

Service Service Service



Service Manual

TABLE OF CONTENTS

	Chapter
Technical Specification & Service Tips.....	1
Safety Instructions.....	2
Instruction for Use.....	3
Mechanical Instructions.....	4
Troubleshooting	5
Overall Block Diagram.....	6
Electrical Diagram.....	7
Service Part List.....	8
Revision List.....	9

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3141 785 32262

1.0 TECHNICAL SPECIFICATION

Service Policy on PCBA of PET816

Type	/05	/12	/98
Main PCBA	MLR	MLR	MLR
TFT PCBA	MLR	MLR	MLR
KEY PCBA	MLR	MLR	MLR
BATTERY PCBA	MLR	MLR	MLR
AUDIO PCBA	MLR	MLR	MLR

MLR = module swap

1.0 TECHNICAL SPECIFICATION

General

Dimensions (W x H x D):	173 x 210 x 39.5 mm
Bear Unit Weight:	0.85 kg +/- 5%
Power supply:	
Supply voltage (AC adaptor 90~264)	AC 100~240V +/- 10%
Supply Power consumption (AC adaptor 100/240VAC)	9W +/- 10%
DC Power supply	DC 6.2-15.0V
Standby Power (AC adaptor, no load)	<0.45W
Audio System	
Output voltage 1kHz:	2+/-0.2V
THD 20-20kHz (%):	</=3%
Dynamic range 1kHz	>/=80dB
Signal/Noise ratio:	>/=80dB
Frequency response (20-20kHz):	+/-3dB
Channel Separation 1kHz	>=60dB
Channel Balance 1kHz	<2dB

Current consumption

Playback time	
PET816 Capacity--- Refer to battery spec	≥1600mAH
Battery discharge cut-off current	40mA
Max.battery charge current(continue charge) of DCP850 & DCP750	400-500
Charging time	4 +/- 0.5H

Headphone out (headphone output load 2x16 ohm)

Maximum output power:	1.5mW
Frequency response:	+/-3dB
SNR (A-wght):	>70dB
THD (0.2-20kHz):	3%
Left-Right Channel Separation:	>/=50dB
Left-Right Channel Balance:	</=1dB

Supported disc type

Video Playback Formats:



Audio Playback Formats:



Playback disc type:

DVD, Picture-CD, SVCD, Video CD, MP3-CD, CD-R/CD-RW, WMA-CD, DVD-R, DVD-RW, DVD+R, DVD+RW

Video Playback Format:

DVD / VCD / SVCD / CD / JPEG / DivX5

Audio Playback Format:

CD/MP3, MP3-DVD, DVD DivX5

Disc Diameter

12cm

Pixel specification

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

Factory Service Mode (FSM)

To check the software version and change region code of your DVD Portable

1. Power ON the DVD player and open the DVD door
2. Press the “SETUP” button on remote control, then select the “Preference MENU”
3. Press the remote button in the sequence as 9 -> 6 -> 5 -> 3
4. The LCD display showed the existing region code. Press ▲ (navigation up) or ▼ (navigation down) repeatedly to select the number from 0 to 6.
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)

1.0 TECHNICAL SPECIFICATION

Procedure on how to upgrade the software of the DVD Portable

*For the best performance of your DVD Portable.
Check www.philips.com/support for latest
software upgrades available.*

A) By CD-ROM

1. Download the "PHILIPS.BIN" file from the Philips support site
2. Unzip the file and then burn it into a CD-ROM to make a disc for upgrade
3. CD-ROM disc name must be "PHILIPS" (otherwise it will not be recognized as a disc for upgrade)
4. Power on the Portable DVD Player with AC/DC adaptor
5. Play CD-ROM for firmware upgrade

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

6. Once upgrade is completed, the player will restart automatically and observed PHILIPS LOGO on the screen.
7. Open the DVD door to remove the disc

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 enfiler 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 utilisées les pièces de rechange identiques à celles spécifiées.

GB Warning !

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

S Varning !

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

SF Varoitus !

Avatussa laitteessa ja suojalukituksen ohittaaessa olet alttiina näkymättömälle laserisäteilylle. Älä katso sääteenseen!

DK Advarse !

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

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."

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.

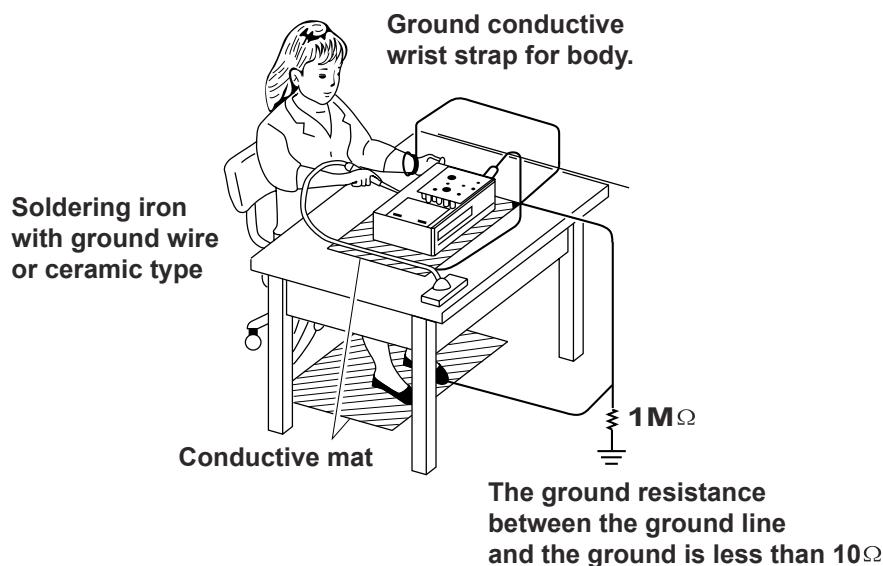
When the power supply is being turned on, you may not remove this laser cautions label. If it removes, radiation of laser may be received.

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

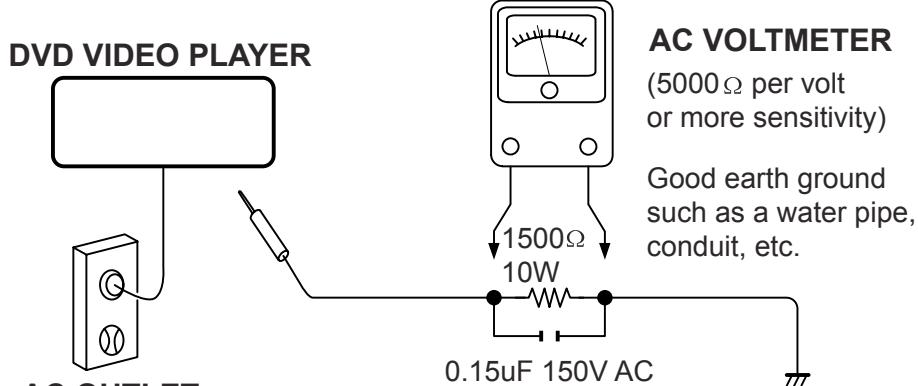
SAFTY PRECAUTIONS

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 5000Ω per volt or more sensitivity. Connect a 1500Ω 10W resistor, paralleled by a $0.15\mu F$ 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 1500Ω 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.

READING SHOULD NOT EXCEED 0.3V



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

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 formed 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

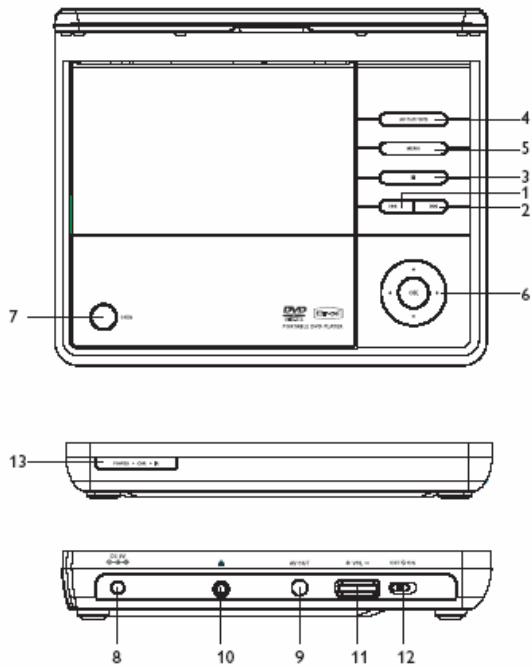


2.2.6 Short

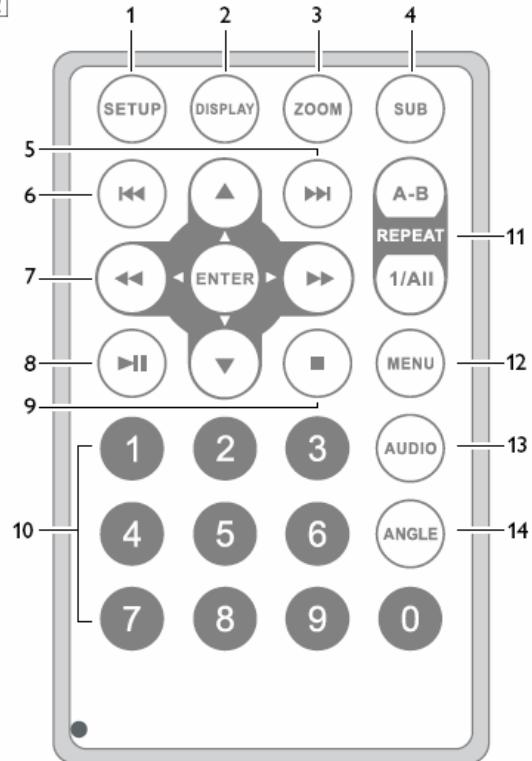
Short terminals of battery is strictly prohibited, it may damage battery.

3.0 INSTRUCTION FOR USE

1



2



Main unit controls (see figure 1)

- ① PREV Skip to the previous chapter, track or title
- ② NEXT Skip to the next chapter, track or title
- ③ ■ Stop playback
- ④ AV OUT/DVD Switch between DVD and AV OUT modes.
- ⑤ MENU Display the MENU page.
- ⑥ ▲, ▼, ◀, ▶ Navigate in a menu.
.....(◀ / ▶) search backward/forward in a disc at different speeds.
- OK Start or interrupt playback.
Confirm a selection.
- ⑦ OPEN Open the disc door to insert or remove disc

Left of player (see figure 1)

- ⑧ DC 9V Power supply socket.
- ⑨ AV OUT Audio/Video output jack.
- ⑩ ◀ Headphone jack
- ⑪ VOL +/- Volume control.
- ⑫ OFF • ON Switch the power on/off.

Front of player (see figure 1)

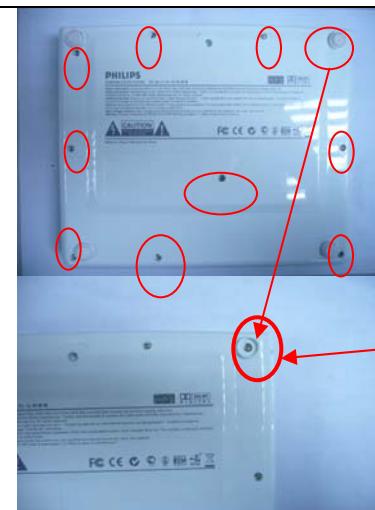
- ⑬ POWER•CHG•IR...Power and charge indicator / Remote sensor

Remote controls (see figure 2)

- ① SETUP Enter or exit the system menu.
- ② DISPLAY Display information on TFT during playback.
- ③ ZOOM Enlarge or reduce a picture or active image on the TFT.
- ④ SUB Select a subtitle language.
- ⑤ ◀ Skip to the previous chapter, track or title.
- ⑥ ▶ Skip to the next chapter, track or title.
- ⑦ ▲, ▼, ◀, ▶ Navigate in a menu.
.....(◀ / ▶) search backward/forward in a disc at different speeds.
- ENTER Confirm a selection.
- ⑧ ►■ Start or interrupt playback.
- ⑨ ■ Stop playback
- ⑩ 0-9 Numeric Keypad
- ⑪ REPEAT 1/ALL Repeat a chapter/track/title.
- A-B Repeat playback of a specific section on a disc.
- ⑫ MENU Enter or exit the disc contents menu.
- ⑬ AUDIO Select an audio language when playing a DVD disc or select an audio mode (Stereo, Mono-Left or Mono-Right) when playing a VCD/CD disc.
- ⑭ ANGLE Select DVD camera angle

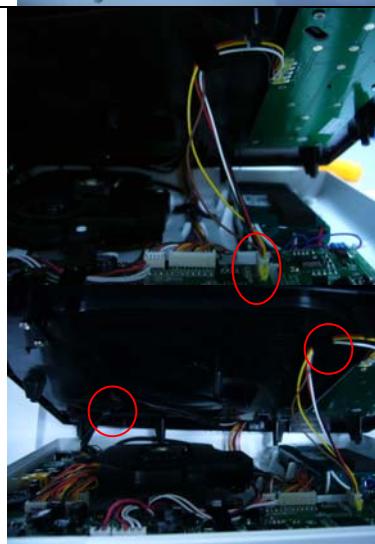
4.0 MECHANICAL INSTRUCTION

Disassembly Procedure



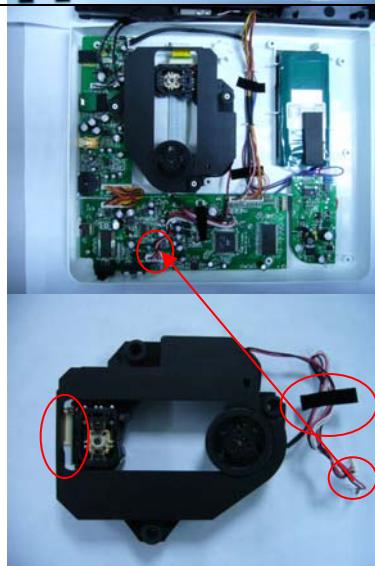
1. Remove 9pcs of screws on the side of bottom cabinet.

