

Service  
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# Service Manual

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## 1.0 TECHNICAL SPECIFICATION

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### VIDEO PERFORMANCE

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Test equipment: Tektronics VM700T  
 Test discs: DVD test disc: Philips LVP 10.01 (PAL)  
                   /Abex TDV-540 (NTSC)  
 Load Impedance: 75Ω

### COMPONENT VIDEO RGB

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Luminance amplitude output: 700mV ± 10%  
 RGB unbalance:3%  
 Sync. Amplitude: 300mV ± 50mV  
 S/N on RGB outputs: ≥ 60 dB  
 DC Level: ≤ 1V

### VIDEO FORMAT

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DVD, VCD, MP3, JPEG  
 USB:2.0 HS,support MSC,MTP,sector size 4K

### COMPONENT VIDEO YPbPr

---

PbPr output unbalance:3%  
 Sync. Amplitude: 286mV ± 40mV  
 Video Bandwidth 4.2 MHz:-1.5db / 5.8MHz:-5dB  
 S/N on outputs: YUV: ≥ 60 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: 100KΩ for Audio

### POWER CONSUMPTION

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Power-Supply:100-240V ac,50/60Hz,standby:310V  
 Supply voltage:AC 100~240V  
 Supply Power consumption(AC 100/240V):6W/+10%  
 Standby Power,264V AC: <1W

### AUDIO FORMAT

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CD/MP3,DVD audio

### GENERAL DESCRIPTION

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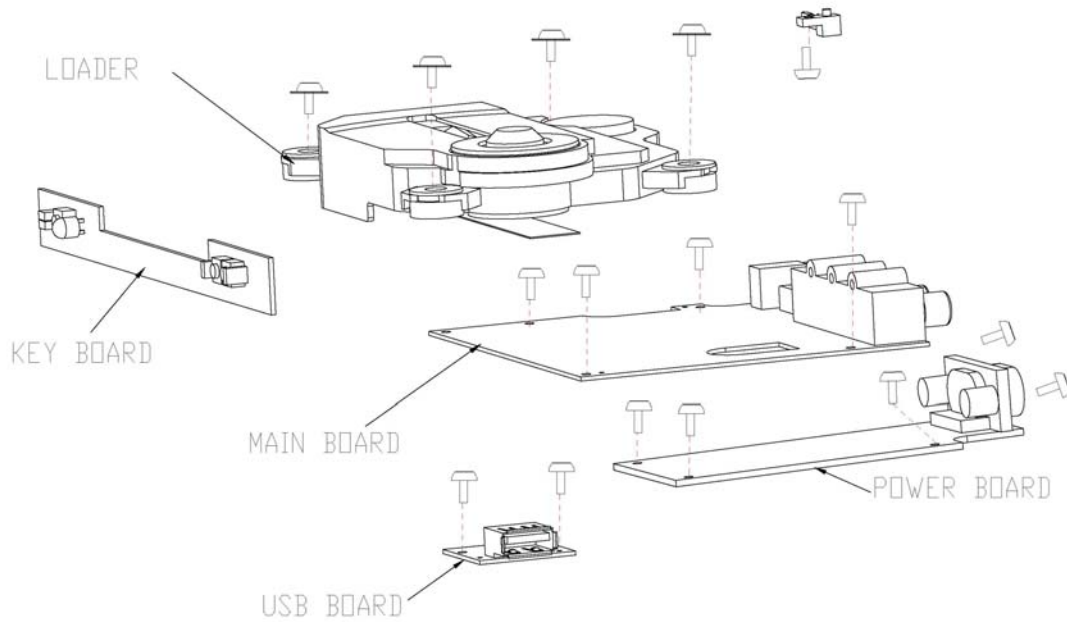
Optical Pickup: Sony KHM313-AHD  
 Chip set/Solution:Mediatek MTK1389M  
 Disc Size:8cm/12cm

### CVBS

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Amplitude output:1Vpp± 0.1V/  
 White bar: 714mV ± 10%/700mVpp ± 10%  
 Sync. Amplitude: 286mV ± 40mV/300mVpp ± 50mV  
 Burst/chroma ratio: ± 5%  
 S/N luminance: ≥60 dB

## 1.1 PCBs LOCATION



## VERSION VARIATIONS

Type/Versions: Service policy	DVP4320						
	12	51	93	98			
<b>Board in used:</b>							
<b>MAIN BOARD</b>	X	X	M/C	M/C			
<b>INVERTER BOARD</b>	X	X	M/C	M/C			
<b>KEY BOARD</b>	X	X	M/C	M/C			
<b>USB BOARD</b>	X	X	C	C			
<b>POWER SW BOARD</b>	X	X	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  $1\text{M}\ \Omega$

5) Verify this, before you return the unit to the customer/user (ref. UL-standard no. 1492).

6) Switch the unit "off", and remove the wire between

the two pins of the mains plug.

### 2. Laser safety

This unit employs a laser. Only qualified service personnel

May remove the cover, or attempt to service this device

(due to possible eye injury).

Laser device unit

Type :Semiconductor laser GaAlAs

Wavelength :650nm (DVD)

:780nm (VCD/CD)

Output power :7mW(DVD)

:10mW(DVD/CD)

Beam divergence:60 degree

Note: Use of controls or adjustments or performance of procedure other than those specified herein, may result in hazardous radiation exposure. Avoid direct exposure to beam.

### 3.0 INSTRUCTION FOR USE

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You can download this information from the following websites:

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

<http://www.p4c.philips.com>

## 4.0 MECHANICAL AND DISMANTLING INSTRUCTIONS

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The following guidelines show how to dismantle  
Step1:Remove 4 screws around the bottom Cover



Figure 1

Step2:Open the mid-Cover(Figure 2 &3)



Figure 2

## 4.0 MECHANICAL AND DISMANTLING INSTRUCTIONS

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Figure 3

Step3: Remove the 14 screws on board(Figure 4)

