

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

©Copyright 2005 Philips Consumer Electronics B.V. Eindhoven, The Netherlands
All rights reserved. No part of this publication may be reproduced, stored in a retrieval system or transmitted, in any form or by any means, electronics, mechanical, photocopying, or otherwise without the prior permission of Philips

3141 785 31862

1.0 TECHNICAL SPECIFICATION

General

Dimensions (W x H x D):	210 x 178 x 39mm
Bear Unit Weight:	719.3g +/- 5%
Power supply:	Input: 100-240V AC, 50/60Hz 0.3A Output: DC 9V 1.0A 9W
Power consumption:	9W
Operating temp. & RH:	-10 ~ +50degC / 40-90%
Video System	NTSC / PAL / AUTO
Audio System	
Output voltage 1kHz:	2+/-0.2V
THD 20-20kHz (%):	< /=3%
Dynamic range:	> /=70dB
Signal/Noise ratio:	> /=70dB
Frequency response (20-20kHz):	+/-1dB
Channel Separation 1kHz	> =60dB
Channel Balance 1kHz	<2dB

Current consumption

DC-IN SUPPLY (9V)	
Battery Charging Current	450 +/- 50mA
BATT. SUPPLY	
Power Off	
Playback with TFT on	
Playback without TFT on	
Playback time	

Headphone out (headphone output load 2x16 ohm)

Maximum output power:	1.5mW
Frequency response:	+/-1dB
SNR (A-wght):	>70dB
THD (0.2-20kHz):	1%
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 / JPEG
Audio Playback Format:	CD/MP3, MP3-DVD, WMA
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 hetzelfde 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 ridatta 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.

(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 spärren är urkopplad. Betrakta ej strålen.

(SF) Varoitus !

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

(DK) Advarse !

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.

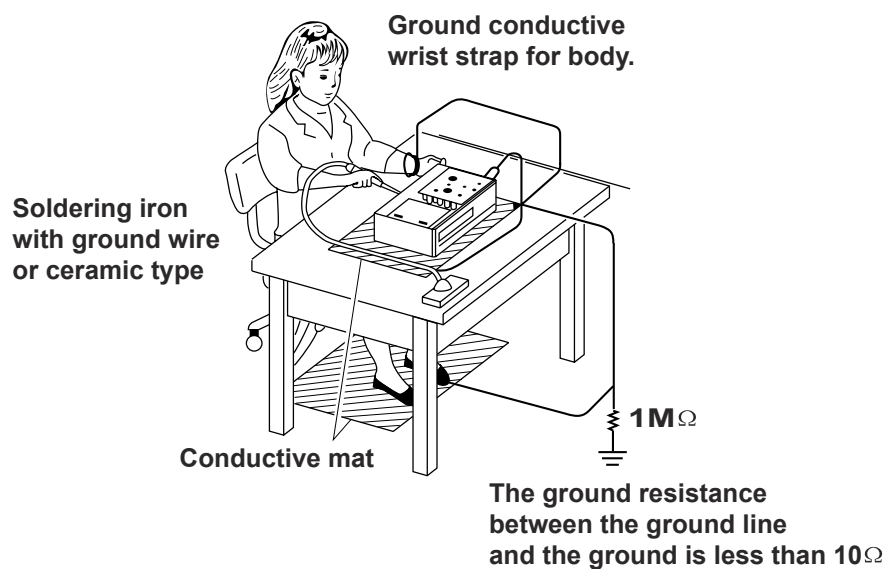
When the power supply is being turned on, you may not remove this laser cautions label. If it removes, radiation of laser may be received.

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.



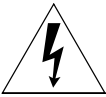
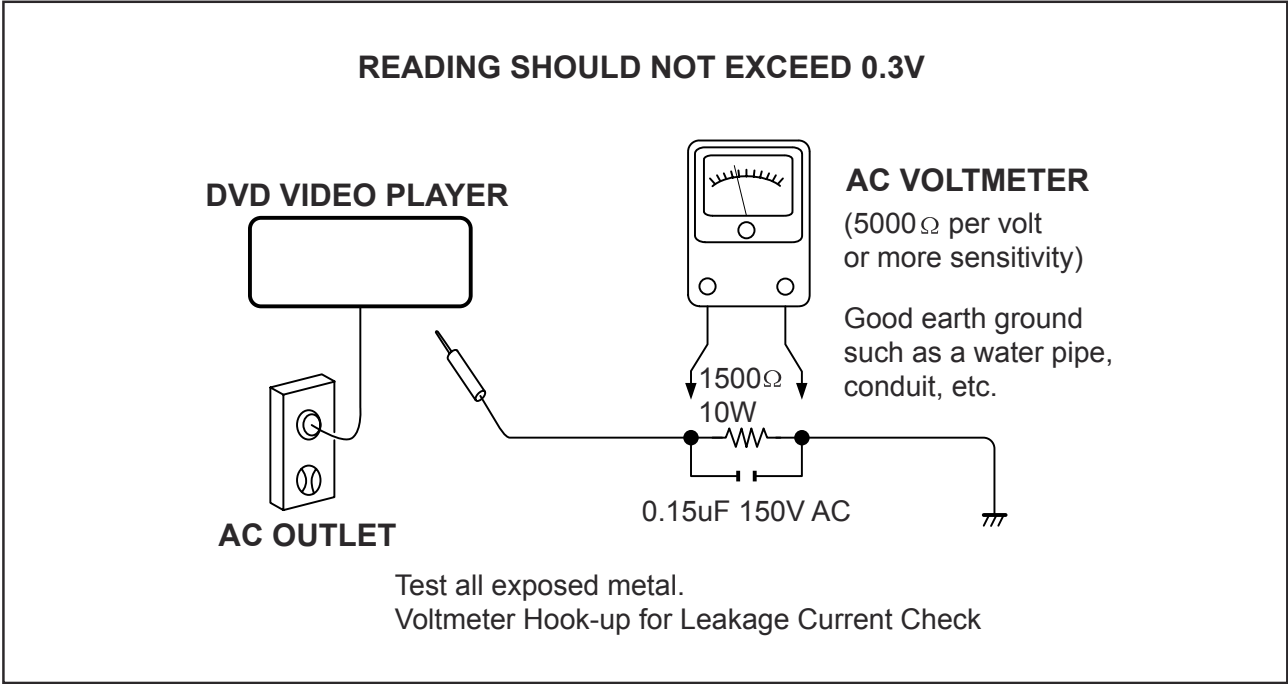
SAFTY NOTICE

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 5000Ω per volt or more sensitivity. Connect a 1500Ω 10W resistor,paralleled by a 0.15uF 150V AC capacitor between a knomn 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.



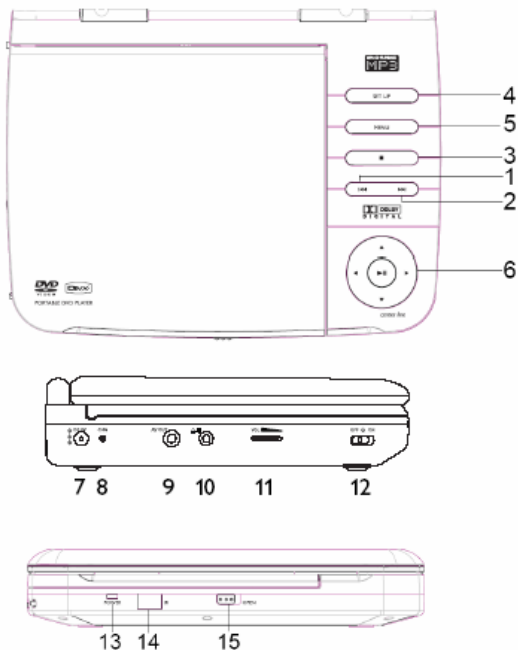
The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



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



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 **SETUP**Enter or exit the system menu.
- ⑤ **MENU**Display the MENU page.
- ⑥ **▲, ▼, ◀, ▶**Navigate in a menu.
.....(◀/▶) search backward/forward in a disc at different speeds.
- ▶II**Start or interrupt playback.
-Confirm a selection.