And don't forget the one behind bottom cabinet feet.



2. Open the bottom cabinet carefully. Firstly, unplug the wire connector of key board from the main board. (left bottom side);

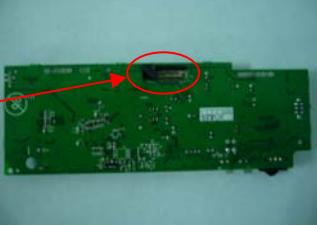
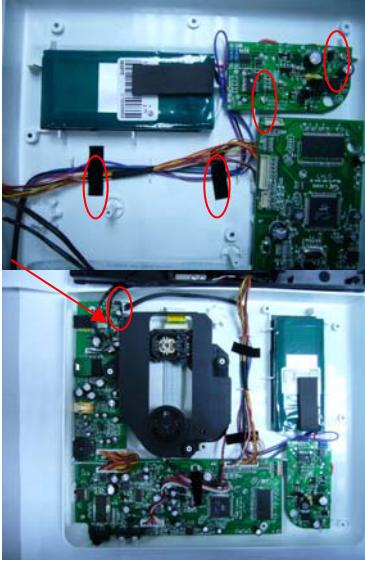
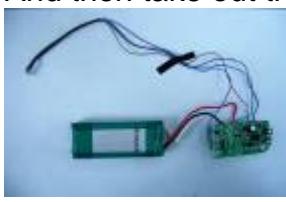
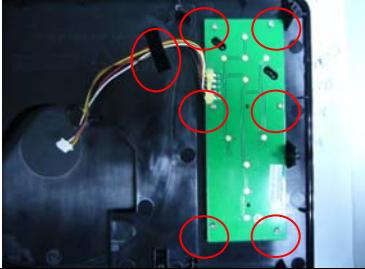
Then unplug the wire connector which connect the audio board and TFT board adhere by the flannel.



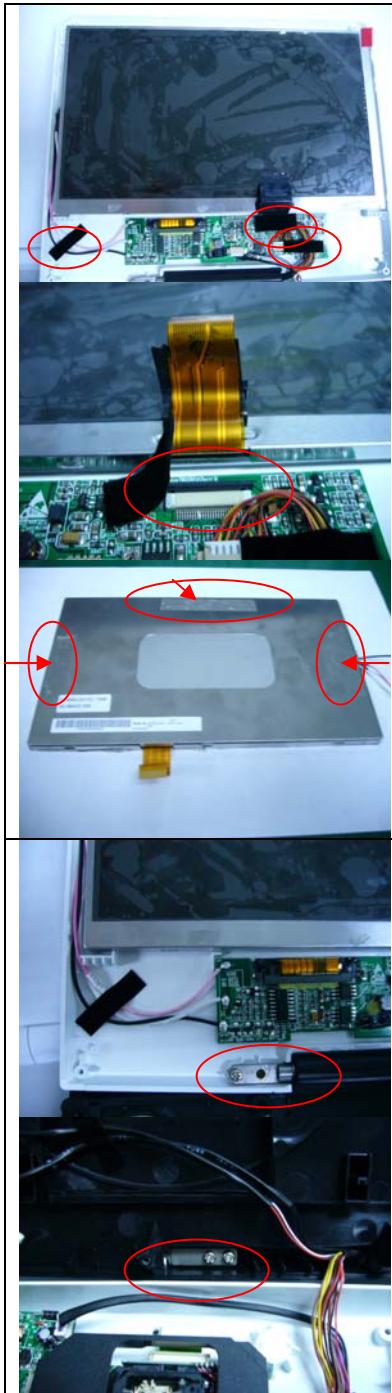
3. Unplug all the wire connecter from main board. The wire connecters are for DVD loader, battery board and TFT driver board, and speaker.

Unplug the FFC from DVD driver, and then you can take out the DVD loader.

4.0 MECHANICAL INSTRUCTION

	<p>Remove all the screws on the main board and audio board and unplug all the housing of them, then take the main board and audio board from bottom cabinet.</p> 
	<p>4. Remove the flex cable on the bottom side.</p> 
	<p>5. Remove all the screws on the battery board. Unplug the housing which connect the battery board and audio board; And then take out the battery with battery board.</p> 
	<p>6. Remove 6pcs screws from key board.</p>
	<p>7. Remove 6pcs of screws on the display frame. Carefully open the display frame with the catches by screwdriver. (There are six catches as shown in the pictures) Then you can see next picture.</p>

4.0 MECHANICAL INSTRUCTION



8. To remove the TFT, de-soldering the wire connected between TFT and TFT board first. (Please note the wire location as shown in picture during re-assemble)

And unplug wire connecter from TFT board and audio board.

Take out the TFT board from cabinet using eradicator.

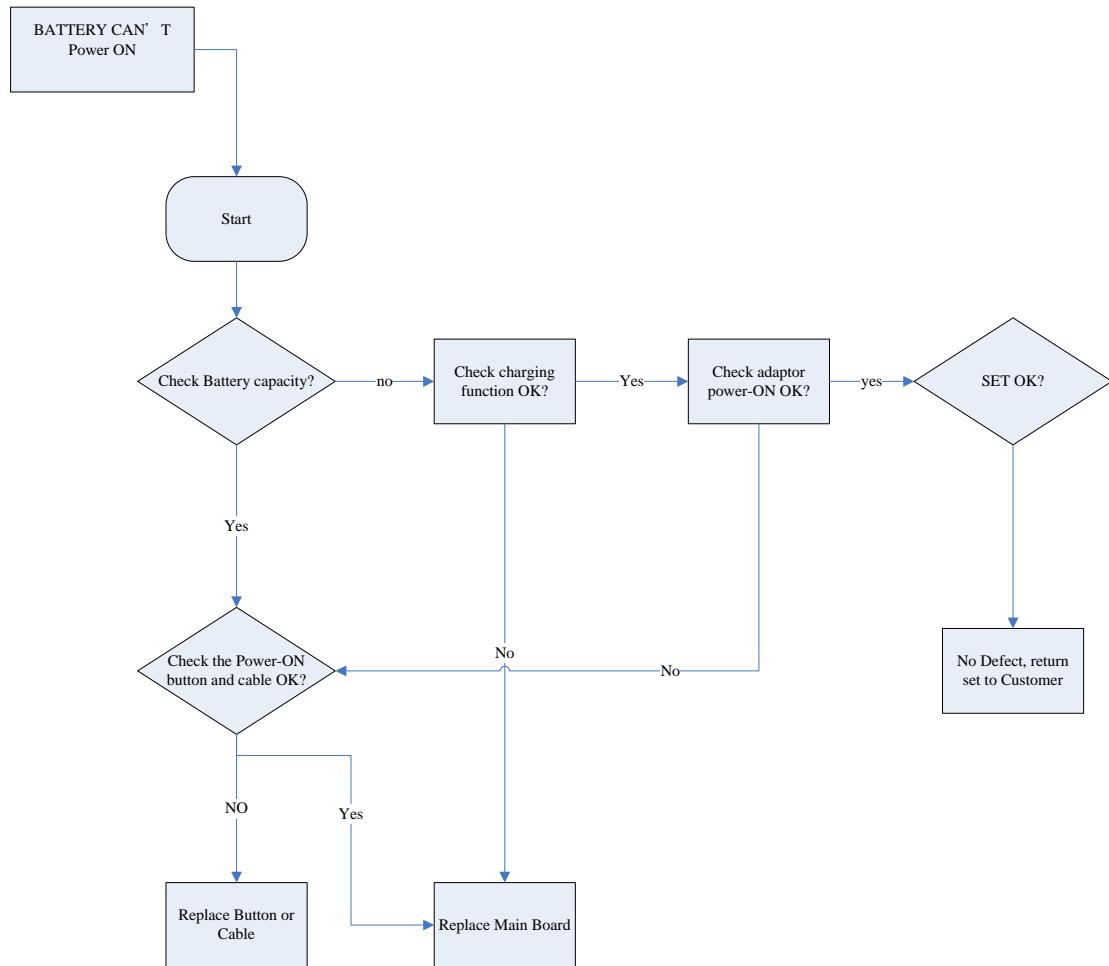
Don't forget unplug the FFC of panel from the TFT board, it is behind the black flannel.

After this, take the panel from the front cabinet carefully. There are three two side tape rubbers as shown in the pictures

9. To remove the hinge, remove the screws on the hinge.

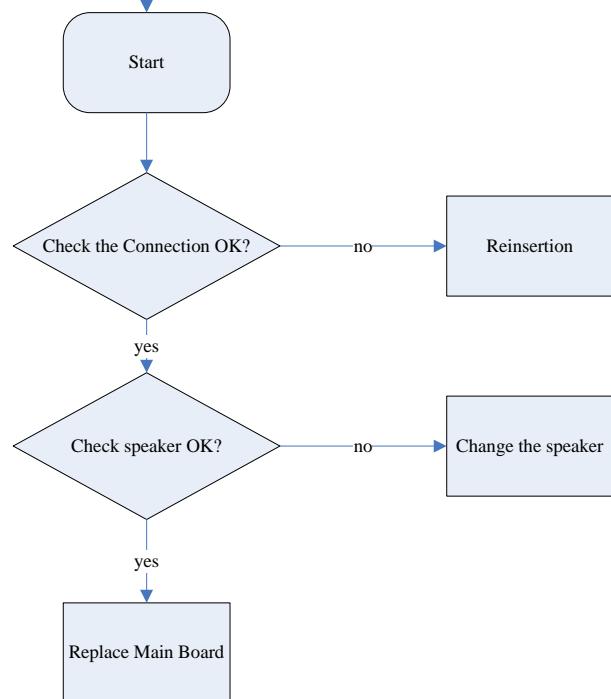
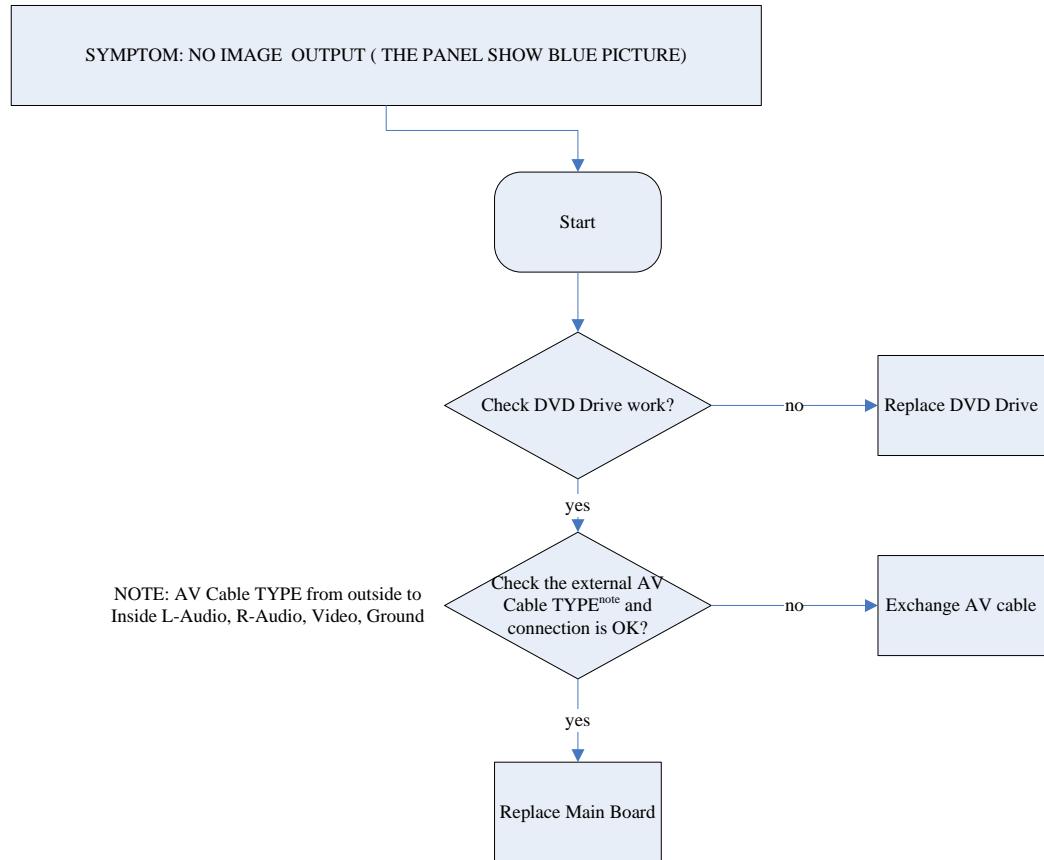
5.0 TROUBLESHOOTING

