

Service  
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**Service**



# Service Manual


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1. EPICTION		DESCRIPTION	Pos
		DVD door	
		Open /Close button	
		Play/Pause	
		Power button	
		Power and play indicator	
		Remote IR Sensor	
<b>CABINET</b>			
Dimensions (L x W x H):	TBA	Material: Refer to Cosmetic Specification	
		Finishing: Refer to MUS specification	
Bear unit weight (kg)	TBA		
	Main set	Connector type	
	CVBS &YUV OUTPUT X 1	RCA4 x1	
	L/R OUTPUT X 1	RCA 2x1	
	COAXIAL OUTPUT X 1	RCA x1	
	HDMI OUTPU X 1	HDMI x1	
<b>2. ACCESSORIES</b> 1) Warranty Card 2) Remote Control w/battery x1, 3) User Manual, 4) AV cable			

### 3. General Description

DVD player

Key Components:

Optical Pickup: S76RFXP2 (IM)

Chip set/Solution: MT1389DXE-G

Disc Size: 8cm/12cm

Playable disc type: DVD/DVD+RW/DVD+R/CD/CD-R/CD-RW / DVD-R/-RW

Video output signal: PAL/AUTO/NTSC (output only, with Macrovision)

Video format: DVD / VCD / SVCD / JPEG /

Audio format: CD/MP3, MP3-DVD, Dobby digital (down mix), WMA

User Interface:

OSD language: Russian/English/ Ukrainian for 51 version

English, Trad-Chinese, Bahasa Melayu. Thai, Korean for 98 version

Eng, Simplified-Chinese for 93version

Eng, Trad-Chinese, Malay, for 96 version

(Detail, refer to UI requirement)

Screen Saver function.

Button functions: Refer to MUS.

Standby power: <0.5W

**Picture Quality:** refer to DVP3500K/98 (NO VIDEO BUFFER)

**Sound Quality:** refer to DVP3500K/98 (NO OUTSIDE 2CH AUDIO DA)

**Lifetime :** 3 years (min.)

**Temperature & Humidity:**

Operating Temperature & Humidity

0-50 deg C / 30-90%; Charging Temperature: 0 - +40 degC

Storage Temperature & Humidity

-20-70 deg C / 30-95%

Climatic requirements, Indoor product

**Weight:**

TBC Kg +/- 30% with / battery / AV cable / IFU / GB

Version	Region	Countries	Voltage	Frequency	AC Cord Type
51	5	Russia / Ukraine	230V	50Hz	VDE 2-pins round
93	6	China	110V- 240V	50Hz,60Hz	CCC flat 2-pin
96	3	Taiwan	110V- 240V	50Hz,60Hz	Taiwan Plug (CNS 690 approved)
98	3	Asia	110V- 240V	50Hz,60Hz	VDE 2-pins round

## 4. Safety requirements

CB approval  
DVP3600

IEC60065:2001 + A1:2005 & EN60065:2002 + A1:2006,  
(LVD directive 2006/95/EC)

## 5. EMC requirements

– Active Radiation, Radiation Immunity, Conductive Interference

DVP3600

EN55013: 2001 +A1:2003 + A2:2006  
EN55020: 2007  
EN61000-3-2: 2006  
EN61000-3-3: 1995 + A1: 2001 + A2:2005  
(EMC directive 2004/108/EC)

## 6. EUP test

IEC62301: 2005 1st edition  
(commission regulation (EC ) No 1275/2008)  
(EUP directive 2005/32/EC)

## 7. Power-Supply

AC Power	Typical	Limit	Remarks
Power Supply voltage	100- 240V	+/- 10%	
Supply Power consumption	10W	+40%/ - 0%	
Standby Power (power switch OFF)	-	<0.5W	

## 8. Audio (all test with 22k Ohm load unless specified)

DVD-Audio Line out	Condition	Typical	Limit	Remarks
1. Output voltage 1kHz (V)		2Vrms	+/- 1dB	Apply 8 ohm loading no component damage
2. THD 20-20kHz		0.03%	0.06%	
3. Dynamic range	1kHz		>85dB	
4. A-weighted S/N ratio	Tr15/Tr49		>90dB	
5. Frequency response	20-20kHz	-	+1 / -0.5dB	
6. Channel separation	1kHz	-	>=85dB	
7. Channel balance	1kHz		+/- 1dB	

## Digital output

Coaxial

Type	Standard
CDDA/LPCM (including MPEG1)	IEC60958
MPEG2, Dolby Digital (AC-3)	IEC61937
DTS, 96kHz 24 bit	

## 9. Video Output

AV output ports special requirement	>10V DC	No component damaged		
Connection Port Impedance	75 ohm			
<b>CVBS Video Output (PAL / NTSC)</b>				
DVD-Video composite	Condition	Typical	Limit	
1. White Bar	-	714mVpp	+10/-20	

<b>DVP3680</b>	PRODUCT SPEC Sheet-190		
Page 5 of 8		Rev.1.0	

2. Sync. Amplitude	-	286mVpp	+/-40	
3. Amplitude o/p	-	1000mVpp	+10/-20	
4. Burst amplitude	-	286mVpp	+1/-4	
5. Burst/chroma ratio	-	-	+/-10	
6. S/N luminance	Un-weighted	-	>55	
7. S/N chroma (AM)	Un-weighted	-	>55	
8. S/N chroma (PM)	Un-weighted	-	>52	
9. Video bandwidth	-	PAL/8MHz	-7	
10 Chroma/Luminance			<100	
11 Sub-carrier frequency (Chroma) (ppm)	-	4.43361875MHz / PAL 3.579545MHz / NTSC	+/-30	
12 Subcarrier locked / unlocked	-	-	Locked	

## 10. YUV Video Output

Description	Test Signal	Specification		Class achievement	
		NTSC	PAL	NTSC	PAL
Y White level	100% White	714 mVpp +/- 10%	700 mVpp +/- 10%		
Sync.amplitude	100% White	286 mVpp +/- 40mV	300 mVpp +30mV / - 50mV		
U amplitude o/p	75% color bar ( T2 C1 )	286mV ± 40mV	300mV ± 50mV		
V amplitude o/p	75% Colour bar	525mV ± 10%	525mV ± 10%		
S/N on outputs: U V	100% red ( T2 C17 )	≥55 dB *	≥55 dB		
Video Bandwidth (0.5MHz-10MHz)	Multi-burst	+1dB/-6dB	+1dB/-6dB		
multi-burst ( T2 C9 )	video amplitude	Ref. 0dB 90.8 IRE			
	0.5MHz	+1dB / - 1dB	+1dB / -1dB		
	1.0MHz	+1dB / - 1dB	+1dB / -1dB		
	2.0MHz	+1dB / - 2dB	+1dB / -2dB		
	4.0MHz	+1dB / - 3dB	+1dB / -3dB		
	4.8MHz	+1dB / - 5dB	+1dB / -5dB		
	5.8MHz	+1dB / - 10dB	+1dB / -10dB		

View test: For both NTSC and PAL a viewing test is necessary to determine any annoying phenomena which can not be determined by standard video measuring procedures. In case of the doubt, the viewing test is decisive

## 11. Miscellaneous Electrical

1. EMC for EU RO	EMC	-	4dB	Below Limit
2. ESD test(UAN-D1724)	≤ 8kV	-	Ok	No abnormal allowed
	≤ 15KV	-	Ok	No component damage
3. Mains spike	+/-1500V	-	Ok	
4. Mains failure	100% mains drop	-	Ok	Refer to CTQ
5. Laser beam shut off when the CD door open	-	-	Ok	

Auto Power Off	Con	Typical	Limit	
<b>DVP3680</b>				
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Screen saver	-	20	+/-30%	After push / disc stop
Power off –stand by	-	20	+/-30%-	After Screen saver functional
<b>IR remote</b>				
Condition	Typical	Limit		
Max. operating (degree)	<= +/- 45°	-	5	(M)
	<= +/- 30°	-	7	(M)
	0°	-	10	(M)
Quiescent Current		-	<1uA	
Operating Voltage		2.3 - 3.5V		
Operating Current		9 – 16mA		
Carrier Frequency		36KHz	+/- 2%	
Battery Storage Time		? Year		Temperature:
Battery Life Time	After 20 hours continuous sending (2s/time), IR power should be at least 20μW/cm <sup>2</sup>			
<b>Audio/ Video Characteristic Testing discs</b>				
Manufacturer	Disc name			
1) TOSHIBA	TSD-4			
2) DOLBY	Test disc			
3) ABEX	TDV-540A			
4) SONY	Test CD Type 4			
<b>12. Playability Requirement (See attached in last page).</b>				

### DISC Playability (details refer to Playability Test Plan)

DVD Video playability	Condition	Typical	Limit	
1. Scratch	-	-	<=1.6	ABEX TDV-541
2. Black dot	-	-	NA	ABEX TDV-545
3. Fingerprint	-	-	NA	ABEX TDV-545
4. Non-Centre	-	-	NA	ABEX TDV-552
5. Vertical deviation disc	-	-	NA	ABEX TDV-562
<b>DVD+ RW Video playability</b>				
Condition	Typical	Limit		
Normal playback		OK	Philips HAC11	
Black dot		0.8	Philips HAC11	
Fingerprint		OK	Philips HAC11	
Philips marginal DVD-9		OK	Philips LVP12.01 – layer 0 Philips LVP12.02 – Layer 1	
<b>CD playability</b>				
Condition	Typical	Limit		
Abex-TCD732RA(VDD)	Track 15	OK		
Abex-TCD713(ECC 210um)		NA		

### Power On / Off Disturbances

> -52 dB suppression of the disturbance with regard to the rated output voltage.  
The peak level has to be measured according to IEC 60651 weighted (A) curve.

<b>13. Mechanical Specification (Refer PQR or PQP)</b>
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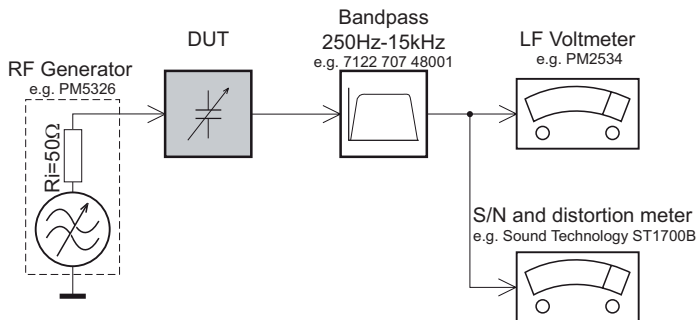
<b>14. Critical component</b>		
Description	Manufacturer	Model no. Version
DVD Chip set	MTK	MT1389QE/DE/DXE-J
Laser pick up	IM	S76RFXP2
Remote Control	TianZeHuan	T47
Power IC	Infineon	ICE3B0565J
LOADER	KeQin	RT-628
Motor Driver IC	SEMICO	CD588CB
FLASH(16M)	EON/MX	EN25QH16-104HIP/MX25L1606EM2I-12G
SDRAM(4M X16BIT)	MIRA/ETRON/ESMT	EM638165TS-6G/M12L64164A-7TG/AT

<b>15. Cosmetic Specification</b>					
All cosmetic color please refer Philips MUS color specification					
No.	Part Description	Texture	Finishing	Color	Remarks

<b>16. Change History</b>			
Version	Date	Description	by
1.0	2011-07-19	initial	Wang S.F

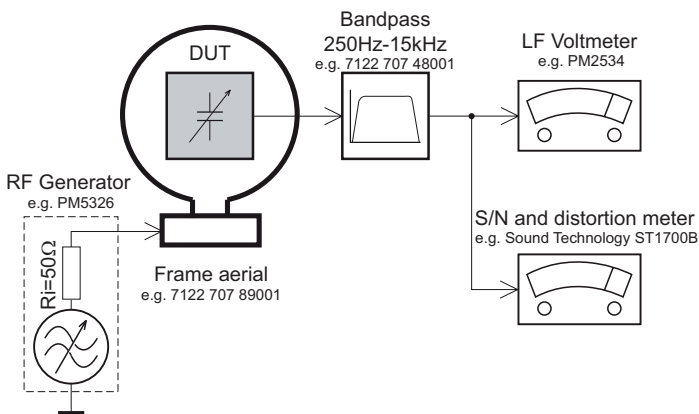
# MEASUREMENT SETUP

## Tuner FM



Use a bandpass filter to eliminate hum (50Hz, 100Hz) and disturbance from the pilotone (19kHz, 38kHz).

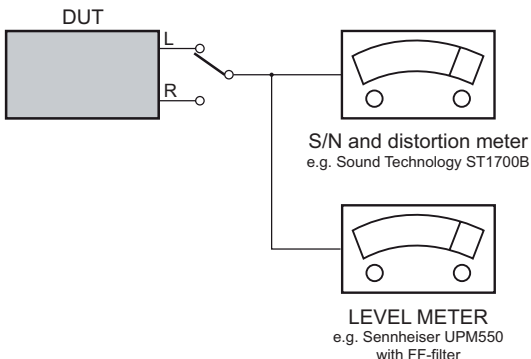
## Tuner AM (MW,LW)



To avoid atmospheric interference all AM-measurements have to be carried out in a Faraday's cage.  
Use a bandpass filter (or at least a high pass filter with 250Hz) to eliminate hum (50Hz, 100Hz).

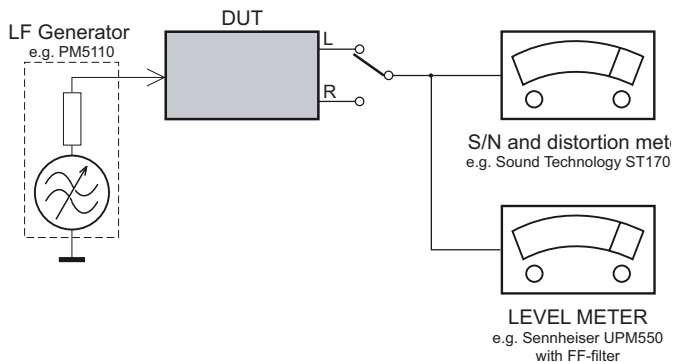
## CD

Use Audio Signal Disc SBC429 4822 397 30184  
(replaces test disc 3)