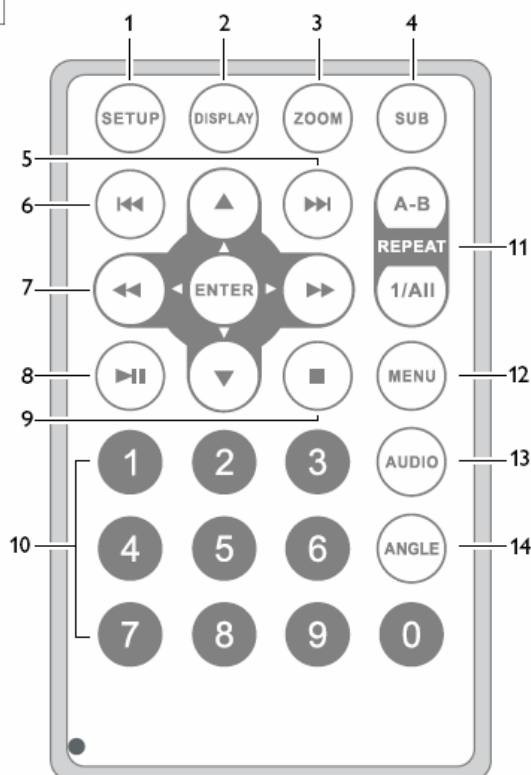
Left of player (see figure 1)

- ⑦ **DC 9V**Power supply socket.
- ⑧ **CHG**Charge indicator.
- 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**Power indicator
- ⑭ **IR**Remote sensor
- ⑮ **OPEN**Open the disc door to insert or remove disc

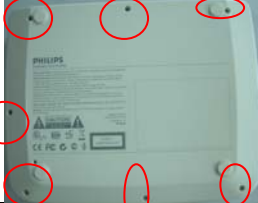
2



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 **▶II**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

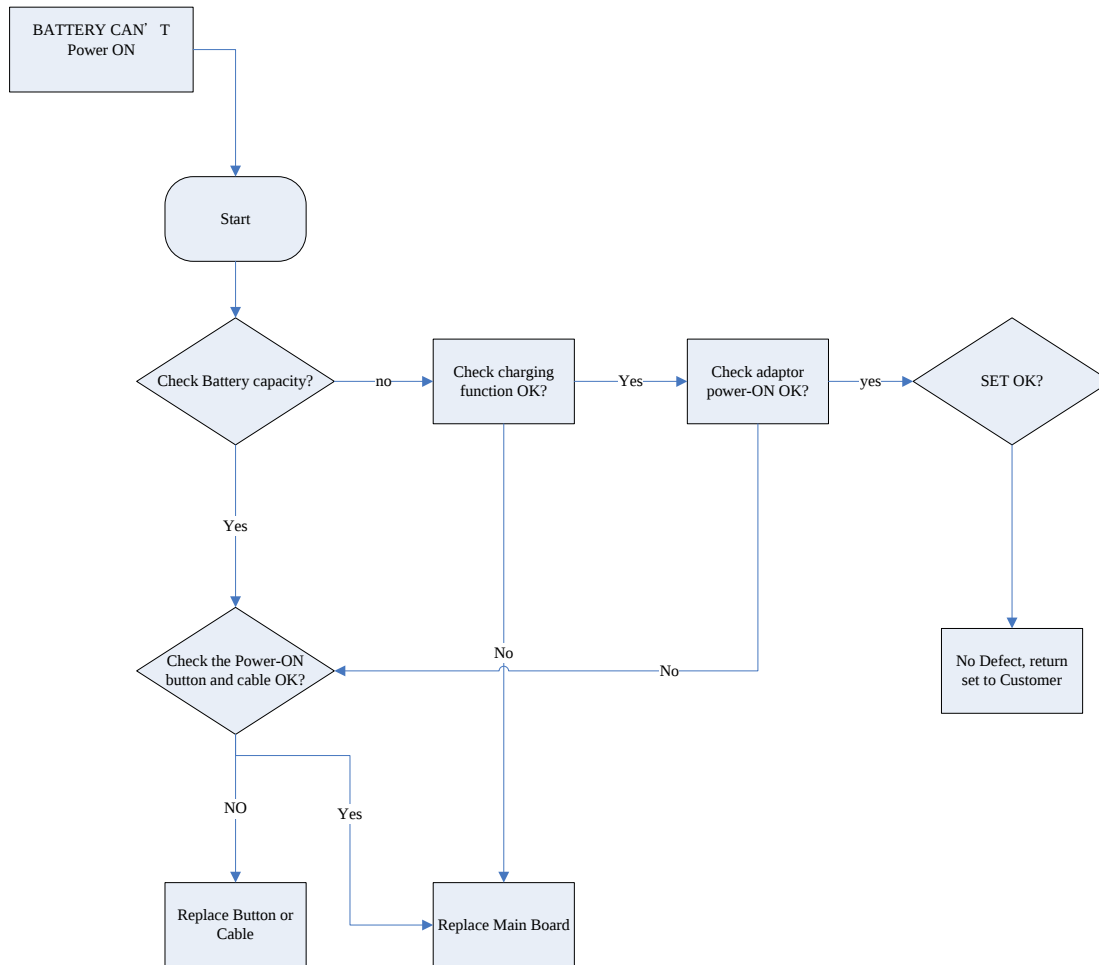
Disassembly Procedure	
	1. Remove 7pcs of screws on the side of bottom cabinet.
	2. Open the bottom cabinet, up-plug all the wire connector from main board (The wire connector are for : DVD loder, battery board and TFT driver board, Key board and speaker) Remove all the screws on the main board, then take the main board from bottom cabinet.
	3. up-plug the FFC from DVD driver, then you can take out the DVD Driver.
	4. Remove the flex cable on the bottom side.
	5. Remove 2 pcs of screws on the battery board. Then take out the battery together with the battery board.
	6. Remove 4pcs 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) Refer to next picture.

4.0 MECHANICAL INSTRUCTION

 2007/03/11 18:28	7. To remove the hinge, remove the screws on the hinge. 
 2007/05/04 18:51	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-assembly) And up pulg wire connector from TFT board.  2007/03/10 16:46
 2007/03/10 09:51	9. Take out the driver board from cabinet using eradicator.

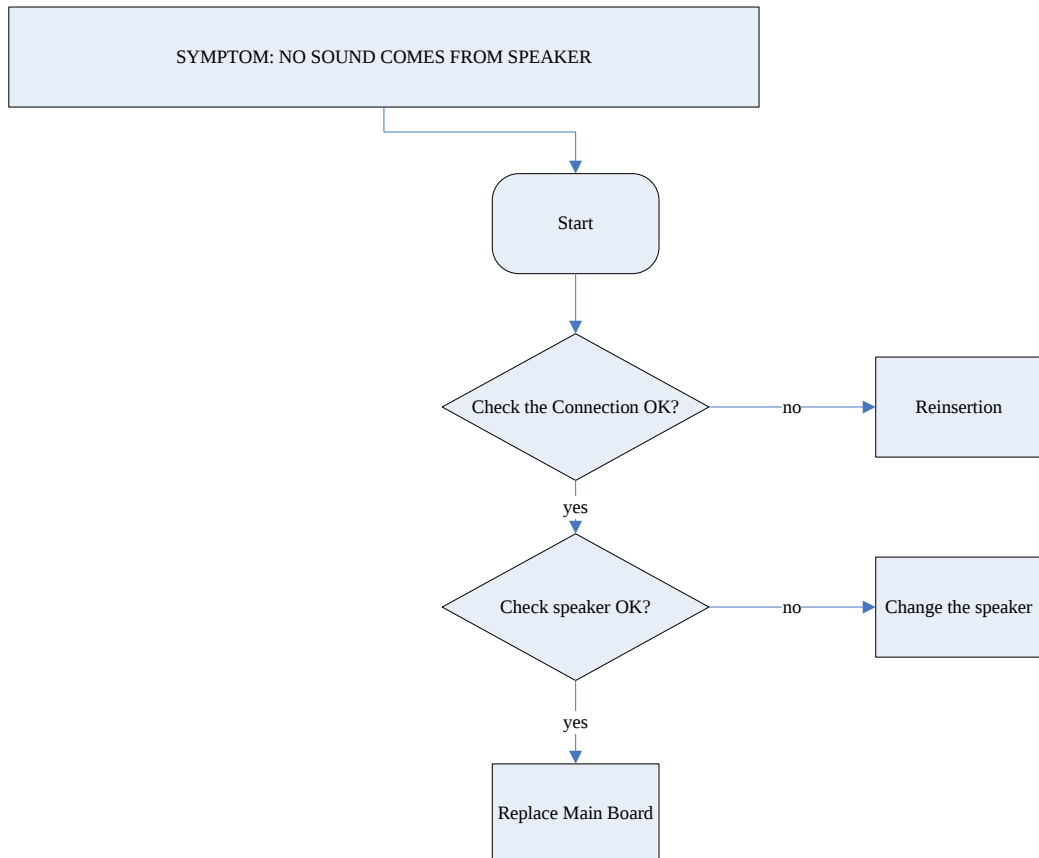
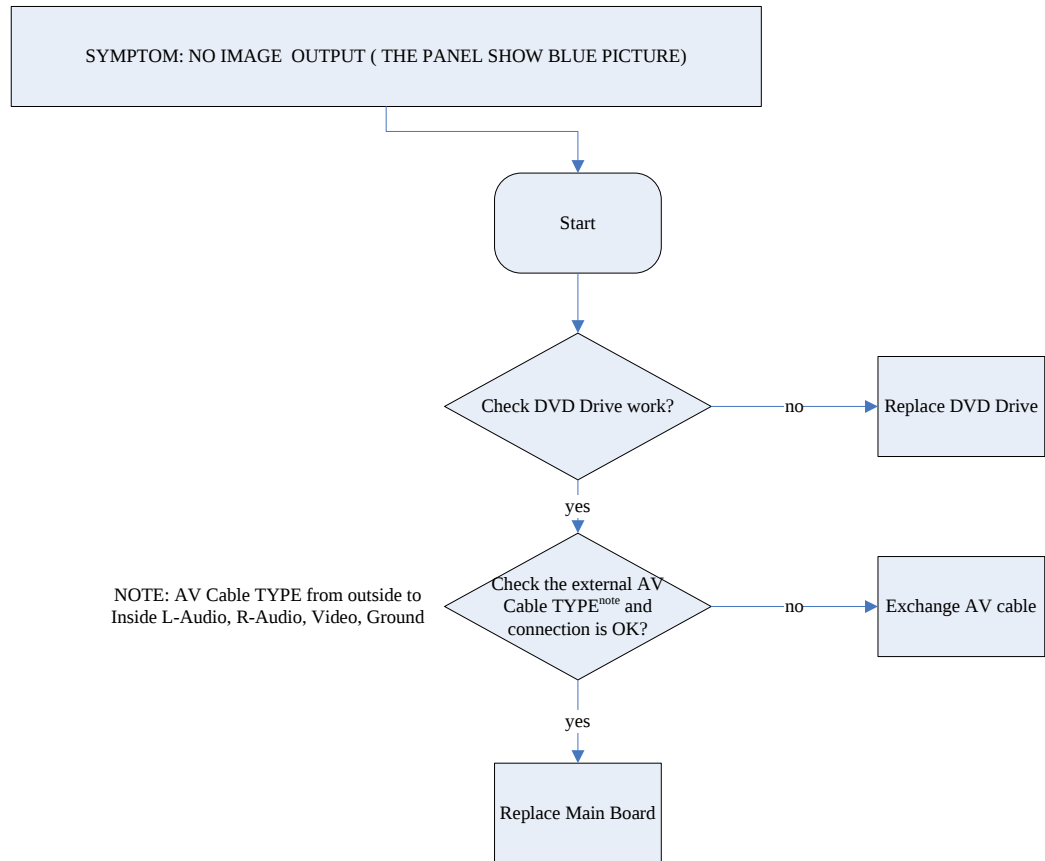
5.0 TROUBLESHOOTING

