

# DVD Player

DVP3156, DVP3160K, DVP3166(K)

Service

DVP3160K/55/77/78

DVP3166/94, DVP3166X/94

Service

DVP3166K/93

DVP3156/93

Service



# Service Manual

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Version 1.1

**CLASS 1  
LASER PRODUCT**



3139 785 32471

# PHILIPS

## Technical Specifications

### 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

### Video format

Digital Compression	MPEG 2 for DVD,SVCD MPEG 1 for VCD DivX®
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DVD	50Hz	60Hz
Horiz resolution	720 pixels	720 pixels
Vertical resolution	576lines	480 lines

VCD	50Hz	60Hz
Horiz. resolution	352 pixels	352 pixels
Vertical resolution	288lines	240 lines

### Audio format

Digital	MPEG/AC-3/ PCM	Compressed Digital 16, 20, 24bits fs, 44.1, 48, 96kHz MP3(ISO 9660) 96,112,128,256kbps & variable bit rate fs,32, 44.1,48 kHz
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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
Signal-Noise (1kHz)	>90dB
Dynamic Range (1kHz)	>80dB
Cross talk (1kHz)	>70dB
Distortion/Noise (1kHz)	>65dB
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, Dolby Digital

### Cabinet

Dimensions (w X h X d)	360 x 37 x 210 mm
Weight	Approximately 2 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

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### 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

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### 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

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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

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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.

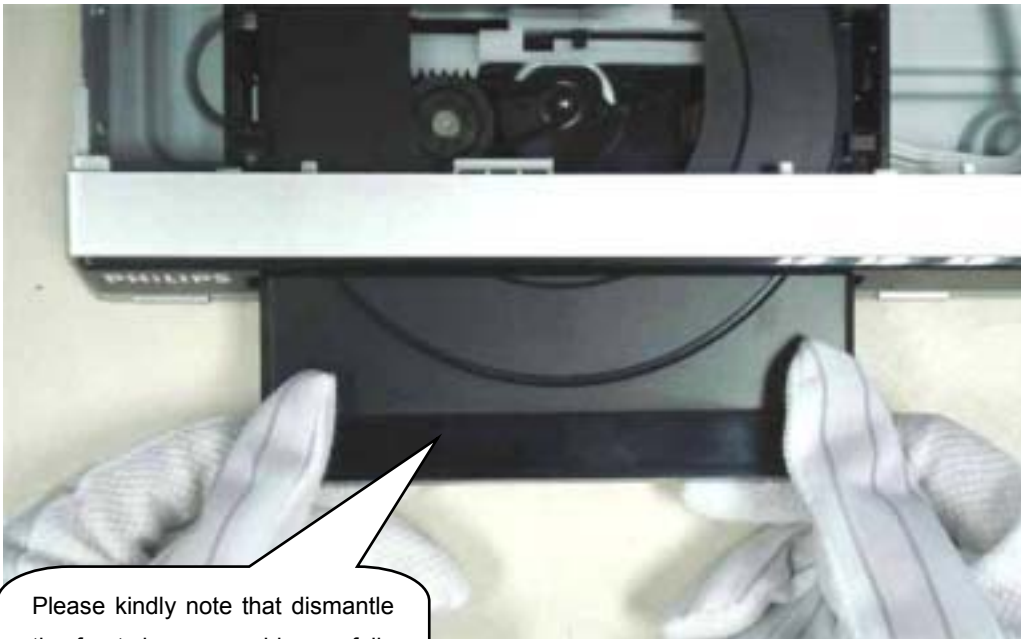


Figure 2

Please kindly note that dismantle the front door assembly carefully to avoid damage tray and the front door assembly.

## 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.

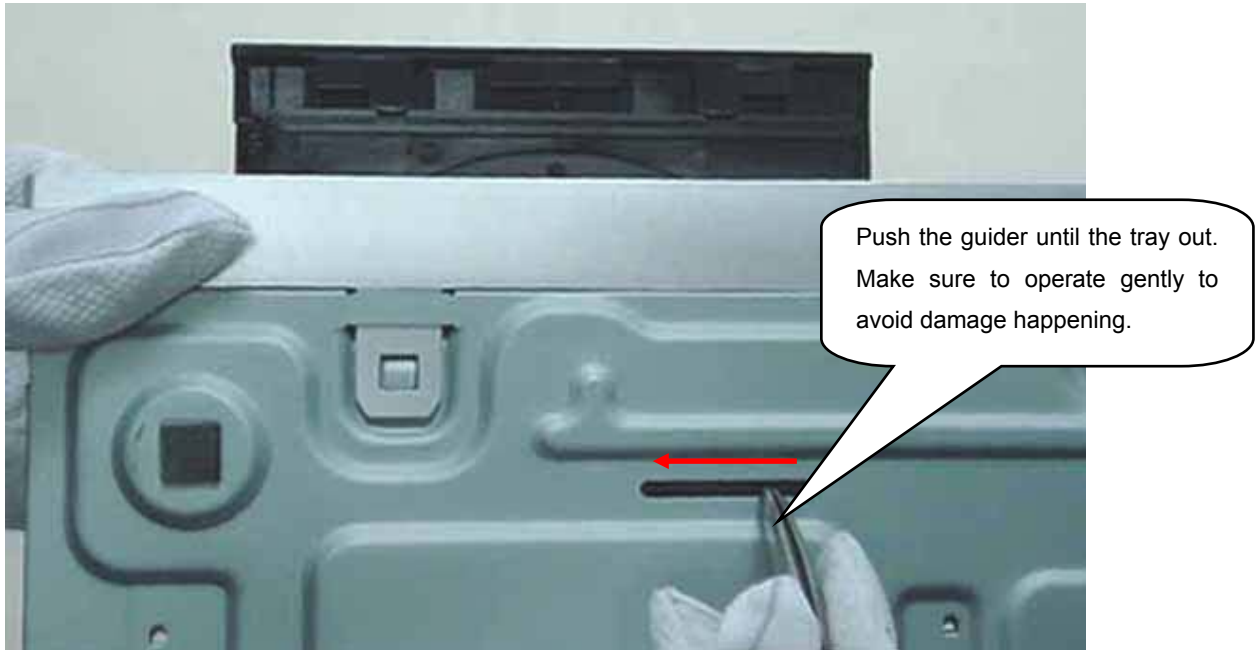


Figure 3

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

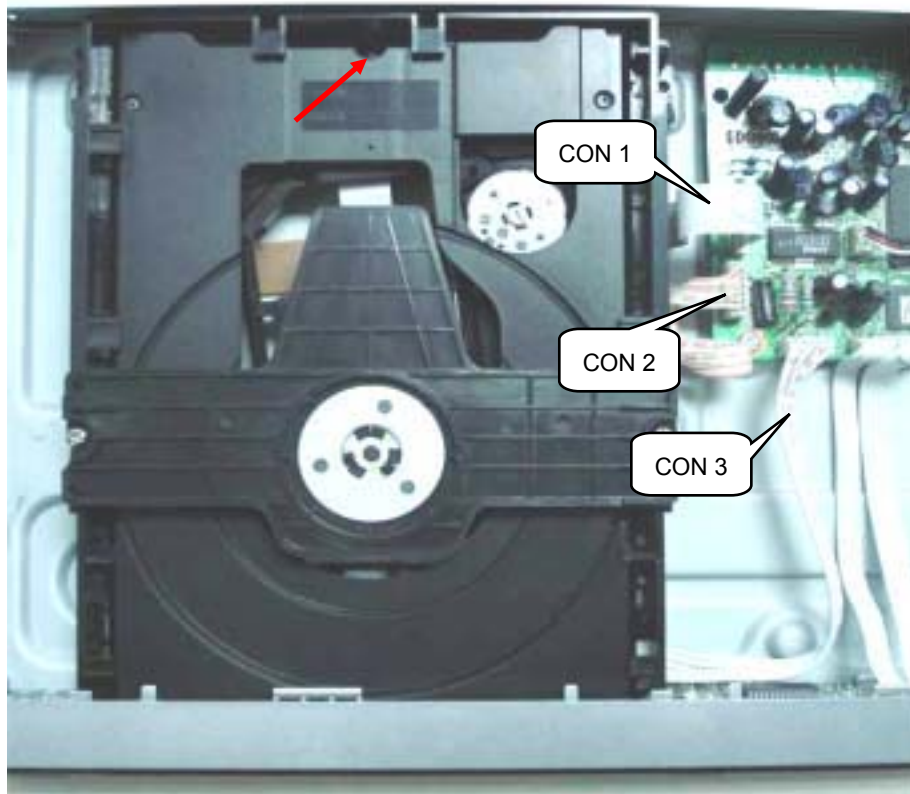


Figure 4

## 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)

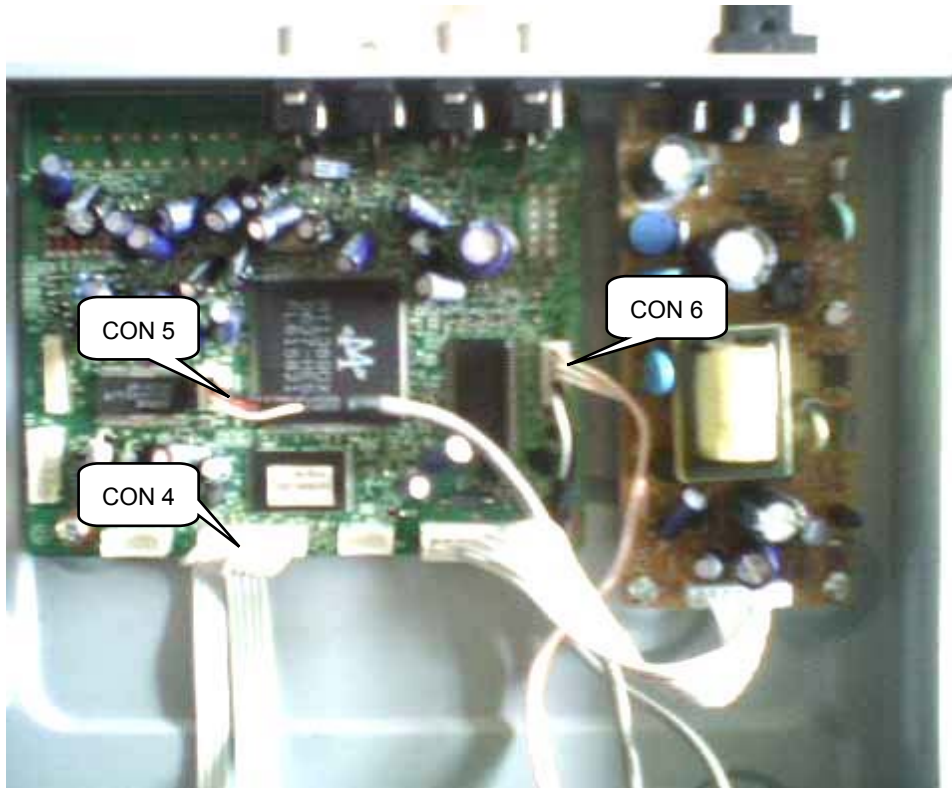


Figure 5



Figure 6



Figure 7



## Mechanical and Dismantling Instructions

### Dismantling Instruction

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

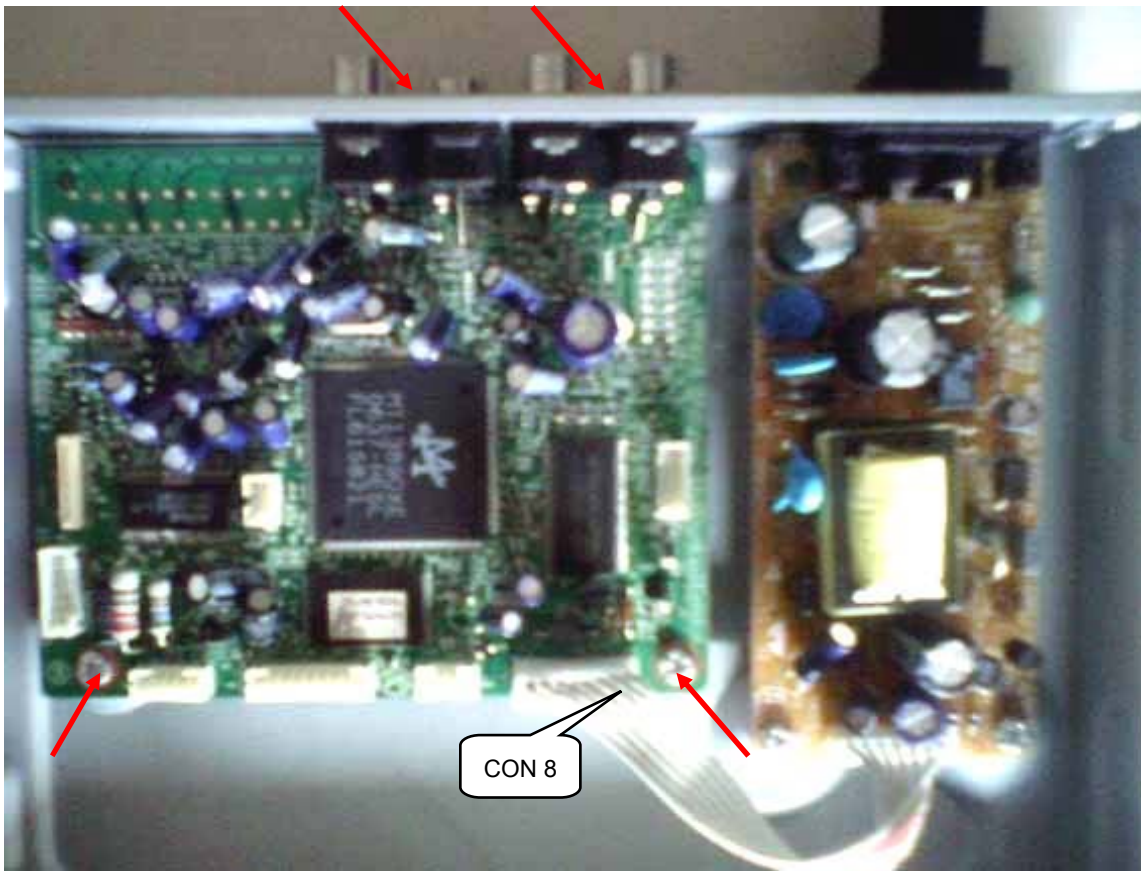


Figure 8

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

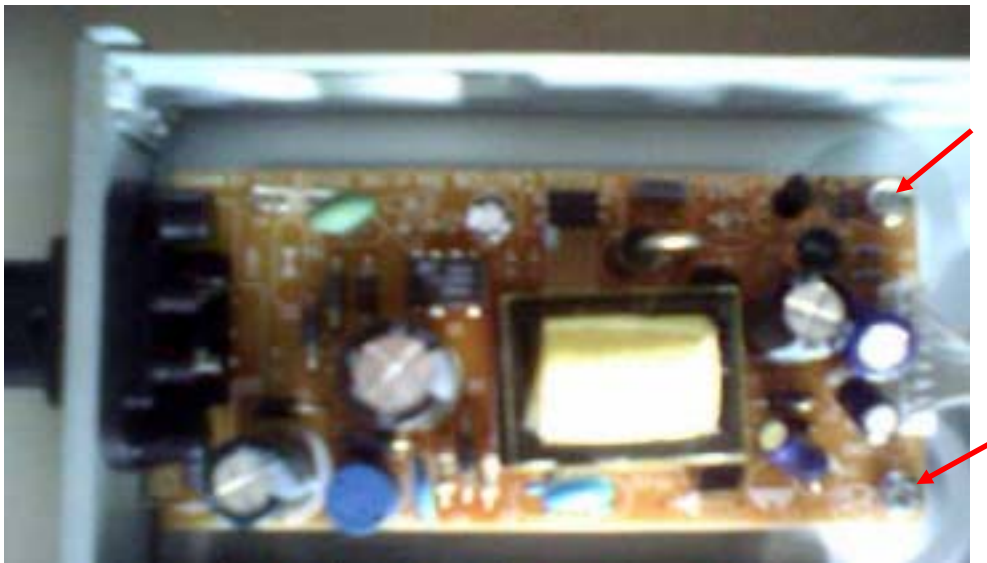


Figure 9

## 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)  
File Name: DVP3XXX\_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

### 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.

### 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.

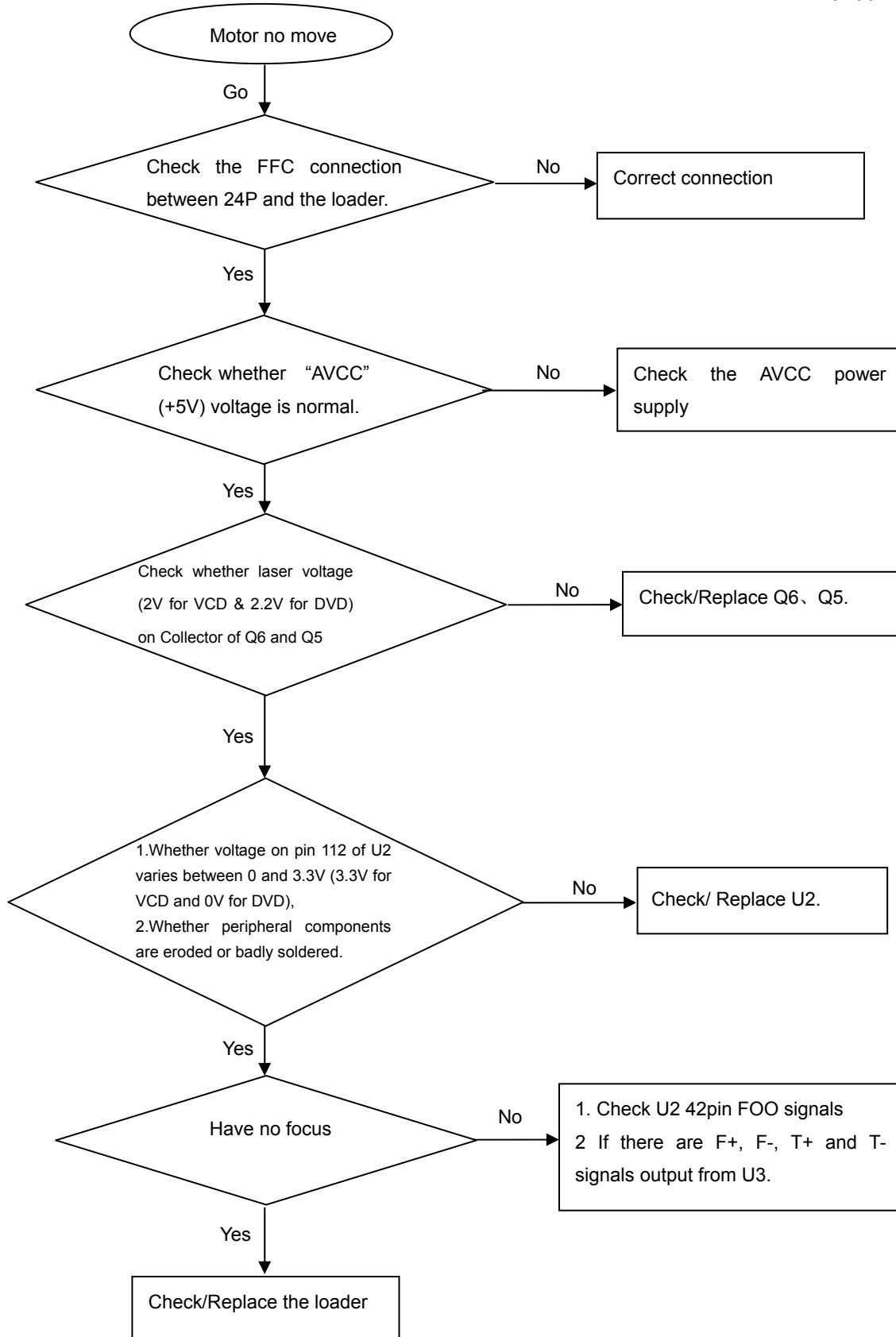
The software version and other information are display on the TV screen as follows:

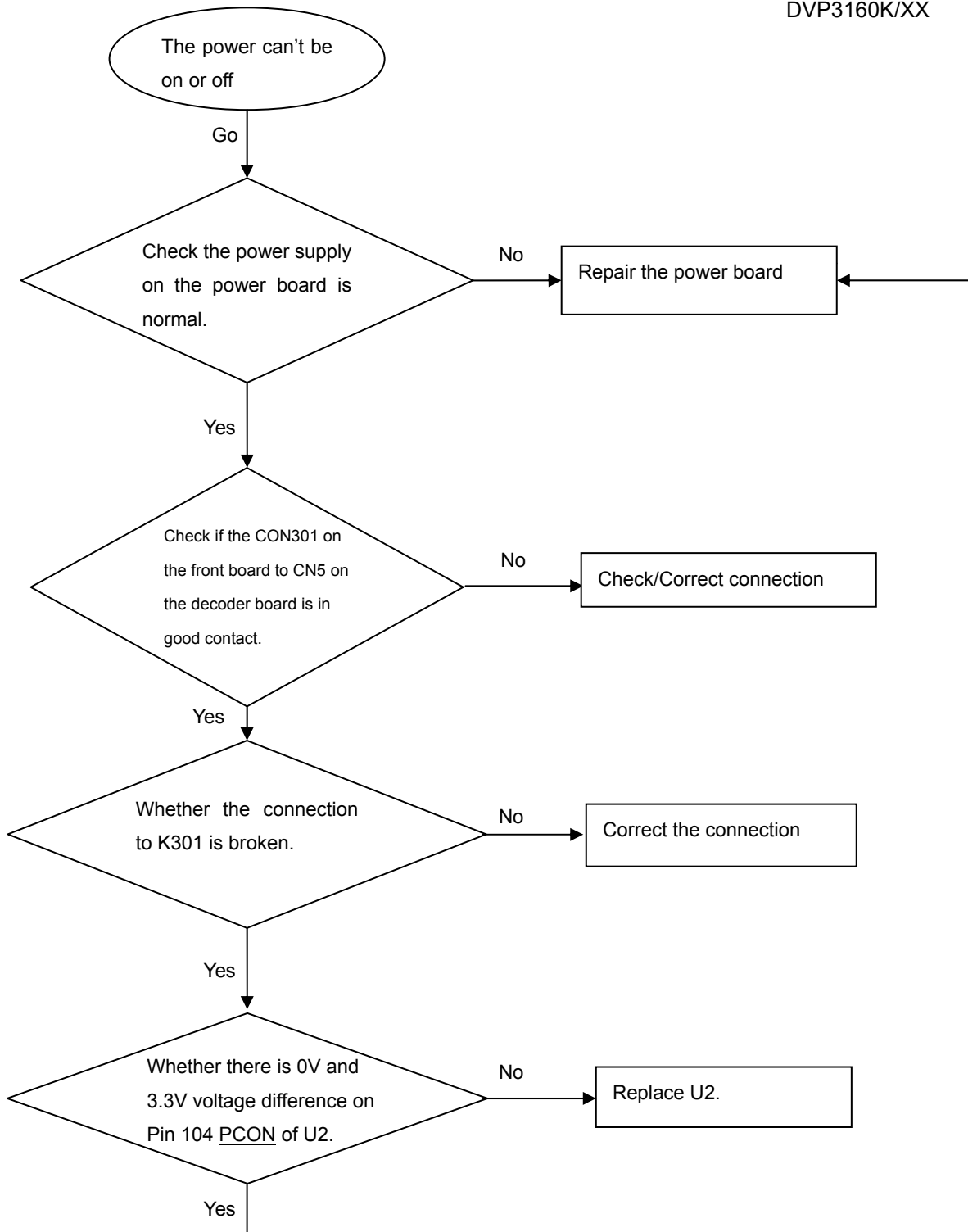
Version	XX.XX.XX.XX (Main version)
SUB-VER	XX.XX.XX.XX (software version of application software)
8032	XX.XX.XX.XX
Servo	XX.XX.XX.XX (software version of Servo)
RISC	XX.XX.XX.XX
DSP	XX.XX.XX.XX
Region Code	X

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

**Spindle motor does not move**

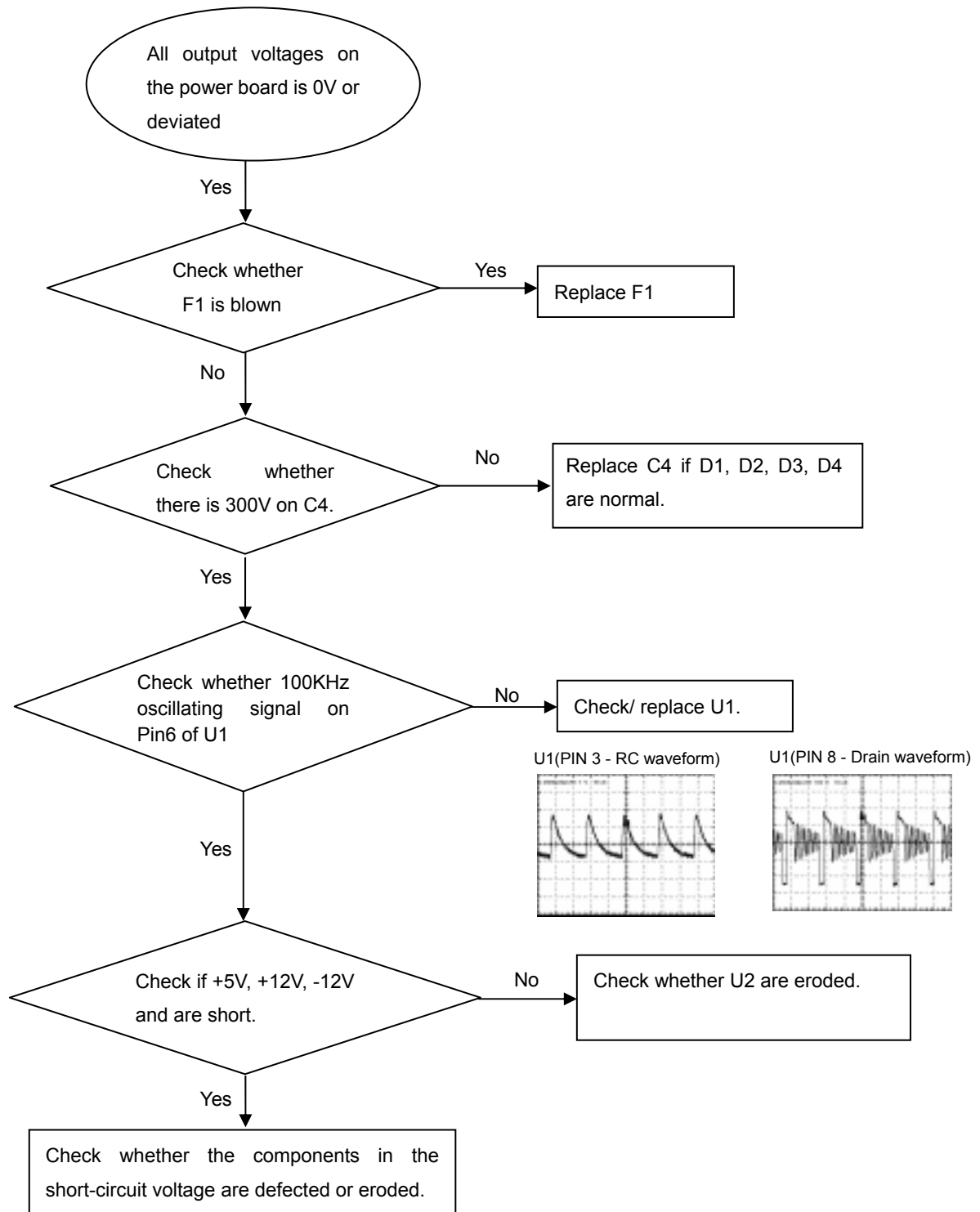
Remark: Trouble shooting chart for DVP3160K/XX

