

Service  
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**Service**



# Service Manual

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# 1.0 TECHNICAL SPECIFICATION

## General

Dimensions (W x H x D): 200 x 160 x 43.5 mm  
Bear Unit Weight: 0.84Kg  
Power supply:  
Supply voltage AC 100~240V (adapter)  
Supply Power consumption 9V/1.5A  
Operating Temp & RH 0~ 45degC / 30-90% RH

### Audio System

Output voltage 1kHz: 2V +/-0.1V  
THD 20-20kHz (%): 0.03%  
Dynamic range 1kHz >80dB  
Signal/Noise ratio: >76dB  
Frequency response (20-20kHz): +/-3dB  
Channel Separation 1kHz >=60dB  
Channel Balance 1kHz <1dB

## Pixel specification

Max. 0 bright-dot & max. 3 dark-dots

## Current consumption

DC Supply	6.3V-15.49V
Standby Power off	<0. 5W
Power off(Battery)	<200uA
Voltage	7.4V
Capacity	3600mAH
Battery playtime	>/=3.5hrs
Charging time	</=7h

## Headphone out (headphone output load 2x16 ohm)

Maximum output power:  $\geq 1.5\text{mW}$   
Frequency response: +/-3dB  
SNR (A-wght): >76dB  
THD 200,1k,1.8k,20kHz: 1%  
Left-Right Channel Separation: >60dB  
Left-Right Channel Balance: <15dB

## Supported disc type

Video Playback Formats:



Audio Playback Formats:



Playback disc type: DVD+/- RW/DVD+/- R/CD/CD-R/CD-RW,  
Video Playback Format: DVD /S VCD / JPEG/MPEG4/ DIVX3,4,5/RMVB  
Audio Playback Format: CD/MP3,  
Disc Diameter 8cm/12cm

## 1.0 TECHNICAL SPECIFICATION

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### Factory Service Mode (FSM)

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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. Download the "PHILIPS.BIN" file from the Philips support site
2. Power on PET739 with AC/DC adapter
3. Insert the USB drive to USB port of the main set
4. The set will detect the upgraded SW
5. Press "OK" to confirm and proceed
6. The set will reset once finished 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. Setup-> General  
Press IR in the sequence as  
3->3->0->8  
,then a menu will be show Year-month-Day.

## 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.

### **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.

### **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.

### **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.

### **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.

### **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.

"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."



### **GB** Warning !

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

### **S** Varning !

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

### **SF** Varoitus !

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

### **DK** Advarsel !

Usynlig laserstråling ved åbning når sikkerhedsafbrydere er ude af funktion. Undgå udsættelse for stråling.

## 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.

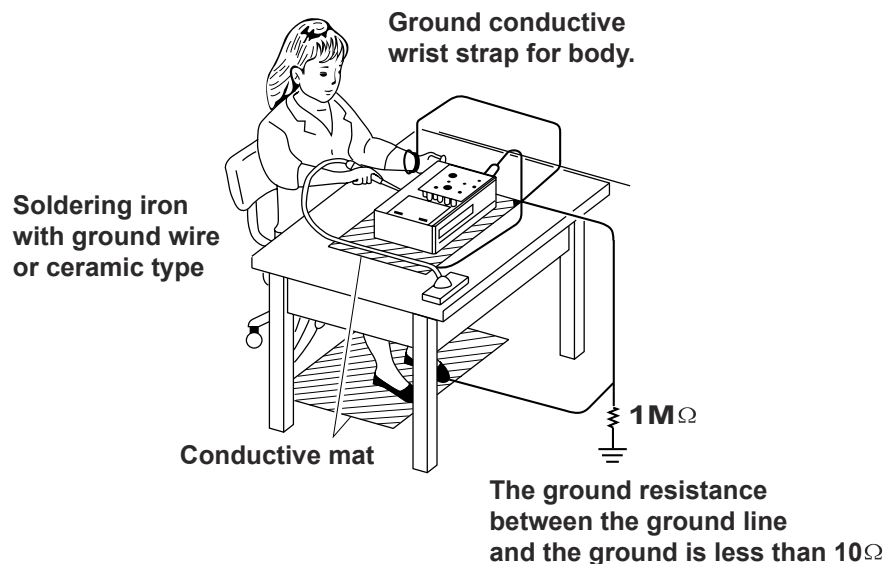
When the power supply is being turned on, you may not remove this laser cautions label. If it removes, radiation of laser may be received.

### PREPARATION OF SERVICING

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

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 from damage by static electricity.

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



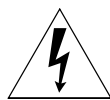
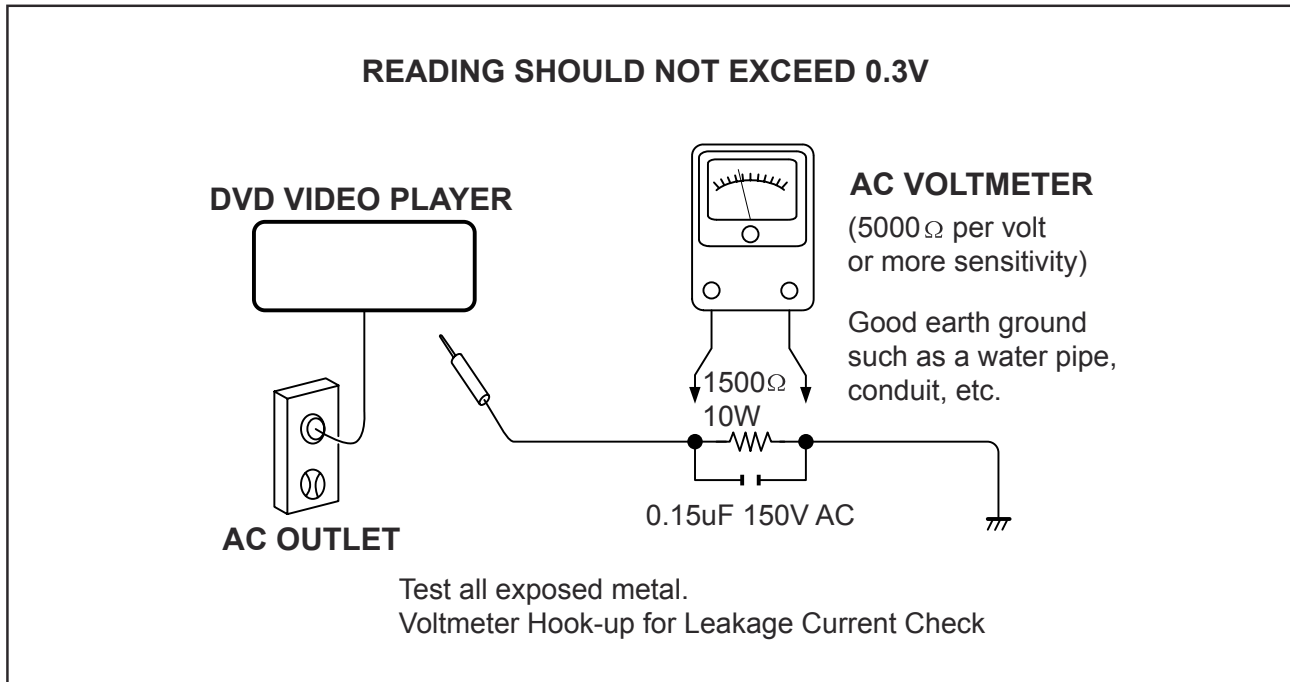
## SAFTY NOTICE

### 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.

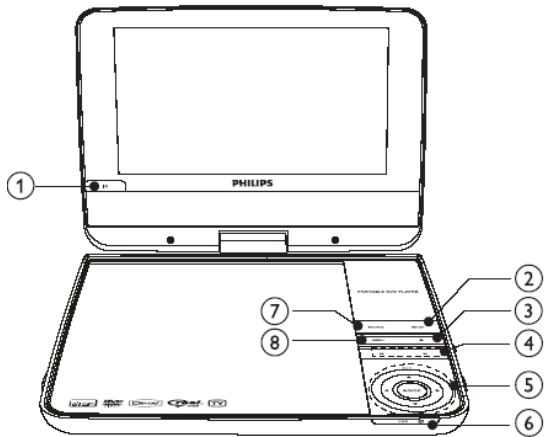


The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



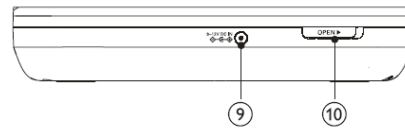
The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

### 3.0 INSTRUCTION FOR USE

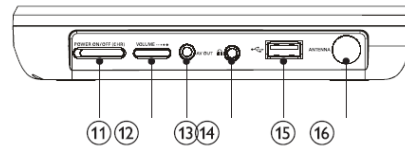


- 1 **IR**
  - Remote control sensor.
- 2 **SETUP**
  - Accesses or exits the setup menu.
- 3 **■**
  - Stops disc play.
- 4 **⏮ ⏭**
  - Skips to the previous or next title, chapter; or track.
- 5 **▲ (CH+), ▼ (CH-), ◀ ▶**
  - Navigates through the menus.
  - ▲ (CH+), ▼ (CH-)**
    - Switches to the next or previous channel.
  - ◀ ▶**
    - Searches backward/forward at different speeds.
  - ▶ || / OK**
    - Confirms an entry or selection.
    - Starts, pauses or resumes disc play.
- 6 **CHR / Ⓜ**
  - Charging indicator / Power indicator.
- 7 **SOURCE**
  - Switches between DVD, USB, and TV.

- 8 **MENU**
  - For DVD, accesses or exits disc menu.
  - For VCD, turns on or off PBC (Playback Control) mode.
  - For VCD version 2.0 or SVCD with PBC turned on, returns to the menu.
  - For TV, turns on the TV setup menu.
  - For data disc, it goes to the file manager screen.