SYMPTOM: BATTERY NO POWER



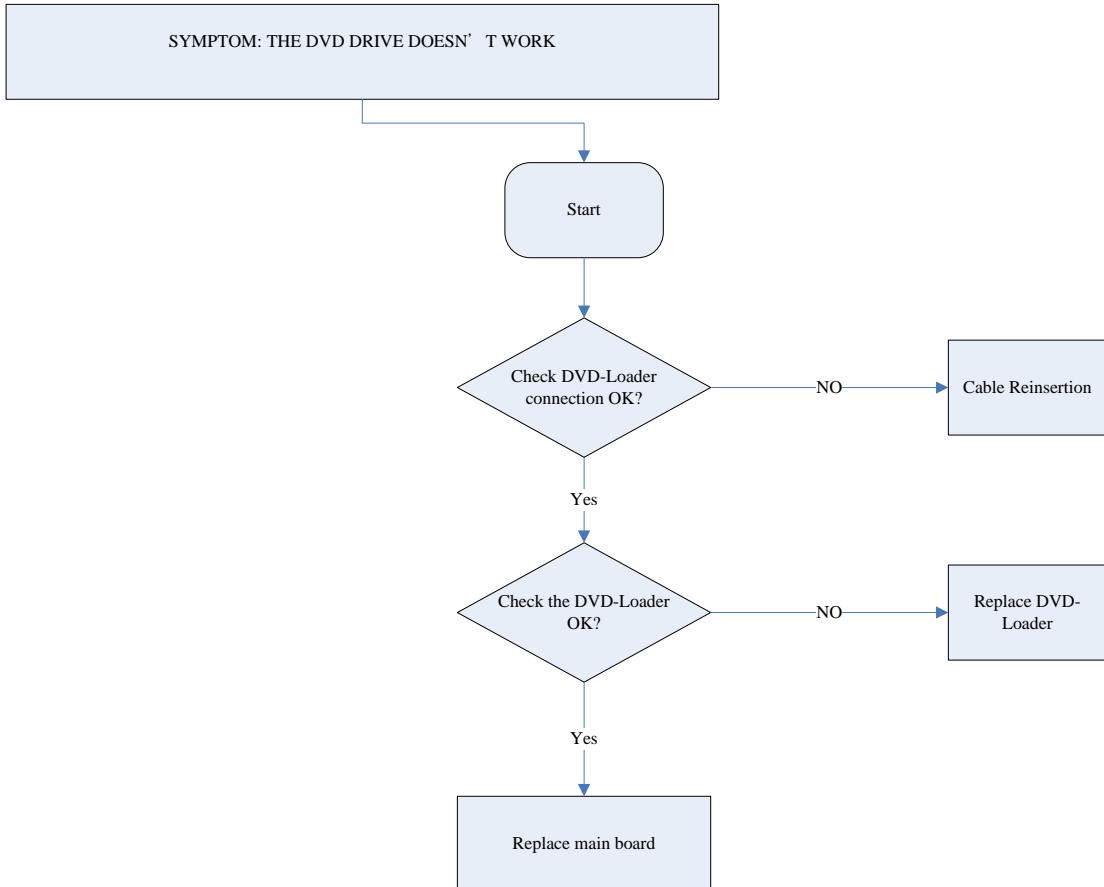
5.0 TROUBLESHOOTING

SYMPTOM: NO IMAGE / NO SOUND



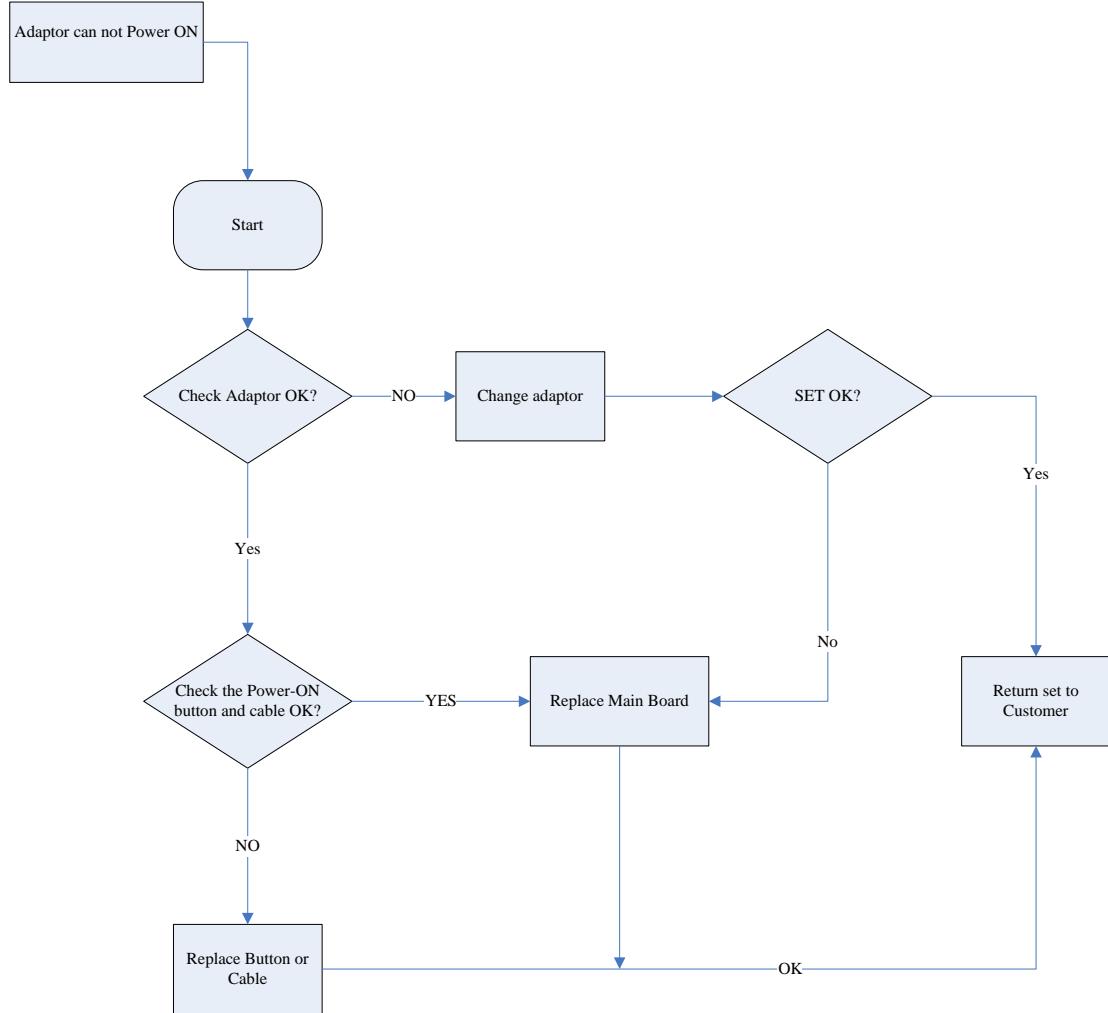
5.0 TROUBLESHOOTING

SYMPTOM: THE DVD DRIVE DOES NOT WORK



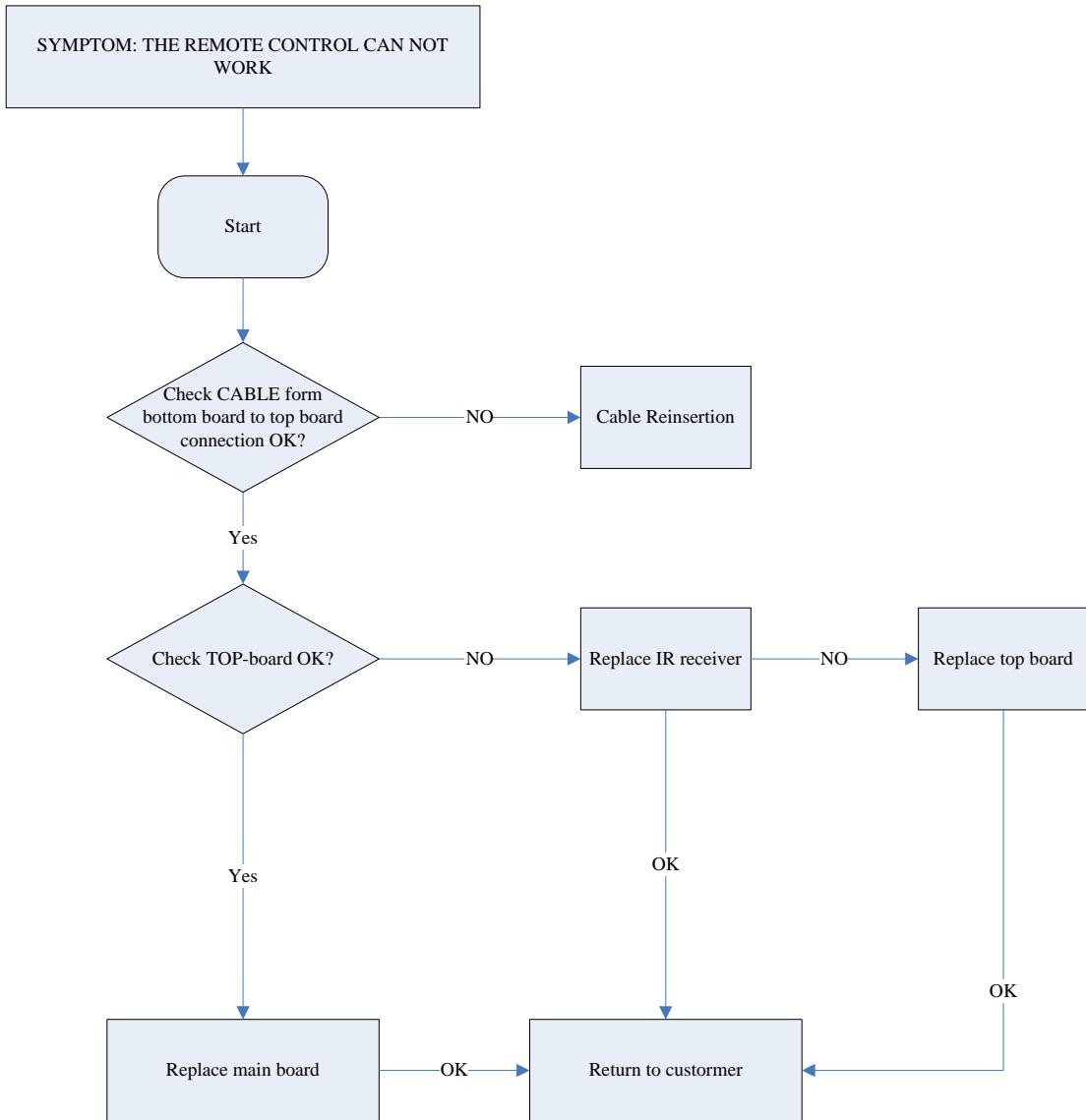
5.0 TROUBLESHOOTING