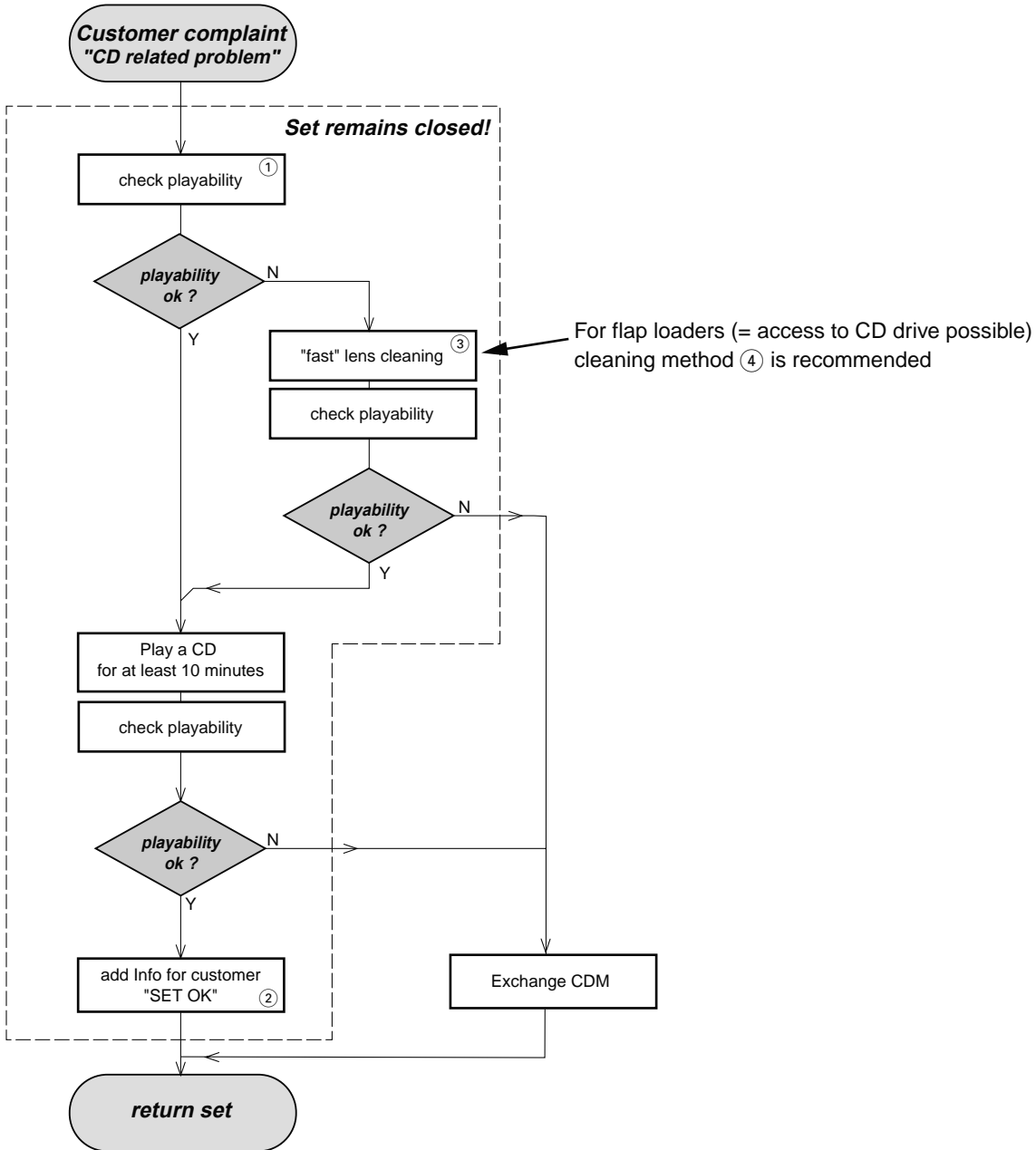
## Recorder

Use Universal Test Cassette Cr02 SBC419 4822 397 30069  
or Universal Test Cassette Fe SBC420 4822 397 30071





# INSTRUCTIONS ON CD PLAYABILITY



① - ④ For description - see following pages

## INSTRUCTIONS ON CD PLAYABILITY

①

### PLAYABILITY CHECK

For sets which are compatible with **CD-RW** discs  
 use CD-RW Printed Audio Disc .....7104 099 96611  
 TR 3 (Fingerprint)  
 TR 8 (600µ Black dot) **maximum at 01:00**

- playback of these two tracks without audible disturbance  
 playing time for: Fingerprint  $\geq 10$ seconds  
 Black dot from 00:50 to 01:10
- jump forward/backward (search) within a reasonable time

For all other sets  
 use CD-DA SBC 444A .....4822 397 30245  
 TR 14 (600µ Black dot) **maximum at 01:15**  
 TR 19 (Fingerprint)  
 TR 10 (1000µ wedge)

- playback of all these tracks without audible disturbance  
 playing time for: 1000µ wedge  $\geq 10$ seconds  
 Fingerprint  $\geq 10$ seconds  
 Black dot from 01:05 to 01:25
- jump forward/backward (search) within a reasonable time

②

### CUSTOMER INFORMATION

It is proposed to add an addendum sheet to the set which informs the customer that the set has been checked carefully - but no fault was found.

The problem was obviously caused by a scratched, dirty or copy-protected CD. In case problems remain, the customer is requested to contact the workshop directly.

The lens cleaning (method ③) should be mentioned in the addendum sheet.

The final wording in national language as well as the printing is under responsibility of the Regional Service Organizations.

④

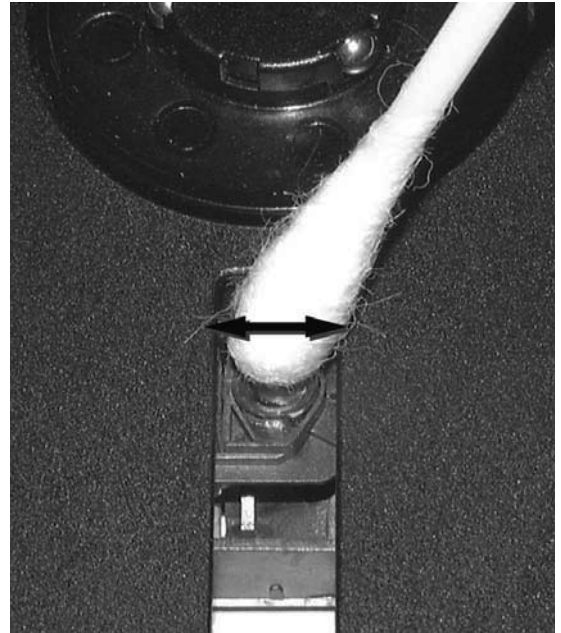
### LIQUID LENS CLEANING

**Before touching the lens it is advised to clean the surface of the lens by blowing clean air over it. This to avoid that little particles make scratches on the lens.**

Because the material of the lens is synthetic and coated with a special anti-reflectivity layer, cleaning must be done with a non-aggressive cleaning fluid. It is advised to use "Cleaning Solvent

The actuator is a very precise mechanical component and may not be damaged in order to guarantee its full function. Clean the lens gently (don't press too hard) with a soft and clean cotton bud moistened with the special lens cleaner.

The direction of cleaning must be in the way as indicated in the picture below.



## 2.0 SAFETY INSTRUCTIONS

**(GB)** WARNING

All ICs and many other semi-conductors are susceptible to electrostatic discharges (ESD). Careless handling during repair can reduce life drastically. When repairing, make sure that you are connected with the same potential as the mass of the set via a wrist wrap with resistance. Keep components and tools also at this potential.

**ESD****(NL)** WAARSCHUWING

Alle IC's en vele andere halfgeleiders zijn gevoelig voor electrostatische ontladingen (ESD). Onzorgvuldig behandelen tijdens reparatie kan de levensduur drastisch doen verminderen. Zorg ervoor dat u tijdens reparatie via een polsband met weerstand verbonden bent met hetzelfde potentiaal als de massa van het apparaat. Houd componenten en hulpmiddelen ook op ditzelfde potentiaal.

**(F)** ATTENTION

Tous les IC et beaucoup d'autres semi-conducteurs sont sensibles aux décharges statiques (ESD). Leur longévité pourrait être considérablement écourtée par le fait qu'aucune précaution n'est prise à leur manipulation. Lors de réparations, s'assurer de bien être relié au même potentiel que la masse de l'appareil et enfilez le bracelet serti d'une résistance de sécurité. Veiller à ce que les composants ainsi que les outils que l'on utilise soient également à ce potentiel.

**(D)** WARNUNG

Alle ICs und viele andere Halbleiter sind empfindlich gegenüber elektrostatischen Entladungen (ESD). Unsorgfältige Behandlung im Reparaturfall kann die Lebensdauer drastisch reduzieren. Veranlassen Sie, dass Sie im Reparaturfall über ein Pulsarmband mit Widerstand verbunden sind mit dem gleichen Potential wie die Masse des Gerätes. Bauteile und Hilfsmittel auch auf dieses gleiche Potential halten.

**(I)** AVVERTIMENTO

Tutti IC e parecchi semi-conduttori sono sensibili alle scariche statiche (ESD). La loro longevità potrebbe essere fortemente ridotta in caso di non osservazione della più grande cauzione alla loro manipolazione. Durante le riparazioni occorre quindi essere collegato allo stesso potenziale che quello della massa dell'apparecchio tramite un braccialetto a resistenza. Assicurarsi che i componenti e anche gli utensili con quali si lavora siano anche a questo potenziale.

**(GB)**

Safety regulations require that the set be restored to its original condition and that parts which are identical with those specified, be used.

"Pour votre sécurité, ces documents doivent être utilisés par des spécialistes agréés, seuls habilités à réparer votre appareil en panne".

**(NL)**

Veiligheidsbepalingen vereisen, dat het apparaat bij reparatie in zijn oorspronkelijke toestand wordt teruggebracht en dat onderdelen, identiek aan de gespecificeerde, worden toegepast.

**(F)**

Les normes de sécurité exigent que l'appareil soit remis à l'état d'origine et que soient utilisés les pièces de rechange identiques à celles spécifiées.

**(GB)** Warning !

Invisible laser radiation when open. Avoid direct exposure to beam.

**(D)**

Bei jeder Reparatur sind die geltenden Sicherheitsvorschriften zu beachten. Der Originalzustand des Geräts darf nicht verändert werden; für Reparaturen sind Original-Ersatzteile zu verwenden.

**(S)** Varning !

Osynlig laserstrålning när apparaten är öppnad och spårren är urkopplad. Betrakta ej strålen.

**(I)**

Le norme di sicurezza esigono che l'apparecchio venga rimesso nelle condizioni originali e che siano utilizzati i pezzi di ricambio identici a quelli specificati.

**(SF)** Varoitus !

Avatussa laitteessa ja suojalukituksen ohitettaessa olet alltiina näkymättömälle laserisäteilylle. Älä katso säteeseen!

"After servicing and before returning set to customer perform a leakage current measurement test from all exposed metal parts to earth ground to assure no shock hazard exist. The leakage current must not exceed 0.5mA."

**DK** Advarsel !

Usynlig laserstrålning ved åbning når sikkerhedsafbrydere er ude af funktion. Undgå udsættelse for strålning.

**Caution: These servicing instructions are for use by qualified service personnel only.**

**To reduce the risk of electric shock do not perform any servicing other than that contained in the operating instructions unless you are qualified to do so.**

## 2.1 ESD PROTECTION

- レンズには絶対に触れないでください。
- DO NOT TOUCH THE LENS.
- LINSE NICHT BRÜHREN.
- NE PAS TOUCHER LA LENTILLE.

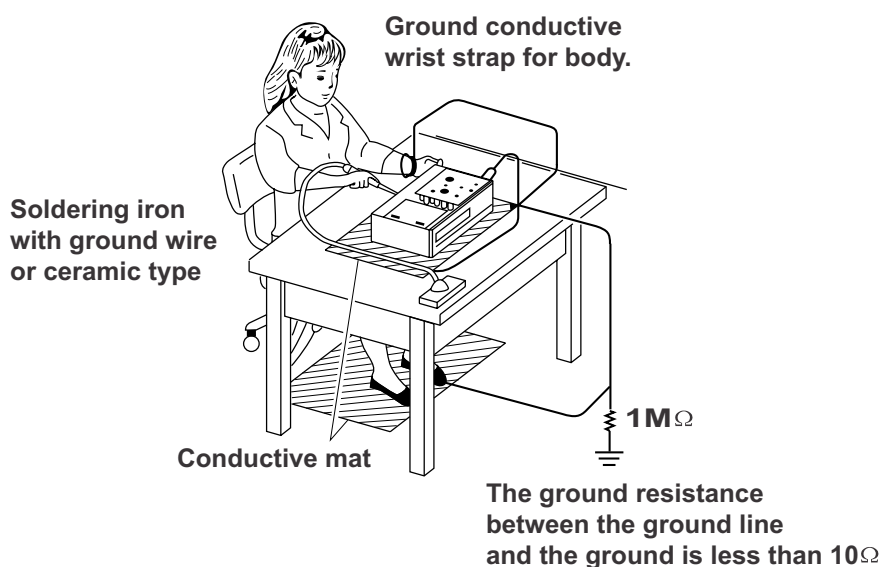
When the power supply is being turned on, you may not remove this laser cautions label. If it removes, radiation of laser may be received.

### PREPARATION OF SERVICING

Pickup Head consists of a laser diode that is very susceptible to external static electrocity.

Although it operates properly after replacement, if it was subject to electrostatic discharge during replacement, its life might be shortened. When replacing, use a conductive mat, soldering iron with ground wire, etc. to protect the laser diode form damage by static electricity.

And also, the LSI and IC are same as above.



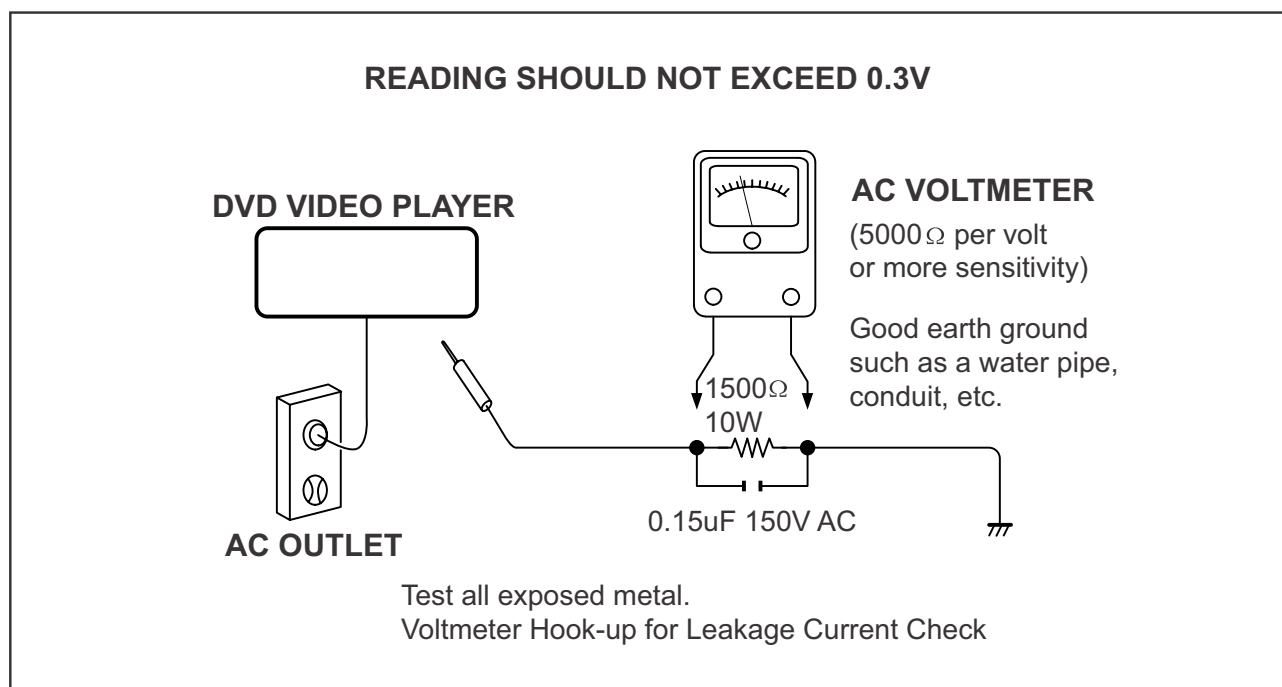
## SAFTY NOTICE

### SAFTY PRECAUTIONS

#### LEAKAGE CURRENT CHECK

Plug the AC line cord directly into a 120V AC outlet (do not use an isolation transformer for this check). Use an AC voltmeter, having  $5000\Omega$  per volt or more sensitivity. Connect a  $1500\Omega$  10W resistor, paralleled by a  $0.15\mu\text{F}$  150V AC capacitor between a known good earth ground (water pipe, conduit, etc.) and all exposed metal parts of cabinet (antennas, handle bracket, metal cabinet screwheads, metal overlays, control shafts, etc.).

Measure the AC voltage across the  $1500\Omega$  resistor. The test must be conducted with the AC switch on and then repeated with the AC switch off. The AC voltage indicated by the meter may not exceed 0.3V. A reading exceeding 0.3V indicates that a dangerous potential exists, the fault must be located and corrected. Repeat the above test with the DVD VIDEO PLAYER power plug reversed. NEVER RETURN A DVD VIDEO PLAYER TO THE CUSTOMER WITHOUT TAKING NECESSARY CORRECTIVE ACTION.



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

## 2.2 SAFETY INSTRUCTIONS

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### **Battery Handling Guideline**

Since the battery is packed in soft package, to ensure its better performance, it's very important to carefully handle the battery

#### 2.2.1 Soft Aluminium foil

The soft aluminum packing foil is very easily damaged by sharp edge parts such as Ni-tabs, pins and needles.