SYMPTOM: BATTERY NO POWER



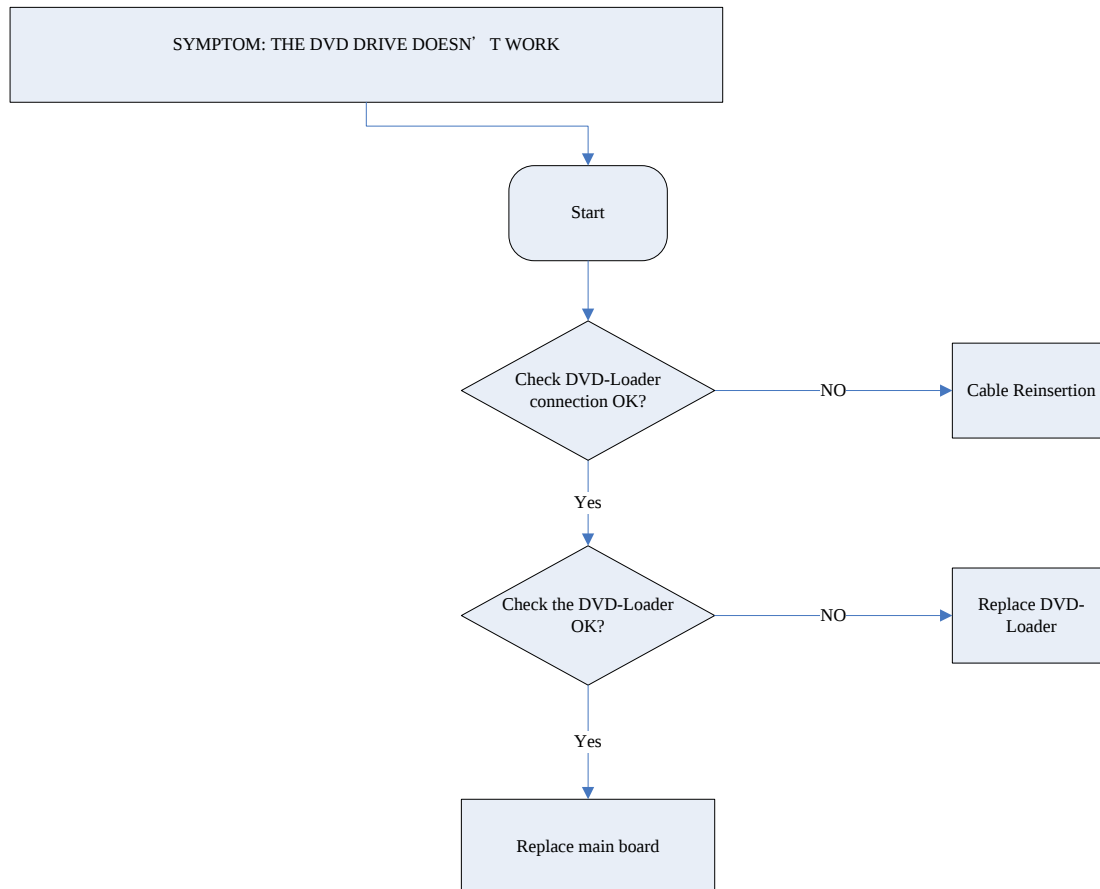
5.0 TROUBLESHOOTING

SYMPTOM: NO IMAGE / NO SOUND



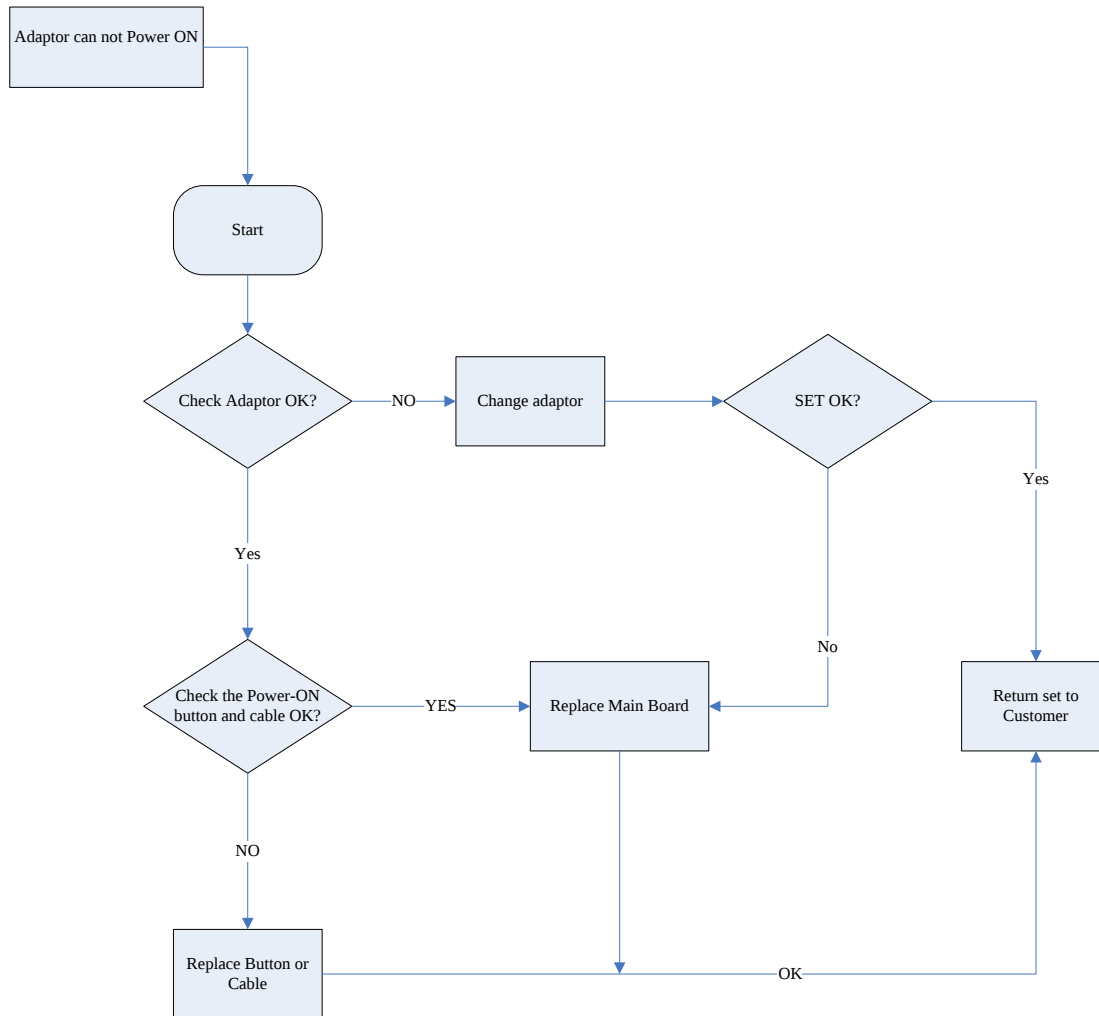
5.0 TROUBLESHOOTING

SYMPTOM: THE DVD DRIVE DOES NOT WORK



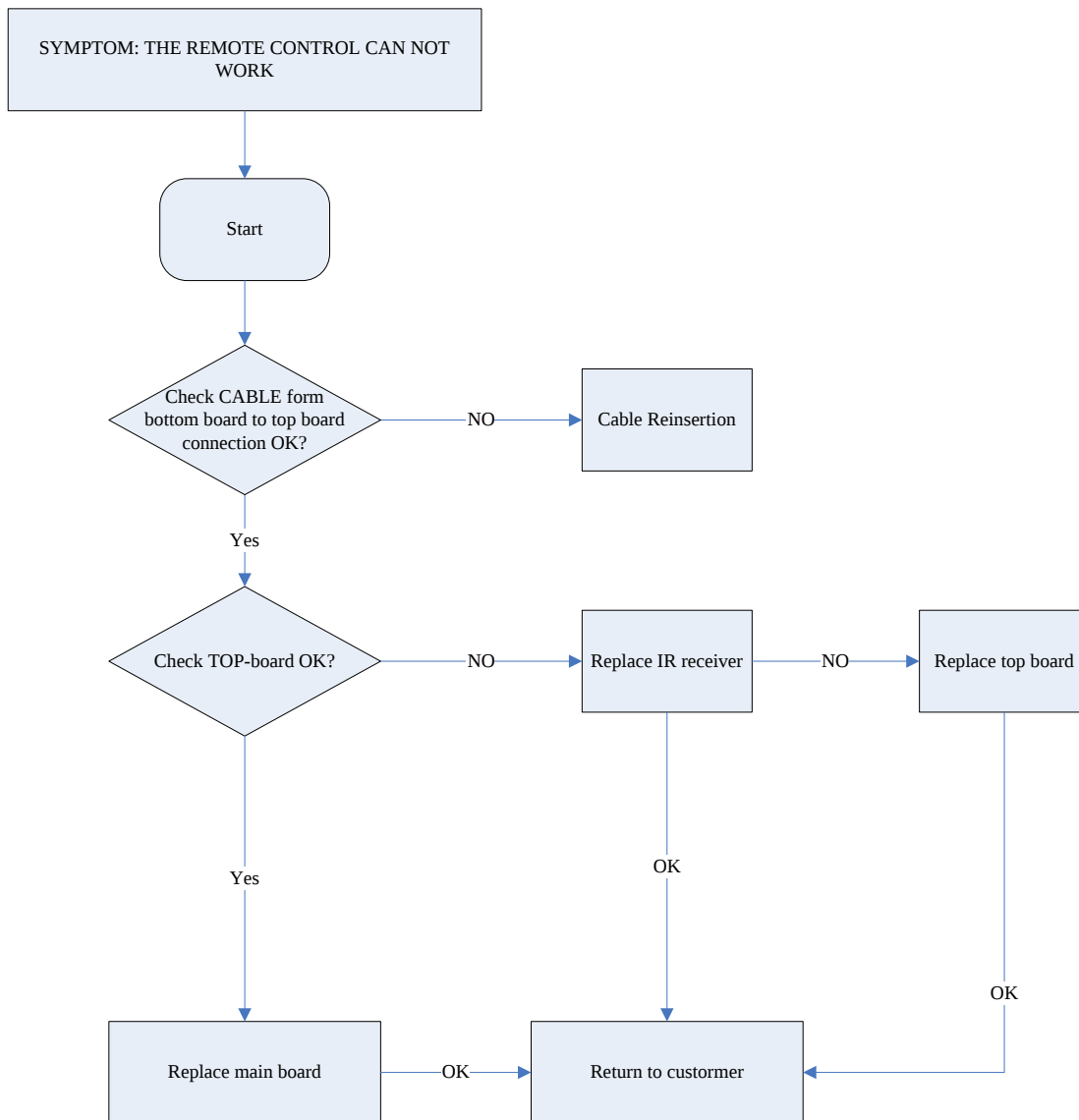
5.0 TROUBLESHOOTING

