

# Service Service Service



# Service Manual

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## 1.0 TECHNICAL SPECIFICATION

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### VIDEO PERFORMANCE

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Test equipment: Audio Precision System2  
 Test discs: CDDA: Philips audio signal test disc 1  
               DVD: Philips LVP 9.01 audio test disc  
 Load Impedance: 100K $\Omega$

### COMPONENT VIDEO RGB

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Luminance amplitude output: 700mV  $\pm$  10%  
 RGB unbalance:5%  
 Sync. Amplitude: 300mV  $\pm$  100mV  
 S/N on RGB outputs:  $\geq$  52dB  
 DC Level:  $\leq$  1V

### VIDEO FORMAT

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DVD, VCD, MP3, JPEG,

### COMPONENT VIDEO YPbPr

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PbPr output unbalance:3%  
 Sync. Amplitude: 286mV  $\pm$  100mV  
 Video Bandwidth 4.2 MHz:- 5db / 5.8MHz:-8dB  
 With progressive scan:8.4MHz -5dB  
 S/N on outputs: YUV:  $\geq$  52 dB

### AUDIO PERFORMANCE

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#### Line outputs

Test equipment: Audio Precision System2  
 Test discs:CDDA:Philips audio signal test disc 1  
               DVD: Philips LVP 9.01 audio test disc  
 Load Impedance: 100K $\Omega$  for Audio

### POWER CONSUMPTION

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Power-Supply:100-240V ac,50/60Hz,  
 Supply voltage:AC 100~240V  
 Supply Power consumption(AC 100/240V):10W/+10%  
 Standby Power,230V AC: <1W

### AUDIO FORMAT

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CD/MP3,DVD audio

### GENERAL DESCRIPTION

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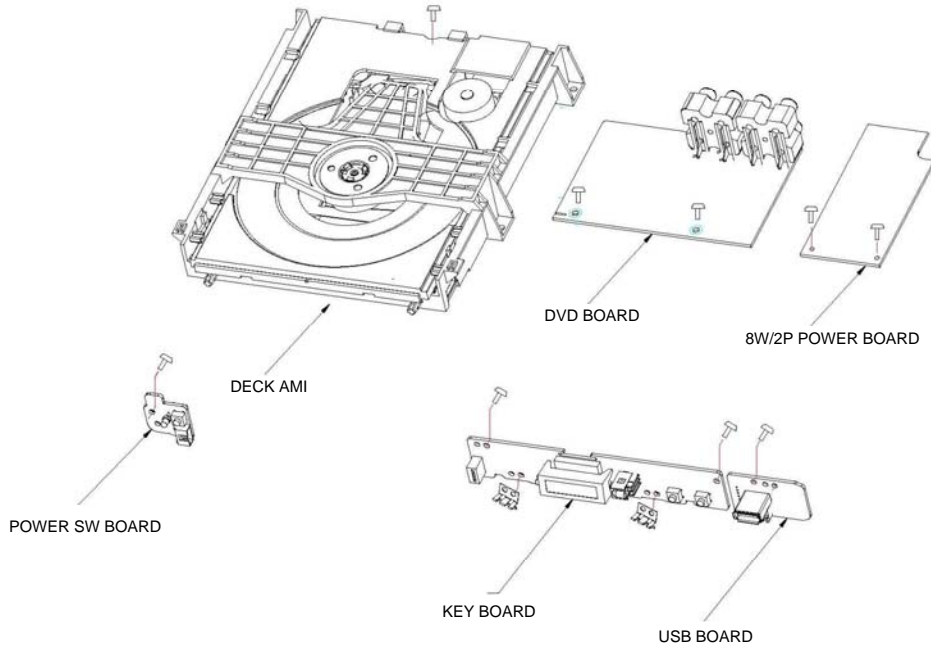
Optical Pickup: IM S76RFVP  
 Chip set/Solution: Mediatek MTK1389QE-LAE  
 Disc Size:8cm/12cm

### CVBS

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Amplitude output:1Vpp $\pm$  0.1V/  
 White bar: 714mV  $\pm$  10%/700mVpp  $\pm$  10%  
 Sync. Amplitude: 286mV  $\pm$  100mV/300mVpp  $\pm$  100mV  
 Burst/chroma ratio:  $\pm$  10%  
 S/N luminance:  $\geq$  52dB

### 1.1 PCBs LOCATION



### VERSION VARIATIONS

Type/Versions: Service policy	DVP3100						
	98	79	96				
<b>Board in used:</b>							
<b>DVD BOARD</b>	M/C	M/C	M/C				
<b>8W/2P POWER BOARD</b>	M/C	M/C	M/C				
<b>KEY BOARD</b>	M/C	M/C	M/C				
<b>USB BOARD</b>	M/C	M/C	M/C				
<b>POWER SW BOARD</b>	M	M	M				

\*TIPS: C -- Component Lever Repair.  
M -- Module Lever Repair  
X -- OCX

## 1.2 System, Region Code, etc. Setting Procedure

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

1. Power ON the DVD player and do not insert DISC inside player
2. Setup → Prefer  
Press IR in the sequence as  
9 → 6 → 5 → 3  
The LCD display showed the existing region Code
3. Press ▲ (navigation up) or ▼ (navigation down) repeatedly to select the number from 0 to 6.
4. Then press OK to confirm your region code.
5. Refer below table for your region code setting

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

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

### Procedure for SW upgrade

1. The upgrade will provide a document re-named: PHILIPS.BIN
2. "PHILIPS.BIN" copy to USB or CD-ROM into the data;
3. Reading the USB or CD-ROM, in accordance with prompt, press "OK" key to upgrade.

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

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

1. OPEN
2. Press SETUP MENU
3. Select Preferences
4. Select Version Info
5. Press "OK" key

## 2.0 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.

### 3.0 INSTRUCTION FOR USE

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You can download this information from the following websites:

<http://www.philips.com/support>

## 4.0 MECHANICAL AND DISMANTLING INSTRUCTIONS

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The following guidelines show how to dismantle the player.

Step1: Remove 5 screws around the Top Cover, and then remove the Top Cover(Figure1)

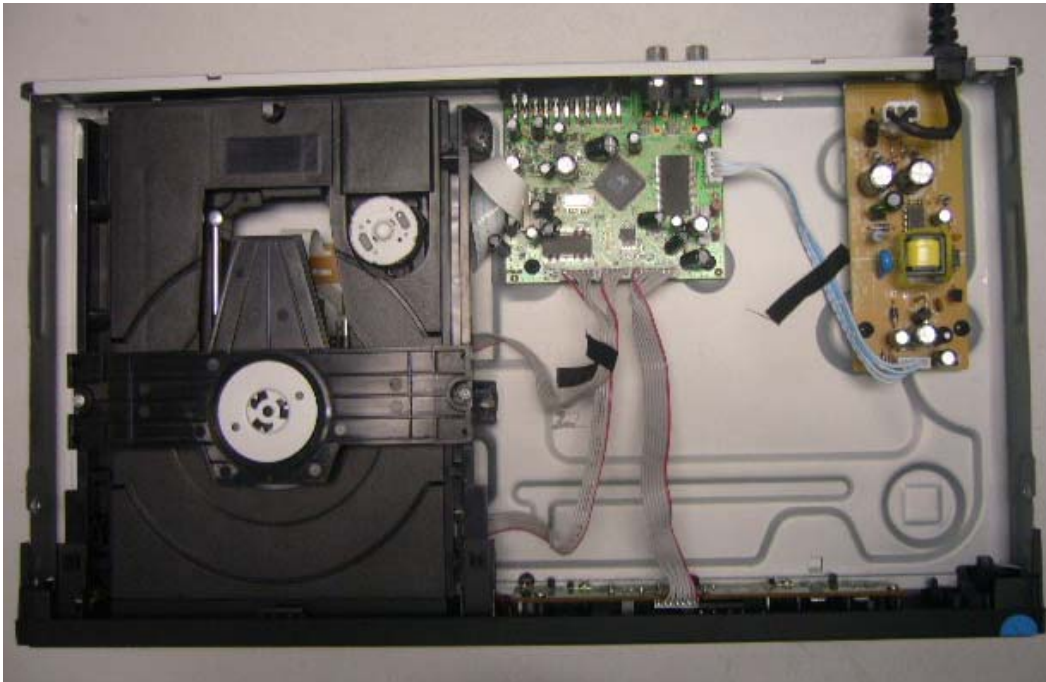


Figure 1

Step2: If the tray can't open in normal way, you can make it through the instruction as below (Figure2)



Figure 2

Step2: If it is necessary to dismantle Loader or Front Panel, the Front door should be removed first(Figure3)



Figure 3

## 4.0 MECHANICAL AND DISMANTLING INSTRUCTIONS

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Step4: Remove the 10 screws on board to dismantle the DVD BOARD & POWER BOARD & LED BOARD (Figure 4&5)

