

Service
Service
Service



Service Manual

TABLE OF CONTENTS

	Chapter
Technical Specification.....	1
Safety Instructions.....	2
Instruction for Use.....	3
Mechanical Instructions.....	4
Troubleshooting & Service Tips.....	5
Overall Block Diagram.....	6
Overall Wiring Diagram.....	7
Electrical Diagram.....	8
Component Layout.....	9
Service Part List.....	10
Revision List.....	11

©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, electronic,
mechanical, photocopying, or otherwise without the prior permission of Philips

3141 785 30966

1.0 TECHNICAL SPECIFICATION

General

Dimensions (WxLxH) :	22 x 17.7 x 3.2 cm 8.7 x 6.9 x 1.3 inches
Weight :	0.94 kg / 2 lb
Power supply :	DC 9V 2.2A
Power consumption :	30W
Operating temp. range :	0 - 50°C (32 ~ 122°F)
Laser wavelength:	650nm
Video system :	NTSC / PAL / AUTO
Frequency response :	20Hz ~ 20KHz ± 1dB
Signal/noise ratio	≥85dB
Audio distortion + noise	≤ 80(1KHz)
Channel separation:	≥85dB
Dynamic range	≥80dB
Output	
Audio out (analog audio)	Output level: 2V ± 10%
Load impedance:	10KΩ
Video out Output level:	1Vp - p ± 20%
Load impedance:	75Ω

Current consumption

DC-IN SUPPLY (9.0V)	
Battery Charging Current	1.2A typ.
BATT. SUPPLY (7.2V)	
Power Off	0A
Playback with TFT on	<1.2A typ.
Playback without TFT on	<600mA
Battery playtime	>2.5hrs

Headphone out (headphone output load 2x16 ohm)

Maximum output power :	>10Mw
Frequency response :	20Hz - 20kHz
SNR (A-wght) :	80dB typ.
THD (1kHz) :	<1%
Left-Right Channel Separation :	32dB typ.
Left-Right Channel Balance :	1dB

Supported disc type

DVD video discs:



Video CD:

Audio CD :



DivX video discs:



In addition, this unit can play DVD+R & DVD+RW and CD-R & CD-RW that contains audio titles or MP3 or JPEG files.

You cannot play disc other than the above listed. (CVD, CD-ROM, CD-Extra, CD-G and CD-I discs cannot be played on this DVD player)

Software upgrades

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

To check the software version of your DVD Portable.

1. Press the SETUP key to enter the setup menu.
2. Press RETURN and then press 1, 2 and 3 on the remote control.
3. The display will show the software version as the date of which the software was built on the bottom of the screen. E.g. 050303

Procedure on how to upgrade the software of the DVD Portable

1. Download the latest software from the Philips support site.
2. Unzipped the files and then burn it onto a CD ROM then playback the CD ROM on the DVD Portable.

Pixel specification

<= 3 (max. 0 bright dots and 3 dark dots)

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.

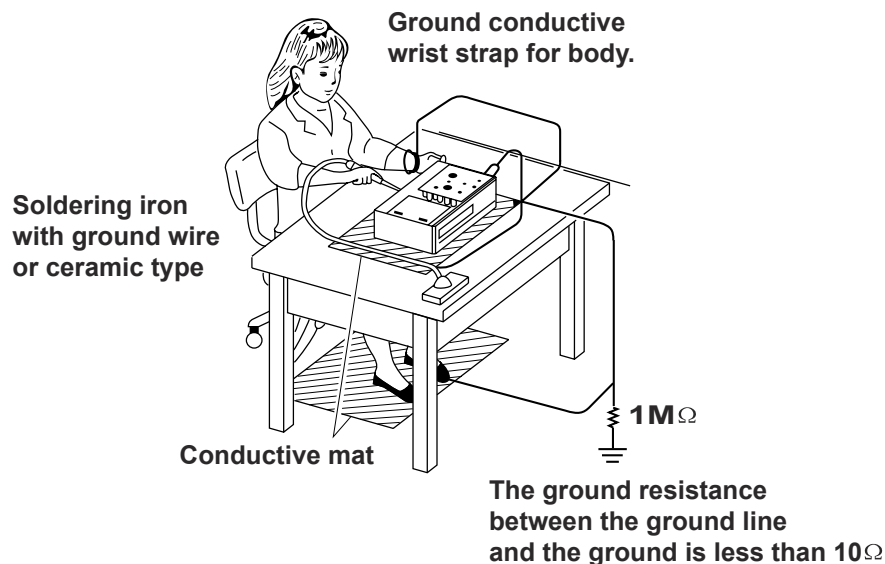
When the power supply is being turned on, you may not remove this laser cautions label. If it removes, radiation of laser may be received.

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.