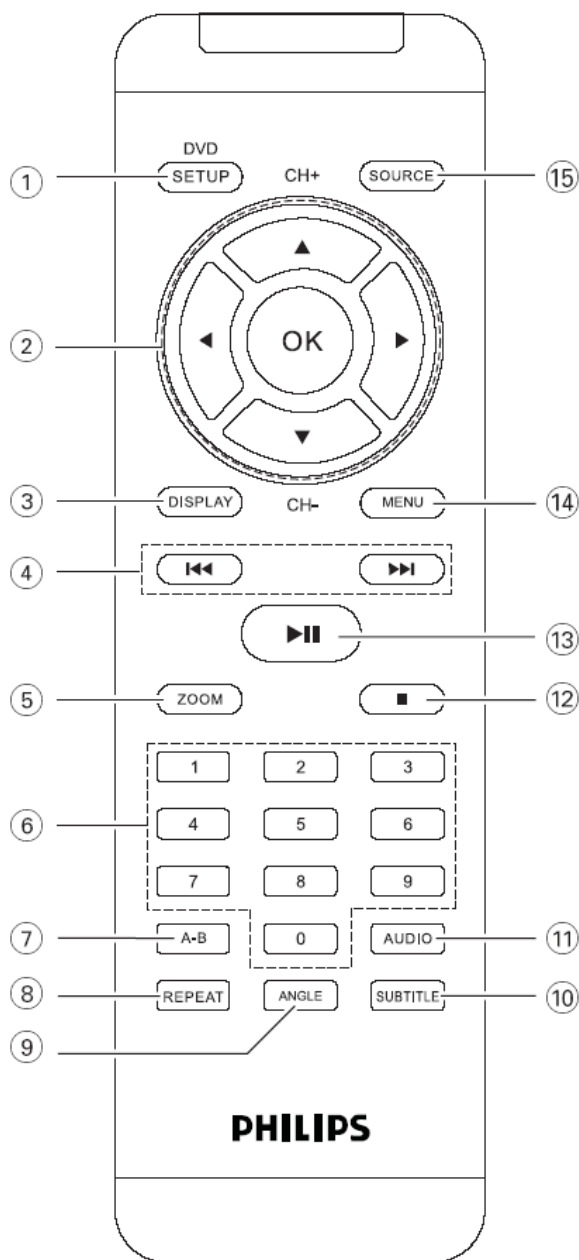


- 9 **DC IN**
  - Power supply socket.
- 10 **OPEN ▶**
  - Opens the disc compartment.



- 11 **POWER ON/OFF**
  - Turns on/off DVD player.
- 12 **VOLUME ◀ ▶**
  - Increases or decreases volume.
- 13 **AV OUT**
  - Audio/video output jack.
- 14 **🎧**
  - Headphone jack.
- 15 **🔌**
  - Connects USB device.
- 16 **ANTENNA**
  - Antenna jack.

### 3.0 INSTRUCTION FOR USE






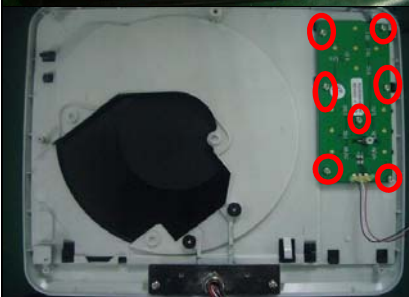


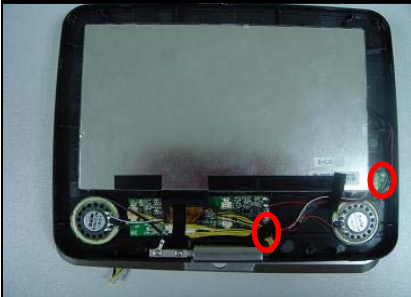


- ① **SETUP/DVD**
  - Accesses or exits the setup menu.
- ② **▲ (CH+), ▼ (CH-), ◀, ▶**
  - Navigates through the menus.
  - ▲ (CH+), ▼ (CH-)
    - Switches to the next or previous channel.
  - ◀, ▶
    - Searches backward/forward at different speeds.
- ▶▶▶/OK**
  - Confirms an entry or selection.
  - Accesses or exits the channel list.
- ③ **DISPLAY**
  - Adjusts the display value of the system.
- ④ **◀◀▶▶**
  - Skips to the previous or next title, chapter, or track.
- ⑤ **ZOOM**
  - Zooms in or out of the picture.
- ⑥ **0-9**
  - Numeric keypad.
- ⑦ **A-B**
  - Marks the section for repeat play.
- ⑧ **REPEAT**
  - Repeats a chapter/track/title.
- ⑨ **ANGLE**
  - Selects a different viewing angle of a DVD.
- ⑩ **SUBTITLE**
  - Selects DVD subtitle language.
- ⑪ **AUDIO**
  - For DVD, selects an audio language.
  - For VCD, selects an audio mode.
- ⑫ **■**
  - Stops disc play.
- ⑬ **▶▶**
  - Starts or resumes disc play.
- ⑭ **MENU**
  - Accesses or exits the disc/TV menu.
- ⑮ **SOURCE**
  - Switches between DVD, USB, and TV.



## 4.0 MECHANICAL INSTRUCTION

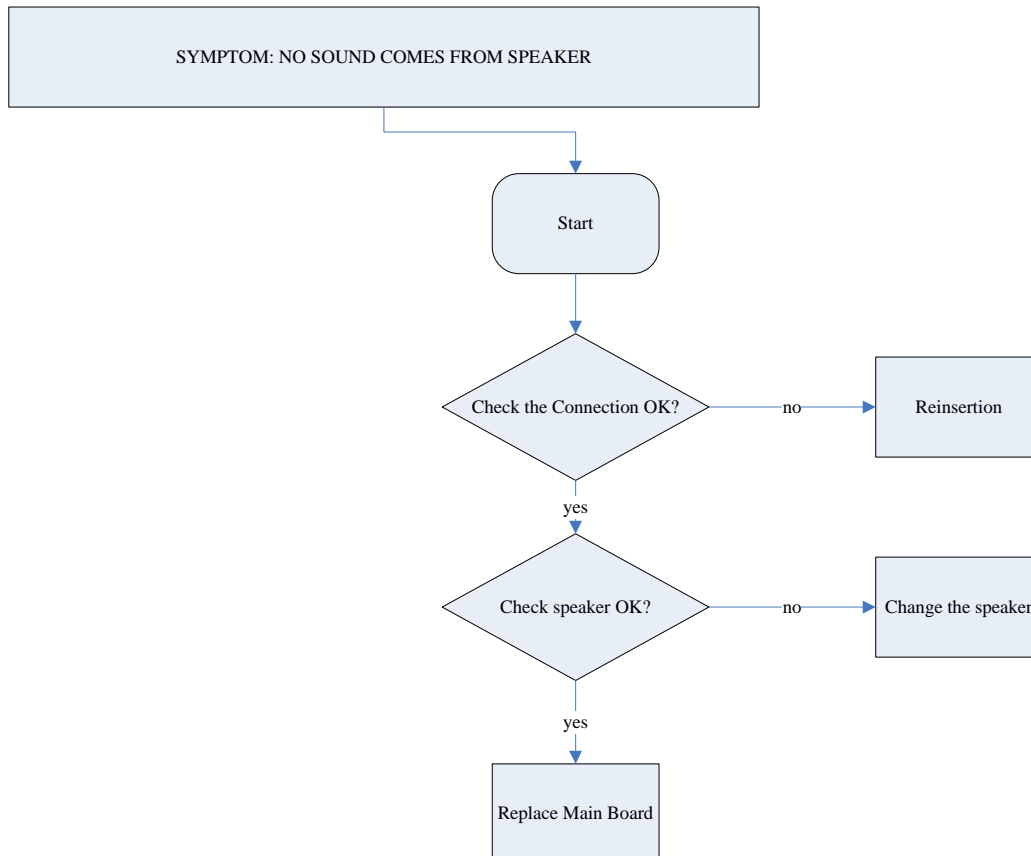
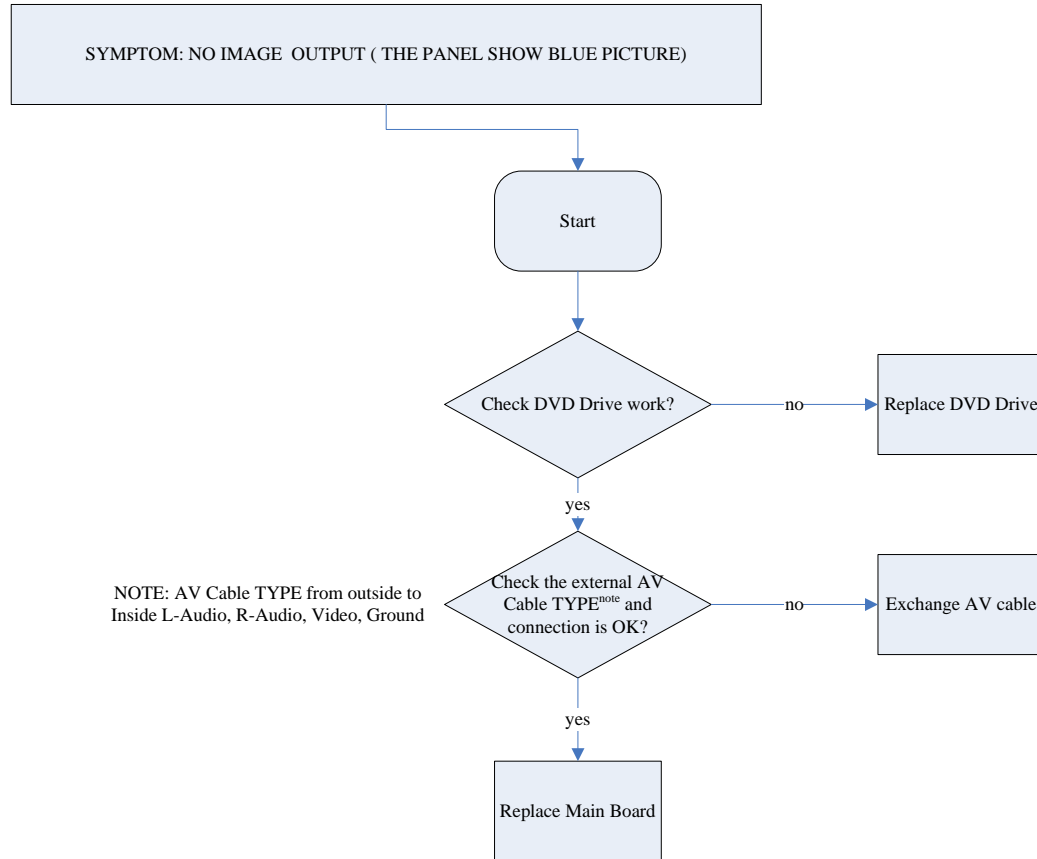
### Disassembly Procedure on PET739