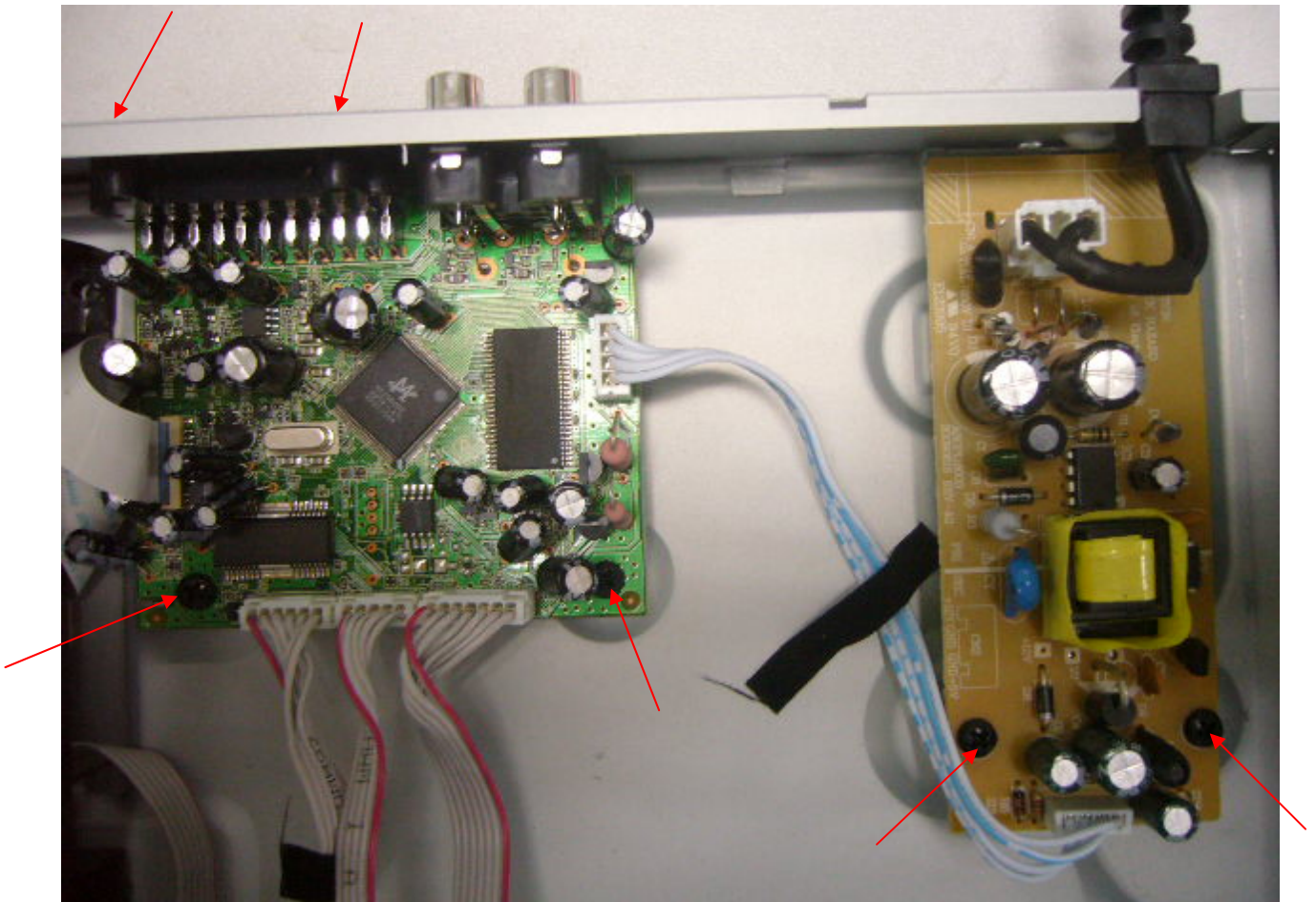


Figure4

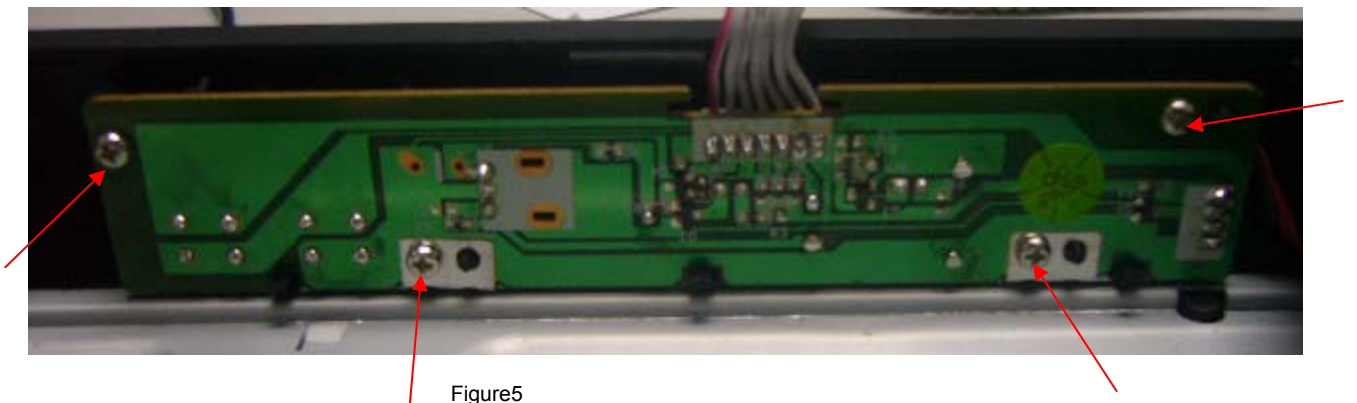
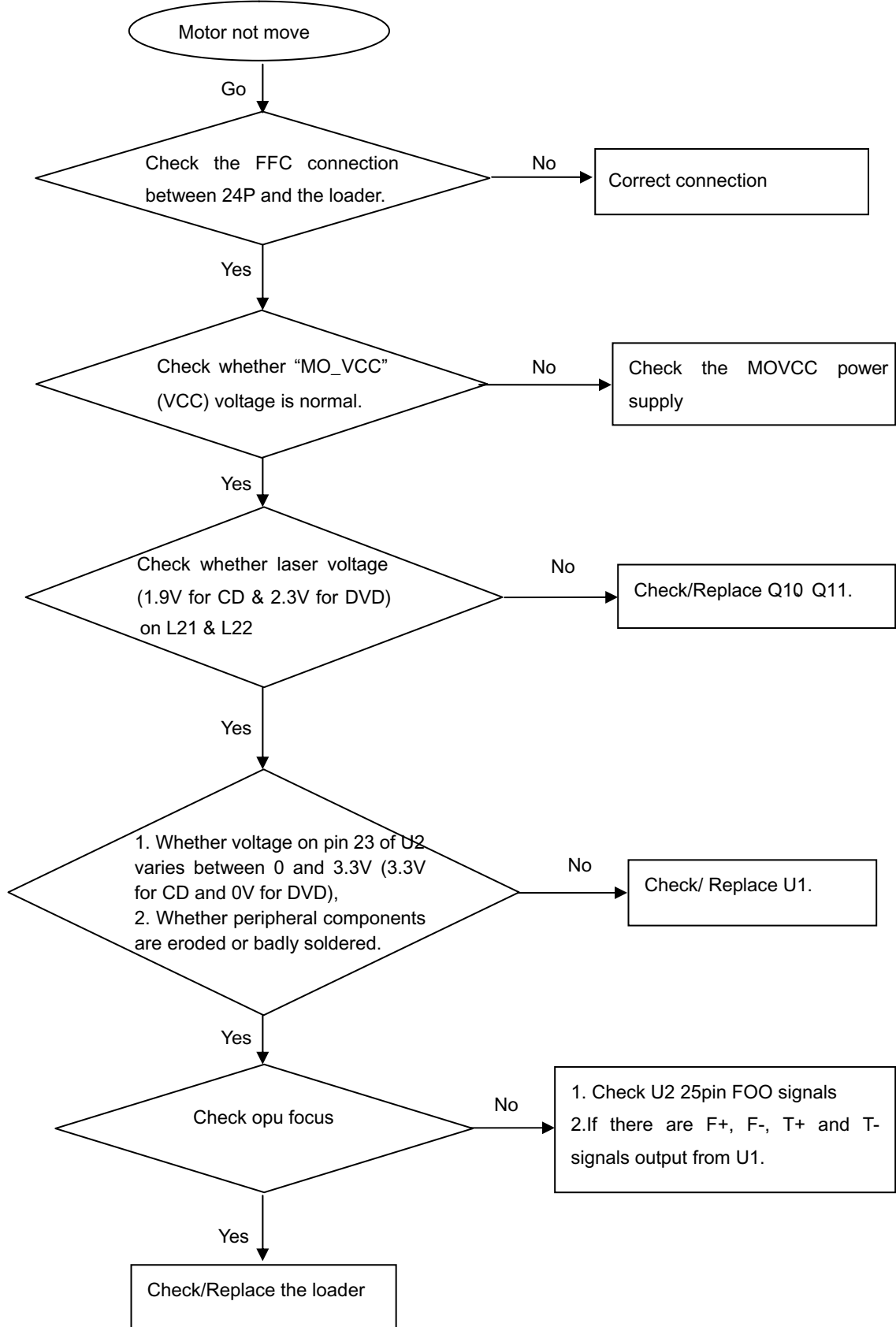
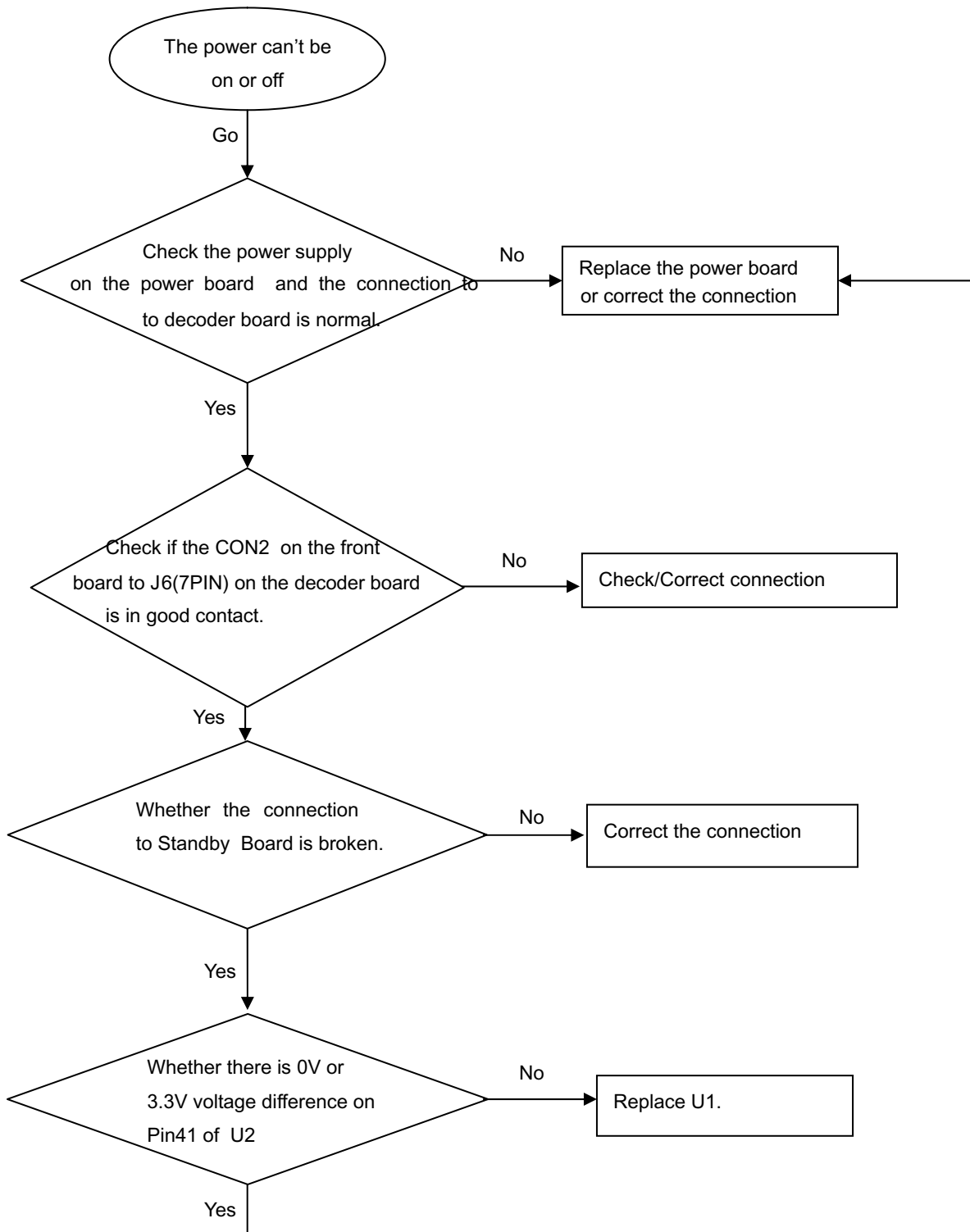
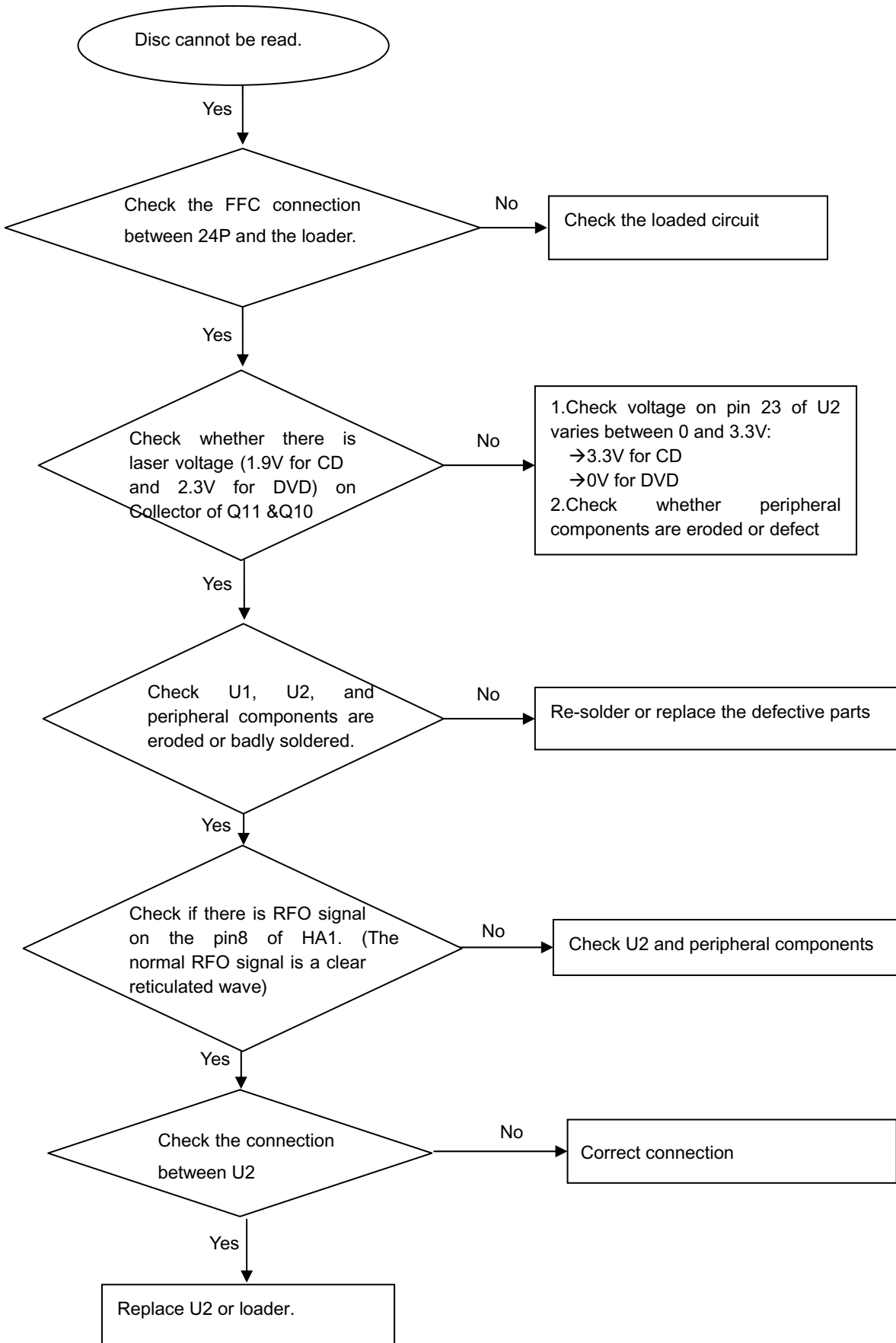


