

Service
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Service Manual

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3141 785 33140

1.0 TECHNICAL SPECIFICATION

General

Dimensions (W x H x D): 270 x 220 x 90 mm
 Bear Unit Weight: 1.63 kg +/- 5%
 Power supply:
 Supply voltage (AC adaptor 90~264) AC 100~240V + / - 10%
 Supply Power consumption (AC adaptor 100/240VAC) 12W + 10%
 DC Power supply DC 9V 1.5A
 Operation temperature 0 – 45 degC
 Standby Power (AC adaptor, no load) 264VAC <0.45W
 Audio System
 Output voltage 1kHz: 2V +/-0.2
 THD 20-20kHz (%): <=1%
 Dynamic range 1kHz >=80dB
 Signal/Noise ratio: >=80dB
 Frequency response (20-20kHz): +/-3dB
 Channel Separation 1kHz >=80dB
 Channel Balance 1kHz <3dB

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 / DivX

Audio Playback Format:

CD/MP3, MP3-DVD, DVD, DivX

Disc Diameter

8cm / 12cm

Card Slot

SD / SDHC Card

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 **blank** 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

B) By SD / SDHC Card

1. Download the "PHILIPS.BIN" file from the Philips support site
2. Unzip the file and then copy and paste it into a **blank** SD / SDHC card
3. Power on the Portable DVD Player with AC/DC adaptor
4. Read the SD / SDHC card via SD Card slot for firmware upgrade

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

5. Once upgrade is completed, the player will restart automatically and observed PHILIPS LOGO on the screen.

1.0 TECHNICAL SPECIFICATION

Service Policy on PCBA of PET988

Type	/12
Main PCBA	MLR
TFT PCBA	MLR
KEY PCBA	MLR
IR PCBA	MLR

MLR = module swap

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 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.

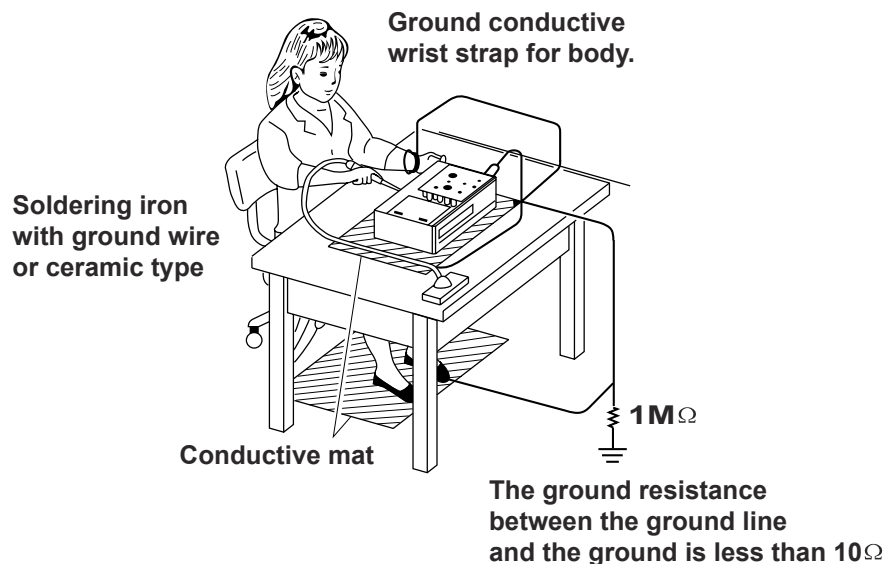
When the power supply is being turned on, you may not remove this laser cautions label. If it removes, radiation of laser may be received.

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.



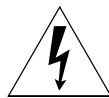
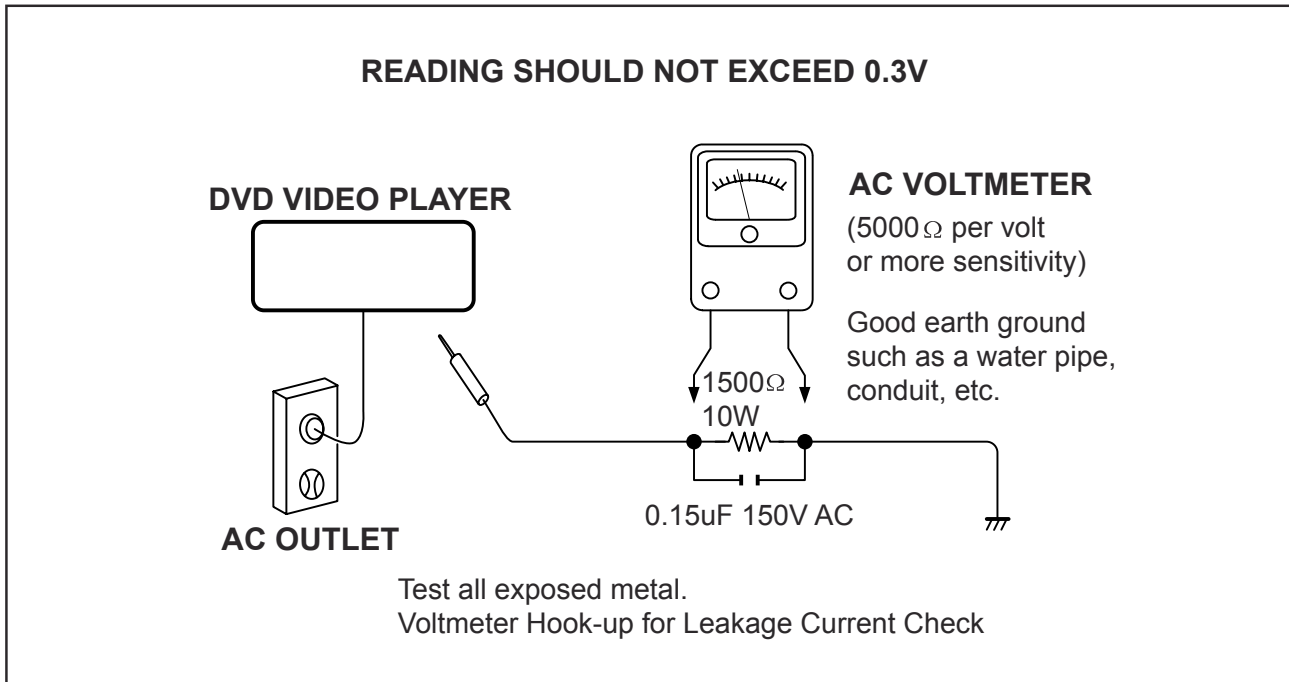
SAFTY NOTICE

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 $0.15\mu\text{F}$ 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 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.



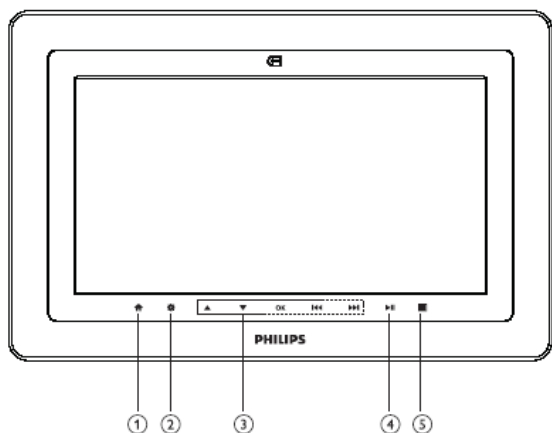
The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



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)

- ①Enter the HOME menu.
- ②Enter or exit the disc contents menu.
- ③Navigate in a menu.
(,) Press and hold to search backward/forward in a disc at different speeds.
(,) Press to skip to the previous/next chapter, track or title.
- OK**Confirm a selection.
- ④Start or interrupt playback.
- ⑤Volume control.

Top of player (see figure 2)

- ⑥ **OPEN DVD DOOR**...Open the disc door to insert or remove disc.

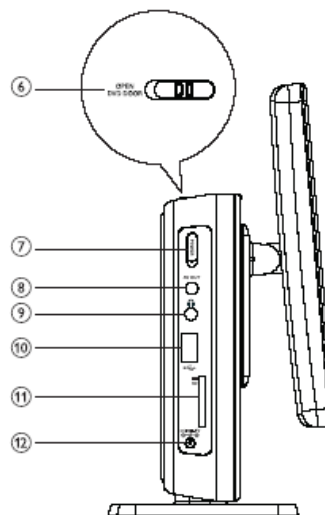
Left of player (see figure 2)

- ⑦ **POWER** Switch the power on/off.
- ⑧ **AV OUT**.....Audio/Video output jack.
- ⑨Headphone jacks.
- ⑩USB slot.
- ⑪ **SD**.....SD card slot.
- ⑫ **DC IN 9V**Power supply socket.

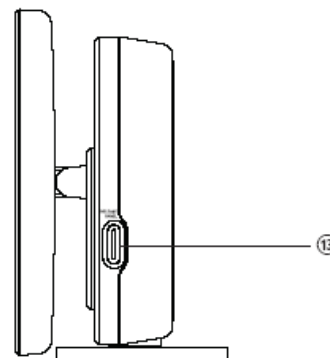
Right of player (see figure 3)

- ⑬ **RELEASE PANEL**Press to slide the panel up.