	<p>Remove eight screws on back cabinet to separate top cabinet and back cabinet.</p>	<p>screws 8pcs</p>
	<p>Generally open the front cabinet.</p>	
	<p>Disassemble hous and connecter.</p>	
	<p>Disassemble hous and connecter, and take out the DVD LOADER.</p>	
	<p>Disassemble hous and screws, and take out the main board、sw board.</p>	<p>screws 7pcs</p>
	<p>Remove seven screws on KEY board.</p>	<p>screws 7pcs</p>

	<p>Remove one screws fabrics and connector hous on IR board.</p>	<p>screws 1pcs and connector hous 1pcs</p>
	<p>Remove fabrics and hous.</p>	
	<p>Remove the screws on the TFT board.</p>	<p>screws 1pcs</p>

## 5.0 TROUBLESHOOTING

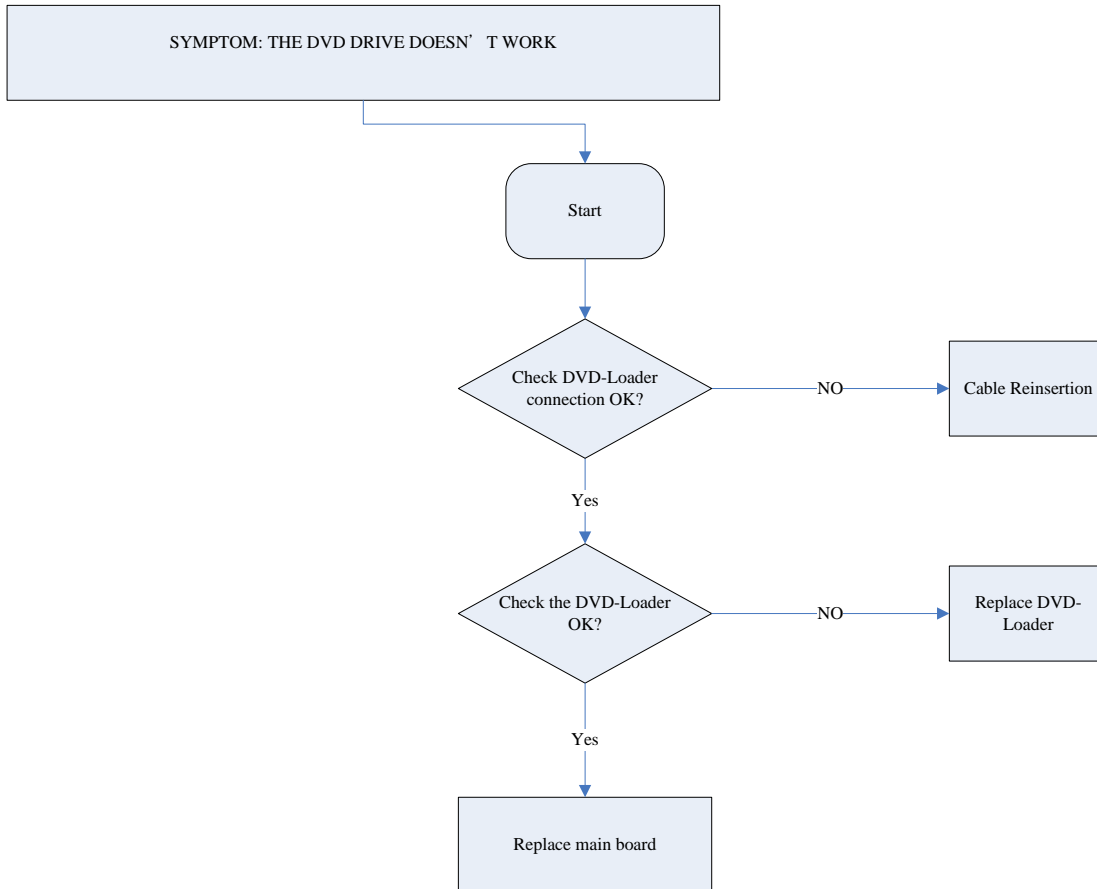
### SYMPTOM: NO IMAGE / NO SOUND



## 5.0 TROUBLESHOOTING

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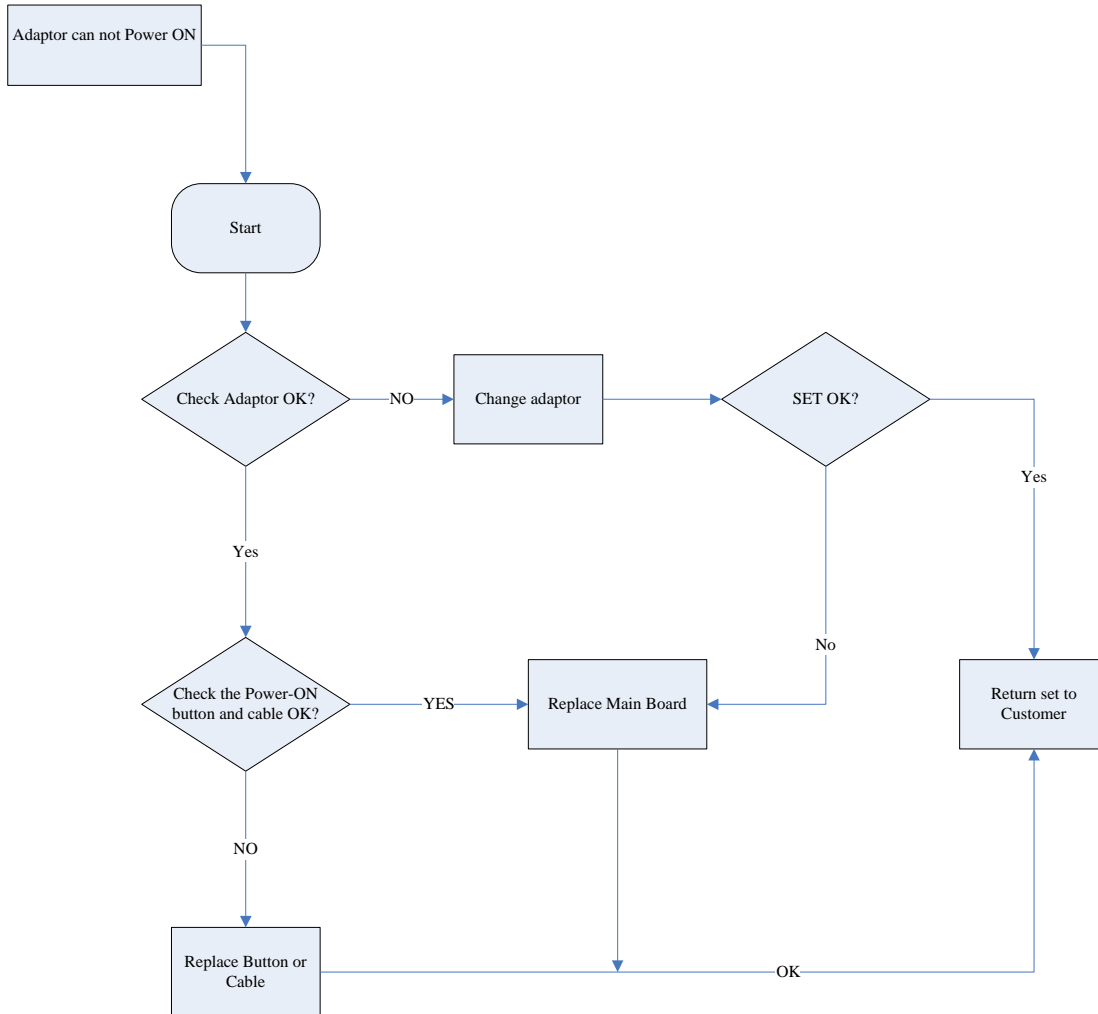
### SYMPTOM: THE DVD DRIVE DOES NOT WORK



## 5.0 TROUBLESHOOTING

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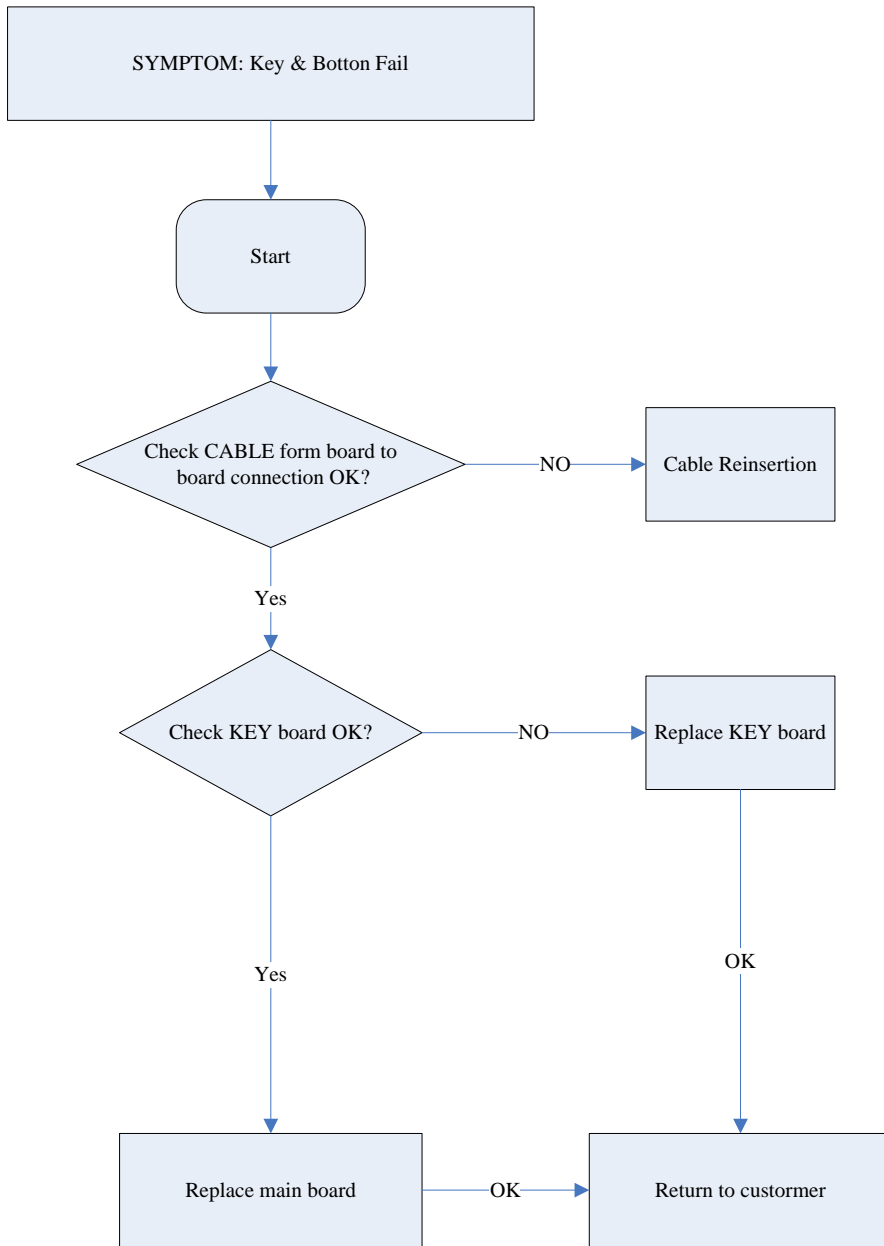
### SYMPTOM: ADAPTOR CANNOT POWER ON