Figure5

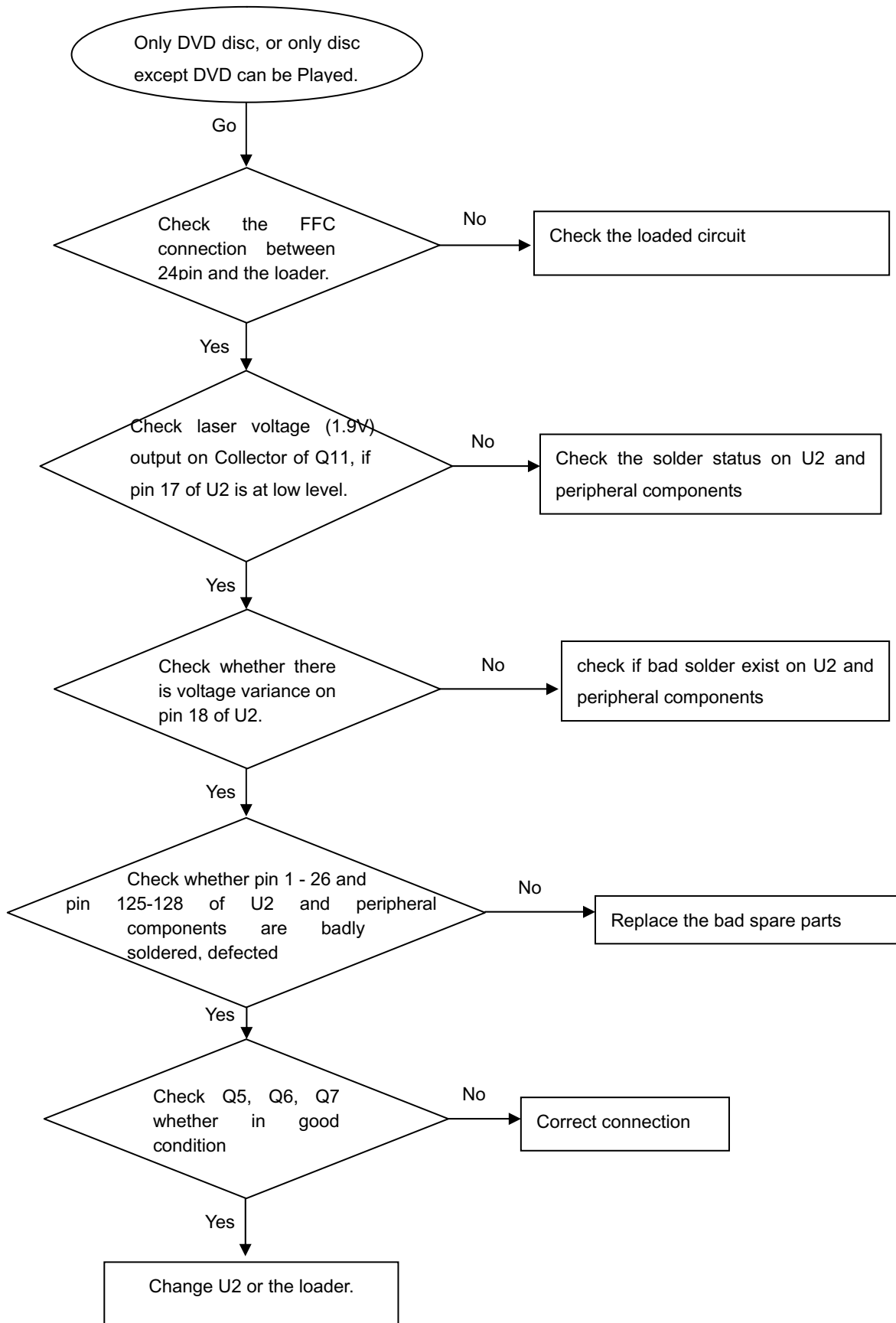


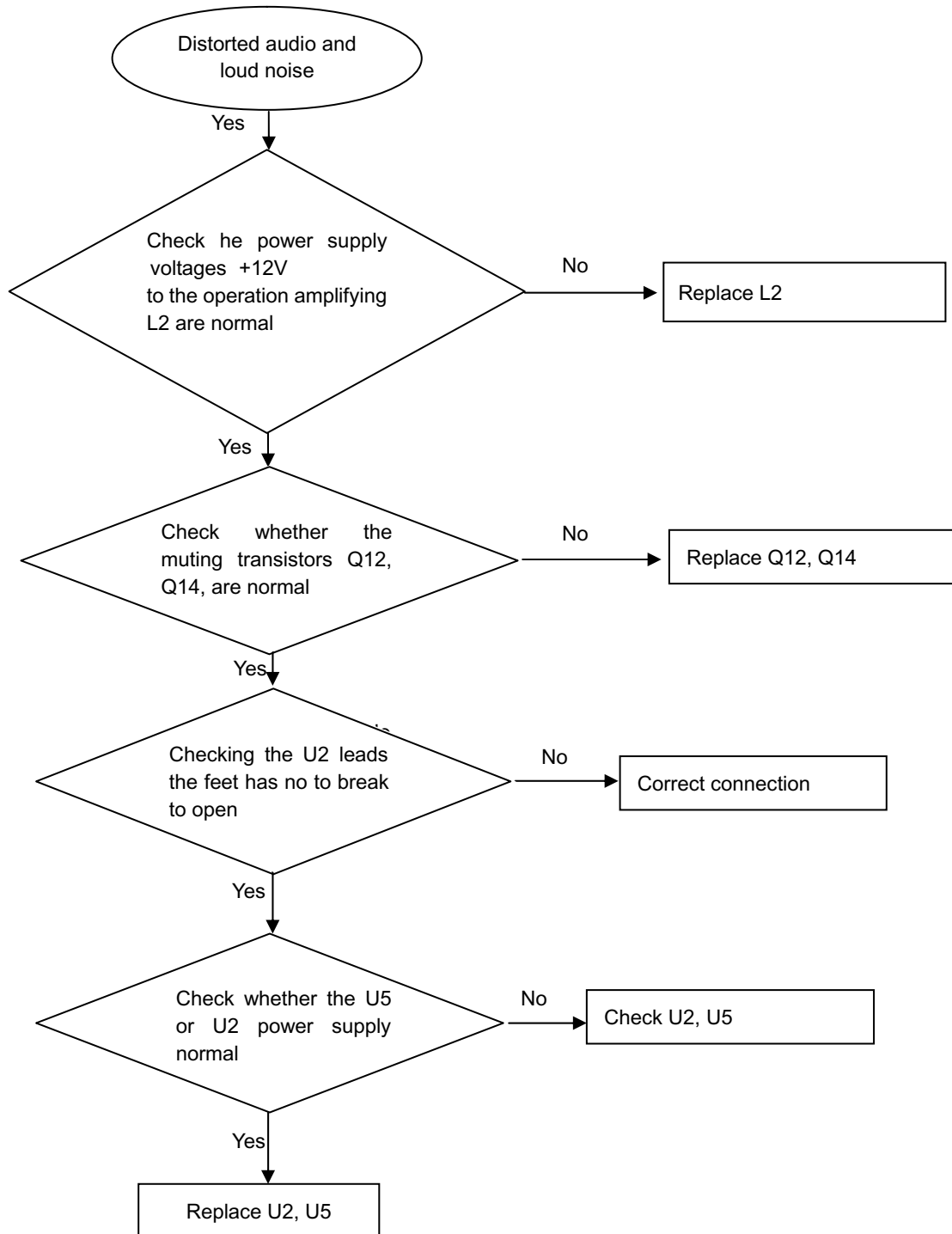
**Spindle motor does not move**

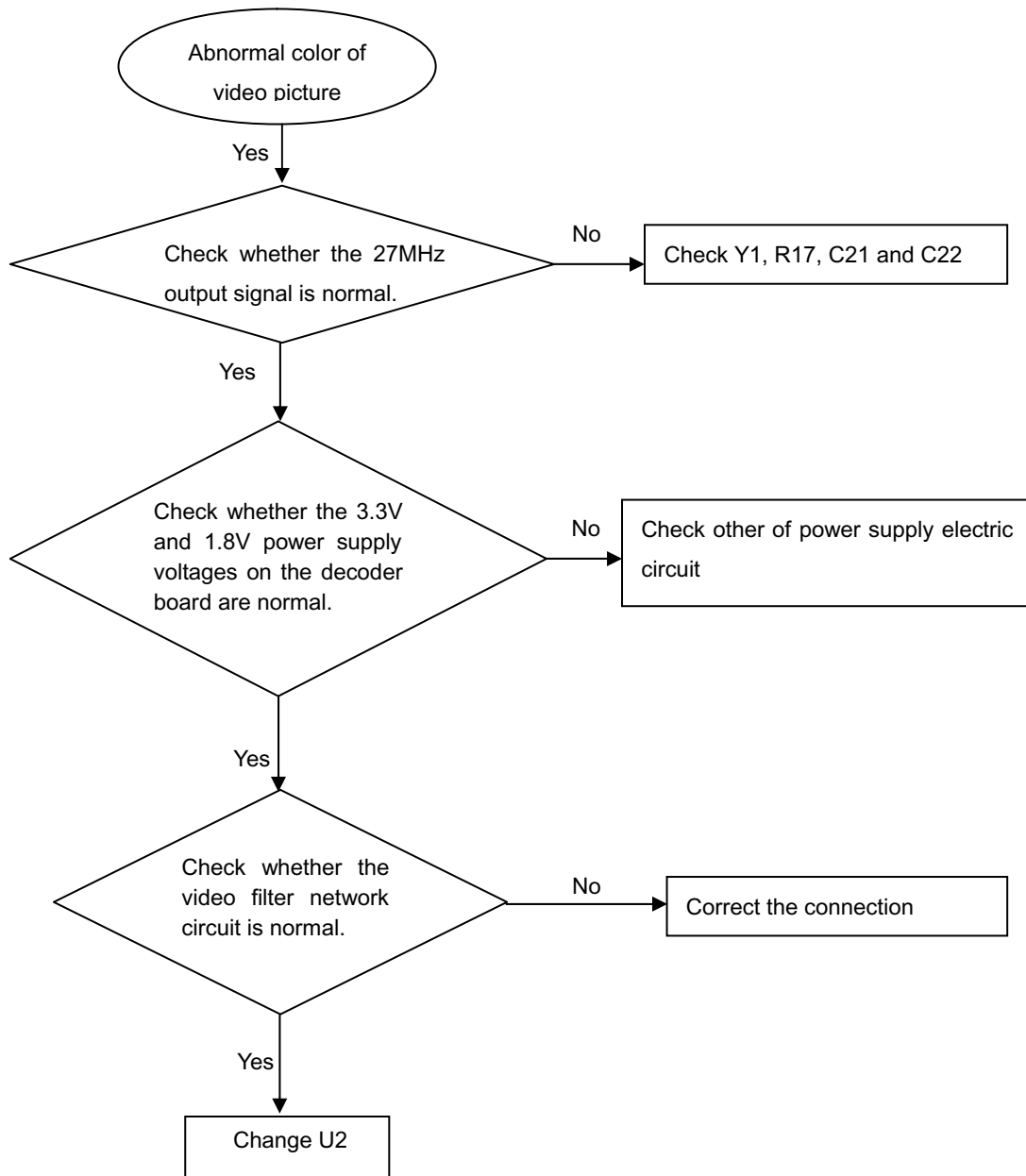
**The power can not be on or off**

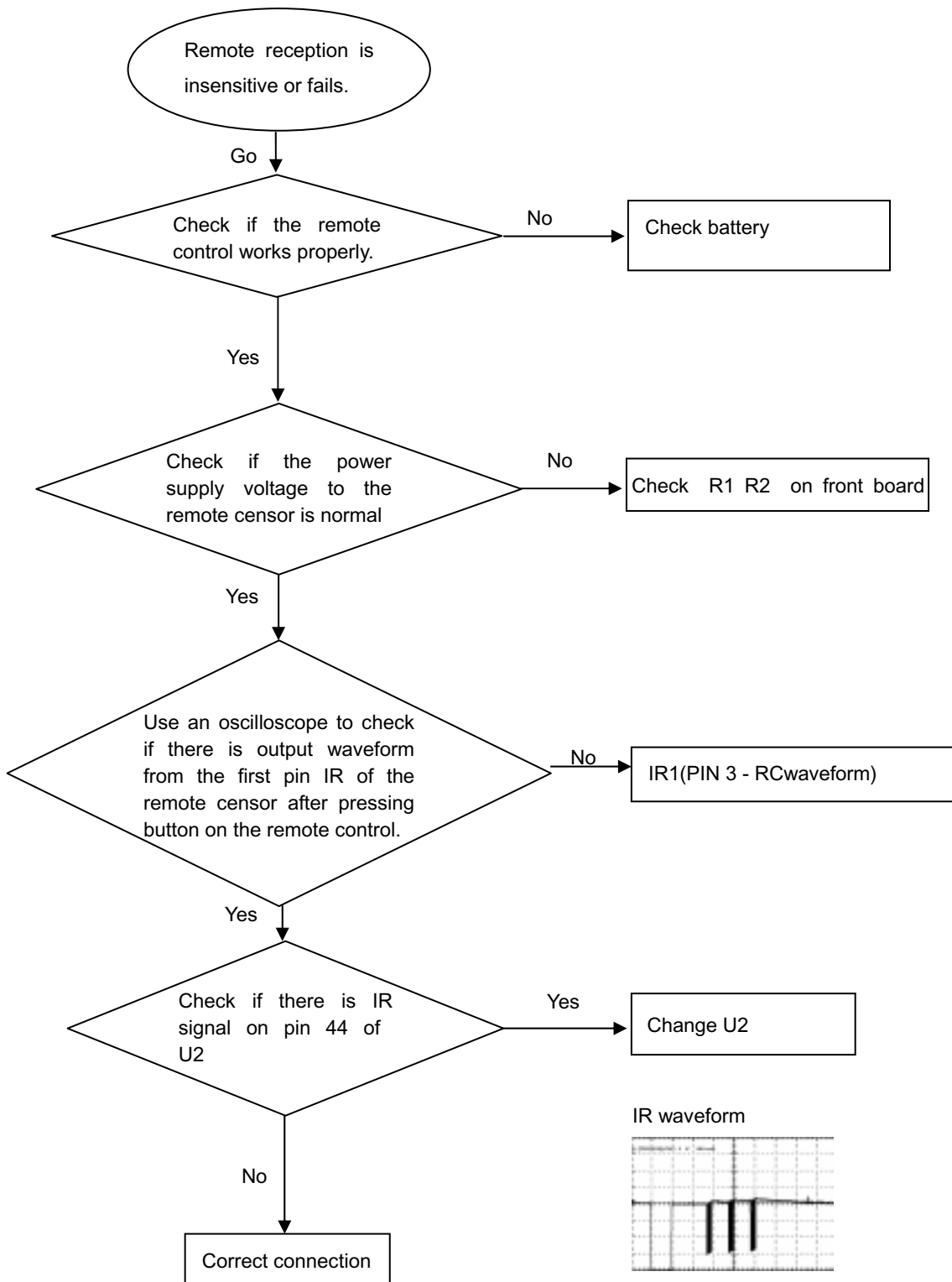
**Disc cannot be read.**

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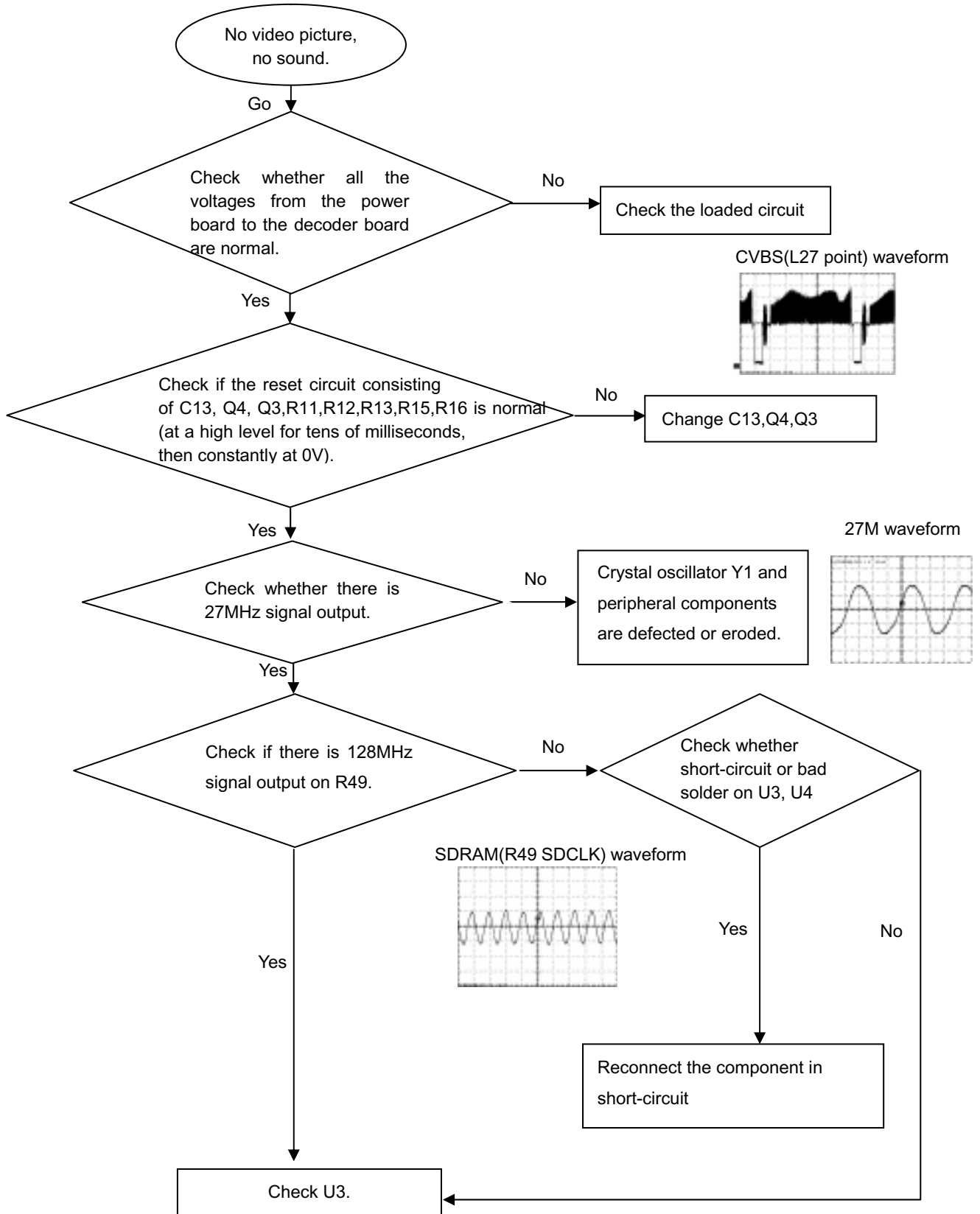
**Only DVD disc or only disc except DVD can be played**