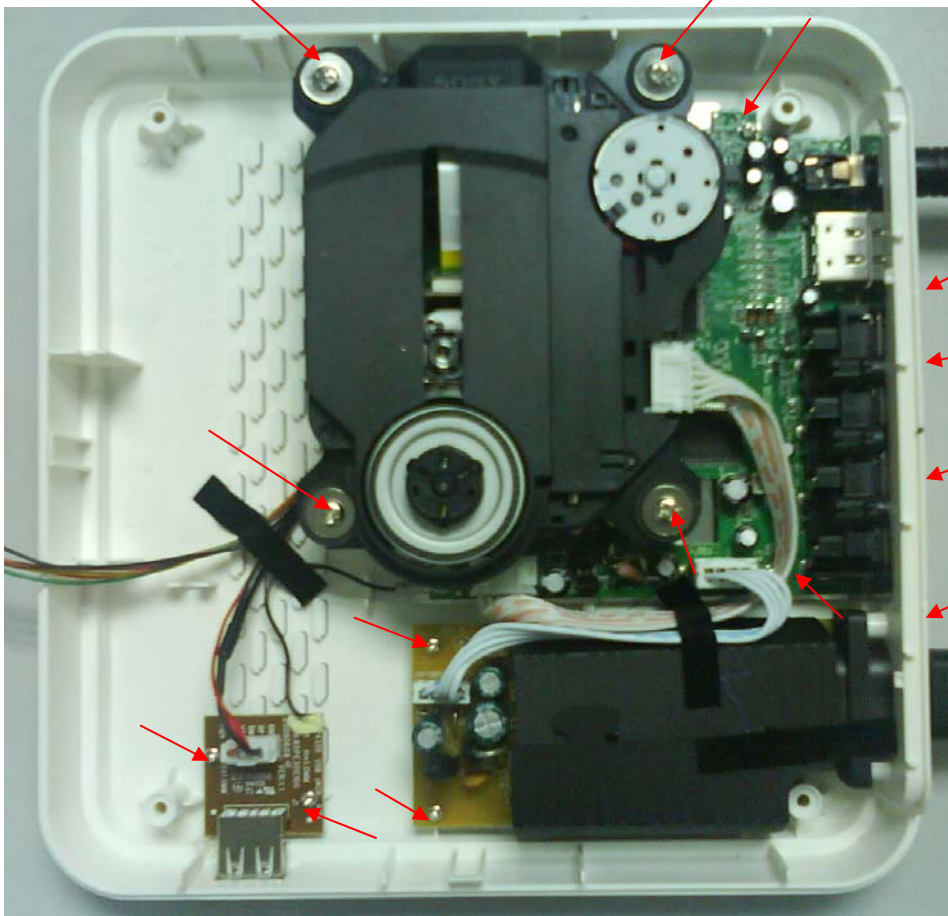
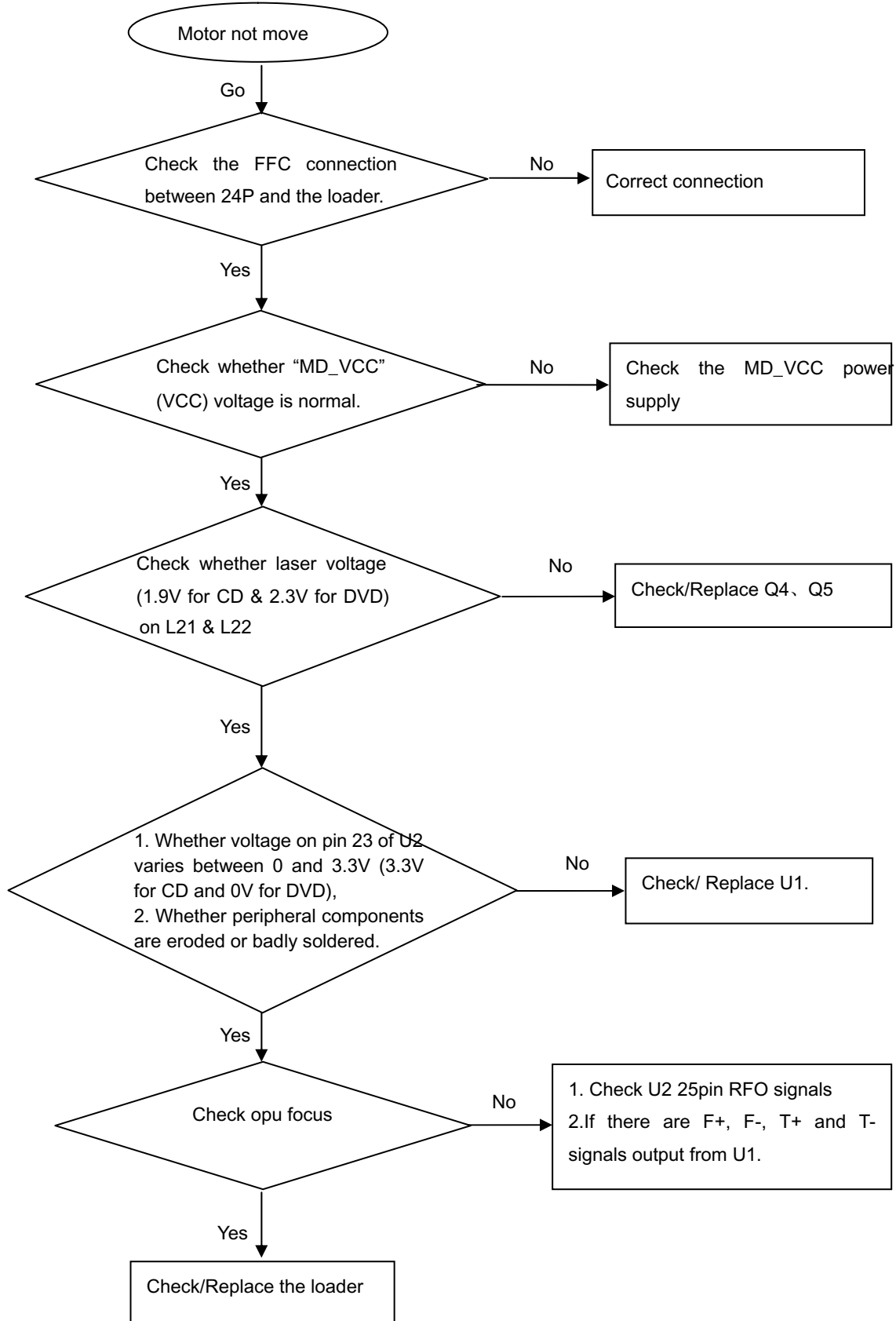
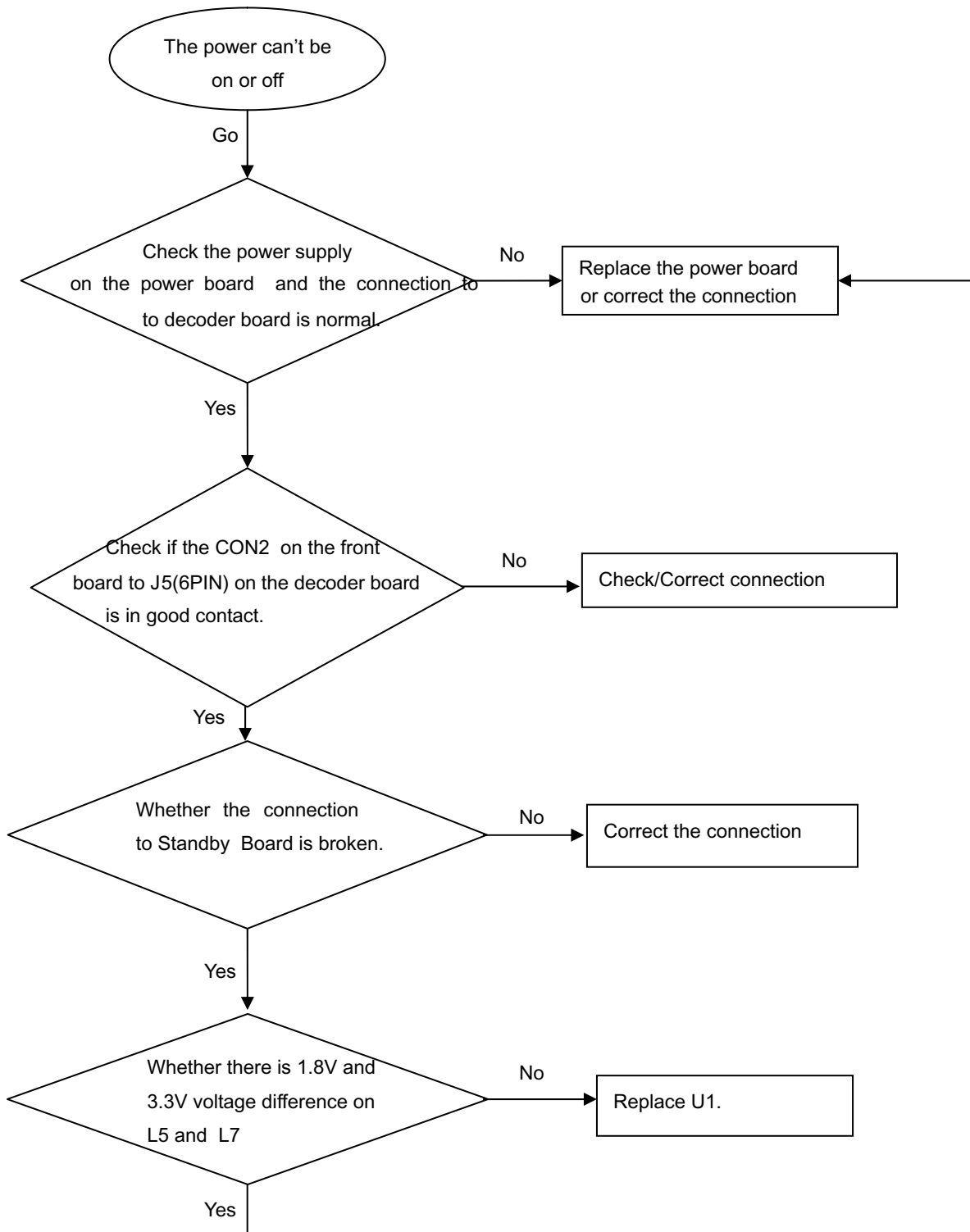
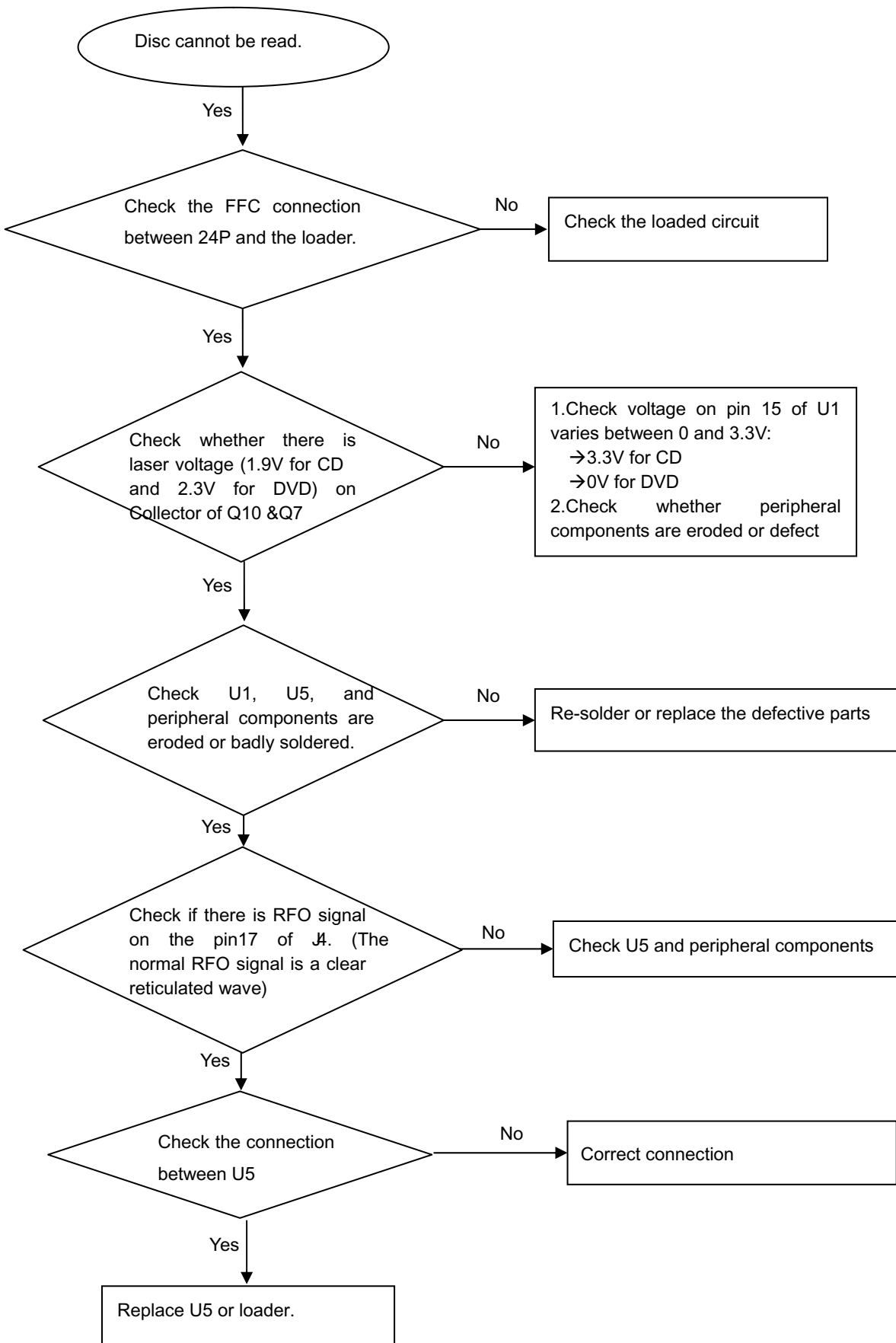