- Don't strike battery with any sharp edge parts
- Trim your nail or wear glove before taking battery
- Clean worktable to make sure no any sharp particle



#### 2.2.2 Sealed edge

Sealing edge is very flimsy

- Don't bend or fold sealing edge



#### 2.2.3 Folding edge

The folding edge is form in battery process and passed all hermetic test.

- Don't open or deform folding edge



#### 2.2.4 Tabs

The battery tabs are not so stubborn especially for aluminum tab.

- Don't bend tab



#### 2.2.5 Mechanical shock

- Don't Fall, hit, bend battery body



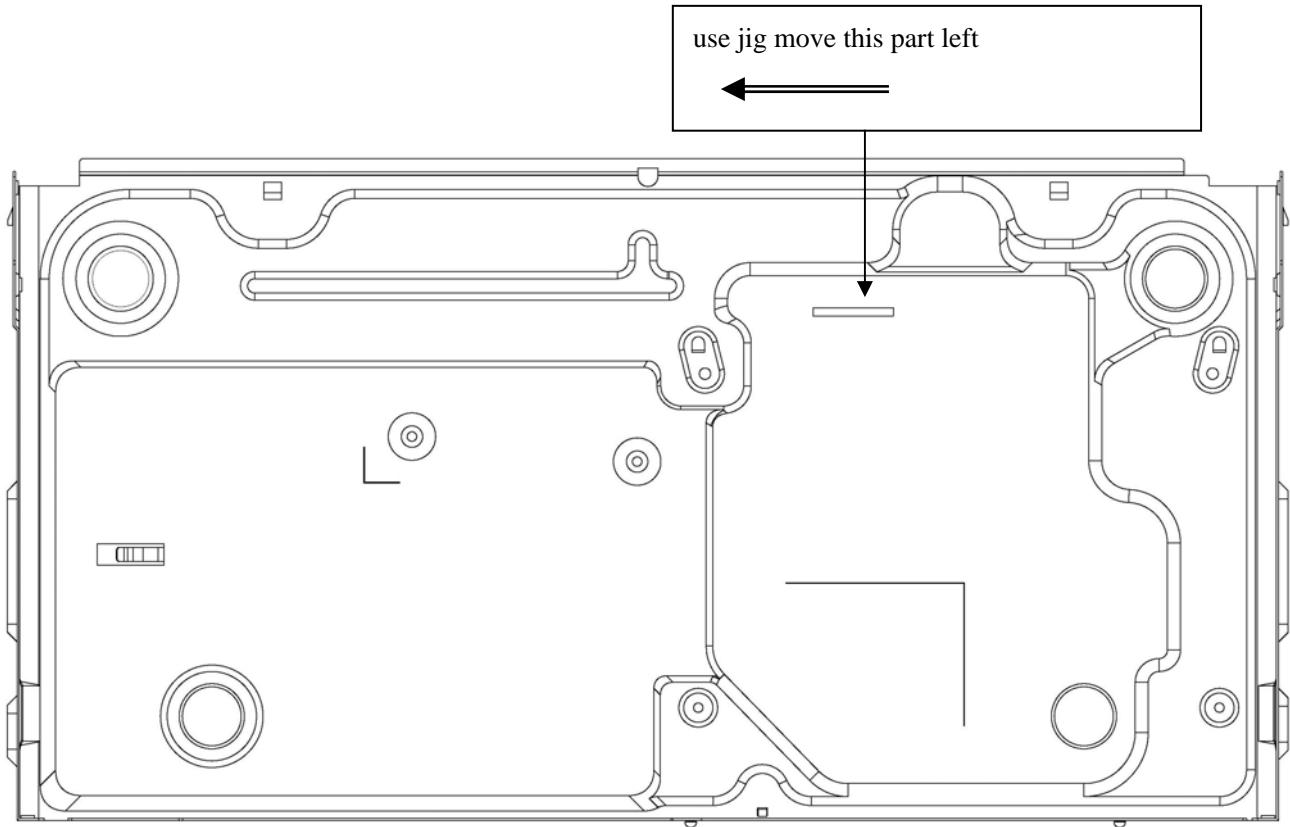
#### 2.2.6 Short

Short terminals of battery is strictly prohibited, it may damage battery.

**Caution:** Danger of explosion if battery is incorrectly replaced.  
Replace only with the same or equivalent type.

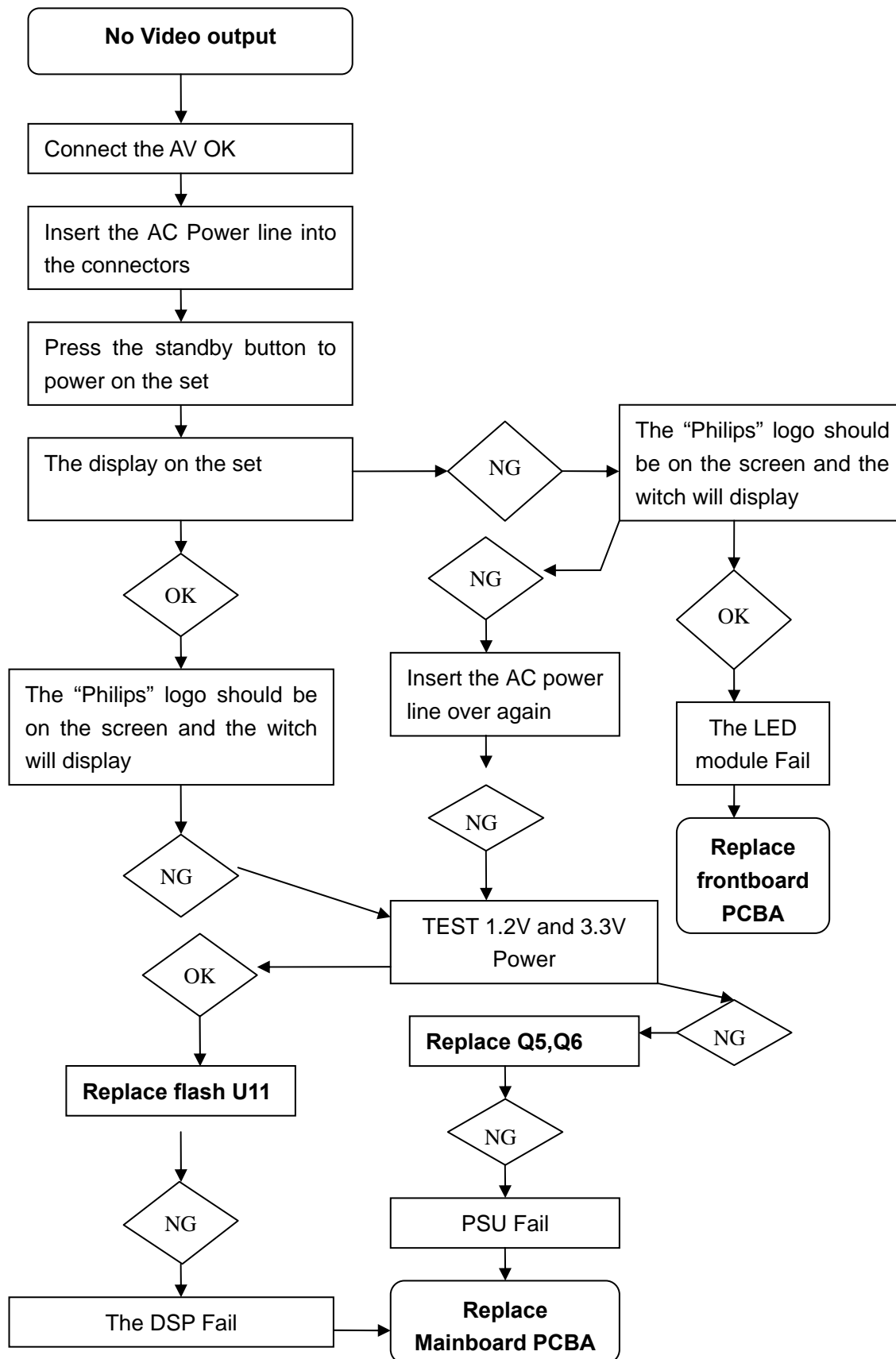
## **How to remove the CD manually from the tray**

1. Please do as below instruction in case the tray can not be open:
  - a. Power off the DVD player.
  - b. Please gently push the guider and wait until the tray comes out(Figure1).