**Distorted audio and loud noise**

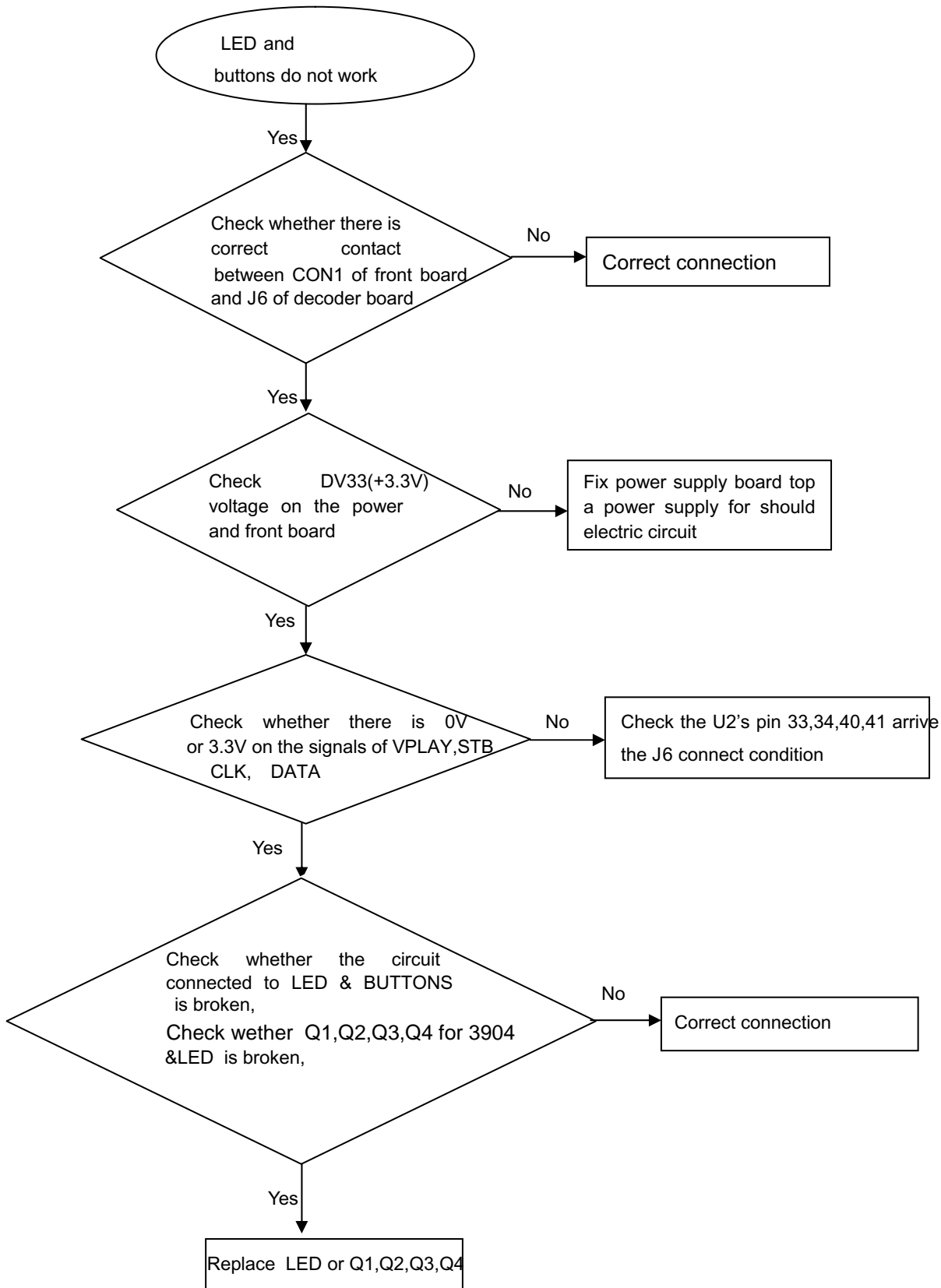
**Abnormal color of video picture**

**Remote reception is insensitive or fails.**

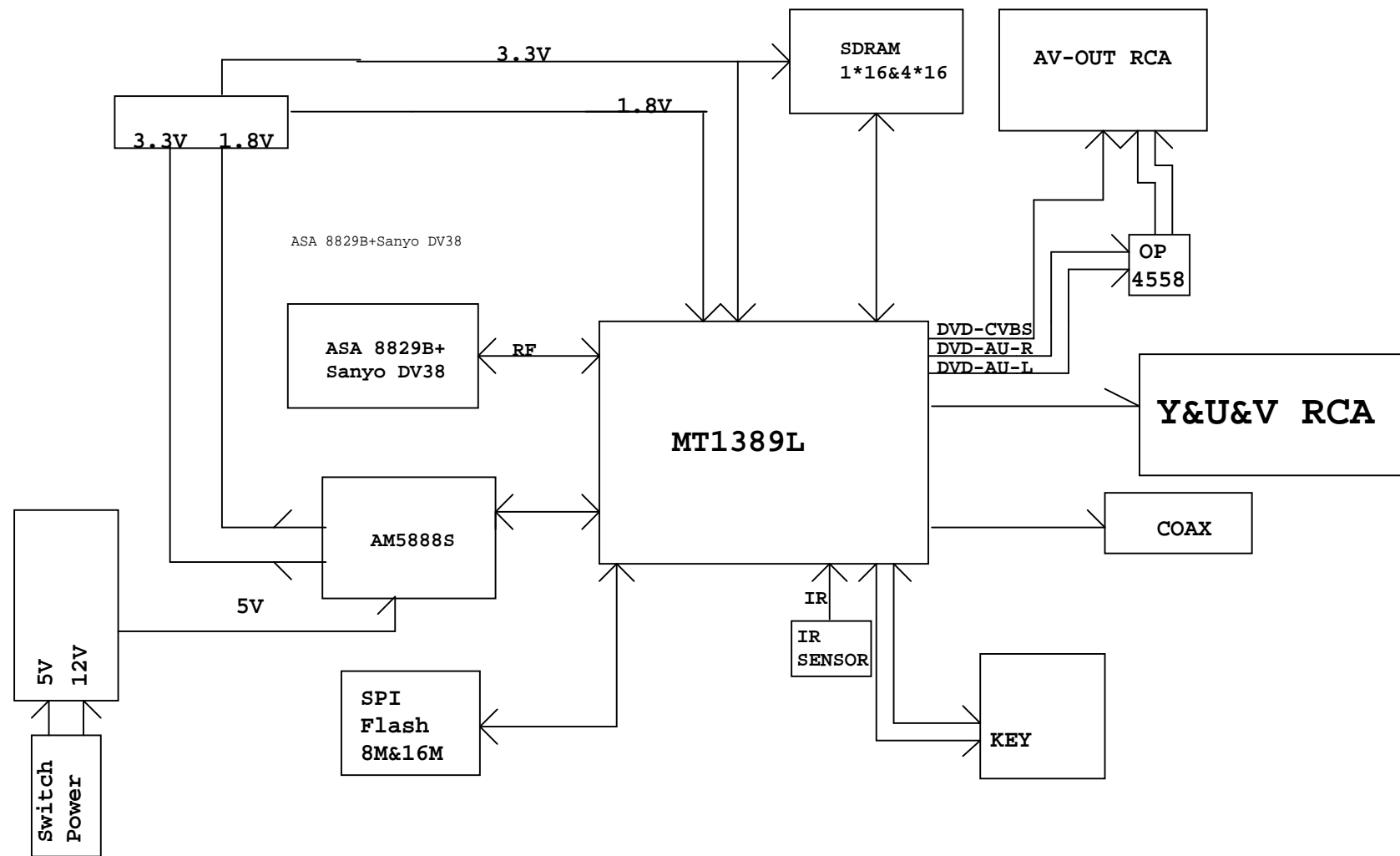
**No video picture, no sound.**



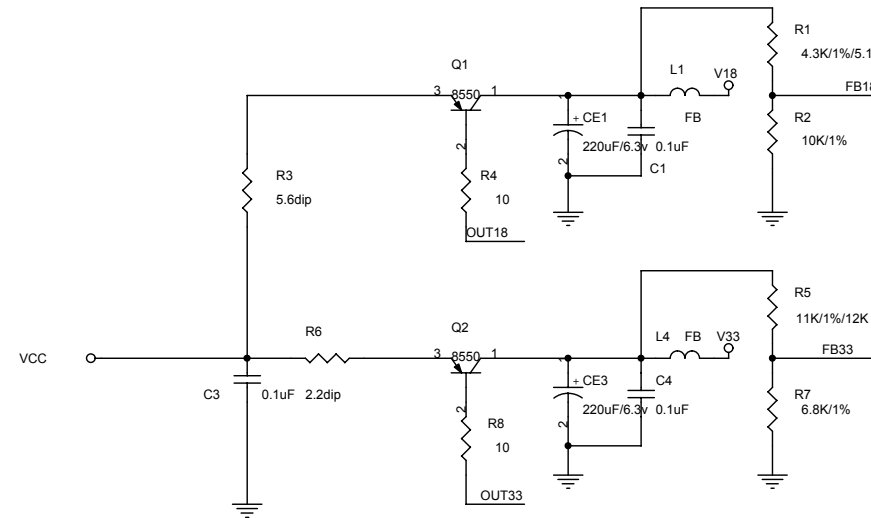
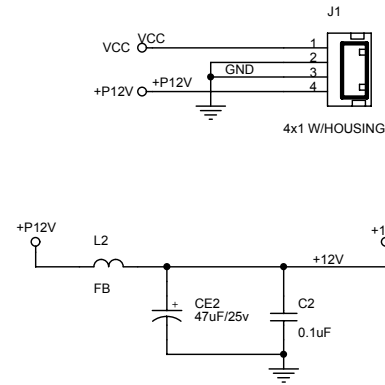


**No display on LED, and buttons do not work**

WIRING DIAGRAM

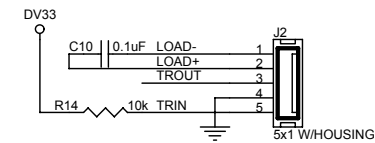
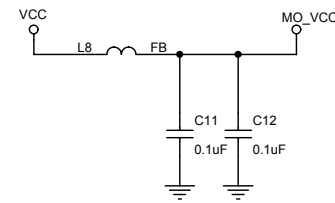
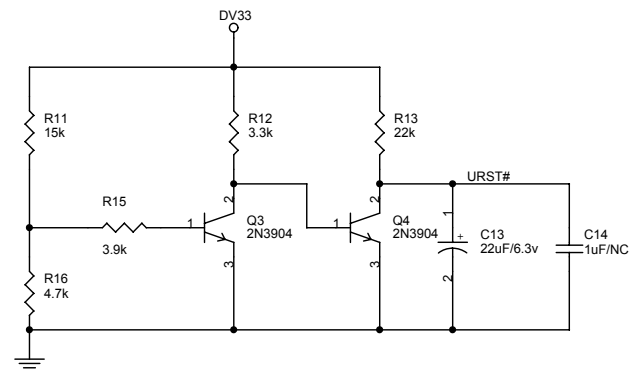
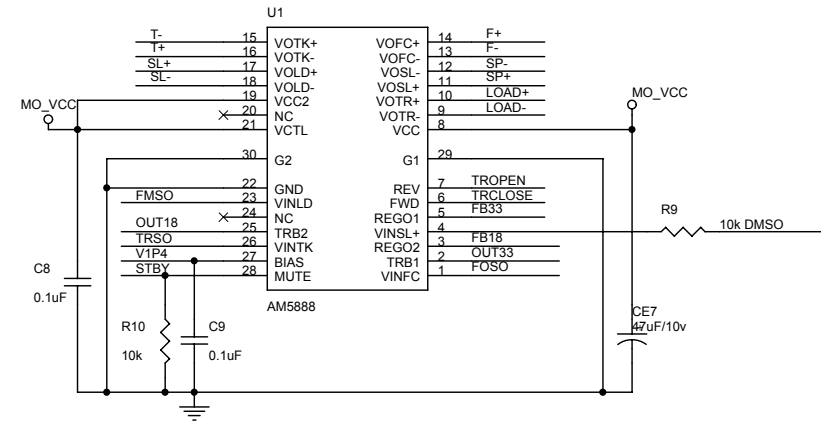
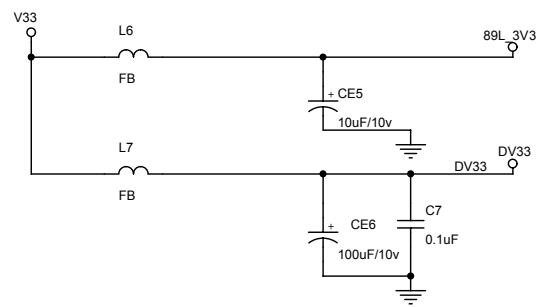


CIRCUIT DIAGRAM- MAIN BOARD  
POWER PART

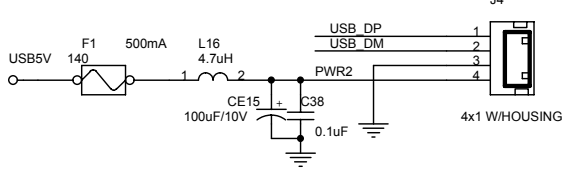
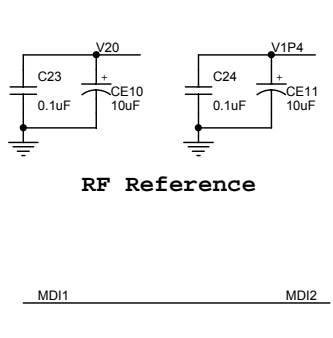
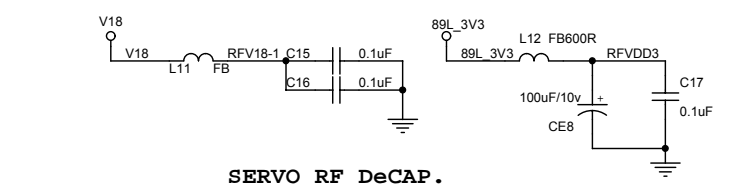
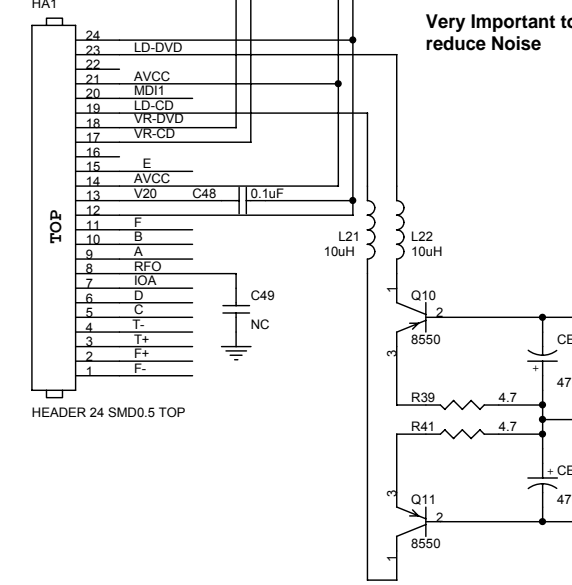
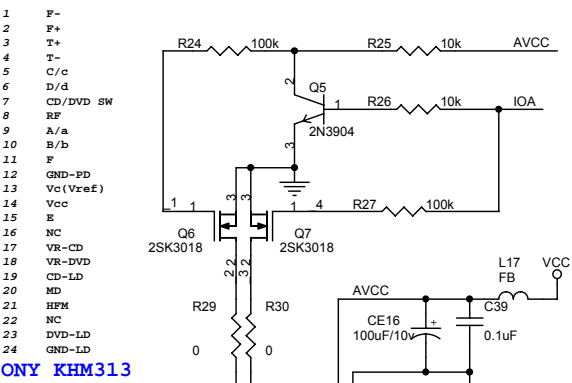
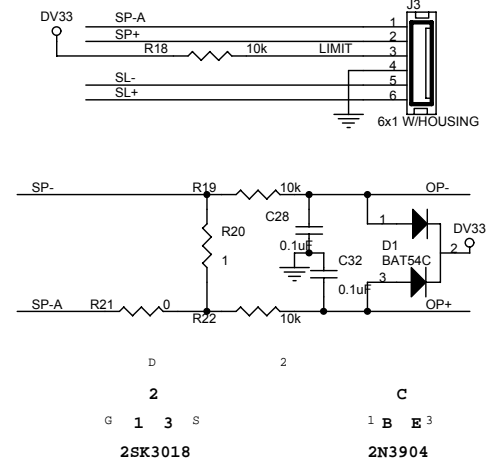