SYMPTOM: ADAPTOR CANNOT POWER ON



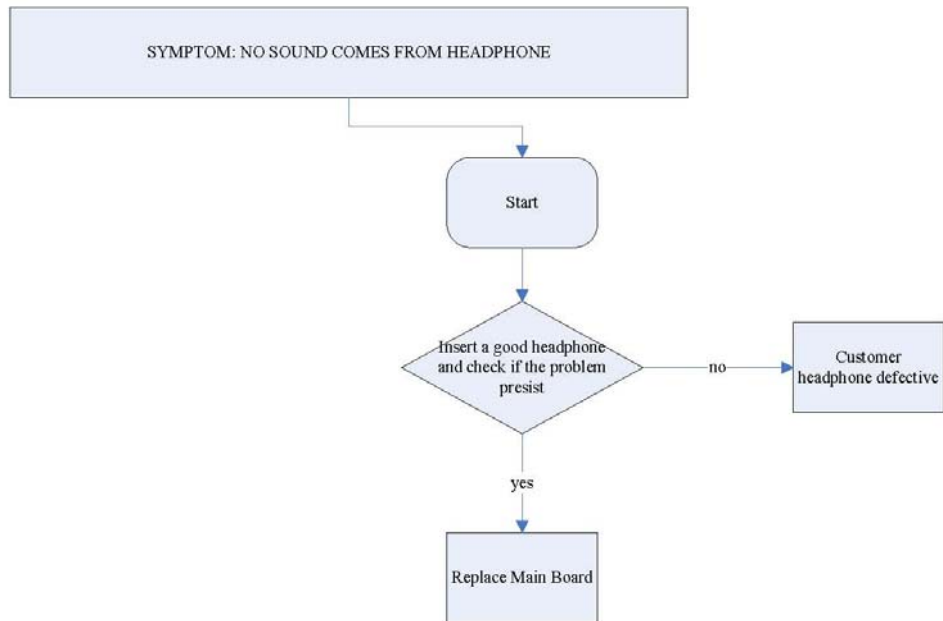
5.0 TROUBLESHOOTING

SYMPTOM: REMOTE CONTROL CANNOT WORK



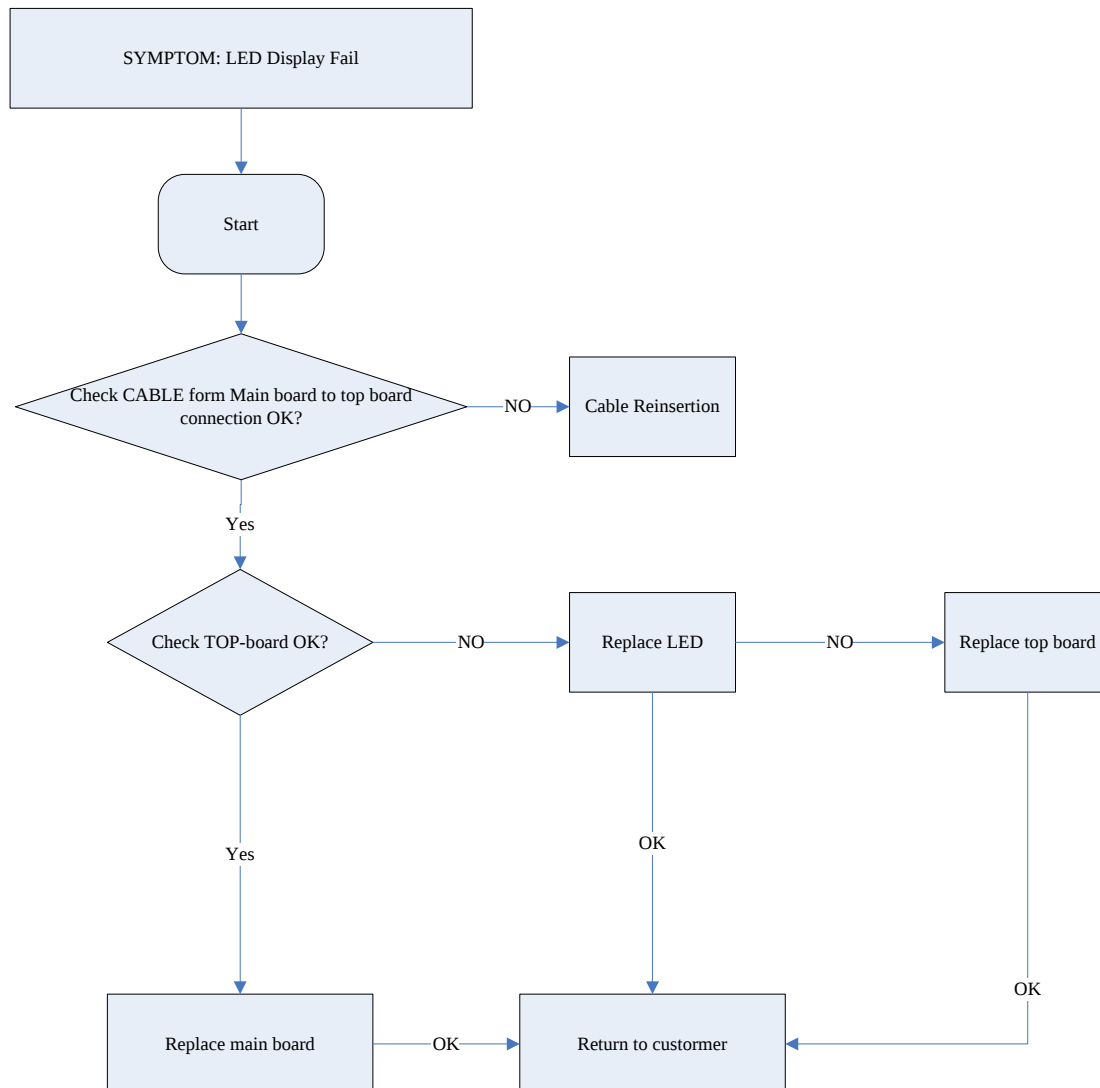
5.0 TROUBLESHOOTING

SYMPTOM: NO SOUND FROM HEADPHONE



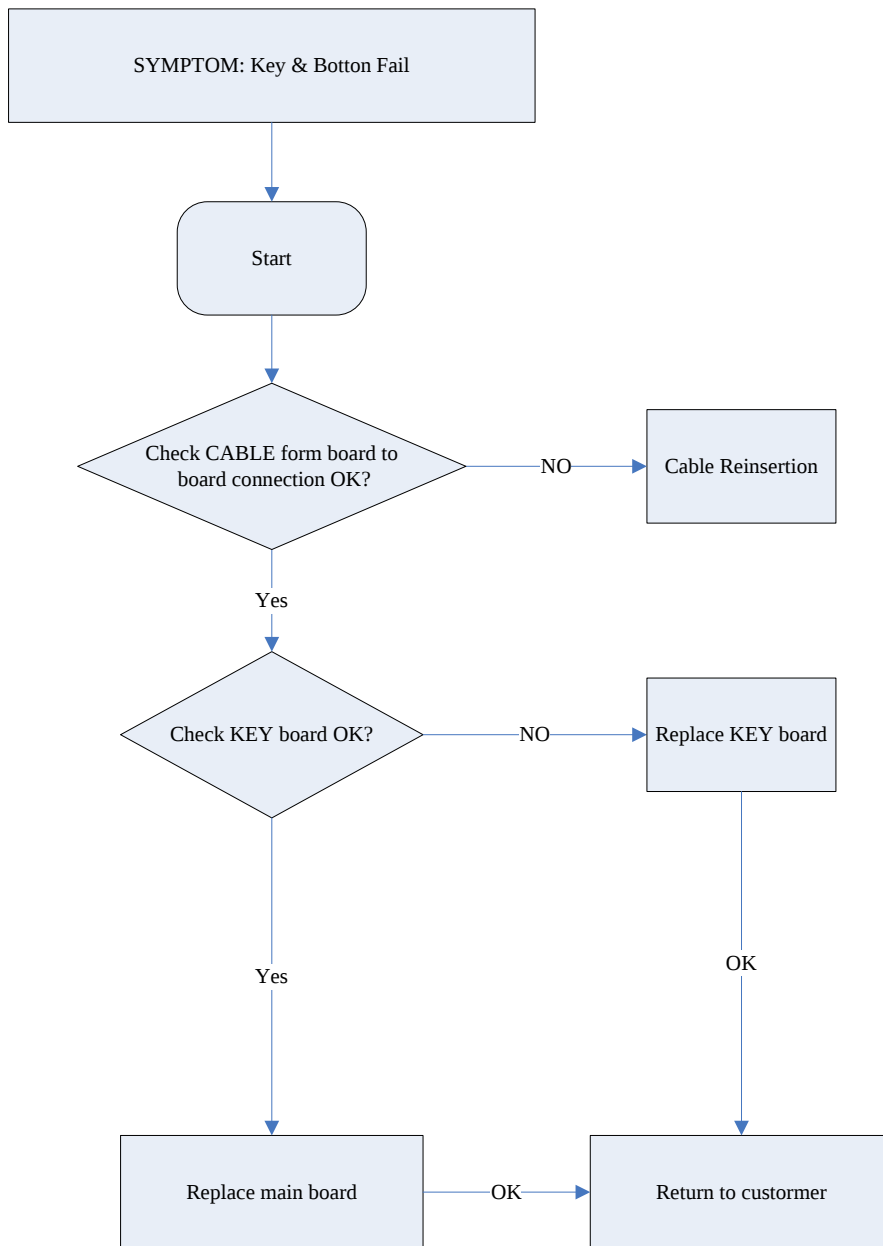
5.0 TROUBLESHOOTING