2

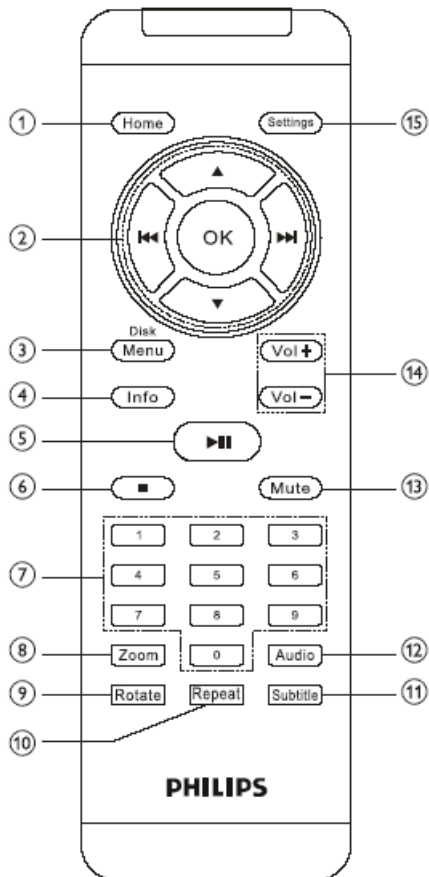


3



3.0 INSTRUCTION FOR USE

4

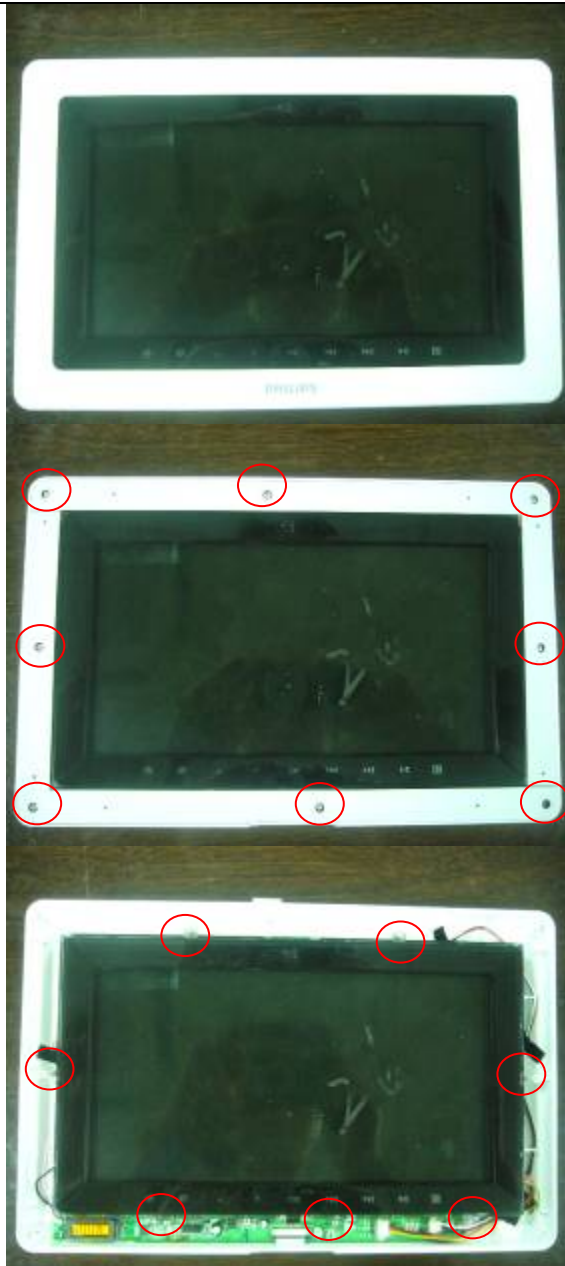


Remote controls (see figure 4)

- ① **Home**Enter the HOME menu.
- ② **▲, ▼, ◀, ▶**Navigate in a menu.
(◀, ▶) Press and hold to search backward/forward in a disc at different speeds.
(◀, ▶) Press to skip to the previous/next chapter, track or title.
- OK**Confirm a selection.
- ③ **Disk Menu**Enter or exit the disc contents menu.
- ④ **Info**Display information on TFT during playback.
- ⑤ **▶||**.....Start or interrupt playback.
- ⑥ **■**.....Stop playback.
- ⑦ **Numeric Keypad (0-9)**...Input numbers.
- ⑧ **Zoom**Enlarge or reduce a picture or active image on the TFT.
- ⑨ **Rotate**.....Rotate pictures clockwise.
- ⑩ **Repeat**.....Repeat a chapter/track/title.
- ⑪ **Subtitle**Select a subtitle language.
- ⑫ **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.
- ⑬ **Mute**.....Mute the sound.
- ⑭ **Vol+/-**Volume control.
- ⑮ **Settings**Enter or exit the system menu.

4.0 MECHANICAL INSTRUCTION

Disassembly Procedure

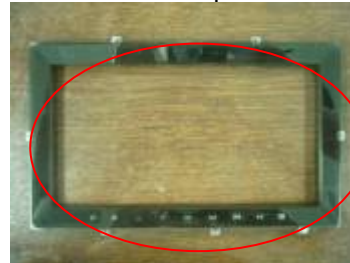


1. Take the front change frame away from the set;



2. Remove 8pcs of screws on the monitor front plate, then take the monitor front plate together with press fixed plate(top, bottom, right, left)away from the set;

3. Remove 7pcs of screws on the black monitor front frame as the picture shown.



4.0 MECHANICAL INSTRUCTION



4. To remove the panel and the TFT board:
Firstly un-plug the housing which connect key board and TFT board.
Secondly un-plug the housing connects the IR board and TFT board,
Thirdly un-plug the FFC which connect TFT board and main board.
Finally, don't forget the one which connect TFT board and panel behind the black cabinet.

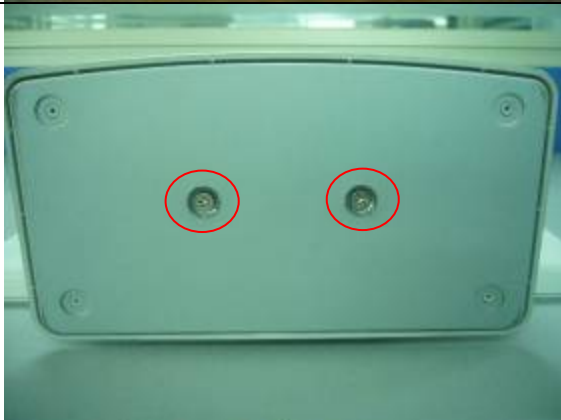
Then de-soldering the wire (3pcs) which connected the panel and TFT board;

Remove all the screws on the main board (2pcs), then you can take the TFT board from bottom cabinet.;

Remove 2pcs screws on the IR board



5. Please be careful that when you take the panel out from the cabinet, the panel was fixed by double side tape at four corners!



6. Remove 2pcs screws on the press stand of the set;



7. Remove 2pcs screws on the bottom of the DVD bottom cabinet(as the picture shown)



8. And open the CD door to remove 2pcs screws on the DVD bottom cabinet, so we can take the DVD cabinet apart.

4.0 MECHANICAL INSTRUCTION



9. Un-plug the flex FFC on the DVD board which behind the black cabinet, also one which connect with TFT board

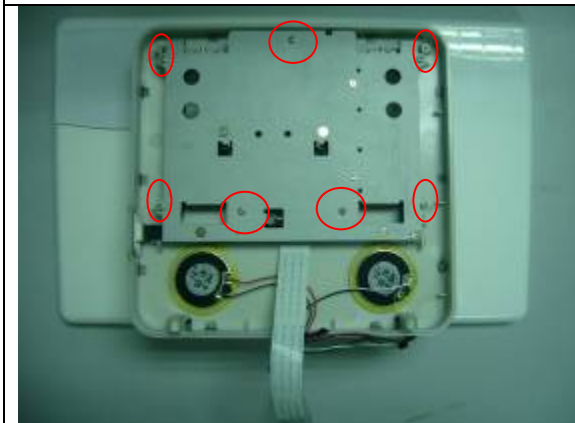
10. Un-plug the speaker line;

Remove 4pcs screws on the DVD board, and un-plug the housings which connect the DVD board and Loader, also the one connect the DVD board and TFT board;

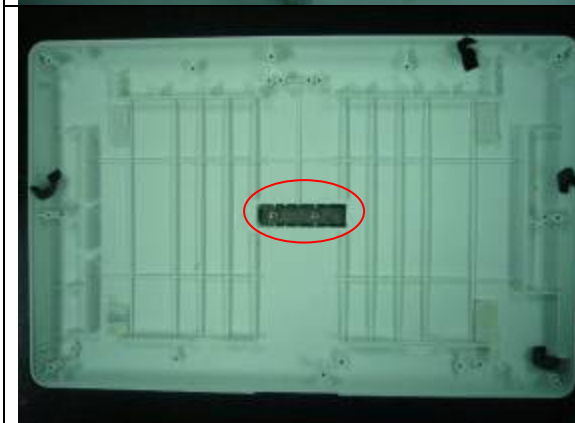
Then you can take the DVD board out from the DVD bottom cabinet completely;



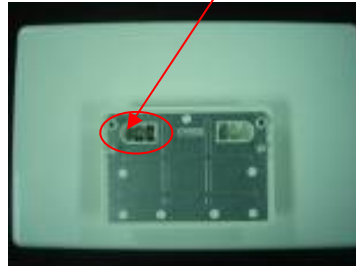
And remove 3pcs screws on the DVD Loader carefully! Then you can take the DVD Loader out from the DVD bottom cabinet!



11. Remove 11pcs screws on the slide unit. Note: don't forget the 4pcs in hole, then you can take the slide unit apart from the DVD top cabinet;