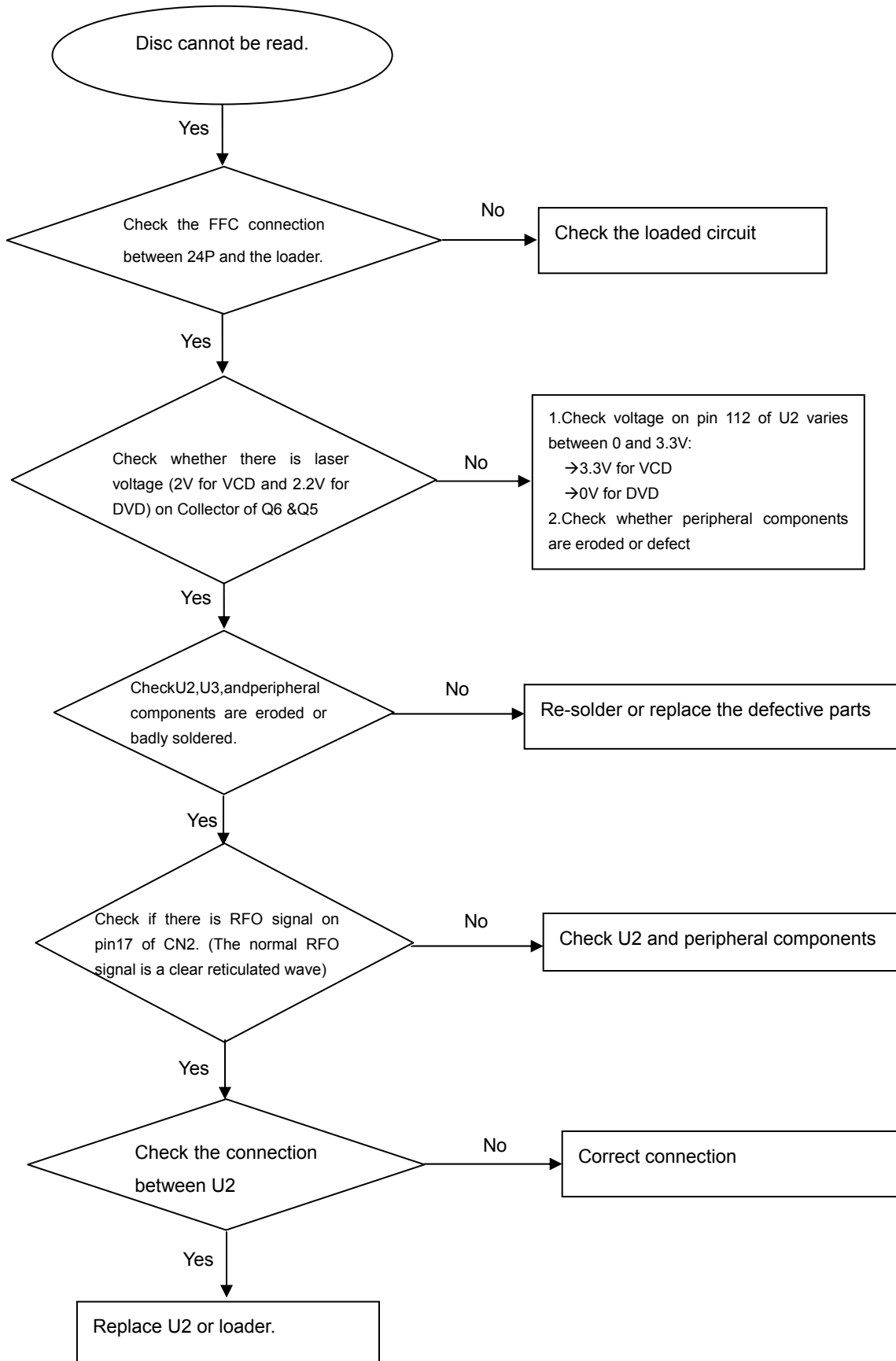


**The power can not be on or off**Remark: Trouble shooting chart for  
DVP3160K/XX

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

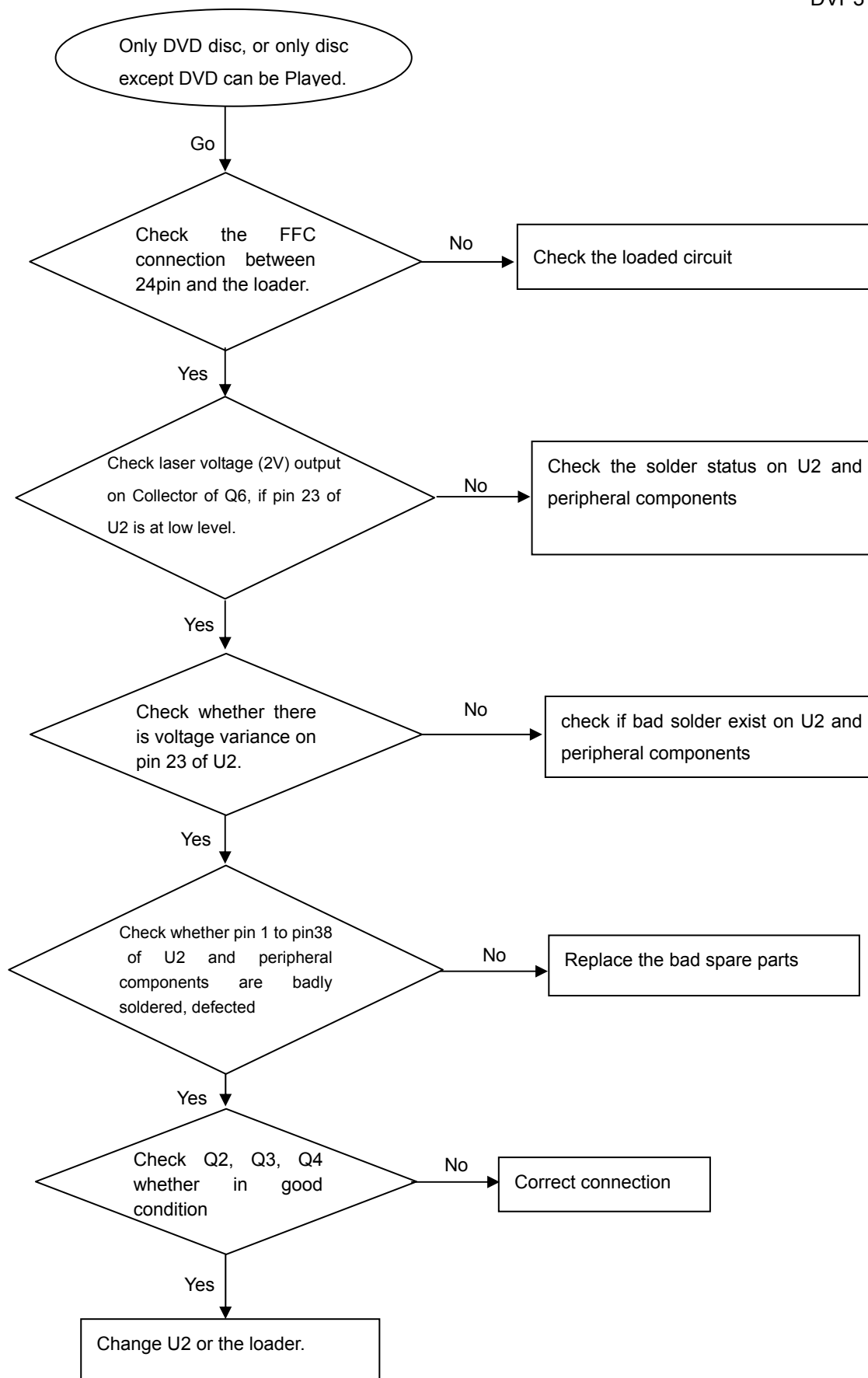
Remark: Trouble shooting chart for DVP3160K/XX



**Disc cannot be read.**Remark: Trouble shooting chart for  
DVP3160K/XX

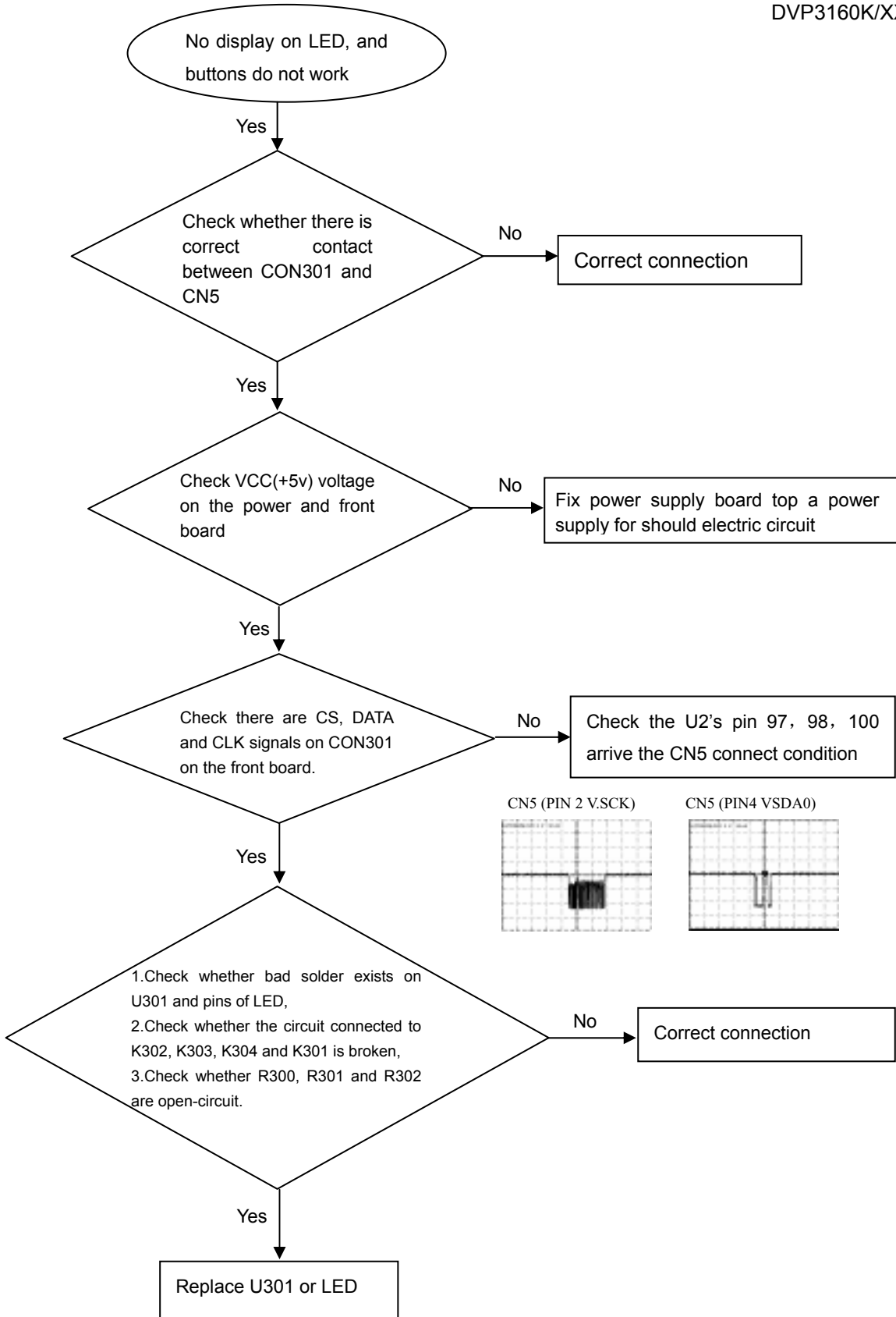
**Only DVD disc or only disc except DVD can be played**

Remark: Trouble shooting chart for DVP3160K/XX



No display on LEDD, and buttons do not work

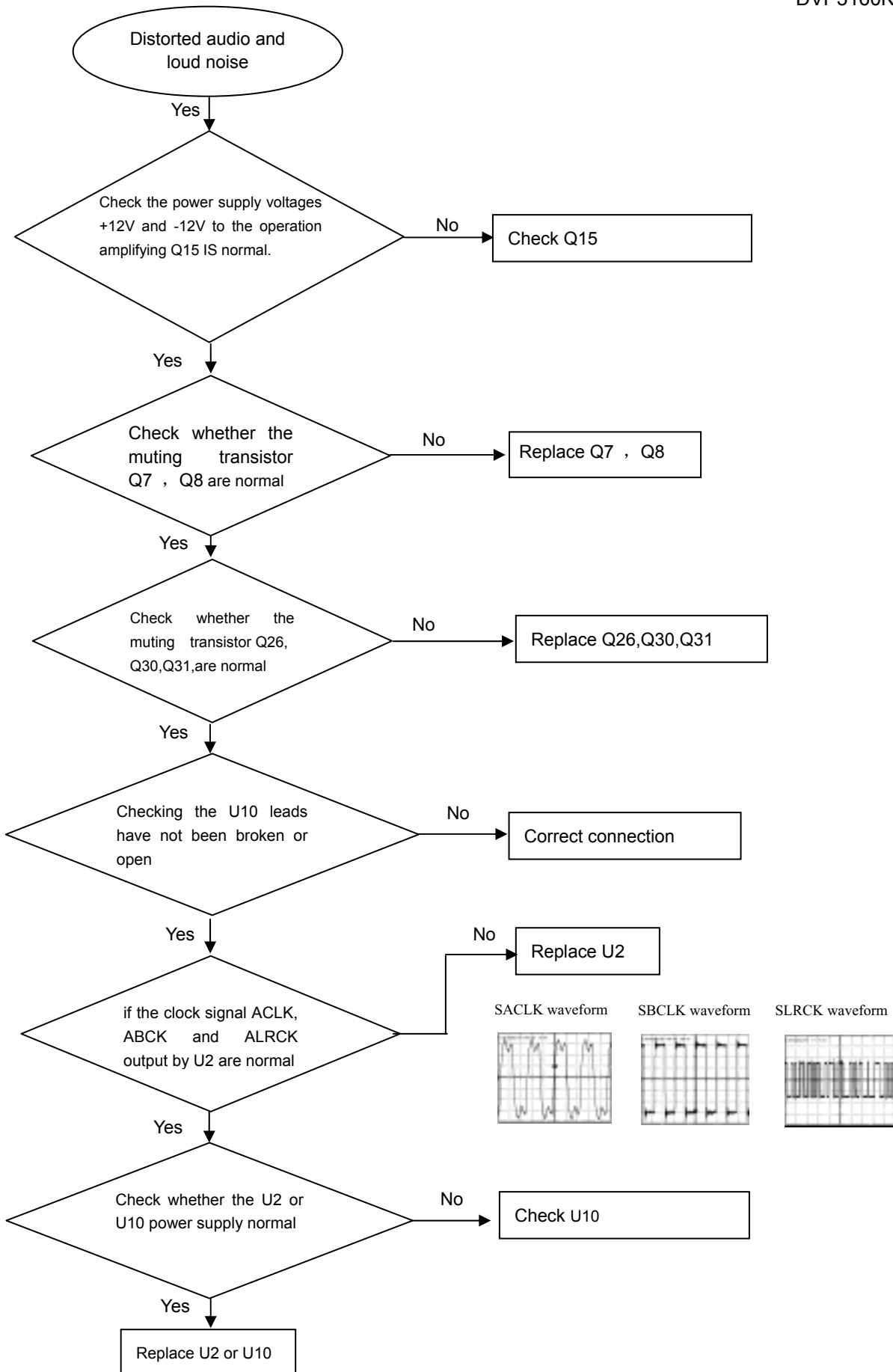
Remark: Trouble shooting chart for DVP3160K/XX

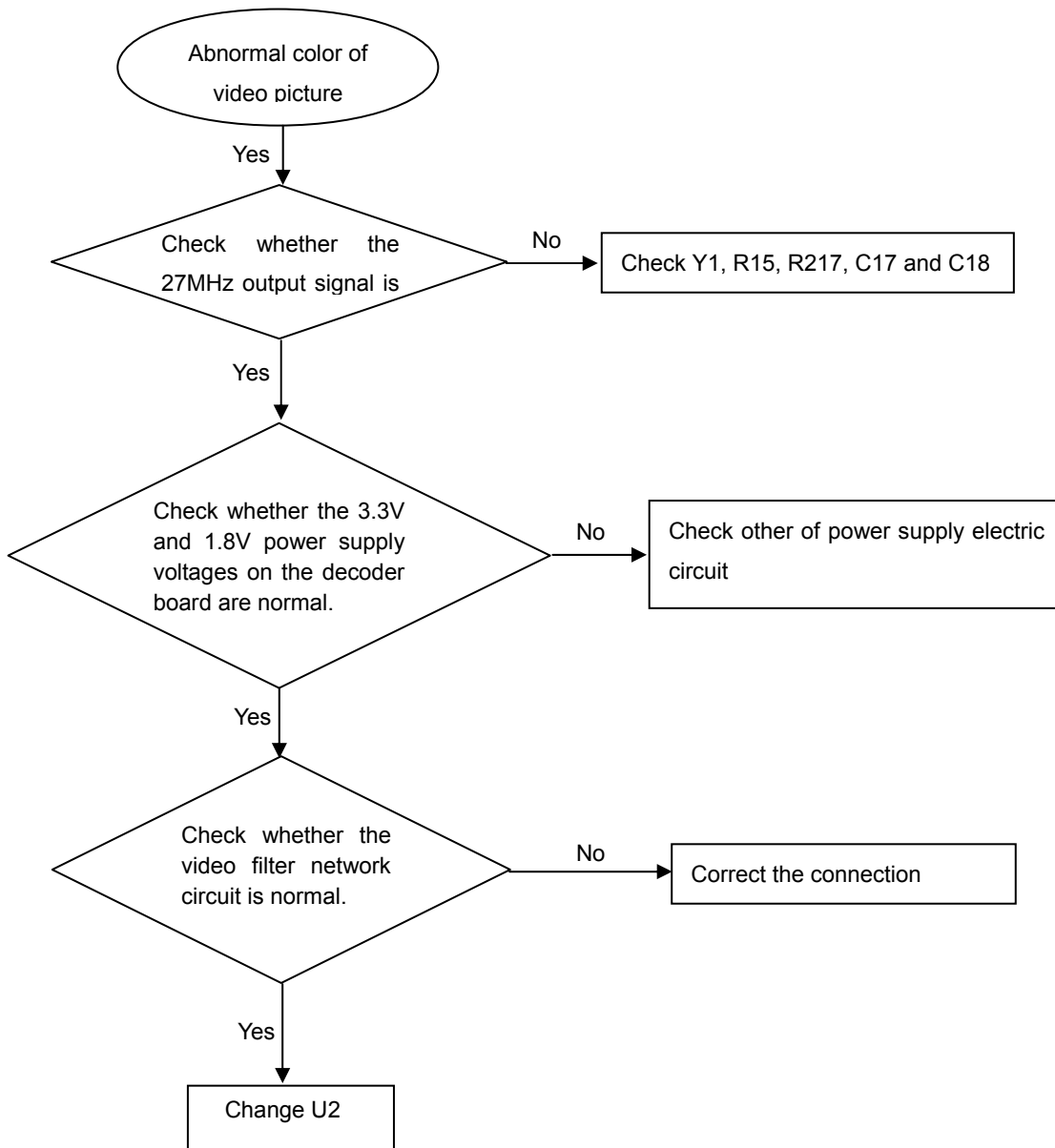




**Distorted audio and loud noise**

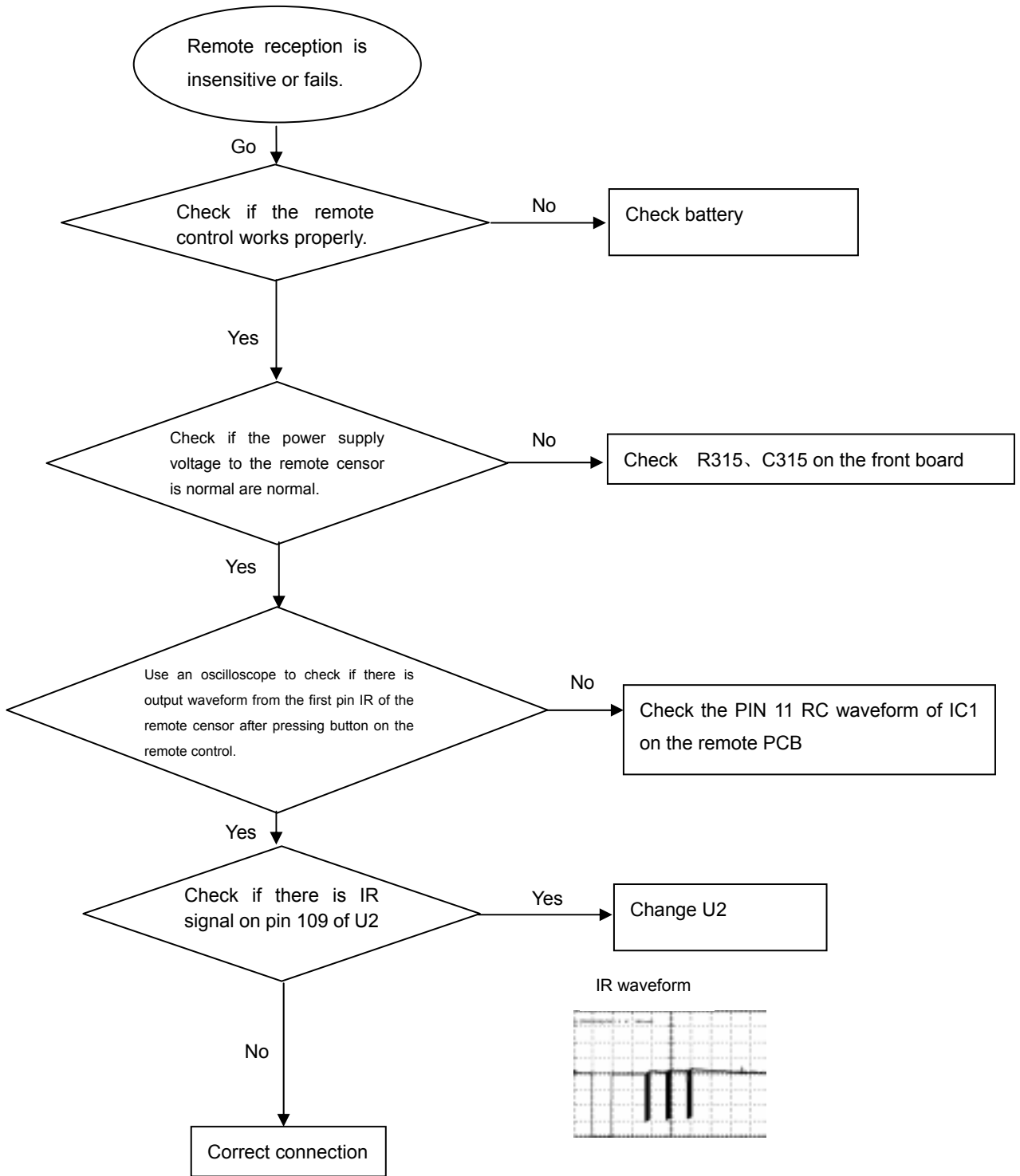
Remark: Trouble shooting chart for DVP3160K/XX



**Abnormal color of video picture**Remark: Trouble shooting chart for  
DVP3160K/XX

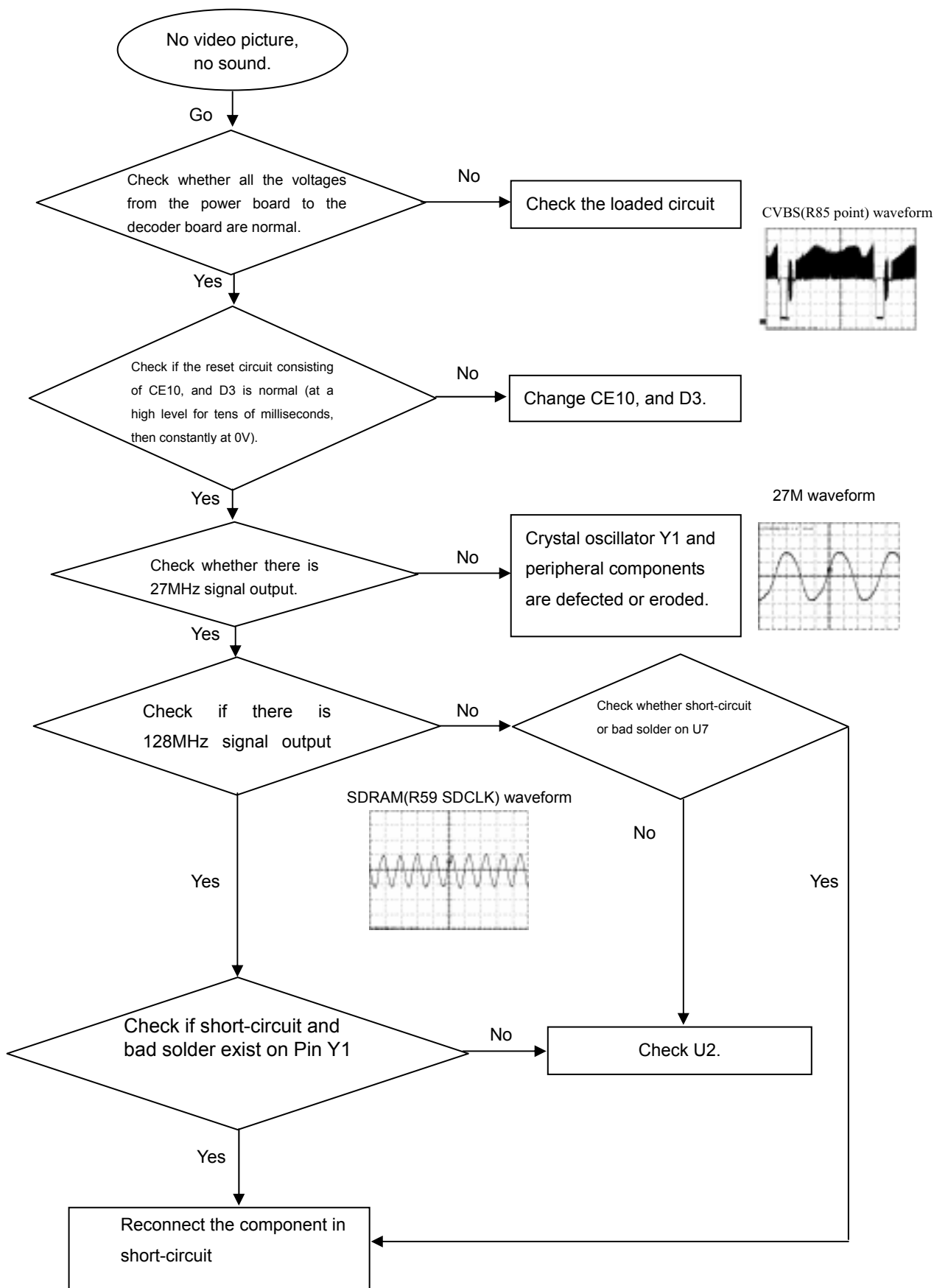
**Remote reception is insensitive or fails.**

Remark: Trouble shooting chart for DVP3160K/XX



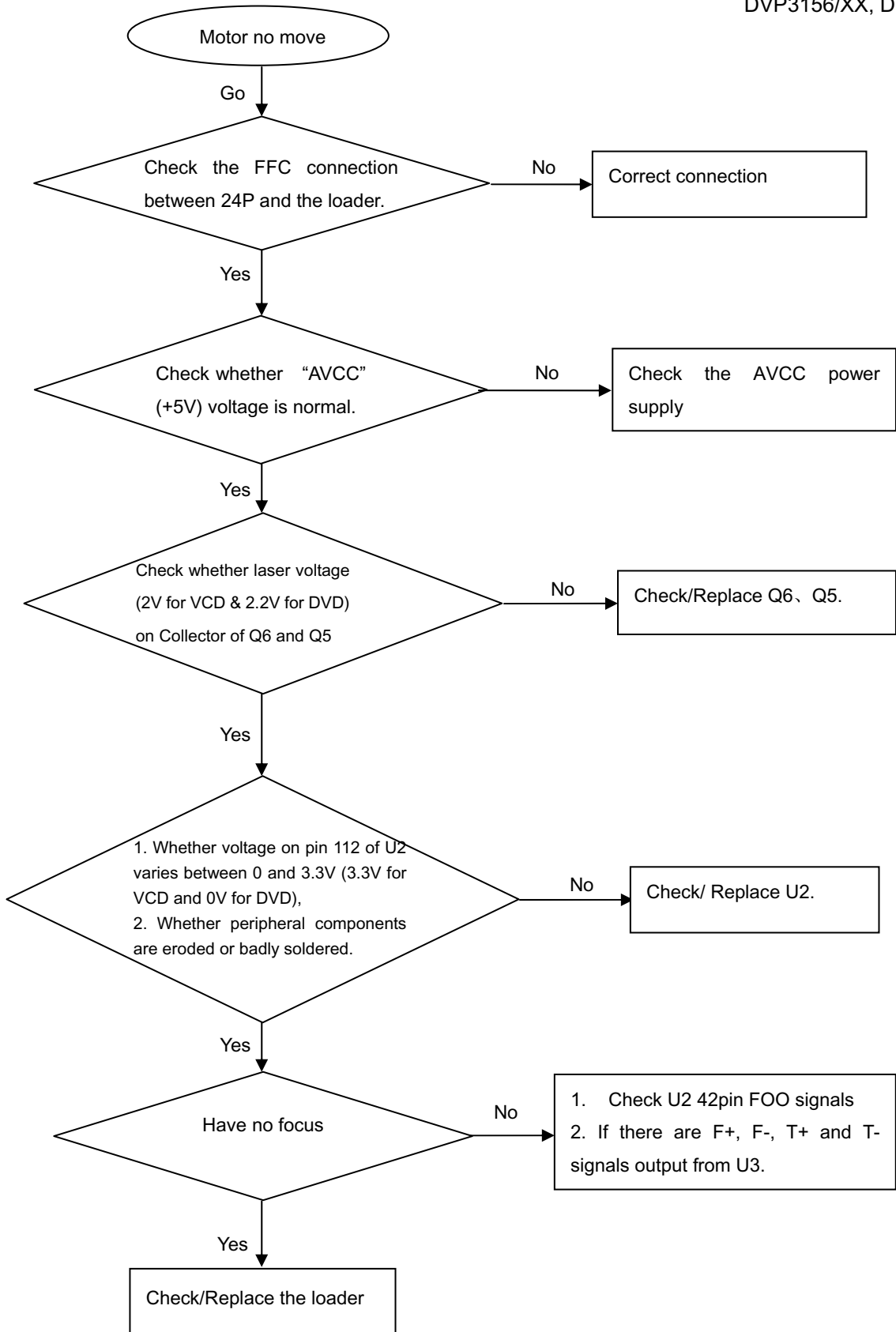
No video picture, no sound.