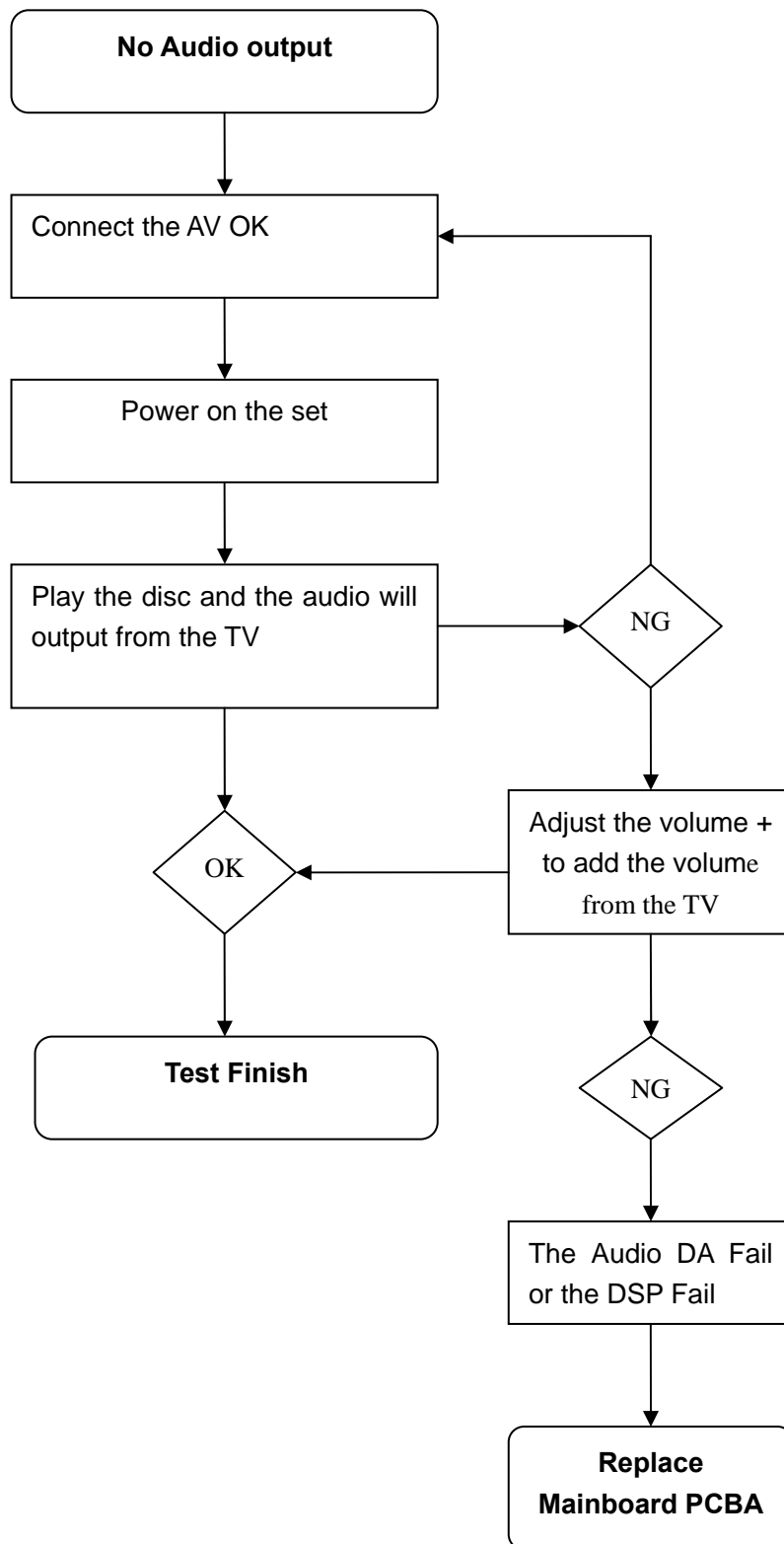
## How to check the return Unit

### 1, No Video output

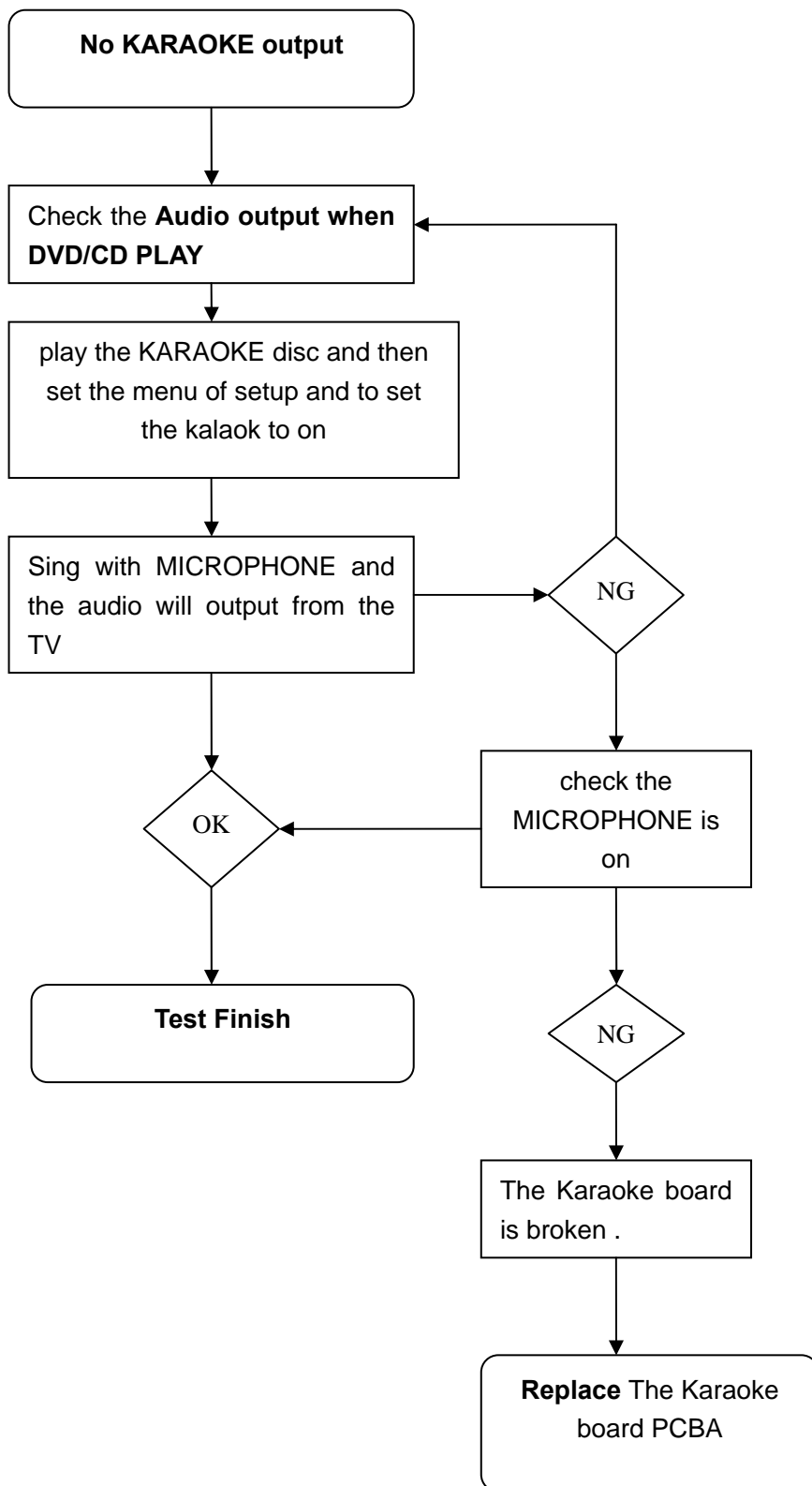




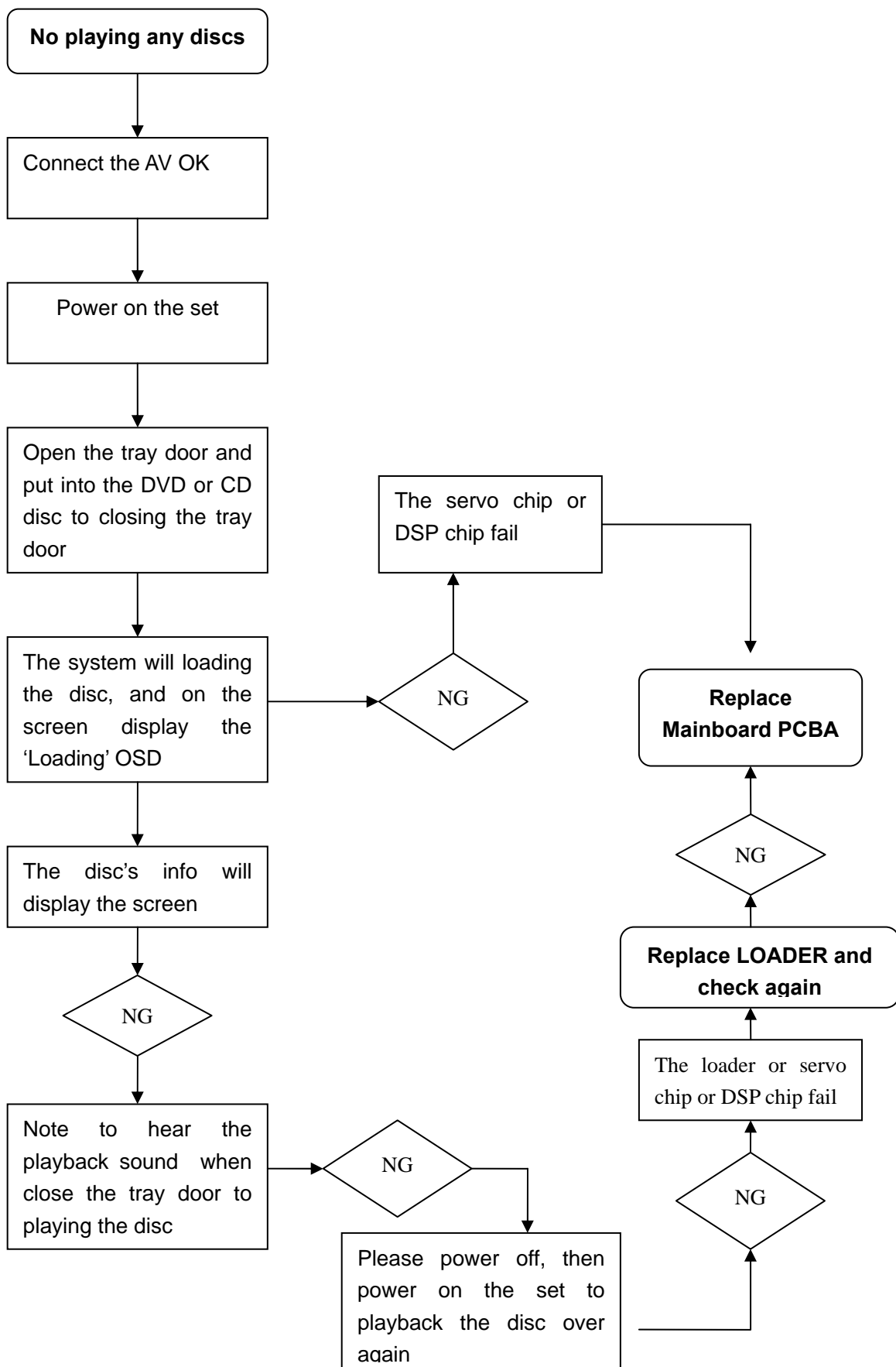
## 2, No Audio output



### 3, No KARAOKE Audio output



#### 4, No playing any discs



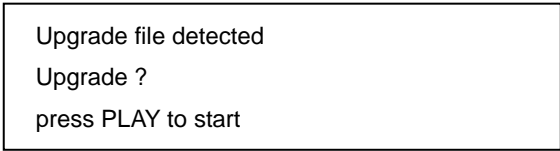
## Software upgrade

1. Get the software firmware, the name must be **DVP36XX\_XX.BIN**, and all character must be large.

or press SETUP key on the RC, in " Preferences" menu can see the option of "Version info", Then, enter the Version info menu and you can see its upgrade file which shown of File Name

2. Copy the upgrade firmware onto CD disc.

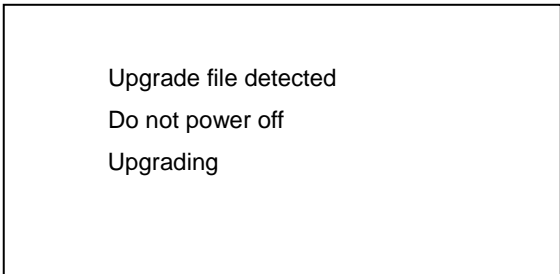
3. Play the firmware CD disc, and the upgrade menu will appear.



Upgrade file detected  
Upgrade ?  
press PLAY to start

4. First Select PLAY button and start to automatically upgrade on the first upgrade menu.

5. Then, the upgrade process will start and appear "Upgrading", please don't power off during this state.



Upgrade file detected  
Do not power off  
Upgrading

6. During the updating, the tray door is opening. when the update is completed, the unit will power off and then re-start automatically to close the tray door to play the current disc on the tray.

## **How to select the right language**

### **(1) How to change the OSD language**

First, press SETUP key on the RC, in "General Setup" you can see the option of "OSD Language",

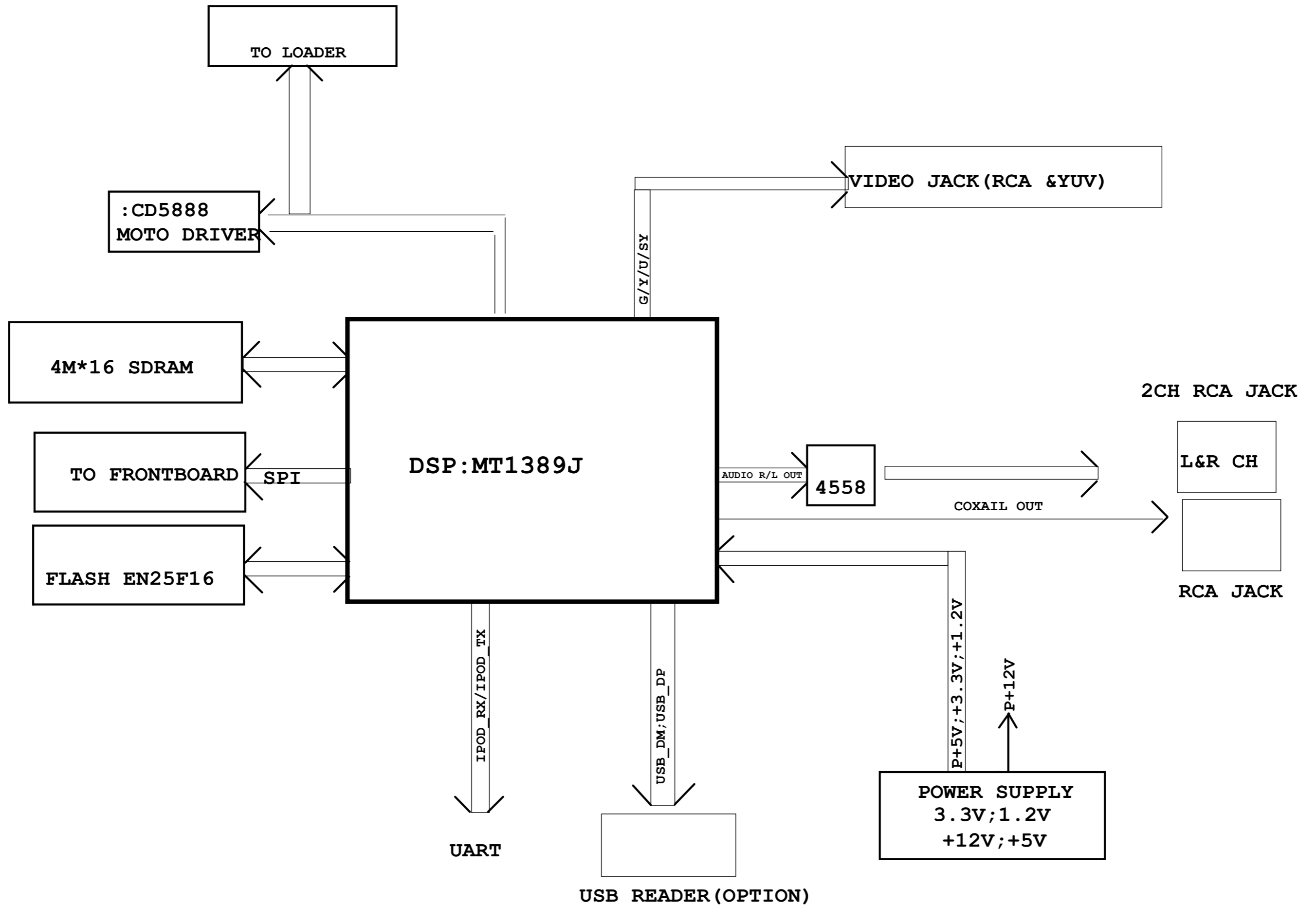
Then, press Right key to enter the OSD language menu and select language which you want.

### **(2) How to change the Audio default language**

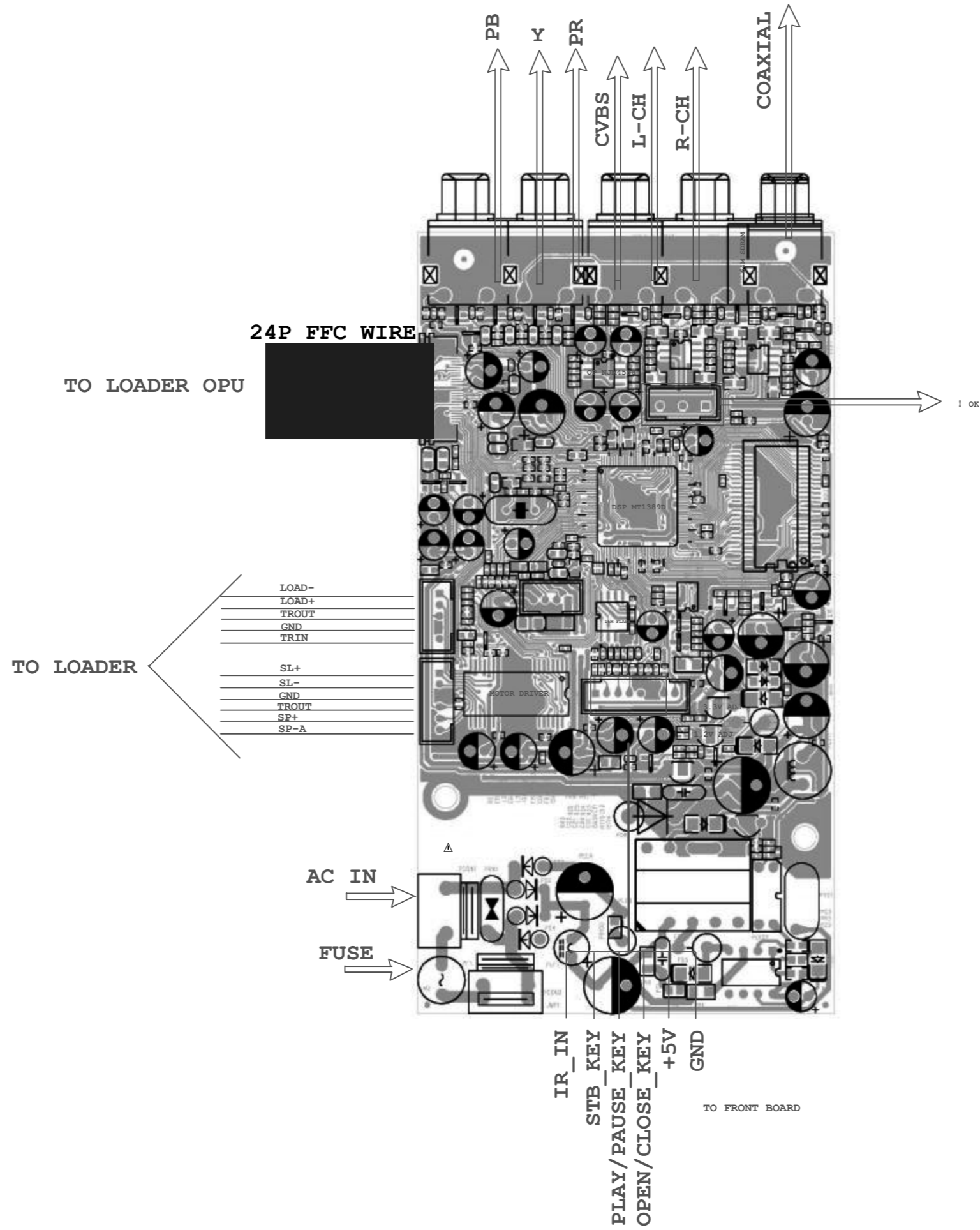
First, press SETUP key on the RC, in "Preferences" menu can see the option of "Audio",

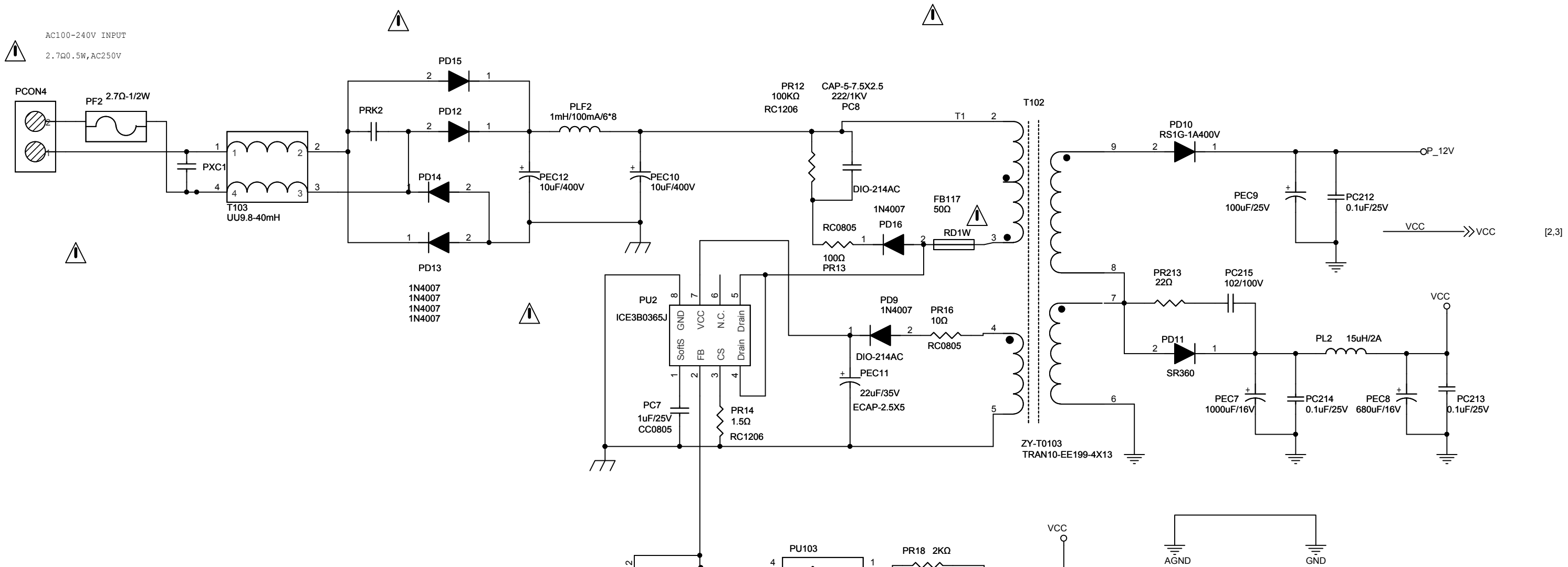
Then, press Right key to select Audio or subtitle language. which you want