Figure 4

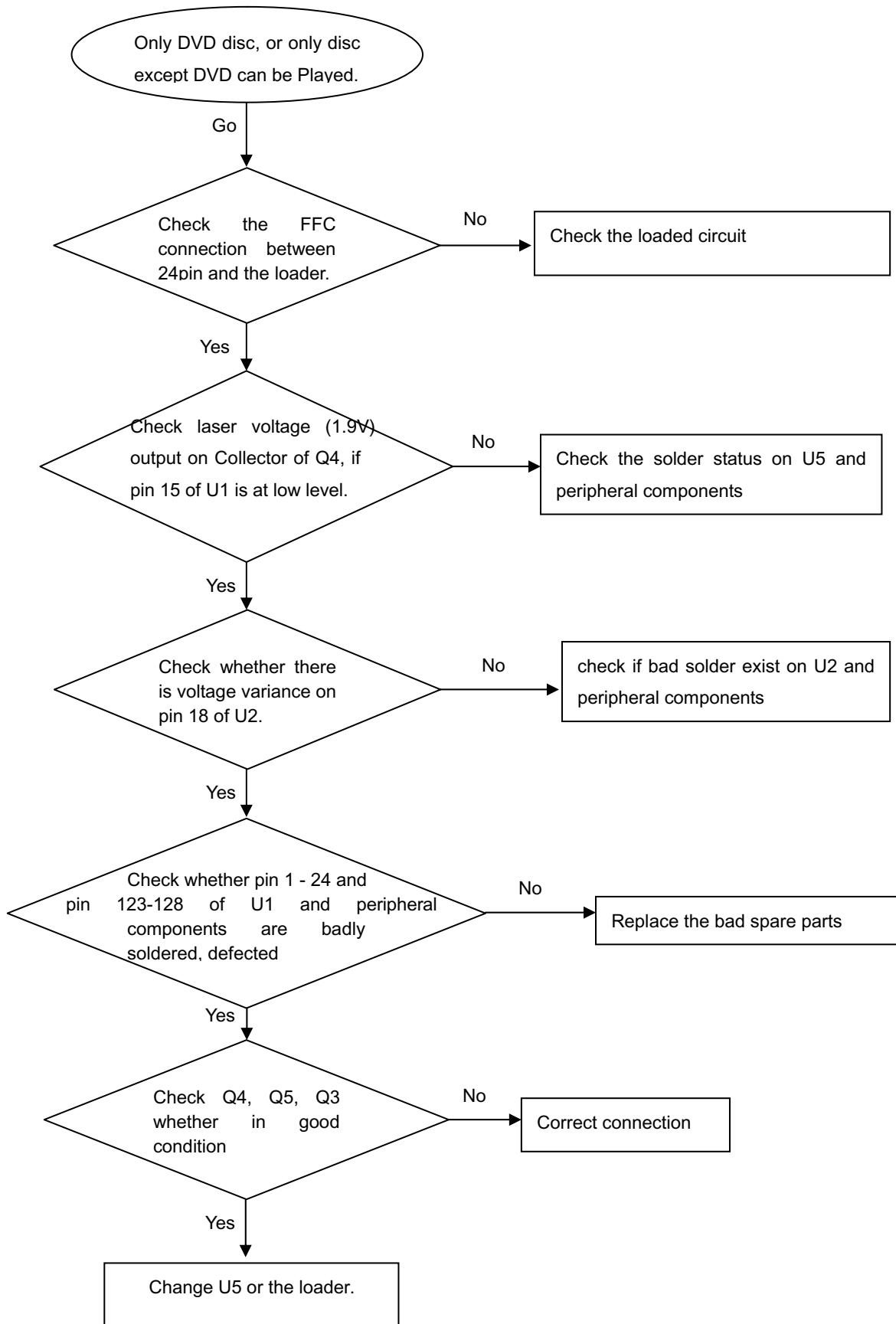


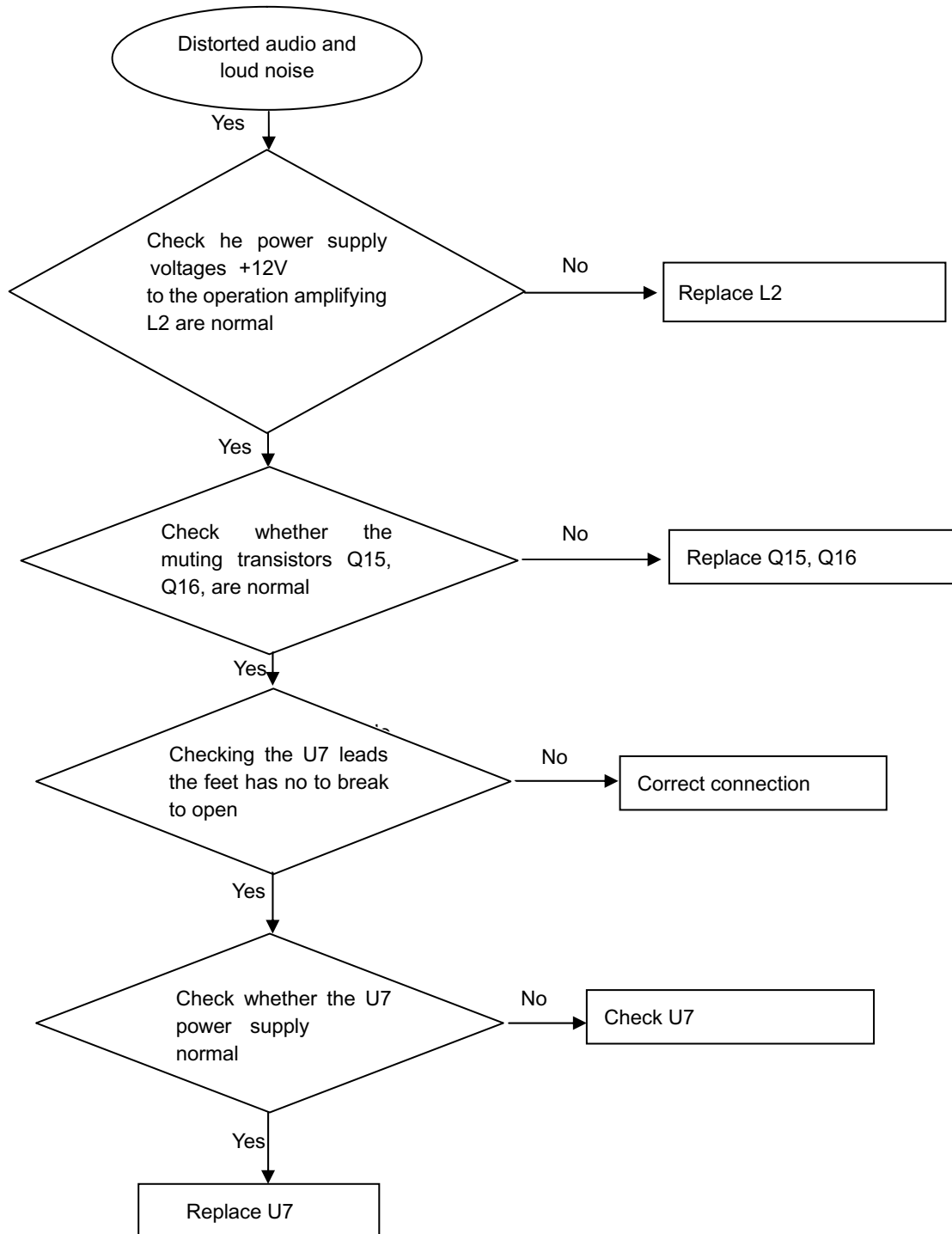
**Spindle motor does not move**

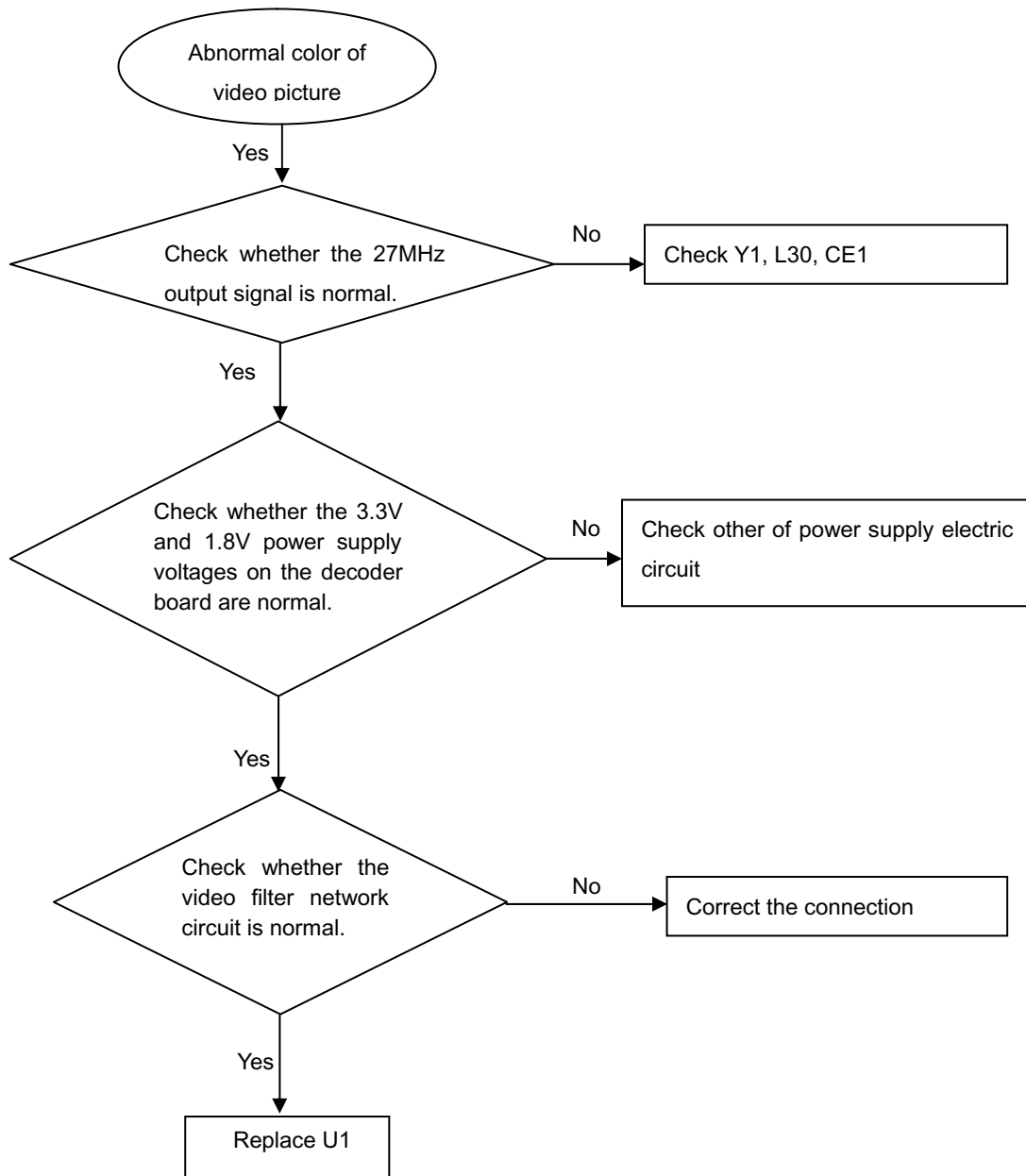
**The power can not be on or off**

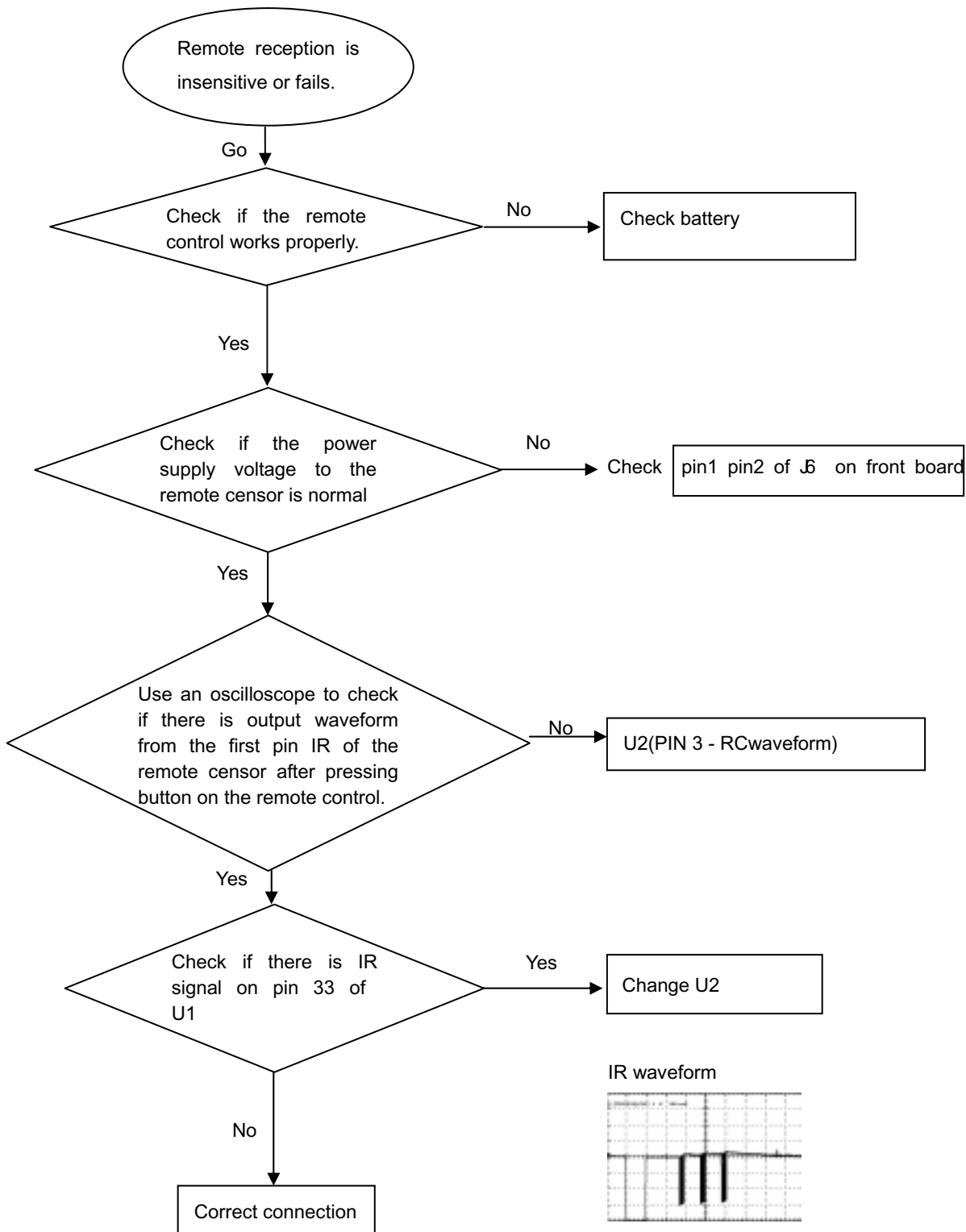
**Disc cannot be read.**

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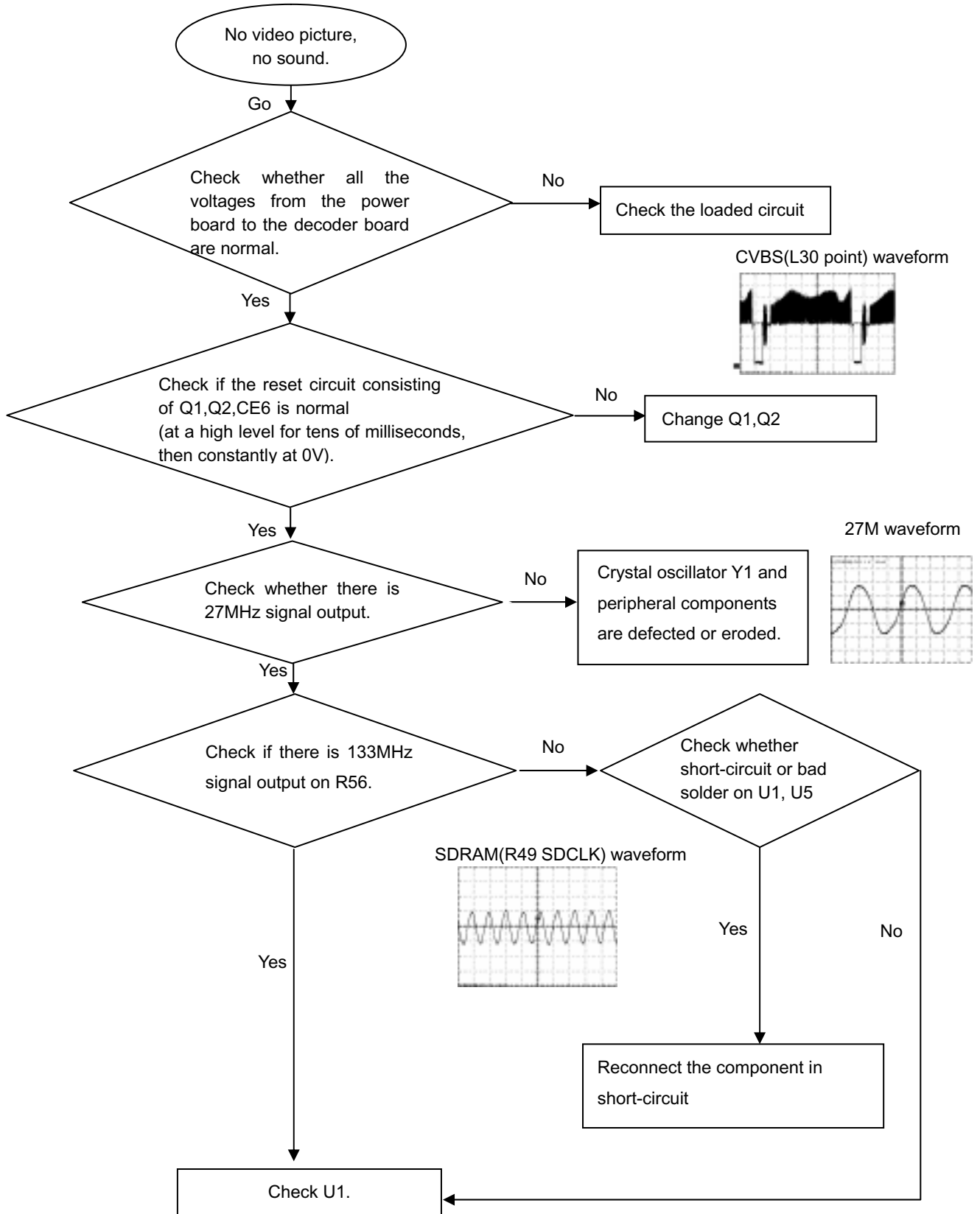