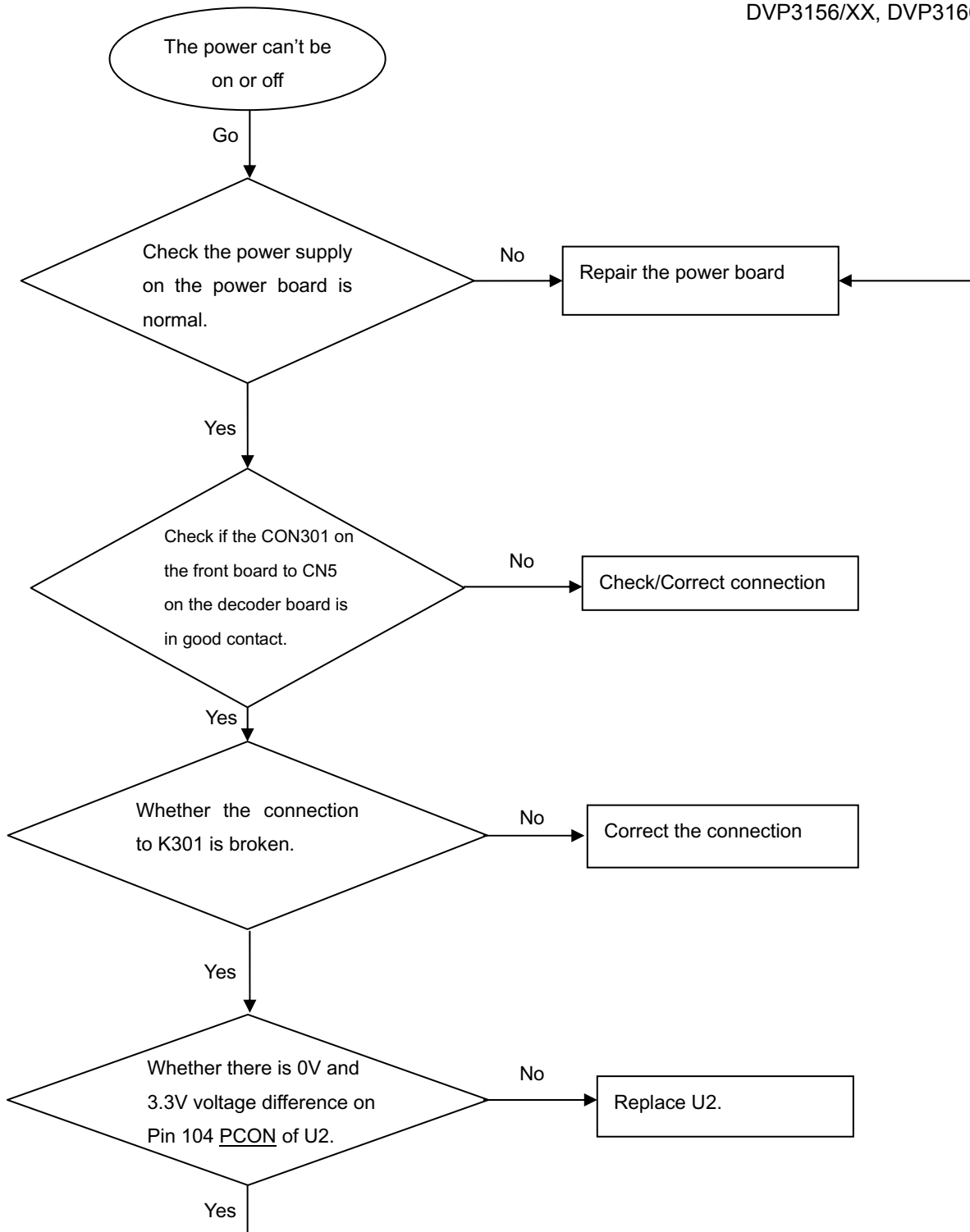
Remark: Trouble shooting chart for DVP3160K/XX



**Spindle motor does not move**

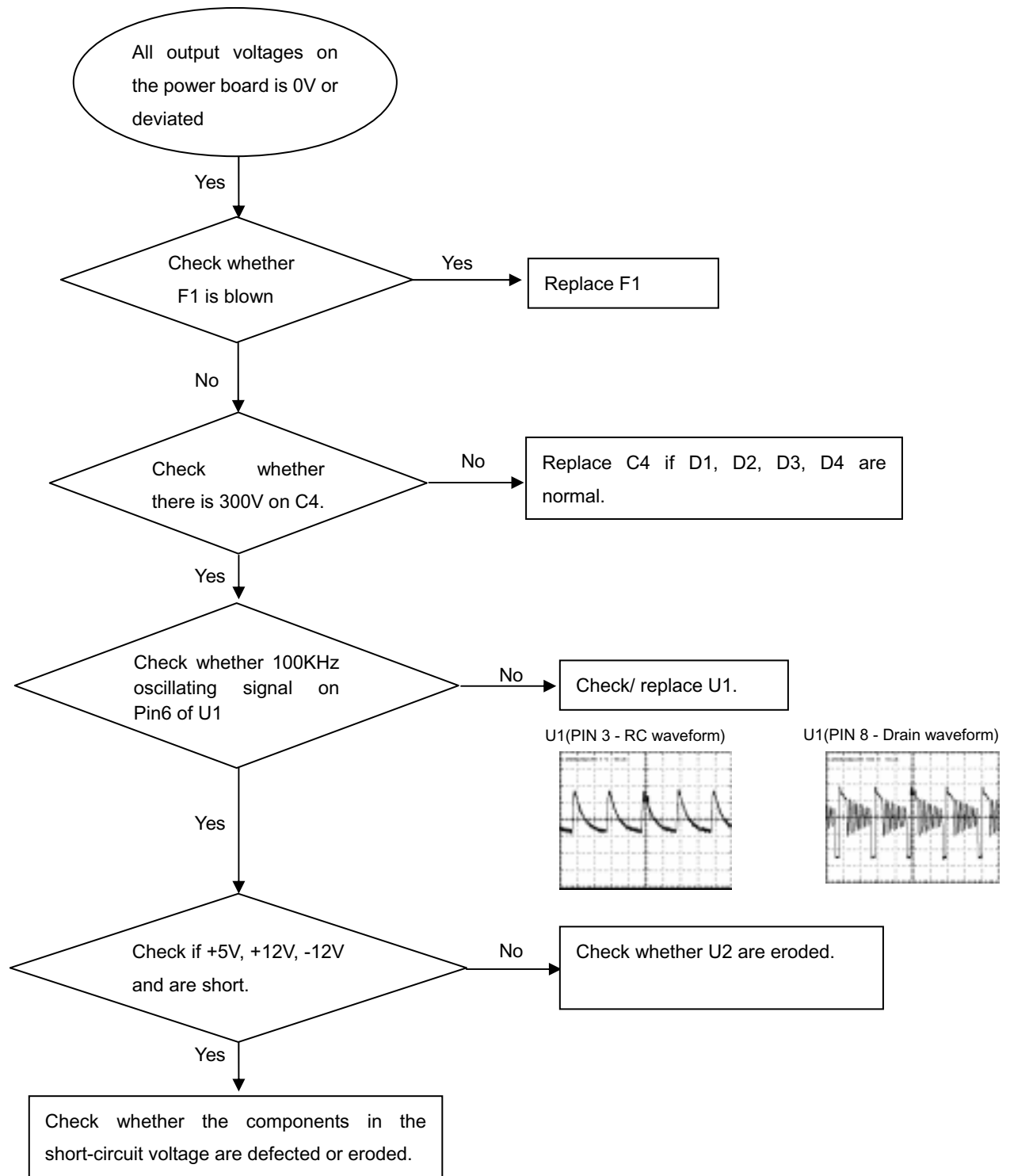
Remark: Trouble shooting chart for DVP3156/XX, DVP3166(K)/XX



**The power can not be on or off**Remark: Trouble shooting chart for  
DVP3156/XX, DVP3166(K)/XX

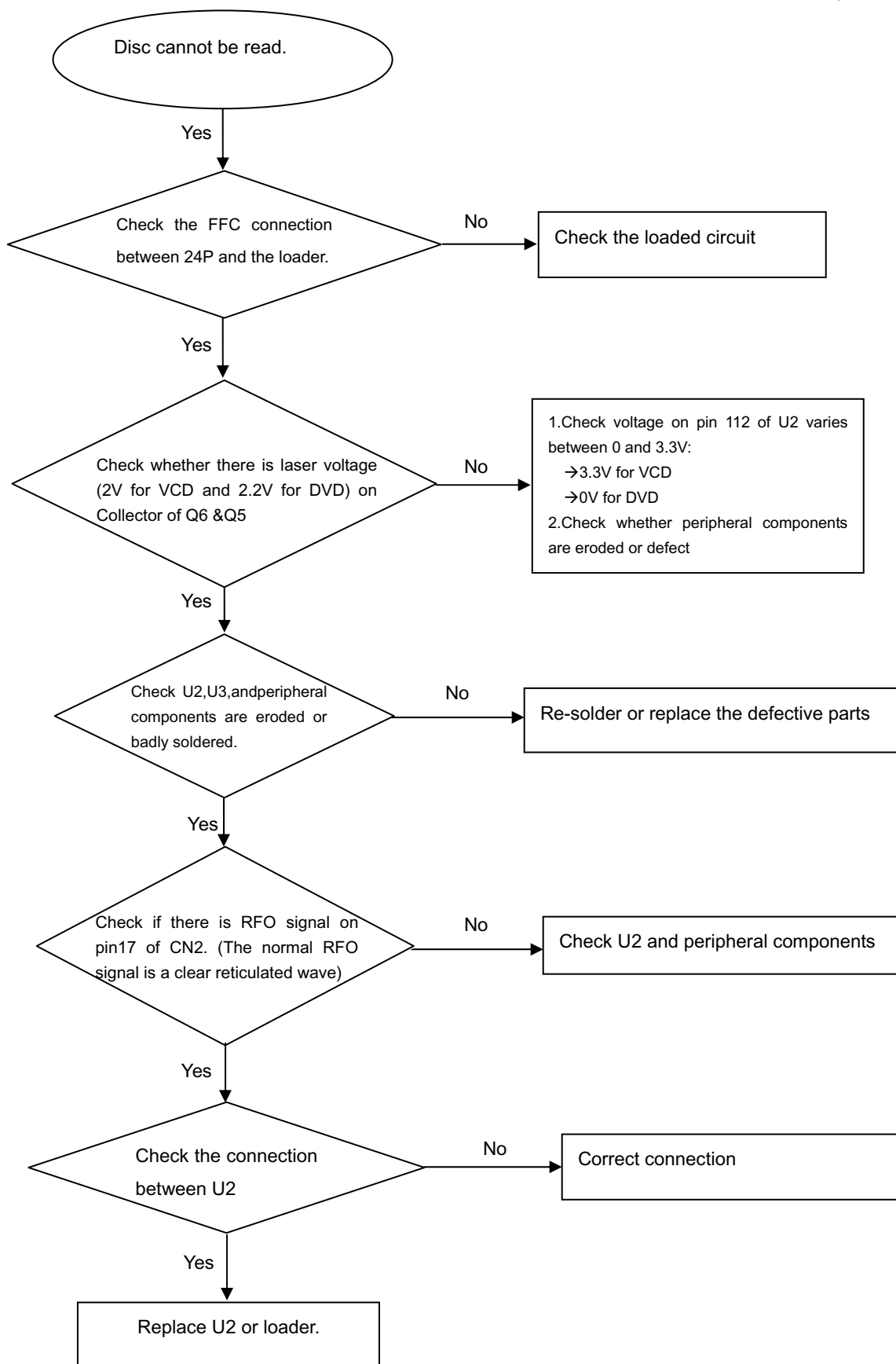
**All output voltages on the power board is 0V or deviated.**

Remark: Trouble shooting chart for DVP3156/XX, DVP3166(K)/XX

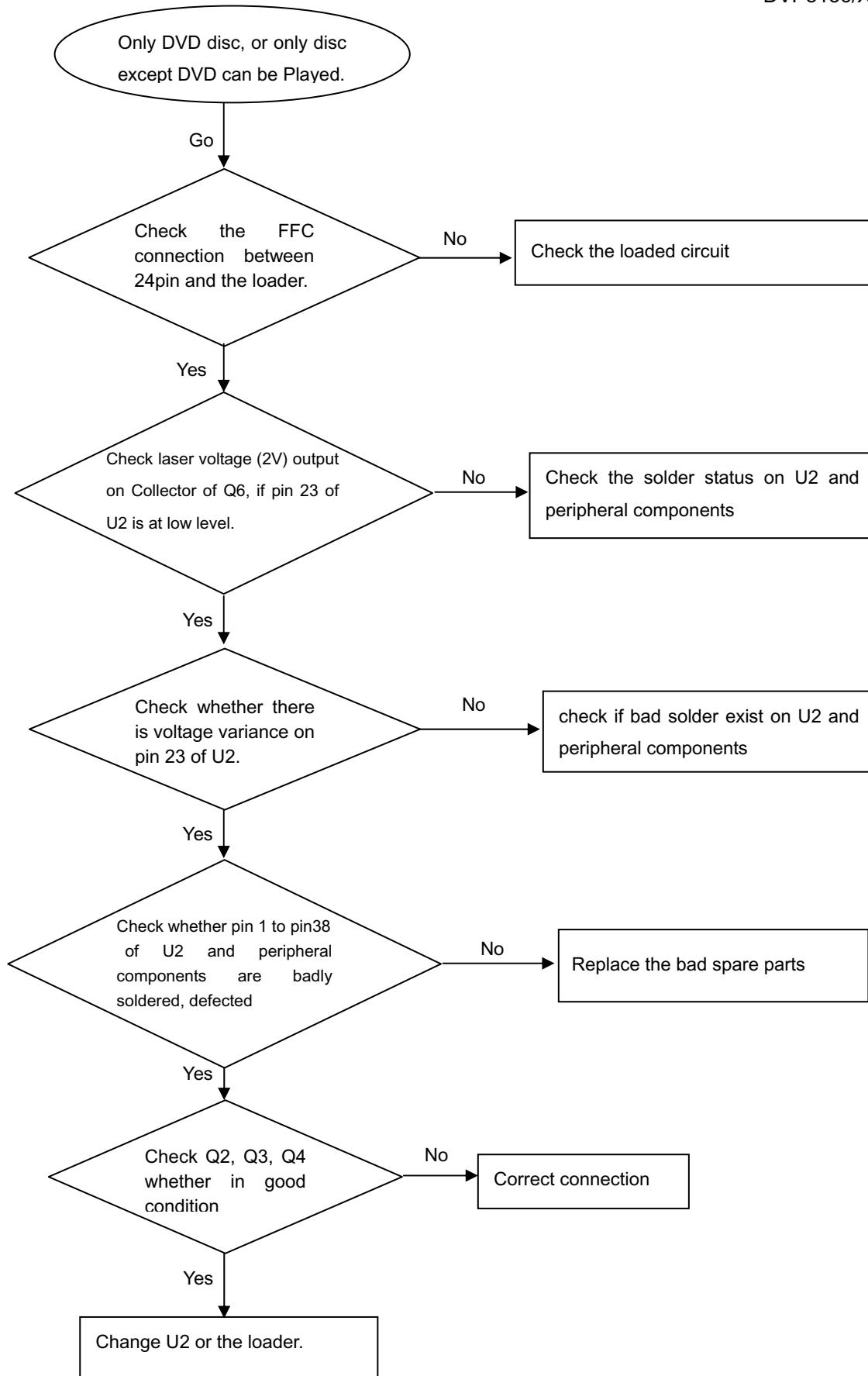


**Disc cannot be read.**

Remark: Trouble shooting chart for  
DVP3156/XX, DVP3166(K)/XX

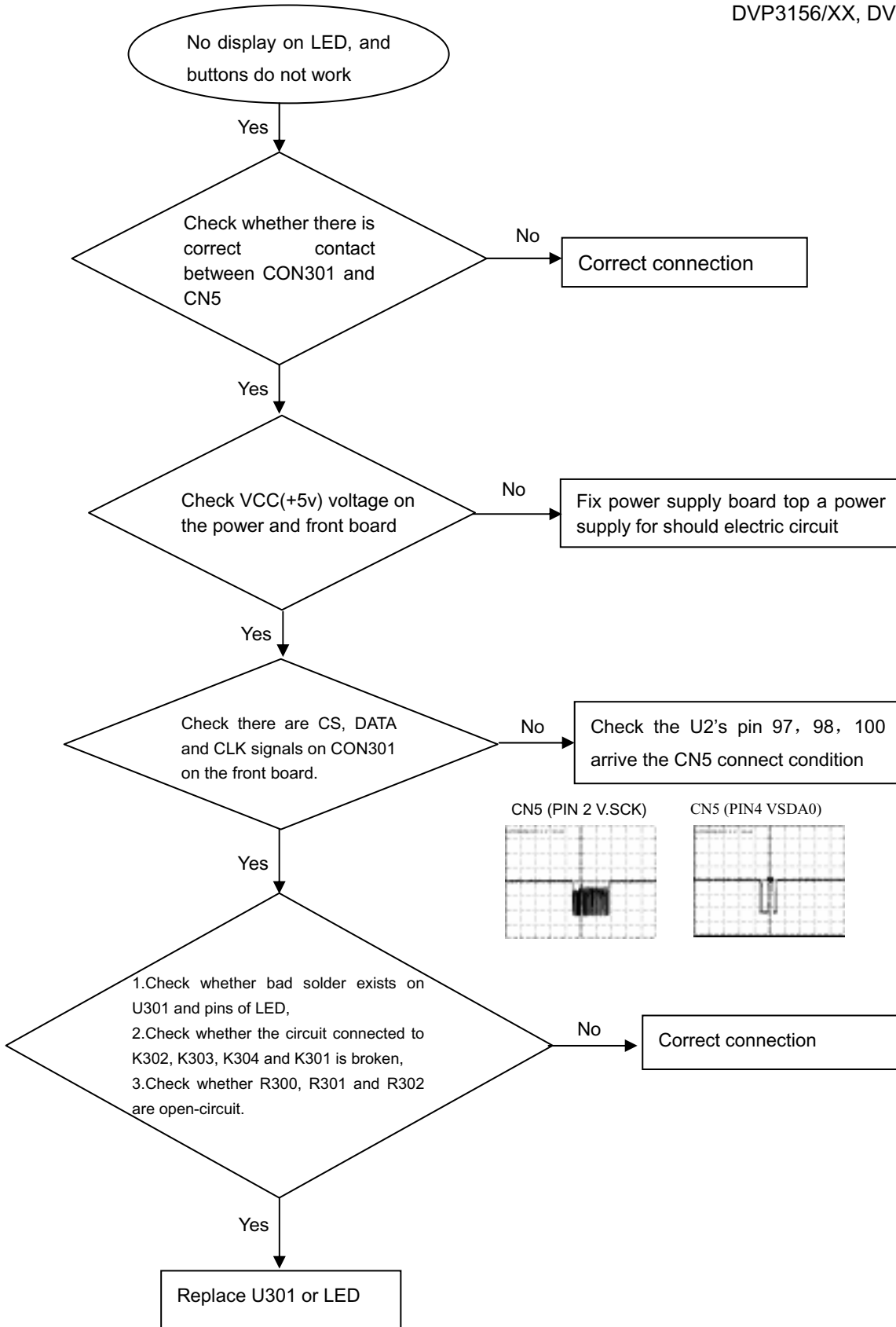




**Only DVD disc or only disc except DVD can be played**Remark: Trouble shooting chart for  
DVP3156/XX, DVP3166(K)/XX

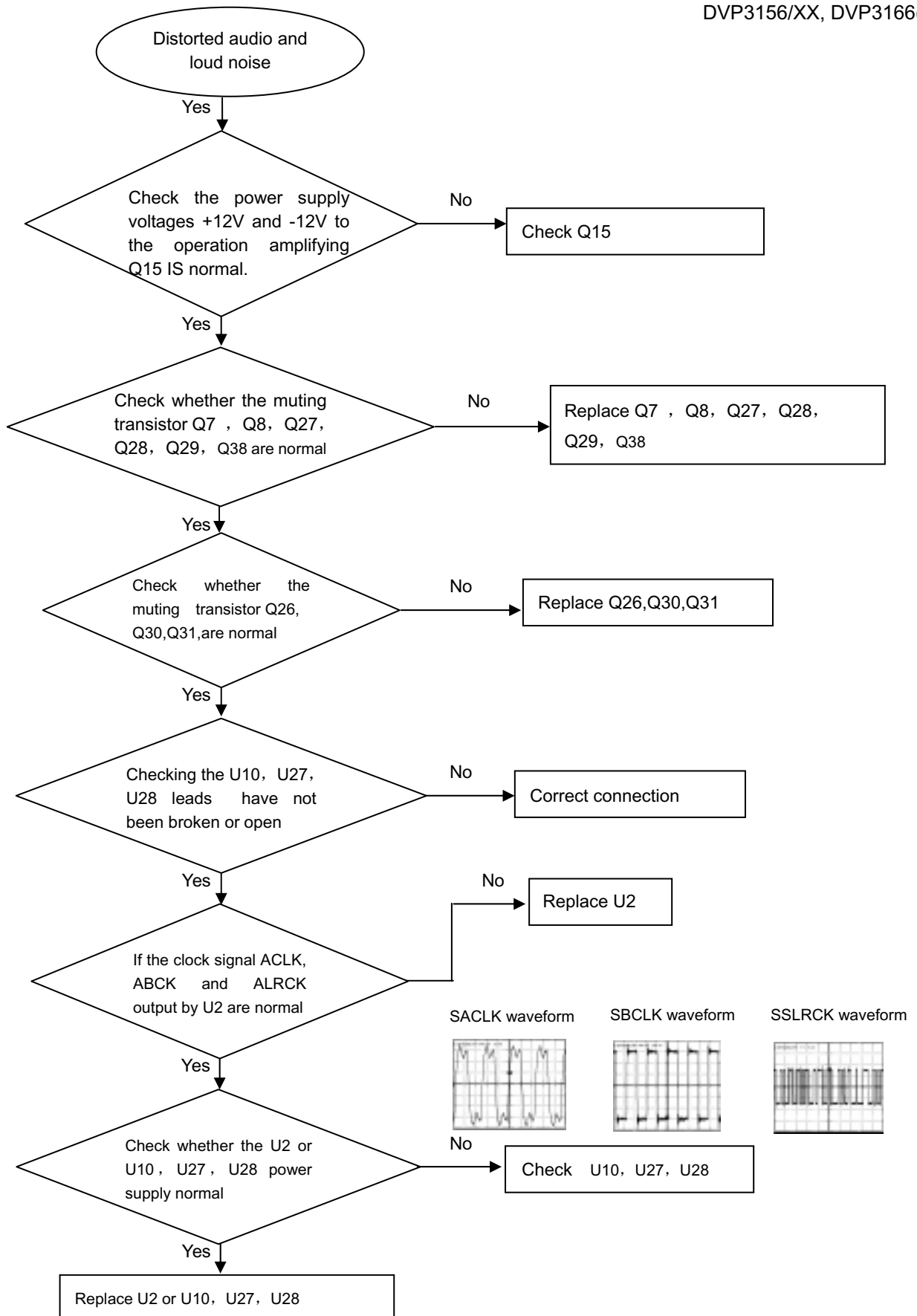
**No display on LEDD, and buttons do not work**