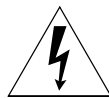
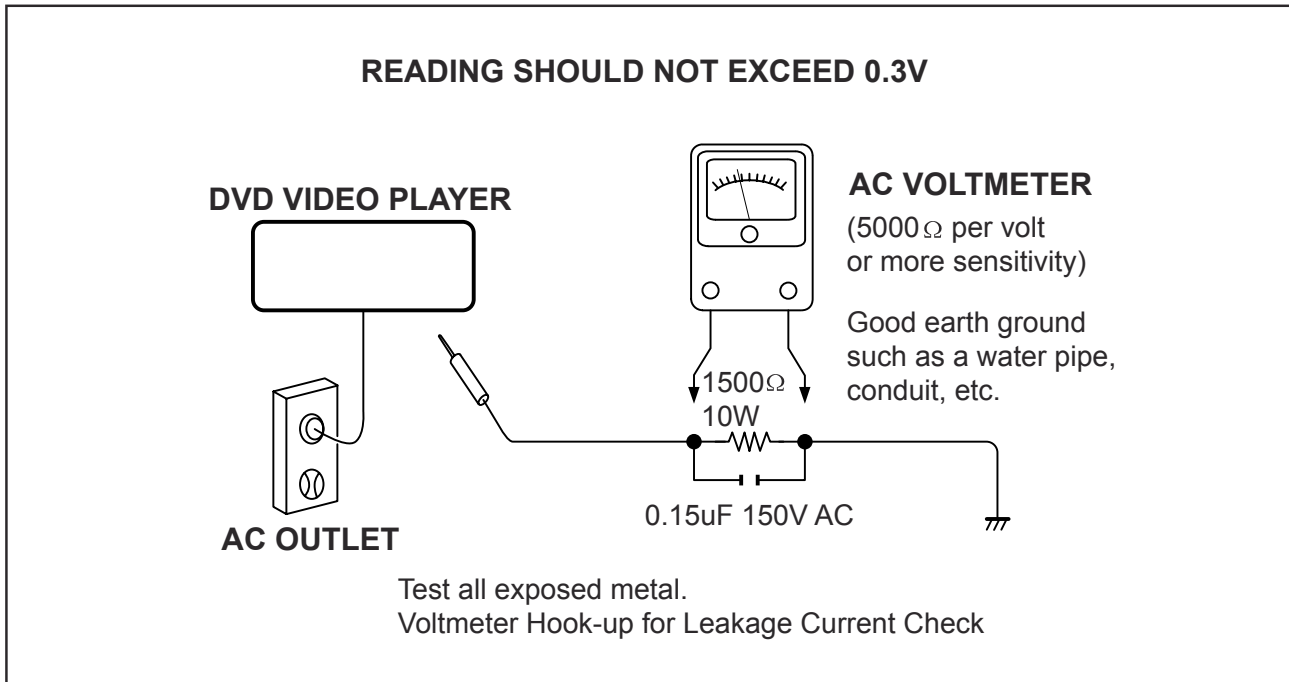
SAFTY NOTICE

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 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 INSTRUCTIONS FOR USE

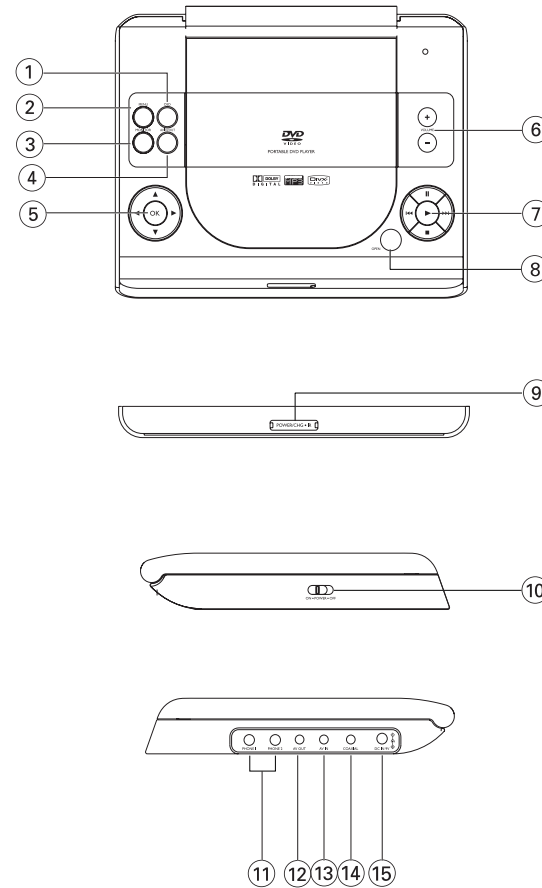
- | | |
|--|--|
| <p>① OSD
On Screen Display on / off</p> <p>② MENU
Displays MENU page</p> <p>③ MONITOR
Selection display
☀ To adjust the brightness with
◀ ▶
🎨 To adjust the color with ◀ ▶

☐ To adjust the screen of 16:9
or 4:3 with ◀ ▶</p> <p>④ AV IN/OUT
Selection video format
-A/V or S-VIDEO out
-A/V in (AUX)</p> <p>⑤ ▲, ▼, ◀, ▶
Up / down / left / right cursor
OK
Confirms selection</p> <p>⑥ VOLUME + / -
Volume control</p> <p>⑦ II
Pause playback
▶
Starts / resumes playback
■
Press twice to stop playback
◀◀ / ▶▶
For previous (◀◀) or next (▶▶)
chapters, tracks or titles</p> <p>⑧ △ OPEN
Opens disc door to insert or
remove disc</p> | <p>⑨ POWER/CHG.IR
Power and charging indicator,
Remote sensor</p> <p>⑩ ON · POWER · OFF
Switches the player on / off</p> <p>⑪ PHONES 1 & 2
Headphones jack</p> <p>⑫ AV OUT
Audio/video output jack</p> <p>⑬ AV IN
Audio/video input jack</p> <p>⑭ COAXIAL
Digital Audio output jack</p> <p>⑮ DC IN 9V
Power supply socket</p> |
|--|--|

CAUTION

Use of controls or adjustments or performance of procedures other than herein may result in hazardous radiation exposure or other unsafe operation.