BLOCK DIAGRAM



SET WIRING DIAGRAM

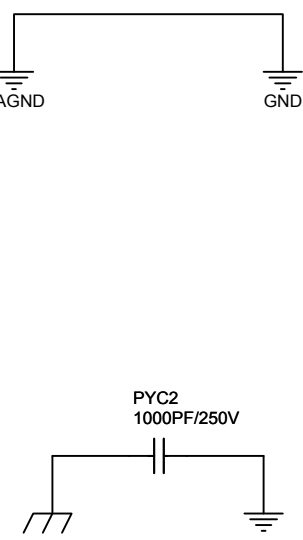




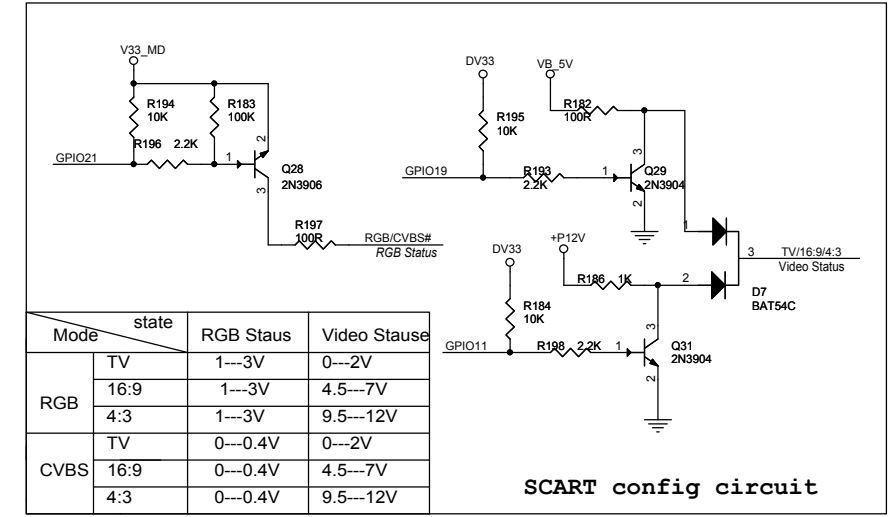
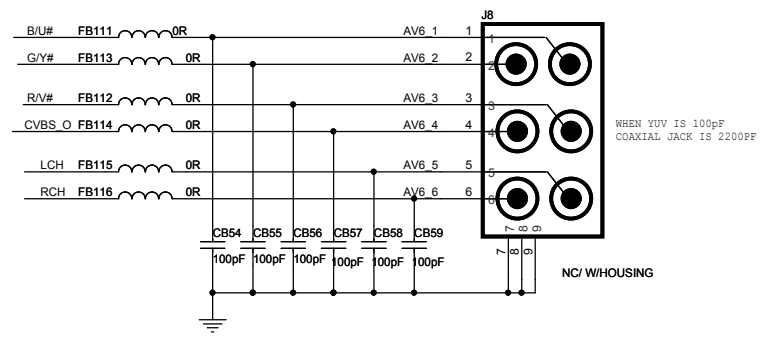
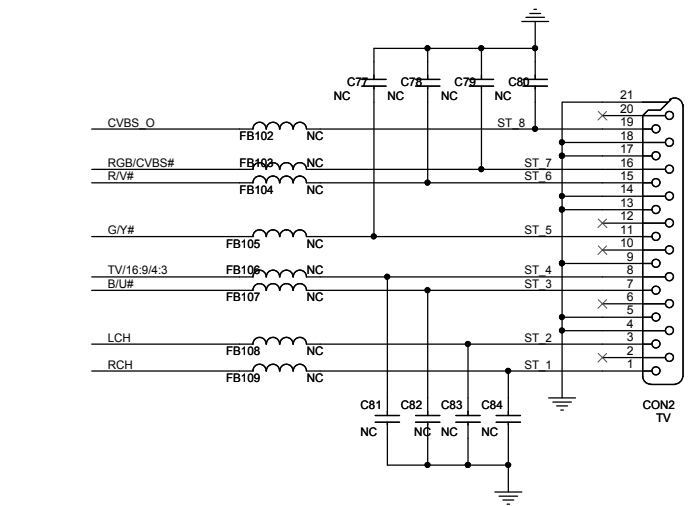
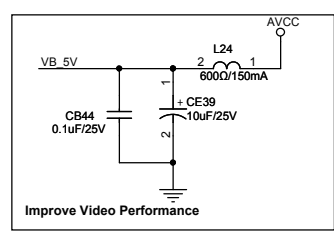
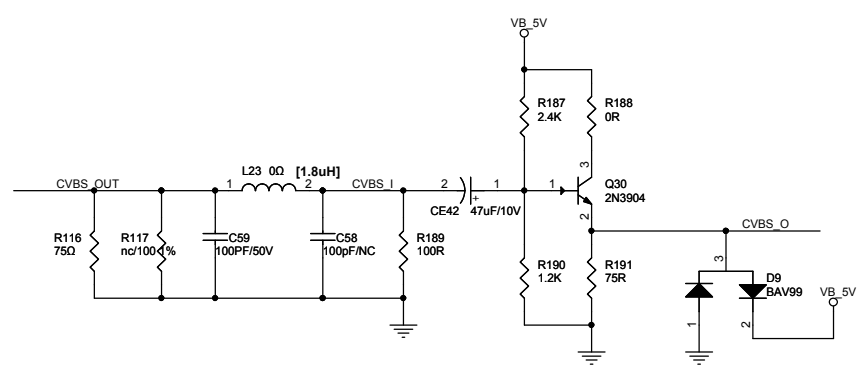
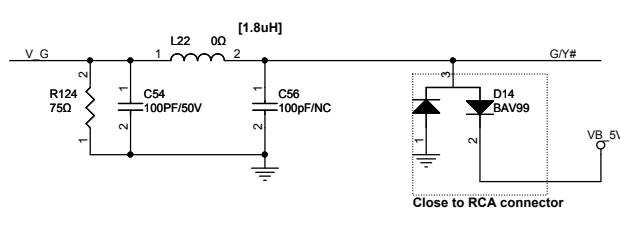
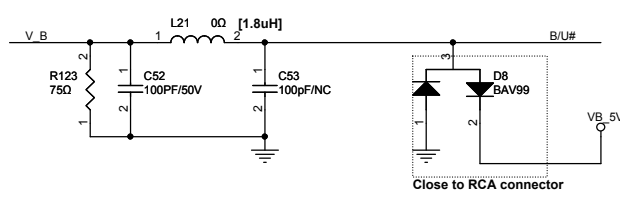
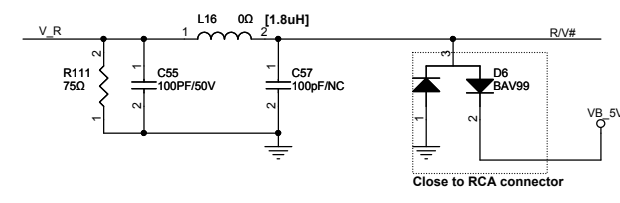
[2,3]

⚠️ Adjacent to relevant component demoting specific component shall be replaced only by the component specified in the circuit for safety reasons

Note: Damage requiring service, unplug this product from the wall outlet and refer servicing to qualified service personnel when replacement parts are required, ensure the service technician has used replacement parts specified by the manufacturer or have the same characteristics as the original parts. Unauthorized substitution may result in fire, electric shock or other hazards upon completion of any service or repairs to this product. Ask the service technician to perform a safety check to determine that the product is in proper operating condition.





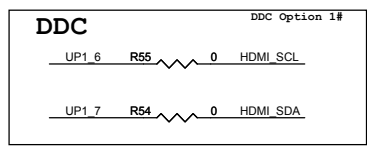
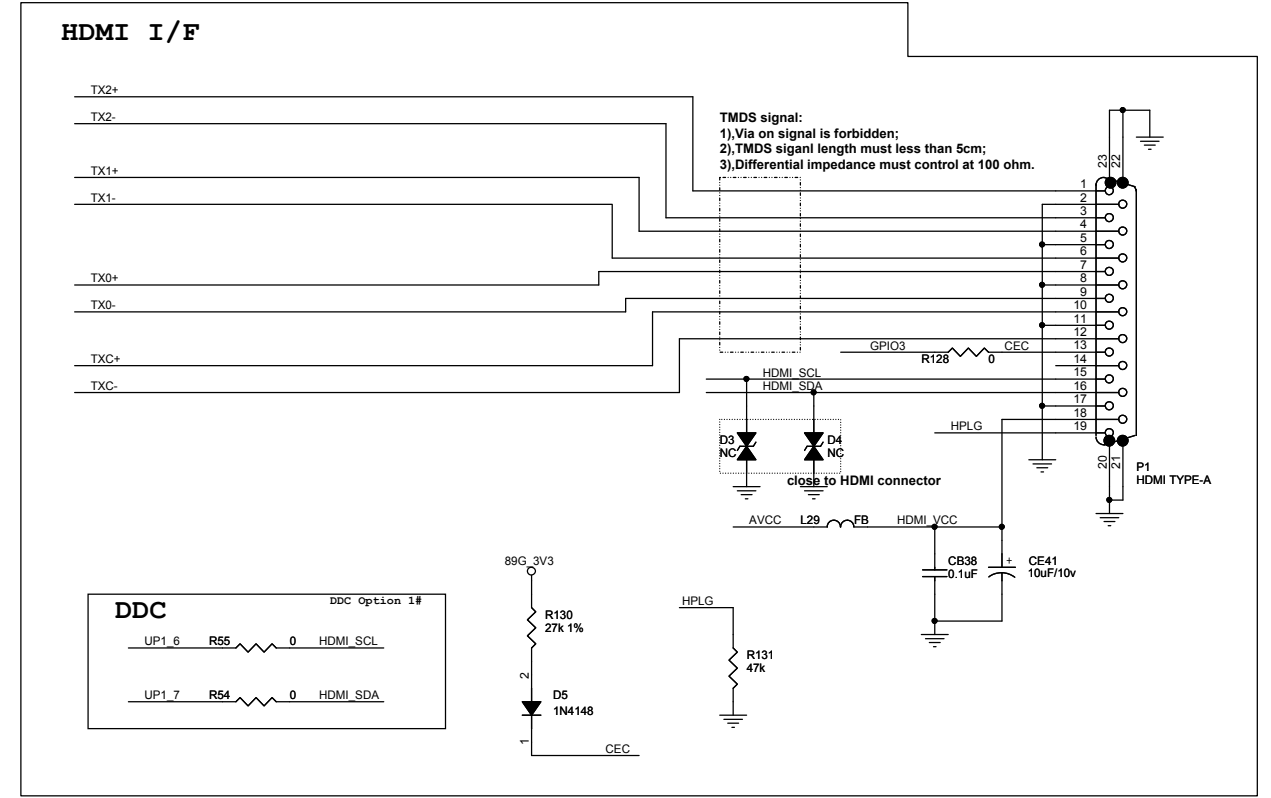
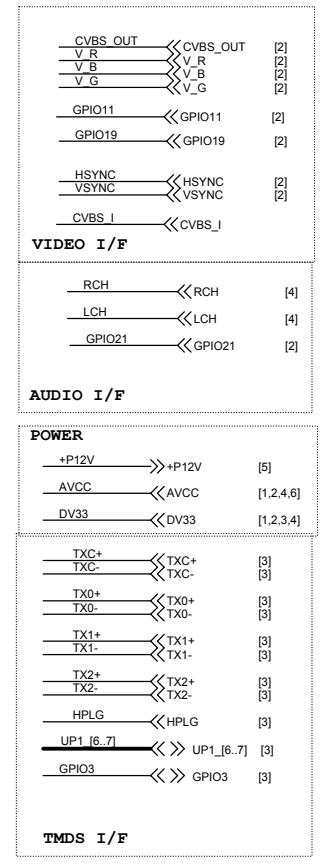


Mode	state	RGB Staus	Video Stause
RGB	TV	1--3V	0--2V
	16:9	1--3V	4.5--7V
	4:3	1--3V	9.5--12V
CVBS	TV	0--0.4V	0--2V
	4:3	0--0.4V	9.5--12V

SCART config circuit

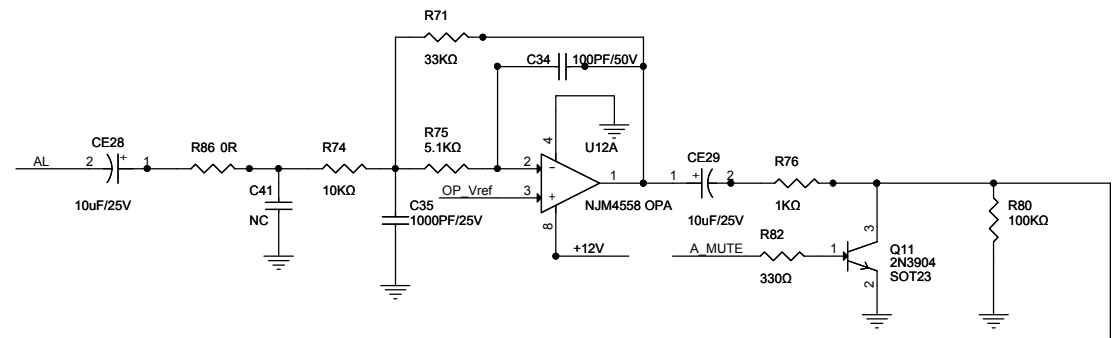
TV SCART OUT

OFF-PAGE CONNECTION

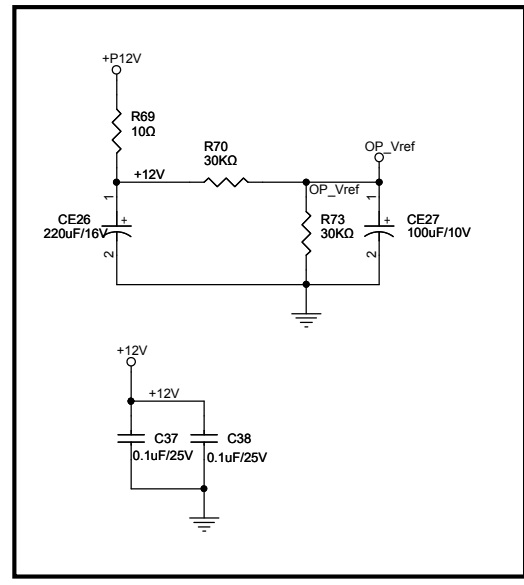
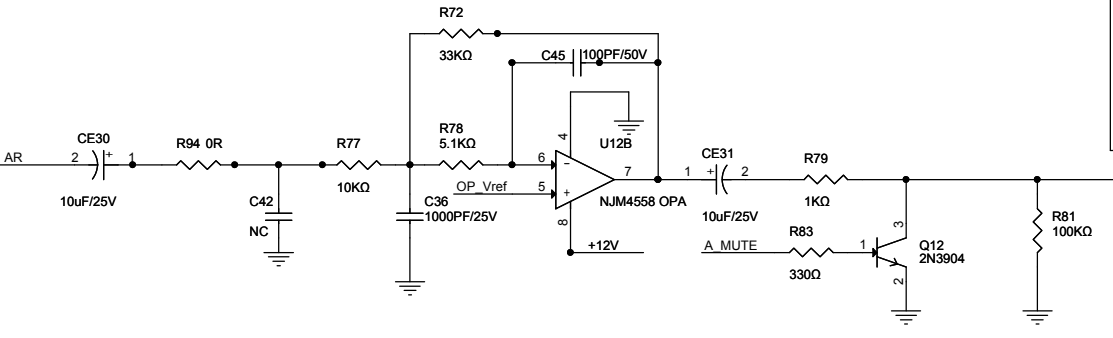