SYMPTOM: ADAPTOR CANNOT POWER ON



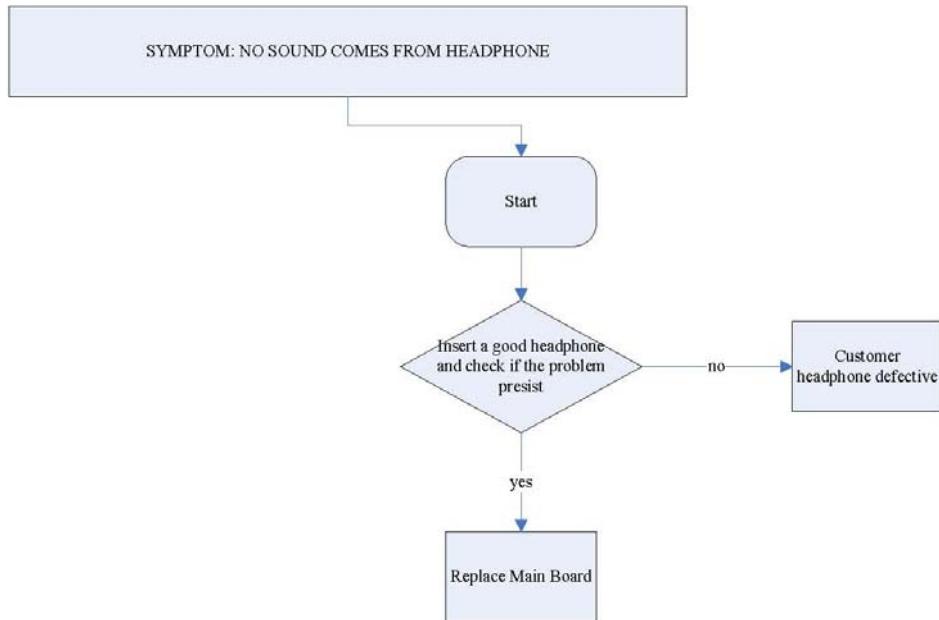
5.0 TROUBLESHOOTING

SYMPTOM: REMOTE CONTROL CANNOT WORK



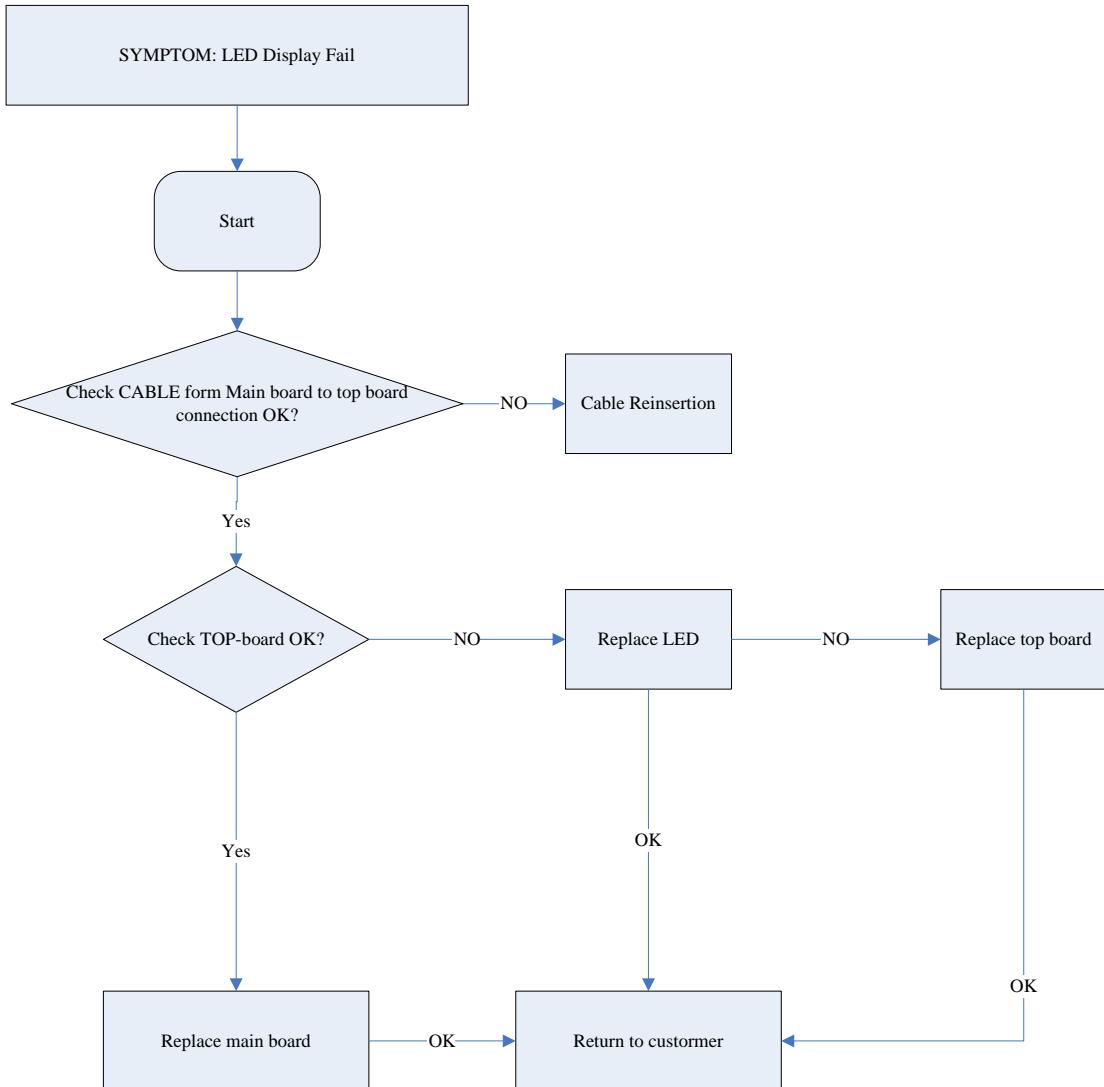
5.0 TROUBLESHOOTING

SYMPTOM: NO SOUND FROM HEADPHONE



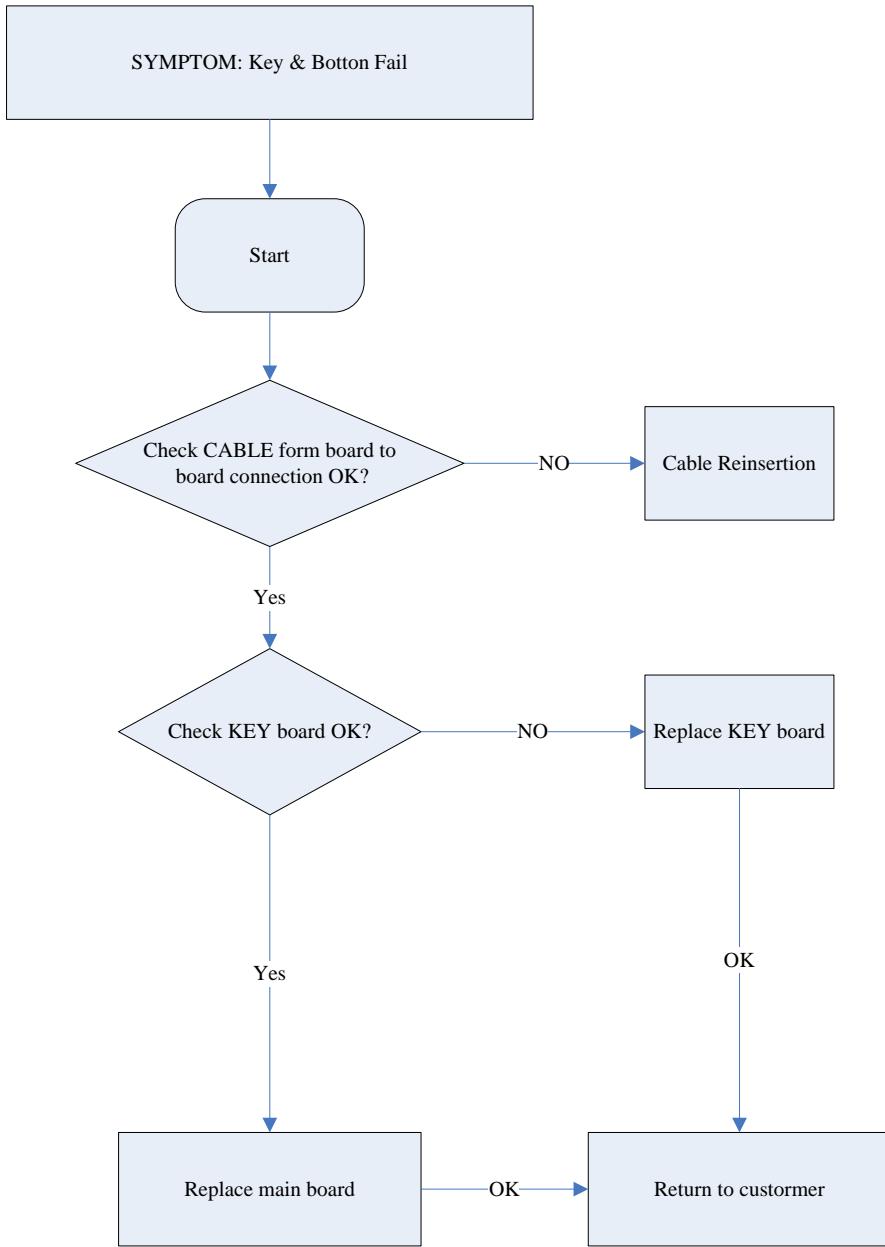
5.0 TROUBLESHOOTING