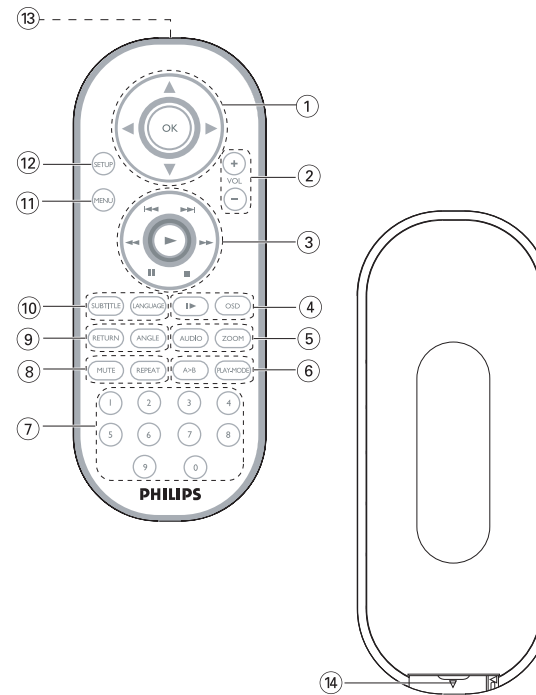
DVD PLAYER LAYOUT



Remote Control

- | | |
|--|--|
| <p>① ◀, ▶, ◀, ▶
Up / down / left / right cursor
OK
Confirms selection</p> | <p>⑦ 0 - 9
Numeric keypad</p> |
| <p>② VOLUME
Volume control</p> | <p>⑧ MUTE
Muting play volume
REPEAT
Repeats chapter / title / disc</p> |
| <p>③ ◀◀ / ▶▶
For previous (◀◀) or next (▶▶)
chapters, tracks or titles

Pause playback
▶
Starts / resumes playback
■
Press twice to stop playback
◀◀ / ▶▶
Search backward (◀◀) or search
forward (▶▶)</p> | <p>⑨ RETURN
For VCD menu page
ANGLE
Selects DVD camera angle</p> |
| <p>④ OSD
On Screen Display on / off
▶
Slow motion</p> | <p>⑩ SUBTITLE
Subtitle language selector
LANGUAGE
Language selector</p> |
| <p>⑤ AUDIO
Audio language selector
ZOOM
Enlarges video image</p> | <p>⑪ MENU
Displays MENU page</p> |
| <p>⑥ A > B
To repeat or loop a sequence
in a title
PLAY-MODE
Selects play order options</p> | <p>⑫ SETUP
Enters SETUP menu</p> <p>⑬ INFRA RED PORT</p> <p>⑭ BATTERY COMPARTMENT</p> |



4.0 MECHNICAL INSTRUCTIONS

1. Back View as Fig.1

Remove screws to remove base

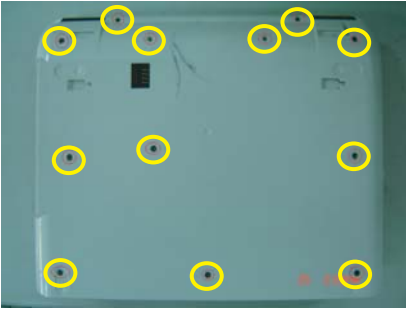


Fig.1

2. Soldered short pattern for laser diode as Fig.2



Fig.2

3. Remove DVD driver and main board as Fig.3,4 Disconnect DVD driver and main board



Fig.3

Remove DVD driver and main board



Fig.4

4. Remove key board and other parts as Fig.5

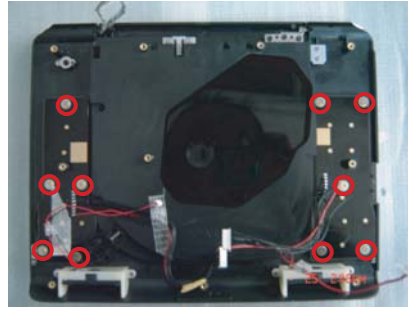


Fig.5

5. Remove top cover as Fig.6



Fig.6

6. Remove PTH board as Fig.7.

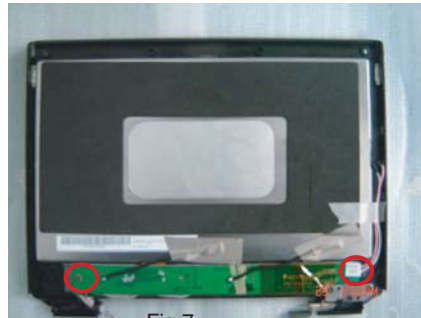


Fig.7

7. Remove LCD TFT as Fig.8.



Fig.8

5.0 TROUBLESHOOTING & SERVICE TIPS

Procedure to change regioncode

1. Power on player and open DVD Door.
2. Press <Set Up> at Remote Control. In <Set Up Menu> select <Preferences>.
3. For PET824 - Press successively 2 1 2 2 2 5.◀.▼.OK
4. Display will show <Region Code 2> for Europe:
5. Press key to input preference region code (see below table).
6. Switch off and re-switch on the product.
7. Verify Region code change done.

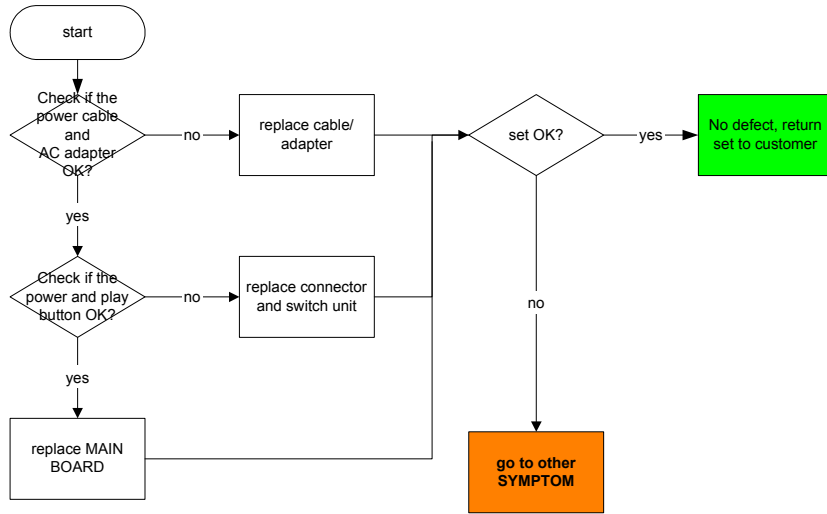
Region Code	Region
1	USA
2	EUROPE
3	ASIA PACIFIC
4	AUSTRALIA, NEW ZEALAND, LATAM
5	RUSSIA, INDIA
6	CHINA

