5980K/55	1	Accessory				
	996510002166	Power Cord for DVP5980K/75		AVCAB	996510001106	VIDEO CABLE 1500mm	1	
30	/	Power Board for DVP5980K/55	1	RC	996510001865	REMOTE CONTROL	1	
	996510001859	Power Board for DVP5980K/75		Cable				
32	996510002163	Main Board for DVP5980K/55	1	CN2	996510001192	PH-5Y/PH-5Y L=130MM	1	
33	/	Pad	4	J2	996510001222	HS 6P PH-6Y/PH-6Y	1	
34	/	Bottom Cabinet	1	HA1	996510001108	24PIN FLAT WIRE	1	
36	996510001863	Ass'y USB+OK Board	1	CON302	996510001868	CABLE HS 4P UL20080#28 160MM	1	
				CON301	996510001867	CABLE HS PH-12Y/JC20-12P	1	
				CN601	996510001866	CABLE 8P HS	1	
				CON2	996510000546	8PIN HS	1	

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

DVP5986K/XX Mechanical Exploded View



Remark:

Ass'y1 is the assemble component for location 2,4,5,6,7,8,9,10,12,13,14,16,38
 Ass'y2 is the assemble component for location 11,15

It's a general Mechanical Exploded View for DVP5986K/XX, Detailed information please refer to Model set.

ENCASING & ACCESSORIES PARTS LIST**SCREW LIST**

No	12NC No.	Part Name	Q'ty	No	12NC No.	Part Name	Q'ty
1	/	ESD Plate	1	3	/	Machine Screw	1
Ass'y1	/	Front Panel Ass'y	1	20	/	S/T Screw B 2.6 X 8 BF	7
Ass'y2	/	Front Door Ass'y	1	22	/	Machine Screw	2
17	/	Earthing Plate	1	23	/	Machine Screw	3
18	/	Ass'y-Switch Board	1	25	/	Machine Screw	1
19	/	Ass'y- Front Board	1	27	/	Machine Screw	2
21	/	Top cover	1	29	/	Machine Screw	1
24	/	Loader	1	31	/	Machine Screw	5
26	/	Rear Cabinet for DVP5986K/98	1	36	/	Triangle M/C Screw B 3 X 6	3
	/	Rear Cabinet for DVP5986K/93					
	/	Rear Cabinet for DVP5986K/51					
28	/	Power Cord for DVP5986K/98	1				
	/	Power Cord for DVP5986K/93					
	/	Power Cord for DVP5986K/51					
30	/	Ass'y-Power Board for DVP5986K/51/93	1				
	/	Ass'y-Power Board for DVP5986K/98					
32	/	Ass'y-Main Board	1				
33	/	Ass'y-AV Board	1				
34	/	Pad	4				
35	/	Bottom Cabinet	1				
37	/	Ass'y USB+OK Board	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.