SYMPTOM: LED DISPLAY FAILURE

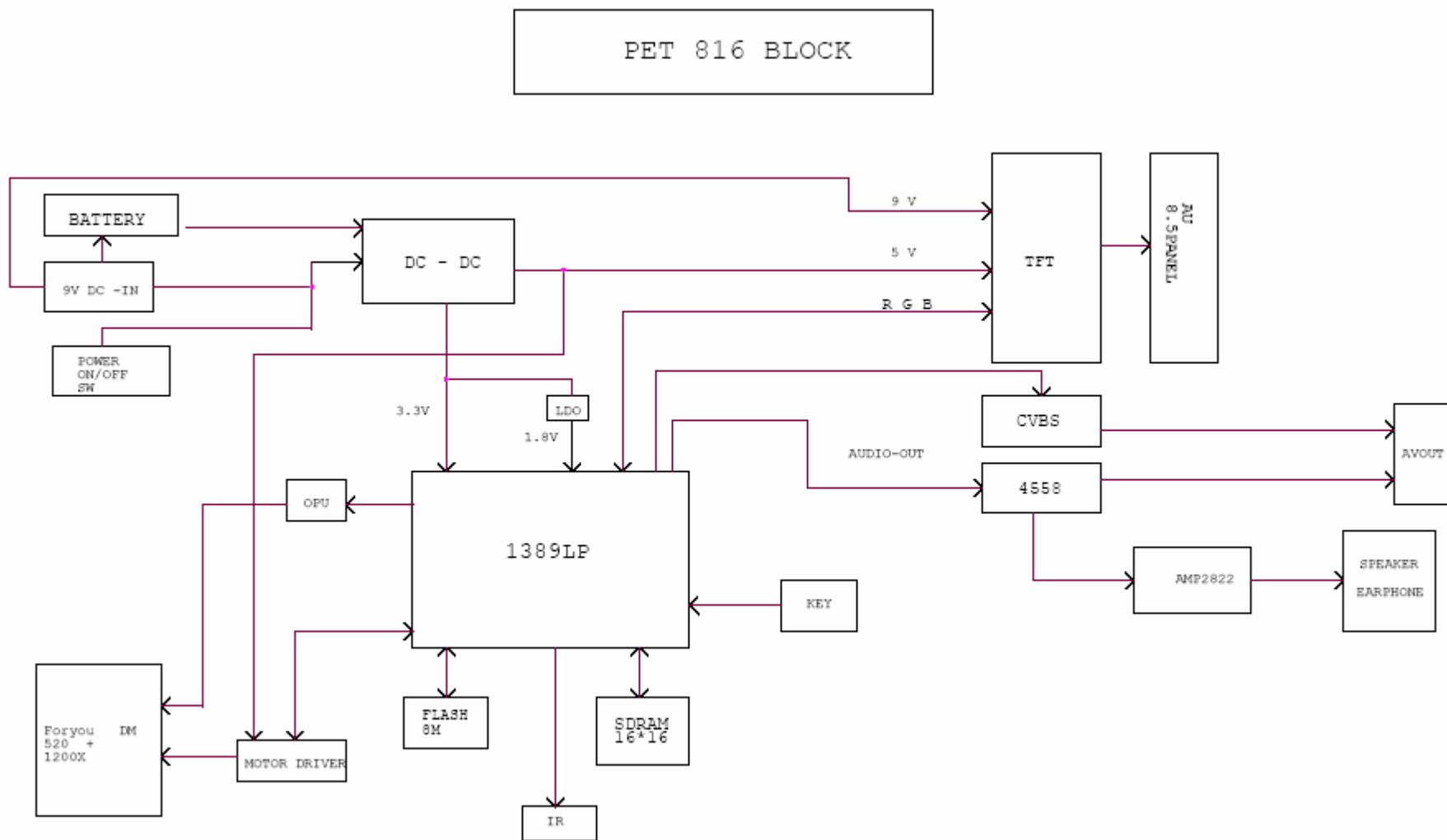


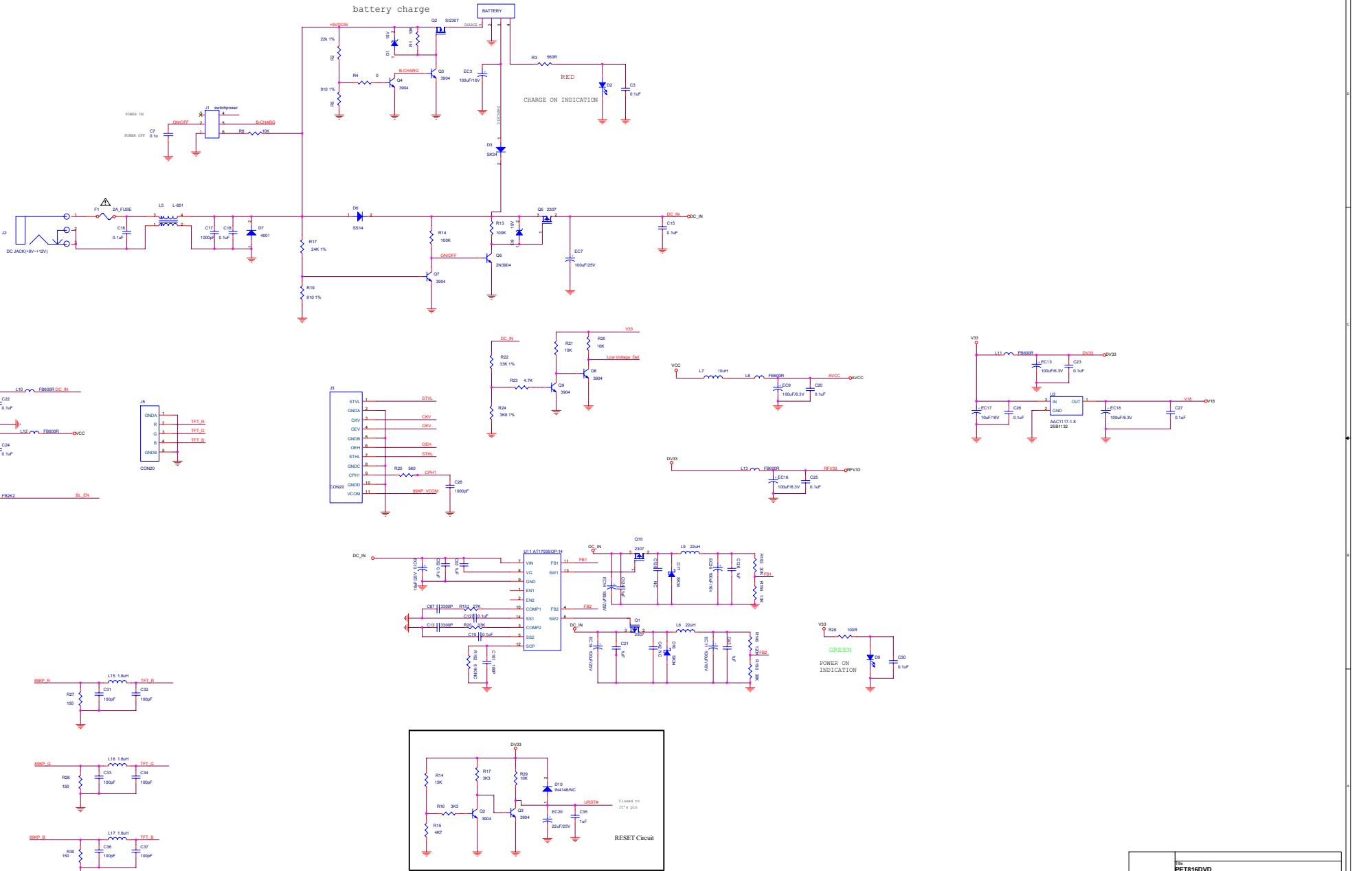
5.0 TROUBLESHOOTING

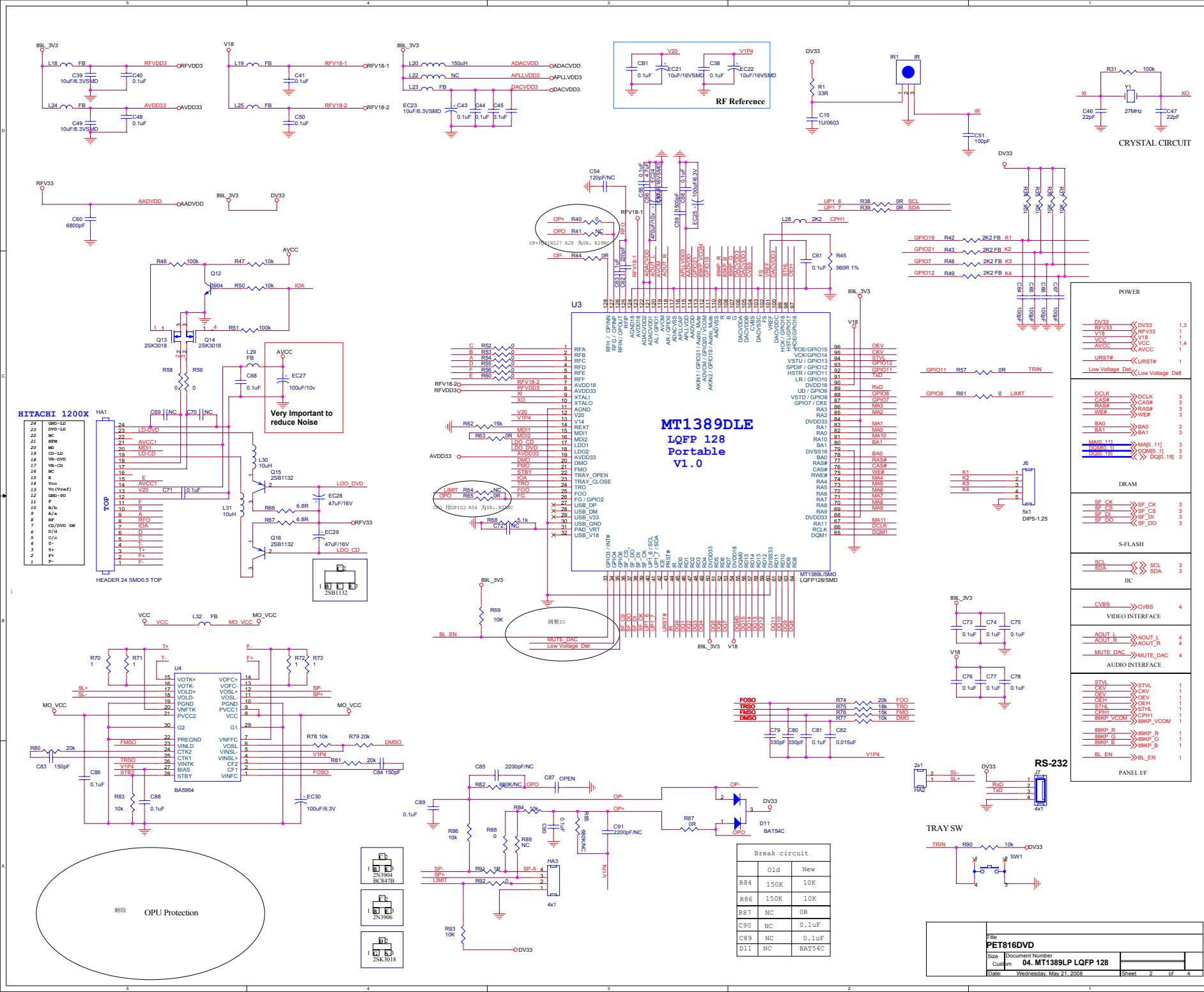
SYMPTOM: KEY & BOTTON FAILURE

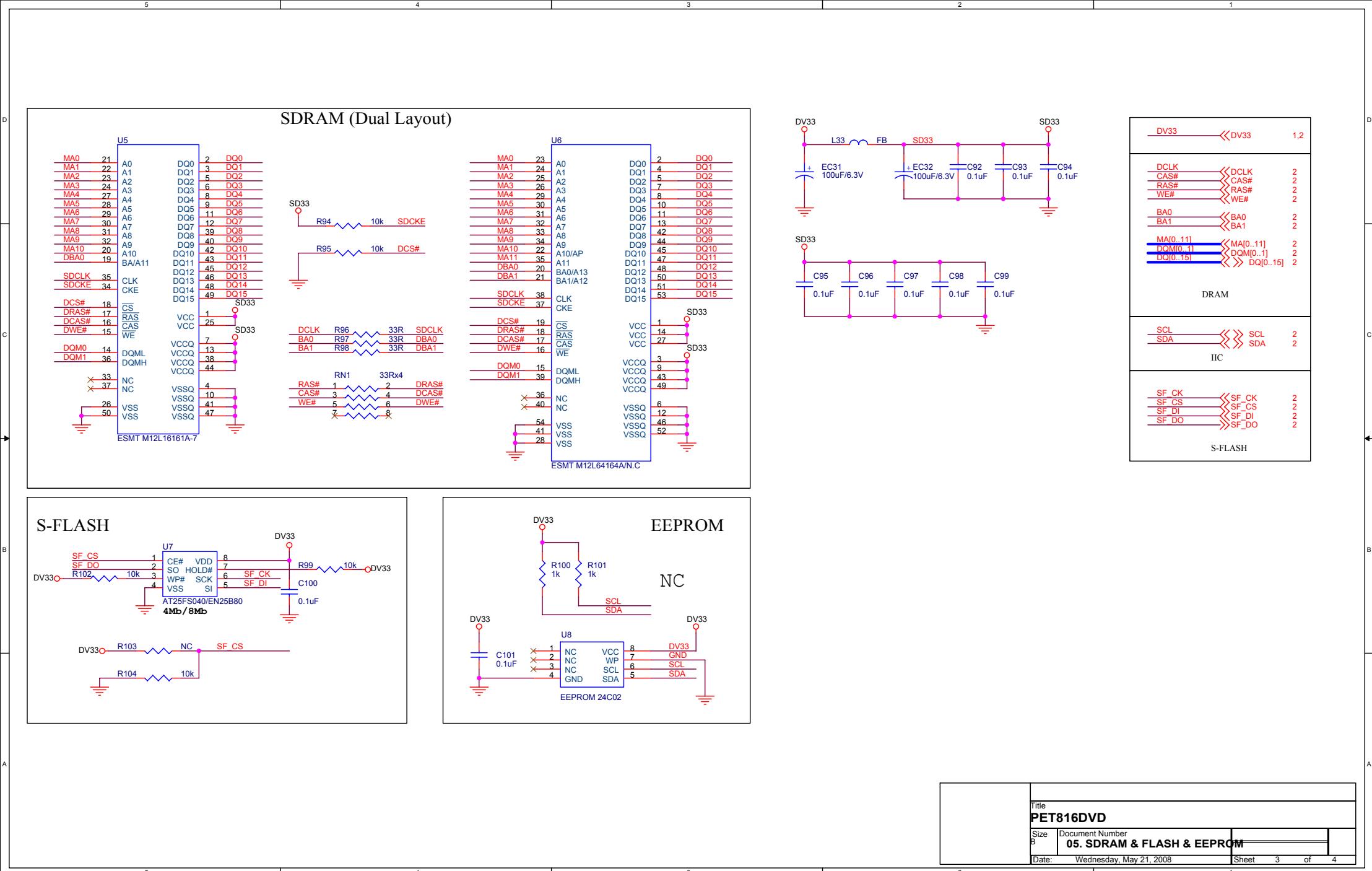


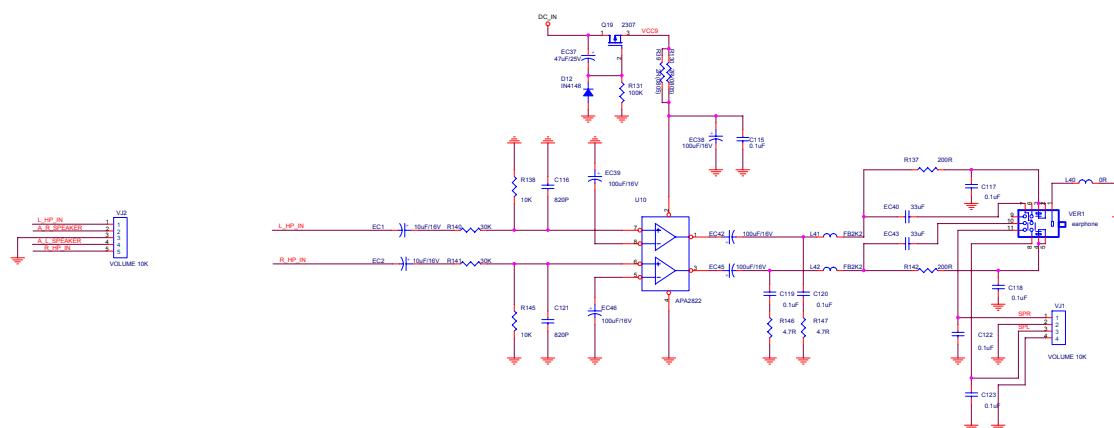