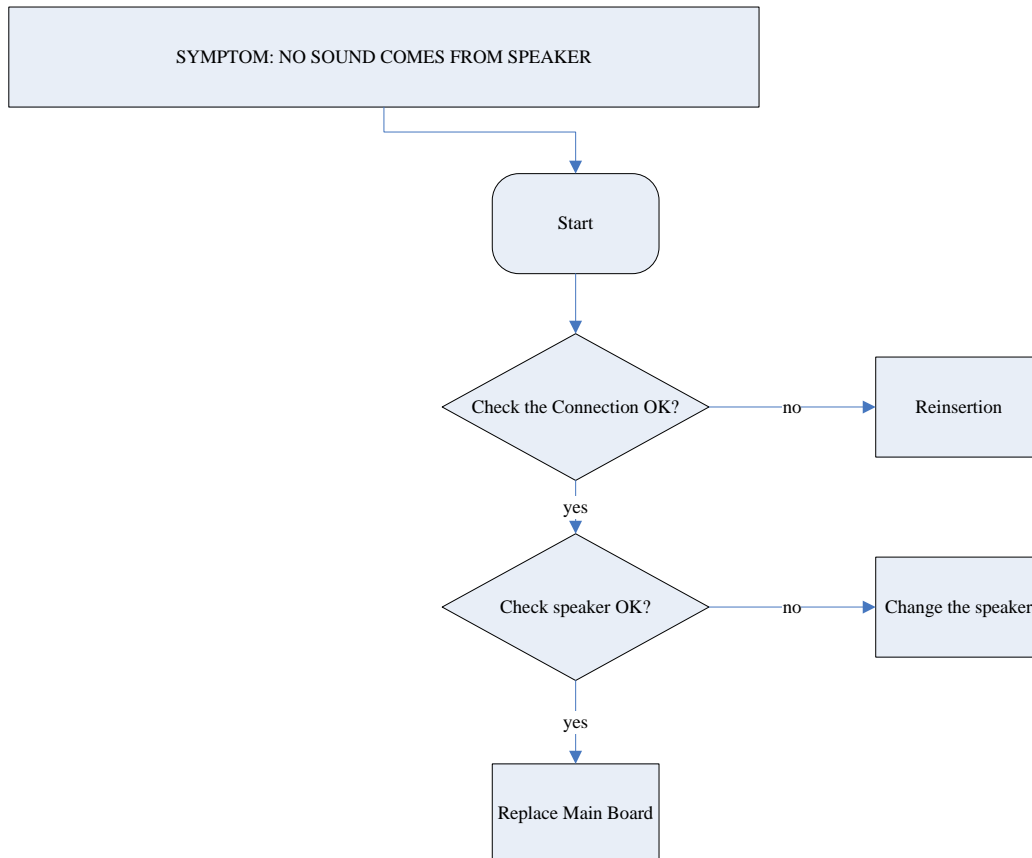
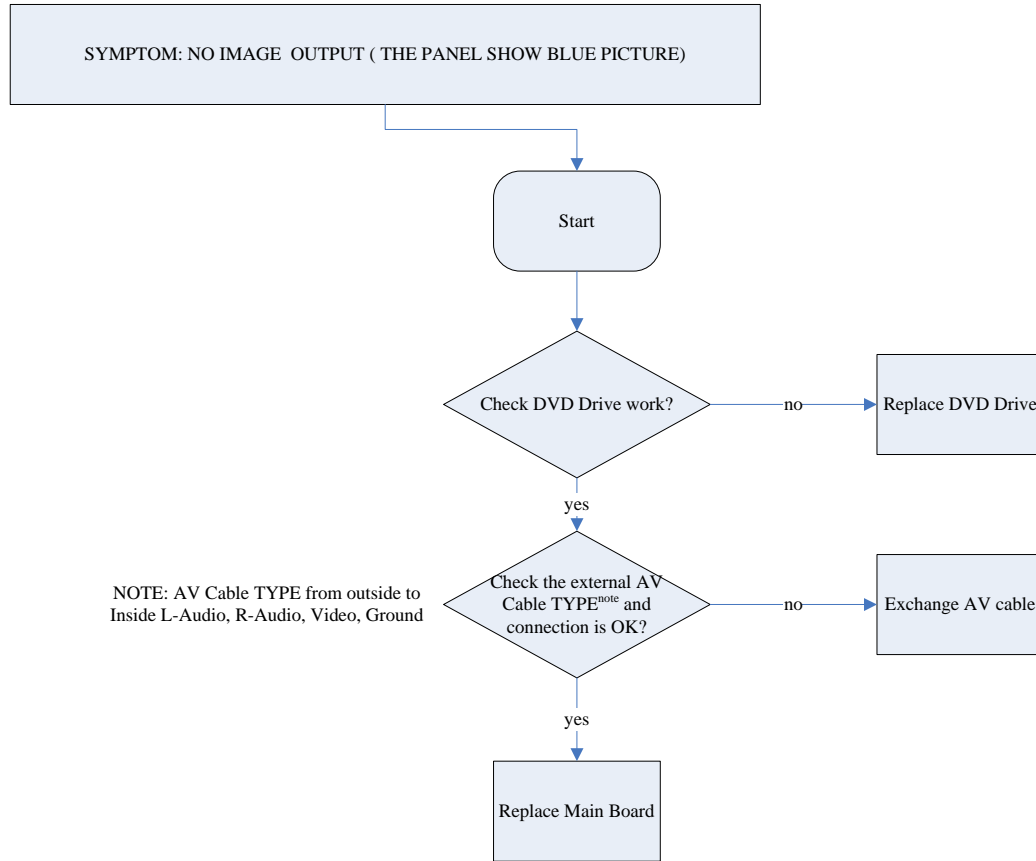