Remark: Trouble shooting chart for DVP3156/XX, DVP3166(K)/XX



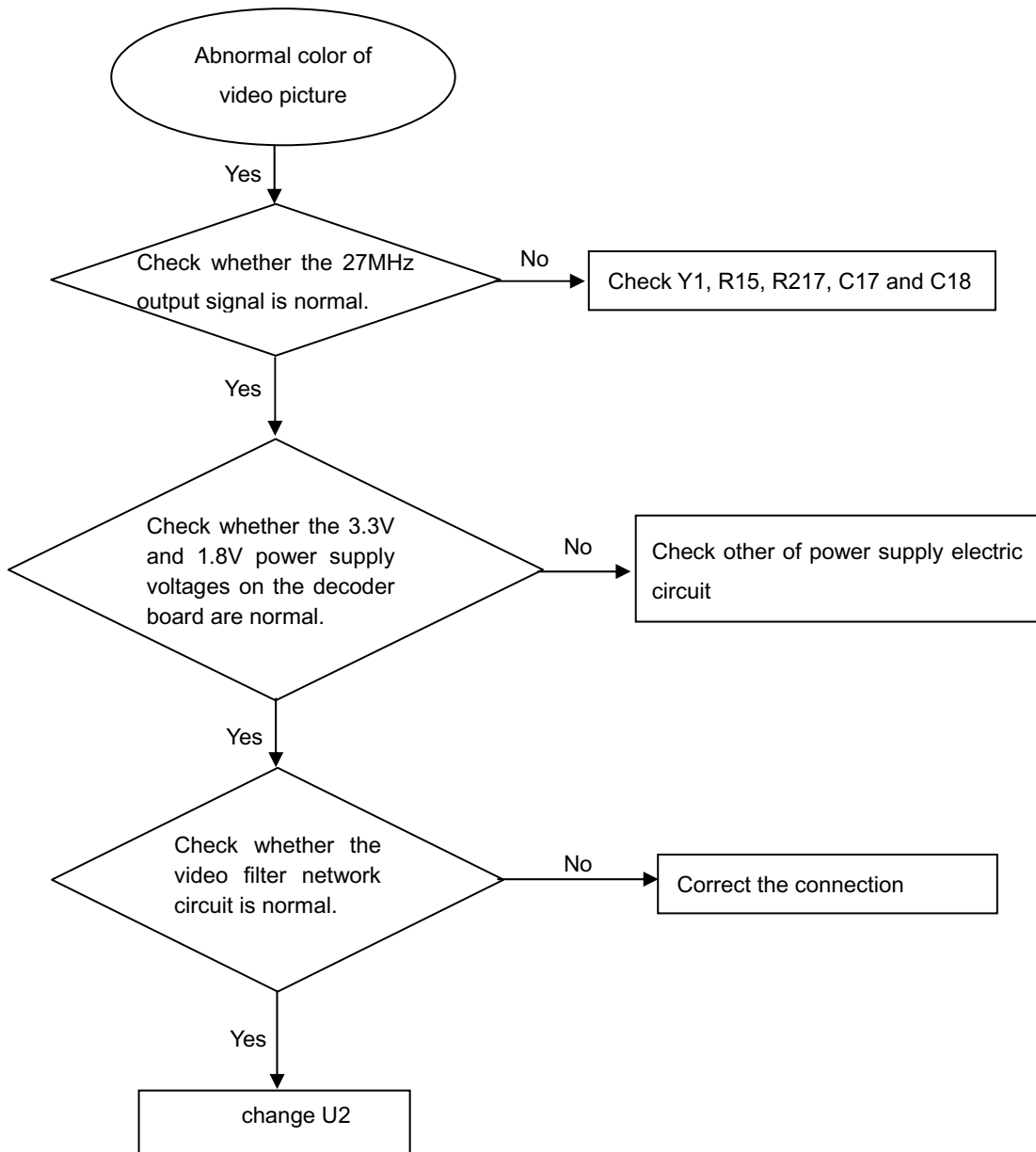
**Distorted audio and loud noise**

Remark: Trouble shooting chart for DVP3156/XX, DVP3166(K)/XX



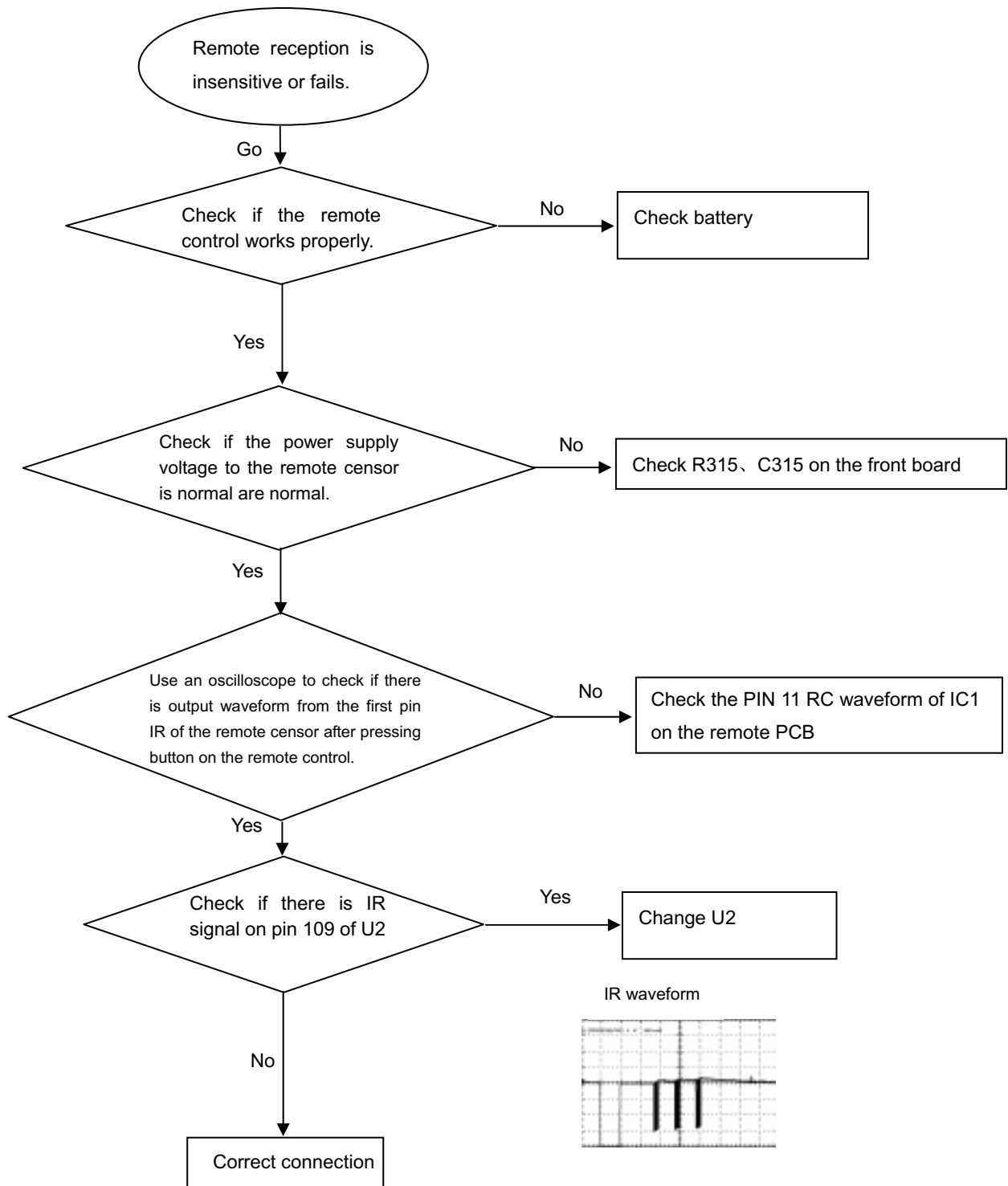
**Abnormal color of video picture**

Remark: Trouble shooting chart for  
DVP3156/XX, DVP3166(K)/XX

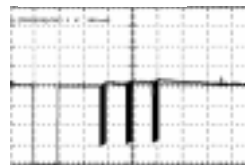


**Remote reception is insensitive or fails.**

Remark: Trouble shooting chart for DVP3156/XX, DVP3166(K)/XX

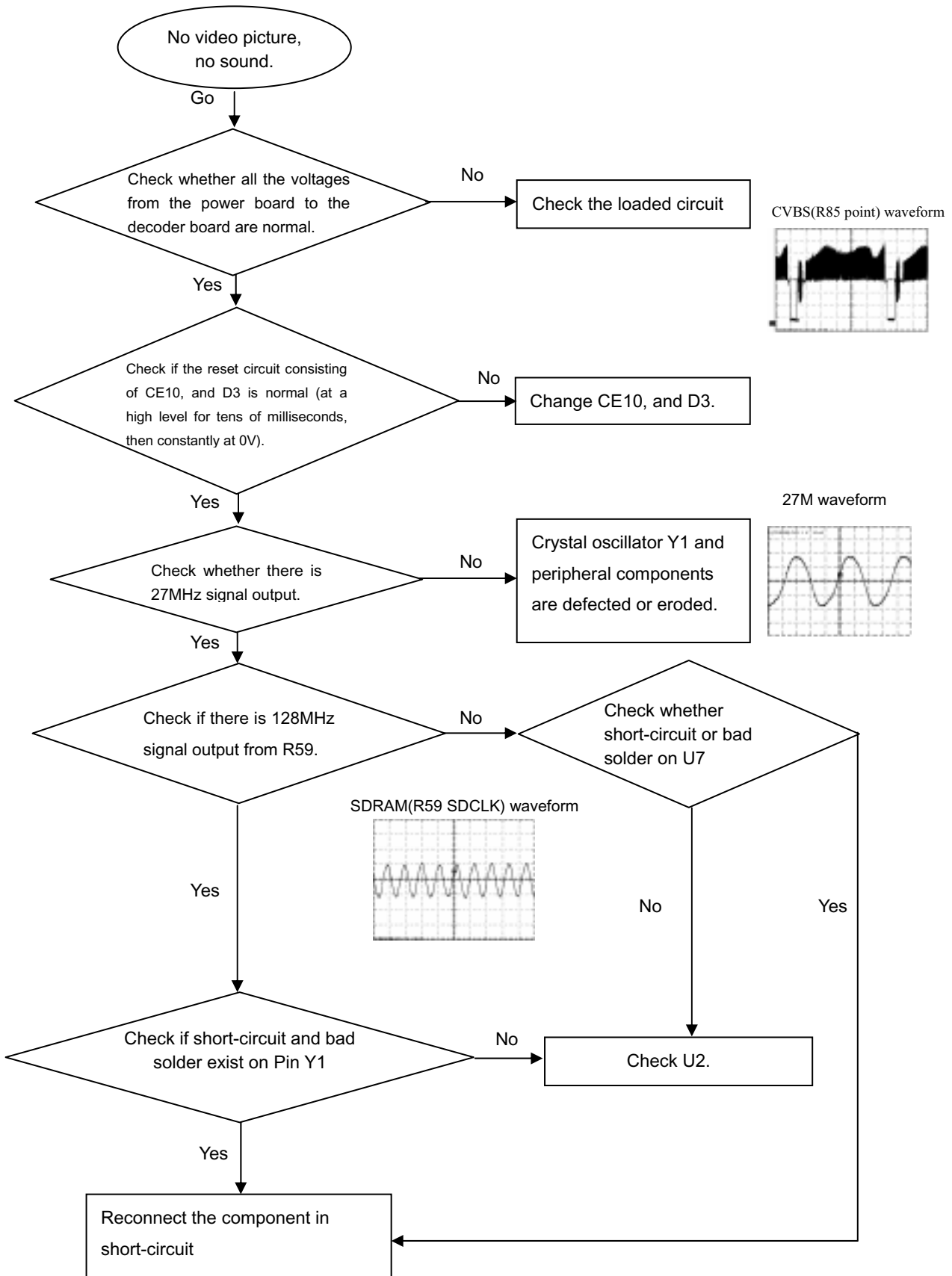


IR waveform

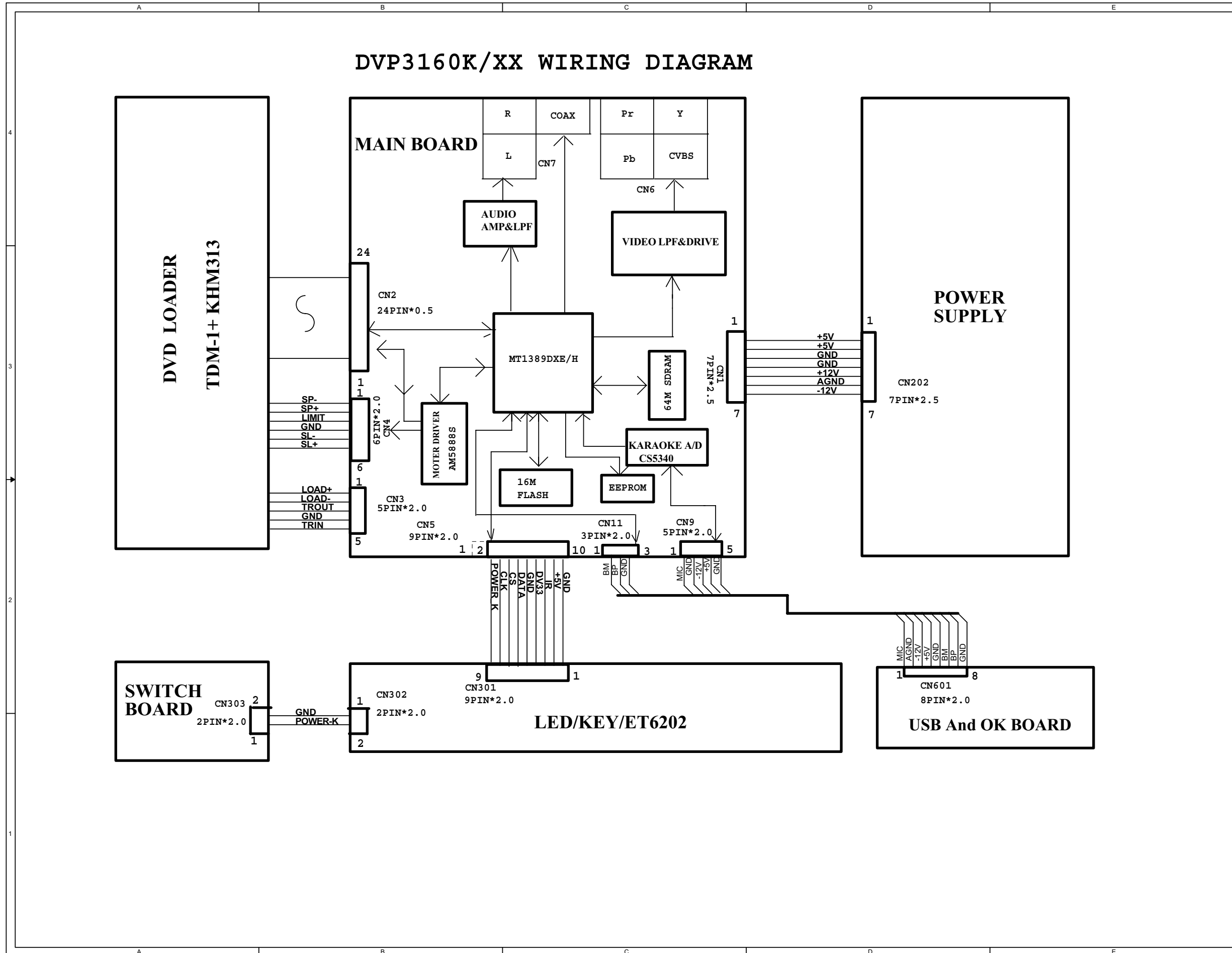


**No video picture, no sound.**

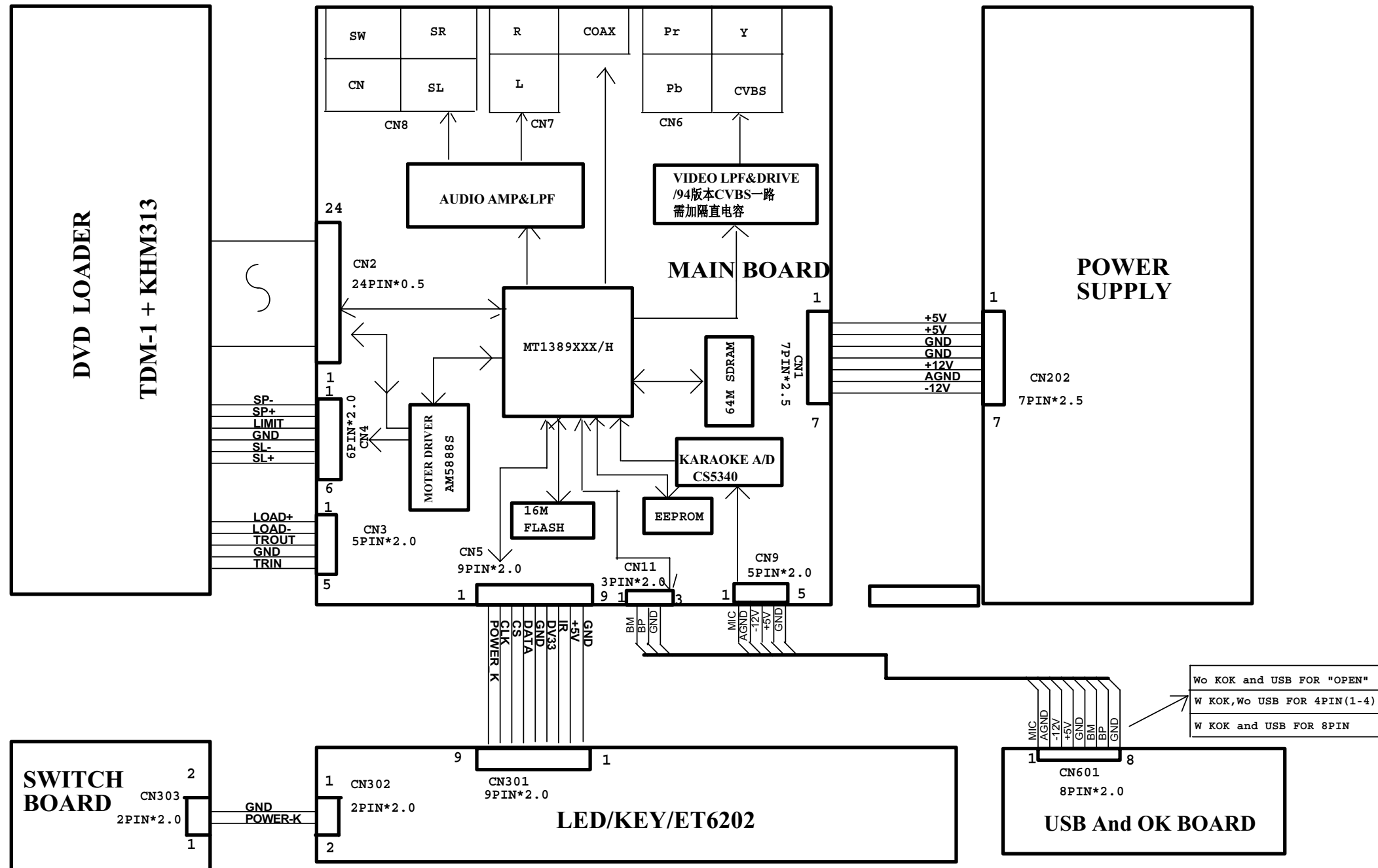
Remark: Trouble shooting chart for DVP3156/XX, DVP3166(K)/XX



### DVP3160K/XX WIRING DIAGRAM



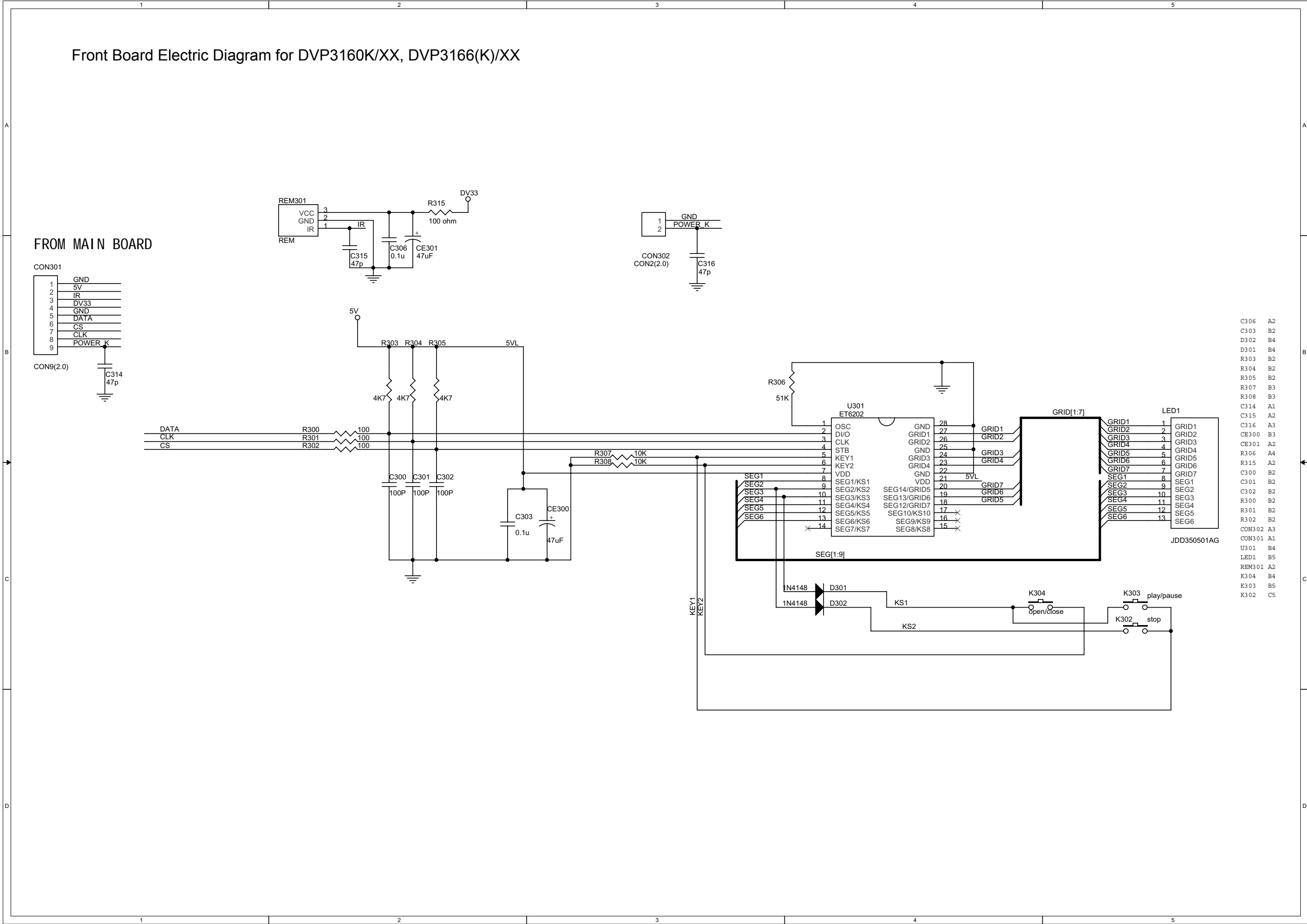
### DVP3156/XX, DVP3166 (k) /XX WIRING DIAGRAM



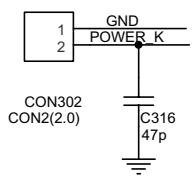
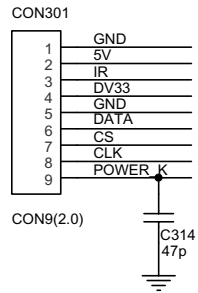
Remarks: DVP3156,3166 version has no KOK output.