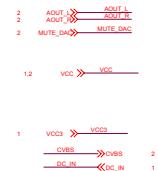
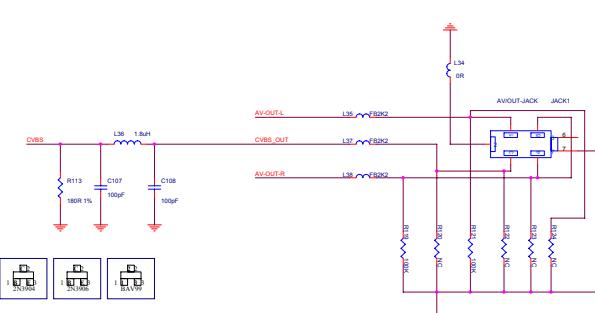
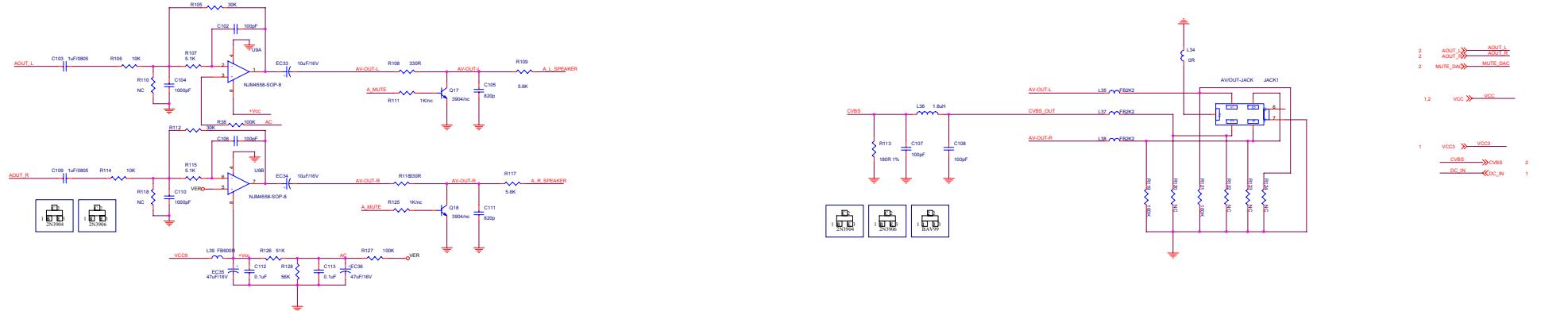
6.0 BLOCK DIAGRAM



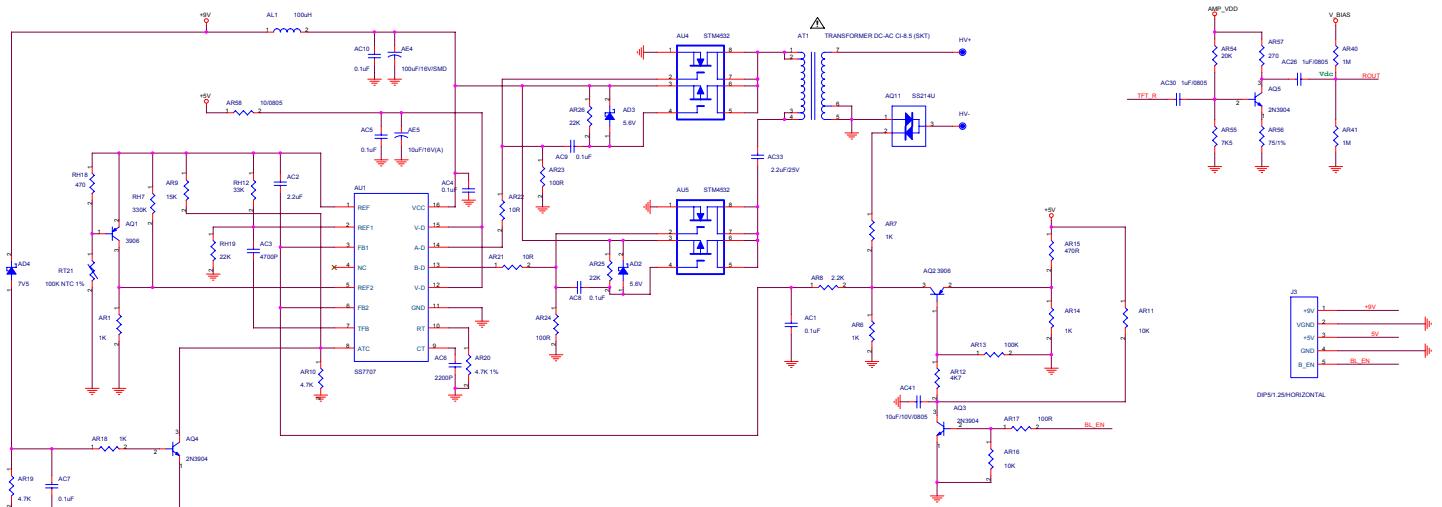
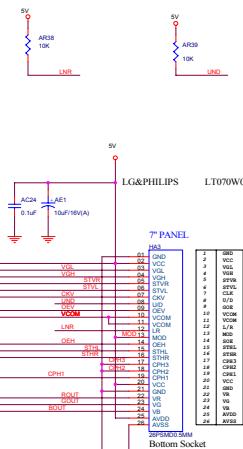
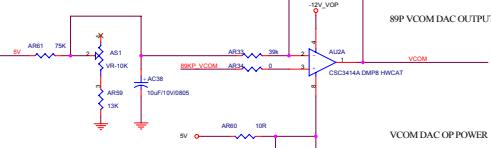
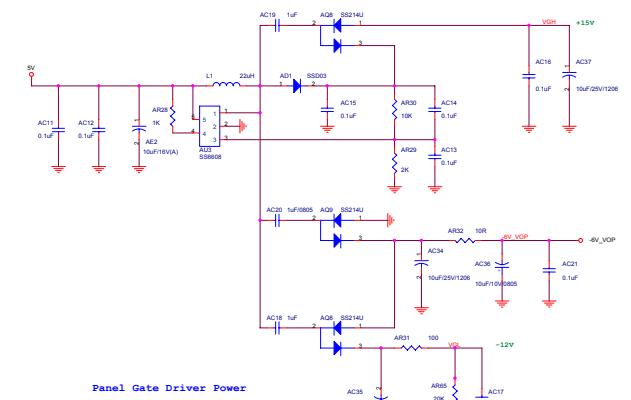