12. Remove 4pcs screws on the hinge, don't forget remove the two screws on the back!



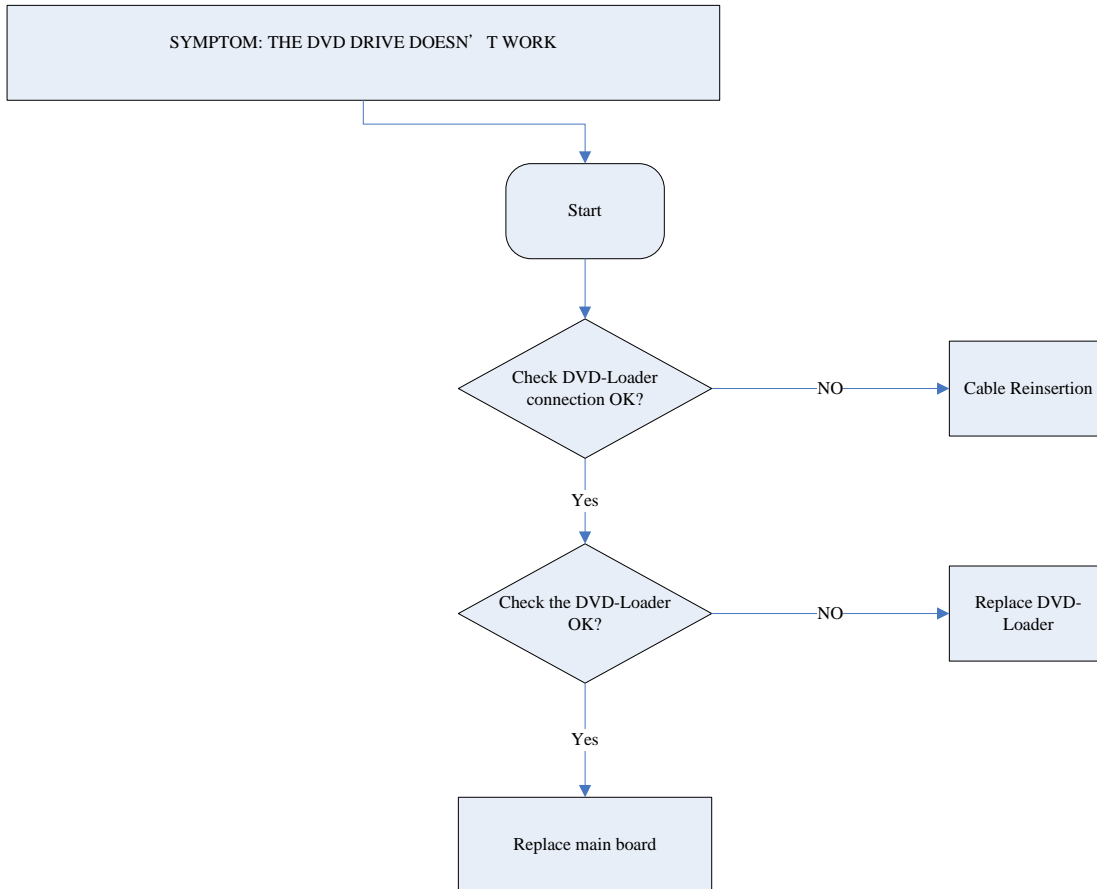
5.0 TROUBLESHOOTING

SYMPTOM: NO IMAGE / NO SOUND



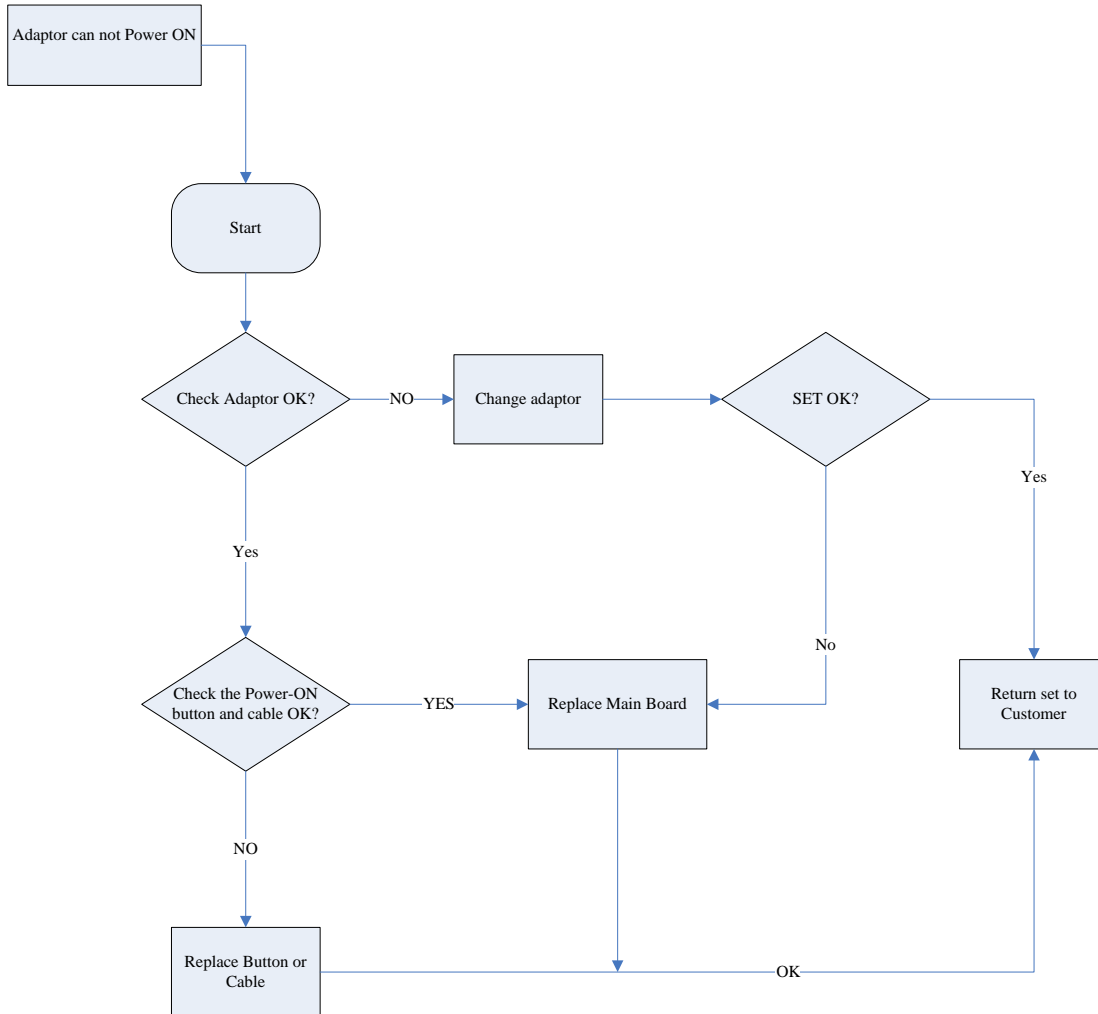
5.0 TROUBLESHOOTING

SYMPTOM: THE DVD DRIVE DOES NOT WORK



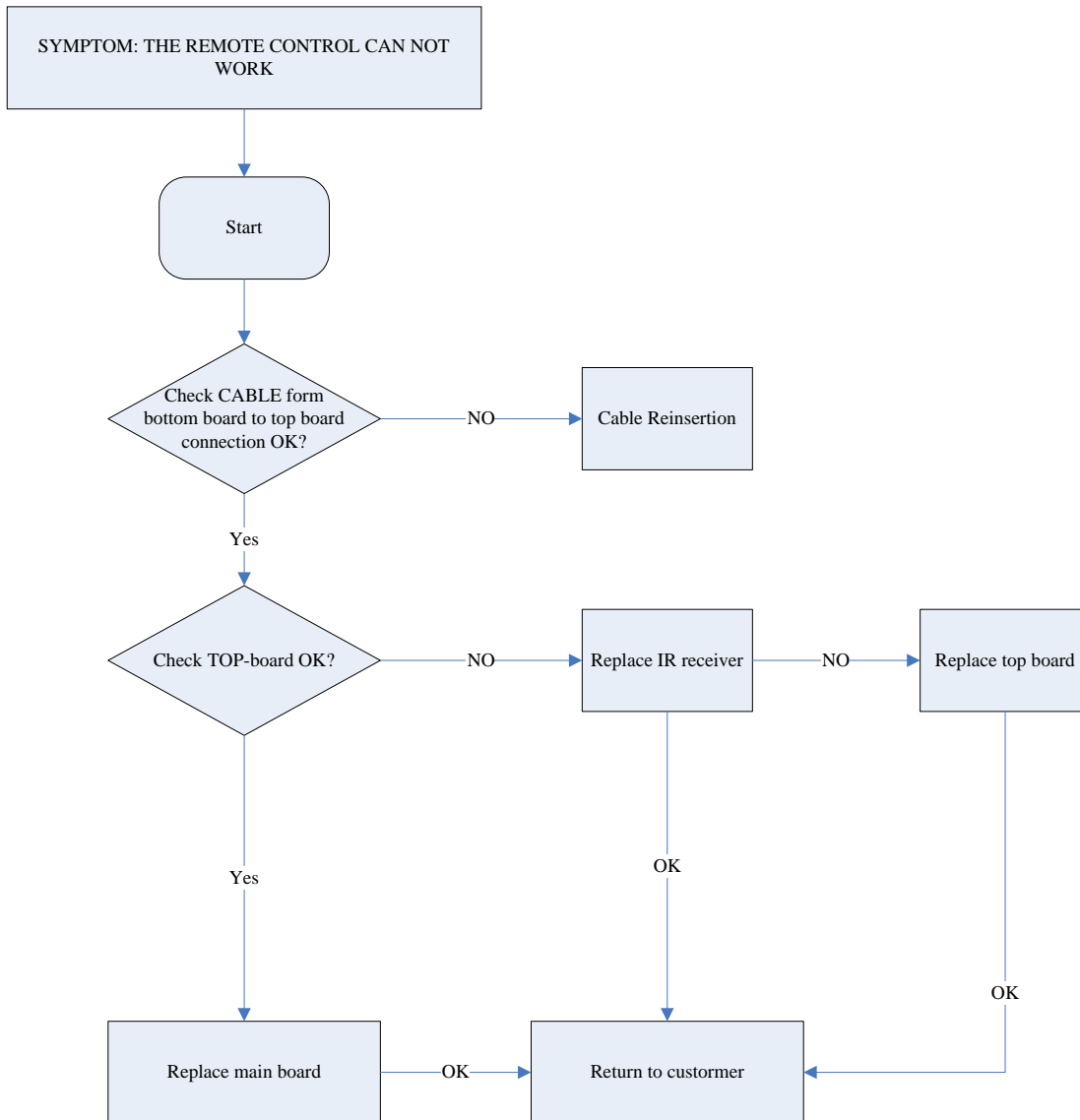
5.0 TROUBLESHOOTING

SYMPTOM: ADAPTOR CANNOT POWER ON



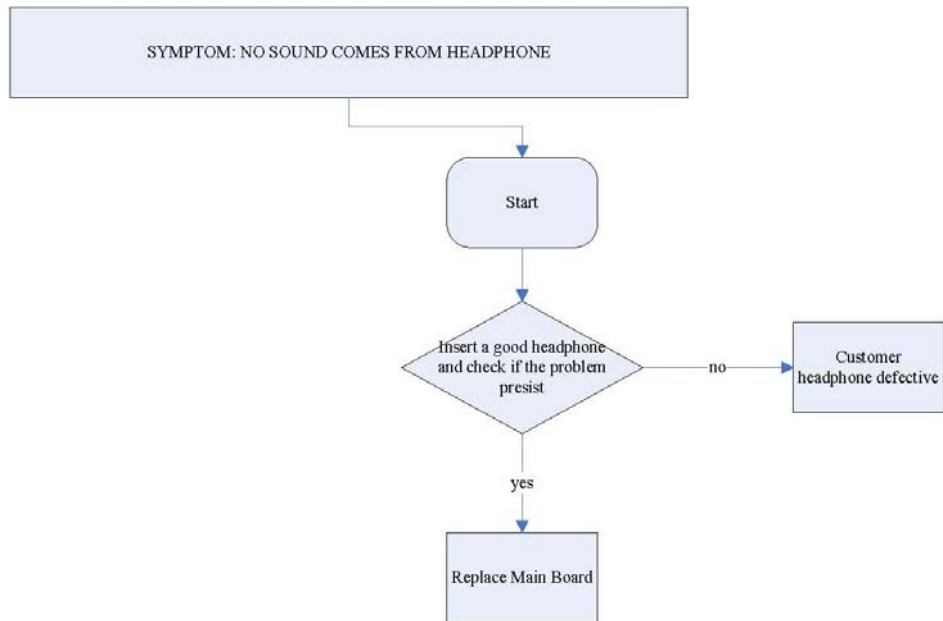
5.0 TROUBLESHOOTING

SYMPTOM: REMOTE CONTROL CANNOT WORK



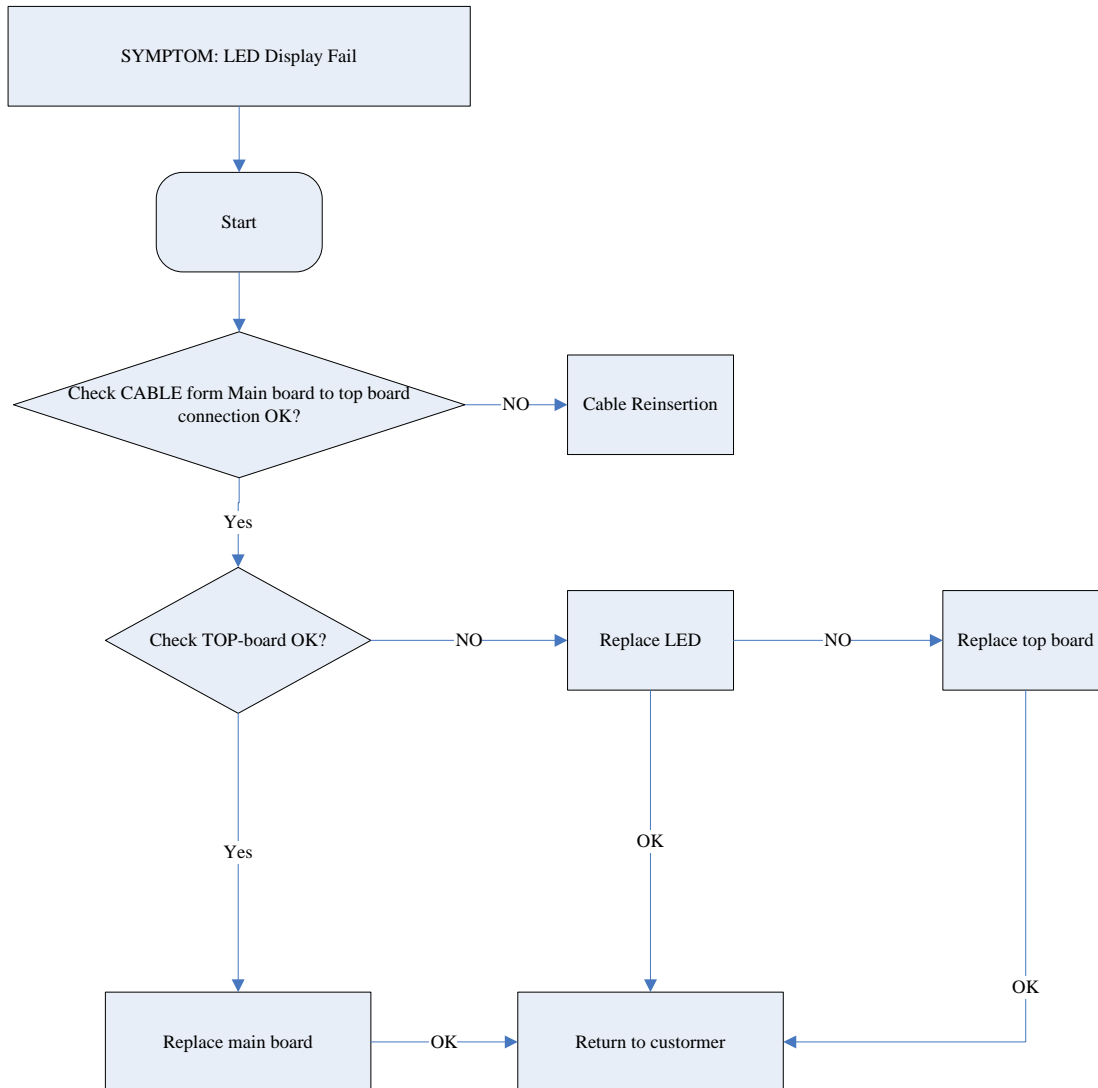