SYMPTOM: LED DISPLAY FAILURE

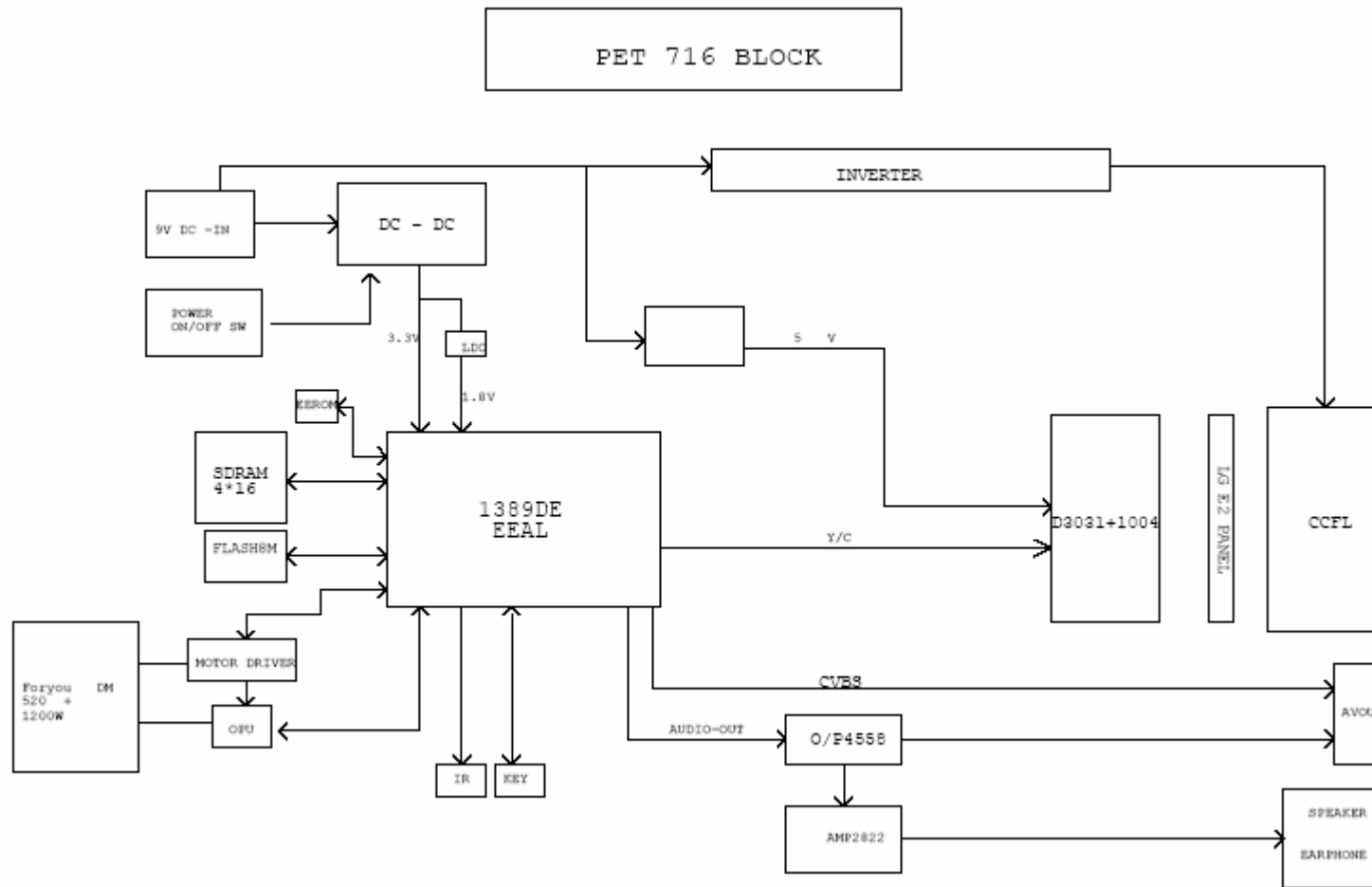


5.0 TROUBLESHOOTING

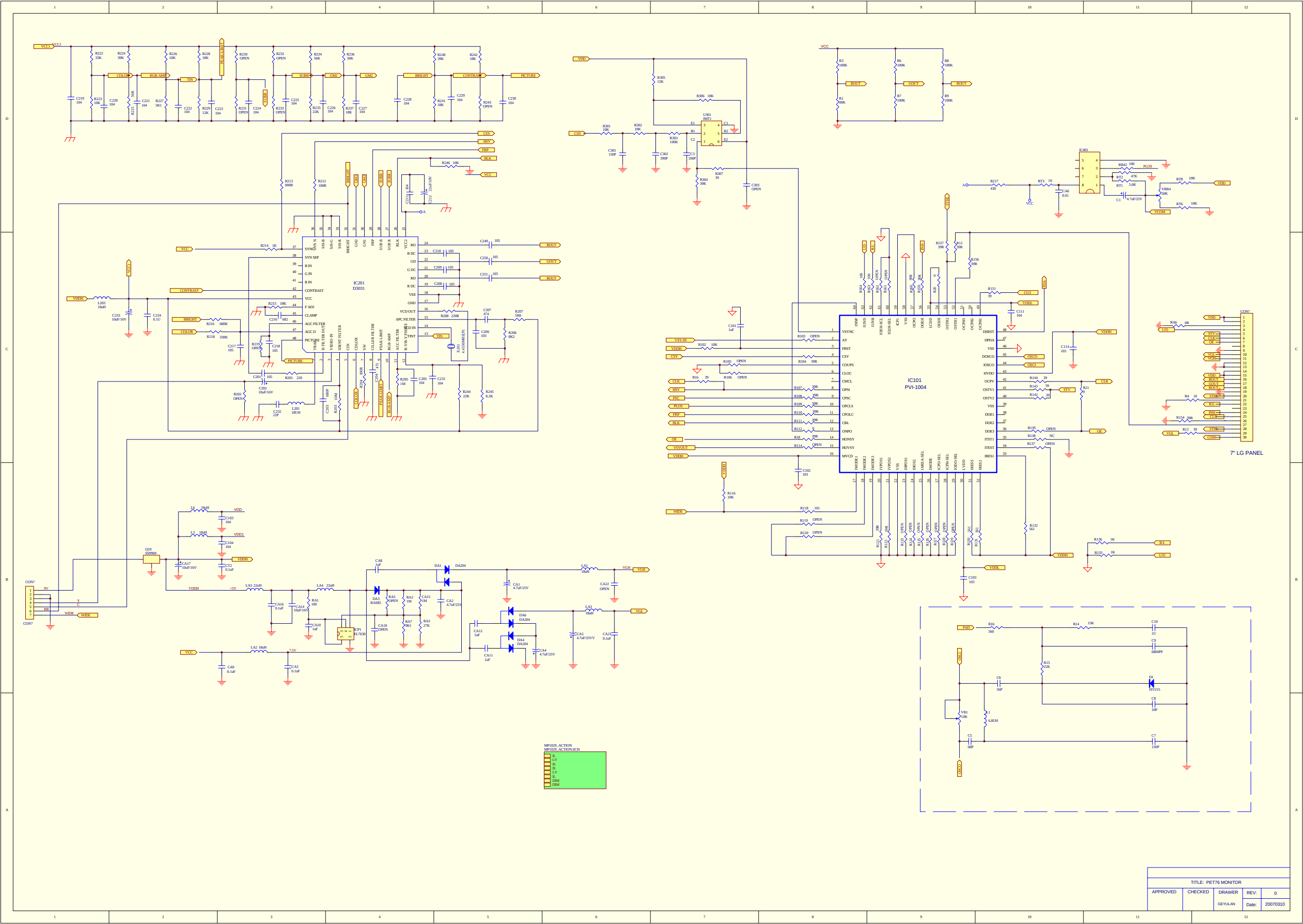
SYMPTOM: KEY & BOTTON FAILURE



6.0 BLOCK DIAGRAM

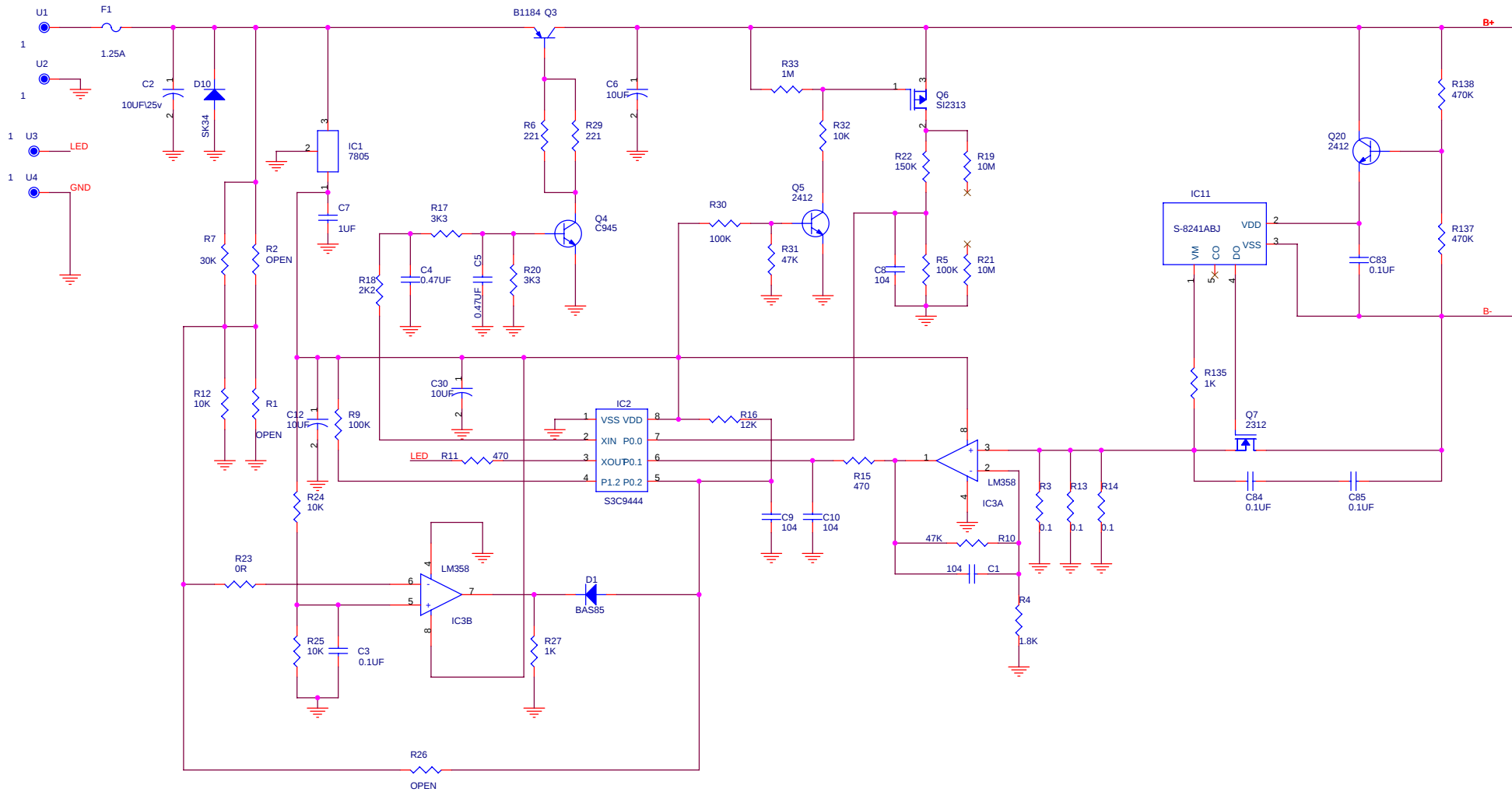


7.0 Electrical Diagram

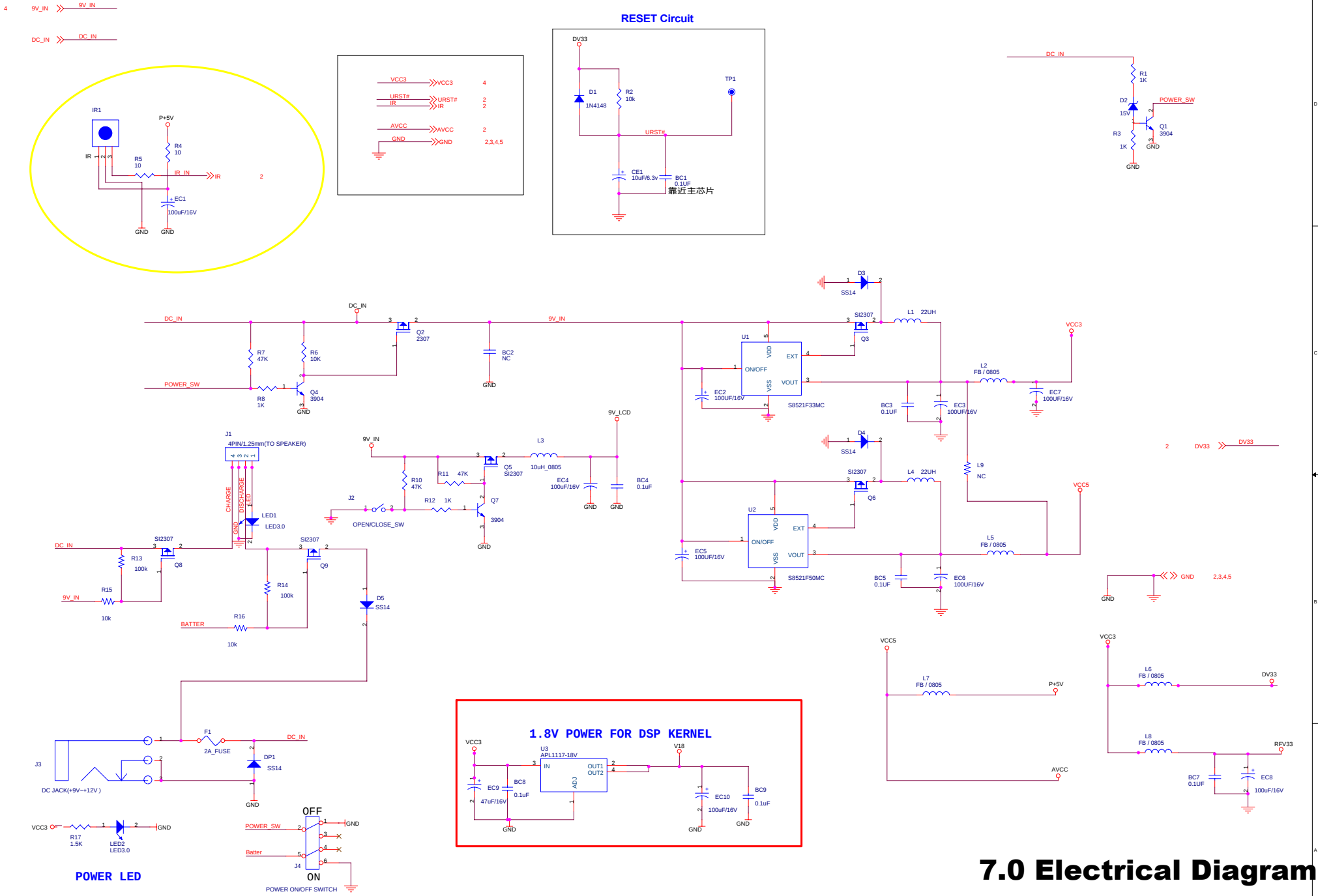