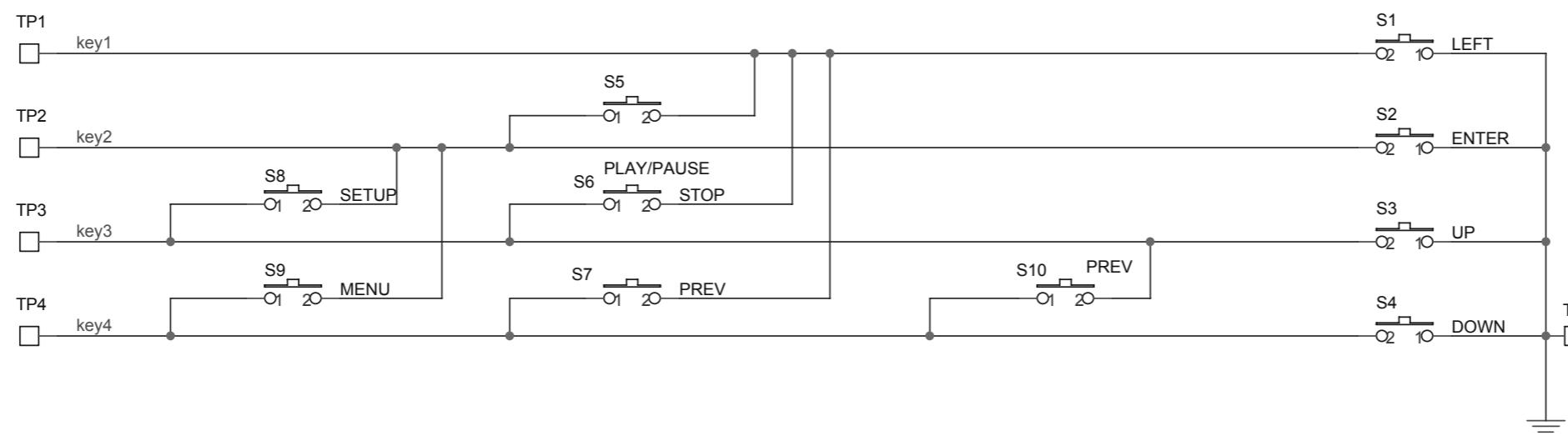


00a	PET816DVD
00b	05. SDRAM & FLASH & EEPROM
00c	Wednesday, May 21, 2008

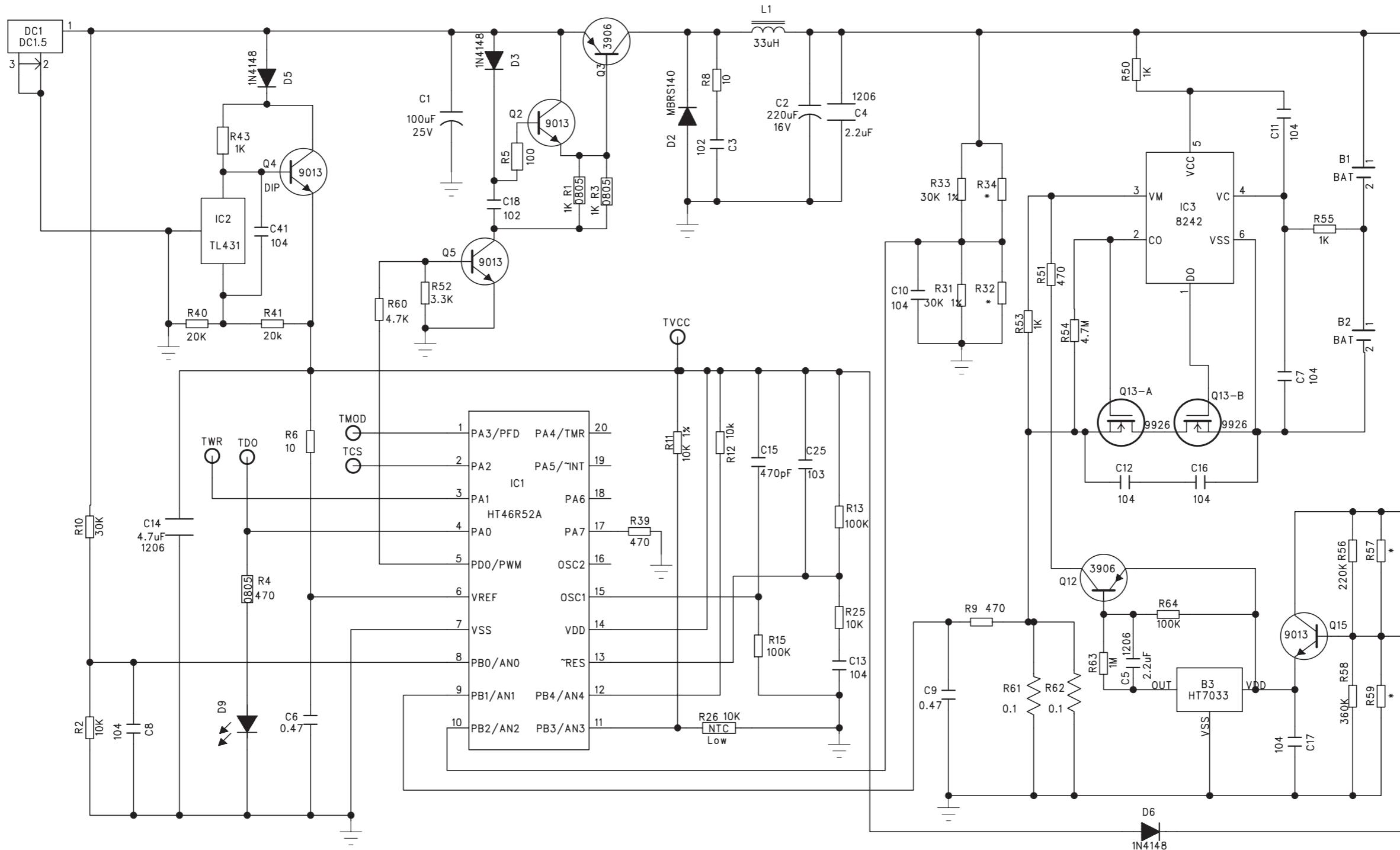


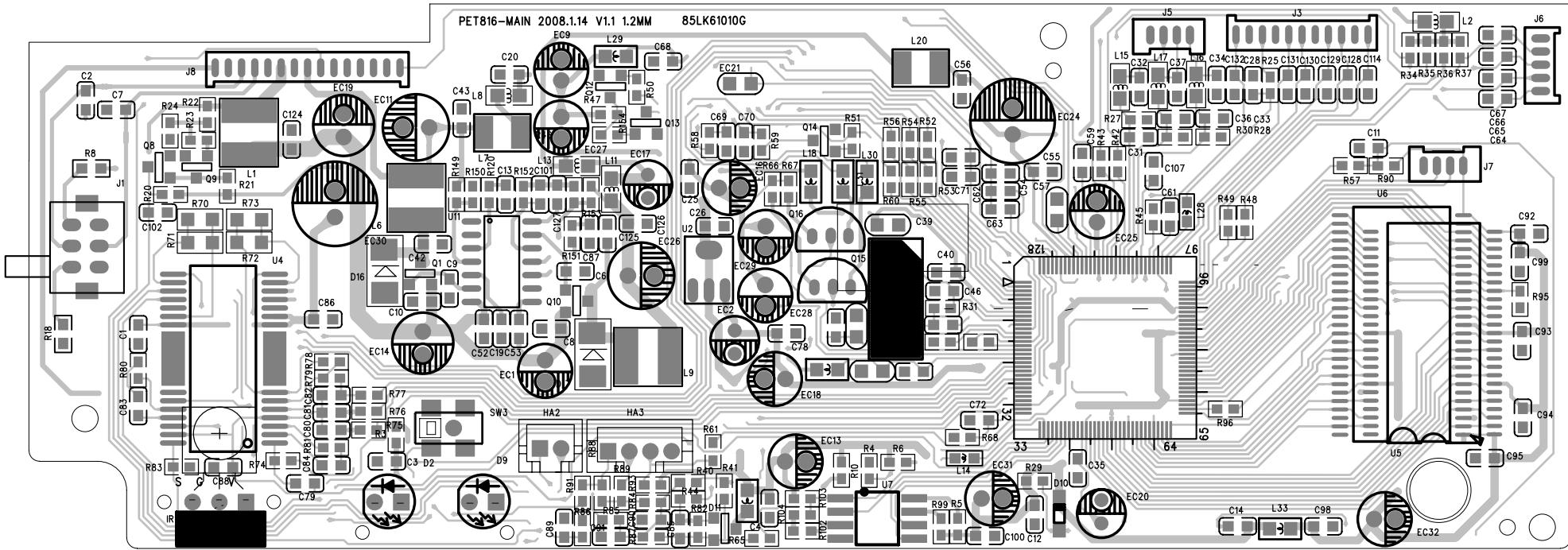
PET816 TFT			
Document Number		Version	1
Wesleyan, May 21, 2008	Page	1	of 1

CIRCUIT DIAGRAM - KEY



CIRCUIT DIAGRAM - BATTERY

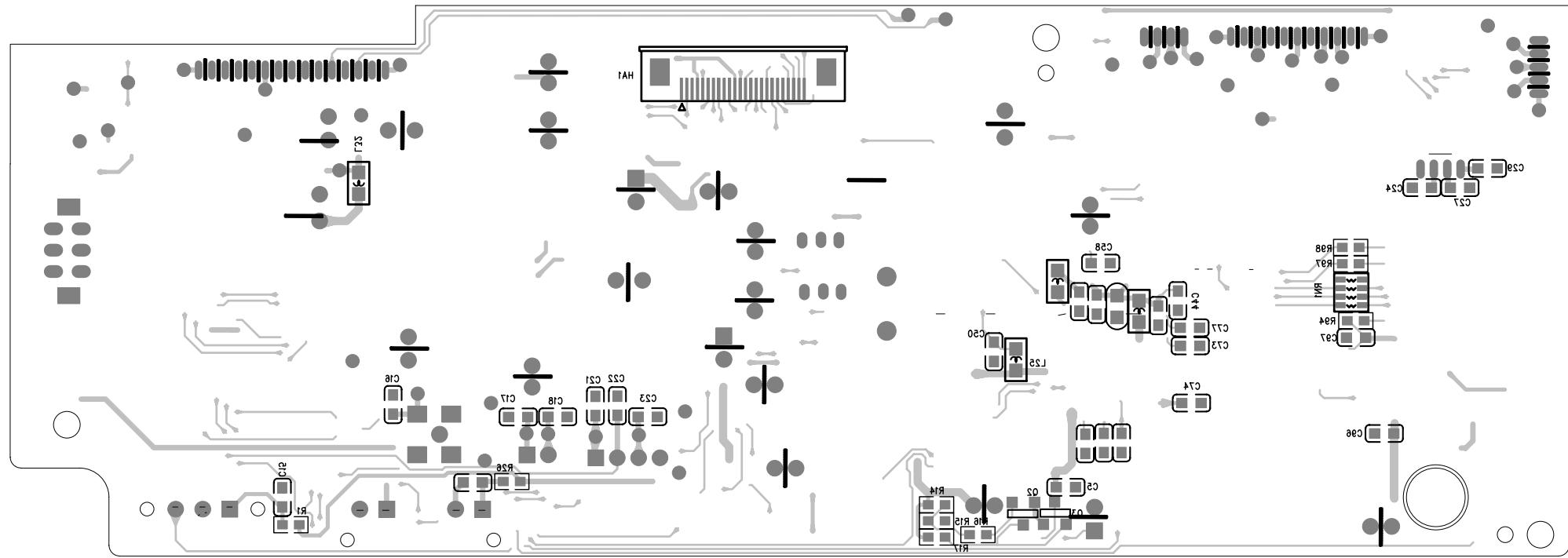




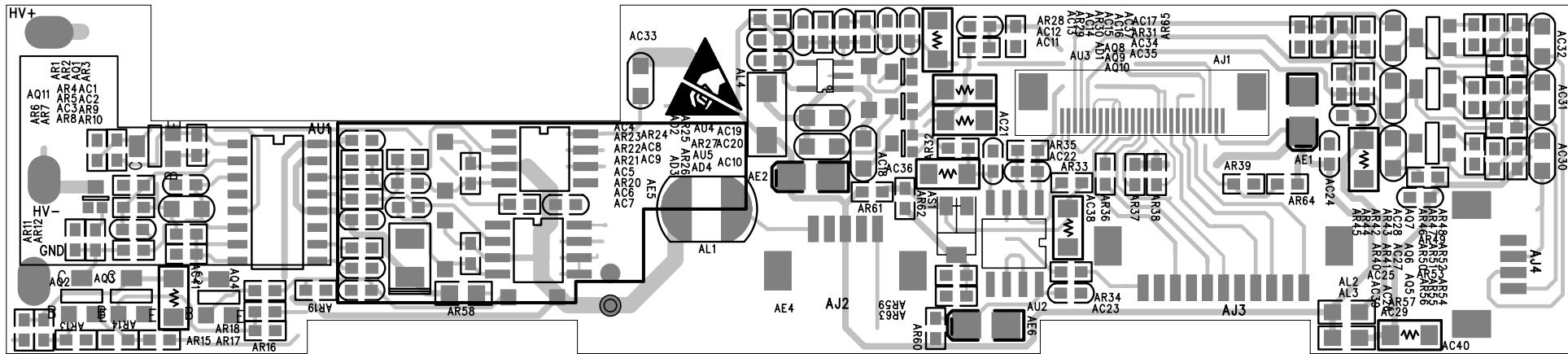
PET816 MAIN TOP

PET816 MAIN

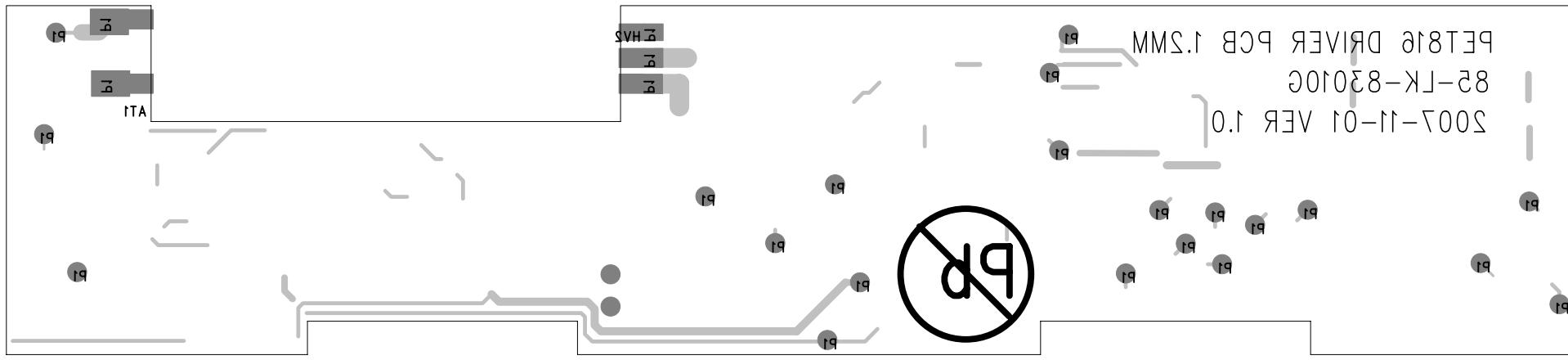
(2007.II - Mon Jun 02 15:52:06 2008)