+12V	>>>+12V	[2,4]
VCC	>>>VCC	[2,4]
DV33	>>>DV33	[2,3,4,5]
89L_3V3	>>>89L_3V3	[2]
V18	>>>V18	[2]
URST#	>>>URST#	[2]
<b>POWER I/F</b>		
TROUT	>>>TROUT	[2]
TRIN	>>>TRIN	[2]
TROUT	>>>TROUT	[2]
TROPEN	>>>TROPEN	[2]
TRCLOSE	>>>TRCLOSE	[2]
FOSO	>>>FOSO	[2]
DMSO	>>>DMSO	[2]
FMSO	>>>FMSO	[2]
TRSO	>>>TRSO	[2]
SL+	>>>SL+	[2]
SL-	>>>SL-	[2]
SP+	>>>SP+	[2]
SP-	>>>SP-	[2]
T+	>>>T+	[2]
T-	>>>T-	[2]
F+	>>>F+	[2]
F-	>>>F-	[2]
V1P4	>>>V1P4	[2]
STBY	>>>STBY	[2]

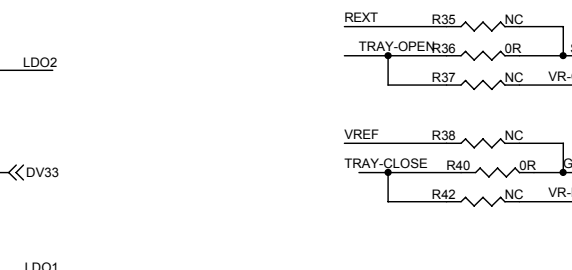
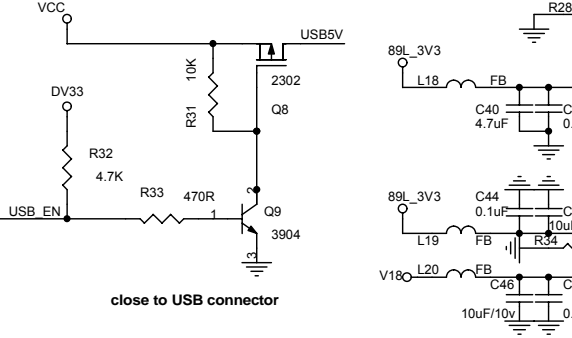
**SERVO I/F**



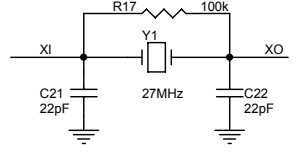
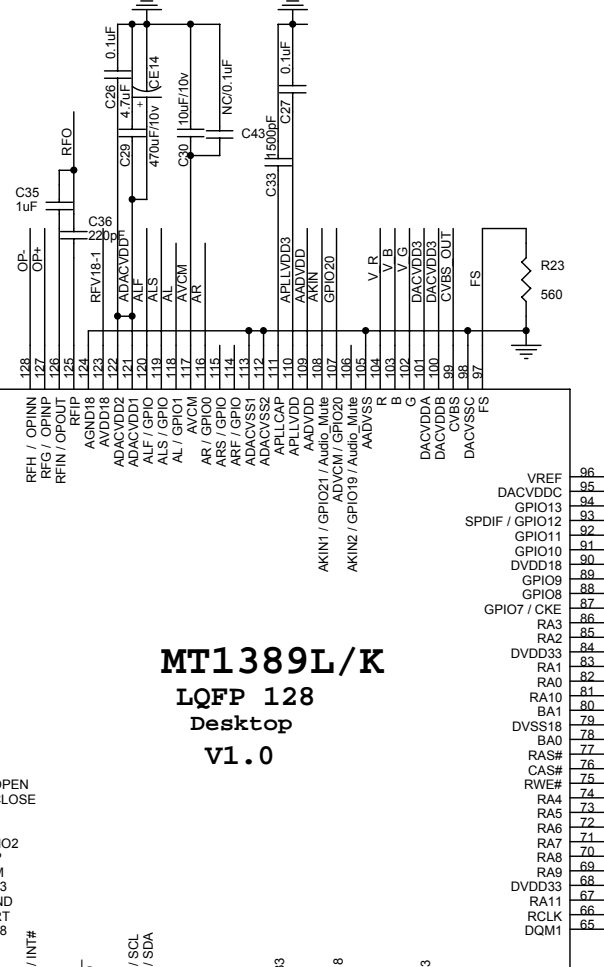
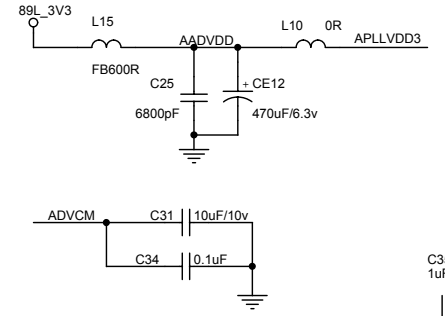
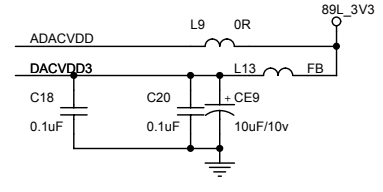
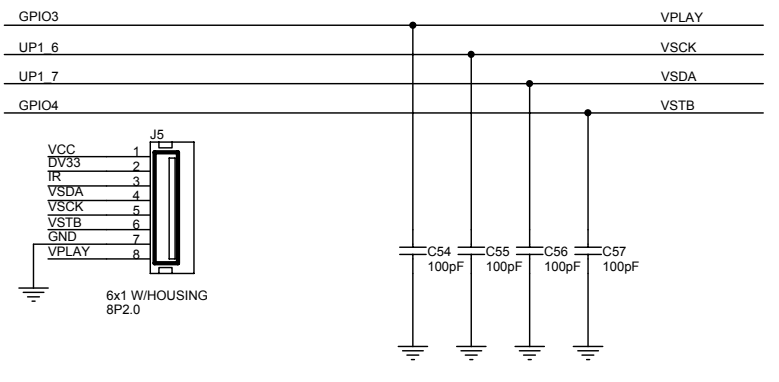
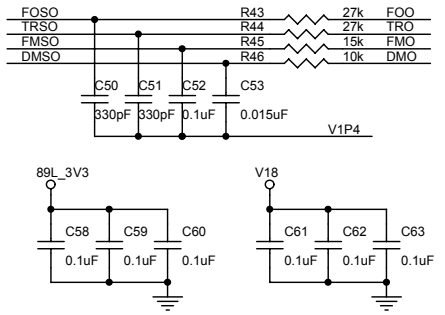
# CIRCUIT DIAGRAM - MAIN BOARD MCU PART



Only for MT1389L



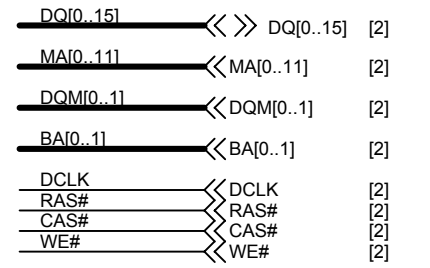
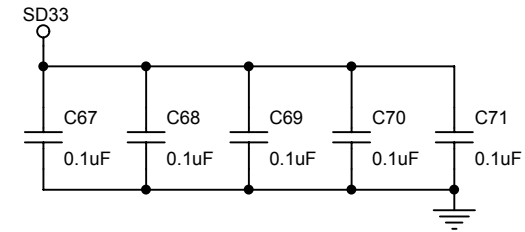
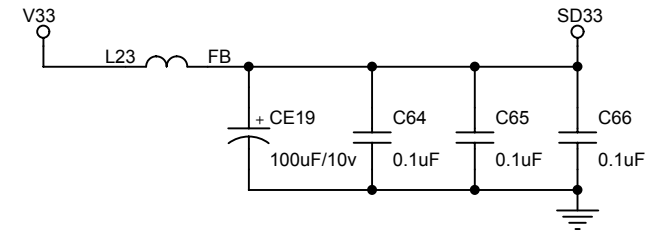
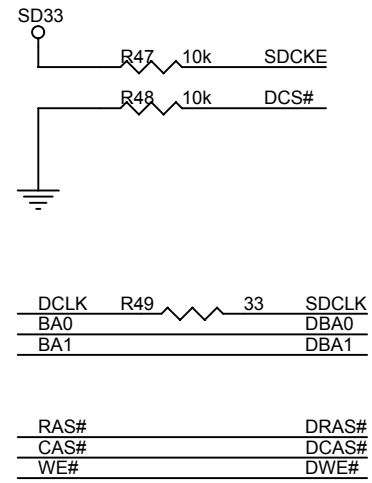
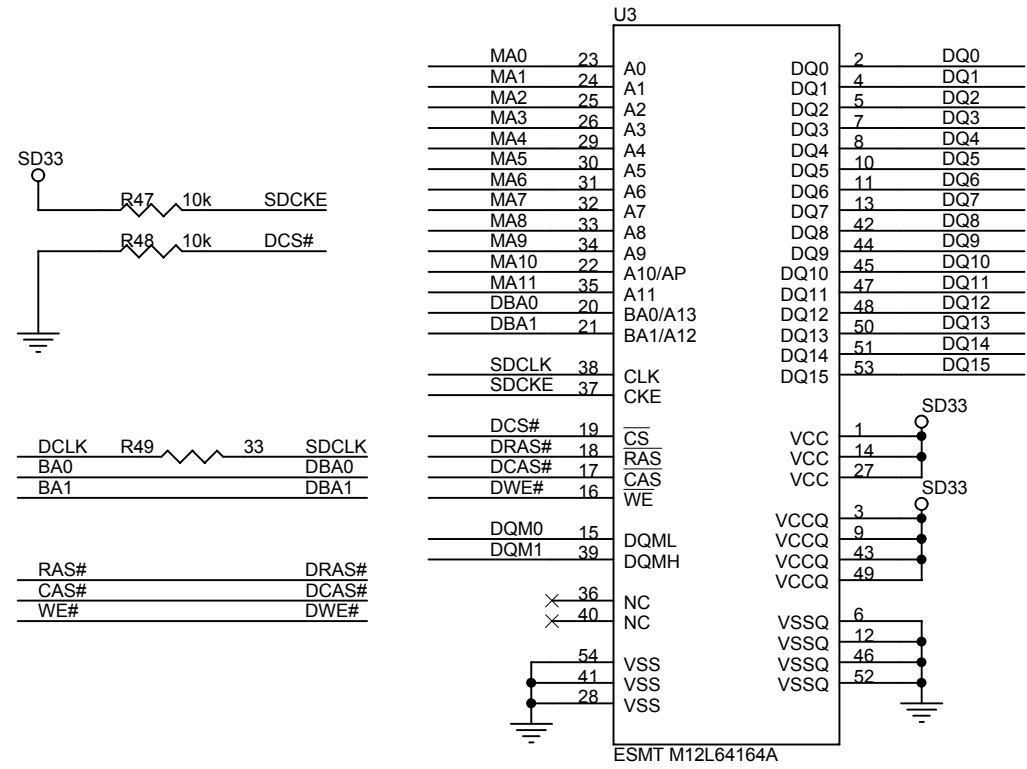
MT1389L&MT1389LA



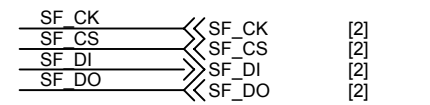
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- MA[0..11] <<> MA[0..11] [3]
- DOM[0..1] <<> DOM[0..1] [3]
- BA[0..1] <<> BA[0..1] [3]
- DCLK <<> DCLK [3]
- RAS# <<> RAS# [3]
- CAS# <<> CAS# [3]
- WE# <<> WE# [3]
- DRAM I/F
- SF\_CK <<> SF\_CK [3]
- SF\_CS <<> SF\_CS [3]
- SF\_DI <<> SF\_DI [3]
- SF\_DO <<> SF\_DO [3]
- S-FLASH
- AUDIO\_MUTE <<> AUDIO\_MUTE [4]
- ASPDIF <<> ASPDIF [4]
- AR <<> AR [4]
- AL <<> AL [4]
- AKIN <<> AKIN [4]
- AUDIO I/F
- VIDEO\_EN <<> VIDEO\_EN [5]
- CVBS\_OUT <<> CVBS\_OUT [5]
- V\_R <<> V\_R [5]
- V\_B <<> V\_B [5]
- V\_G <<> V\_G [5]
- V\_G <<> V\_G [5]
- VIDEO I/F
- STBY <<> STBY [1]
- TROPEN <<> TROPEN [1]
- TRCLOSE <<> TRCLOSE [1]
- TRIN <<> TRIN [1]
- TROUT <<> TROUT [1]
- +12V <<> +12V [1]
- T- <<> T- [1]
- T+ <<> T+ [1]
- F- <<> F- [1]
- F+ <<> F+ [1]
- SL- <<> SL- [1]
- SL+ <<> SL+ [1]
- SP- <<> SP- [1]
- SP+ <<> SP+ [1]
- FOSO <<> FOSO [1]
- TRSO <<> TRSO [1]
- FMSO <<> FMSO [1]
- DMSO <<> DMSO [1]
- V1P4 <<> V1P4 [1]
- SERVO I/F
- URST# <<> URST# [1]
- AVCC <<> AVCC [1,4,5]
- DV33 <<> DV33 [1,3,4,5]
- VCC <<> VCC [1,4]
- 89L\_3V3 <<> 89L\_3V3 [1]
- V18 <<> V18 [1]
- MIX