U5
B+
CHECK

U6
B-
CHECK

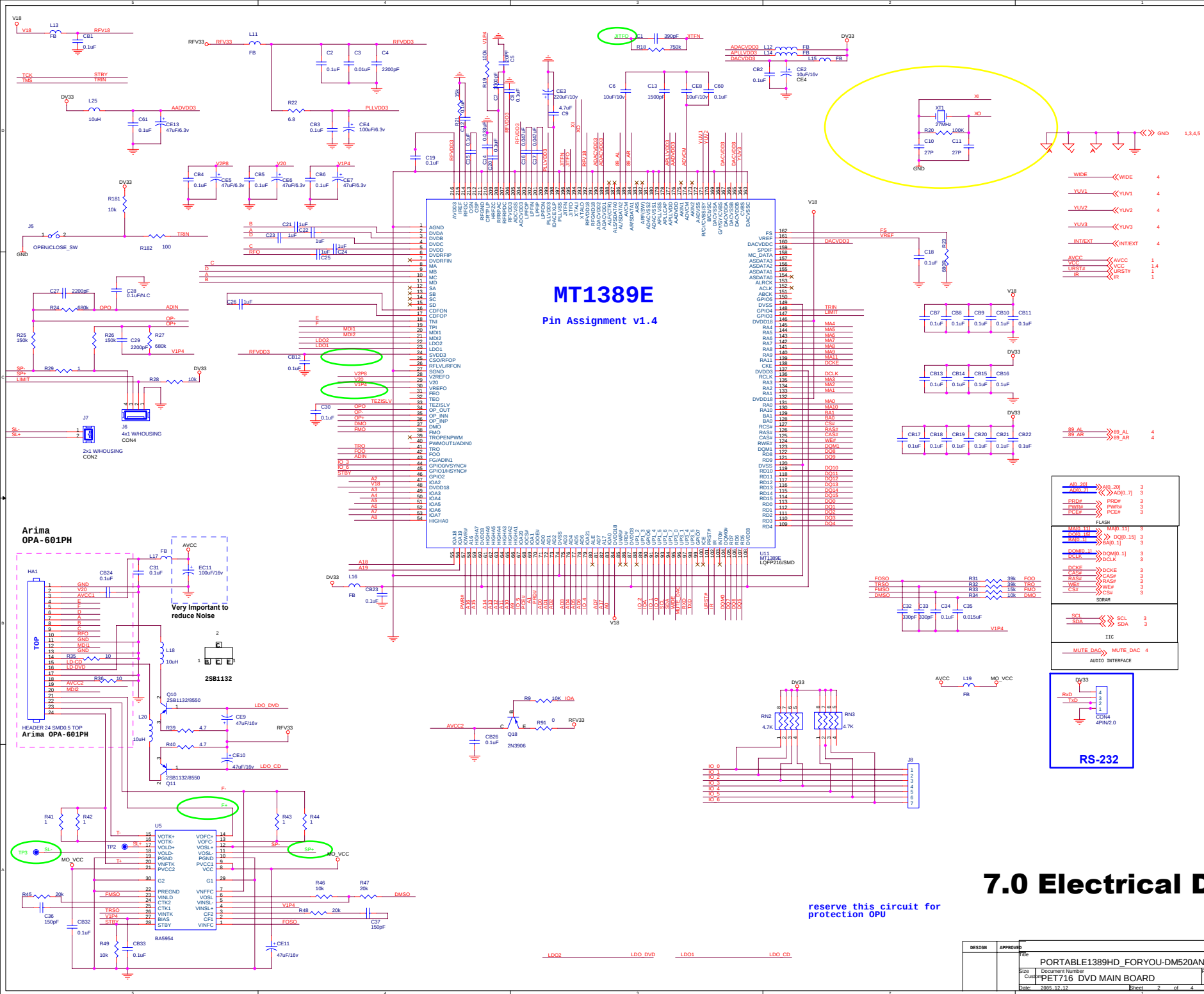


TITLE:LMD-4808UC BATTERY BOARD				
APPROVED	CHECKED	DRAWER	REV:	0
		SHIL IHUA	DATE:	2006-06-20

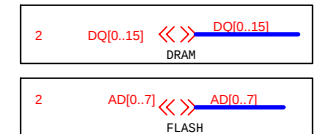
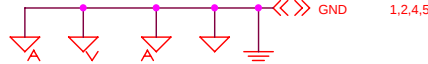
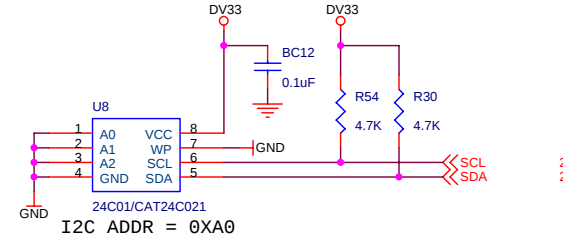