5.0 TROUBLESHOOTING

SYMPTOM: NO SOUND FROM HEADPHONE



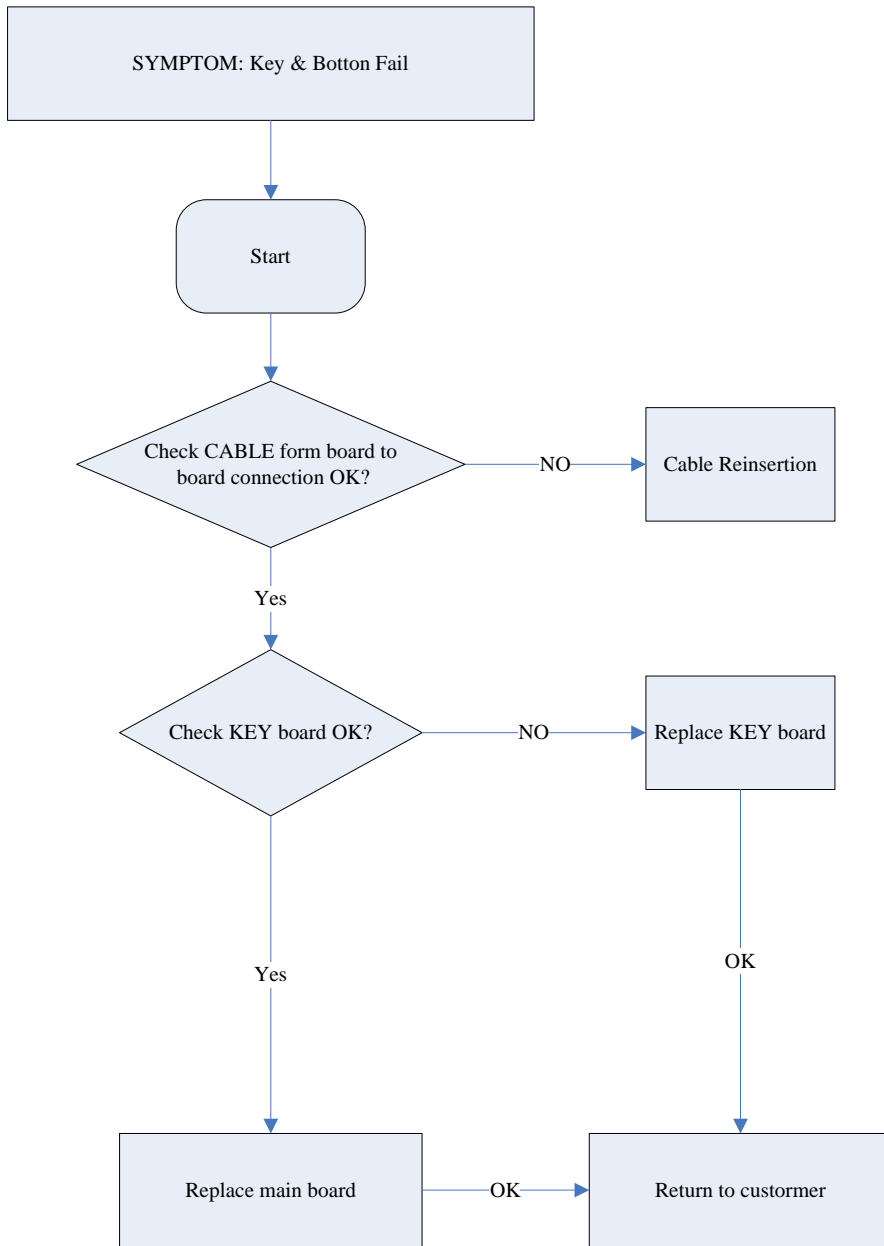
5.0 TROUBLESHOOTING

SYMPTOM: LED DISPLAY FAILURE



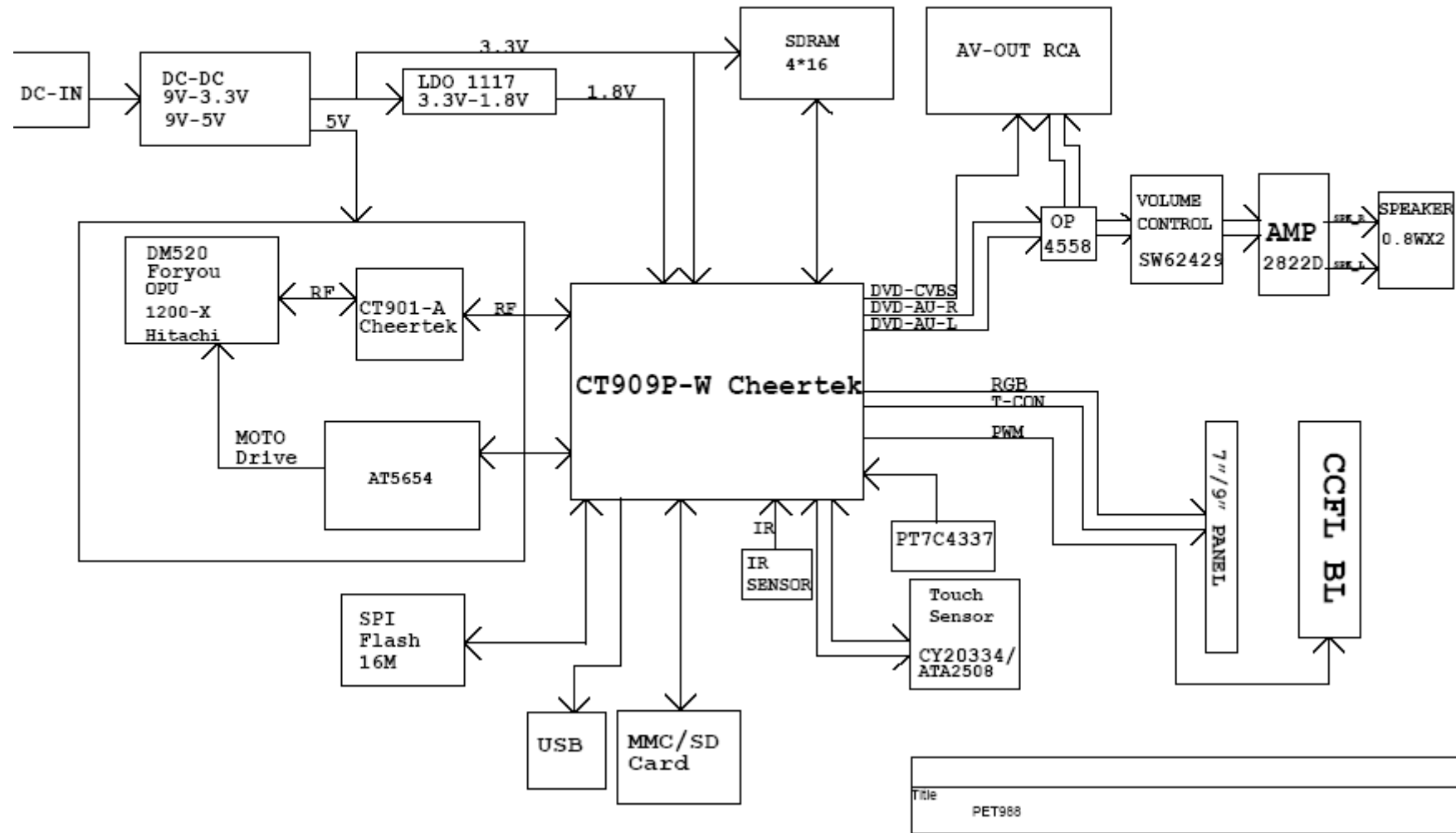
5.0 TROUBLESHOOTING

SYMPTOM: KEY & BOTTON FAILURE

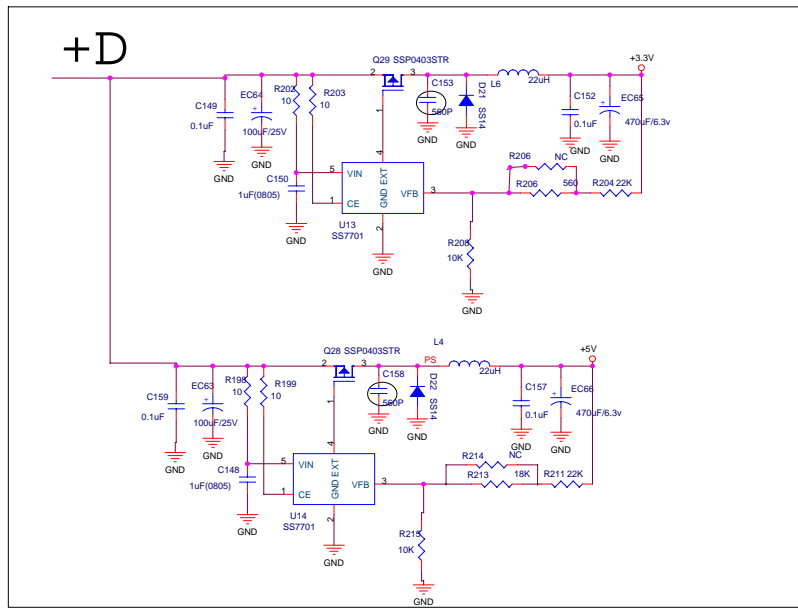
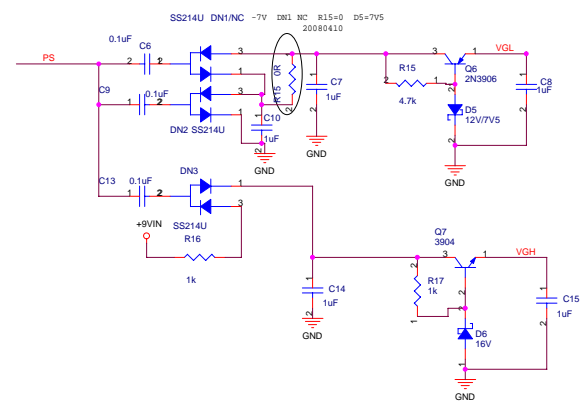
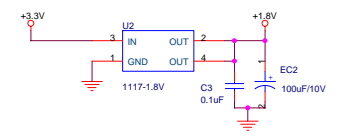
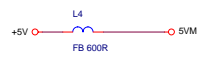
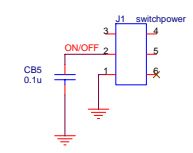
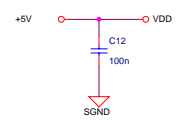
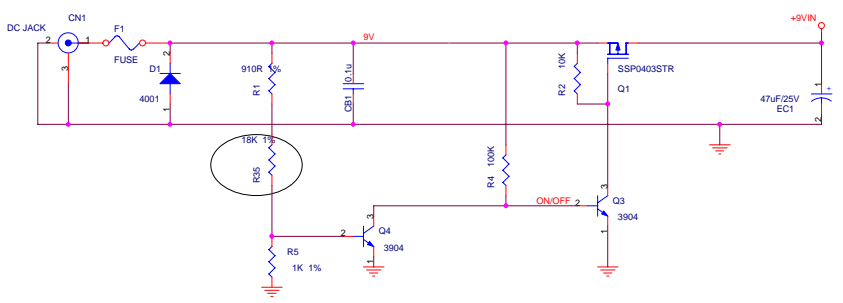