WHEN YUV IS 100pF  
COAXIAL JACK IS 2200PF

NC/WHOUSING



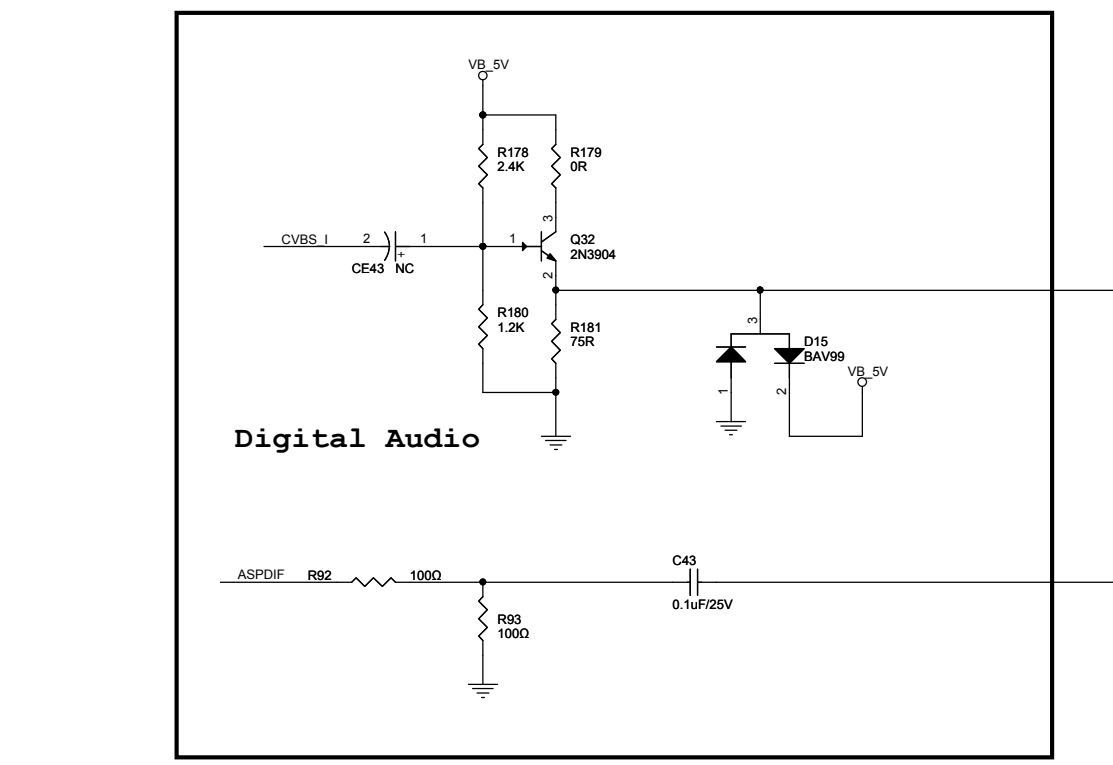
Audio OP



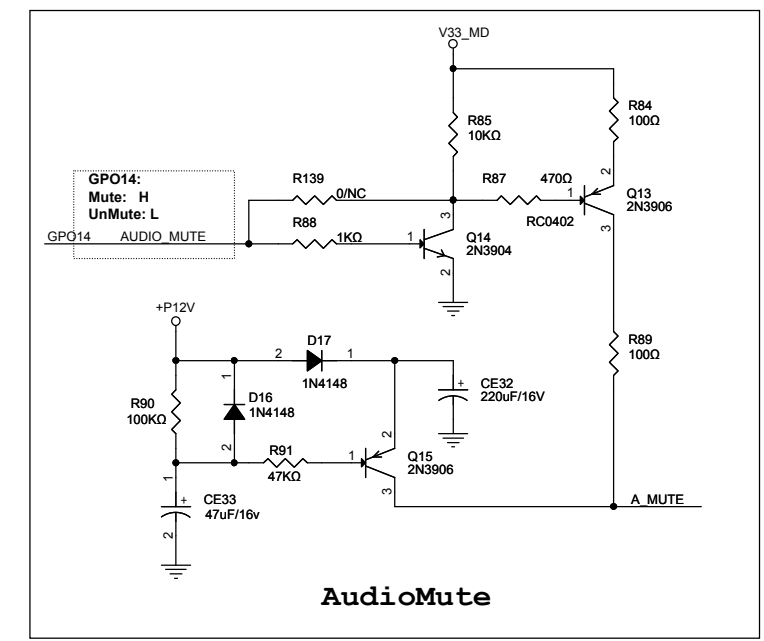
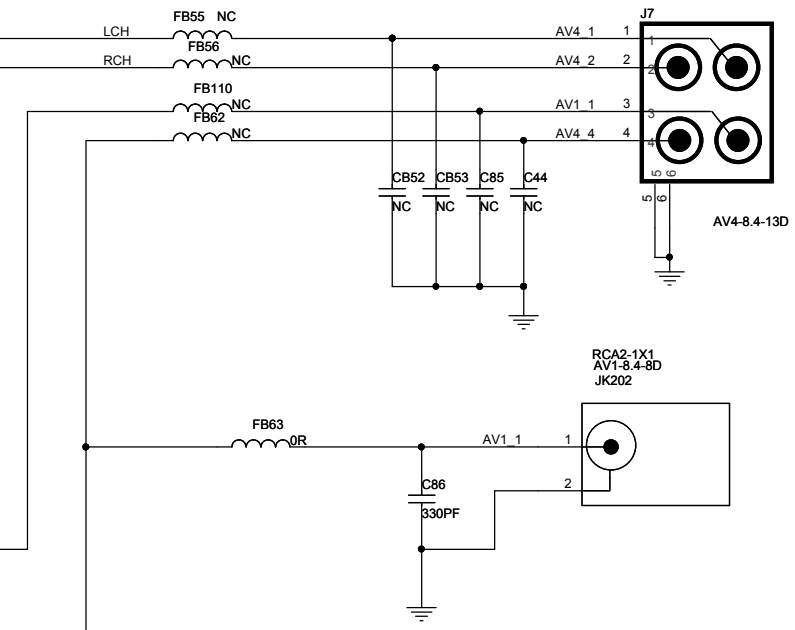
OFF-PAGE CONNECTION

AR	← AR	[2]
AL	← AL	[2]
ASPDIF	← ASPDIF	[2]
GPO14	→ GPO14	[5]
RCH	→ RCH	[5]
LCH	→ LCH	[5]
<b>AUDIO I/F</b>		
CVBS_I	← CVBS_I	
+P12V	← +P12V	[1]
DV33	← DV33	[1,2,3,6]
<b>Power</b>		

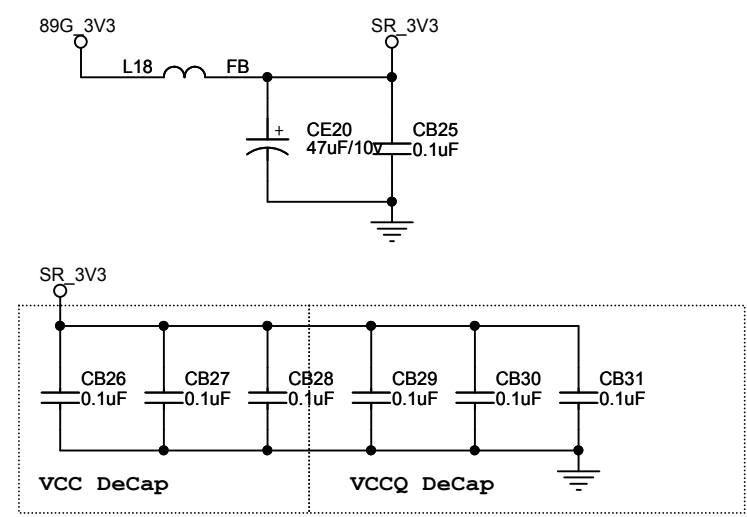
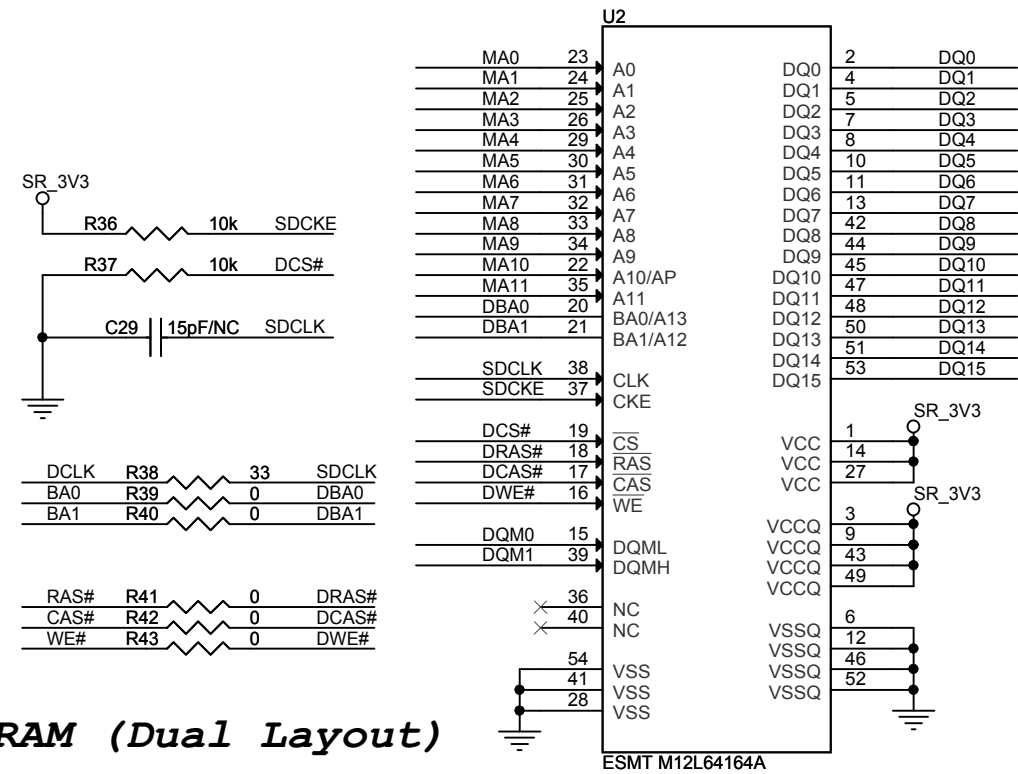
CVBS_I	← CVBS_I	
+P12V	← +P12V	[1]
DV33	← DV33	[1,2,3,6]
<b>Power</b>		



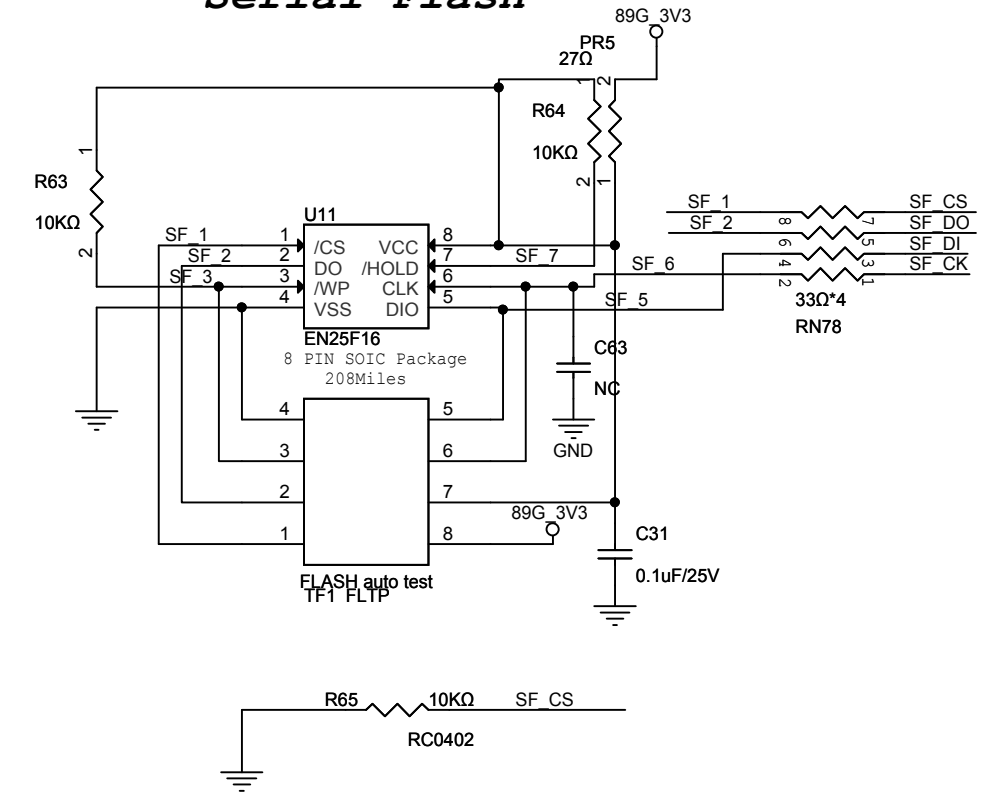
Digital Audio



AudioMute



**Serial Flash**



**OFF-PAGE CONNECTION**

DQ[0..15]	↔↔↔	DQ[0..15]	[3]
MA[0..11]	↔↔↔	MA[0..11]	[3]
DQM[0..1]	↔↔↔	DQM[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]

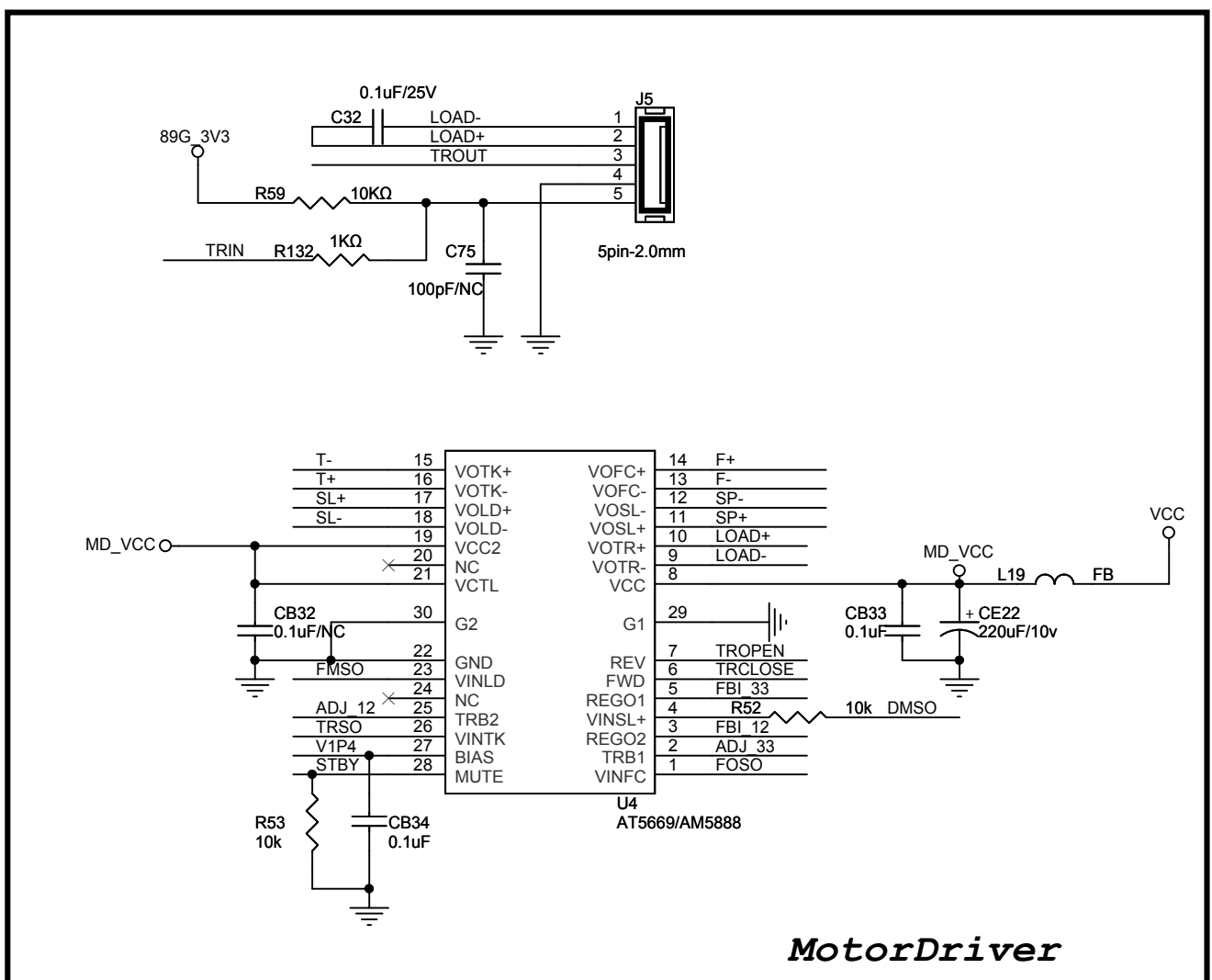
**S-FLASH**

STBY	↔↔↔	STBY	[3]
TROPEN	↔↔↔	TROPEN	[3]
TRCLOSE	↔↔↔	TRCLOSE	[3]
TRIN	↔↔↔	TRIN	[3]
TROUT	↔↔↔	TROUT	[3]
T-	↔↔↔	T+	[3]
F-	↔↔↔	F+	[3]
SL-	↔↔↔	SL+	[3]
SP-	↔↔↔	SP+	[3]
FOSO	↔↔↔	FOSO	[3]
TRSO	↔↔↔	TRSO	[3]
FMSO	↔↔↔	FMSO	[3]
DMSO	↔↔↔	DMSO	[3]
V1P4	↔↔↔	V1P4	[3]