REMARKS:

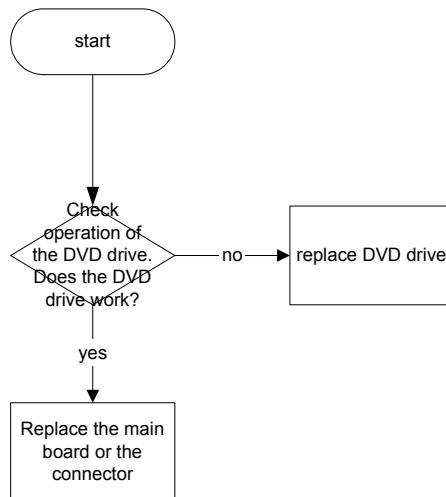
1. Password is **CONFIDENTIAL**.
2. Region code is printed on product type plate. Due to DVD legislation region codes different to assigned region may not be released.

5.0 TROUBLESHOOTING & SERVICE TIPS

SYMPTOM: NO POWER, NO GREEN LED

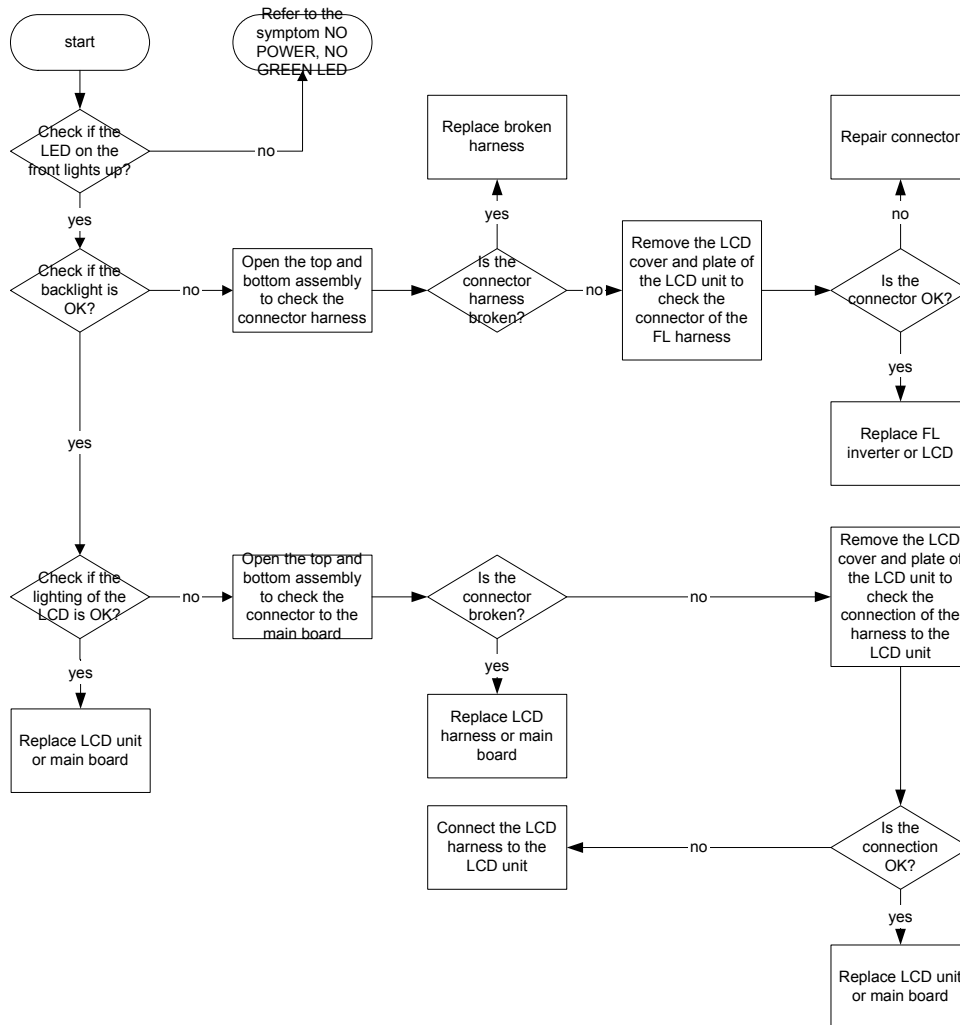


SYMPTOM: NO IMAGE OR SOUND COMES OUT FROM THE EXTERNAL OUTPUT

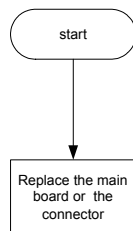


5.0 TROUBLESHOOTING & SERVICE TIPS

SYMPTOM: THE INITIAL SCREEN IS NOT DISPLAYED ON THE LCD

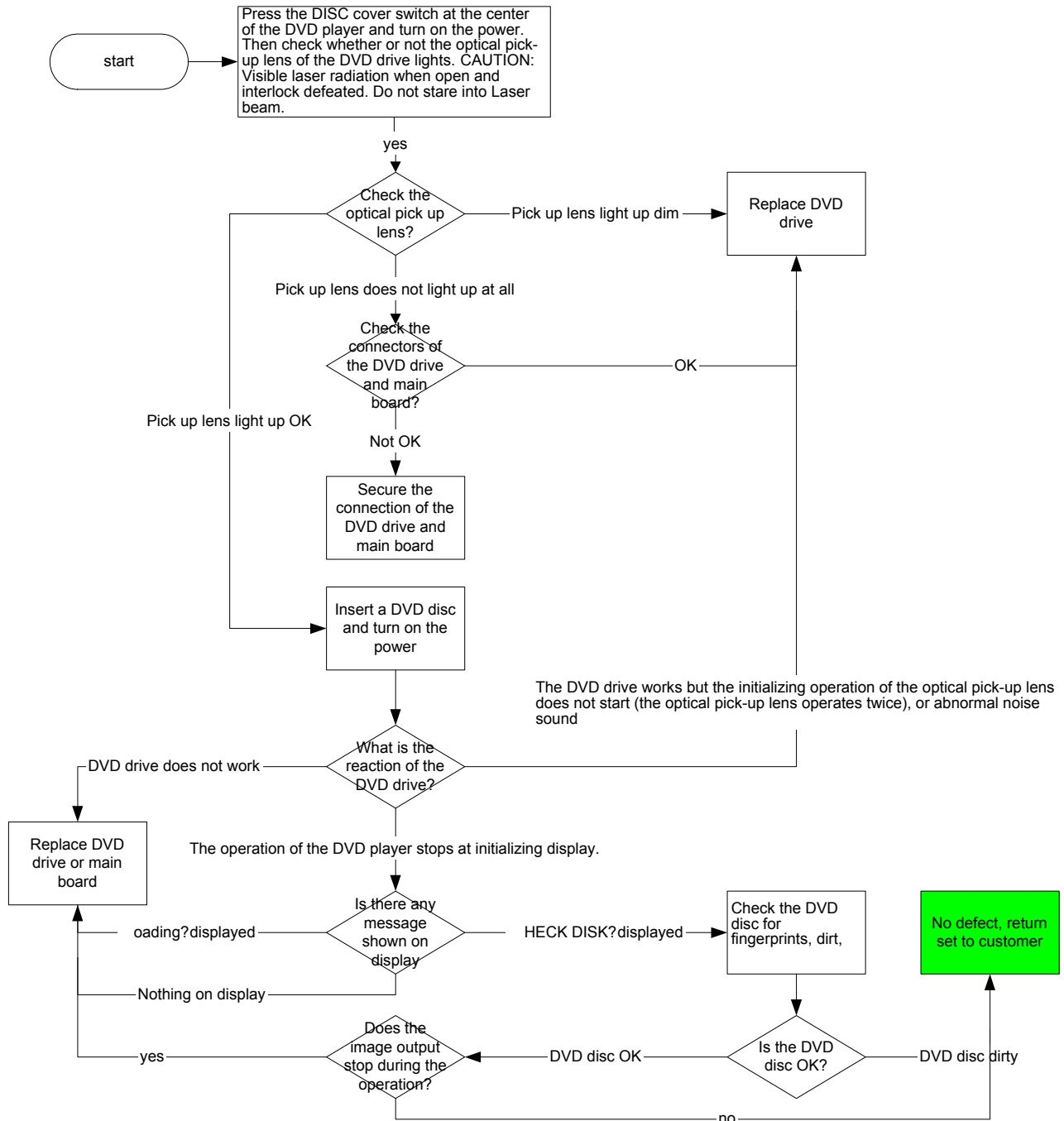


SYMPTOM: NO IMAGE OR SOUND COMES OUT FROM THE EXTERNAL INPUT