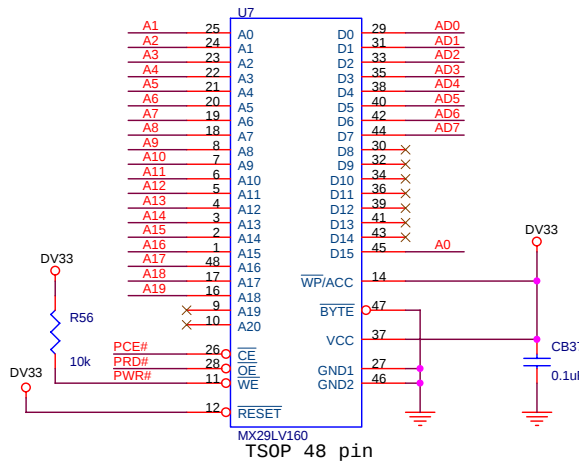
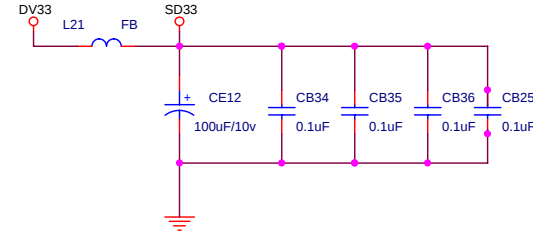
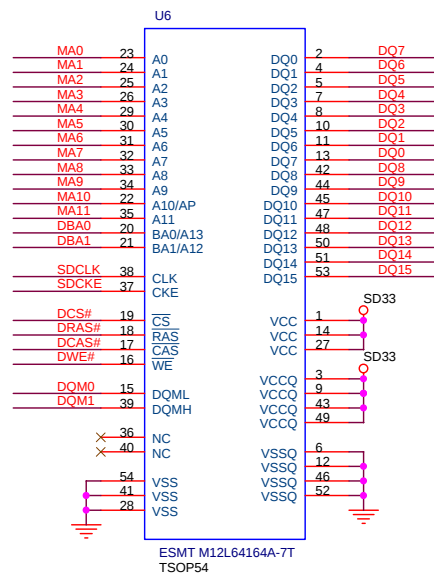
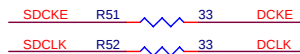
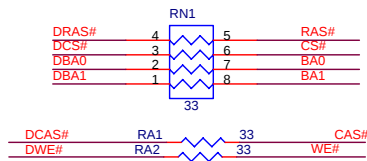
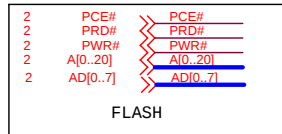
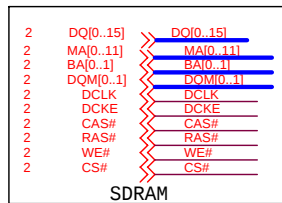