## 5.0 TROUBLESHOOTING

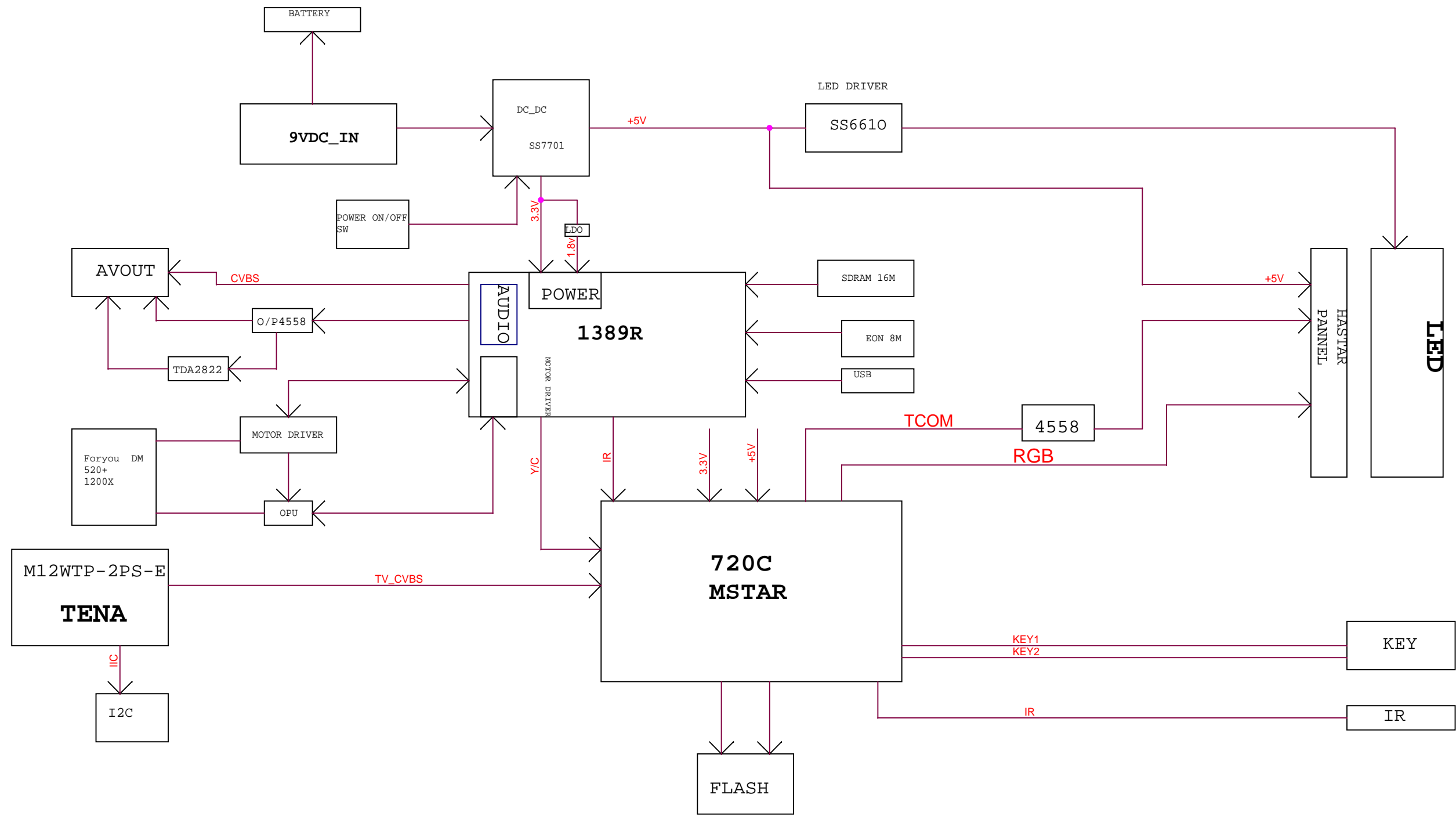
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### SYMPTOM: KEY & BOTTON FAILURE