6.0 BLOCK DIAGRAM

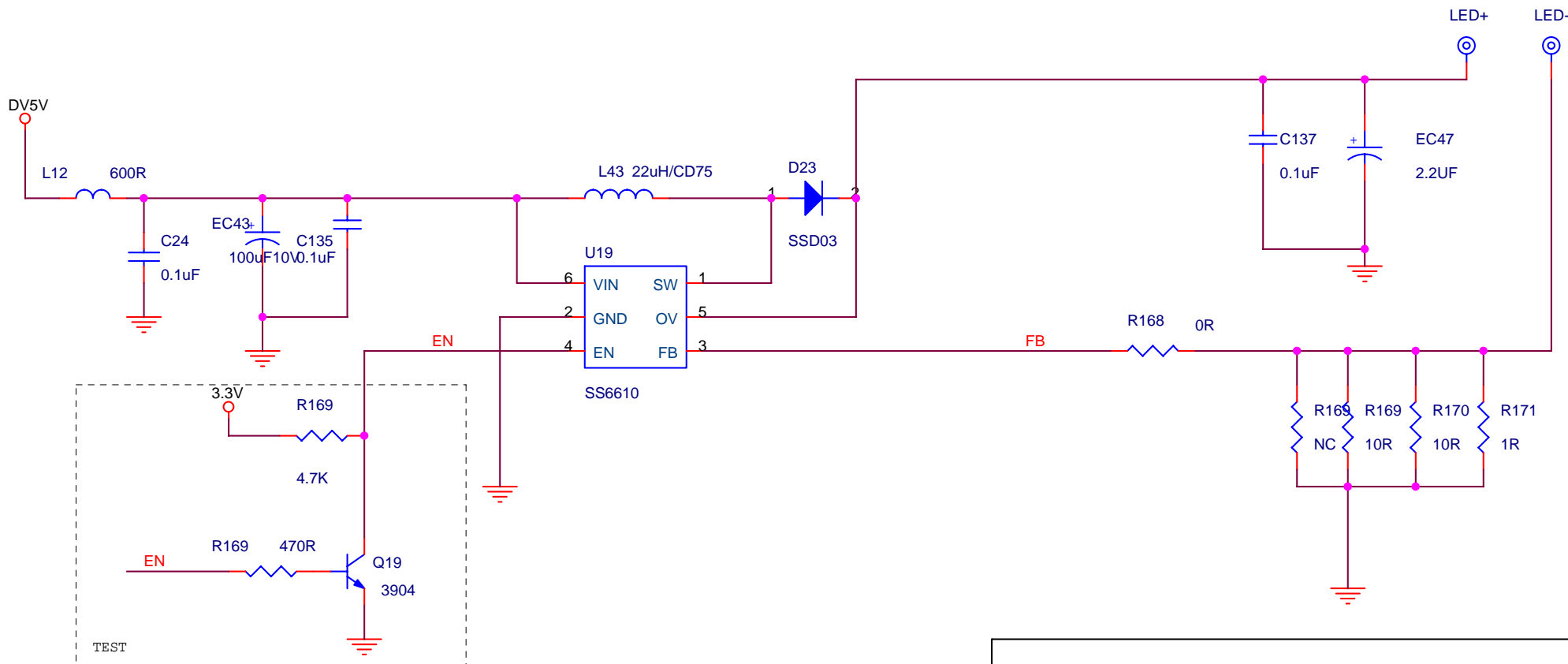
PET988 circuit block



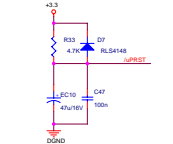
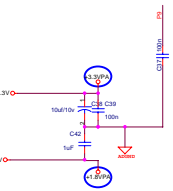
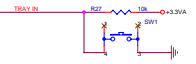
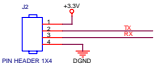
9V	→9V	2
+9V	→+9V	
+9VIN	→+9VIN	2,4
+5V	→+5V	2,3,4
+1.8V	→+1.8V	2
+3.3V	→+3.3V	2,3,4
VGL	→VGL	2
VGH	→VGH	2
SVM	→SVM	3
VDD	→VDD	2,3,4



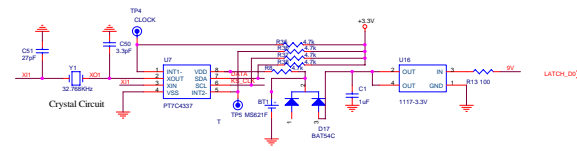
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POWER		
Size	Document Number	Rev
C	PET988	Ver A1
Date:	Wednesday, August 06, 2008	Sheet 1 of 7



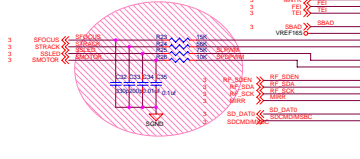
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LED DRIVER		
Size	Document Number	Rev
A	PET988	
Date:	Wednesday, August 06, 2008	Sheet 1 of 1
	2	1



RESET CIRCUIT



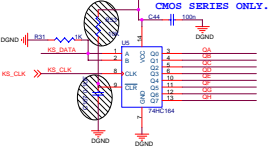
Crystal Circuit



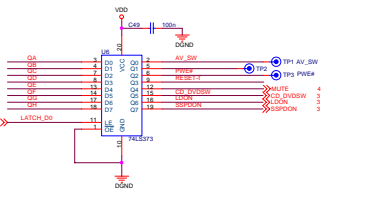
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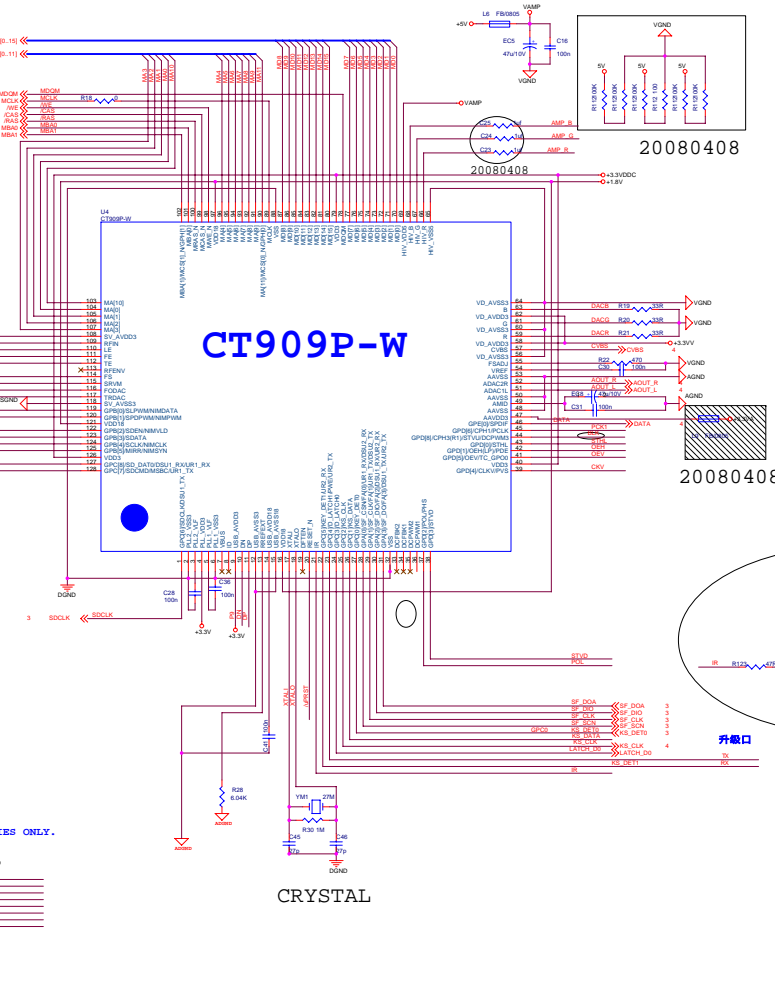


20080408

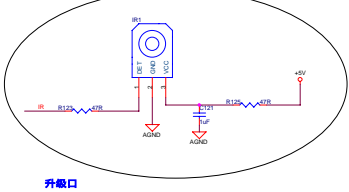
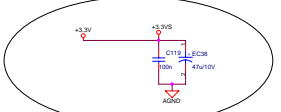
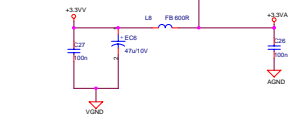
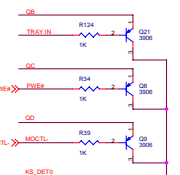


74LS07

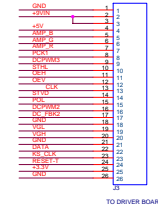
CT909P-W

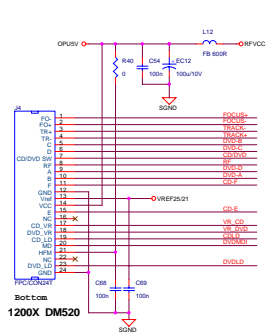


CRYSTAL

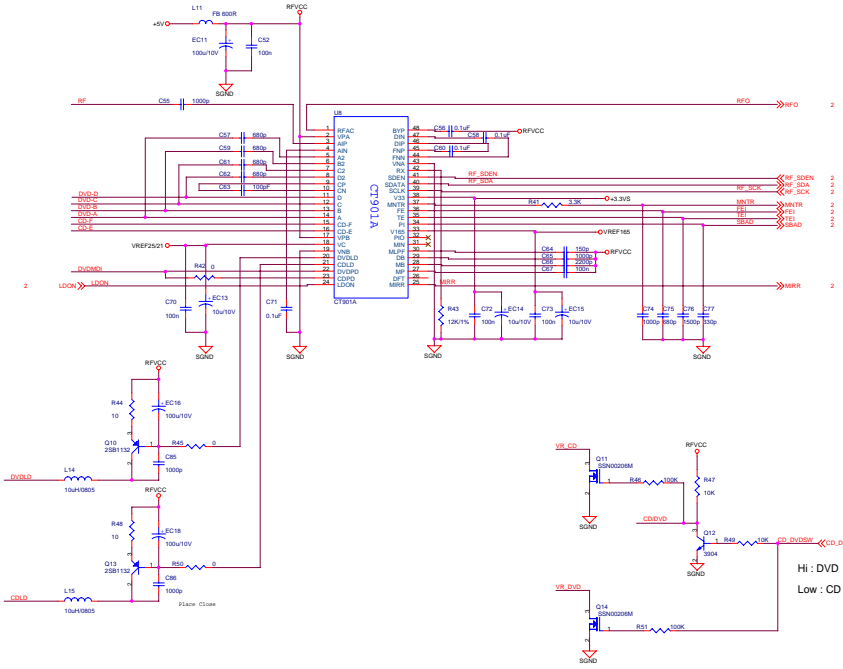
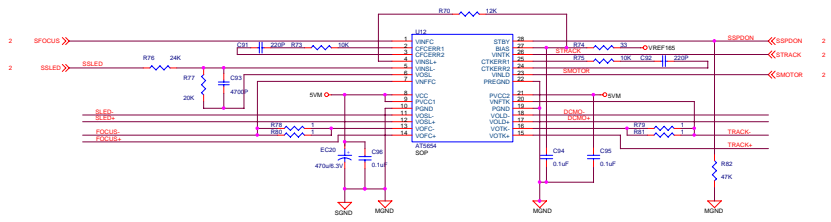
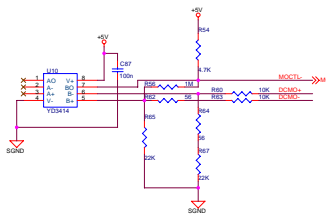
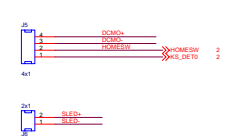