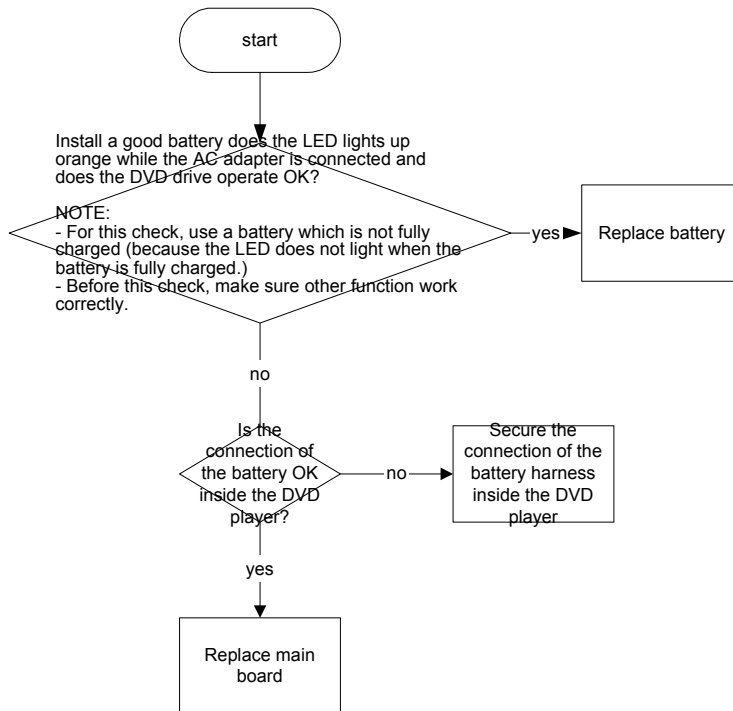
5.0 TROUBLESHOOTING & SERVICE TIPS

SYMPTOM: THE DVD DRIVE DOES NOT WORK

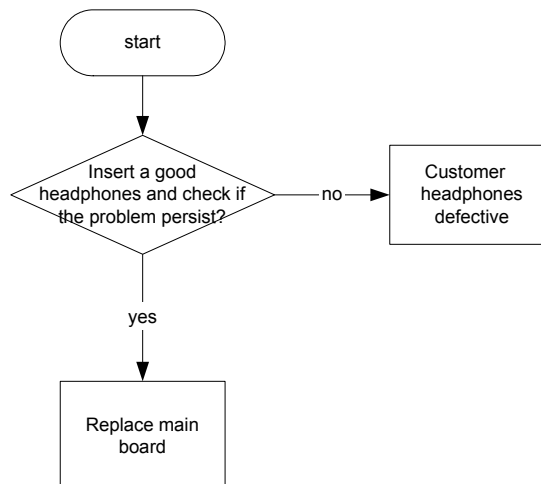


5.0 TROUBLESHOOTING & SERVICE TIPS

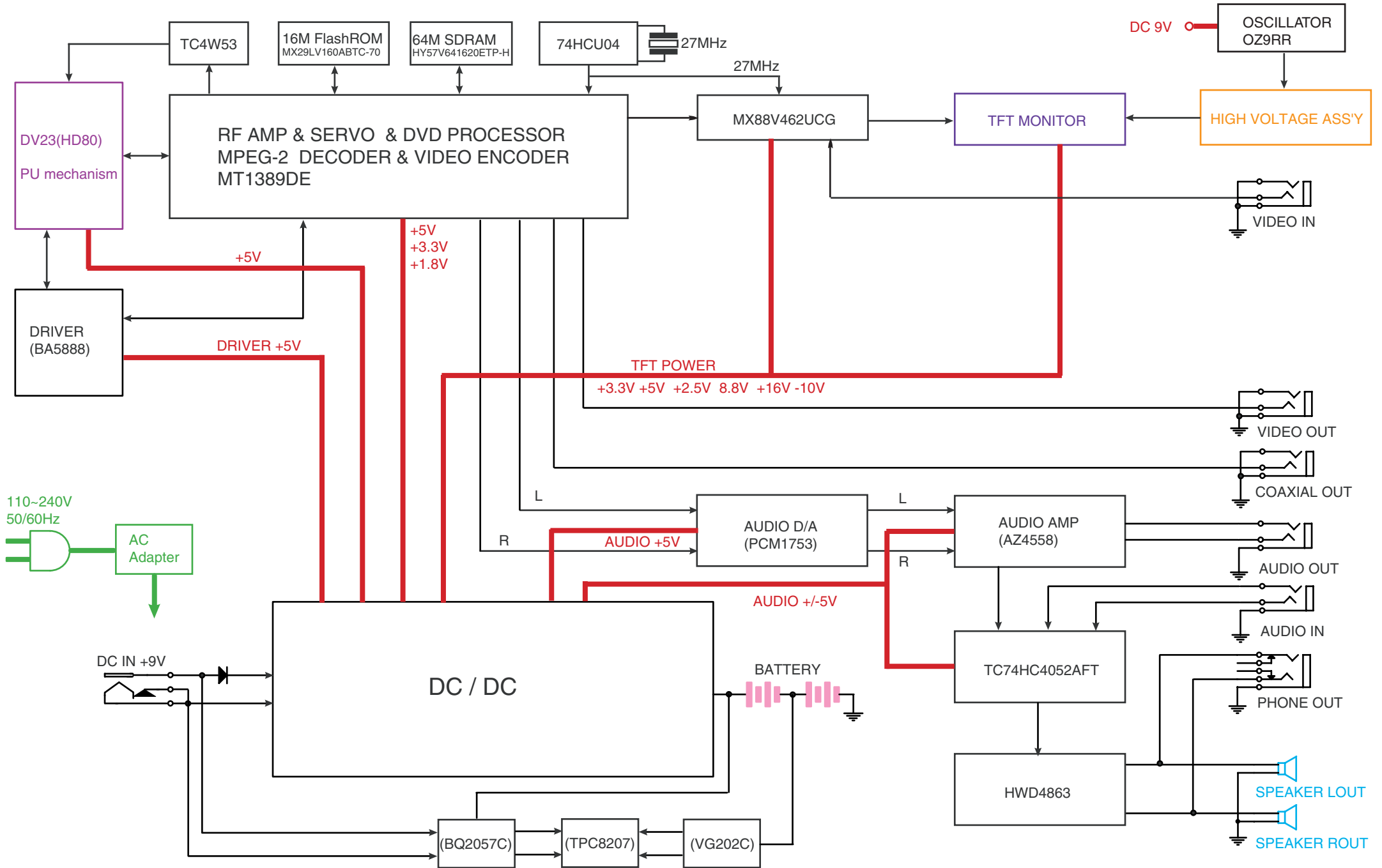
SYMPTOM: THE DVD DRIVE DOES NOT OPERATE WITH BATTERY