**SERVO I/F**

DV33	↔↔↔	DV33	[2,3,6]
VCC	↔↔↔	VCC	[2,3,5,6]
ADJ_12	↔↔↔	ADJ_12	[2]
ADJ_33	↔↔↔	ADJ_33	[2]
FBI_12	↔↔↔	FBI_12	[2]
FBI_33	↔↔↔	FBI_33	[2]

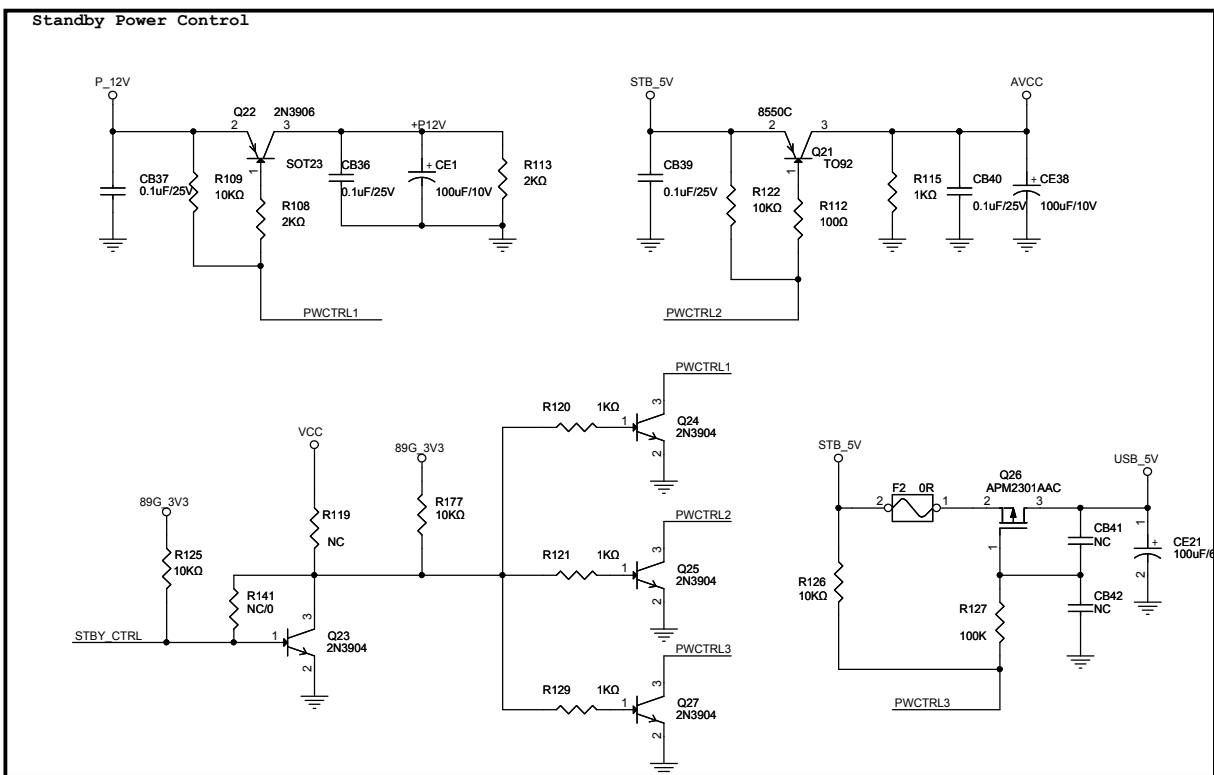
**Power**



**MotorDriver**



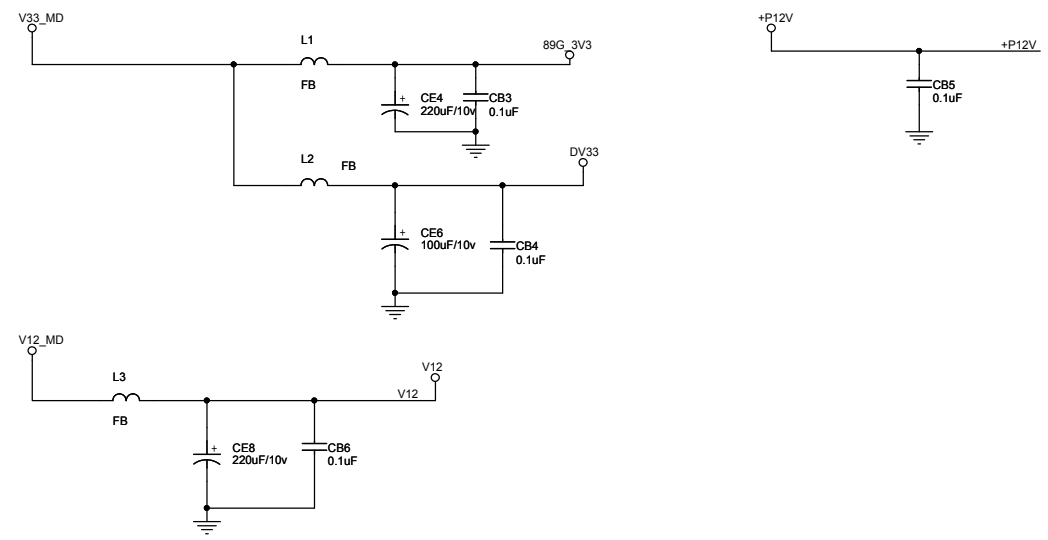
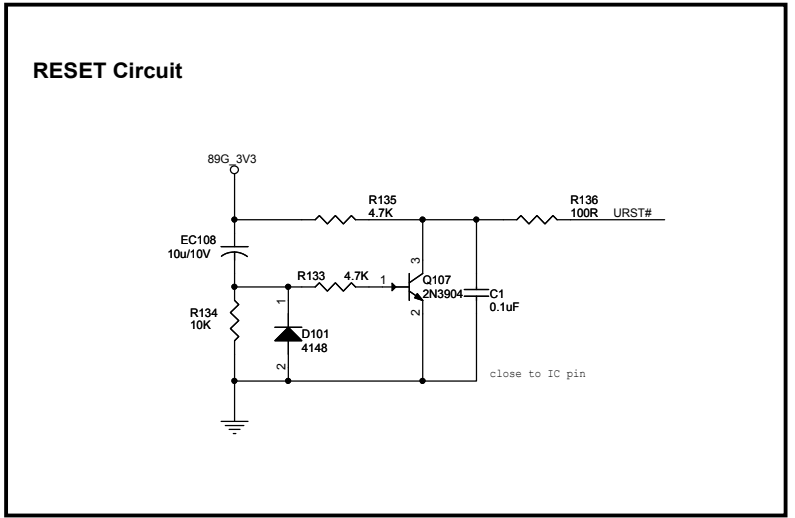
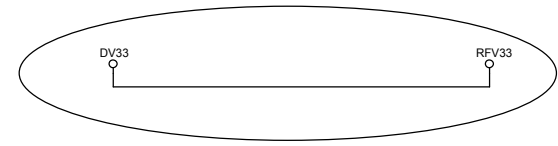
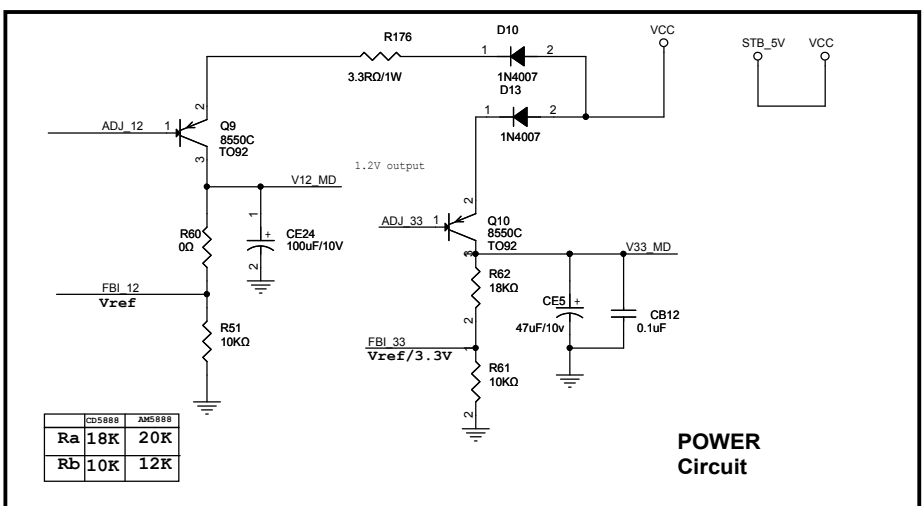
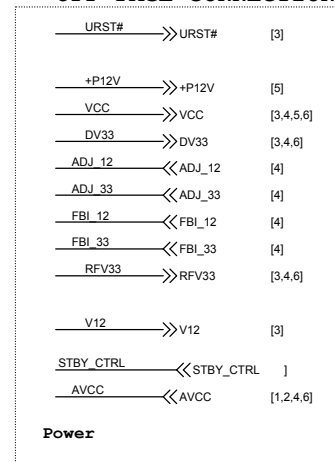
Rev	History	P#	Date
V1	Original release		2008.09.25
V1.1	1),Modify CE31 from 47uF to 220uF for power noise improve; 2),Add 100 ohm resistance R160 and R161 to XI and XO nets for tune DPD performance; 3),Delete Q11 for costdown; 4),change L8 from 100uH to FB/200ohm.		2009.02.17



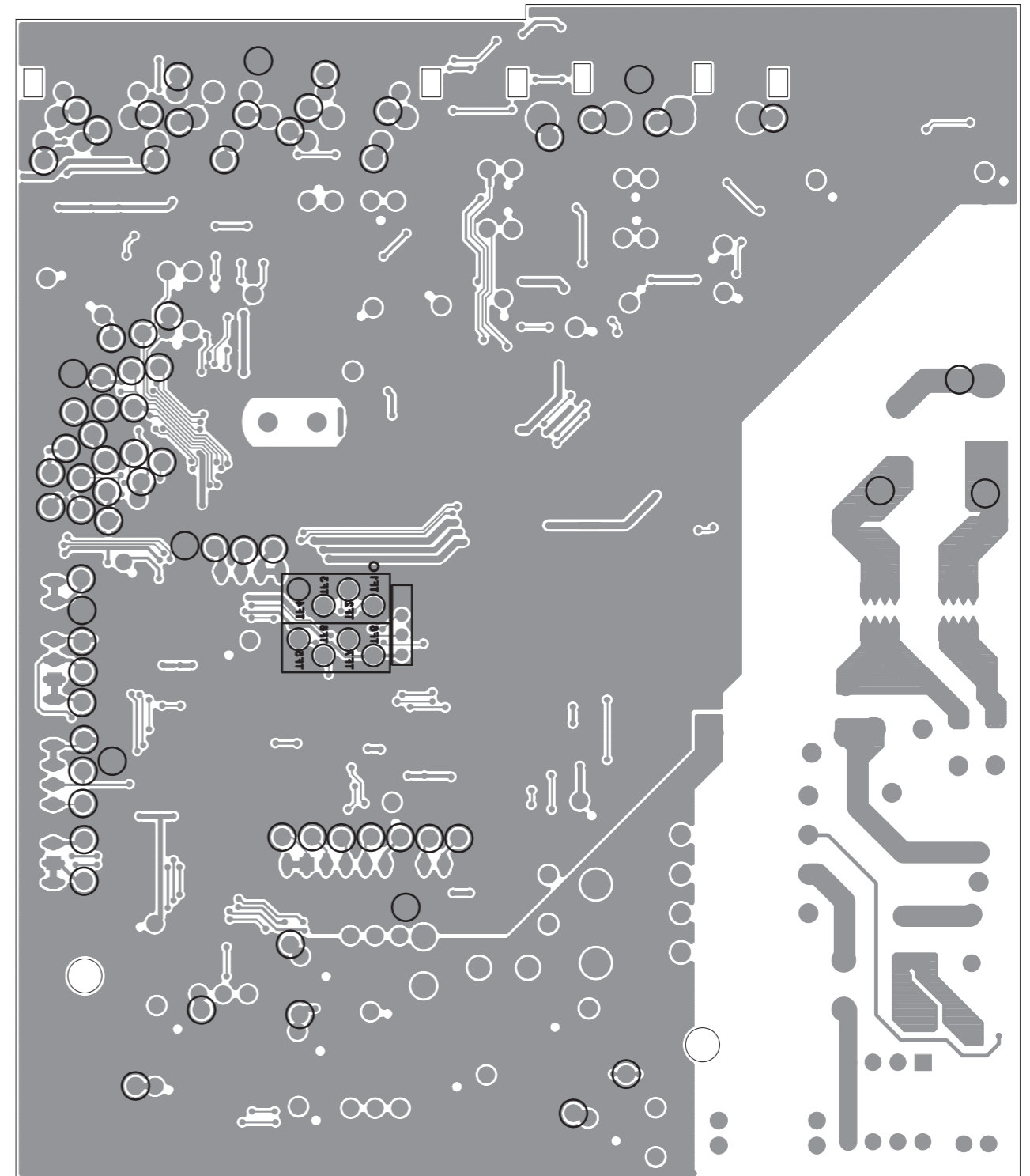
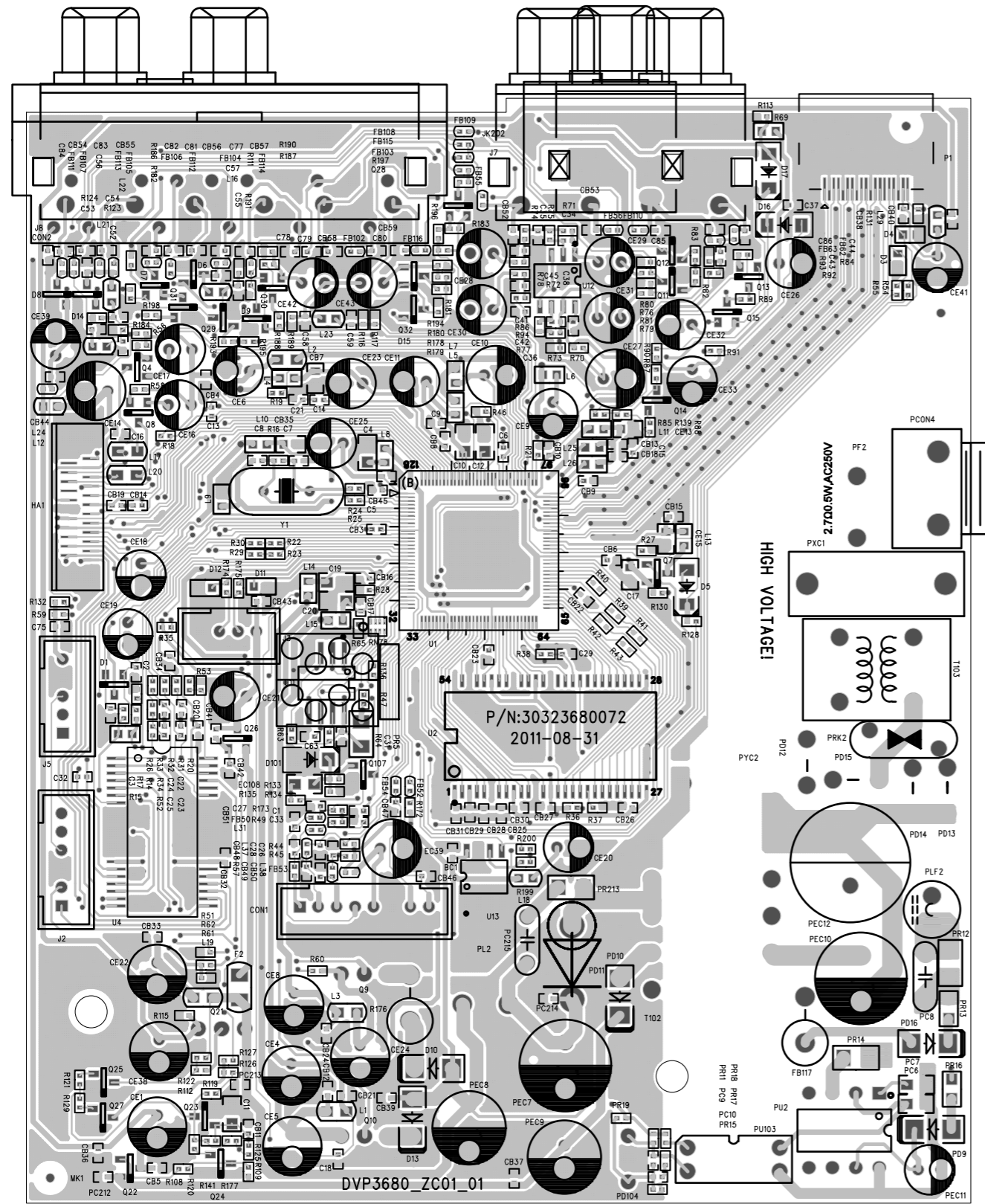
MT1389G 128 PIN GPIO LIST