升级口

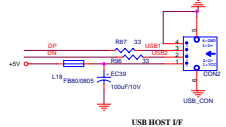
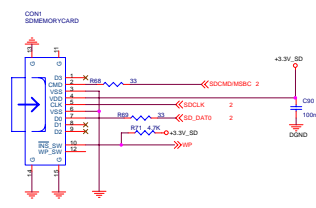
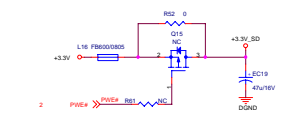
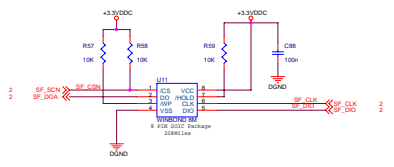




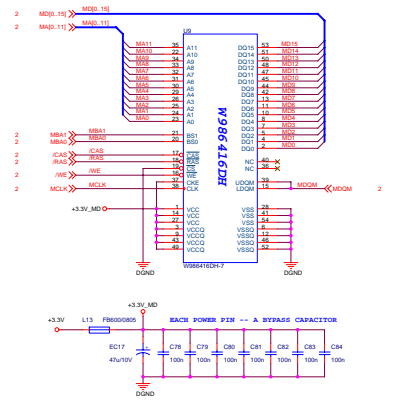
Bot.com
1200X DM520

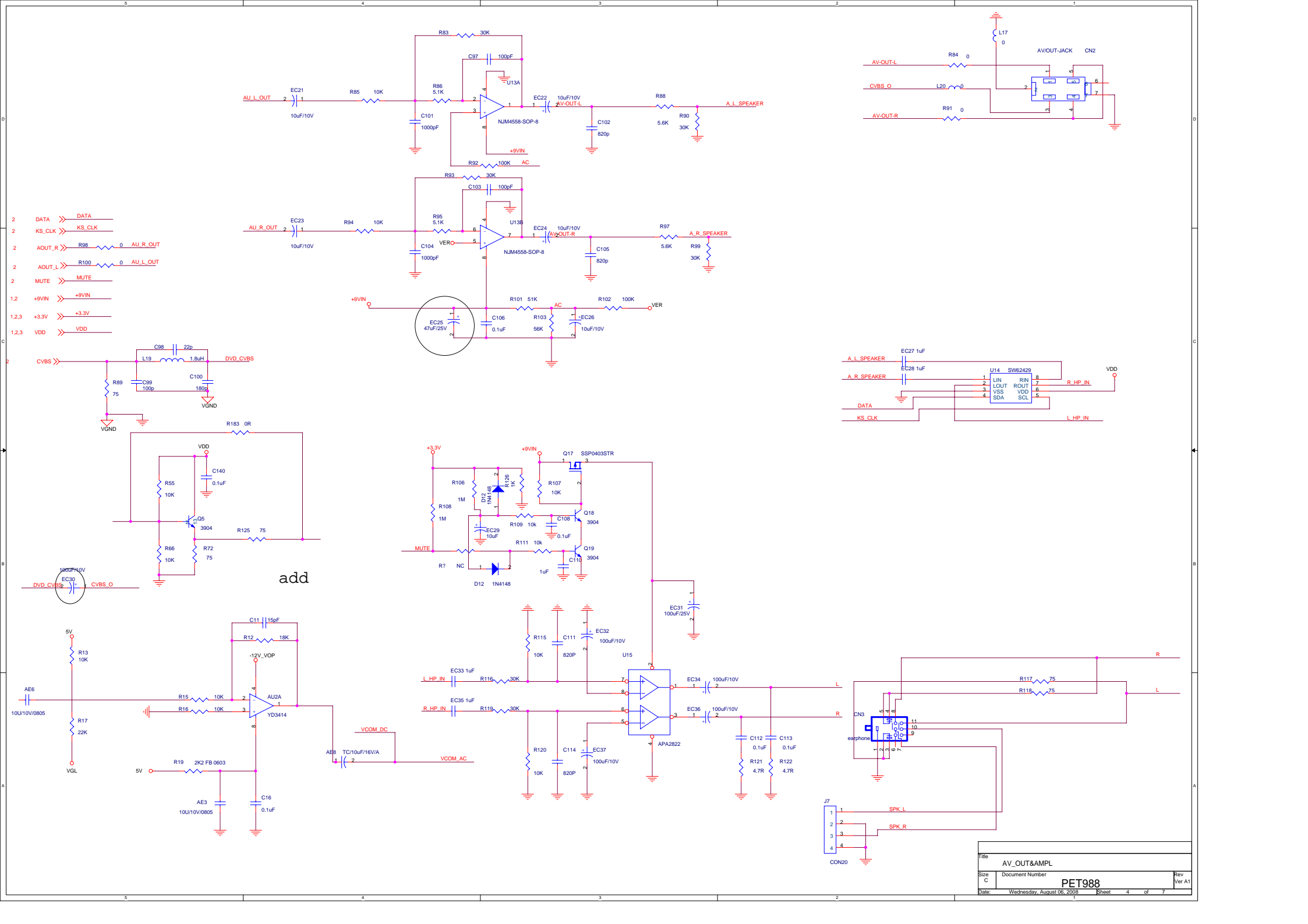


Hi : DVD
Low : CD



USB HOST IF

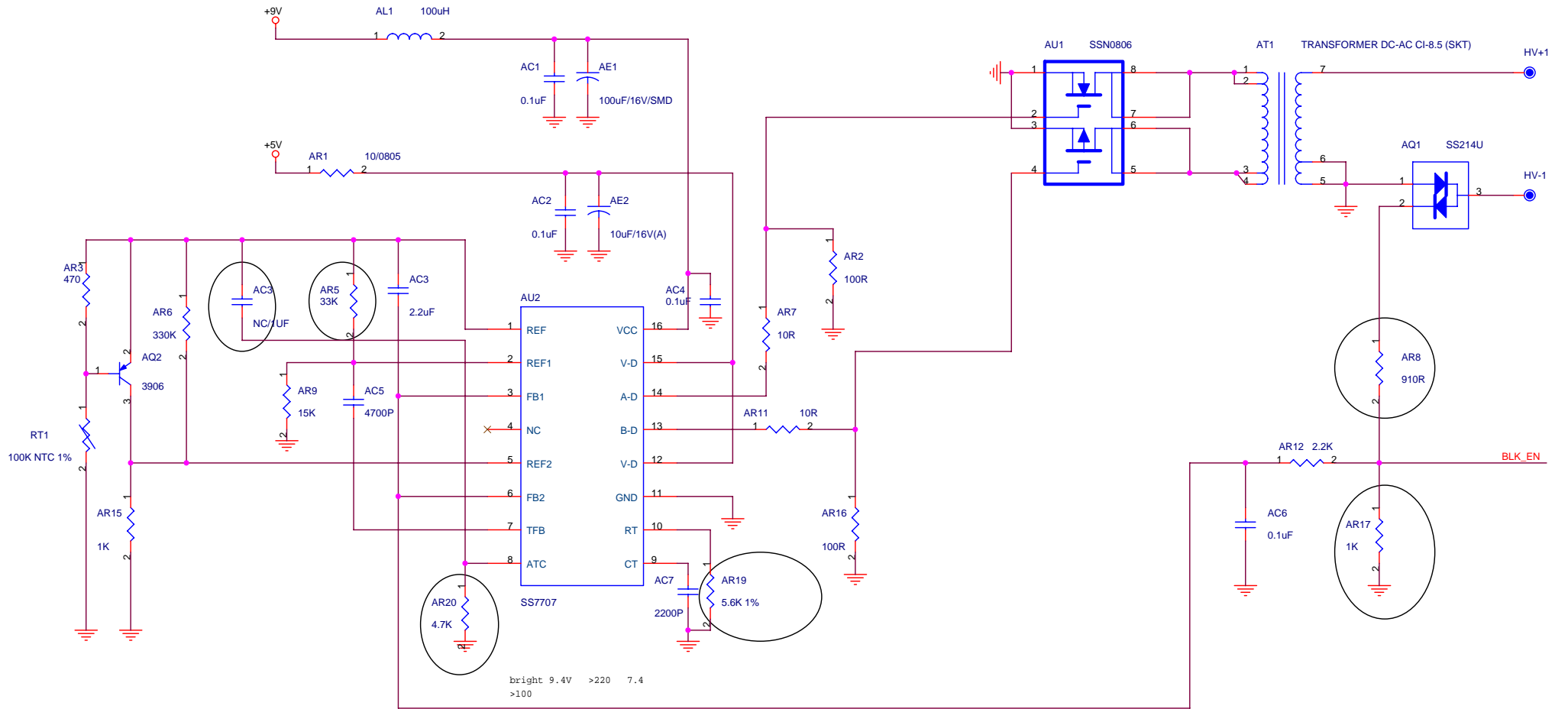




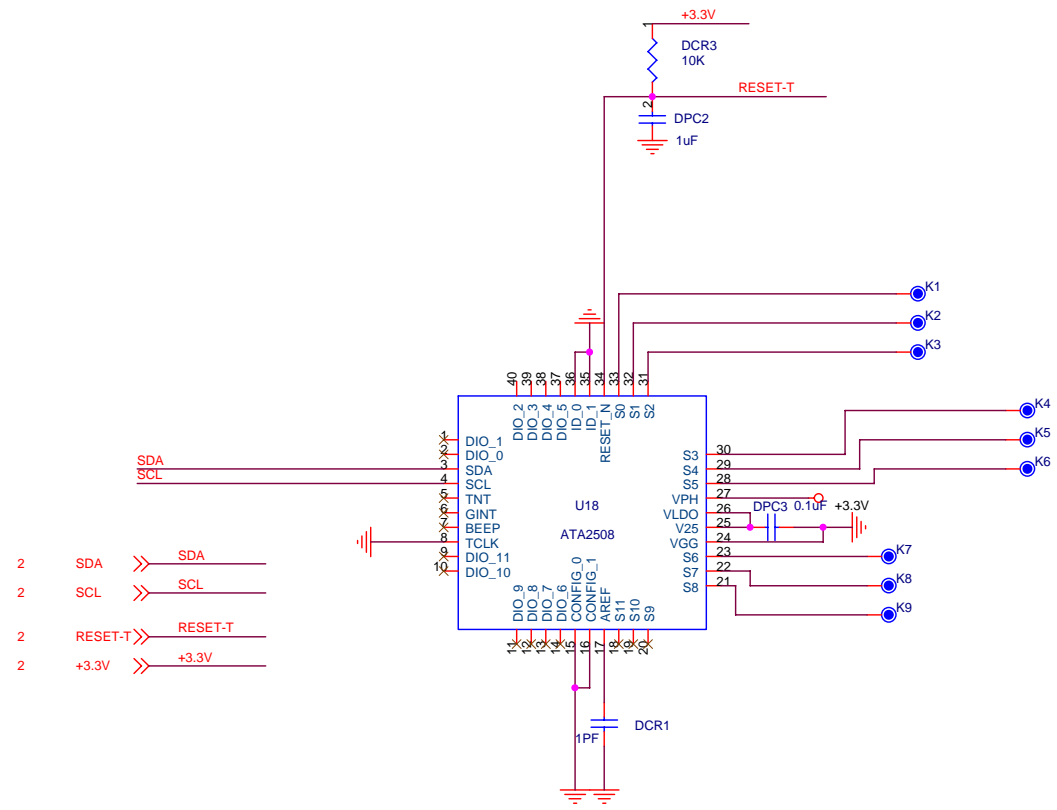
- 2 DATA >> DATA
- 2 KS_CLK >> KS_CLK
- 2 AU_OUT_R >> R98 0 AU_R_OUT
- 2 AU_OUT_L >> R100 0 AU_L_OUT
- 2 MUTE >> MUTE
- 1.2 +9VIN >> +9VIN
- 1.2,3 +3.3V >> +3.3V
- 1.2,3 VDD >> VDD

add

File		
AV_OUT&L		
Size	Document Number	Rev
C	PET988	Ver A1
Date	Wednesday, August 06, 2008	Sheet 4 of 7