PET 739 BLOCK

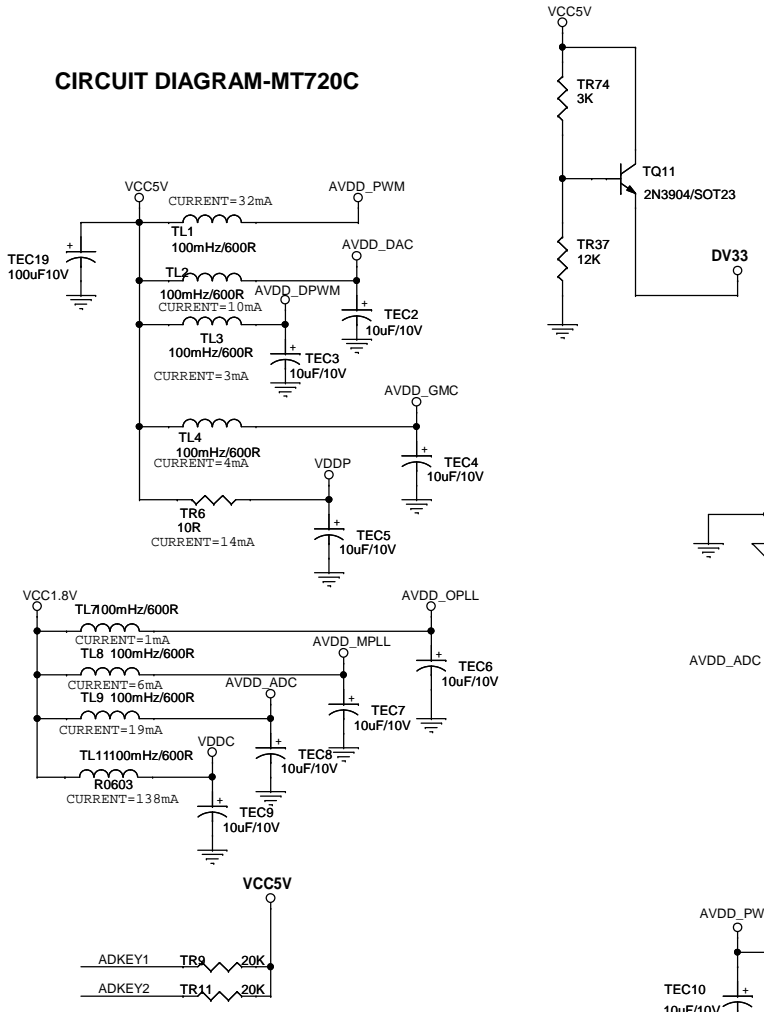
PET748 WIRING DIAGRAM



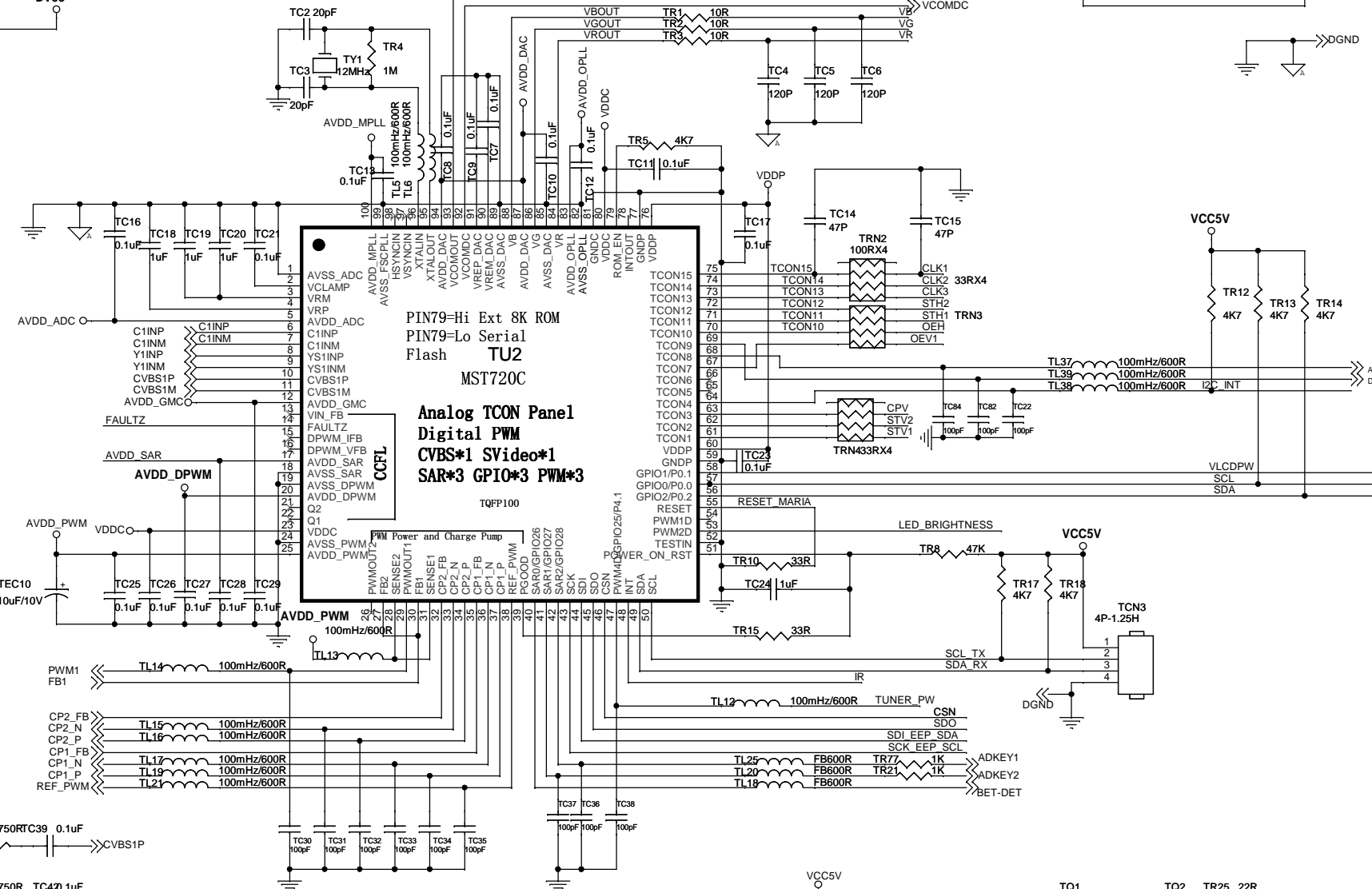




**CIRCUIT DIAGRAM-MT720C**

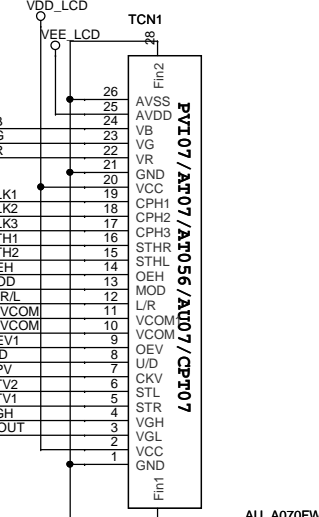


**Keep away of Analog Area**

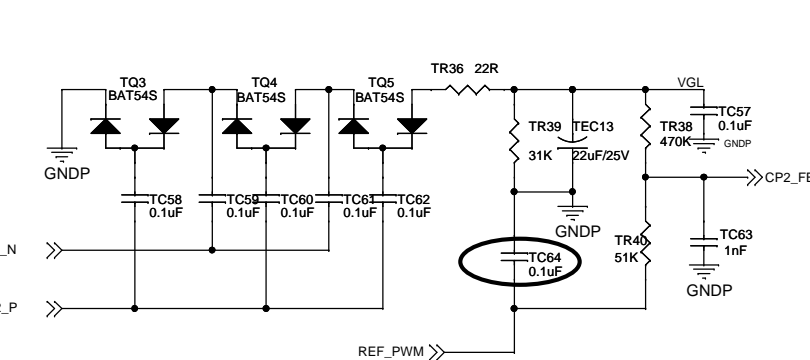
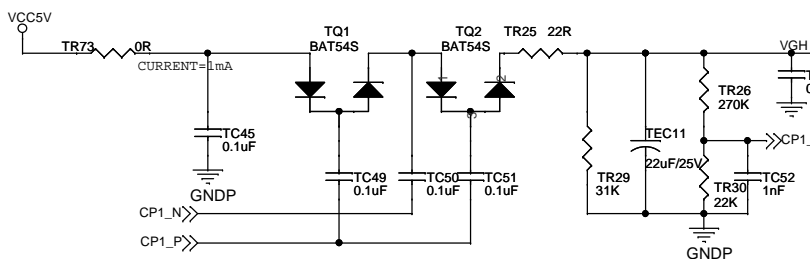
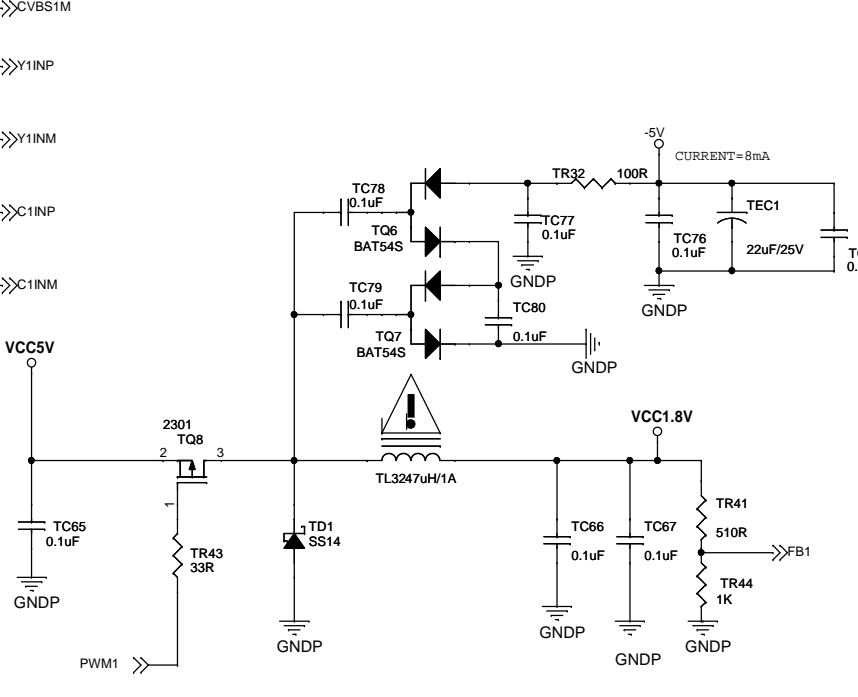
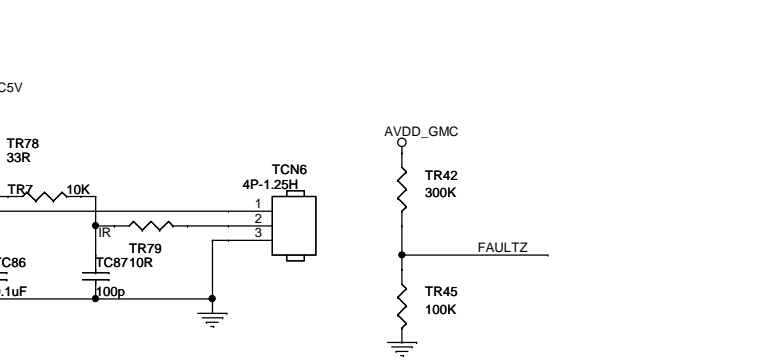
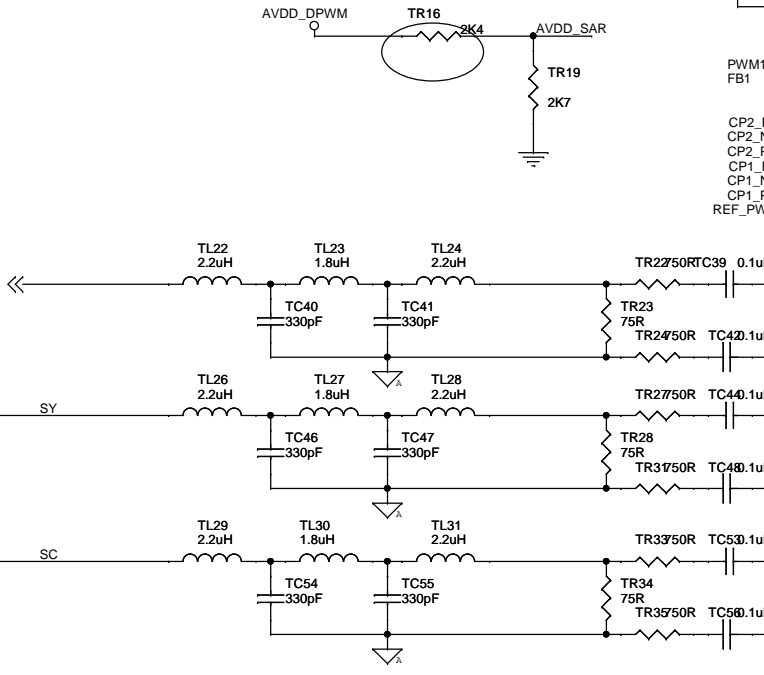


VCC5V	<<	VCC5V	2
VLCDSW	<<	VLCDSW	2
-5V	<<	-5V	2
VGL	<<	VGL	2
VDD_LCD	<<	VDD_LCD	2
VEE_LCD	<<	VEE_LCD	2
POWER			
LED_BRIGHTNESS	<<	LED_BRIGHTNESS	2
TUNER_PW	<<	TUNER_PW	2
VLCDPW	<<	VLCDPW	2
AUDIO_MUTE	<<	AUDIO_MUTE	2
CONTROL			
SCL	<<	SCL	2
SDA	<<	SDA	2
I2C			
TV_CVBS	<<	TV_CVBS	2
S_Y	>>	S_Y	(2)
S_C	>>	S_C	(2)
I2C_INT	>>	I2C_INT	(2)
VCOM			
VCOM	<<	VCOM	2
VGLOUT	<<	VGLOUT	2
VCOMOUT	<<	VCOMOUT	2
UID	<<	UID	2
R/L	<<	R/L	2
MOD	<<	MOD	2
VCOM			
ADKEY1	<<	ADKEY1	(2)
ADKEY2	<<	ADKEY2	(2)