NAME	PIN	FEATURES
TRAY_OPEN	14	VR_CD [STBY]
TRAY_CLOSE	15	VR_DVD [TROPEN; IOA]
FG / GPIO2	18	TRIN
UP1_6	28	HDMI_SCL
UP1_7	29	HDMI_SDA
GPIO3	34	CEC
GPIO4	35	VSCK [Gxyz_LOAD]
GPO5	7	TRCLOSE
GPIO6	31	VSDA TxD [Gxyz_CLK]
GPIO7	39	SD_CLK MS_CLK
GPIO8	38	SD_CMD MS_BS
GPIO9	37	SD_DATA MS_DATA
GPIO10	81	HPLG
GPIO11	30	SCART1 HSYNC# RxD
GPIO12	80	ASPDIF
GPIO13	36	VSTB
GPO14	96	A_MUTE
GPIO19	103	SCART2 VSYNC#
GPIO20	104	AVCM
GPIO21	105	AKIN1
ARF	109	AUDIO_ARF
ARS	110	AUDIO_ARS
ALS	114	AUDIO_ALS
ALF	115	AUDIO_ALF
GPIO34	107	TROPEN IOA [Gxyz_D1#]
GPIO35	108	STBY [Gxyz_D2#]
RFIN / OPOUT	120	LIMIT TROUT

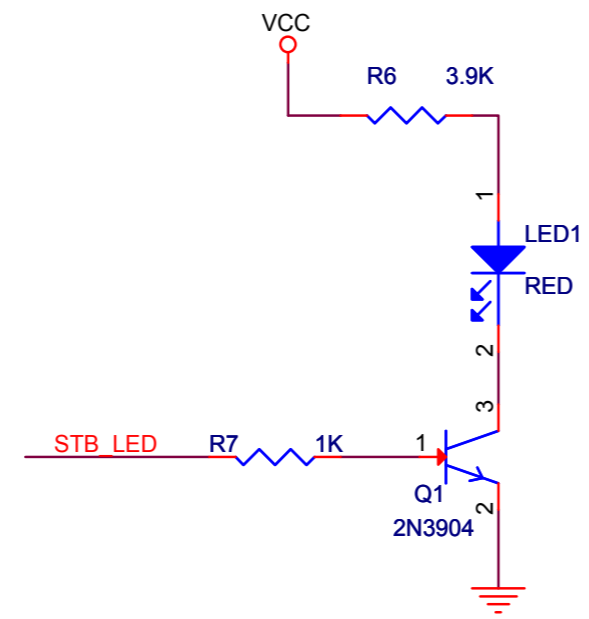
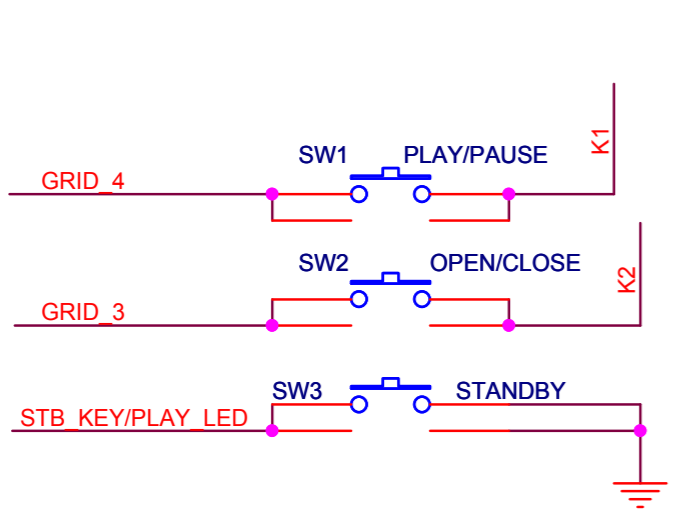
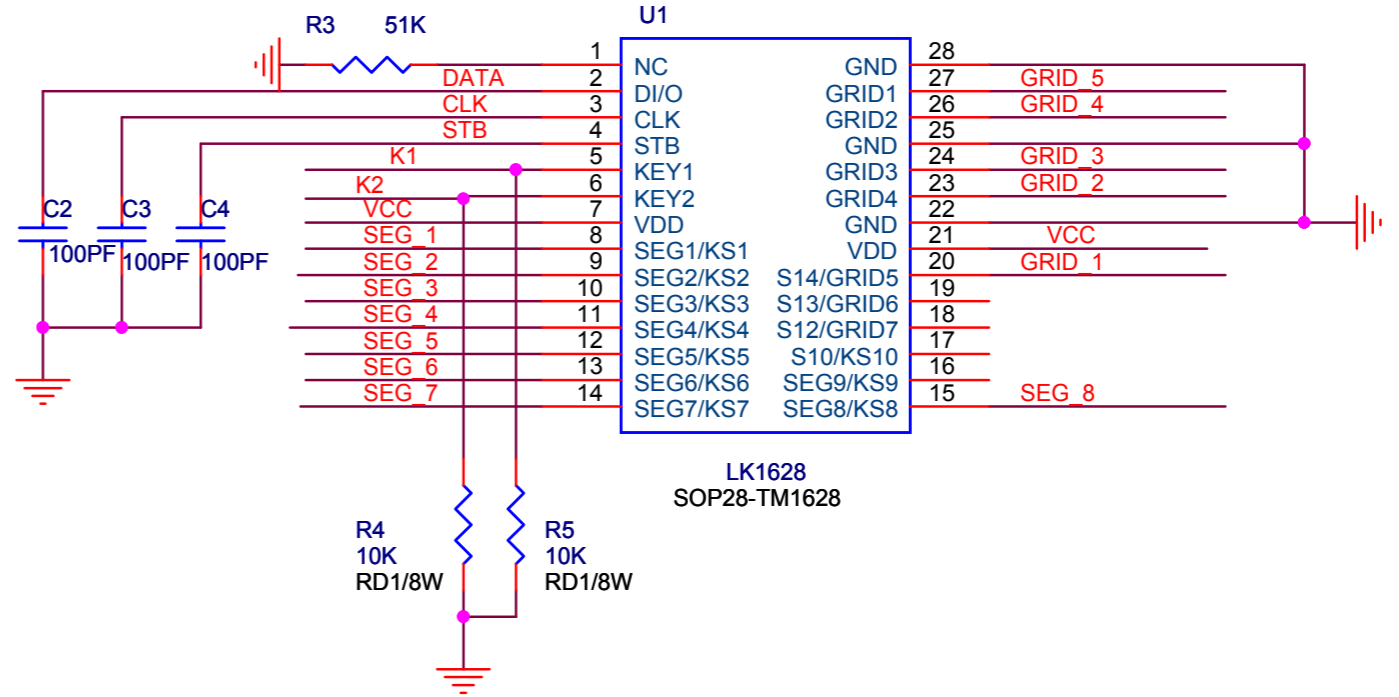
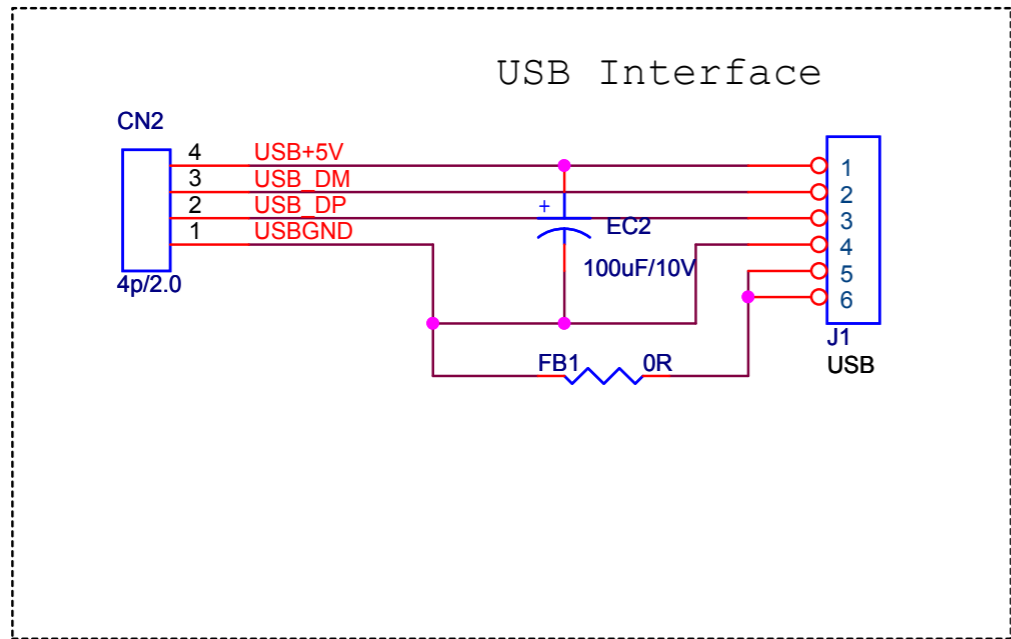
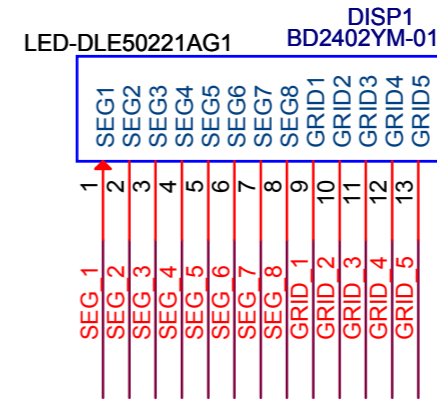
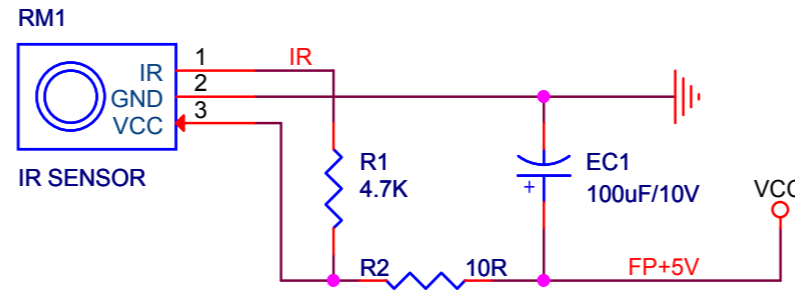
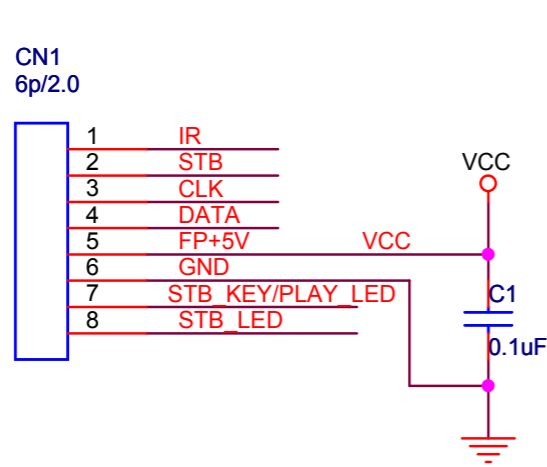
OFF-PAGE CONNECTION



LAYOUT DIAGRAM - MAIN BOARD

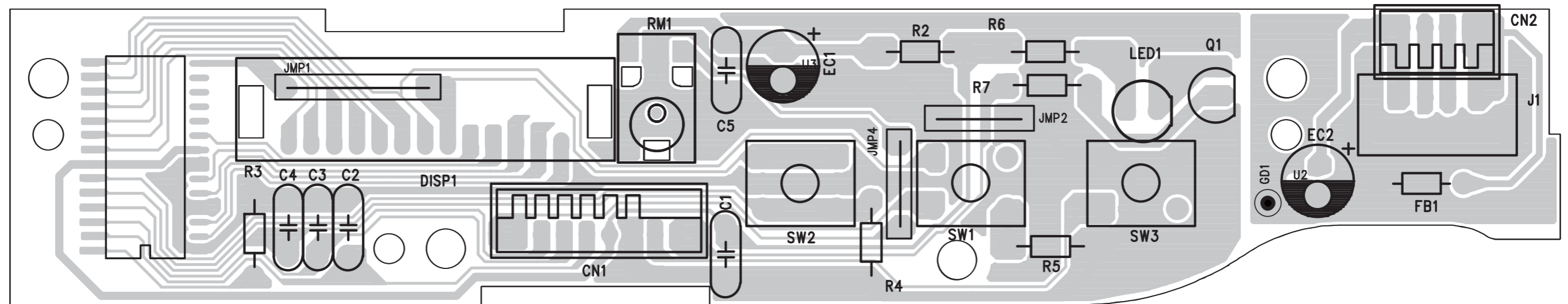


# CIRCUIT DIAGRAM - FRONT PANEL BOARD



STANDBY KEY BOARD

LAYOUT DIAGRAM - FRONT PANEL BOARD





EXPLODED VIEW DIAGRAM