### Front Board Electric Diagram for DVP3160K/XX, DVP3166(K)/XX

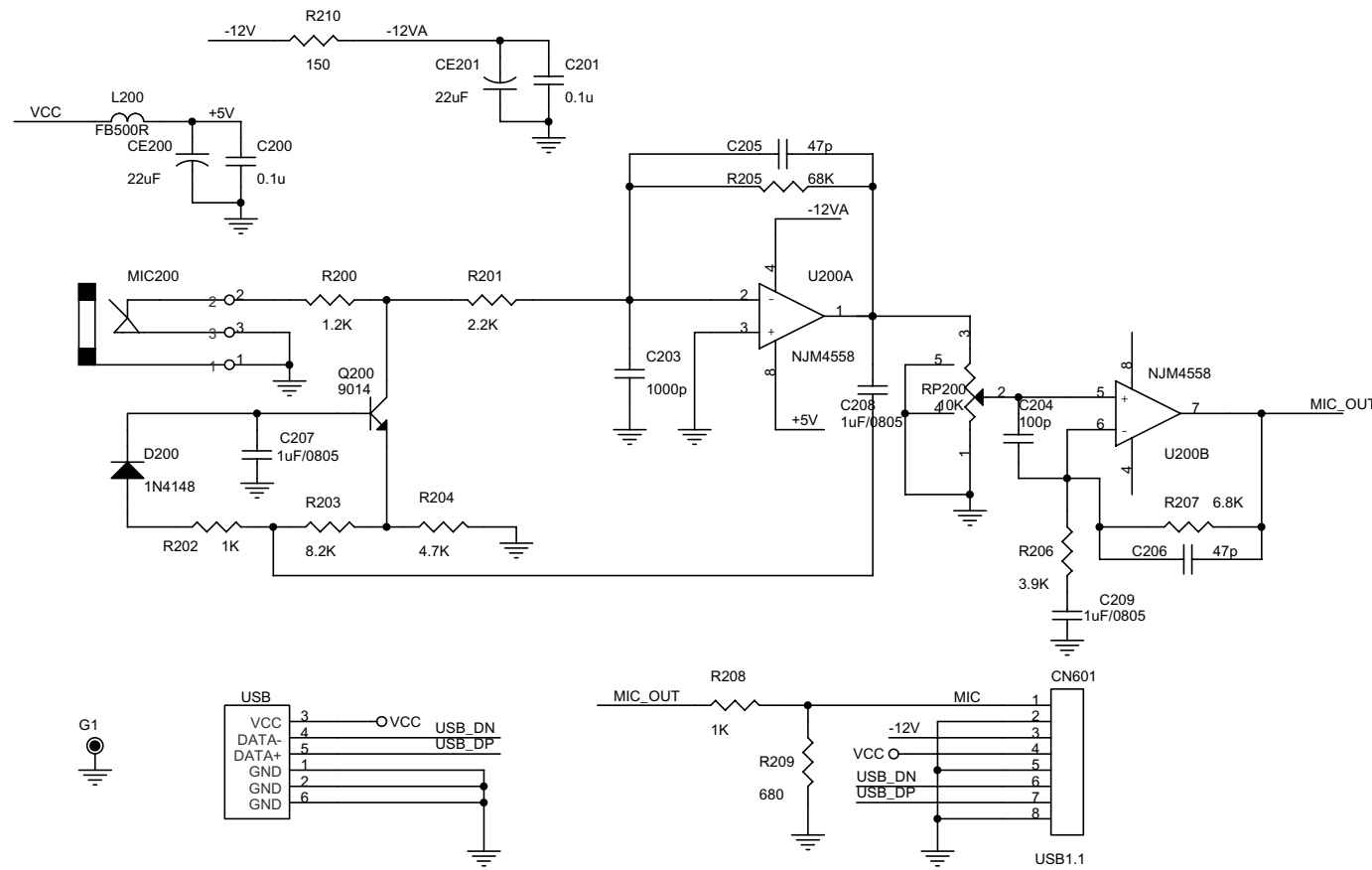


FROM MAIN BOARD



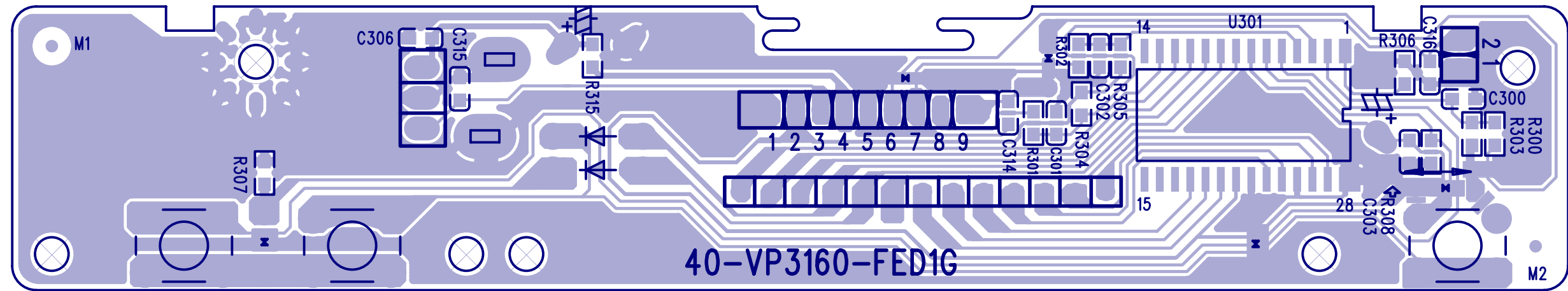
- C306 A2
- C303 B2
- D302 B4
- D301 B4
- R303 B2
- R304 B2
- R305 B2
- R307 B3
- R308 B3
- C314 A1
- C315 A2
- C316 A3
- CE300 B3
- CE301 A2
- R306 A4
- R315 A2
- C300 B2
- C301 B2
- C302 B2
- R300 B2
- R301 B2
- R302 B2
- CON302 A3
- CON301 A1
- U301 B4
- LED1 B5
- REM301 A2
- K304 B4
- K303 B5
- K302 C5

USB + OK Board Electric Diagram for DVP3160K/XX, DVP3166(K)/XX

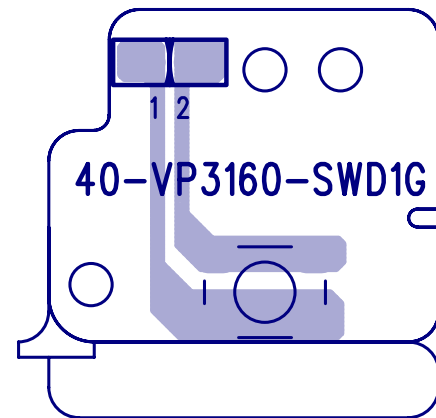


C200	A1
C201	A2
R200	A1
R208	B2
R202	B1
D200	B1
C207	B1
C208	A2
C209	B3
R201	A2
R206	B3
R204	B1
R207	B3
R203	B1
RP200	A3
CE201	A2
CE200	A1
C206	B3
C205	A2
R205	A2
C204	A3
R210	A1
R209	B2
C203	A2
Q200	A1
L200	A1
U200A	A2
U200B	A3
G1	B1
CN601	B3
USB	B1
MIC200	A1

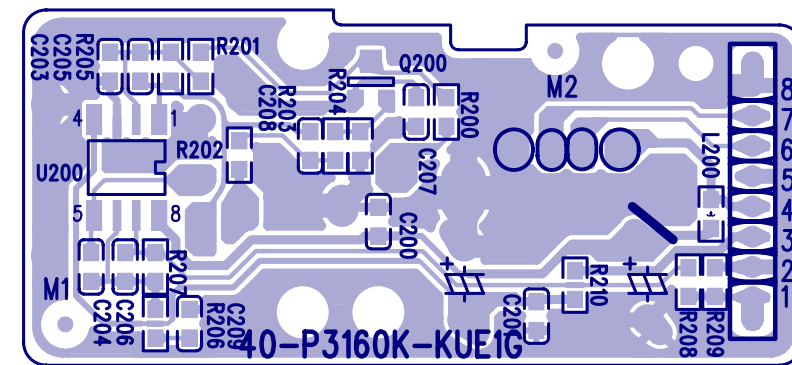
Front Board Print-Layout (Bottom Side) for DVP3160K/XX, DVP3166(K)/XX



Switch Board Print-Layout (Bottom Side) for DVP3160K/XX, DVP3166(K)/XX

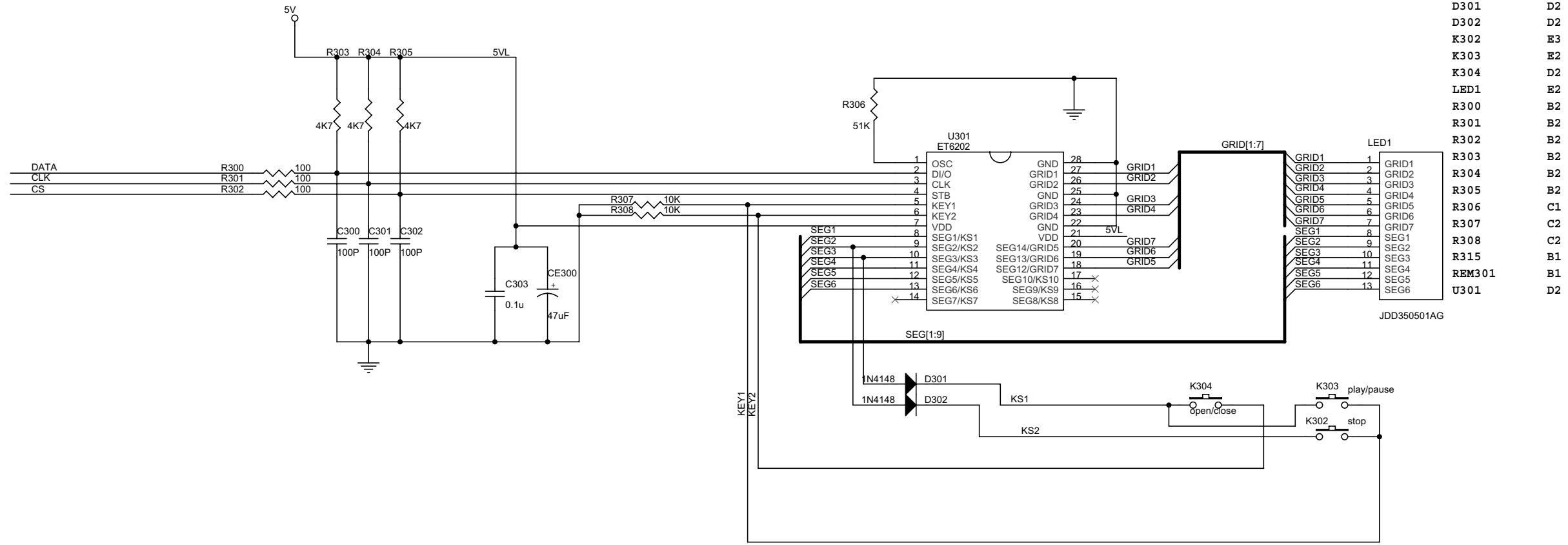
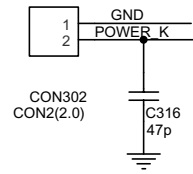
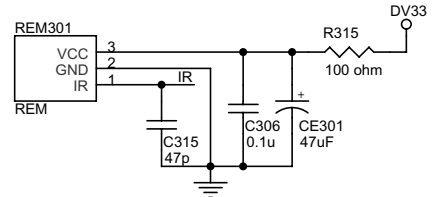
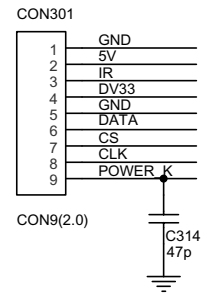


USB+OK Board Print-Layout (Bottom Side) for DVP3160K/XX, DVP3166(K)/XX



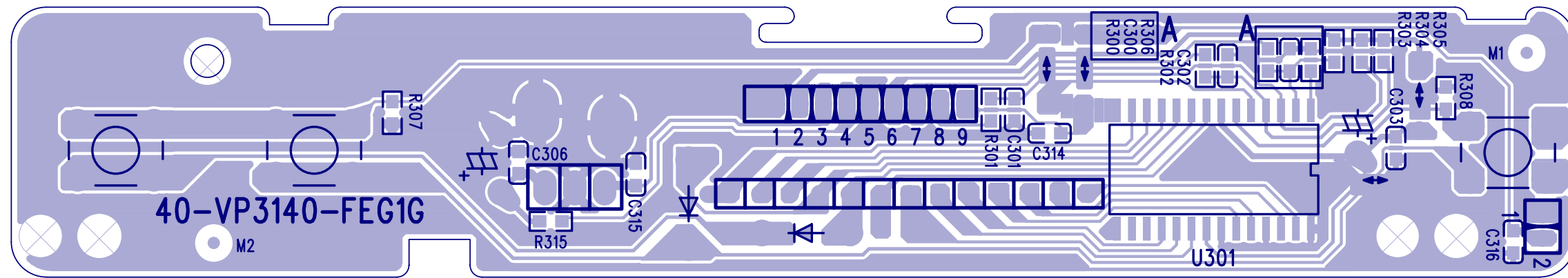
# Front Board Electric Diagram for DVP3156/XX

FROM MAIN BOARD

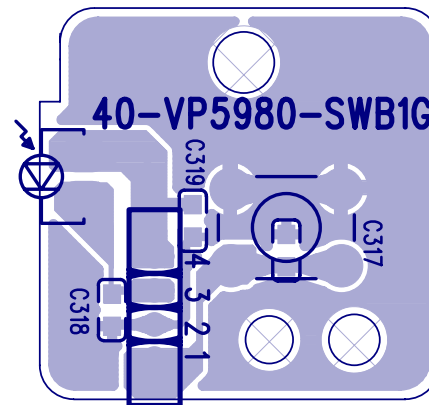


C300	B2
C301	B2
C302	B2
C303	B2
C306	B1
C314	A1
C315	B1
C316	C1
CE300	C2
CE301	B1
CON301	A1
CON302	C1
D301	D2
D302	D2
K302	E3
K303	E2
K304	D2
LED1	E2
R300	B2
R301	B2
R302	B2
R303	B2
R304	B2
R305	B2
R306	C1
R307	C2
R308	C2
R315	B1
REM301	B1
U301	D2

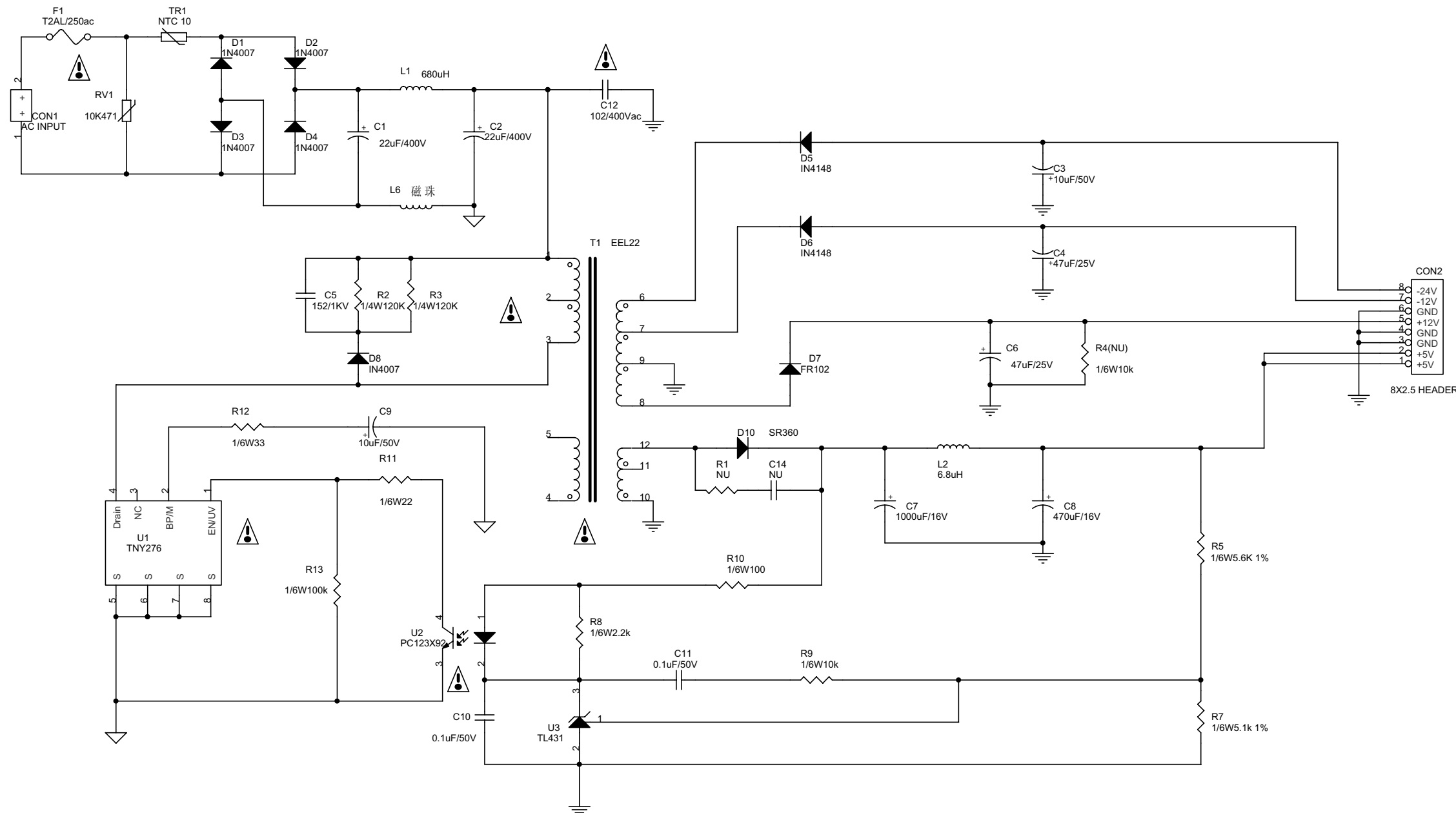
Front Board Print-Layout (Bottom Side) for DVP3156/XX




Switch Board Print-Layout (Bottom Side) for DVP3156/XX



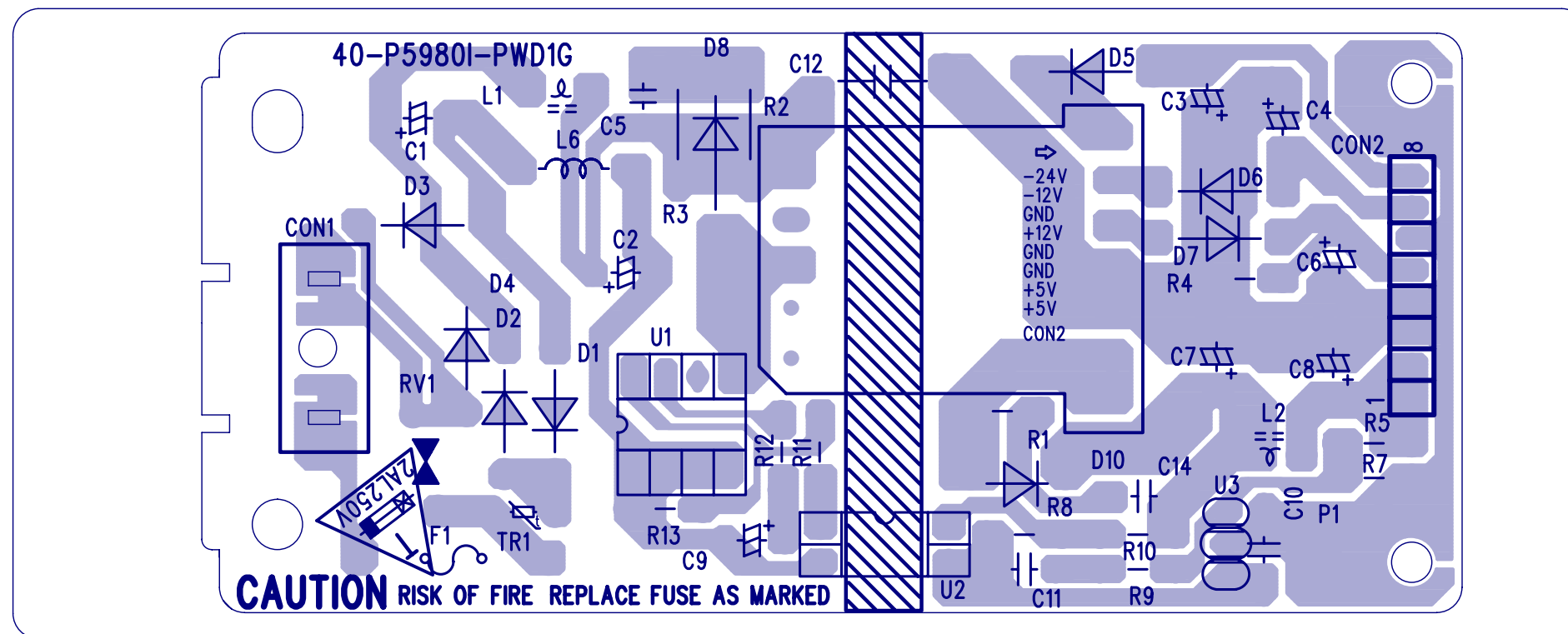
Power Board Electric Diagram for DVP3156/XX, DVP3160K/XX, DVP3166(K)/XX



C1	A1
C10	B1
C11	B2
C12	A2
C14	B2
C2	A1
C3	A3
C4	A3
C5	A1
C6	A2
C7	B2
C8	B3
C9	B1
CON1	A1
CON2	A3
D1	A1
D10	B2
D2	A1
D3	A1
D4	A1
D5	A2
D6	A2
D7	A2
D8	A1
D9	A1
D11	A1
D12	B2
D13	B1
D14	B1
D15	B1
D16	B1
D17	B1
D18	B1
D19	B1
D20	B1
F1	A1
L1	A1
L2	B2
L6	A1
R1	B2
R10	B2
R11	B1
R12	B1
R13	B1
R2	A1
R3	A1
R4	A3
R5	B3
R7	B3
R8	B2
R9	B2
RV1	A1
T1	A2
TR1	A1
U1	B1
U2	B1
U3	B2

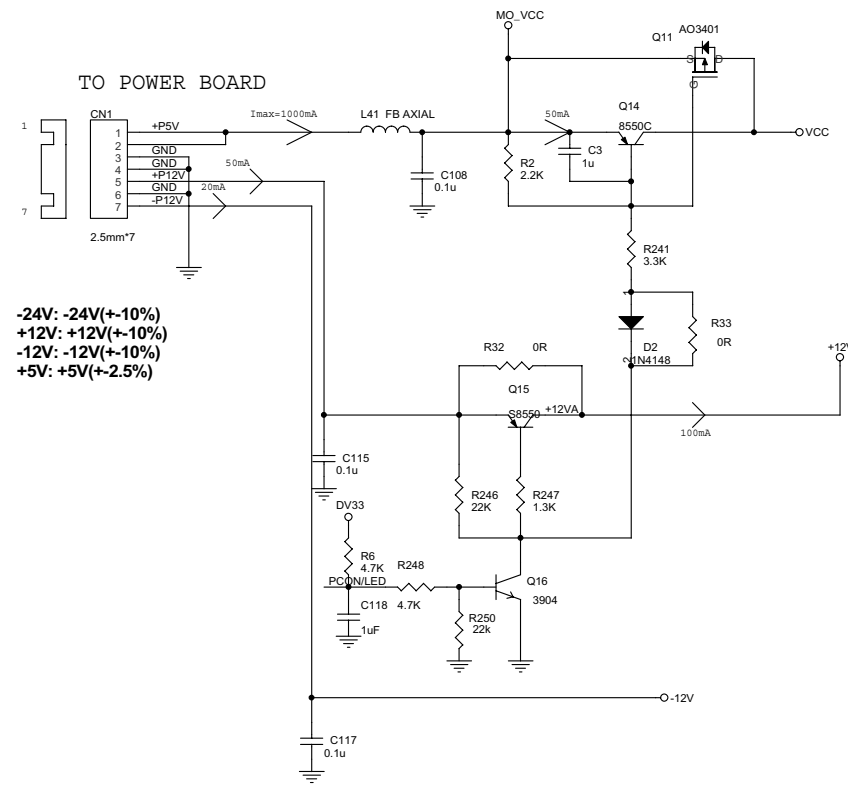
**\* CAUTION :**  
 THE PARTS MARKED WITH  ARE IMPORTANT PARTS ON THE SAFETY.  
 PLEASE USE THE PARTS HAVING THE DESIGNATED PARTS NUMBER WITHOUT FAIL.

Power Board Print-Layout (Bottom Side) for DVP3156/XX, DVP3160K/XX, DVP3166(K)/XX



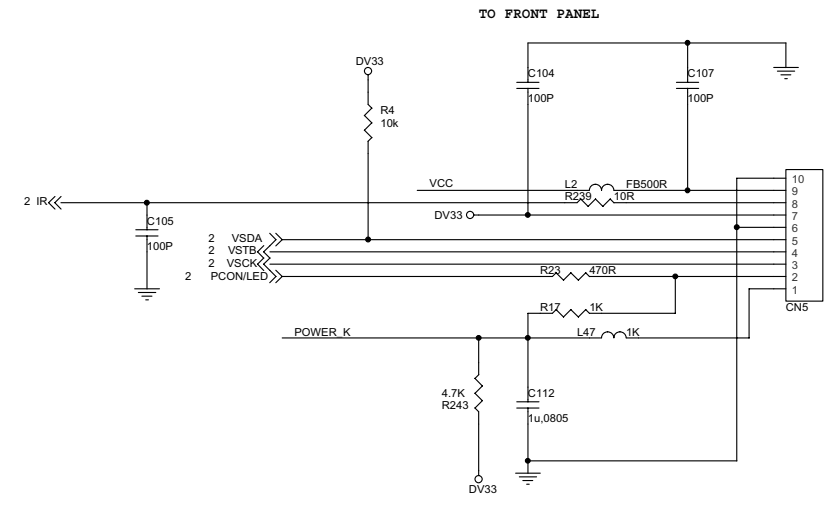
# Main Board Electric Diagram for DVP3160K/XX: POWER&CONNECTOR

MT1389HD (LQFP256) DVD MP Board for SONY KHM313AAA

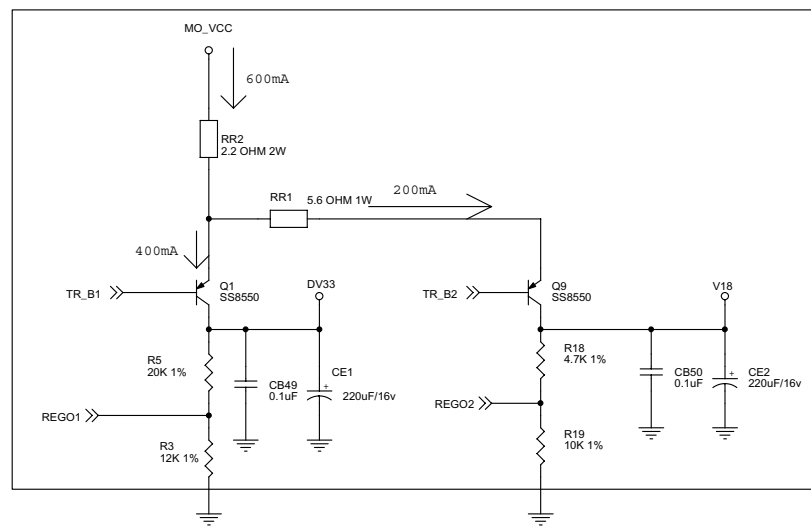
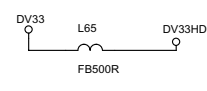
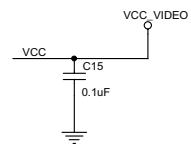
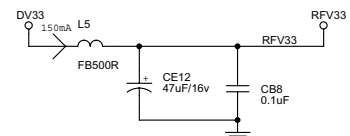
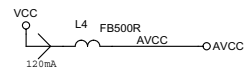
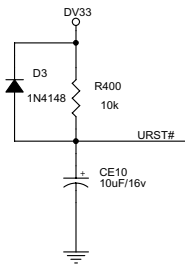


-24V: -24V(+10%)  
 +12V: +12V(+10%)  
 -12V: -12V(+10%)  
 +5V: +5V(+2.5%)

IR	>>IR	2
V5CK	>>V5CK	2
V5TB	>>V5TB	2
V5DA	>>V5DA	2
URST#	>>URST#	2
PCONLED	>>PCONLED	2
POWER_K	>>POWER_K	2



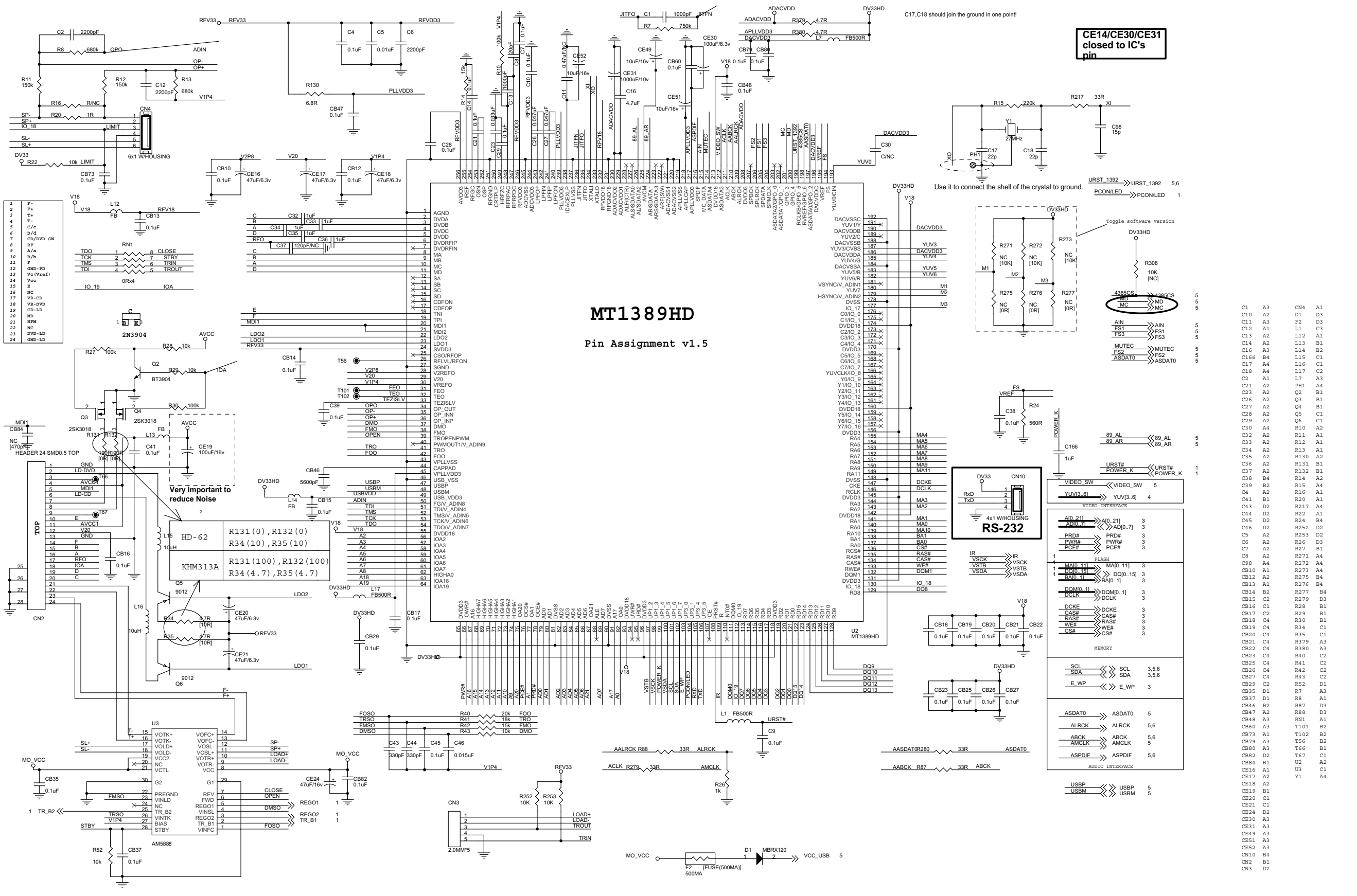
## RESET Circuit



C105	A4
C108	A3
C112	A5
C118	B3
C3	A3
C51	A5
C52	A5
C53	A5
CB49	D3
CB50	D4
CB8	D2
CE1	D3
CE10	C1
CE12	D2
CE2	D4
CN1	A2
CN5	A5
D2	A3
D3	C1
L2	A5
L4	D1
L41	A3
L42	A5
L47	A5
L5	D2
L65	D2
Q1	D3
Q11	A3
Q14	A3
Q15	A3
Q16	B3
Q9	D4
R17	A5
R18	D4
R19	D4
R2	A3
R23	A5
R239	A5
R241	A3
R243	A4
R246	B3
R247	B3
R248	B3
R250	B3
R3	D3
R33	A3
R4	A4
R400	C1
R5	D3
R6	B3
RR1	C3
RR2	C3