**Only DVD disc or only disc except DVD can be played**


**Distorted audio and loud noise**

**Abnormal color of video picture**

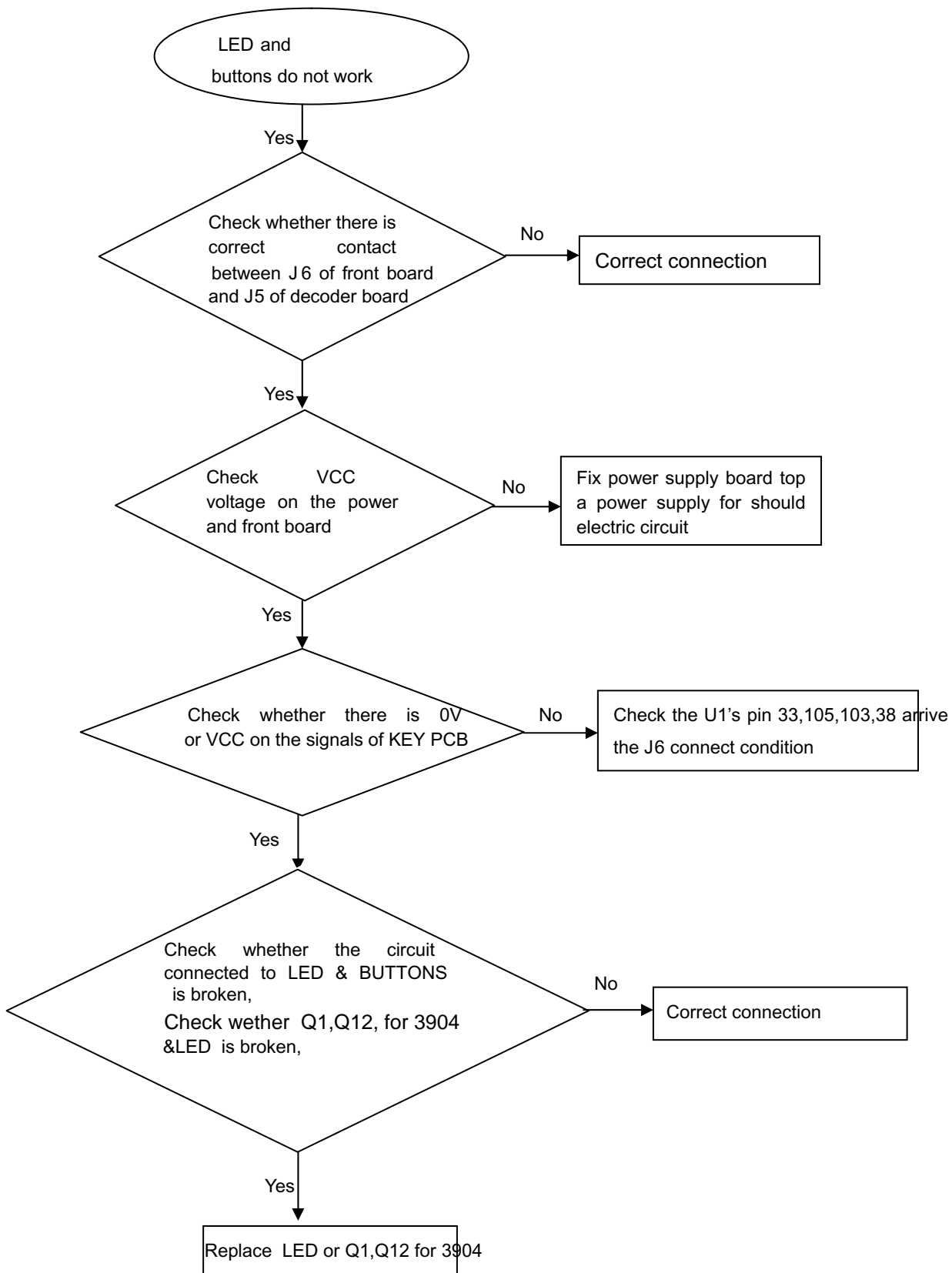
**Remote reception is insensitive or fails.**

**No video picture, no sound.**



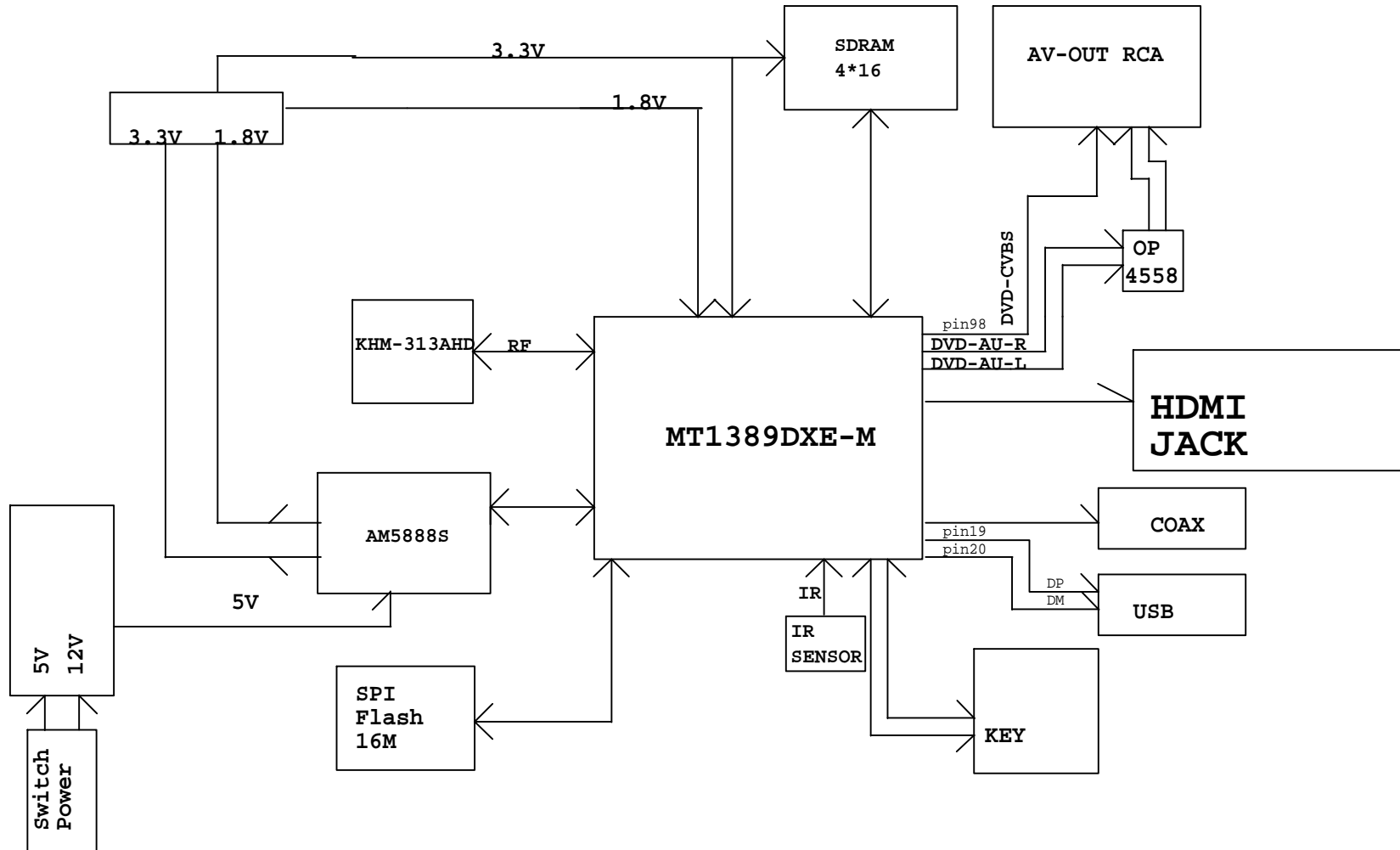


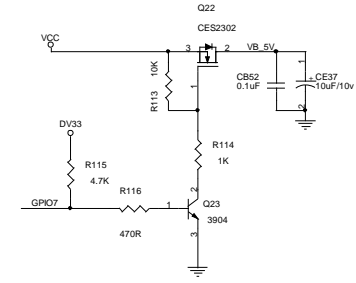
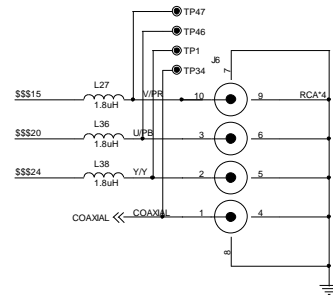
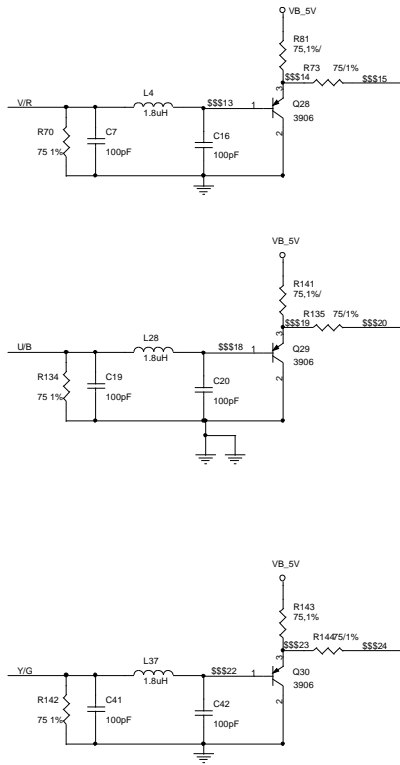
### No display on LED, and buttons do not work