- GPIO20 ADVCM
- GPIO12 ASPDIF
- ALS VIDEO\_EN
- ALF AUDIO\_MUTE
- GPO\_B IOA TROPEN
- GPIO6 TRCLOSE
- GPIO8 LIMIT TROUT

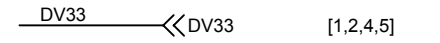
CIRCUIT DIAGRAM - MAIN BOARD  
SDRAM & FLASH PART



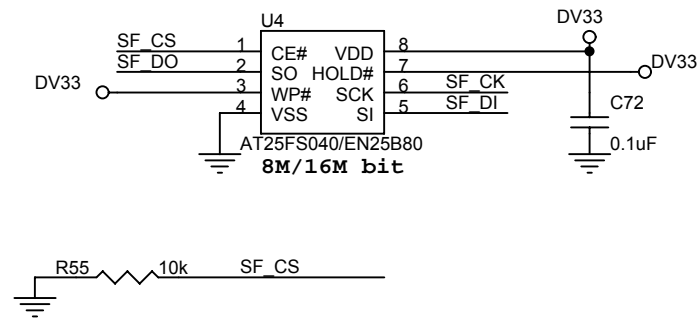
DRAM I/F



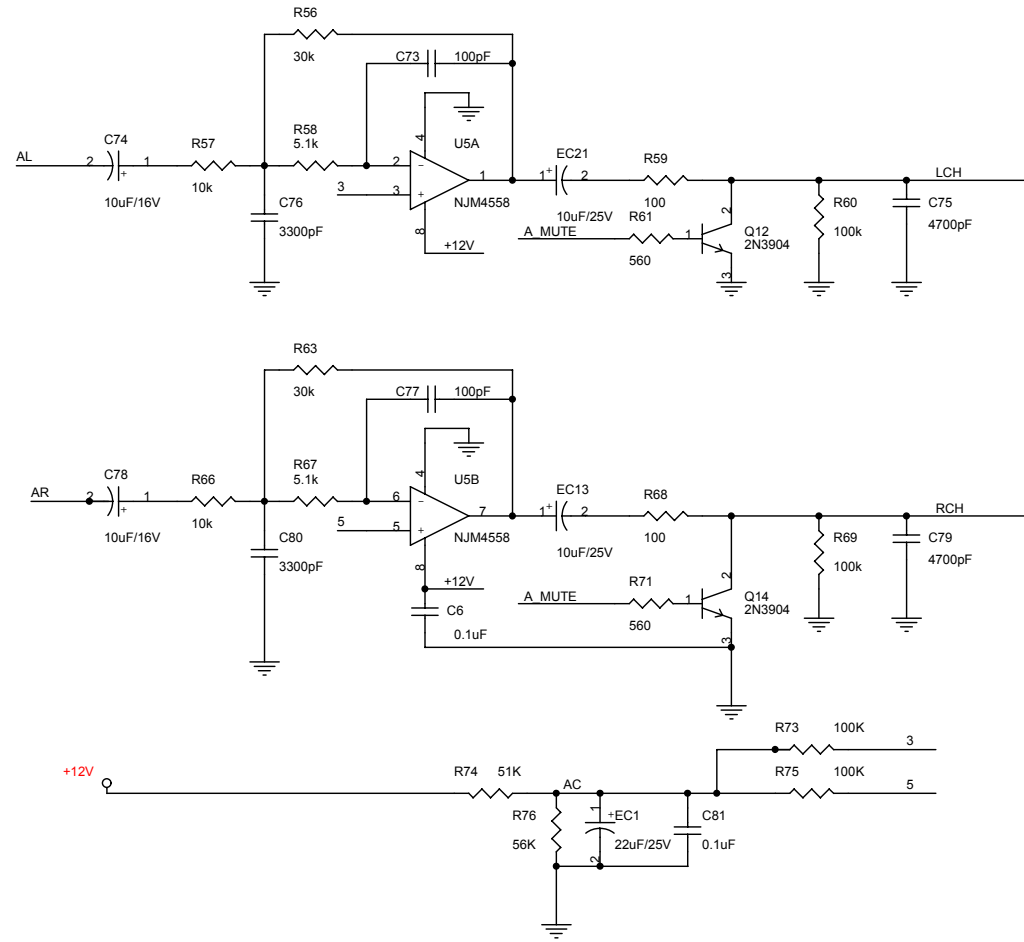
S-FLASH



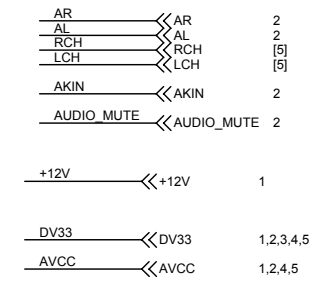
POWER



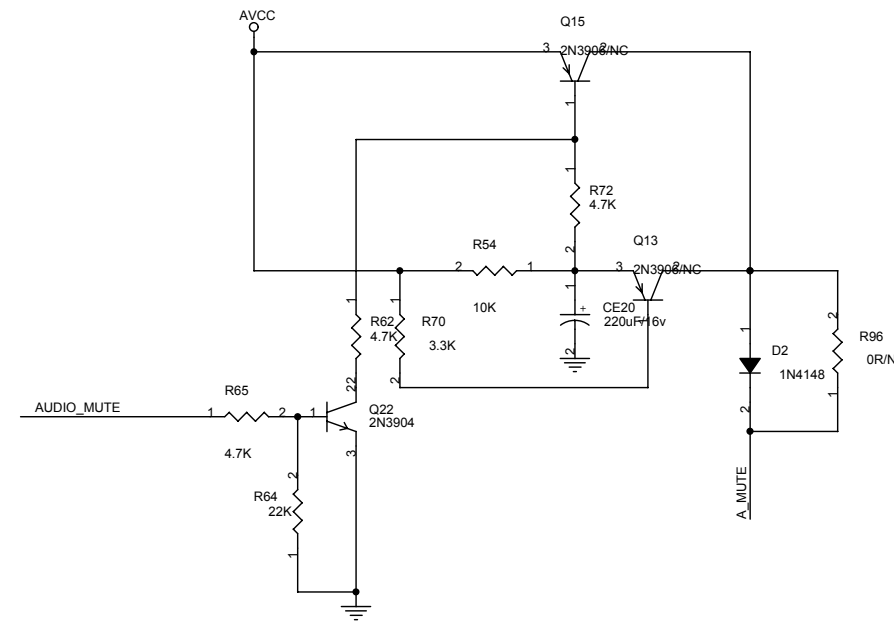
CIRCUIT DIAGRAM - MAIN BOARD  
AUDIO PART



AUDIO I/F

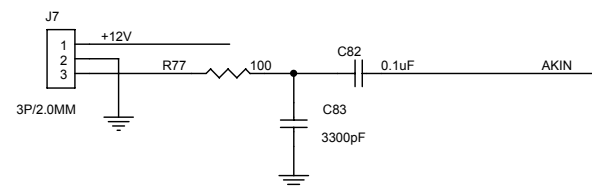


POWER

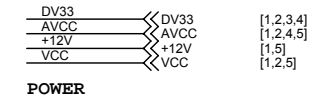
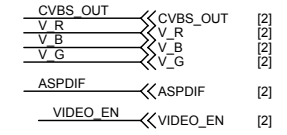
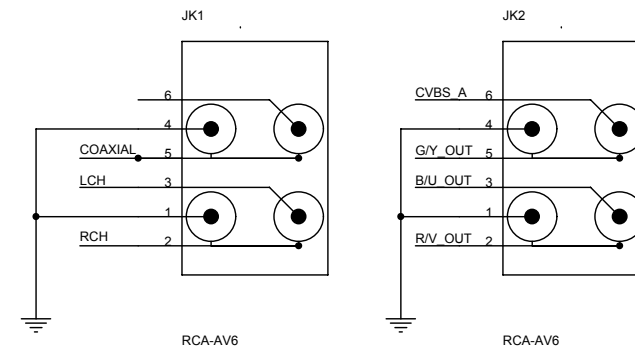
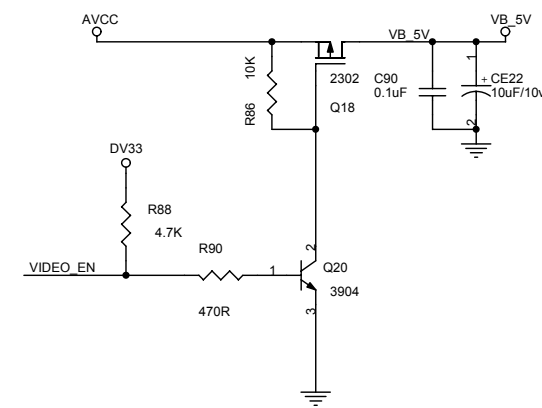
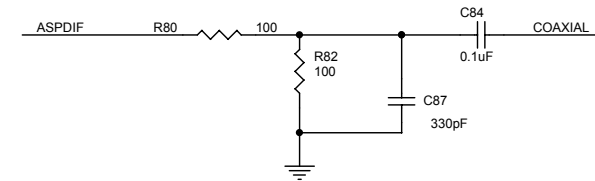
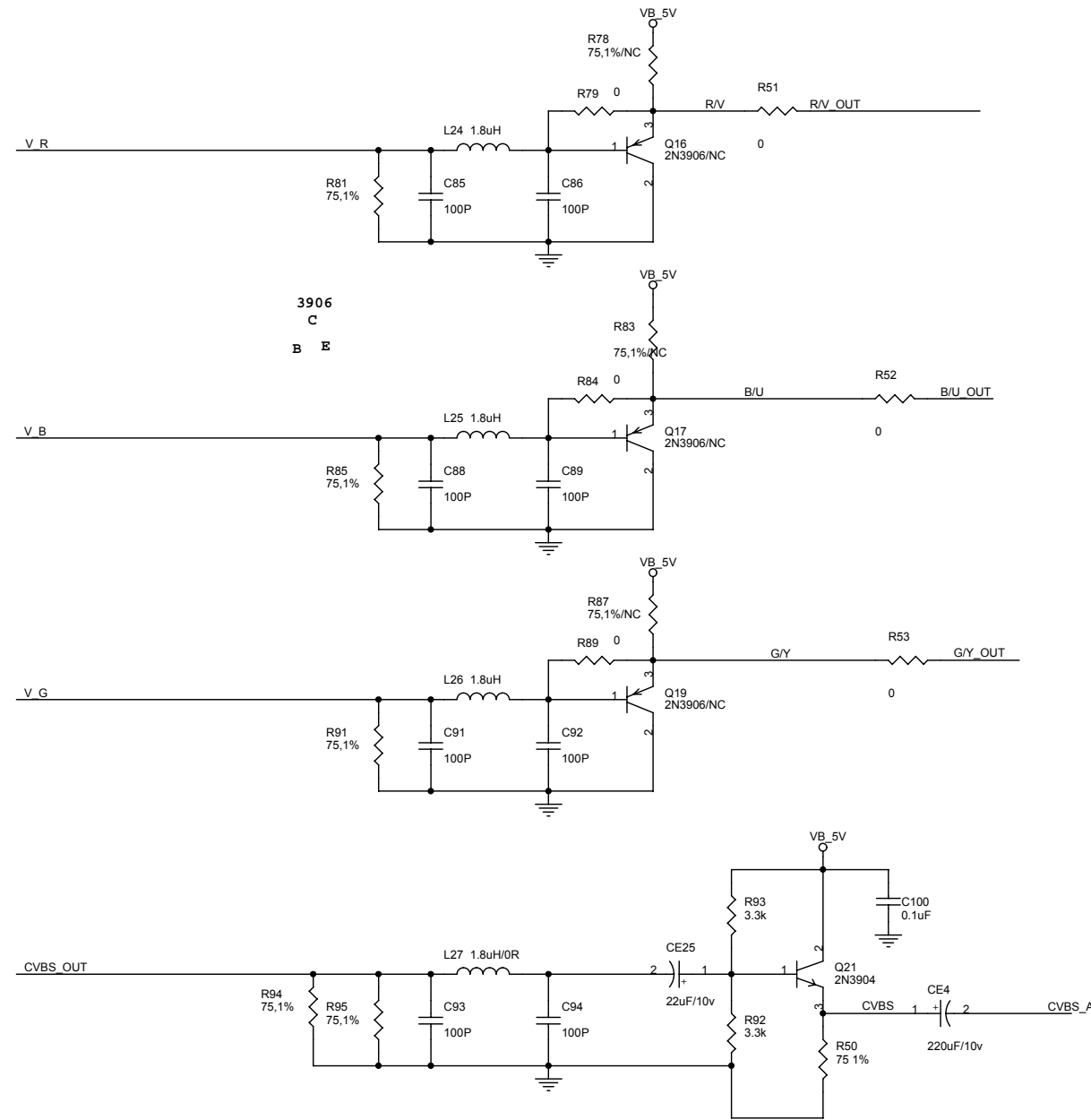