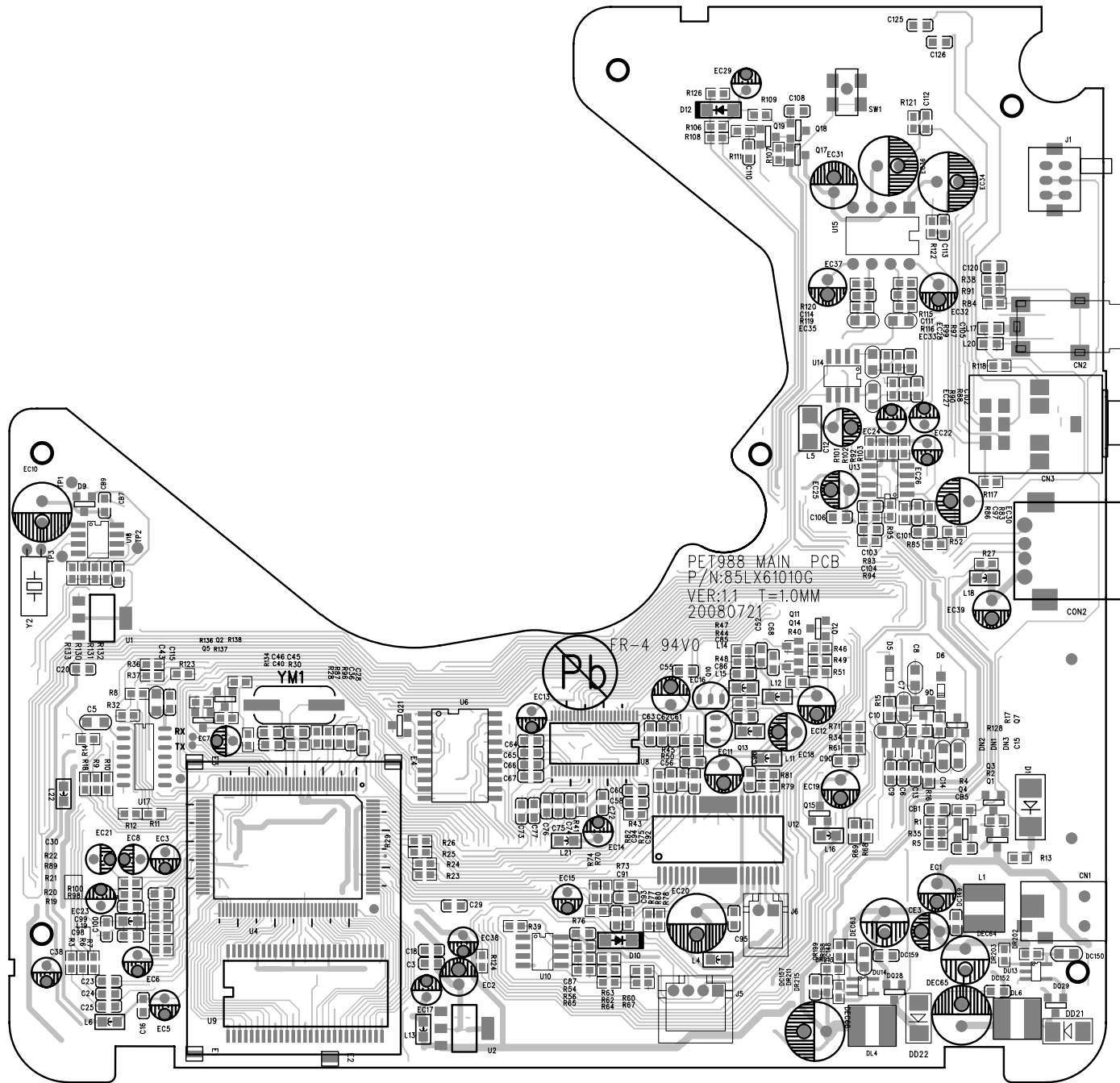


Title		
CCFL		
Size	Document Number	Rev
B	PET988	Ver A1
Date:	Wednesday, August 06, 2008	Sheet 5 of 7



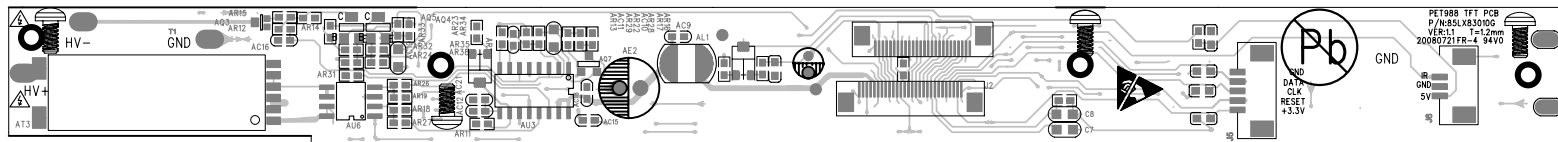
- 2 SDA >> SDA
- 2 SCL >> SCL
- 2 RESET-T >> RESET-T
- 2 +3.3V >> +3.3V

Title		
TOUCH KEY		
Size	Document Number	Rev
B	PET988	Ver A1
Date:	Wednesday, August 06, 2008	Sheet 6 of 7

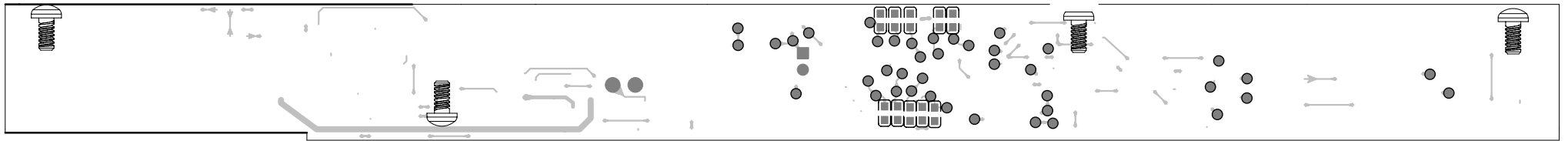


PE1988 MAIN PCB
 P/N:85LX61010G
 VER:1.1 T=1.0MM
 20080721

PE1988 MAIN TOP






PET988 TFT TOP



PET986 TFT BOTTOM

8.0 SERVICE PART LIST

Electrical Part List:

CTN	Service 12NC	Service Description	Photo	Pos. No.
PET988/12	996510019062	MAIN PCB ASSY PET988/12		100
PET988/12	996510019331	KEY PCB ASSY		110
PET988/12	996510019099	TFT DRIVE PCB ASSY		120
PET988/12	996510019063	IR PCB ASSY		130

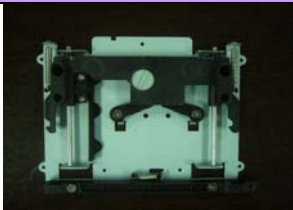

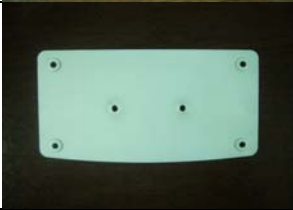


8.0 SERVICE PART LIST

Mechanical Part List:

CTN	Service 12NC	Service Description	Photo	Pos. No.
PET988/12	996510019100	9" CPT PANEL ASSY		200
PET988/12	996510007686	DVD LOADER 1200X		210
PET988/12	996510019064	WIRE UL#26 70/3+3MM		220
PET988/12	996510002384	FFC 24P/0.5MM 130MM		230
PET988/12	996510019065	FFC 28P/0.5MM 350MM		240
PET988/12	996510019066	COMPRESS SPRING		250
PET988/12	996510019067	TORQUE SPRING		260

8.0 SERVICE PART LIST

Mechanical Part List:

No.	Service 12NC	Service Description	Photo	Pos. No.
PET988/12	996510019068	SLIDE UNIT		300
PET988/12	996510019069	HINGE STEEL		310
PET988/12	996510019070	PLATE - STAND		350
PET988/12	996510019071	PLATE - SPEAKER NET SILVER		360
PET988/12	996510019072	FIXED PLATE		370

8.0 SERVICE PART LIST

Mechanical Part List:

CTN	Service 12NC	Service Description	Photo	Pos No.
PET988/12	996510019073	MONITOR FRONT FRAME		380
PET988/12	996510019074	BACKLIGHT LENS		390
PET988/12	996510019075	FRONT CHANGE FRAME		400
PET988/12	996510019334	MONITOR FRONT PLATE		410
PET988/12	996510019077	MONITOR BACK CABINET		420
PET988/12	996510019078	DVD TOP & SPEAKER & SPEAKER LINE		430
PET988/12	996510019079	STAND		440
PET988/12	996510019080	DVD BOTTOM		450





8.0 SERVICE PART LIST

Mechanical Part List:

CTN	Service 12NC	Service Description	Photo	Pos No.
PET988/12	996510019081	CD DOOR		460
PET988/12	996510019082	FRONT SLIDE PLATE		470
PET988/12	996510019083	AIXS POM		480
PET988/12	996510019084	ANITCHAFE BLOCK POM		490
PET988/12	996510019085	POWER KNOB		500
PET988/12	996510019086	OPEN KNOB		510
PET988/12	996510019087	OPEN LATCH		520
PET988/12	996510019088	RELEASE BUTTON		530

8.0 SERVICE PART LIST

Accessories Part List:

Service 12NC	Service Description	Photo	Pos. No.
996510019089	AC ADAPTOR /12		ACAPT
996510004975	AV CABLE		AVCABLE
996510010991	CAR ADAPTOR		CARAPT
996510019090	REMOTE CONTROL		RC

9.0 REVISION LIST

Version 1.0 (3141 785 33140)

- Initial release PET988/12