# BLOCK DIAGRAM

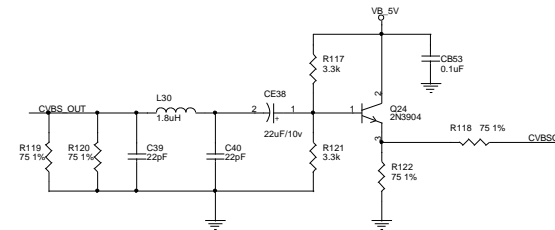
6-1



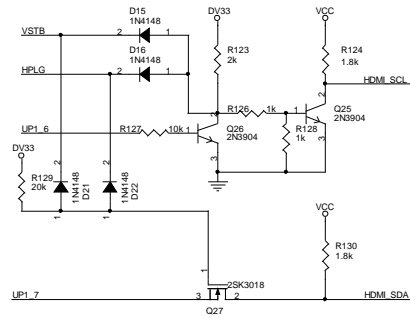


### OFF-PAGE CONNECTION

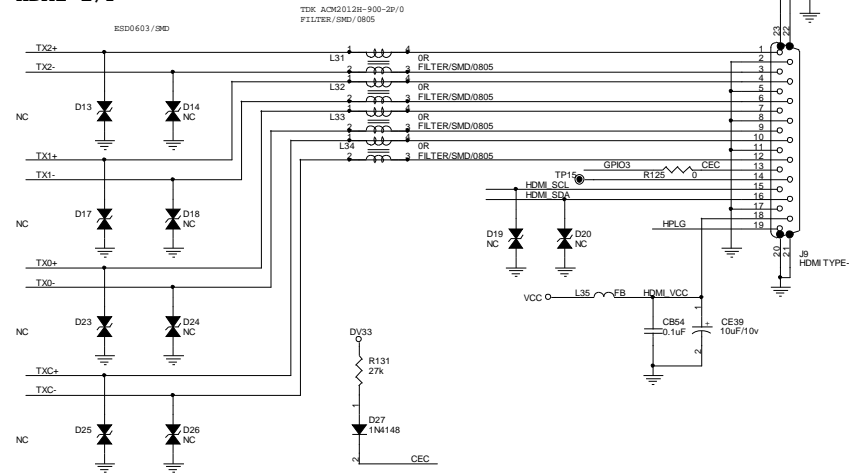
CVBS_OUT	CVBS_OUT	2
V/R	V/R	2
U/B	U/B	2
Y/G	Y/G	2
R/V	R/V	2
B/U	B/U	2
G/Y	G/Y	2
CVBSO	CVBSO	4
<b>VIDEO I/F</b>		
RCH	RCH	4
LCH	LCH	4
<b>AUDIO I/F</b>		
GPIO11	GPIO11	2
<b>SCART/VGA I/F</b>		
TXC-	TXC-	2
TXC+	TXC+	2
TX0-	TX0-	2
TX0+	TX0+	2
TX1-	TX1-	2
TX1+	TX1+	2
TX2-	TX2-	2
TX2+	TX2+	2
HPLG	HPLG	2
LP1_6_7I	LP1_6_7I	2
GPIO3	GPIO3	2
VSTB	VSTB	2
<b>TMD5 I/F</b>		
VCC	VCC	1,2,3
DV33	DV33	1,2,3,4
<b>POWER</b>		
GPIO7	GPIO7	2
VB_5V	VB_5V	2



### DDC\_SW



### HDMI I/F



OFF-PAGE CONNECTION

AR	AR	2
AL	AL	2
ARS	ARS	2
ALS	ALS	2
ARF	ARF	2
ALF	ALF	2
ASPDF	ASPDF	2
AKN1	AKN1	2
GPIO6	GPIO6	2

RCH	RCH	
LCH	LCH	

**AUDIO I/F**

CVBS0	CVBS0	5
BV	BV	
BV	BV	
GY	GY	

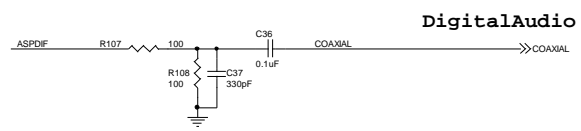
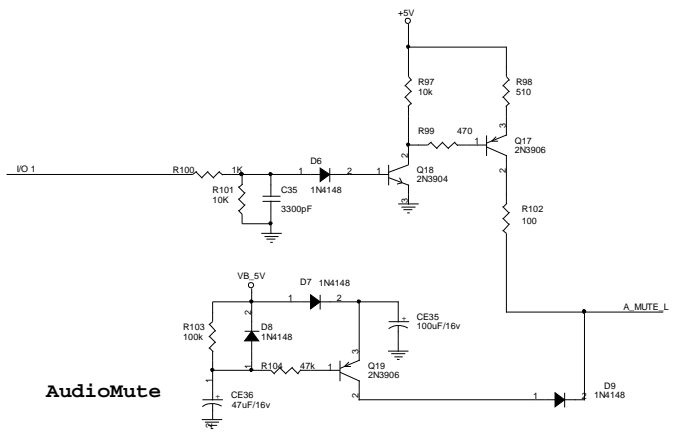
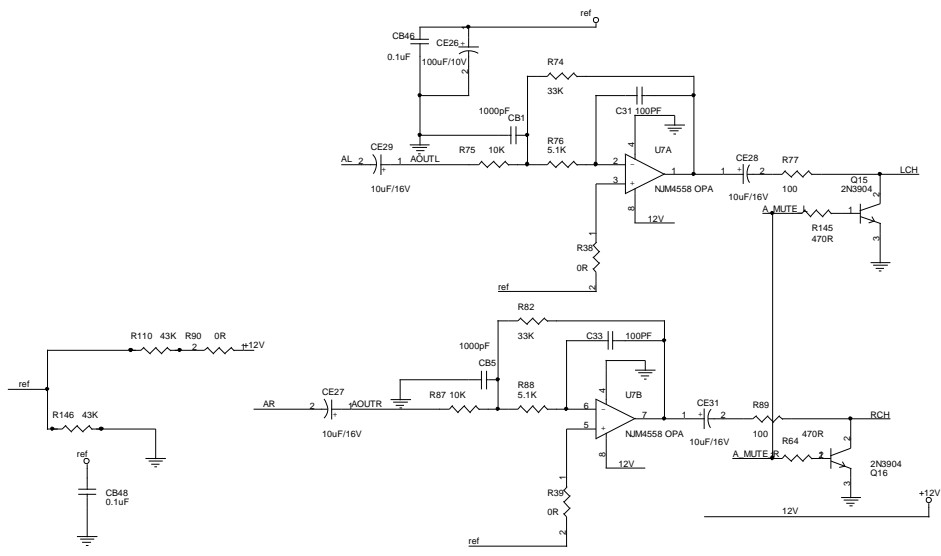
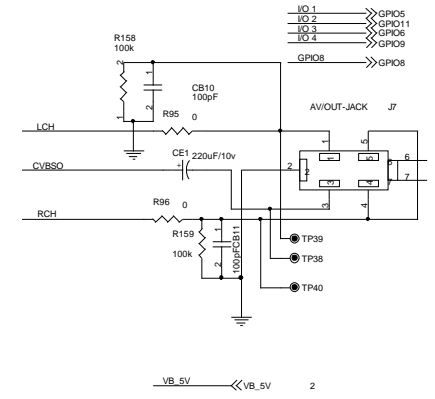
**VIDEO I/F**

+P12V	+P12V	1
+12V	+12V	1

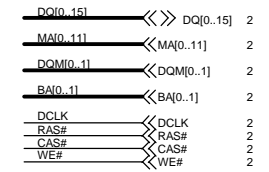
DV33	DV33	1,2,3,5
AVCC	AVCC	1,2

**Power**

IO 1	GPIO5	
IO 2	GPIO11	
IO 3	GPIO6	
IO 4	GPIO8	
GPIO8	GPIO8	



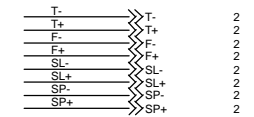
OFF-PAGE CONNECTION



DRAM I/F



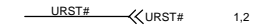
S-FLASH



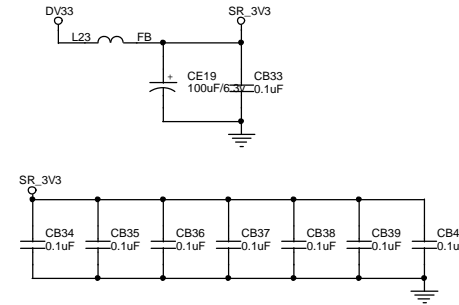
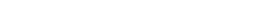
SERVO I/F



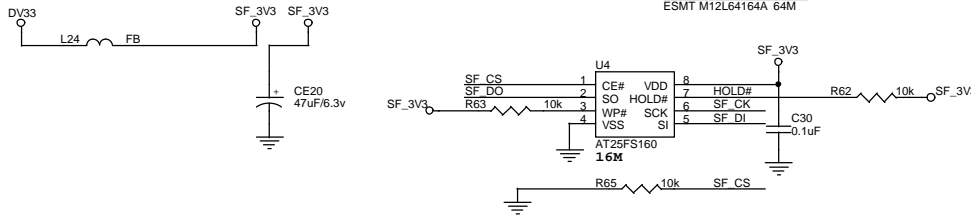
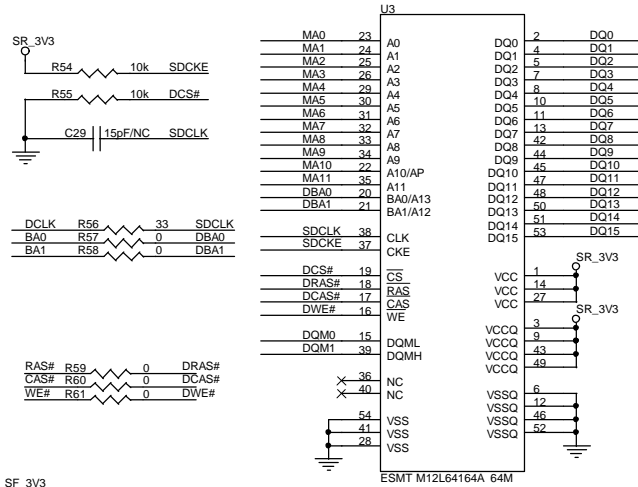
Power



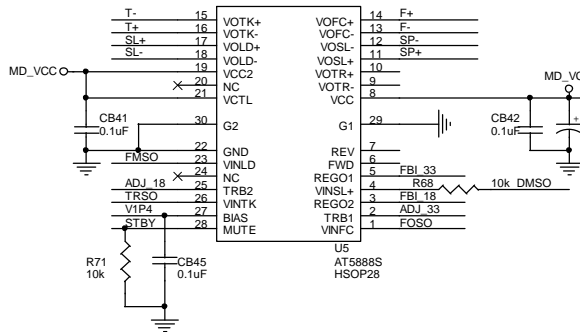
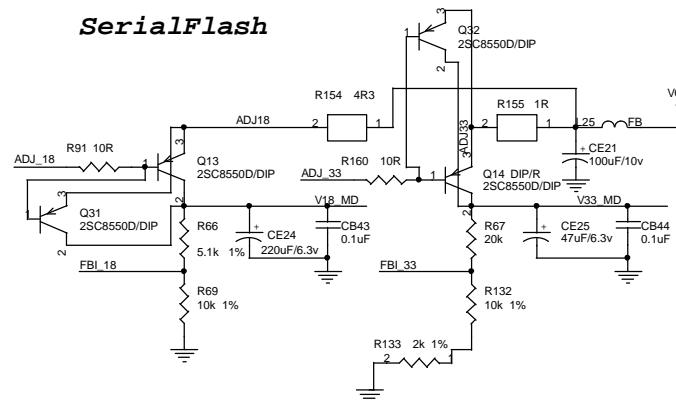
Misc