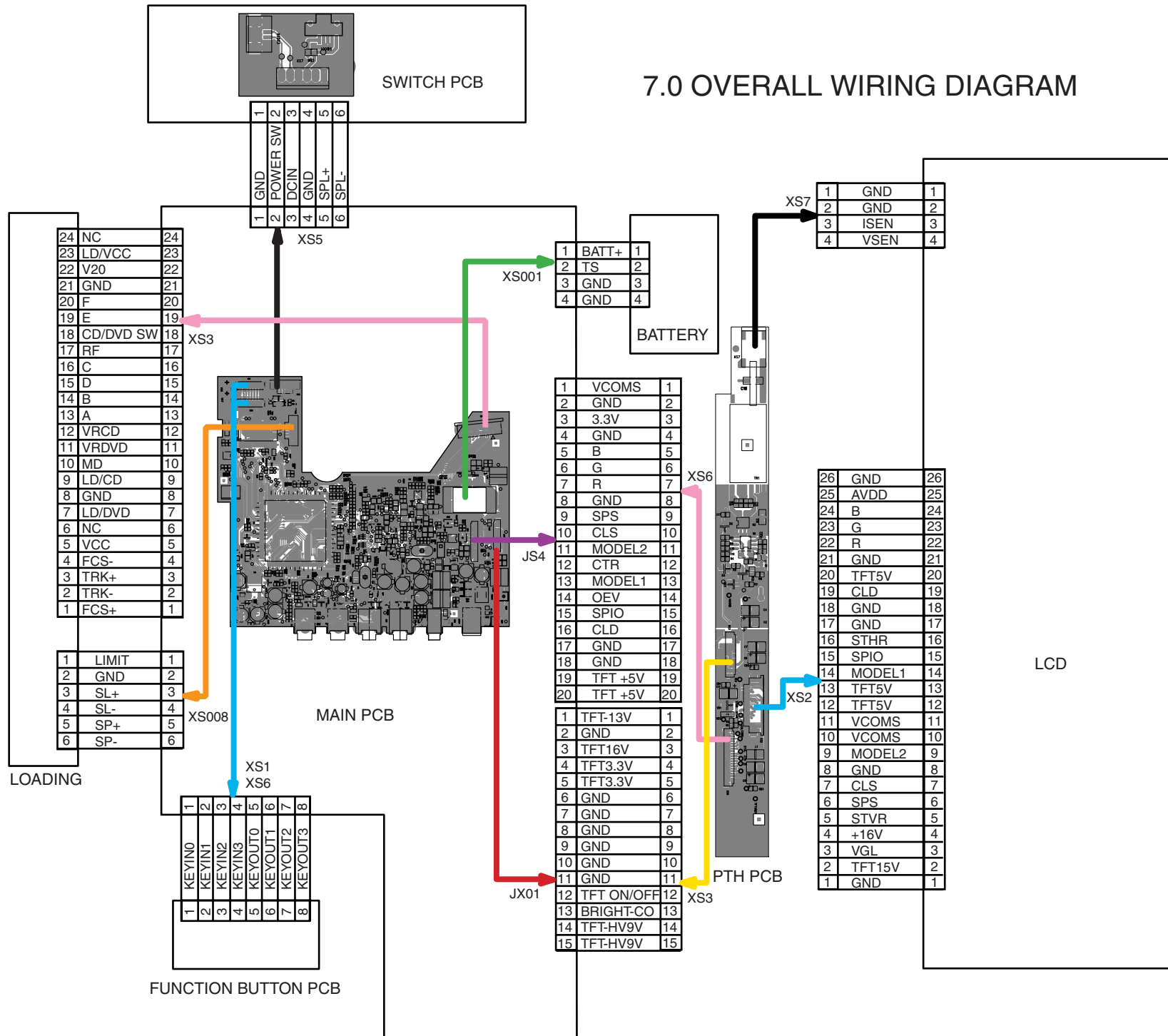
SYMPTOM: NO SOUND COMES FROM THE HEADPHONES