7.0 Electrical Diagram

DESIGN	APPROVED
	File
	POWER
Size	Document Number
C	PET716 DVD MAIN BOARD
Date:	2005.12.12
	Sheet 1 of 4
	Rev B

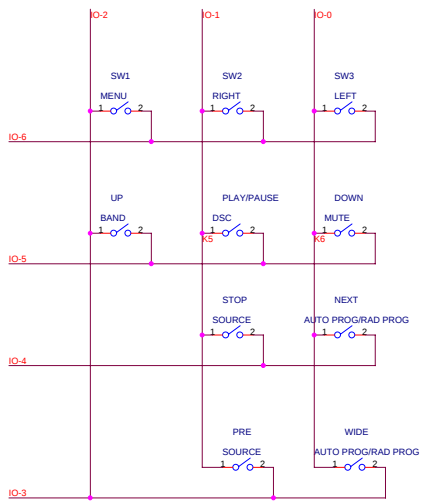


DESIGN	APPROVED	REV	DATE
		1	2009.12.12
PORTABLE1389HD_FORYOU-DM520ANR			
Document Number			
PET716 DVD MAIN BOARD			
Rev B			
Sheet 2 of 4			



7.0 Electrical Diagram

Title		
SDRAM&FLASH		
Size	Document Number	Rev
B	PE716 DVD MAIN BOARD	B



7.0 Electrical Diagram

Title		
KEY		
Size	Document Number	Rev
C	PET716 KEY BOARD	B
Date	Sheet 4 of 4	

8.0 SERVICE PART LIST

Electrical Part List:

CTN	Service 12NC	Service Description	Photo	Pos. No.
PET716/05 PET716/12 PET716/58	996510002358	MAIN PCBA ASSY PET716 (for S/N: GS1Axxxxxxx / below VN1Cxxxxxxx)		100
	996510009821	MAIN PCBA ASSY PET716LP (for S/N: GS2Bxxxxxxx or above / VN1Cxxxxxxx or above)		
PET716S/05	996510009821	MAIN PCBA ASSY PET716LP		
PET716/05 PET716/12 PET716/58	996510004269	KEY PCBA ASSY PET716 (for S/N: GS1Axxxxxxx / below VN1Cxxxxxxx)		110
	996510009822	KEY PCBA ASSY PET716LP (for S/N: GS2Bxxxxxxx or above / VN1Cxxxxxxx or above)		
PET716S/05	996510009822	KEY PCBA ASSY PET716LP		
PET716/05 PET716/12 PET716/58	996510002371	TFT DRIVER PCB ASSY PET716 (for S/N: GS1Axxxxxxx / below VN1Cxxxxxxx)		120
	996510009827	TFT DRIVER PCB ASSY PET716LP (for S/N: GS2Bxxxxxxx or above / VN1Cxxxxxxx or above)		
PET716S/05	996510009827	TFT DRIVER PCB ASSY PET716LP		
PET716/05 PET716/12 PET716/58	996510002368	BATTERY PCB ASSY PET716 (for S/N: GS1Axxxxxxx / below VN1Cxxxxxxx)		130
	996510009826	BATTERY PCB ASSY PET716LP (for S/N: GS2Bxxxxxxx or above / VN1Cxxxxxxx or above)		
PET716S/05	996510009826	BATTERY PCB ASSY PET716LP		

8.0 SERVICE PART LIST

Mechanical Part List:

CTN	Service 12NC	Service Description	Photo	Pos. No.
PET716/05 PET716/12 PET716/58	996510002360	7" LCD PANEL ASSY LG A2 (for S/N: GS1Axxxxxxx / below VN1Cxxxxxxx)		200
	996510009823	7" LCD PANEL ASSY LG E2 (for S/N: GS2Bxxxxxxx or above / VN1Cxxxxxxx or above)		
PET716S/05	996510009823	7" LCD PANEL ASSY LG E2		
PET716/05 PET716/12 PET716/58	996510002361	DVD LOADER PET716		210
PET716S/05	996510007686	DVD LOADER PET716S		
PET716/05 PET716/12 PET716/58 PET716S/05	996510002384	FFC 24P		220

8.0 SERVICE PART LIST

Mechanical Part List:

No.	Service 12NC	Service Description	Photo	Pos. No.
PET716/05 PET716/12 PET716/58	996510004270	FRONT CABINET PET716		300
PET716S/05	996510007687	FRONT CABINET PET716S		
PET716/05 PET716/12 PET716/58	996510004271	BOTTOM CABINET PET716 (for S/N: GS1Axxxxxxx / below VN1Cxxxxxxx)		310
	996510009824	BOTTOM CABINET PET716LP (for S/N: GS2Bxxxxxxx or above / VN1Cxxxxxxx or above)		
PET716S/05	996510009923	BOTTOM CABINET PET716S		
PET716/05 PET716/12 PET716/58	996510004279	DISPLAY FRAME & SPEAKER PET716		320
PET716S/05	996510009928	DISPLAY FRAME & SPEAKER PET716S		
PET716/05 PET716/12 PET716/58	996510004277	DVD TOP CABINET PET716		330
PET716S/05	996510009922	DVD TOP CABINET PET716S		
PET716/05 PET716/12 PET716/58	996510004278	CD DOOR PET716		340
PET716S/05	996510009924	CD/DVD DOOR PET716S		
PET716/05 PET716/12 PET716/58	996510004276	LENS PET716		350
PET716S/05	996510007690	LENS PET716S		
PET716/05 PET716/12 PET716/58 PET716S/05	996510002356	HINGE PET716		360

8.0 SERVICE PART LIST

Mechanical Part List:

CTN	Service 12NC	Service Description	Photo	Pos. No.
PET716S/05	996510009925	PLAY BUTTON PET716S		400
PET716/05 PET716/12 PET716/58	996510004272	NAVIGATION BUTTON PET716		400
PET716S/05	996510009927	NAVIGATION BUTTON PET716S		420
PET716/05 PET716/12 PET716/58	996510004273	OK BUTTON PET716		410
PET716S/05	996510009926	OK BUTTON PET716S		
PET716/05 PET716/12 PET716/58	996510004274	KEY ASSY PET716 (for S/N: GS1Axxxxxxx / below VN1Cxxxxxxx)		420
	996510009825	KEY ASSY PET716LP (for S/N: GS2Bxxxxxxx or above / VN1Cxxxxxxx or above)		
PET716/05 PET716/12 PET716/58	996510004275	OPEN BUTTON PET716		430
PET716S/05	996510007682	OPEN BUTTON PET716S		
PET716/05 PET716/12 PET716/58 PET716S/05	996510002366	OPEN SPRING		440
PET716/05 PET716/12 PET716/58	996510004268	POWER BUTTON PET716		450

8.0 SERVICE PART LIST

Accessories Part List:

Service 12NC	Service Description	Photo	Pos. No.
996510002353	AC/DC ADAPTER EU (for PET716/12, PET716/58)		ACADAPTOR
996510005927	AC/DC ADAPTER UK (for PET716/05)		
996510009921	AC/DC ADAPTER UK (for PET716S/05)		
996510004265 / 996510004975	AV CABLE PET716 / for PET716S		AVCABLE
996510004266 / 996510009920	CAR ADAPTOR PET716 / for PET716S		CARADAPTOR
996510004267 / 996510004972	REMOTE CONTROL PET716 / for PET716S		RC

9.0 REVISION LIST

Version 1.0 (3141 785 31860)

- Initial release PET716/12

Version 1.1 (3141 785 31861)

- Update partlist for PET716/05 & PET716/58

Version 1.2 (3141 785 31862)

- Update partlist for PET716S/05