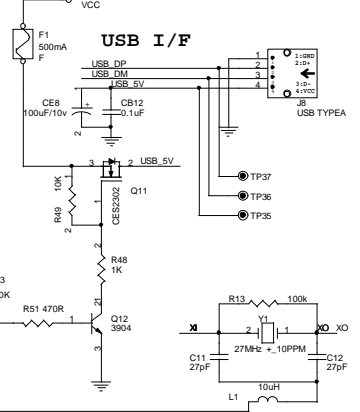
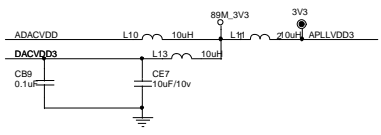
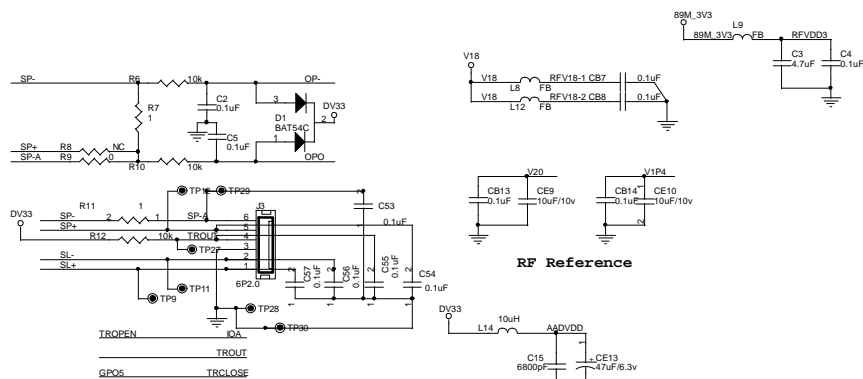


SDR\_DRAM (Dual Layout)



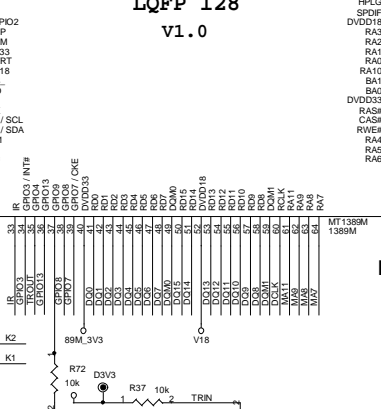
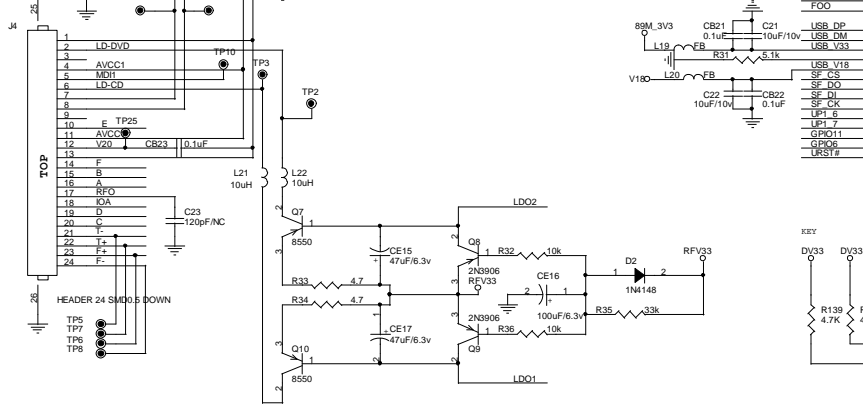
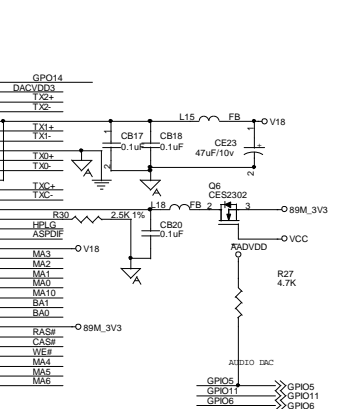
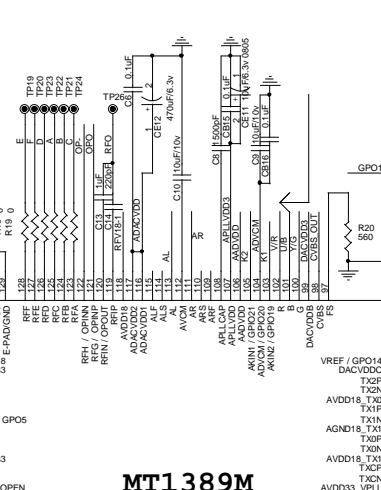
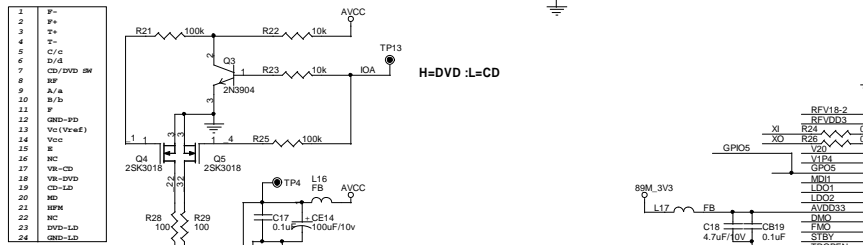
SerialFlash

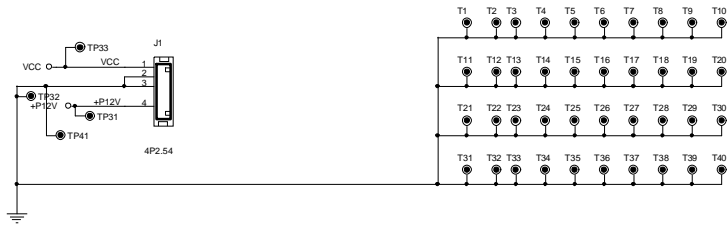




OFF-PAGE CONNECTION

DAQ0_151	<<>	DAQ0_151	3
MA0_111	<<>	MA0_111	3
DAQM0_11	<<>	DAQM0_11	3
BA0_11	<<>	BA0_11	3
DCLK	<<>	DCLK	3
RAS#	<<>	RAS#	3
CAS#	<<>	CAS#	3
WE#	<<>	WE#	3
<b>DRAM I/F</b>			
SF_CK	<<>	SF_CK	3
SF_CS	<<>	SF_CS	3
SF_DI	<<>	SF_DI	3
SF_DO	<<>	SF_DO	3
<b>S-FLASH</b>			
LP1_16_71	<<>	LP1_16_71	5
<b>IIC I/F</b>			
GPIO7_91	<<>	GPIO7_91	5
<b>MCR I/F</b>			
CVBS_OUT	<<>	CVBS_OUT	5
VIR	<<>	VIR	4
VRS	<<>	VRS	4
ALS	<<>	ALS	4
ARF	<<>	ARF	4
ALF	<<>	ALF	4
ALF	<<>	ALF	4
AKIN1	<<>	AKIN1	4
ASPDP	<<>	ASPDP	4
GPIO6	<<>	GPIO6	3
<b>AUDIO I/F</b>			
USB_DM	<<>	USB_DM	3
USB_DP	<<>	USB_DP	3
<b>USB I/F</b>			
STBY	<<>	STBY	3
TROPEN	<<>	TROPEN	3
TRCLOSE	<<>	TRCLOSE	3
TRN	<<>	TRN	3
T-	<<>	T-	3
T+	<<>	T+	3
F-	<<>	F-	3
F+	<<>	F+	3
SL-	<<>	SL-	3
SL+	<<>	SL+	3
SP-	<<>	SP-	3
SP+	<<>	SP+	3
FOSD0	<<>	FOSD0	3
TRSD0	<<>	TRSD0	3
FMSD0	<<>	FMSD0	3
DMSD0	<<>	DMSD0	3
V1P4	<<>	V1P4	3
<b>SERVO I/F</b>			
TXC+	<<>	TXC+	5
TXC-	<<>	TXC-	5
TX0+	<<>	TX0+	5
TX0-	<<>	TX0-	5
TX1+	<<>	TX1+	5
TX1-	<<>	TX1-	5
TX2+	<<>	TX2+	5
TX2-	<<>	TX2-	5
HLG	<<>	HLG	5
LP1_16_71	<<>	LP1_16_71	5
GPIO3	<<>	GPIO3	5
VSTR	<<>	VSTR	5
<b>TMSD I/F</b>			
GPIO7	<<>	GPIO7	5
URST#	<<>	URST#	1.3
VCC	<<>	VCC	1.3,5
AVCC	<<>	AVCC	1.4
DV33	<<>	DV33	1.3,4,5
<b>Power</b>			
89M_3V3	<<>	89M_3V3	1
V18	<<>	V18	1
RFV33	<<>	RFV33	1

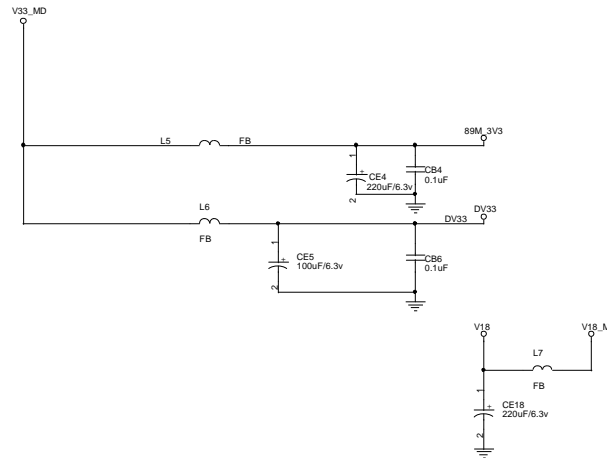
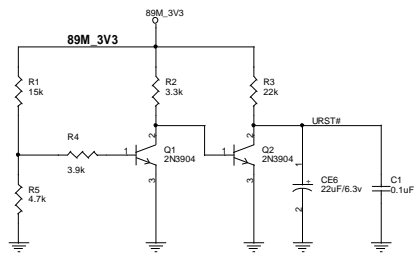
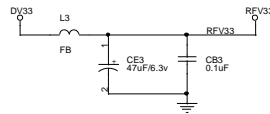
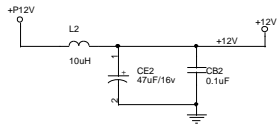


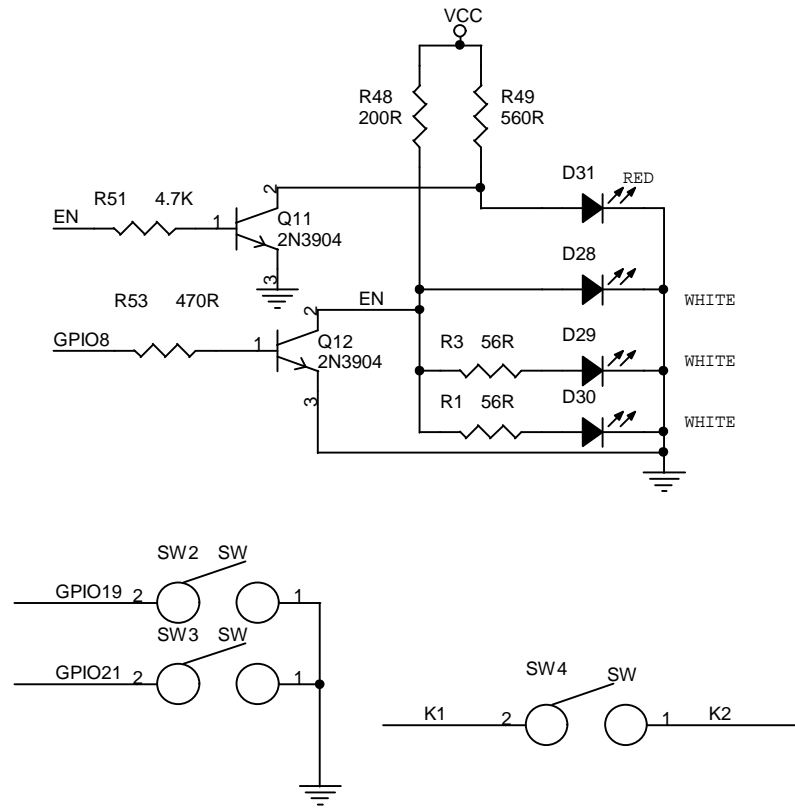
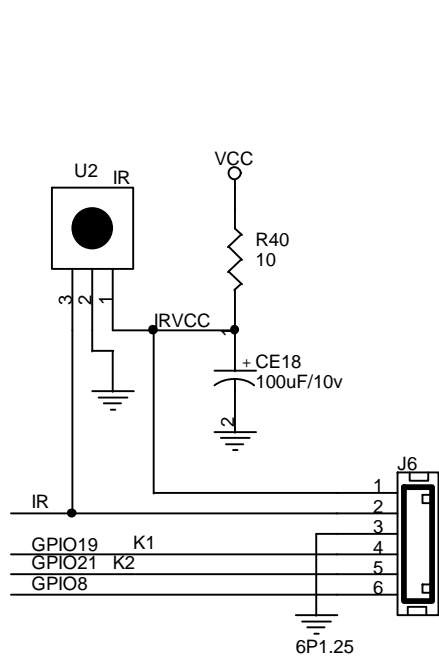