VCC5V	<<	VCC5V	2
VLCDSW	<<	VLCDSW	2
-5V	<<	-5V	2
VGL	<<	VGL	2
VDD_LCD	<<	VDD_LCD	2
VEE_LCD	<<	VEE_LCD	2
POWER			
LED_BRIGHTNESS	<<	LED_BRIGHTNESS	2
TUNER_PW	<<	TUNER_PW	2
VLCDPW	<<	VLCDPW	2
AUDIO_MUTE	<<	AUDIO_MUTE	2
CONTROL			
SCL	<<	SCL	2
SDA	<<	SDA	2
I2C			
TV_CVBS	<<	TV_CVBS	2
S_Y	>>	S_Y	(2)
S_C	>>	S_C	(2)
I2C_INT	>>	I2C_INT	(2)
VCOM			
VCOM	<<	VCOM	2
VGLOUT	<<	VGLOUT	2
VCOMOUT	<<	VCOMOUT	2
UID	<<	UID	2
R/L	<<	R/L	2
MOD	<<	MOD	2
VCOM			
ADKEY1	<<	ADKEY1	(2)
ADKEY2	<<	ADKEY2	(2)



VCOMDC=1.3V  
VCOMAV=7.0V  
Bottom Contact



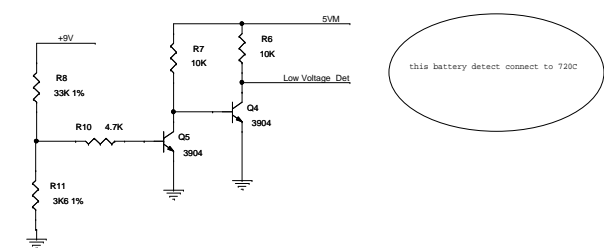
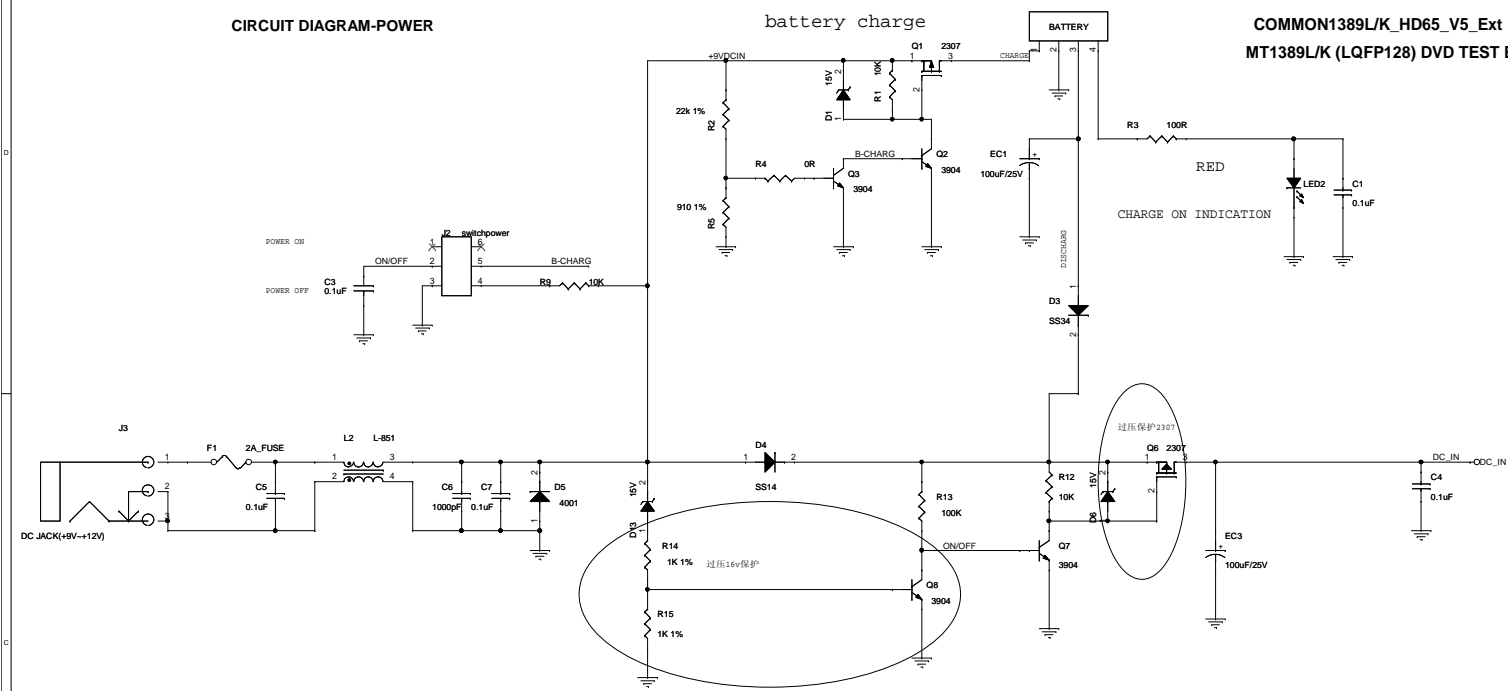
For reduce the noise



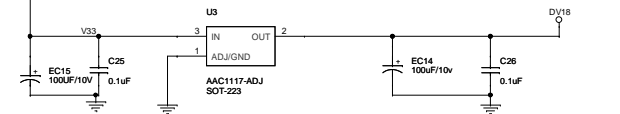
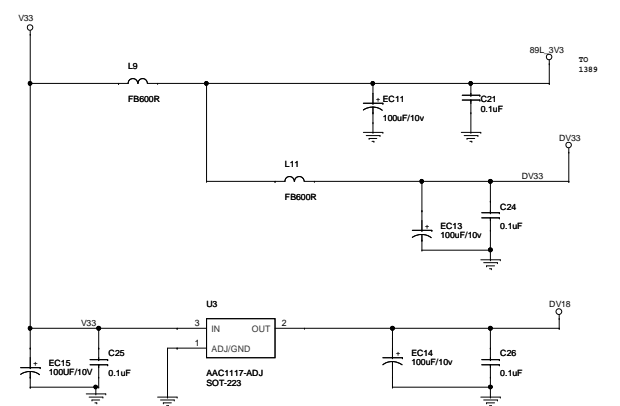
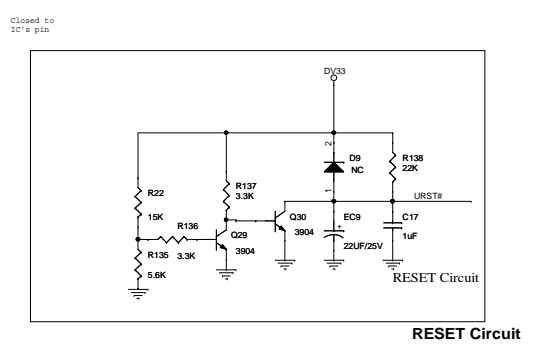
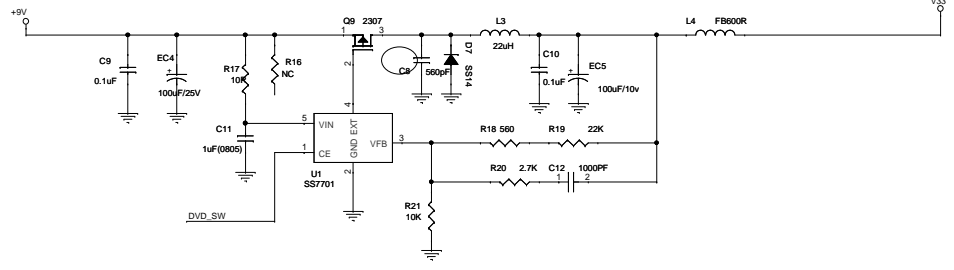
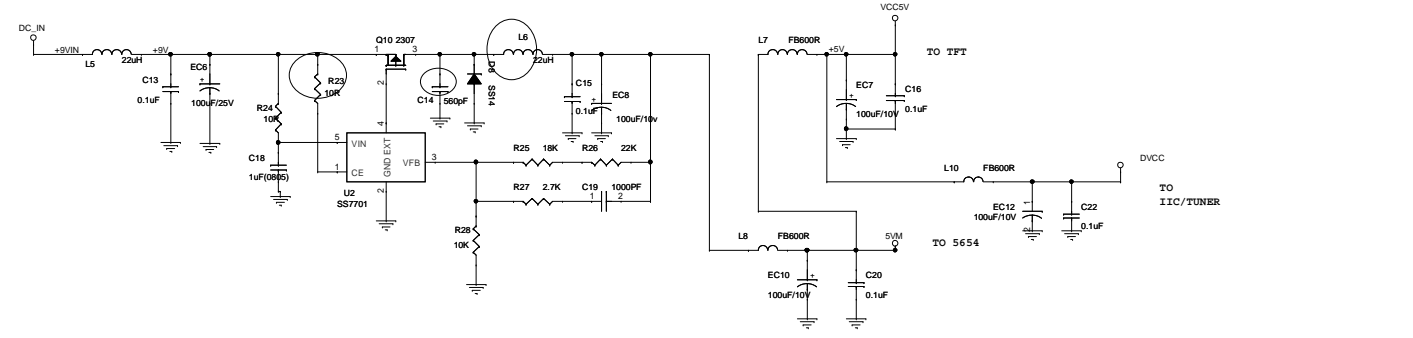
CIRCUIT DIAGRAM-POWER