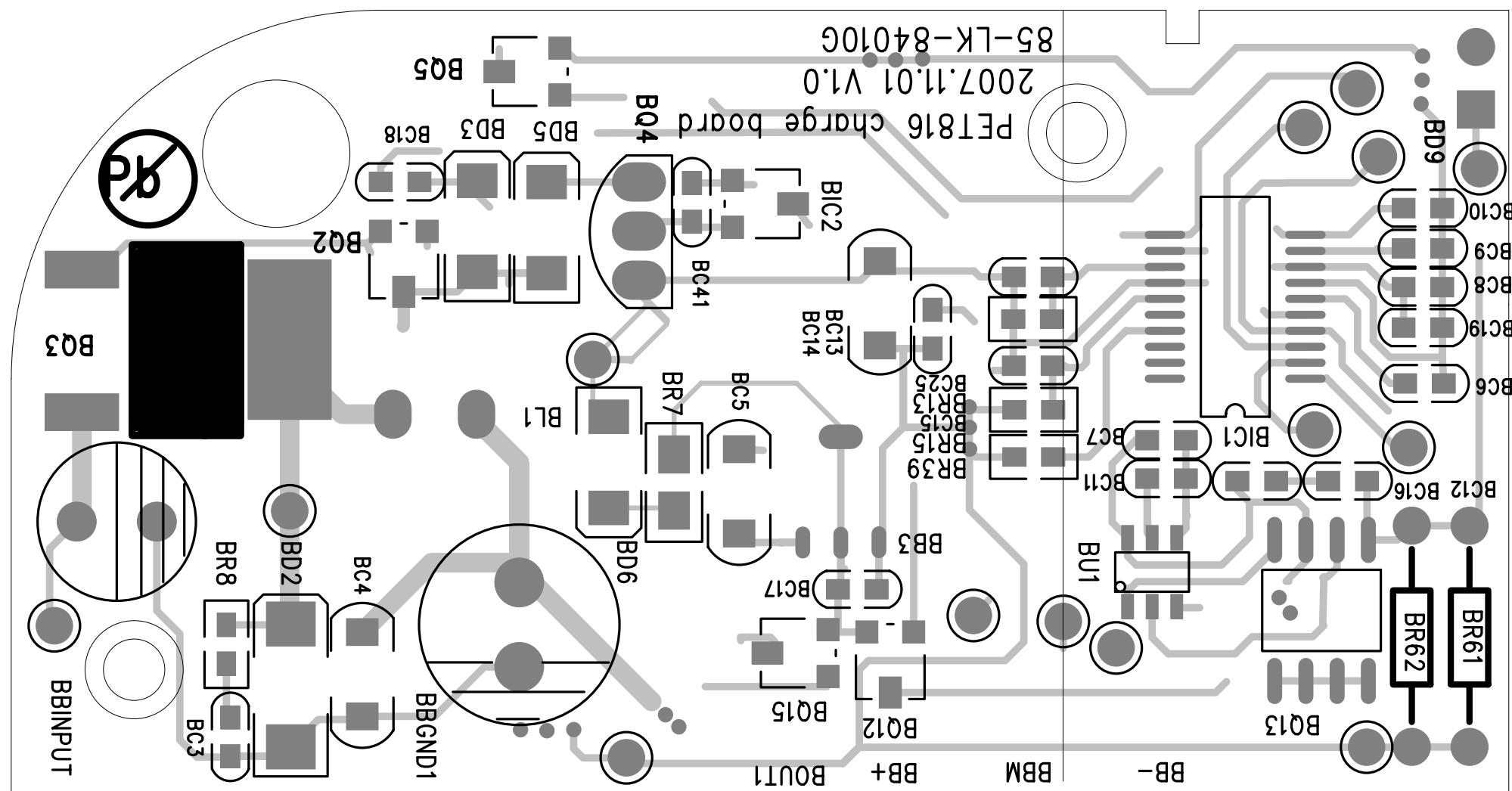
PET816 MAIN BOTTOM



PET816 DRIVER TOP

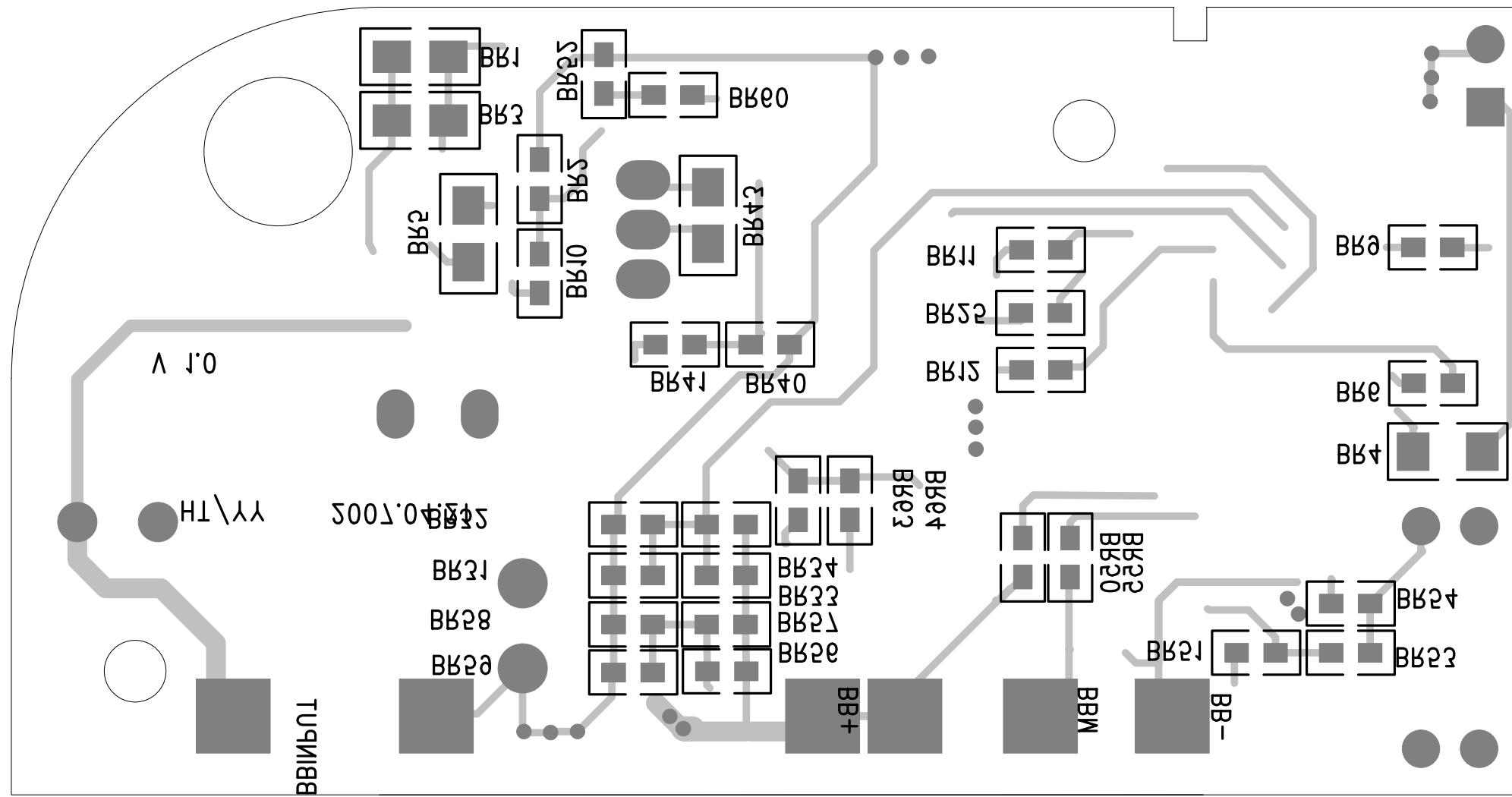


PET816 DRIVER BOTTOM



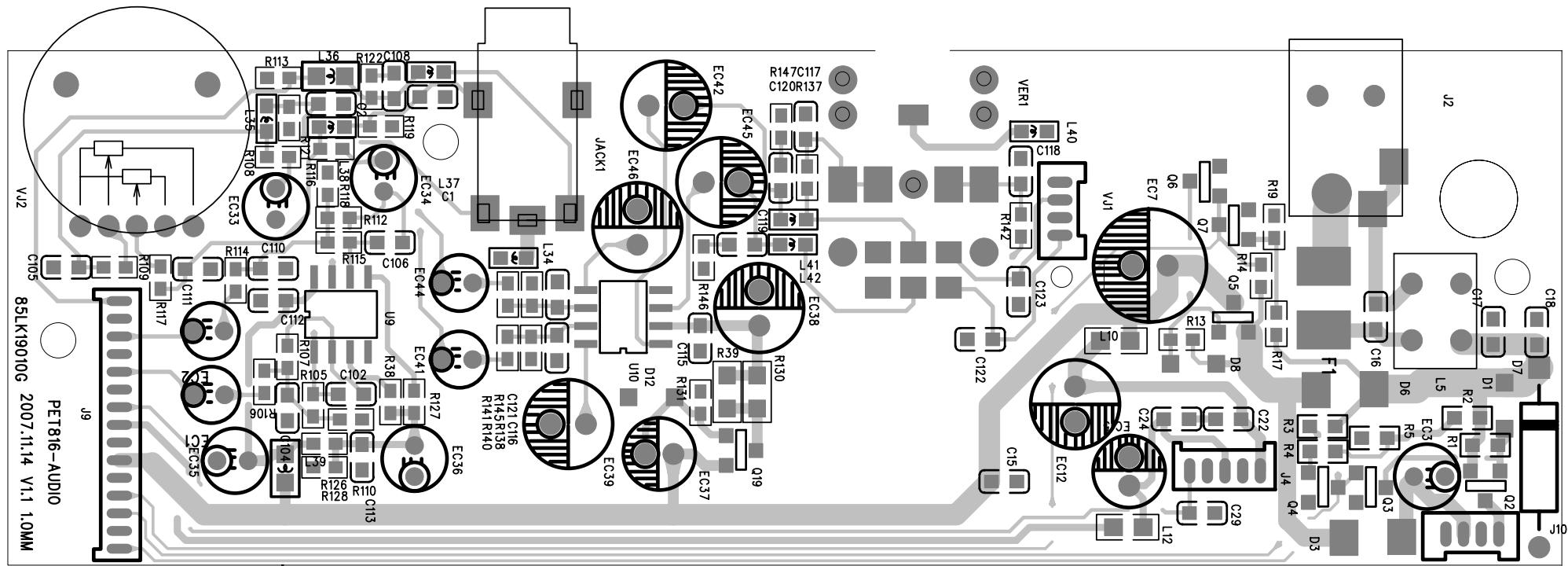
PET816 BATTERY TOP

PET816 BATTERY
(2007 - Mon Jun 02 15:29:57 2008)



PET816 BATTERY BOTTOM

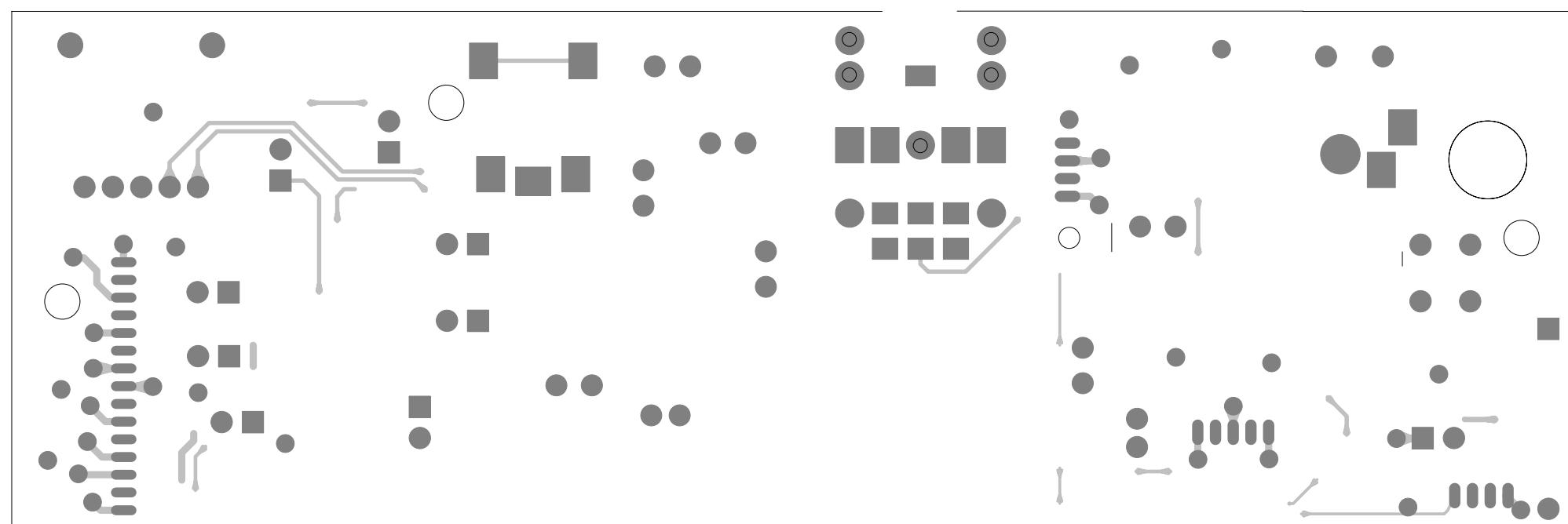
(2007. - Mon Jun 02 15:24:59 2008



PET816 AUDIO TOP

PET802 AUDIO

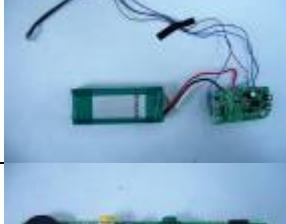
(2007. – Mon Jun 02 15:25:24 2008



PET816AUDIO BOTTOM

8.0 SERVICE PART LIST

Electrical Part List:

CTN	Service 12NC	Service Description	Photo	Pos. No.
PET816	996510010215	MAIN PCBA		100
PET816	996510010216	TFT PCBA		110
PET816	996510010217	KEY PCBA		120
PET816	996510010218	BATTERY PCBA + BATTERY PACK		130
PET816	996510010219	AUDIO PCBA		140

8.0 SERVICE PART LIST

Mechanical Part List:

CTN	Service 12NC	Service Description	Photo	Pos. No.
PET816	996510010220	8.5" LCD PANEL		200
PET816	996510007686	DVD LOADER		210
PET816	996510010221	FRONT CABINET		300
PET816	996510010222	DISPLAY FRAME + SPEAKERS		310
PET816/05 PET816/12 PET816/93	996510010223	BOTTOM CABINET		320
PET816/98	996510010379	BOTTOM CABINET		
PET816	996510010224	MIDDLE CABINET		330
PET816	996510010225	CD DOOR		340
PET816	996510010226	DIR BUTTON		350

8.0 SERVICE PART LIST

Mechanical Part List:

No.	Service 12NC	Service Description	Photo	Pos. No.
PET816	996510010227	OK BUTTON		360
PET816	996510010228	KEY ASSY BUTTON		370
PET816	996510010229	OPEN KNOB		380
PET816	996510010230	DOOR EJECT SPRING		390
PET816	996510010231	DOOR SLIDE		400
PET816	996510010232	DOOR SLIDE SPRING		410
PET816	996510010233	DOOR SLIDE COVER		420
PET816	996510010234	CD DOOR SPRING		430

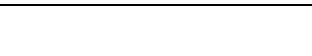
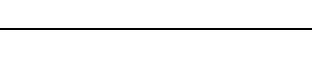
8.0 SERVICE PART LIST

Mechanical Part List:

CTN	Service 12NC	Service Description	Photo	Pos. No.
PET816	996510010235	HINGE		440
PET816	996510002384	FFC		450
PET816	996510010236	LENS		460
PET816	996510010237	HOUSING OF MAIN TO AUDIO BD		470
PET816	996510010212	HOUSING OF MAIN TO TFT BD		480

8.0 SERVICE PART LIST

Accessories Part List:

Service 12NC	Service Description	Photo	Pos. No.
996510006564	CAR ADAPTER		CARADAPTER
996510004972	REMOTE CONTROL AY5510		RC
996510004975	AV CABLE		AVCABLE
996510010214	AC/DC ADAPTER FOR /12		ADAPTER
996510010377	AC/DC ADAPTER FOR /05		ADAPTER
996510010378	AC/DC ADAPTER FOR /98		ADAPTER
996510012875	AC/DC ADAPTER FOR /93		ADAPTER

9.0 REVISION LIST

Version 1.0 (3141 785 32260)

- Initial release PET816/05, PET816/12, PET816/98

Version 1.1 (3141 785 32261)

- Update partlist for PET816/93

Version 1.2 (3141 785 32262)

- Update section 7 the electrical drawing for PET816/12, /05 kit model in PACH