# Main Board Electric Diagram for DVP3160K/XX: MT1389HD&FRONTEND



## MT1389HD

### Pin Assignment v1.5

CE14/CE30/CE31 closed to IC's pin

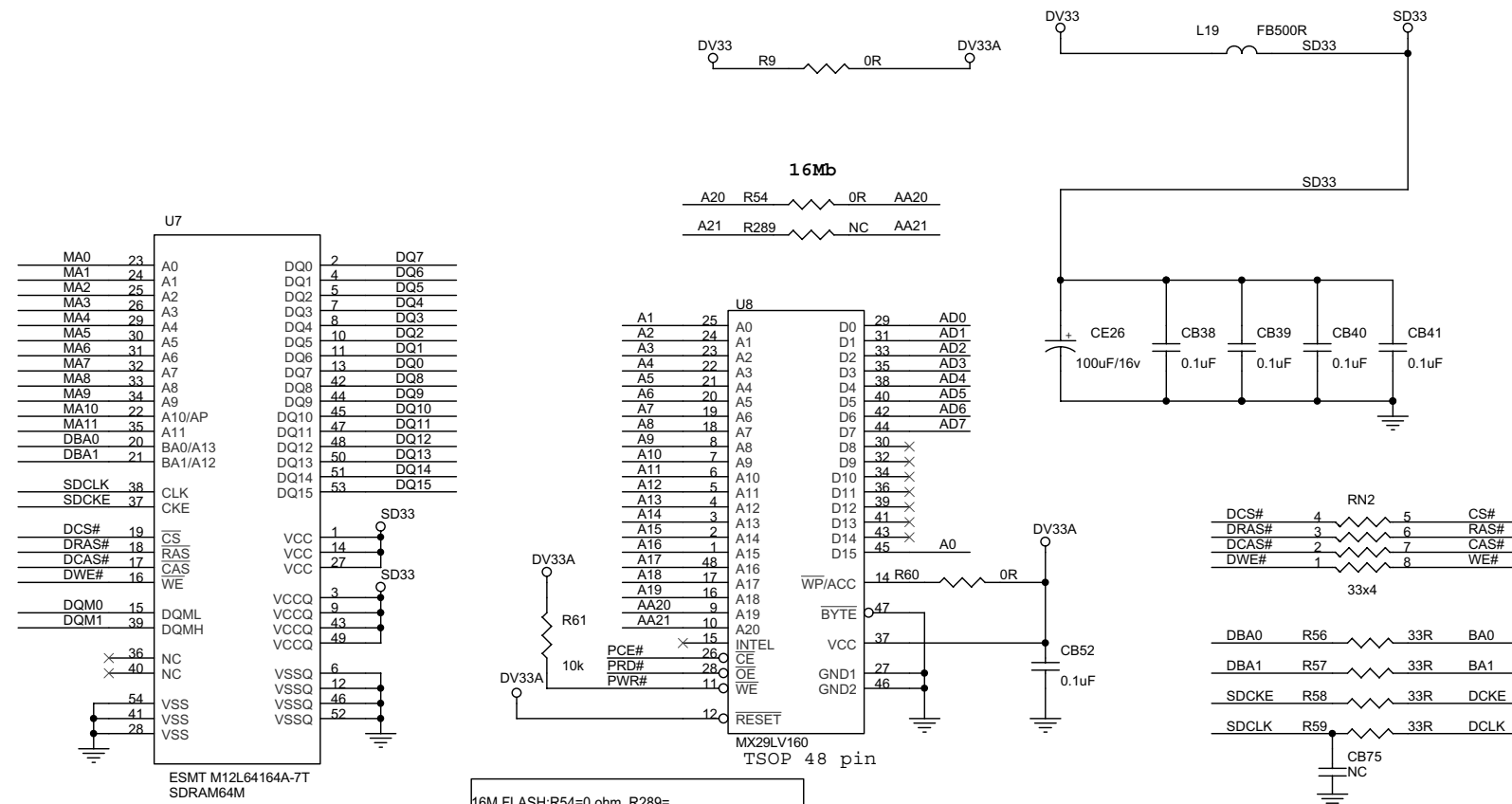
Use it to connect the shell of the crystal to ground.

Toggle software version

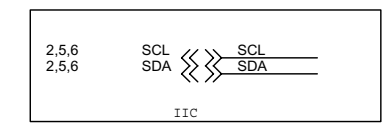
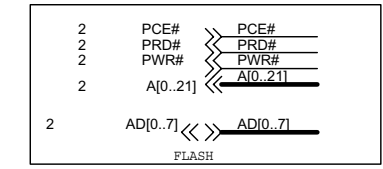
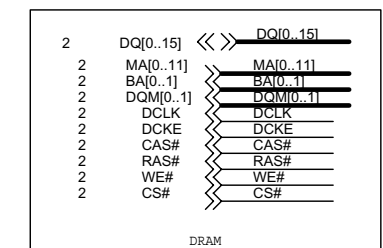
Very important to reduce Noise

C10 A3	CN4 A1
C10 A2	D1 D3
C11 A3	F2 D3
C12 A1	L12 A1
C13 A2	L12 A1
C14 A2	L13 B1
C16 A3	L14 B2
C166 B4	L15 C1
C17 A4	L16 C1
C18 A4	L17 C2
C2 A1	L7 A3
C21 A2	PH1 A4
C23 A2	Q2 B1
C26 A2	Q3 B1
C27 A2	Q4 B1
C46 D2	Q5 C1
C29 A2	Q6 C1
C30 A4	R10 A2
C32 A2	R11 A1
C33 A2	R12 A1
C34 A2	R13 A1
C35 A2	R130 A2
C36 A2	R131 B1
C37 A2	R132 B1
C38 B4	R14 A2
C39 B2	R15 A4
C4 A2	R16 A1
C41 B1	R20 A1
C43 D2	R21 A4
C44 D2	R22 A1
C45 D2	R24 B4
C46 D2	R25 D2
C5 A2	R25 D2
C6 A2	R26 D3
C7 A2	R27 B1
C8 A2	R27 A4
C9 A4	R27 A4
C10 A1	R27 A4
C11 A2	R27 B4
C12 A1	R27 B4
C13 A1	R27 B4
C14 B1	R27 B4
C15 C1	R27 B4
C16 A2	R27 B4
C17 C2	R29 B1
C18 C4	R30 B1
C19 C4	R34 C1
C20 C4	R35 C1
C21 C4	R37 A3
C22 C4	R38 A3
C23 C4	R40 C2
C25 C4	R41 C2
C26 C4	R42 C2
C27 C4	R43 C2
C29 C2	R52 D1
C35 D1	R7 A1
C37 D1	R8 A3
C46 B2	R87 D3
C47 A2	R88 D3
C48 A3	RN1 A1
C60 A3	T101 B2
CB7 A1	T102 B2
CB80 A3	T56 B2
CB82 D2	T67 C1
CB84 B1	U2 A2
CE16 A1	U2 C1
CE17 A2	Y1 A4
CE18 A2	
CE19 A3	
CE21 A3	
CE24 A3	
CE25 A3	
CE26 A3	
CE27 A3	
CE28 A3	
CE29 A3	
CE30 A3	
CE31 A3	
CE32 A3	
CE33 A3	
CE34 A3	
CE35 A3	
CE36 A3	
CE37 A3	
CE38 A3	
CE39 A3	
CE40 A3	
CE41 A3	
CE42 A3	
CE43 A3	
CE44 A3	
CE45 A3	
CE46 A3	
CE47 A3	
CE48 A3	
CE49 A3	
CE50 A3	
CE51 A3	
CE52 A3	
CE53 A3	
CE54 A3	
CE55 A3	
CE56 A3	
CE57 A3	
CE58 A3	
CE59 A3	
CE60 A3	
CE61 A3	
CE62 A3	
CE63 A3	
CE64 A3	
CE65 A3	
CE66 A3	
CE67 A3	
CE68 A3	
CE69 A3	
CE70 A3	
CE71 A3	
CE72 A3	
CE73 A3	
CE74 A3	
CE75 A3	
CE76 A3	
CE77 A3	
CE78 A3	
CE79 A3	
CE80 A3	
CE81 A3	
CE82 A3	
CE83 A3	
CE84 A3	
CE85 A3	
CE86 A3	
CE87 A3	
CE88 A3	
CE89 A3	
CE90 A3	
CE91 A3	
CE92 A3	
CE93 A3	
CE94 A3	
CE95 A3	
CE96 A3	
CE97 A3	
CE98 A3	
CE99 A3	
CE100 A3	

### Main Board Electric Diagram for DVP3160K/XX: SDRAM & FLASH

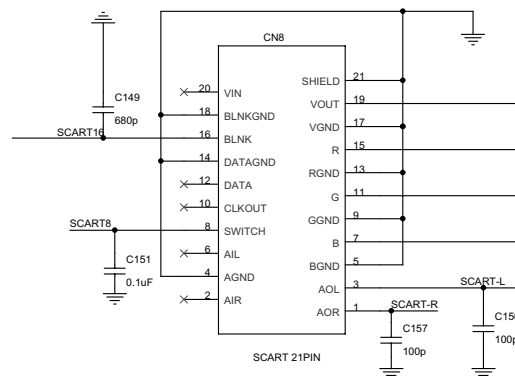
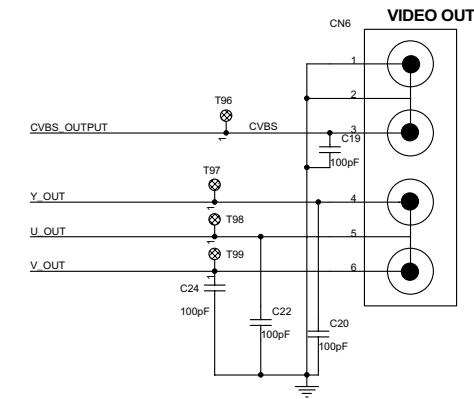
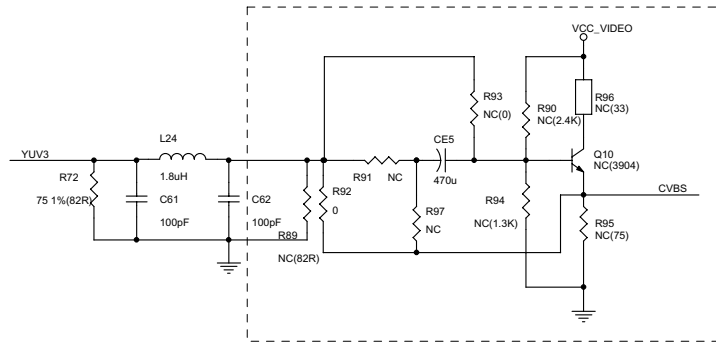
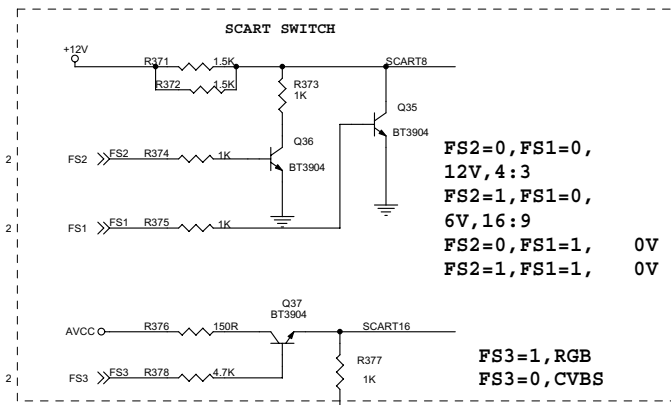


16M FLASH: R54=0 ohm, R289= OPEN  
 32M FLASH: R54=0 ohm, R289=0 ohm



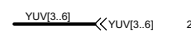
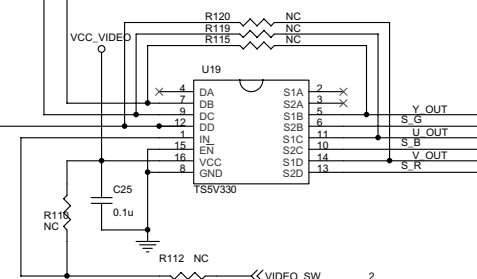
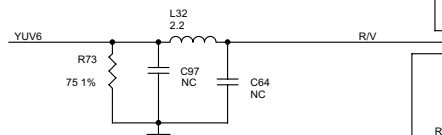
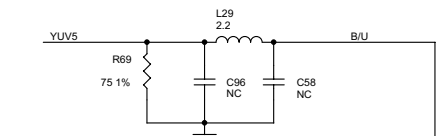
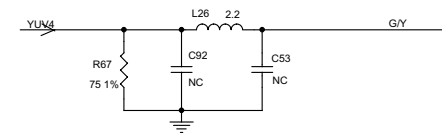
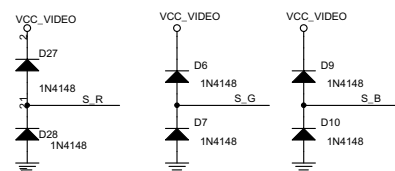
- CB38 A3
- CB39 A3
- CB40 A3
- CB51 C2
- CB52 B3
- CB75 B3
- CE26 A3
- L19 A3
- R1 C2
- R289 A2
- R54 A2
- R56 B3
- R57 B3
- R58 B3
- R59 B3
- R60 B2
- R61 B2
- R62 C2
- R63 C2
- R9 A2
- RN2 B3
- U7 A1
- U8 A2
- U9 C2

# Main Board Electric Diagram for DVP3160K/XX: VIDEO OUT



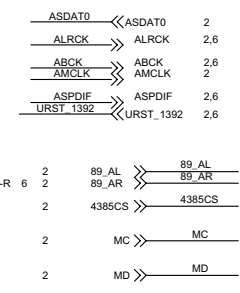
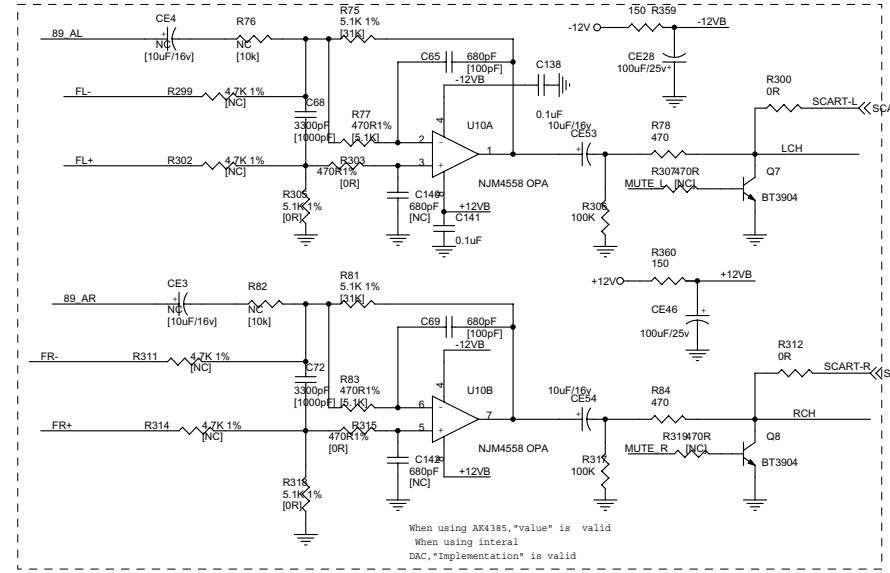
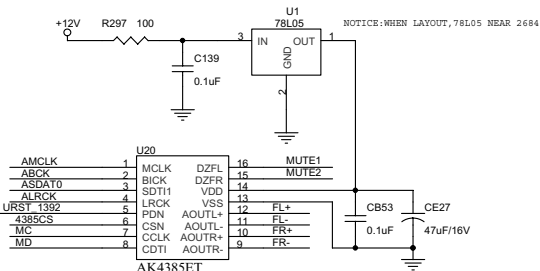
FS3	FS1	FS2	SCART8	SCART16
1	0	0	12V (9.5V - 12V 4:3)	3V ( RGB )
1	0	1	6V (5V - 8V 16:9)	3V ( RGB )
0	1	1	0V (TV MODE)	0V ( CVBS )

When have no SCART, this inside of circle a piece is "OPEN"

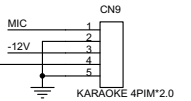
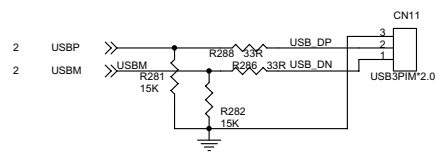
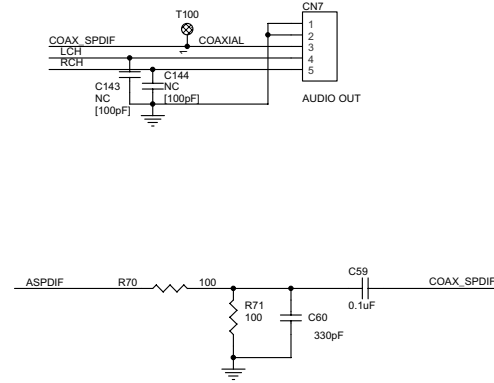
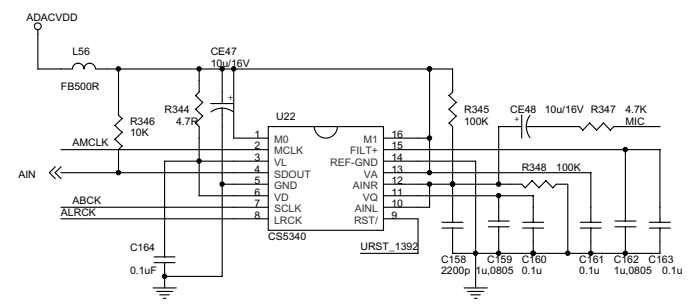
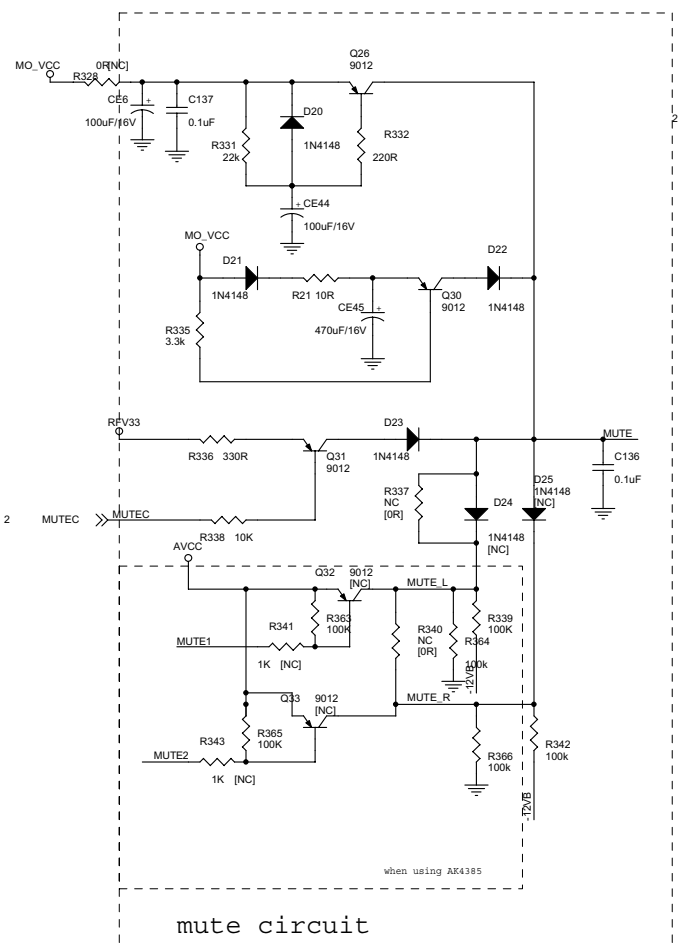


- C151 C1
- C25 C4
- R92 A3
- R372 B1
- R371 B1
- L24 A2
- R373 B1
- R374 B1
- R375 B1
- R377 B1
- D6 D2
- D7 D2
- D9 D3
- D10 D3
- L26 B3
- L29 C3
- L32 C3
- R378 B1
- R72 A2
- R67 B3
- R69 C3
- R73 C3
- C62 A3
- C61 A2
- C20 A4
- C24 A4
- C22 A4
- C19 A4
- C152 C2
- C153 C2
- C154 C2
- C155 C2
- C156 C2
- C157 C2
- R376 B1
- CE5 A3
- C149 C1
- Q35 B1
- Q36 B1
- Q37 B1
- R93 A3
- R94 A3
- R90 A3
- R96 A3
- R95 A3
- R89 A3
- Q10 A3
- C53 B3
- C58 C3
- C64 C3
- C92 B3
- C96 C3
- C97 C3
- D28 D2
- D27 D2
- R97 A3
- R91 A3
- R110 C3
- R112 C4
- R115 C4
- R119 C4
- R120 C4
- CN8 C1
- U19 C4
- CN6 A4
- T96 A4
- T97 A4
- T98 A4
- T99 A4

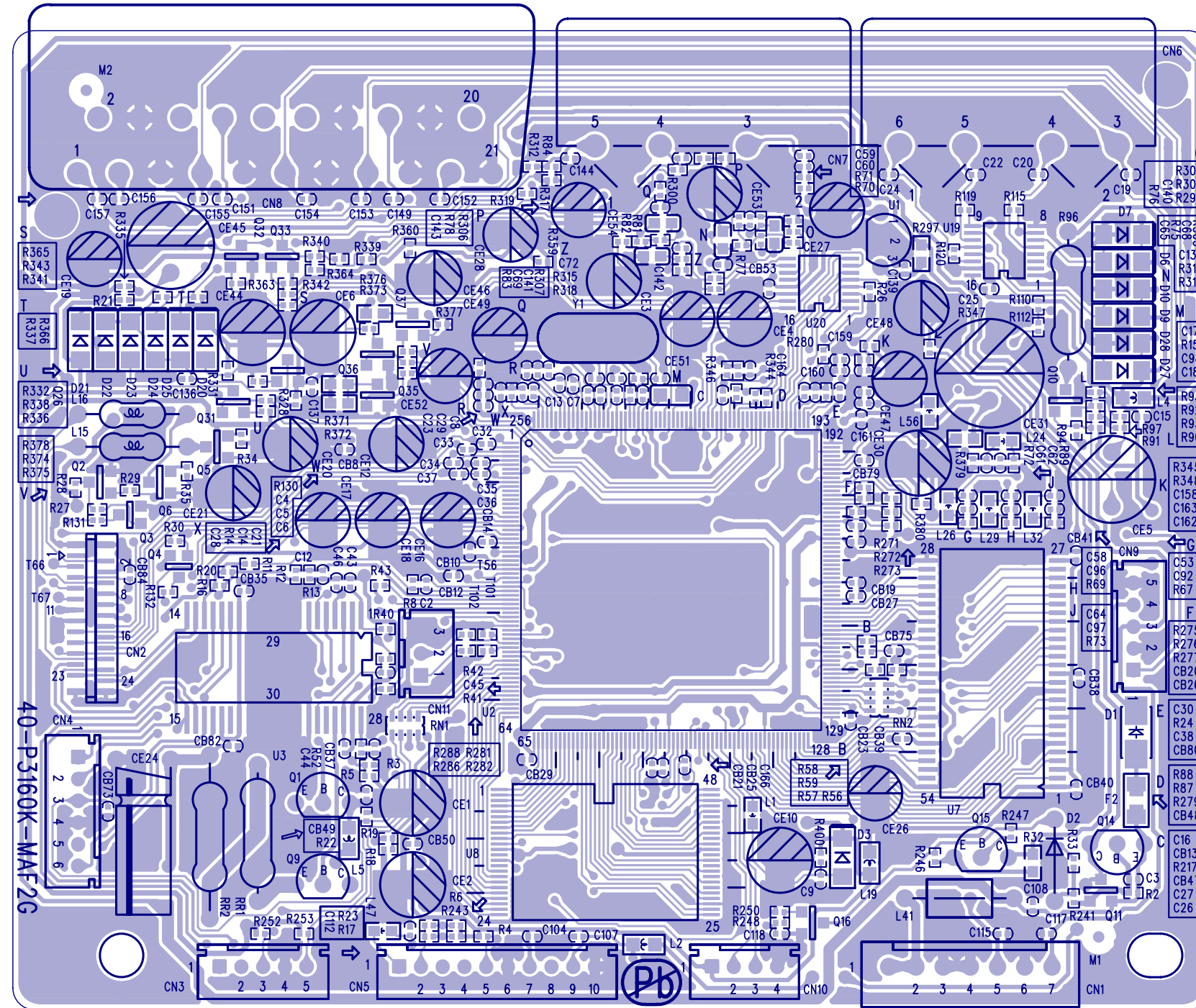
Main Board Electric Diagram for DVP3160K/XX: AUDIO OUT & SCART