OFF-PAGE CONNECTION

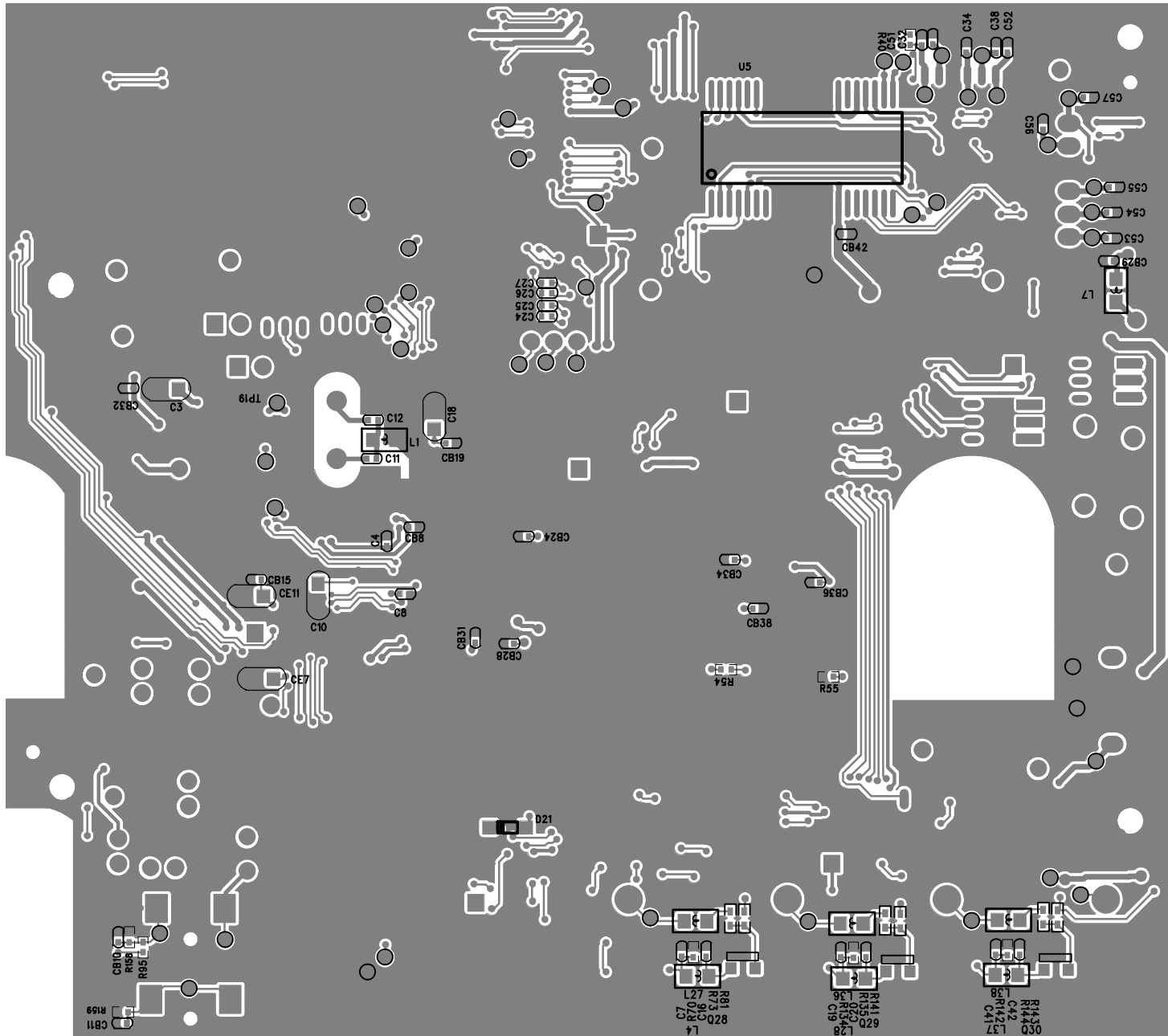
LRST#	→ LRST#	2,3
+12V	→ +12V	4
AVCC	→ AVCC	2,4
+P12V	→ +P12V	4
VCC	→ VCC	2,3,5
DV33	→ DV33	2,3,4,5
V18_MD	← V18_MD	3
V33_MD	← V33_MD	3
RFV33	→ RFV33	2
89M_3V3	→ 89M_3V3	2
V18	→ V18	2

Power





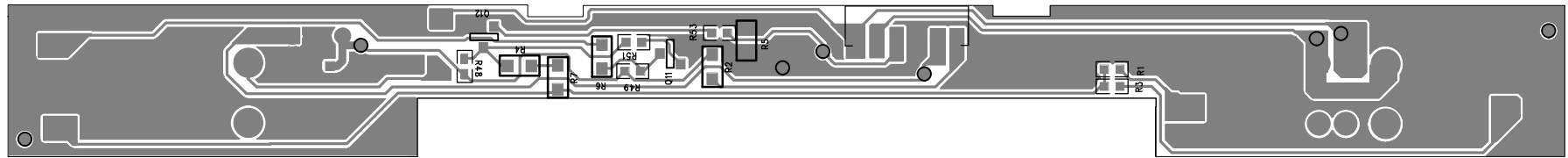






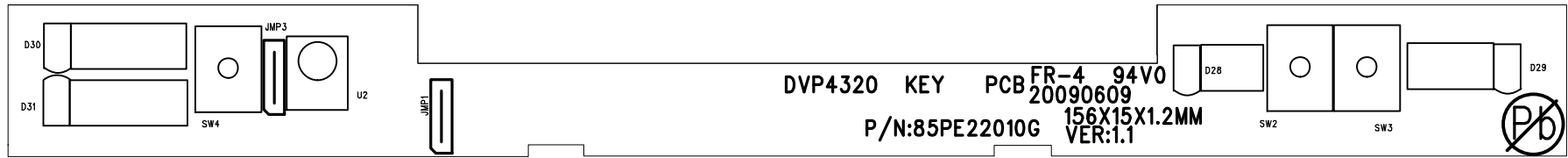
KEY BOARD BOTTOM

7-9



KEY BOARD(TOP)