Audio Mute

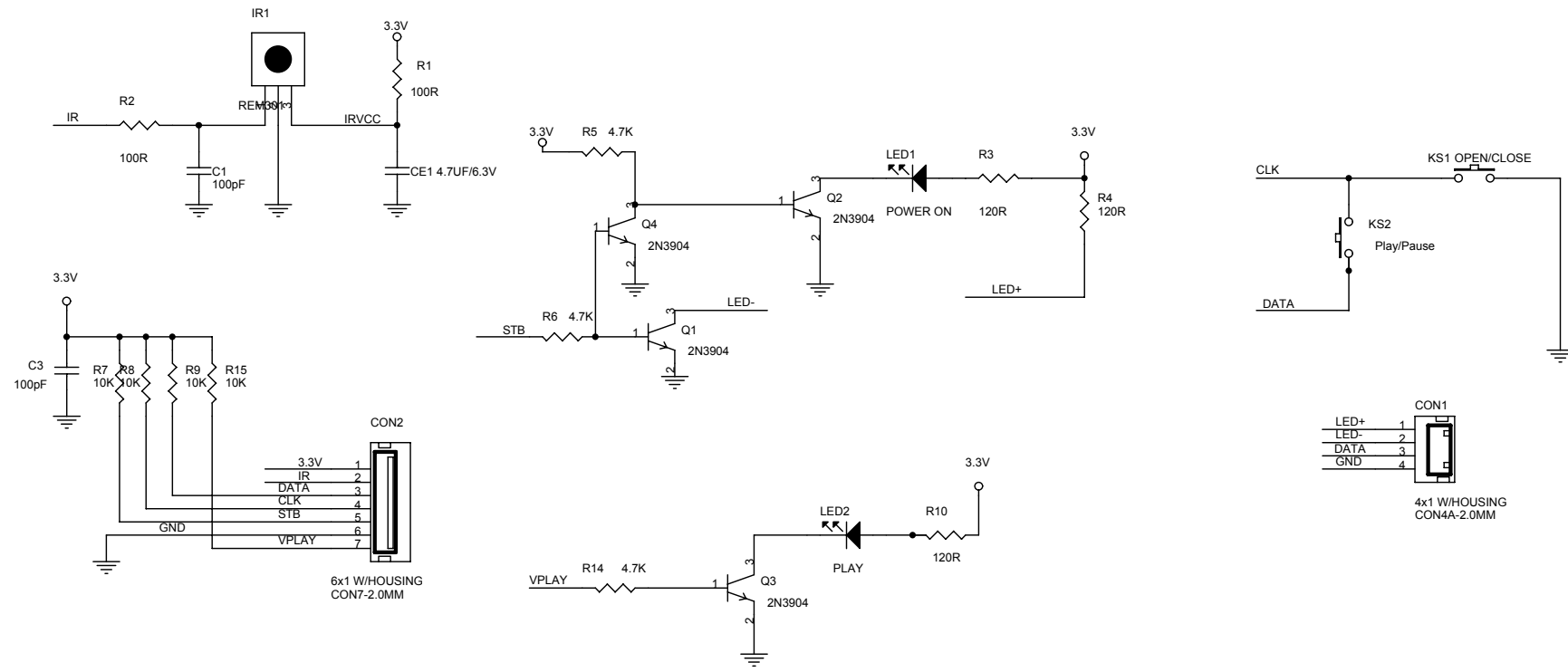
MIC INPUT



CIRCUIT DIAGRAM - MAIN BOARD  
VIDEO PART



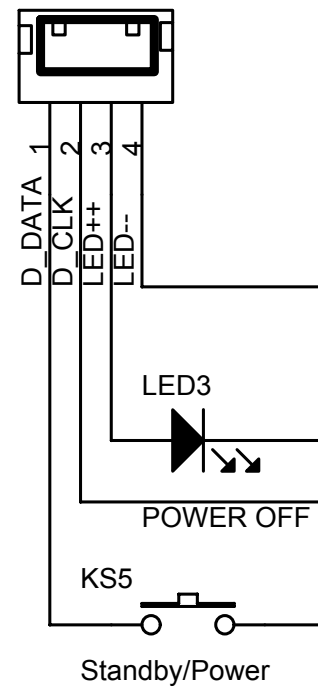
CIRCUIT DIAGRAM - FRONT BOARD  
LED LIGHT & IR