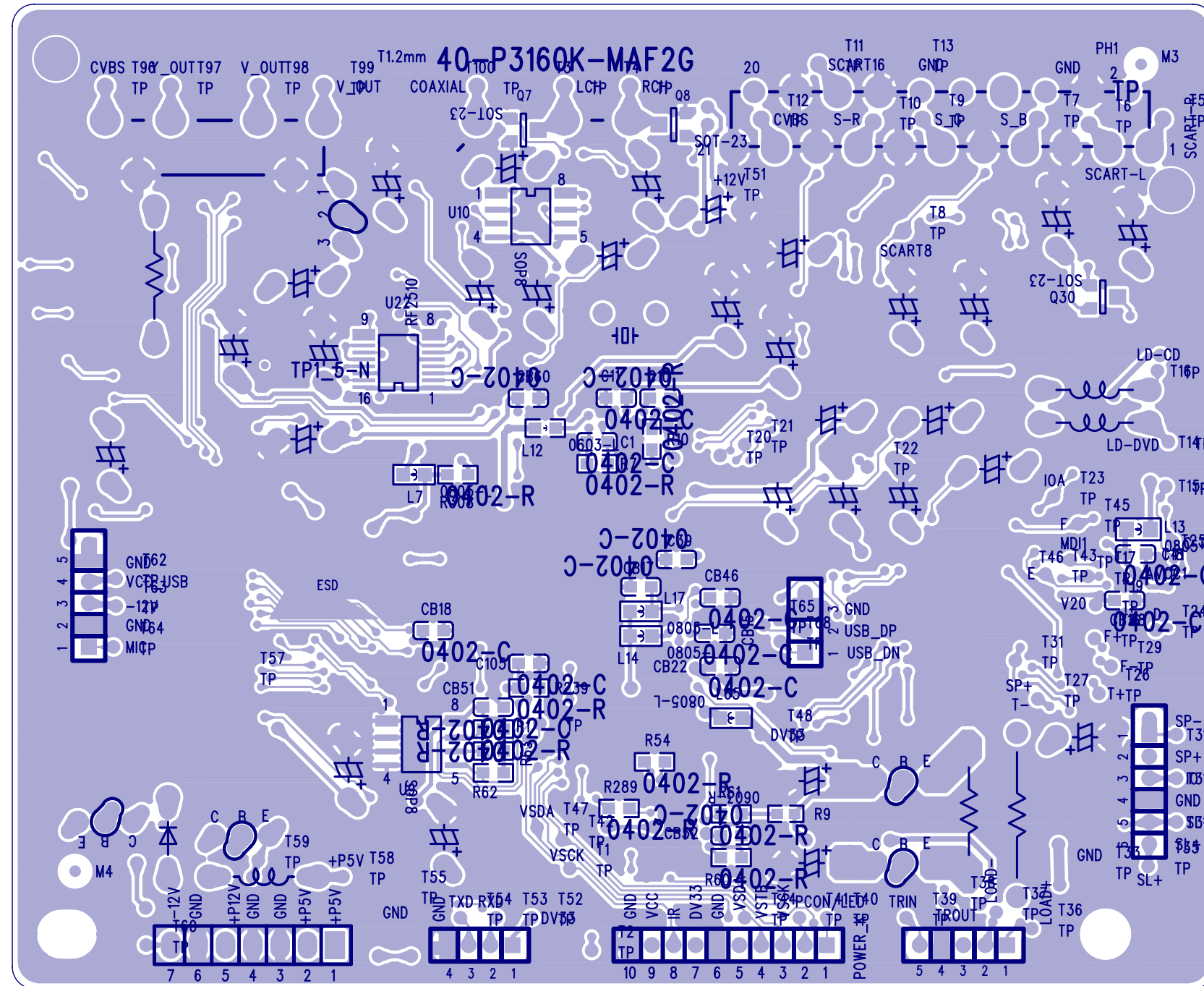
- C59 C4
- C136 C2
- C137 B1
- C138 A3
- C139 A1
- C141 A3
- R297 A1
- CE53 A1
- C164 C2
- R360 A4
- C160 B3
- R332 B1
- C161 B3
- R336 C1
- C163 B3
- C60 C4
- R300 A4
- R315 A3
- R312 A4
- R303 A3
- R328 B1
- R83 A3
- R341 C1
- R77 A3
- R343 D1
- R319 A4
- D20 B1
- R307 A4
- D21 C1
- CE45 C1
- D22 C1
- R84 A4
- D23 C1
- R78 A4
- D24 C1
- C65 A3
- D25 C2
- C69 A3
- C159 B3
- C140 A3
- C162 B3
- C142 A3
- R335 C1
- C158 B3
- R299 A3
- C68 A3
- R302 A3
- C72 A3
- R311 A3
- Q26 B1
- R314 A3
- Q30 C1
- R347 B3
- Q31 C1
- R344 B2
- Q33 D1
- R75 A3
- Q32 C1
- R81 A3
- U20 A1
- R305 A3
- CN7 B4
- R318 B3
- Q7 A4
- R346 B2
- Q8 A4
- R338 C1
- U22 B2
- R21 C1
- L56 B2
- CE48 B3
- CN9 D3
- CE47 B2
- CE3 A3
- CE54 A3
- CE4 A3
- CE53 A3
- C144 B4
- R281 C3
- C143 B4
- R282 C3
- R82 A3
- R331 B1
- R76 A3
- R288 C3
- R337 C1
- R286 C3
- R340 C1
- CE27 A2
- U10B A3
- U1 A1
- U10A A3
- R306 A3
- CN11 C3
- R319 A3
- T100 B4
- R339 C1
- R363 C1
- R365 D1
- R342 D2
- R345 B3
- R348 B3
- R364 C1
- R366 D1
- CE6 B1



Main Board Print-Layout (Top Side) for DVP3160K/XX

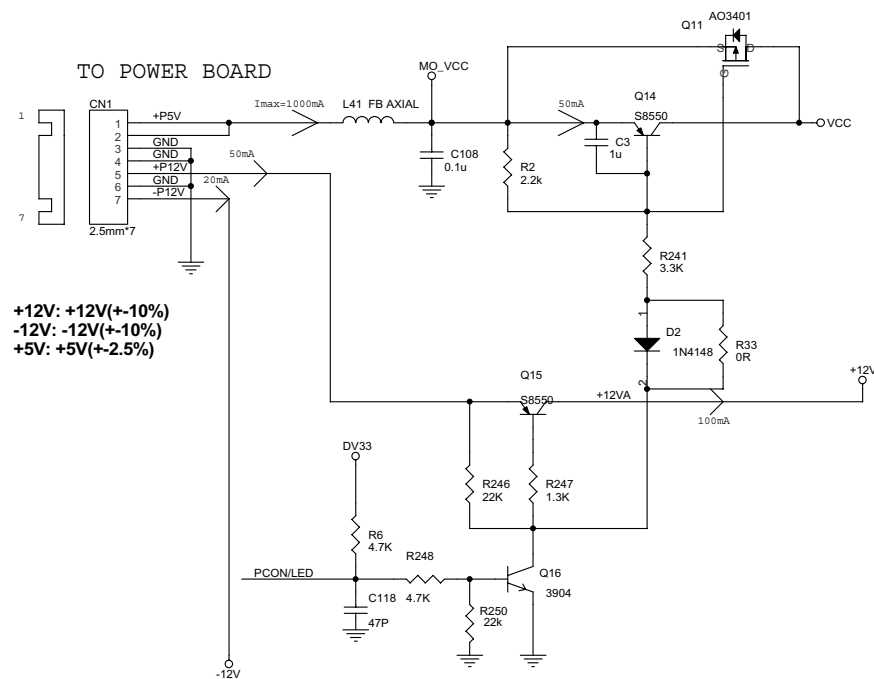


Main Board Print-Layout (Bottom Side) for DVP3160K/XX

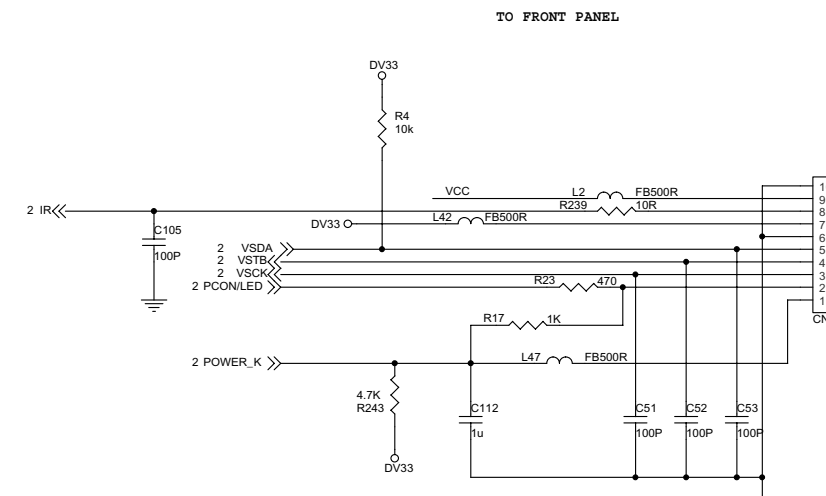


# Main Board Electric Diagram for DVP3156/XX, DVP3166(K)/XX: POWER & CONNECTOR

MT1389HD (LQFP256) DVD MP Board for SONY KHM313AAA

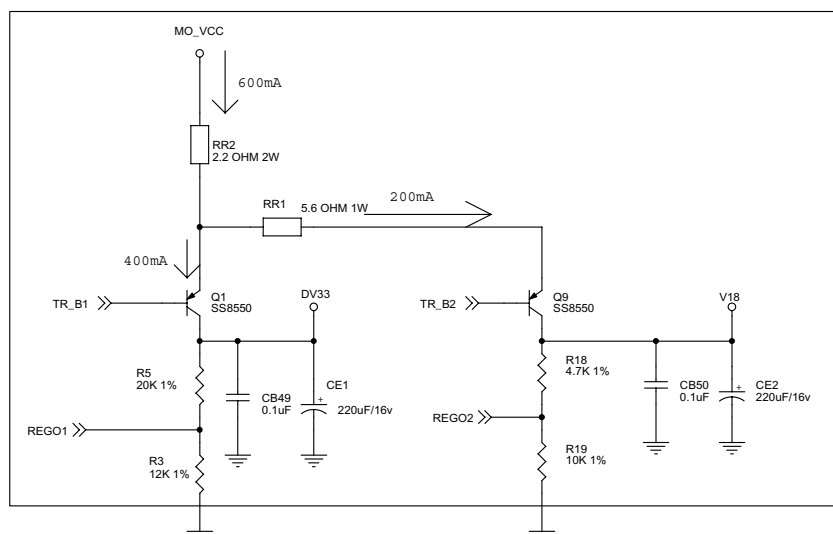
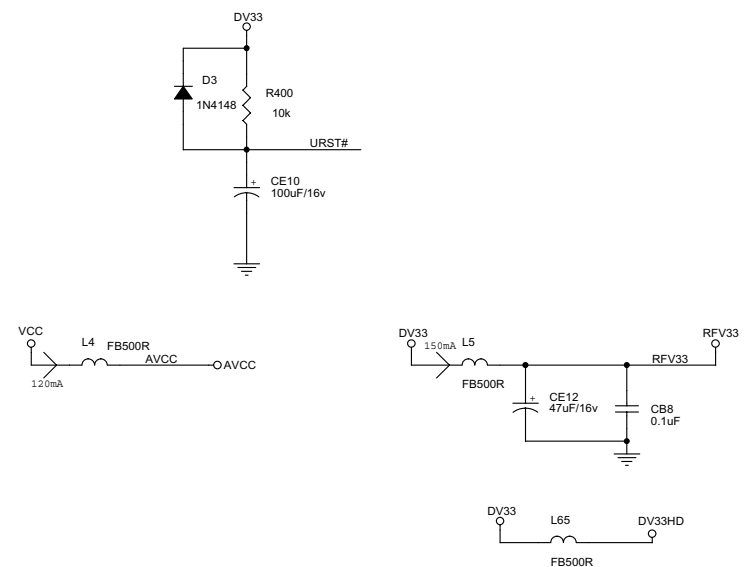


+12V: +12V(+10%)  
 -12V: -12V(+10%)  
 +5V: +5V(+2.5%)



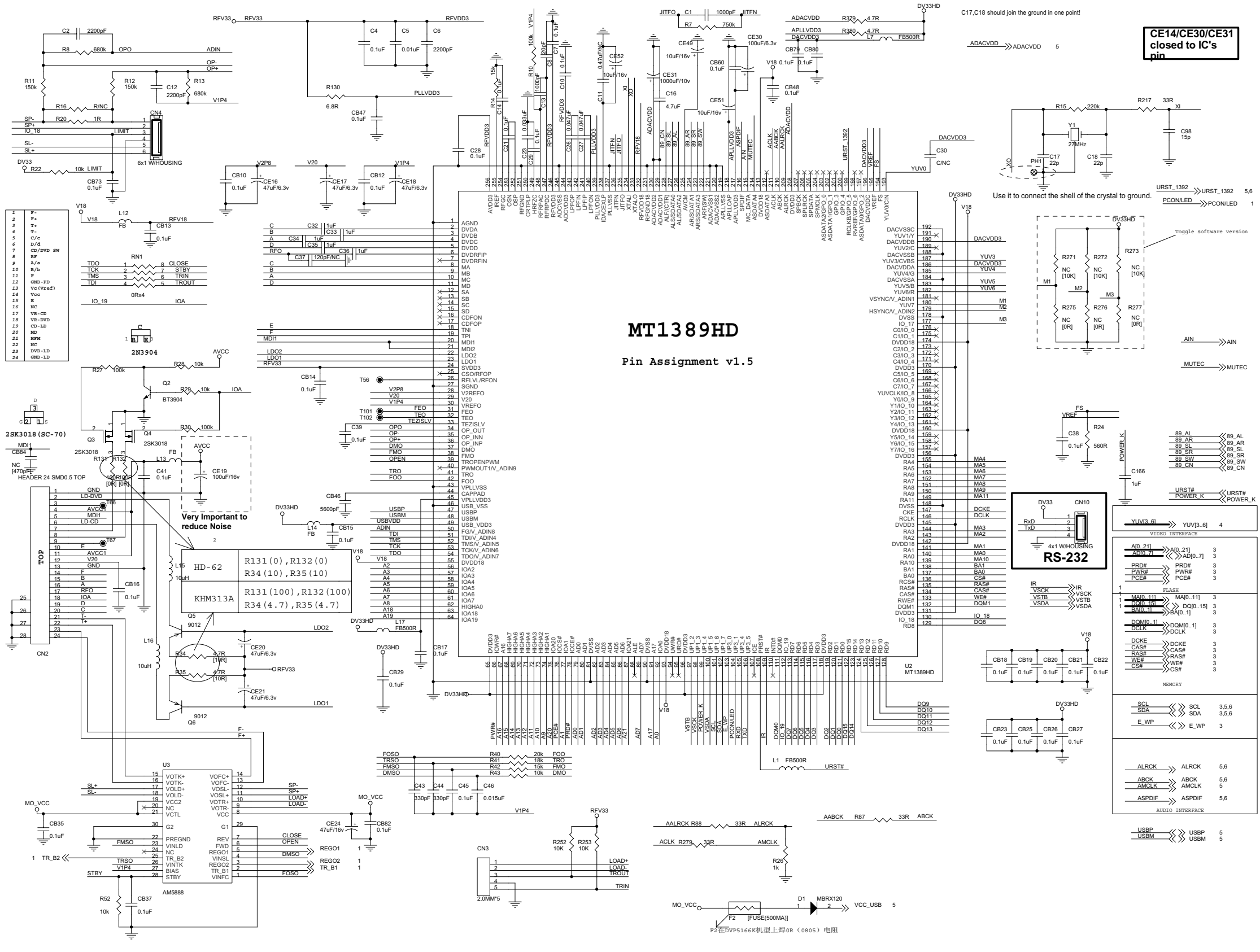
IR	IR	2
VSCK	VSCK	2
VSTB	VSTB	2
VSDA	VSDA	2
URST#	URST#	2
PCON/LED	PCON/LED	2
POWER_K	POWER_K	2

## RESET Circuit



C105	A4
C108	A3
C112	A5
C118	B3
C3	A3
C51	A5
C52	A5
C53	A5
CB49	D3
CB50	D4
CB8	D2
CB1	D3
CB10	C1
CB12	D2
CB2	D4
CN1	A2
CN5	A5
D2	A3
D3	C1
L2	A5
L4	D1
L41	A3
L42	A5
L47	A5
L5	D2
L65	D2
Q1	D3
Q11	A3
Q14	A3
Q15	A3
Q16	B3
Q9	D4
R17	A5
R18	D4
R19	D4
R2	A3
R23	A5
R239	A5
R241	A3
R243	A4
R246	B3
R247	B3
R248	B3
R250	B3
R3	D3
R33	A3
R4	A4
R400	C1
R5	D3
R6	B3
RR1	C3
RR2	C3

# Main Board Electric Diagram for DVP3156/XX, DVP3166(K)/XX: MT1389HD&FRONTEND



CE14/CE30/CE31 closed to IC's pin

Very Important to reduce Noise

RS-232

**VIDEO INTERFACE**

- YUV[3..6] → YUV[3..6] 4
- AI0[21] → AI0[21] 3
- AI0[7] → AI0[7] 3
- PRD# → PRD# 3
- PWR# → PWR# 3
- PCE# → PCE# 3
- MA0[11] → MA0[11] 3
- MA0[15] → MA0[15] 3
- BA0[1] → BA0[1] 3
- DCMD[1] → DCMD[1] 3
- DCLK → DCLK 3
- DCKE → DCKE 3
- CAS# → CAS# 3
- RAS# → RAS# 3
- WE# → WE# 3
- CS# → CS# 3

**MEMORY**

- SCL → SCL 3,5,6
- SDA → SDA 3,5,6
- E\_WP → E\_WP 3

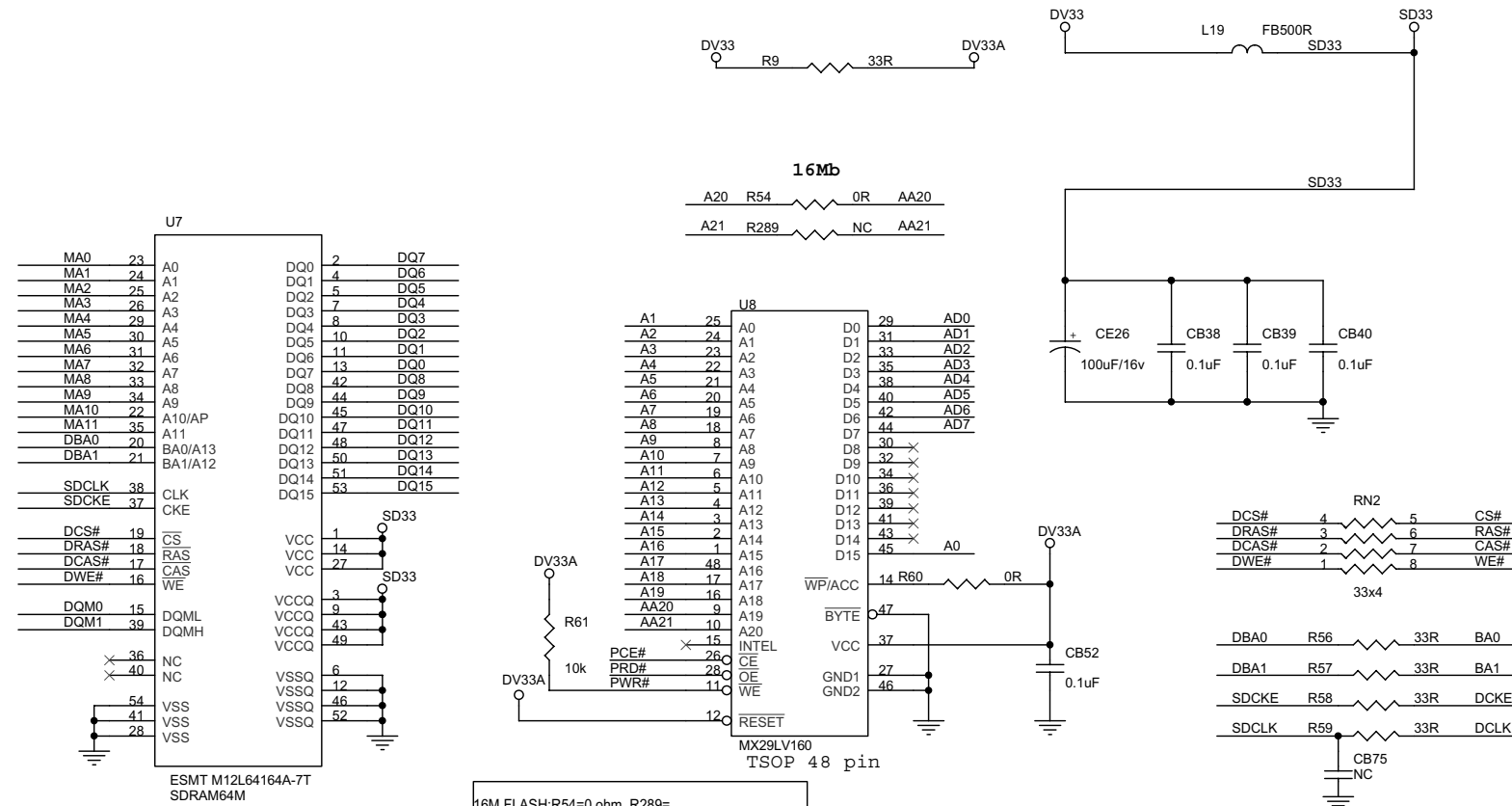
**AUDIO INTERFACE**

- ALRCK → ALRCK 5,6
- ABCK → ABCK 5,6
- AMCLK → AMCLK 5
- ASPDIF → ASPDIF 5,6
- USBP → USBP 5
- USBM → USBM 5

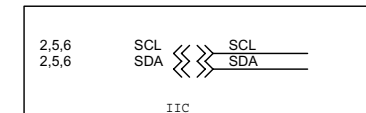
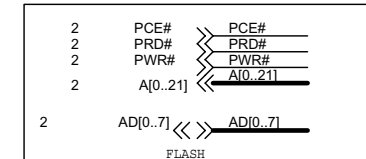
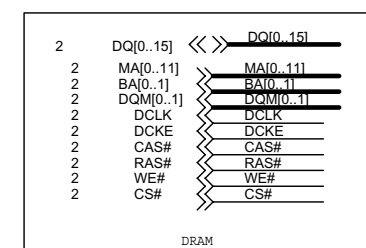
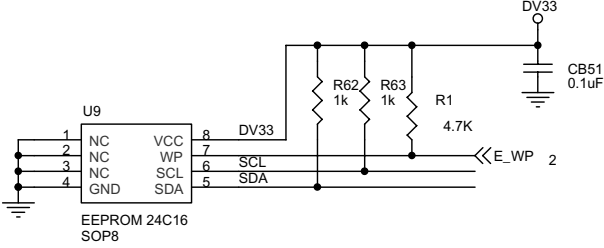
F2 in DVP3166K 机型上焊 0805 电阻



# Main Board Electric Diagram for DVP3156/XX,DVP3166(K)/XX: SDRAM & FLASH

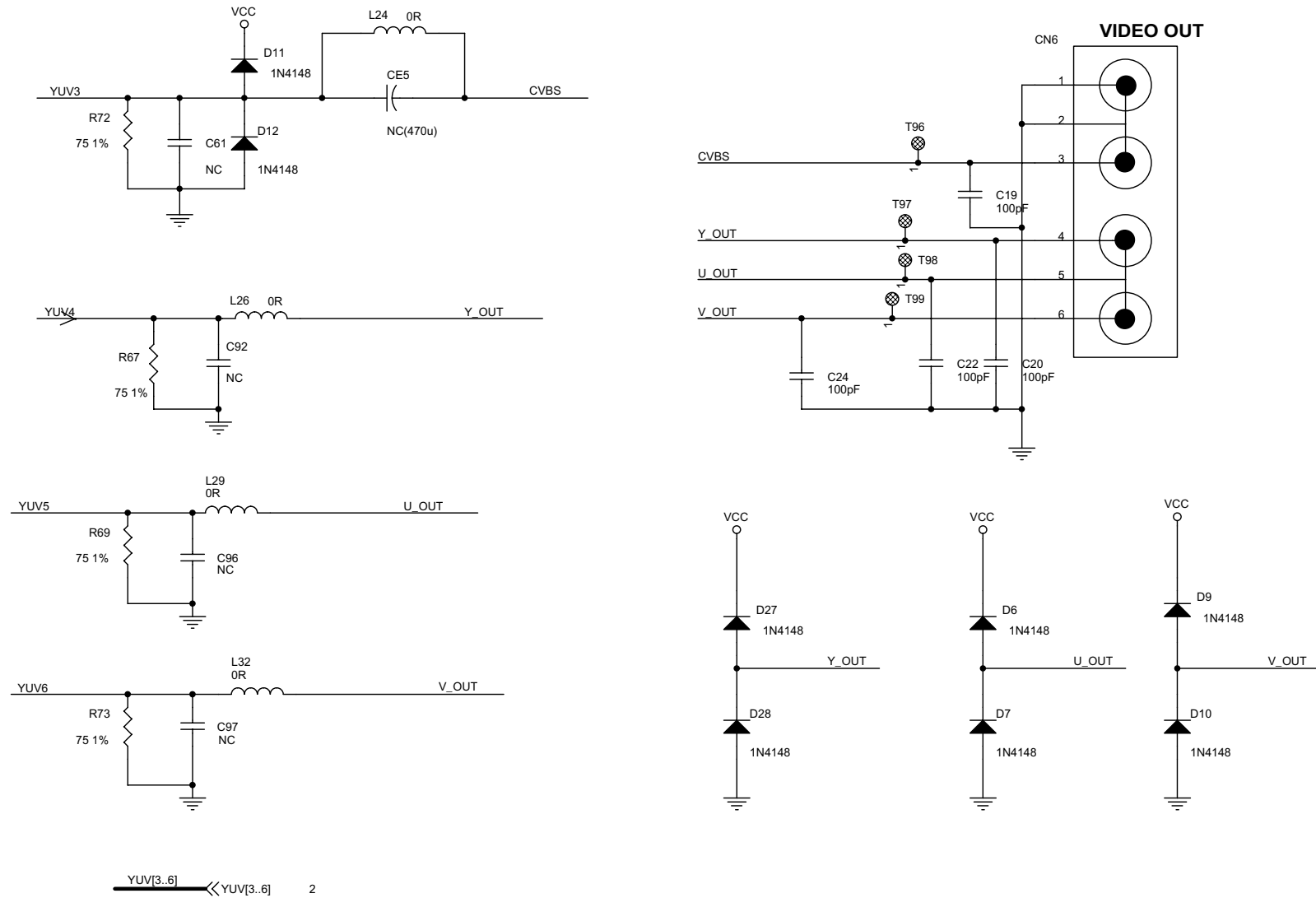


16M FLASH: R54=0 ohm, R289= OPEN  
 32M FLASH: R54=0 ohm, R289=0 ohm



- CB38 A3
- CB39 A3
- CB40 A3
- CB51 C2
- CB52 B3
- CB75 B3
- CE26 A3
- L19 A3
- R1 C2
- R289 A2
- R54 A2
- R56 B3
- R57 B3
- R58 B3
- R59 B3
- R60 B2
- R61 B2
- R62 C2
- R63 C2
- R9 A2
- RN2 B3
- U7 A1
- U8 A2
- U9 C2