7-10



# DVP4320 USB JACK PCB



T1

H=1.0MM

P/N:85PE30010G

J1

20090609

J2

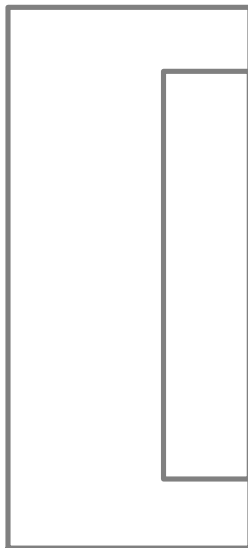
VER:1.1

GND

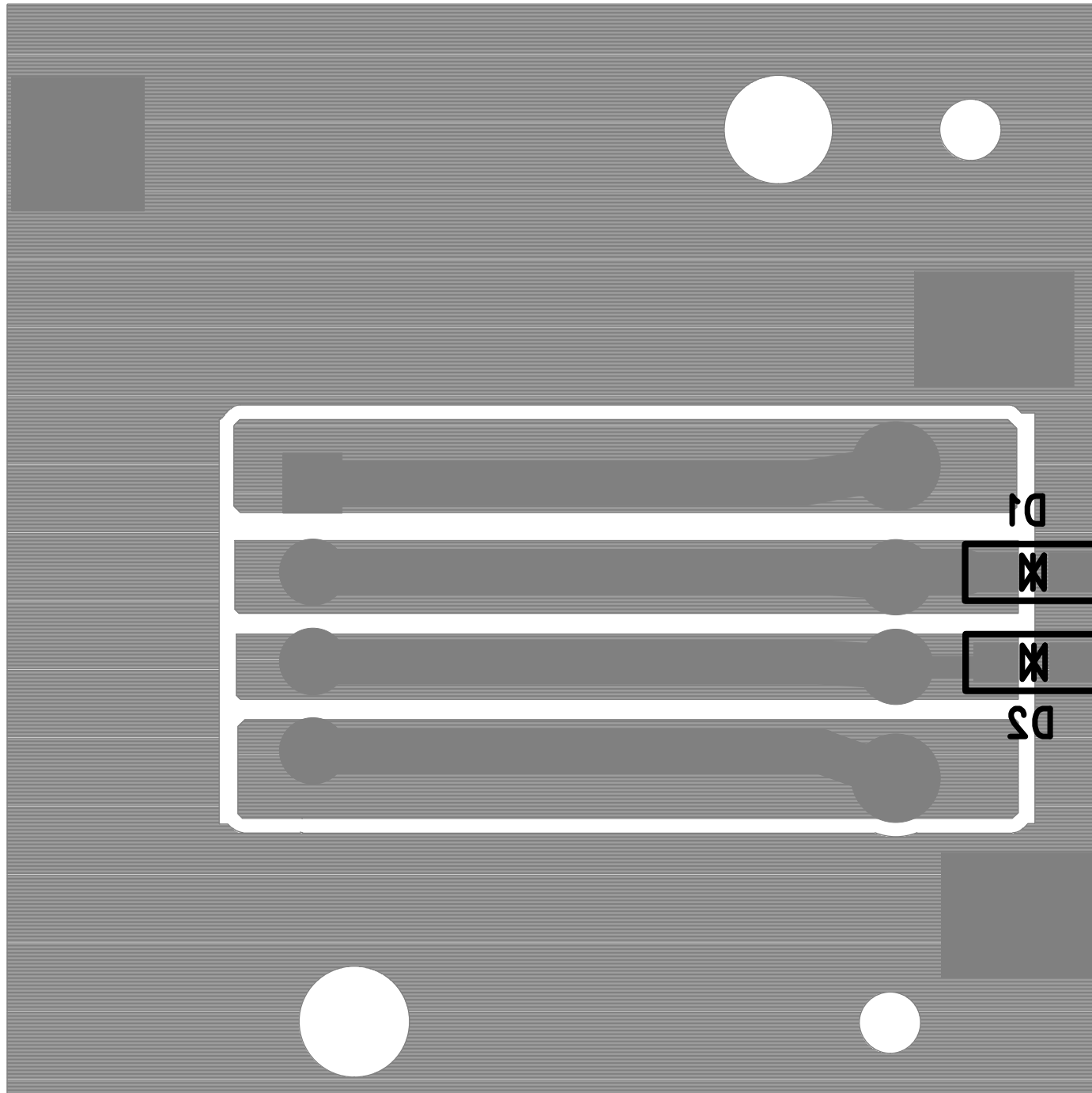
DP

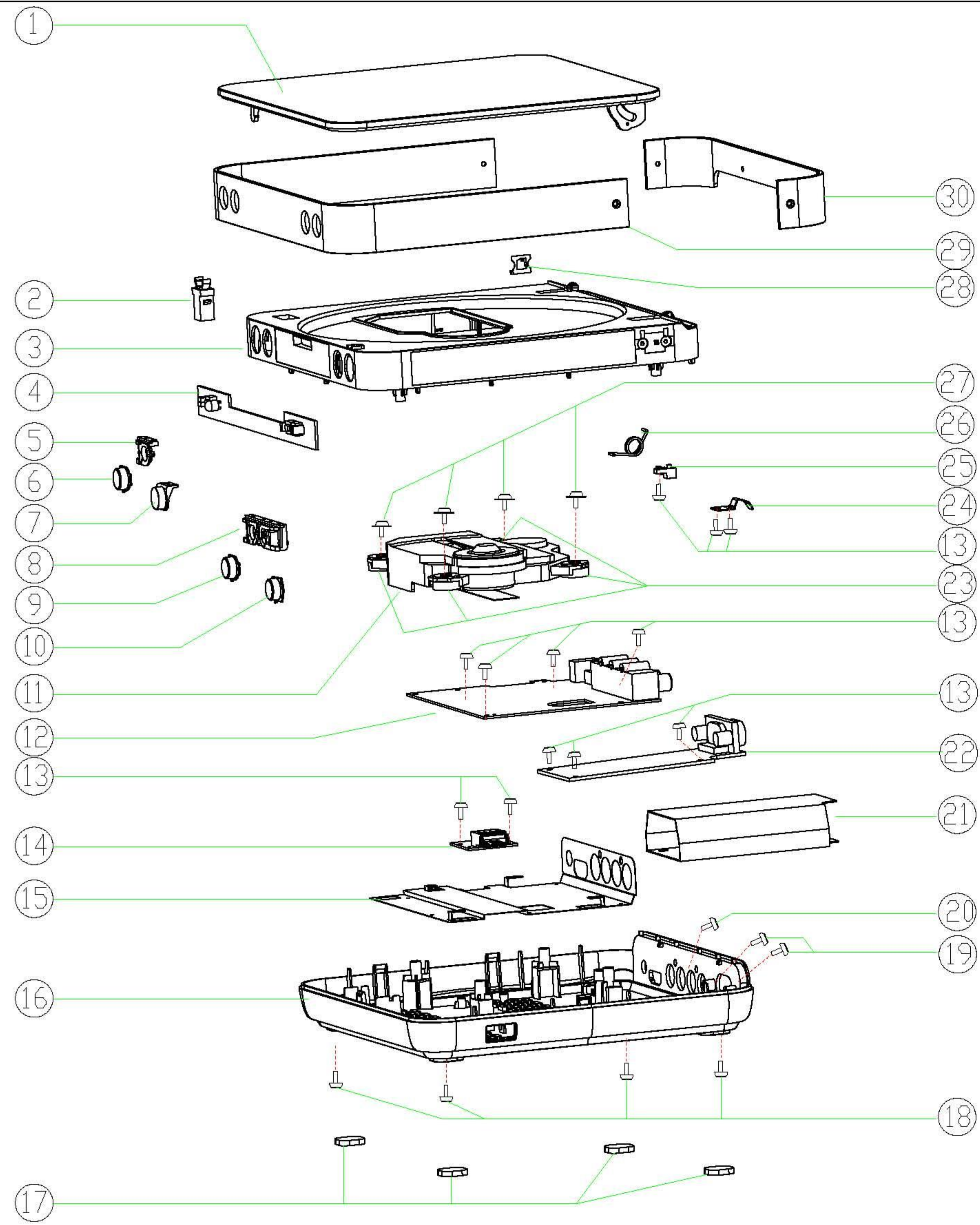
DM

VCC



Single 25X25X1.0MM





ITEM	PART No.	DESCRIPTION	Q'TY
30	87-PE-02010G	ALUMINUM FLARE_REAR T2.0mm DVP4320 SILVER ANODIZED	1
29	87-PE-01010G	ALUMINUM FLARE_FRONT T2.0mm DVP4320 SILVER ANODIZED	1
28	87-PE-04010G	IRON PLATE FOR GAND DVP4320	1
27	69-70-30060G	SCREW TP WRD+ N 3.0x6	4
26	55-PG-01010G	SPRING Ø1.0 L2.5xD8xN2 DVP2320	1
25	22-PE-01010G	SW ITCH CS-7F	1
24	87-PG-01010G	PRESS METAL PLATE SPRING STEEL DVP2320	1
23	64-PG-01010G	SHOCKPROOF RUBBER D13xD5.2xH6.5mm SILICON DVP2320 BLACK	4
22	82-PE-80010G	8W/2P OPEN FRAME PCBA JUNDA	1
21	51-PG-0101BG	PC PLATE 135*86*0.3mm BK UL-V0	1
20	69-43-3008*G	SCREW TP K+ BK 3.0x8	1
19	69-43-3010*G	SCREW TP K+ BK 3.0x10	2
18	69-21-26080G	SCREW TP RD+ N 2.6x8	4
17	64-PG-0201*G	RUBBER FOOT L12.7xW12.7xH2.5mm SILICON DVP2320 *	4
16	88-PE-0301*G	PLA BOTTOM_CABINET ABS DVP4320 *	1
15	87-PE-03010G	IRON PLATE FOR EMI DVP2320/12	1
14	82-PE-30010G	USB PCBA ASS'Y DVP4320	1
13	69-21-20050G	SCREW TP RD+ N 2.0x5	11
12	82-PE-61010G	DVD MAIN PCBA ASS'Y DVP4320/12	1
11	34-PE-43010G	DVD DECK KHM-313AHD SONY	1
10	88-PE-0601*G	PLA STOP_BUTTON PC DVP4320 TRANSLUCENT *	1
9	88-PE-0501*G	PLA PLAY_BUTTON PC DVP4320 TRANSLUCENT *	1
8	88-PG-09010G	PLA PLAY_BRACKET ABS DVP2320 BLACK	1
7	88-PE-07010G	PLA IR_LENS PMMA DVP4320	1
6	88-PG-0401*G	PLA POWER_BUTTON PC DVP2320 TRANSLUCENT	1
5	88-PG-08010G	PLA POWER_BRACKET ABS DVP2320 BLACK	1
4	82-PE-22010G	KEY PCBA ASS'Y DVP4320	1
3	88-PE-02***G	PLA TOP_CABINET ABS DVP4320 *	1
2	88-PG-8800BG	PLA DOOR PUSH LATCH DVP2320 BK	1
1	88-PG-0102*G	PLA DOOR PC DVP2320 *	1

**8.0 SERVICE PARTLISTS****DVP4320BL/12/51 & DVP4320BU/12/51 Accessories parts list**

No	12NC No.	Part Name	Qty
SWADP	996510028321	AC CORD VDE EU 1.3M	1
RC	996510028322	R/C CD31A0007 BLACK	1
AVCABLE	996510028319	AV CORD RCA/M*3 1.3M	1

**DVP4320WH/12/51 Accessories parts list**

No	12NC No.	Part Name	Qty
SWADP	996510028321	AC CORD VDE EU 1.3M AOMENG	1
RC	996510028299	R/C YKF223024 WHITE DVP4320DVP2320	1
AVCABLE	996510028319	AV CORD RCA/M*3 1.3M YI LIAN	1

**DVP4320WH/98 MECHANICAL PARTS LIST**

No	12NC No.	Part Name	Qty
SW ADP		AC CORD CCC 93DETCHBLE	1
RC		R/C CD31A0007 WHITE	1
11		DVD DECK KHM313AHD	1
3		TOP_CABINET WHITE	1
16		BOTTOM_CABINET WHITE	1
9		PLAY_BUTTON PC DVP4320	1
10		STOP_BUTTON PC DVP4320	1
1		DOOR PC DVP2320 WHITE	1
6		STOP_BUTTON PC DVP2320	1
7		IR_LENS PMMA DVP2320 WHITE	1
5		POWER_BRACKET WHITE	1
8		PLAY_BRACKET WHITE	1
22		8W/2P OPEN FRAME PCBA DVP4320WH-98	1
2		DOOR PUSH LATCH BK	1
31		FFC24P/0.5mm 85mm	1
AVCABLE		AV CORD RCA/M*3 1.3M	1



## 8.1 SERVICE PARTLISTS

**DVP4320BL/93 MECHANICAL PARTS LIST**

No	12NC No.	Part Name	Qty
SW ADP	996510028297	AC CORD CCC 93DETCHBLE	1
RC	996510028322	R/C CD31A0007 BLACK	1
11	996510028296	DVD DECK KHM313AHD	1
3	996510028613	TOP_CABINET BK	1
16	996510028635	BOTTOM_CABINET BLACK	1
9	996510028608	PLAY_BUTTON PC DVP4320	1
10	996510028631	STOP_BUTTON PC DVP4320	1
1	996510028614	DOOR PC DVP2320 BLACK	1
6	996510028607	STOP_BUTTON PC DVP2320	1
7	996510028633	IR_LENS PMMA DVP2320 BK	1
5	996510028307	POWER_BRACKET BK	1
8	996510028293	PLAY BRACKET BK	1
22	996510028309	8W/2P OPEN FRAME PCBA DVP4320BL-93	1
2	996510028312	DOOR PUSH LATCH BK	1
31	996510028315	FFC24P/0.5mm 85mm	1
AVCABLE	996510028297	AV CORD RCA/M*3 1.3M	1
DBOX	996510028632	DBOX (WITHOUT HANDLE)	1
ADDRESS	996510028836	ADDRESS PAPER	1
WARRANTY CARD	996510028838	NEW WARRANTY CARD	1
IFU	996510028835	IFU ENG FOR DVP4320	1
QSG	996510028837	QSG ENGLISH FOR DVP4320BU	1

**DVP4320WH/98&DVP4320BL/93 KEY PCB PARTS LIST**

No	12NC No.	Part Name	Qty
4	996510028637	KEY PCBA ASS'Y DVP4320	1
Q11,Q12	996510028078	SMD TR PMBT3904 SOT23 NPN PHILIPS	2
U2	996510028082	DIP IR SENSOR 36KHZ IRM36C AAD	1
SW2,SW3,SW4	996510028313	TACT SWITCH EVQPAE04M 180G 东方科技	3

**DVP4320WH/98&DVP4320BL/93 USB PCB PARTS LIST**

No	12NC No.	Part Name	Qty
14		USB PCBA ASS'Y DVP4320	1
J1	996510028286	USB JACK DIP 4PIN 2UB00050W00 (A TYPE	1
J2	996510028311	DIP WAFER 4 PIN 2.0 mm UPRIGHT	1

## 8.1 SERVICE PARTLISTS

## DVP4320WH/98&amp;DVP4320BL/93 DVD PCB PARTS LIST

No	12NC No.	Part Name	Qty
12	996510028834	DVD PCBA ASS'Y	1
U5	996510028064	IC SW5888 HSOP28 5CHA	1
U7	996510028051	IC YD4558 SOP8PIN	1
U3	996510028043	IC W9864G6XH6	1
U4	996510028054	IC SOP8 16M FLASH	1
U1	996510028609	IC MT1389DXEM LQFP128	1
Q7,Q10,Q13,Q14,Q31,Q32	996510028047	DIP TR STS8550D TO92	6
Y1	996510028074	DIP X'TAL 27.00MHZ	1
Q4,Q5,Q27	996510028056	TR 2SK3018 SOT23 ROHM	3
Q1,Q2,Q3,Q12,Q15,Q16,Q18,Q23,Q24,Q25,Q2	996510028078	TR PMBT3904 SOT23	11
Q8,Q9,Q17,Q19,Q28,Q29,Q30	996510028086	TR PMBT3906 SOT23	7
Q6	996510028611	TR CES2312 SOT23 CET	1
Q11,Q22	996510028041	MOS CES2307 SOT23 CET	2
D1	996510028055	DIODE BAT54C SOT23	1
D2,D6,D7,D8,D9,D15,D16,D21,D22,D27	996510028305	DIODE RLS4148 LL34 ROHM	10
J9	996510028634	HDMI JACK 51U019S30SINAS	1
J6,J7	996510028316	DIP JACK EAR PJ3603S JIXIN	2
J10	996510028318	DIP WAFER 2 PIN 1.25mm UPRIGHT	1
J1	996510028284	DIP WAFER 4PIN 2.54mm UPRIGHT	1
J3	996510028612	WAFER 6PIN 2.0MM DIP LEVEL	1
J5	996510028638	DIP WAFER 6PIN 1.25mm LEVEL	1
J4	996510028289	WAFER 24PIN 0.5mm UP	1
F1	996510028048	CHIP RESET FUSE 0.5A/6V	1

## 9.0 REVISION LIST

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Version 1.0

- Initial release