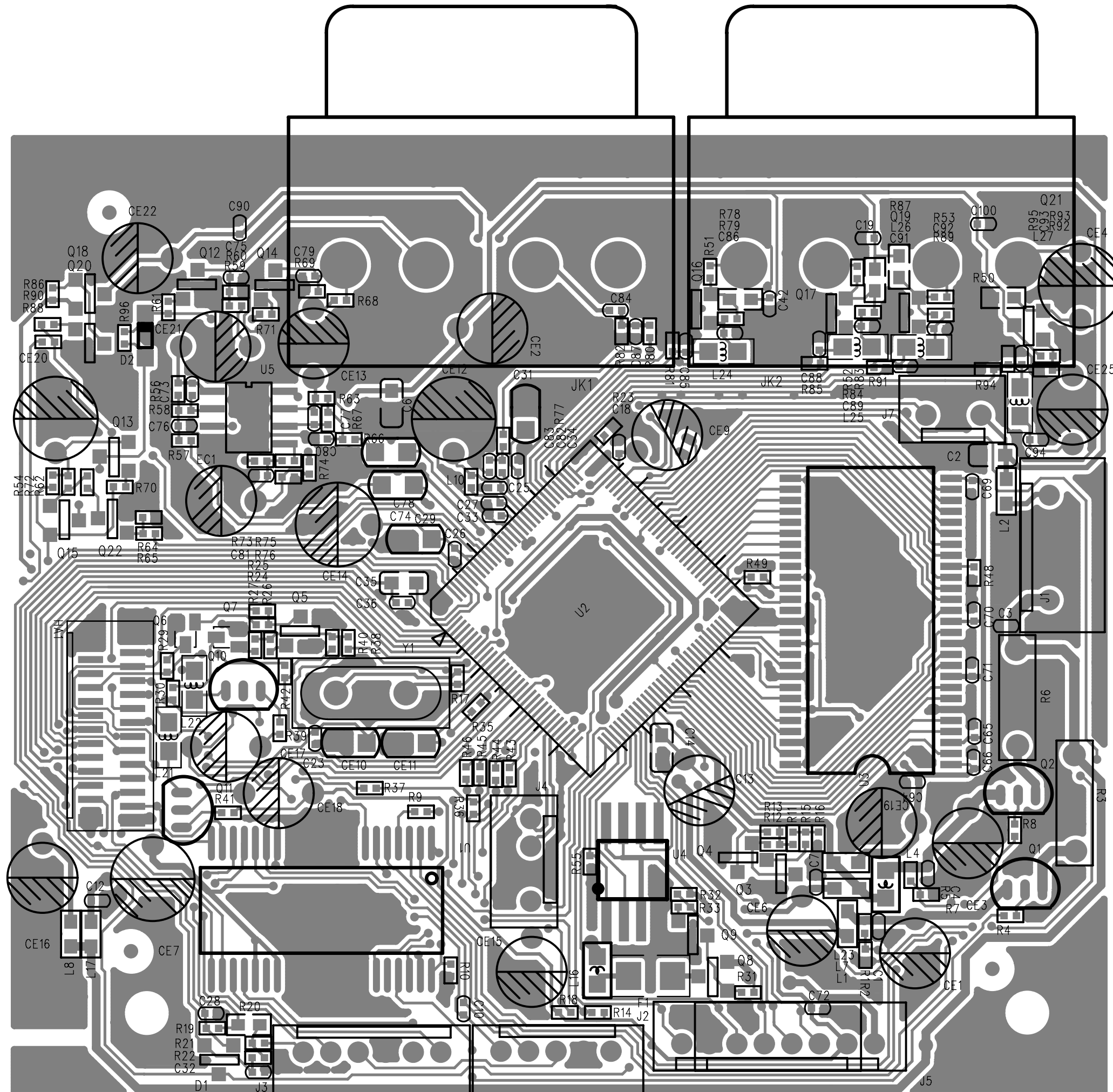


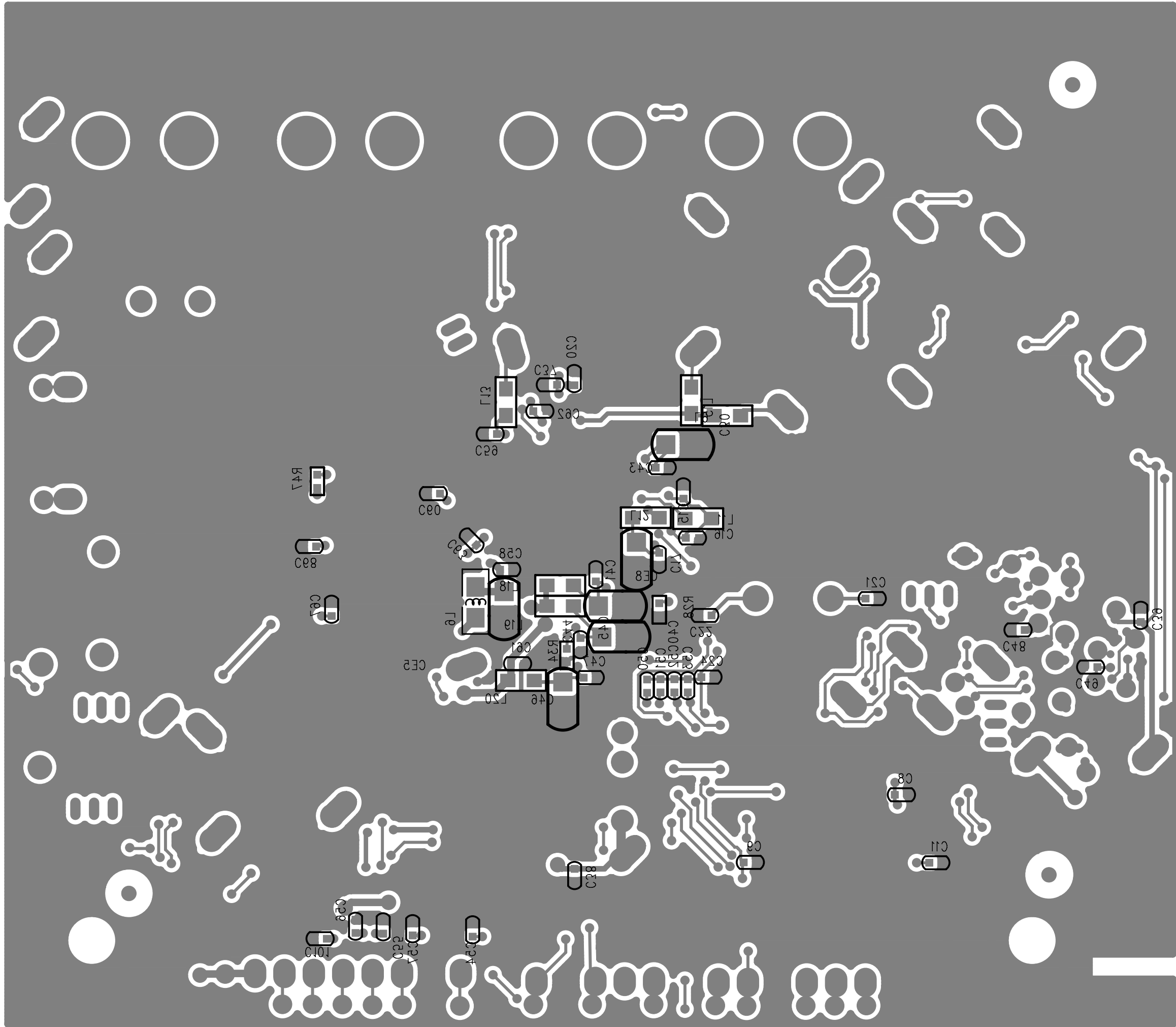
CIRCUIT DIAGRAM - STB/POWER BOARD  
STB/POWER PART

CON4  
4x1 W/HOUSING

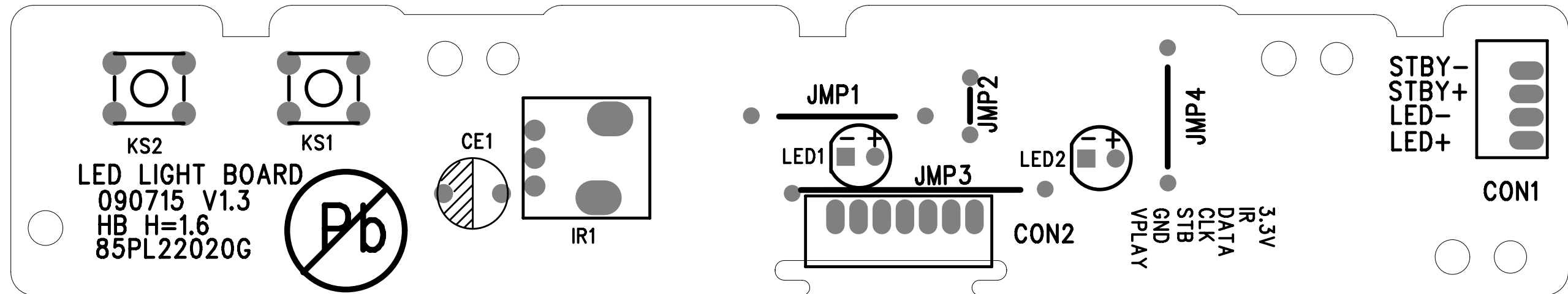


MAIN BOARD TOP

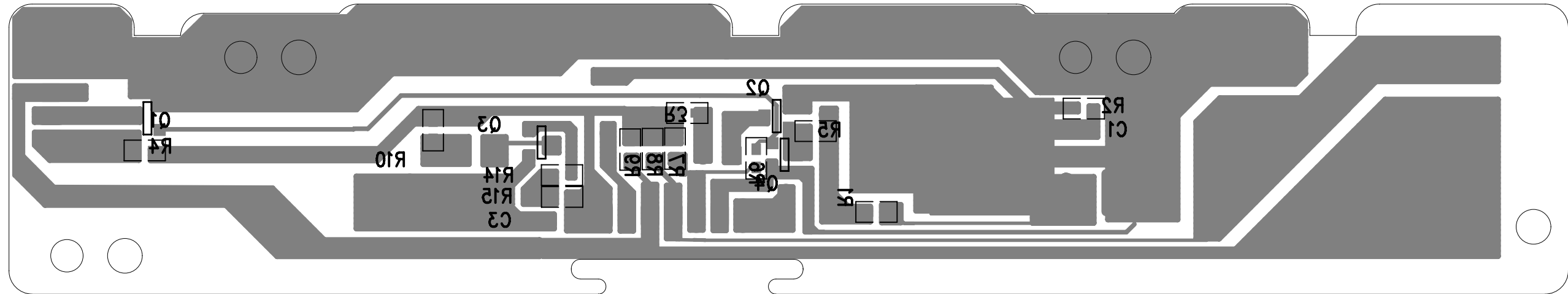


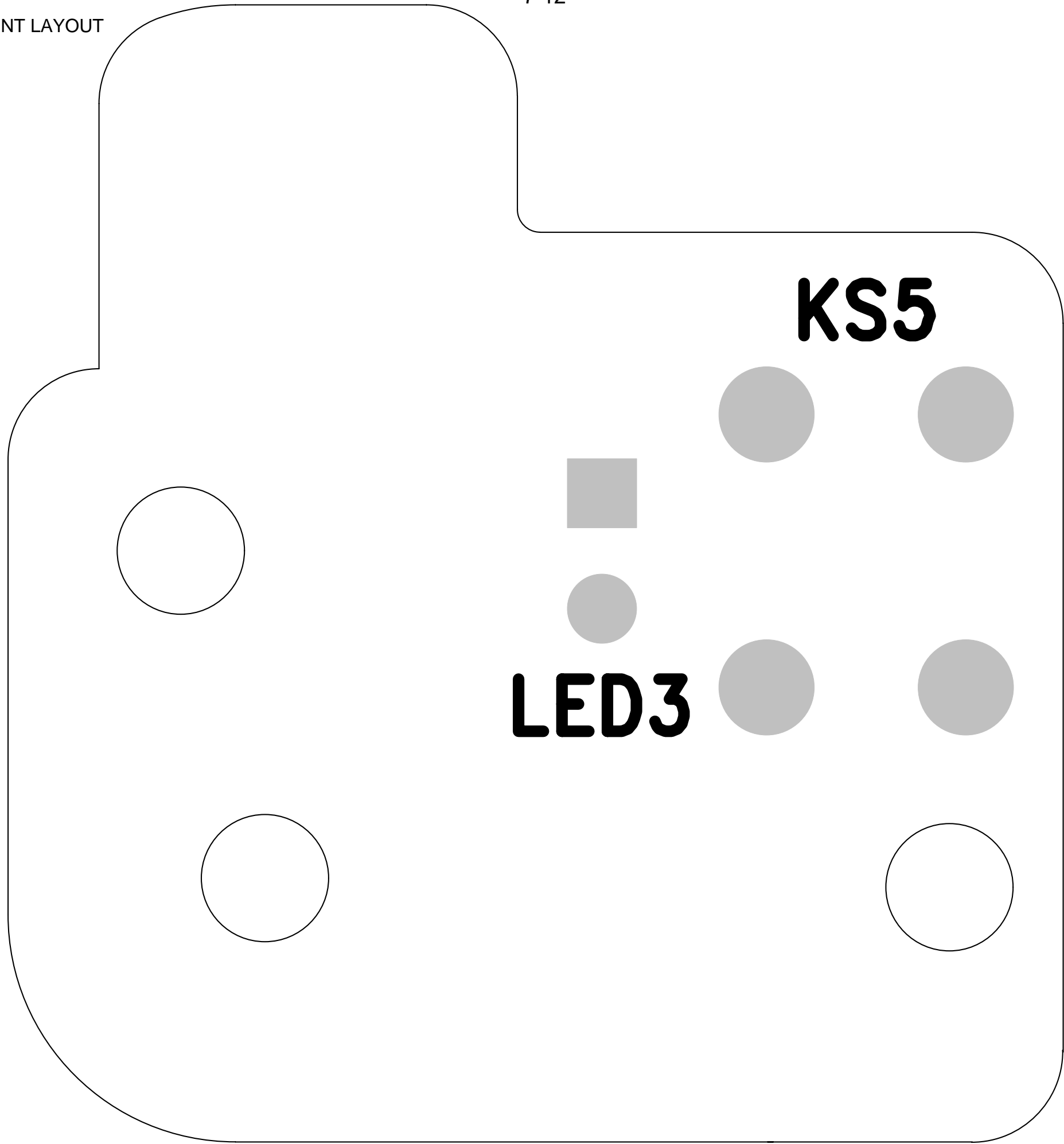


LED LIGHT BOARD TOP PCB COMPONENT LAYOUT



LED LIGHT BOARD BOTTOM PCB COMPONENT LAYOUT

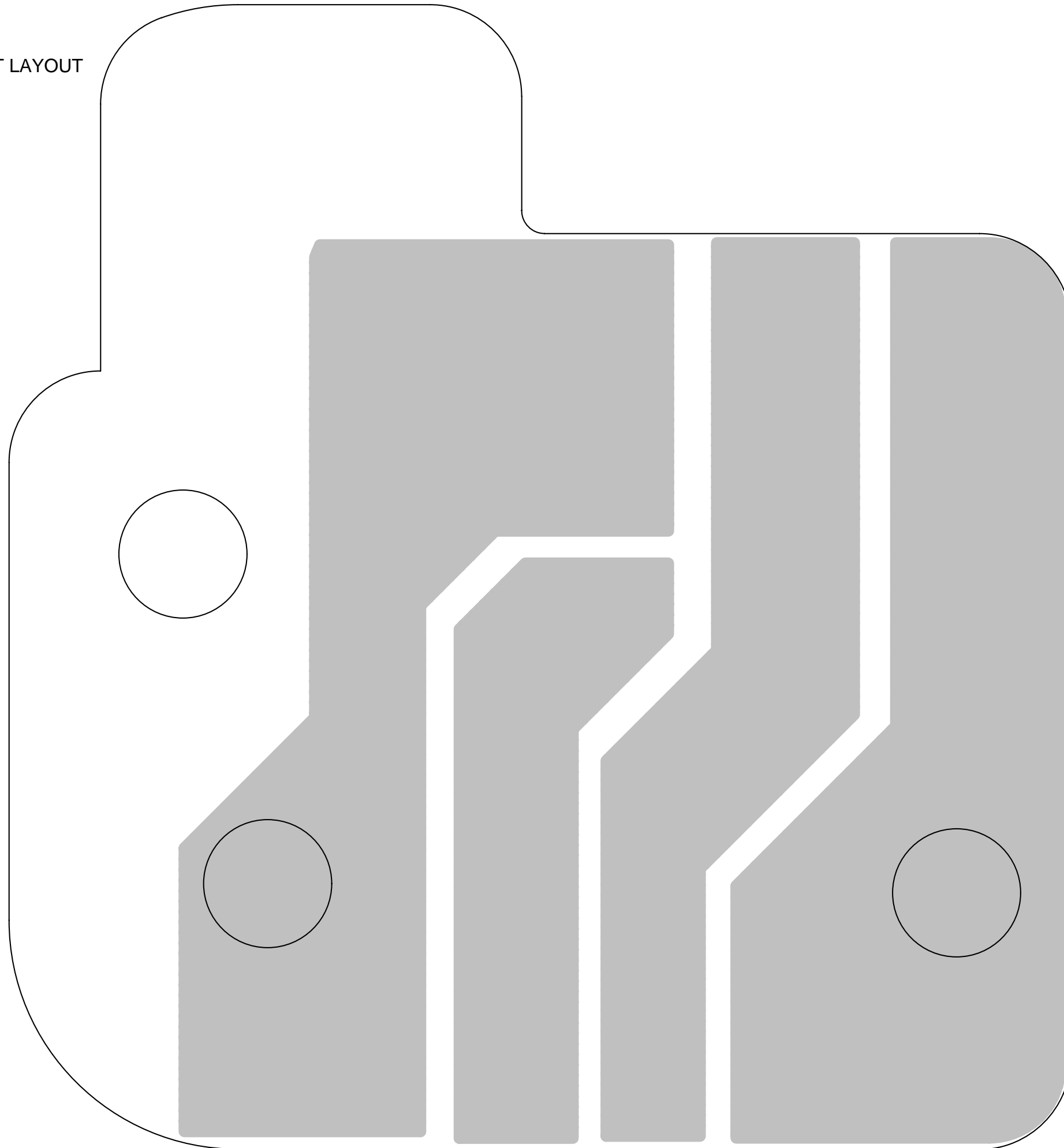




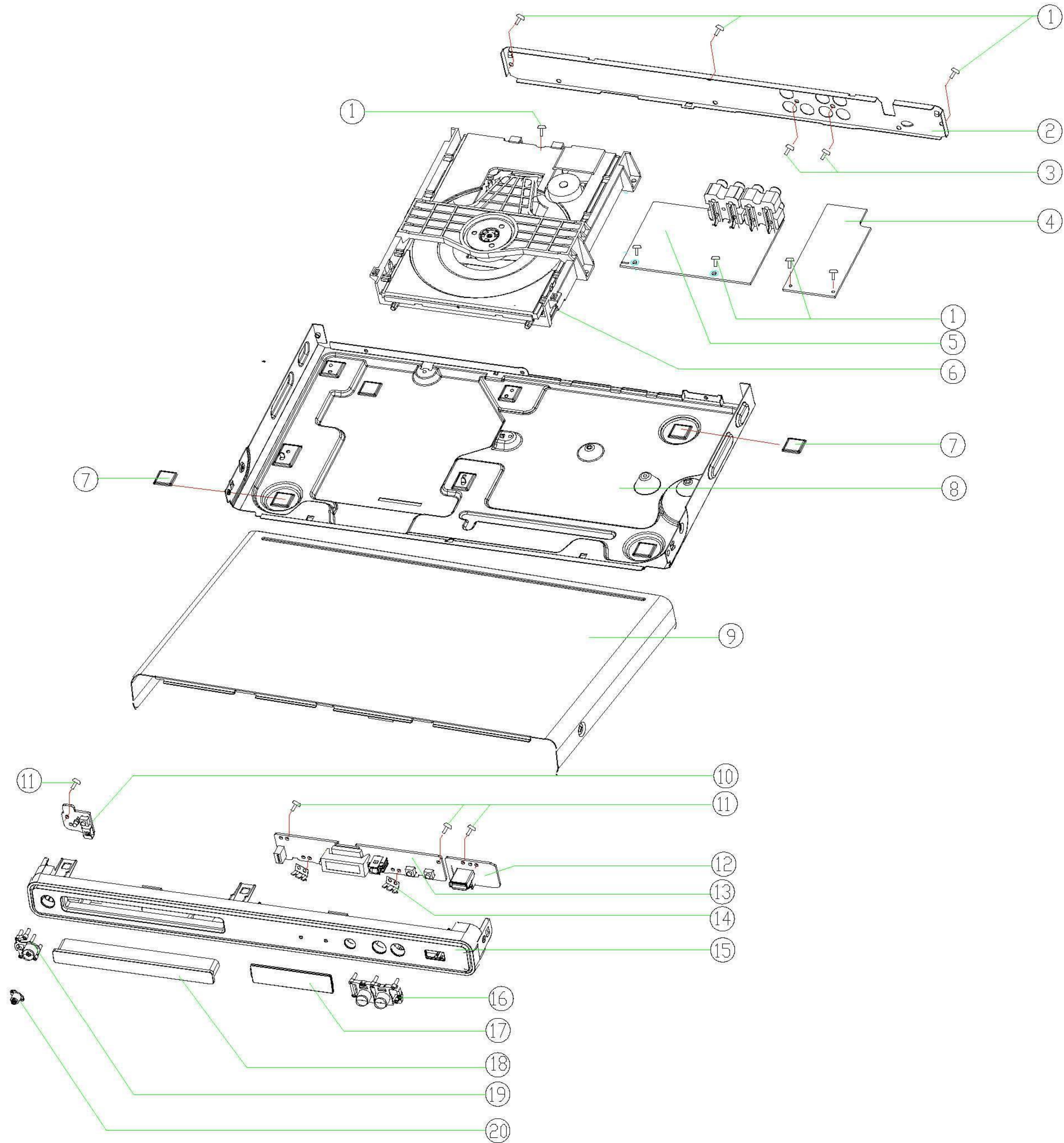
**KS5**

**LED3**

STB BOT PCB-COMPONENT LAYOUT



8.0 Exploded View Diagram





**81 SERVICE PART LIST****DVP3100/98/79/96 DVD PCB PART LIST**

No	12NC No.	Part Name	Qty
5	996510029226	DVD PCBA ASS'Y DVD3100/98	1
U1	996510028064	SMD IC SW5888 HSOP-28 5-CHA BTL DRIV	1
U5	996510028051	SMD IC YD4558 SOP-8PIN XY	1
U3	996510028043	SMD IC W9864G6XH-6 TSOP54 64M SDRAM	1
U4	996510028054	SMD IC EN25F16-100HIP SOP-8 16M FLAS	1
U2	996510029222	SMD IC MT1389QE/LAE-L LQFP128 CODEC	1
Q1,Q2,Q10,Q11	996510029221	DIP TR SS8550D-1.5A TO-92 PNP ST	4
Y1	996510028074	DIP X'TAL 27.00MHZ +/-10PPM HC-49/US	1
Q7,Q6	996510028056	SMD TR 2SK3018 SOT-23 ROHM	2
Q20,Q21,Q22	996510028078	SMD TR PMBT3904 SOT23 NPN PHILIPS	3
Q3,Q4,Q5,Q12,Q14	996510028078	SMD TR PMBT3904 SOT23 NPN PHILIPS	5
Q15,Q13,Q16,Q17,Q19	996510028086	SMD TR PMBT3906 SOT23 PNP PHILIPS	5
Q18	996510028041	SMD MOS CES2307 SOT-23 CET	1
D1	996510028055	SMD DIODE BAT54C SOT-23 PHILIPS	1
JK2	996510029227	DIP AV JACK AV4-8.4-7D2 JIXIN	1
JK1	996510028076	DIP AV JACK AV3-8.4-7D JIXIN	1
J1	996510028284	DIP WAFER 4PIN 2.54mm UPRIGHT	1
J2	996510028618	WAFER 5PIN 2.0MM DIP UPRIGHT	1
J3	996510028294	DIP WAFER 6PIN 2.0mm UPRIGHT	1
J6	996510028605	WAFER 7PIN 2.0 MM DIP UPRIGHT	1
HA1	996510029218	SMD WAFER 24PIN 0.5mm SV UPRIGHT	1

**DVP3100/98/79/96 POWER PCB PART LIST**

No	12NC No.	Part Name	Qty
4	996510028628	8W/2P OPEN DVP3XXXLDET PCBA YX DVP3100/98	1
4	996510028606	8W/2P OPEN FICED PCBA YX DVP3100/79/96	1

**DVP3100/98/79/96 STANDBY PCB PART LIST**

No	12NC No.	Part Name	Qty
10	996510028049	STANDBY PCBA ASS'Y DVP3320	1
KS5	996510028072	TACT SWITCH 6*6*5mm 180g ZIRUI	1
LED3	996510028067	DIP LED RED 1.8V D3 MASON	1

**DVP3100/98/79/96 LED LIGHT PCB PART LIST**

No	12NC No.	Part Name	Qty
27	996510028601	LED LIGHT PCBA ASS'Y DVP3111/98	1
Q1,Q3,Q2,Q4	996510028078	SMD TR PMBT3904 SOT23 NPN PHILIPS	4
IR1	996510029225	DIP IR SENSOR 36KHZ MS-C2FN61NL MASO	1
KS1,KS2	996510028072	TACT SWITCH 6*6*5mm 180g ZIRUI	2

**DVP3100/98/79/96 MECHANICAL PARTS LIST**

No	12NC No.	Part Name	Qty
19	996510028061	BUTTON POWER ABS DVP3111	1
20	996510028083	BUTTON POWER LENS ABS DVP3111	1
18	996510029217	DVD DOOR HIPS DVP3100 GREY	1
24	996510028626	LED LENS ABS DVP3111 WHITE	2
16	996510028071	OPEN BUTTON ABS DVP3111 BLACK	1
26	996510028617	IR KENS ABS DVP3111 BLACK	1
15	996510029263	FRONT PANEL HIPS PET3111 STLVER	1
23	996510028063	FFC 24P/0.5MM 220MM(3/5-4/8) +/-OUKE	1

**DVP3100/98/79/96 DECK PARTS LIST**

No	12NC No.	Part Name	Qty
6	996510028053	DVD DECK CMS-S76R IM	1
6	996510029224	DVD LOADER RT628 CBU RELY	1

**DVP3100/98/79/96 Accessories parts list**

No	12NC No.	Part Name	Qty
CARADP	996510029219	AC CORD VDE 12DEATCHBLE 1.3M XIEJIN DVP3100/98	1
CARADP	996510029037	AC CORD CT 79FIXED 1.3M XIEJIN DVP3100/79	1
ACCORD	996510029658	AC CORD UL 37FIXED 1.3M XIEJIN DVP3100/96	
RC	996510029612	R/C T19YY3111-1 BLACK TZH	1
AVCABLE	996510028065	AV CORD RCA/M*3/1.3M BOTH ENDS YI LI	1

## 9.0 REVISION LIST

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### Version 1.0

- Initial release

### Version 1.1

- Add /79

### Version 1.2

- Add /96
- Modification spare part list