battery charge

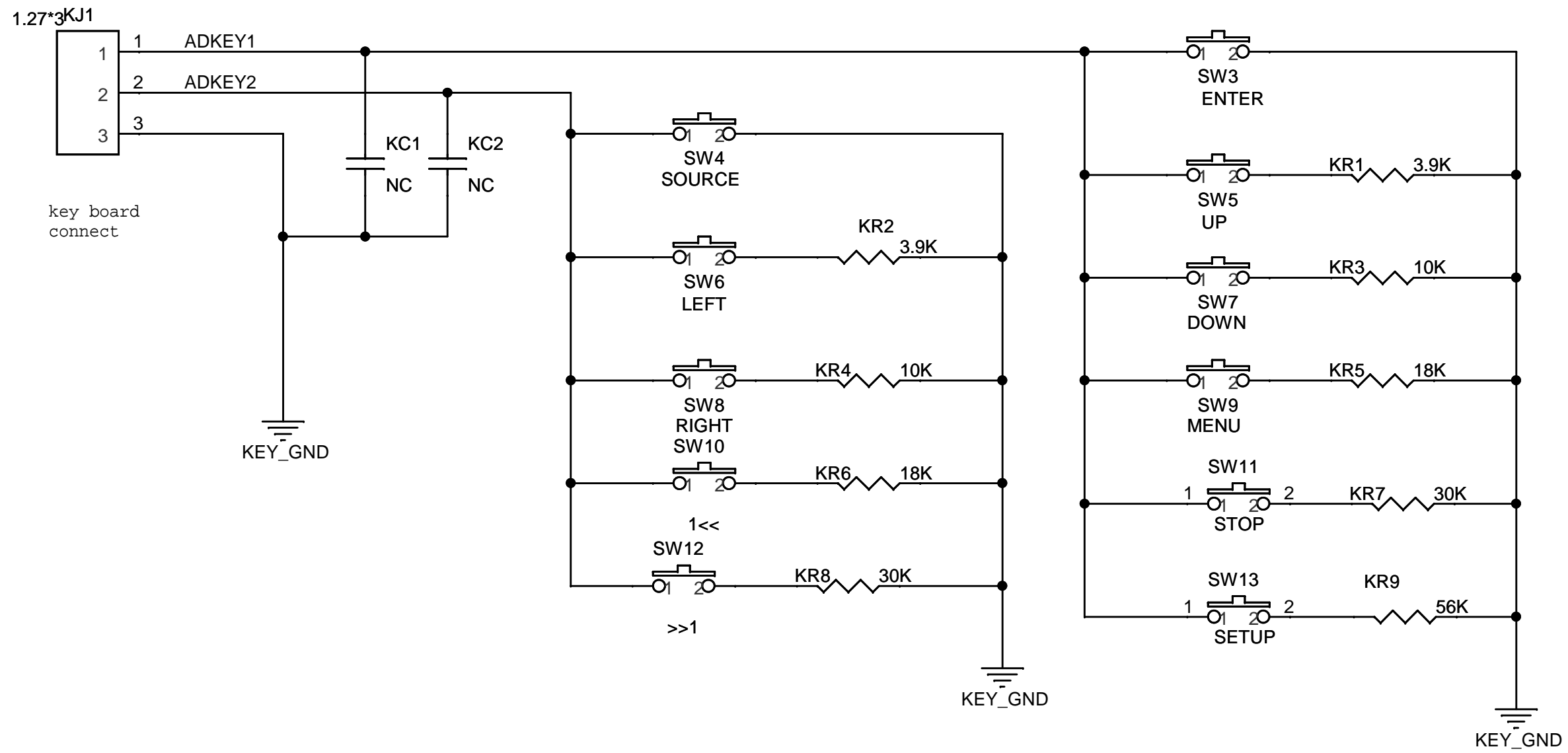
COMMON1389L/K\_HD65\_V5\_Ext Desktop Model  
MT1389L/K (LQFP128) DVD TEST Board w/ Sanyo HD6x Series PUHs



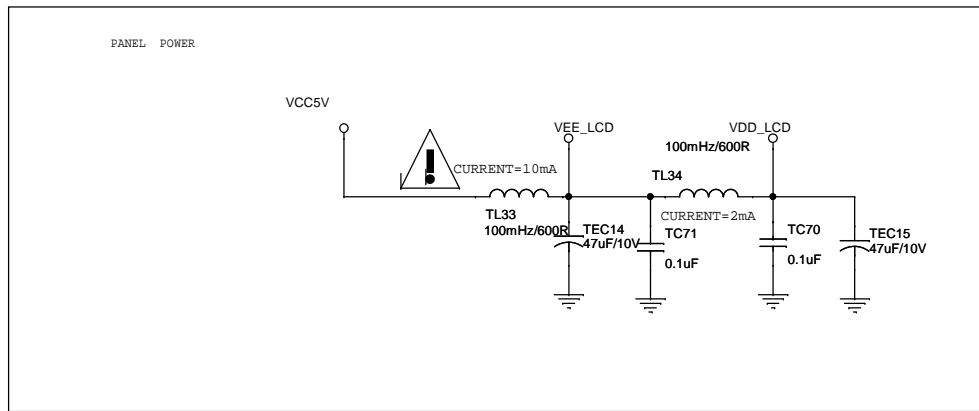
POWER I/F		
VCC5V	>>> VCC5V	(2,5)
5VM	>>> 5VM	(2)
V33	<<< V33	(2)
+5VIN	>>> +5VIN	(4)
DVCC	>>> DVCC	(5)
89L_3V3	>>> 89L_3V3	(2)
RFV33	>>> RFV33	(2)
DV33	>>> DV33	(2,3,4,5)
DV18	>>> DV18	(2)
LRST#	>>> LRST#	(2)
Low Voltage Det	>>> Low Voltage Det	(2)



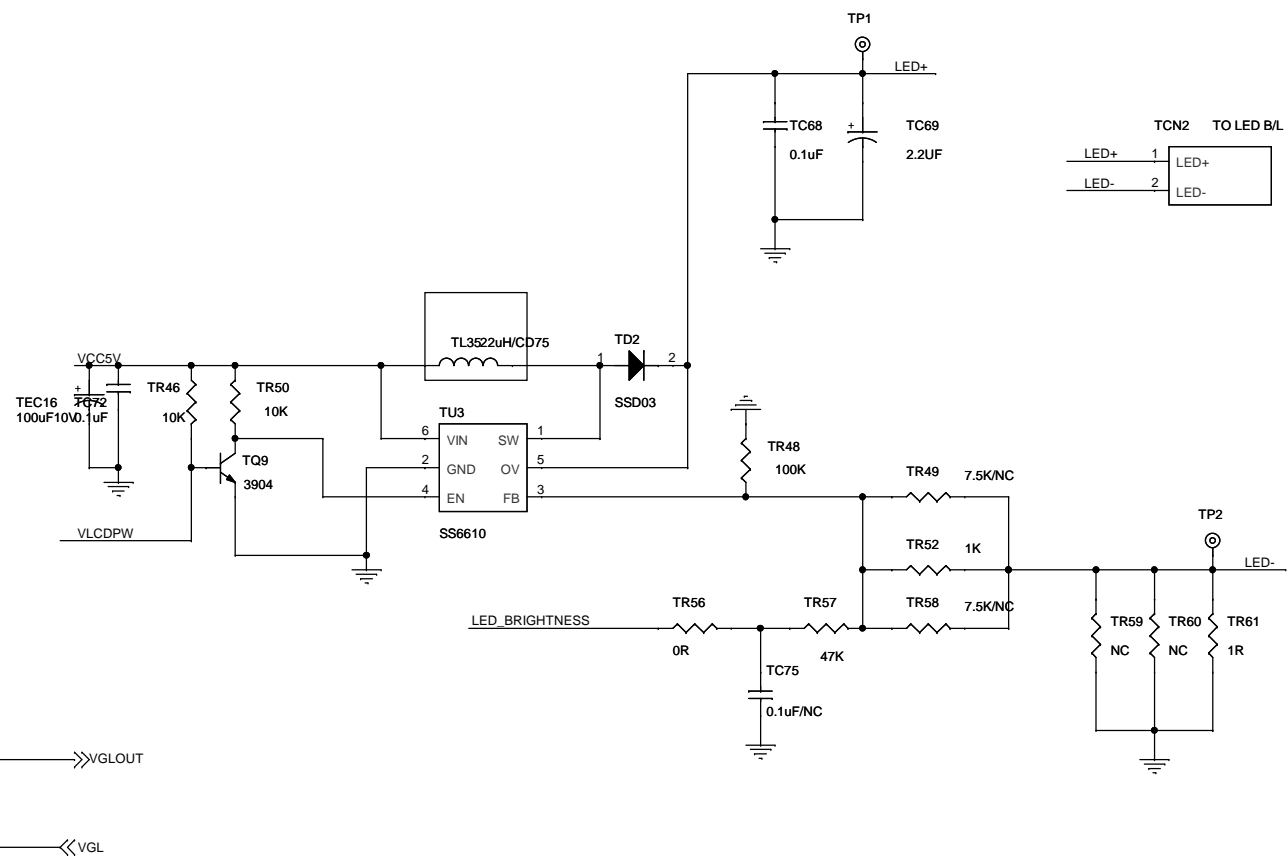
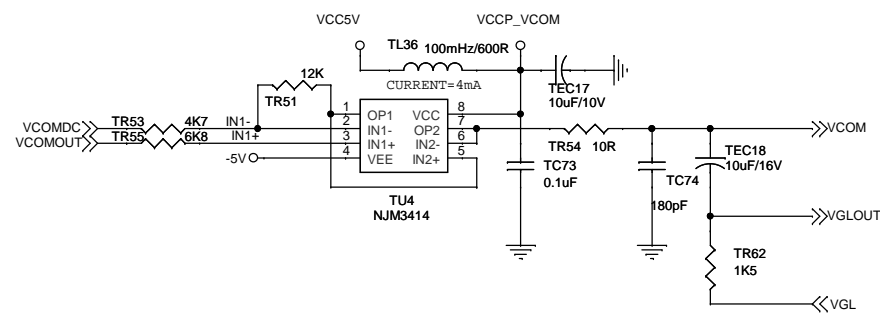
# CIRCUIT DIAGRAM-PANEL KEY



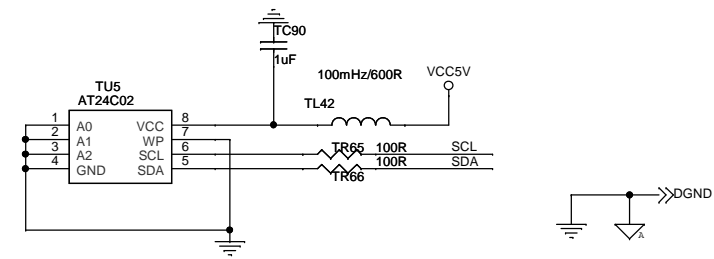
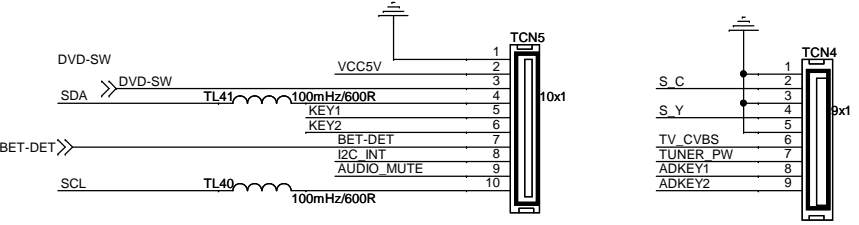
### CIRCUIT DIAGRAM-TFT