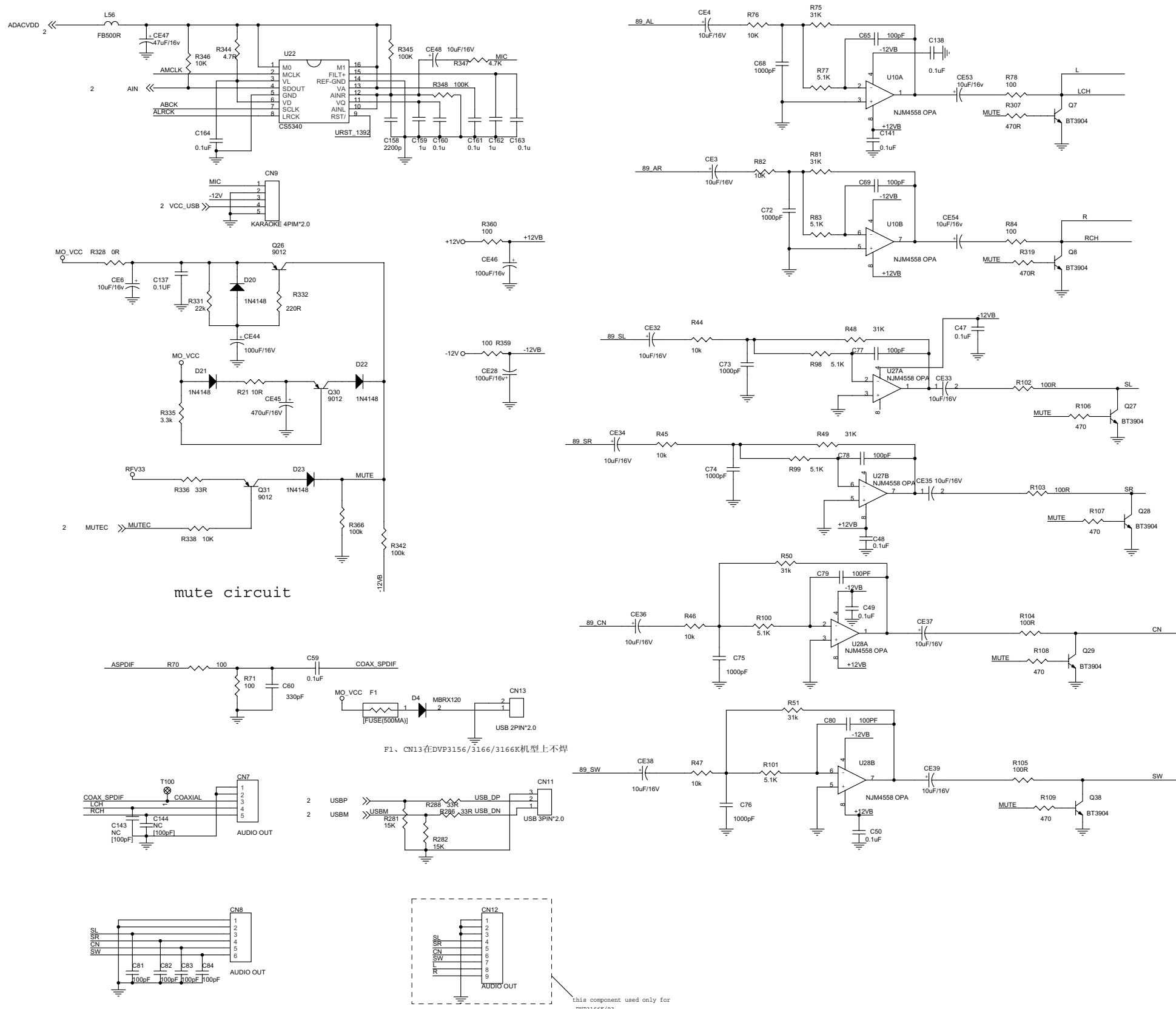
Main Board Electric Diagram for DVP3156/XX, DVP3166(K)/XX: VIDEO OUT



L24	A2
L26	B2
L29	B2
L32	C2
D6	B3
D7	C3
D9	B4
D10	C4
D11	A2
D12	A2
D27	B3
D28	C3
R69	B1
R72	A1
R73	C1
R67	B1
C19	A3
C20	B3
C22	B3
C24	B3
CE5	A2
C61	A2
C92	B2
C96	B2
C97	C2
CN6	A4
T96	A3
T97	A3
T98	B3
T99	B3

YUV[3..6] << YUV[3..6] 2

### Main Board Electric Diagram for DVP3156/XX, DVP3166(K)/XX: AUDIO OUT



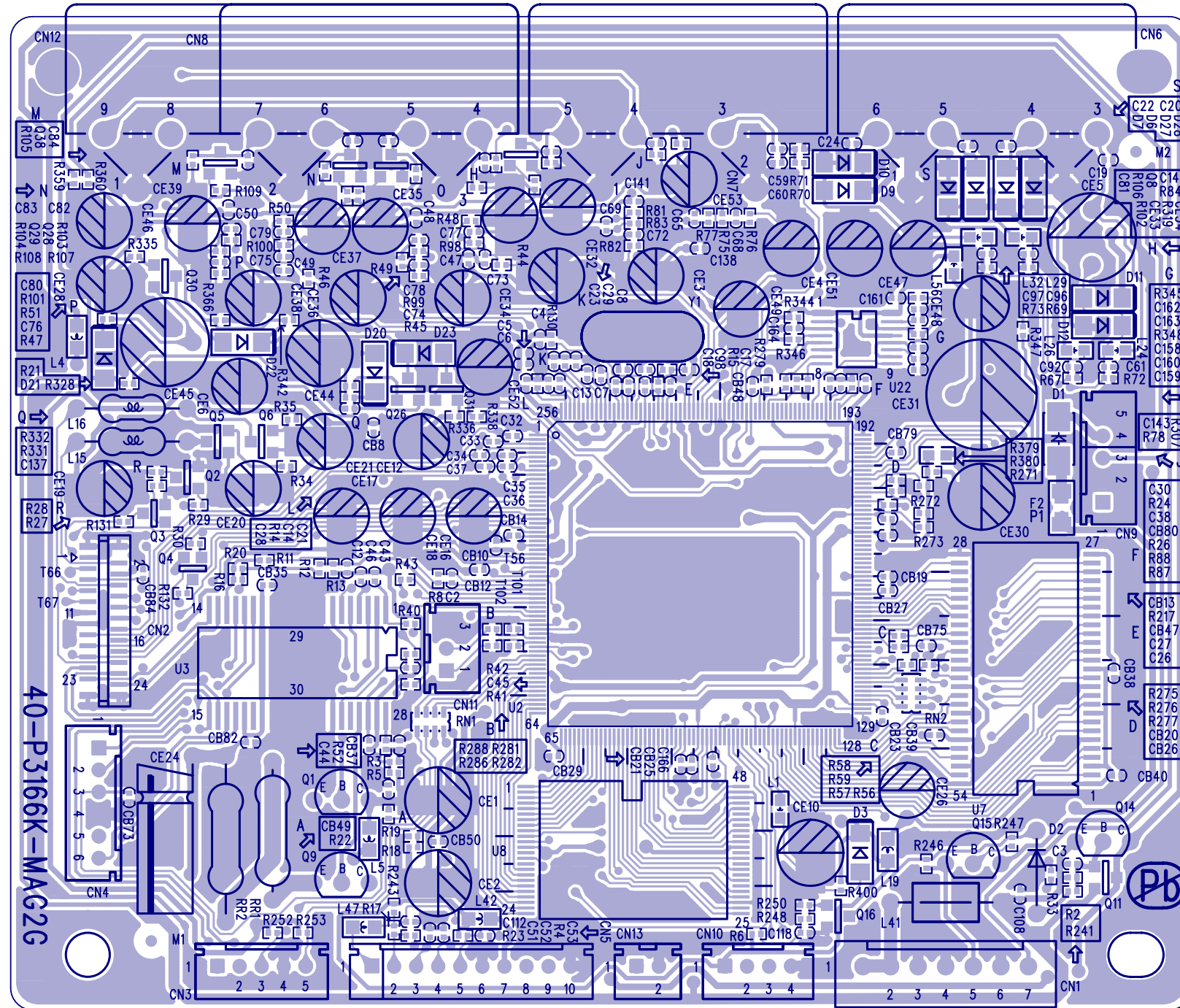
ALRCK	ALRCK	2.6
ABCK	ABCK	2.6
AMCLK	AMCLK	2
ASPDIF	ASPDIF	2.6
URST_1392	URST_1392	2.6

89_AL	89_AL	
89_AR	89_AR	
89_SL	89_SL	
89_SR	89_SR	
89_SW	89_SW	
89_CN	89_CN	

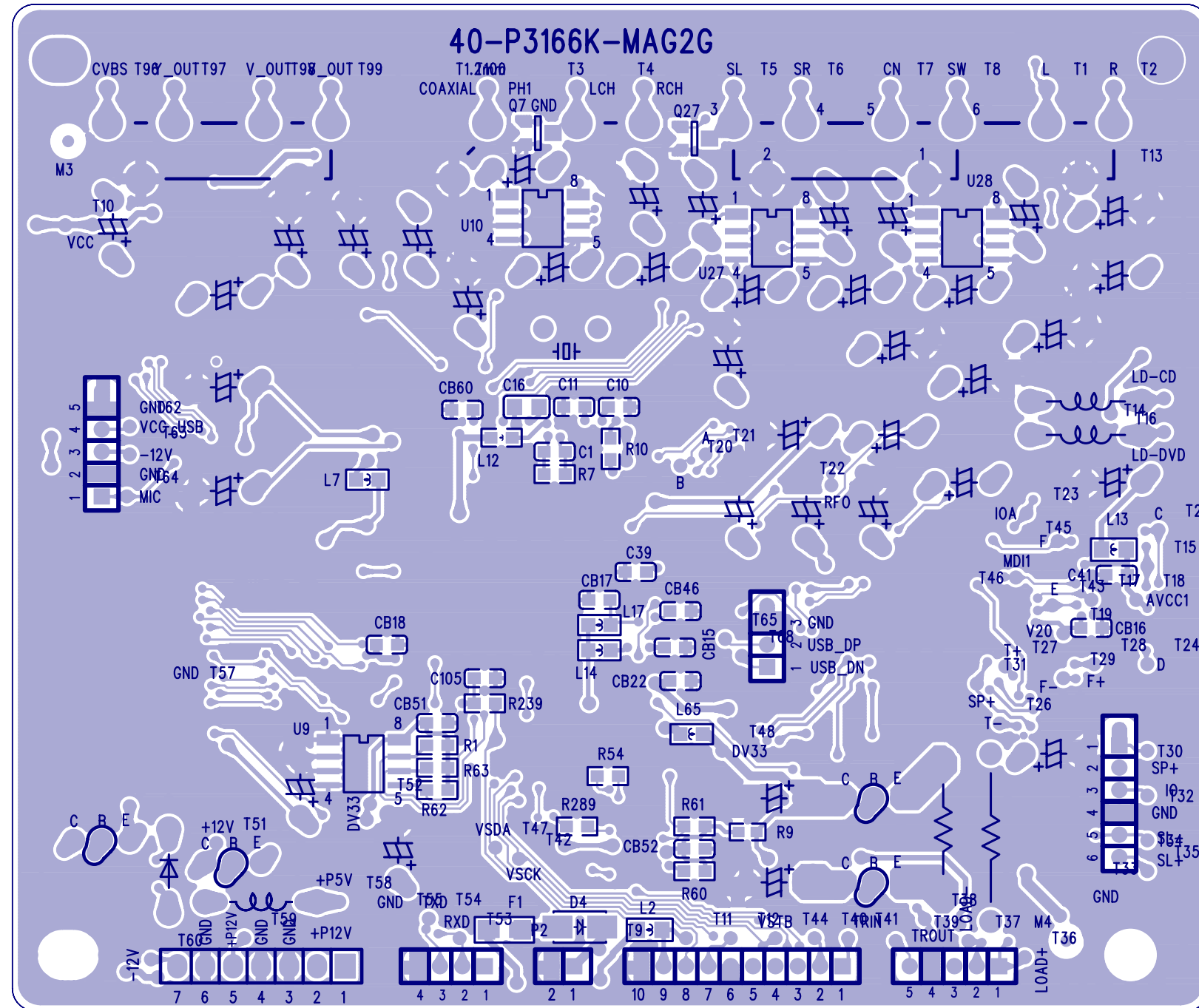
C137	A1	R307	A4
C138	A3	R319	A4
C141	A3	R328	A1
C143	C1	R331	B1
C144	C1	R332	B1
C158	A2	R335	B1
C159	A2	R336	B1
C160	A2	R338	B1
C161	A2	R342	B2
C162	A2	R344	A1
C164	A1	R345	A2
C47	B3	R346	A1
C48	B3	R347	A2
C49	C3	R348	A2
C50	C3	R359	B2
C59	C1	R360	A2
C60	C1	R366	B2
C65	A3	R44	B3
C68	A3	R45	B2
C69	A3	R46	C3
C72	A3	R47	C3
C73	B3	R48	B3
C74	B3	R49	B3
C75	C3	R50	B3
C76	C3	R51	C3
C77	B3	R70	C1
C78	B3	R71	C1
C79	B1	R75	A3
C80	B1	R76	A3
C81	D1	R77	A3
C82	D1	R78	A3
C84	D1	R82	A3
CE28	B2	R83	A3
CE3	A3	R84	A4
CE32	B2	R98	B3
CE33	B3	R99	B3
CE34	B2	T100	C1
CE35	B3	U10A	A3
CE36	C2	U10B	A3
CE37	C3	U22	A1
CE38	C2	U27A	B3
CE39	C3	U27B	B3
CE4	A3	U28A	C3
CE44	B1	U28B	C3
CE45	B1		
CE46	A2		
CE47	A1		
CE48	A2		
CE53	A3		
CE54	A3		
CE55	A3		
CE56	A1		
CN11	C2		
CN12	D2		
CN13	C2		
CN7	C1		
CN8	D1		
CN9	B1		
CN10	B1		
D4	C2		
F1	C2		
L56	A1		
Q26	A1		
Q27	B4		
Q28	B4		
Q29	C4		
Q30	B1		
Q31	B1		
Q38	C4		
Q7	A4		
Q8	A4		
R100	C3		
R101	C3		
R102	B4		
R103	C4		
R104	C4		
R105	C4		
R106	B4		
R107	B4		
R108	C4		
R109	C4		
R21	B1		
R281	C2		
R282	C2		
R286	C2		
R288	C2		

this component used only for DVP3166K/93

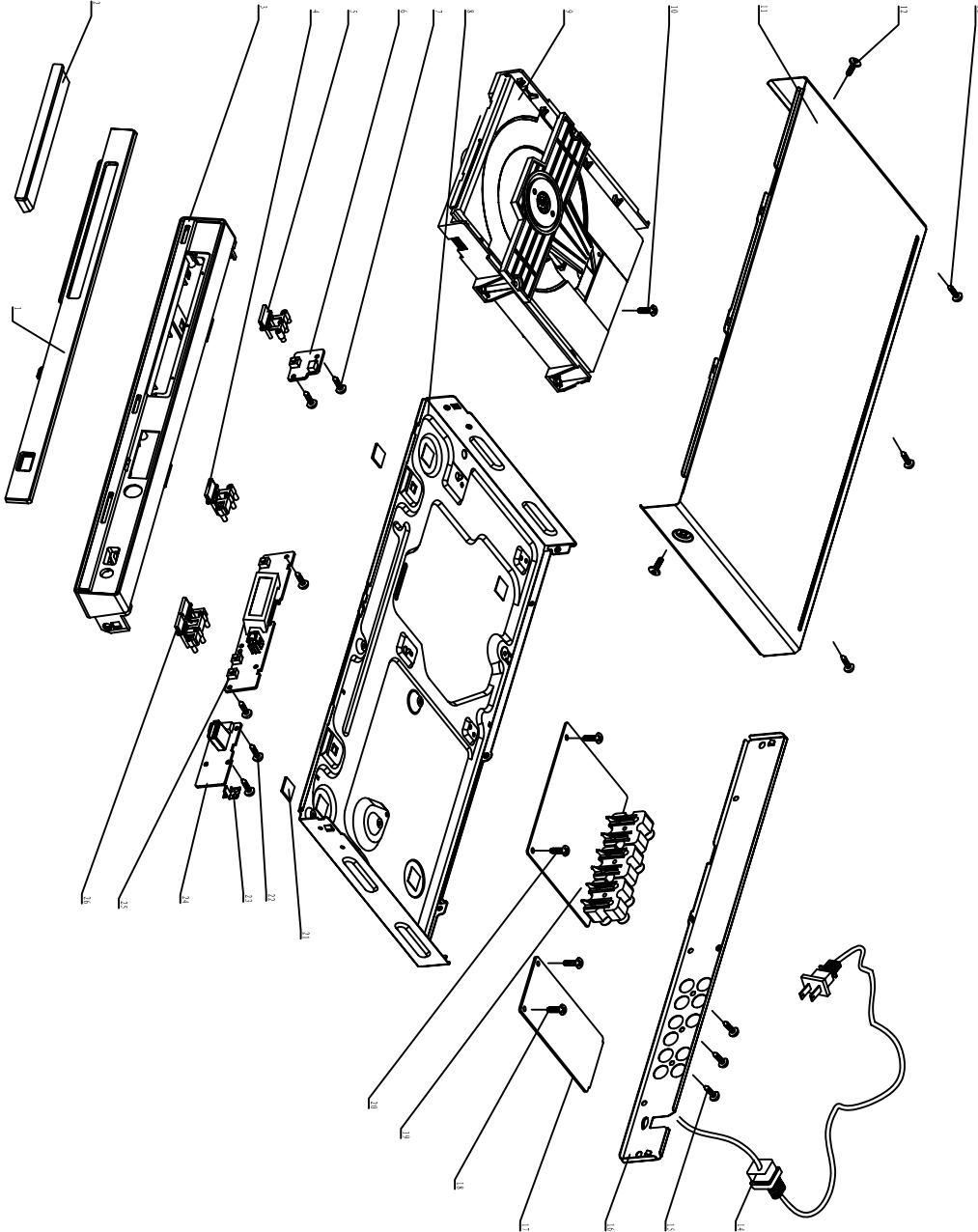
Main Board Print-Layout (Top Side) for DVP3156/XX, DVP3166(K)/XX



Main Board Print-Layout (Bottom Side) for DVP3156/XX, DVP3166(K)/XX



## DVP3156/XX, DVP3166/XX Mechanical Exploded View



Remark: It's a general Mechanical Exploded View for DVP3156/XX, DVP3166/XX, Detailed information please refer to Model set.

Ass'y1 is the assembled component for location 1,3,4,5,26

# 7-2

## ENCASING & ACCESSORIES PARTS LIST

No	12NC No.	Part Name	Q'ty
Ass'y1	996510001686	Front panel Ass'y for DVP3166/94 ,DVP3166x/94	1
	996510001679	Front panel Ass'y for DVP3156/93	
2	996510001685	Front Door Ass'y for DVP3166/94,DVP3166x/94	1
	996510001678	Front Door Ass'y for DVP3156/93	
6	996510001188	Ass'y-Switch Board for DVP3166/94,DVP3166x/94	1
	996510001163	Ass'y-Switch Board for DVP3156/93	
8	996510001177	Bottom Cover	1
9	996510001166	Loader	1
11	996510001178	Top Cover	1
14	996510001179	Power Cord for DVP3166/94 ,DVP3166x/94	1
	996510001206	Power Cord for DVP3156/93	
16	996510001687	Rear Cabinet DVP3166/94	1
	996510001681	Rear Cabinet DVP3156/93	
17	996510001200	Ass'y-Power Board for DVP3166/94	1
	996510001673	Ass'y-Power Board for DVP3156/93	
	996510001687	Back Panel for DVP3166/94,DVP3166x/94	
18	996510001200	Ass'y Power Board for DVP3166/94,DVP3166x/94	1
19	996510001683	Ass'y-Main Board for DVP3166/94 ,DVP3166x/94	1
	996510001672	Ass'y-Main Board for DVP3156/93	
21	996510001680	Rubber Pad	1
23	/	Grounding Pad	1
24	996510001674	Ass'y-USB Board	1
25	996510001189	Ass'y-Front Board for DVP3166/94	1
	996510001164	Ass'y-Front Board for DVP3156/93	
26	996510001674	Ass'y - US BD	1
27	996510001189	Ass'y-FB BD DVP3166/94,DVP3166x/94	1

## SCREW LIST

No	12NC No.	Part Name	Q'ty
1	/		2
7	/	S/T SCREW B 2.6 X 8 BF	1
10	/	MACHINE SCREW	2
12	/	M/C SCREW TRIANGLE W 3 X 6	3
13	/	TRIANGLE M/C SCREW B 3 X 6	3
15	/	S/T SCREW B 3 X 8 BF	3
18	/	TRIANGLE M/C SCREW B 3 X 6	2
20	/	TRIANGLE M/C SCREW B 3 X 6	2
22	/	S/T SCREW B 2.6 X 8 BF	2

## Accessory

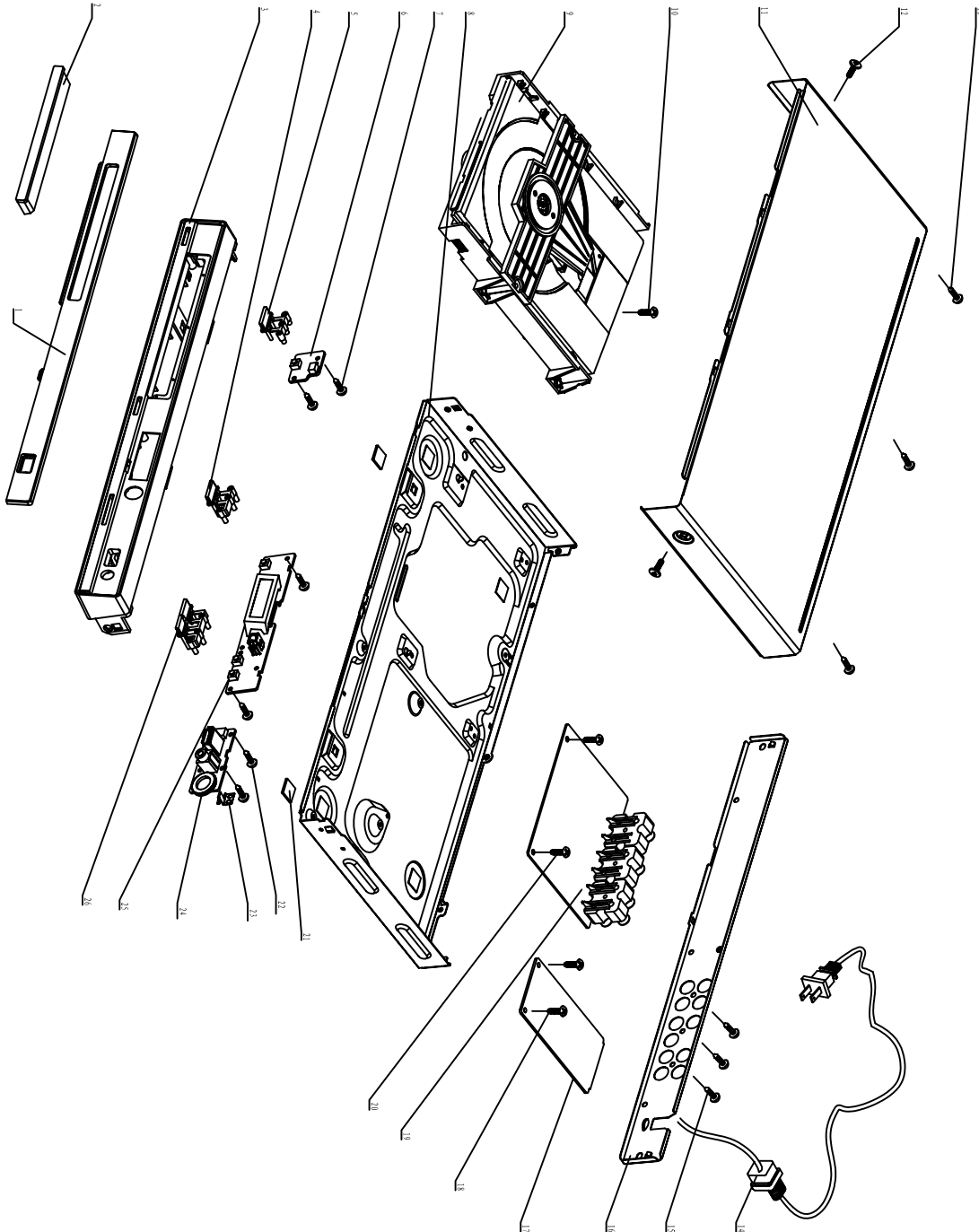
RC	996510001675	REMOTE CONTROL for DVP3156/93	1
RC	996500035359	REMOTE CONTROL for DVP3166/94	1
AV	996510001106	VIDEO CABLE 1500mm	1
DBOX	996510001677	DISPLAY BOX for DVP3156/93	1
LBuffer	996510001203	RIGHT BUFFER	1
Rbuffer	996510001202	LEFT BUFFER	1

## Cable

CN601	996510001676	CABLE 5PIN PITCH=2.0	1
CON2	996510001169	TJC3-7Y/SCN-7P L=80MM	1
CON3	996510001172	HS 9PIN	1
CON3	996510001171	2P HS for DVP3156/93	1
CN1	996510001169	TJC3-7Y/SCN-7P L=80MM	1
CN2	996510001168	24PIN HS 1	1
CN4	996510001170	6PIN HS 1	1
CN1	996510001193	PH-2Y/SAW-2P L=170MM for DVP3166/94	1
MAIN	996510001192	PH-5Y/PH-5Y L=130MM	1
5P	996510001192	PH-5Y/PH-5Y L=130MM DVP3166/94,DVP3166x/94	1

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

## DVP3160K/XX,DVP3166K/XX Mechanical Exploded View



Remark: It's a general Mechanical Exploded View for DVP3160K/XX, DVP3166K/XX , Detailed information please refer to Model set.

Ass'y1 is the assembled component for location 1,3,4,5,26



**ENCASING & ACCESSORIES PARTS LIST****SCREW LIST**

No	12NC No.	Part Name	Q'ty	No	12NC No.	Part Name	Q'ty
Ass'y1	996510001196	Front panel Ass'y for DVP3160K/55/77/78	1	7	/	S/T SCREW B 2.6 X 8 BF	2
	/	Front panel Ass'y for DVP3166K/93		10	/	MACHINE SCREW	1
2	996510001685	Front Door Ass'y	1	12	/	M/C SCREW TRIANGLE W 3 X 6	2
6	996510001188	Ass'y-Switch Board	1	13	/	TRIANGLE M/C SCREW B 3 X 6	3
8	996510001177	Bottom Cabinet	1	15	/	S/T SCREW B 3 X 8 BF	3
9	996510001166	Loader	1	17	/	TRIANGLE M/C SCREW B 3 X 6	2
11	996510001178	Top Cover	1	20	/	TRIANGLE M/C SCREW B 3 X 6	2
				22	/	S/T SCREW B 2.6 X 8 BF	2
14	996510001175	Power Cord for DVP3160K/55	1				
	996510001227	Power Cord for DVP3160K/77					
	/	Power Cord for DVP3160K/78					
	996510001206	Power Cord for DVP3166K/93					
16	996510001198	Rear Cabinet for DVP3160K/55	1				
	/	Rear Cabinet for DVP3160K/77/78					
	/	Rear Cabinet for DVP3166K/93					
18	996510001200	Ass'y-Power Board for DVP3160K	1				
		/77/78, DVP3166K/93					
	996510001190	Ass'y-Power Board for DVP3160K/55					
19	996510001187	Ass'y-Main Board for DVP3160K/55	1				
		/77/78					
	/	Ass'y-Main Board for DVP3166K/93					
21	996510001680	Rubber Pad	2				
23	/	Grounding Pad	1				
24	996510001191	Ass'y-USB+OK Board	1				
25	996510001189	Ass'y-Front Board	1				

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

**REVISION LIST**

**Version 1.0**

\*Initial release

**Version 1.1**

Include DVP3166X/ 94 models

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