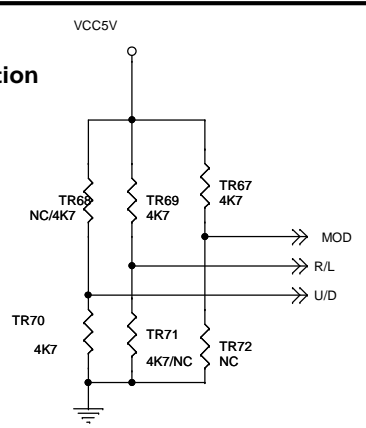
### VCOM



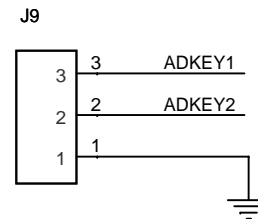
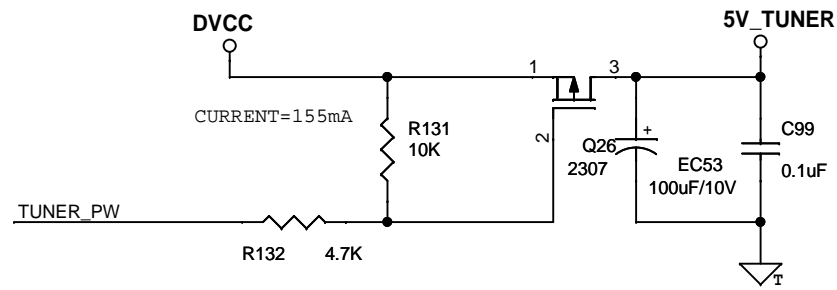
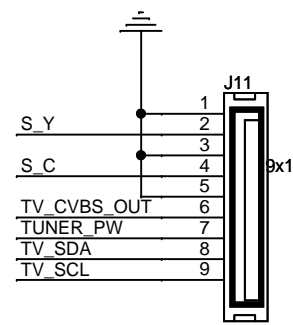
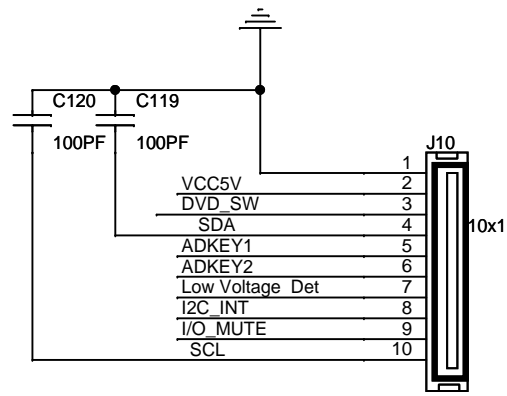
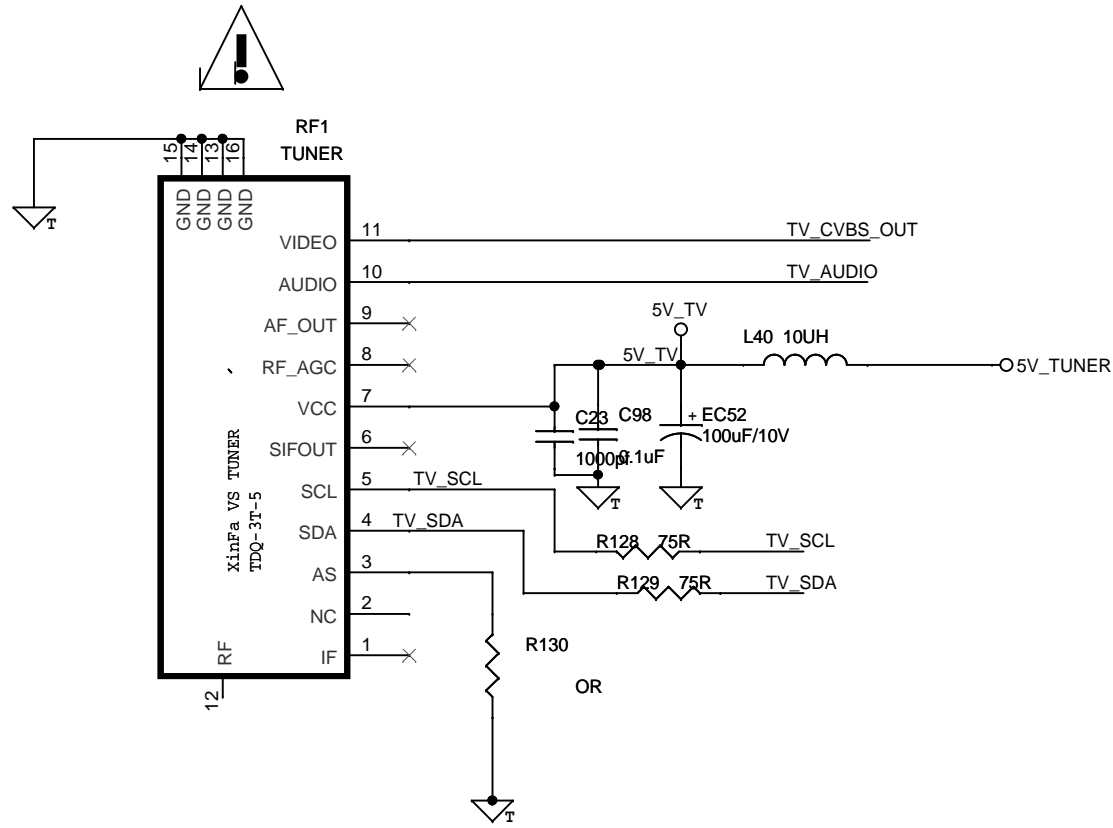
VCC5V	<<	VCC5V (1)
-5V	<<	-5V (1)
VGL	<<	VGL (1)
VDD_LCD	<<	VDD_LCD (1)
VEE_LCD	<<	VEE_LCD (1)
POWER		
LED_BRIGHTNESS	<<	LED_BRIGHTNESS (1)
TUNER_PW	<<	TUNER_PW (1)
VLCDPW	<<	VLCDPW (1)
AUDIO_MUTE	<<	AUDIO_MUTE (1)
CONTROL		
SCL	<<	SCL (1)
SDA	<<	SDA (1)
I2C		
TV_CVBS	<<	TV_CVBS (1)
S_Y	>>	S_Y (1)
S_C	>>	S_C (1)
I2C_INT	>>	I2C_INT (1)
VIDEO		
U/D	<<	U/D 1
VCOM	<<	VCOM (1)
VGLOUT	<<	VGLOUT (1)
VCOMOUT	<<	VCOMOUT (1)
R/L	<<	R/L 1
MOD	<<	MOD 1
VCOM		
ADKEY1	>>	ADKEY1 (1)
ADKEY2	>>	ADKEY2 (1)
KEY		
U/D	<<	U/D 1



### Panel U/D R/L Selection



# CIRCUIT DIAGRAM-ANALOG TUNER



DVCC	→	DVCC	(1)
TV_AUDIO	←	TV_AUDIO	(4)
VCC5V	←	VCC5V	(1,2)
IR_IN	←	IR_IN	2
I2C_INT	←	I2C_INT	2
S_Y	←	S_Y	2
S_C	←	S_C	2
DV33	→	DV33	(1)
SDA	←	SDA	2
SCL	←	SCL	2
I/O_MUTE	→	I/O_MUTE	4

TO  
TFT



## 8.0 SERVICE PARTLIST

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### Electrical Part List:

CTN	Service 12NC	Service Description	Photo	Pos. No.
PET739/93	996510027118	KEY PCBA ASS'Y PET739		100
PET739/93	996510027141	TFT PCBA ASS'Y PET739		110
PET739/93	996510027119	MAIN PCBA ASS'Y PET739		120
PET739/93	996510025487	PET739/93 PANEL FINAL ASS'Y		200
PET739/93	996510027121	BAT LI-ION 7.4V/3.6AH YOKU		210
PET739/93	996510027116	DVDDECK DM520 (FORYOU)		220



## 8.0 SERVICE PARTLIST

### Mechanical Part List:

CTN	Service 12NC	Service Description	Photo	Pos. No.
PET739/93	996510025437	PLASTIC MONITOR TOPFRAME		300
PET739/93	996510025441	DVD DOOR PC PET739		305
PET739/93	996510025443	DVD MIDDLEFRAME ABS		310
PET739/93	996510025435	MENU KEY1		315
PET739/93	996510027117	MENU KEY2		320
PET739/93	996510025442	MENU KEY3		325
PET739/93	996510025413	KEY OK		330
PET739/93	996510025445	KEY SELECT		335
PET739/93	996510025448	OPEN KEY		340
PET739/93	996510025431	POWER KNOB		345
PET739/93	996510025444	DECORATE KEY		350
PET739/93	996510025447	DECORATE BLACK		355

## 8.0 SERVICE PARTLIST

PET739/93	996510025438	LENS		360
PET739/93	996510025446	DVD BOTTOMHOUSING ABS		365
PET739/93	996510022961	DISPLAY FRAME & SPK PET739		370
PET739/93	996510022039	FFC 24P/0.5mm 150mm +/- OUKER		400
PET739/93	996510025661	HINGE & HOUS PET739		410

## 8.0 SERVICE PARTLIST

### Accessories Part List:

CTN	Service 12NC	Service Description	Photo	Pos. No.
PET739/93	996510025396	SW ADP 9V/1.5A CCC 4.0		ADAPT
PET739/93	996510025432	ROD ANT DVBT ATLV038		ATTENUATOR
PET739/93	996510004975	AV CABLE		AVCABLE
PET739/93	996510021031	CAR CORD 1.5A UL1.8m 4*1.7*11mm LY P		CARAPT
PET739/93	996510027077	REM CONTROL 29KEY PHILIPS		RC
PET739.93	996510025885	GIFT BOX PET739/93		

## 9.0 REVISION LIST

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Version 1.0 3141 785 34110

- Initial release PET739/93