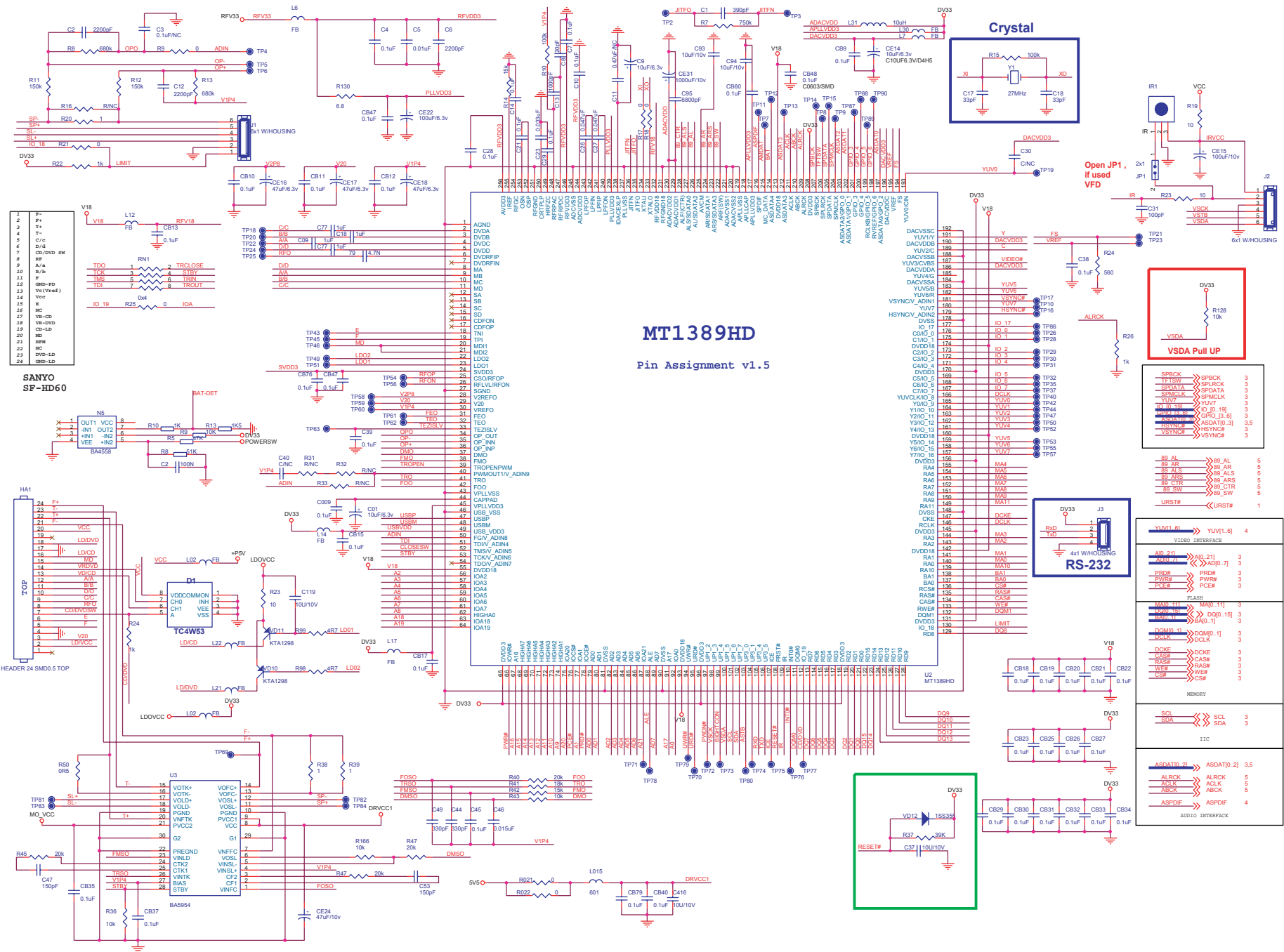
6.0 OVERALL BLOCK DIAGRAM



7.0 OVERALL WIRING DIAGRAM



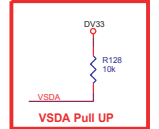
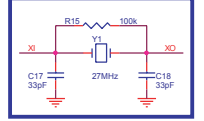
8.0 ELECTRICAL DIAGRAM MAIN BOARD CIRCUIT DIAGRAM (MPEG)



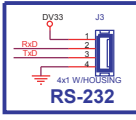
MT1389HD

Pin Assignment v1.5

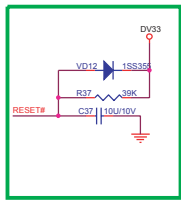
Crystal



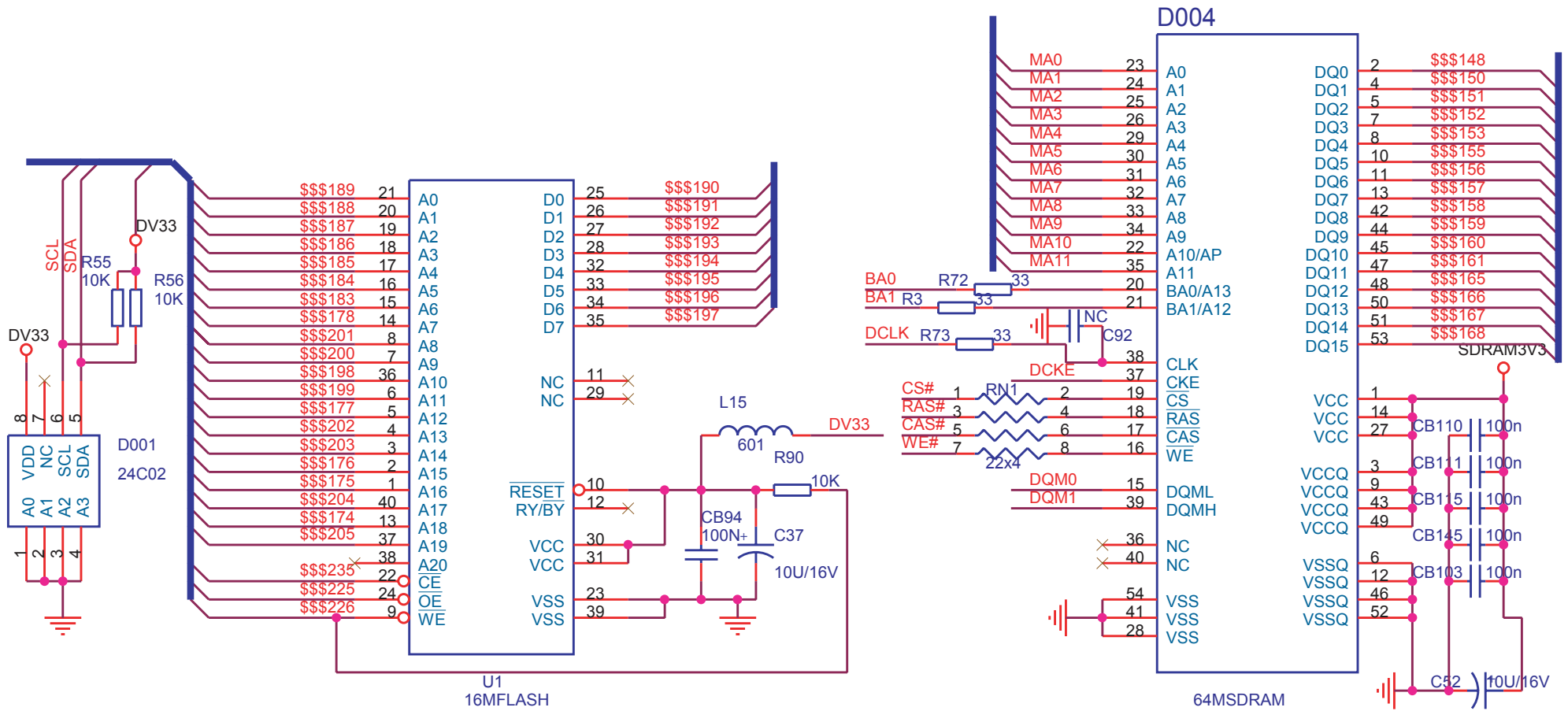
SPBCK	SPBCK	3
TF1SW	SPBCK	3
SPDATA	SPDATA	3
SPCLK	SPCLK	3
YUV7	YUV7	3
IO_B_1B	IO_B_1B	3
GPO_B_6	GPO_B_6	3
ASDATA0_3	ASDATA0_3	3.5
HSYNC#	HSYNC#	3
VSYNCS#	VSYNCS#	3
88_AL	88_AL	5
88_AR	88_AR	5
88_ARS	88_ARS	5
88_CTR	88_CTR	5
88_SW	88_SW	5
URST#	URST#	1



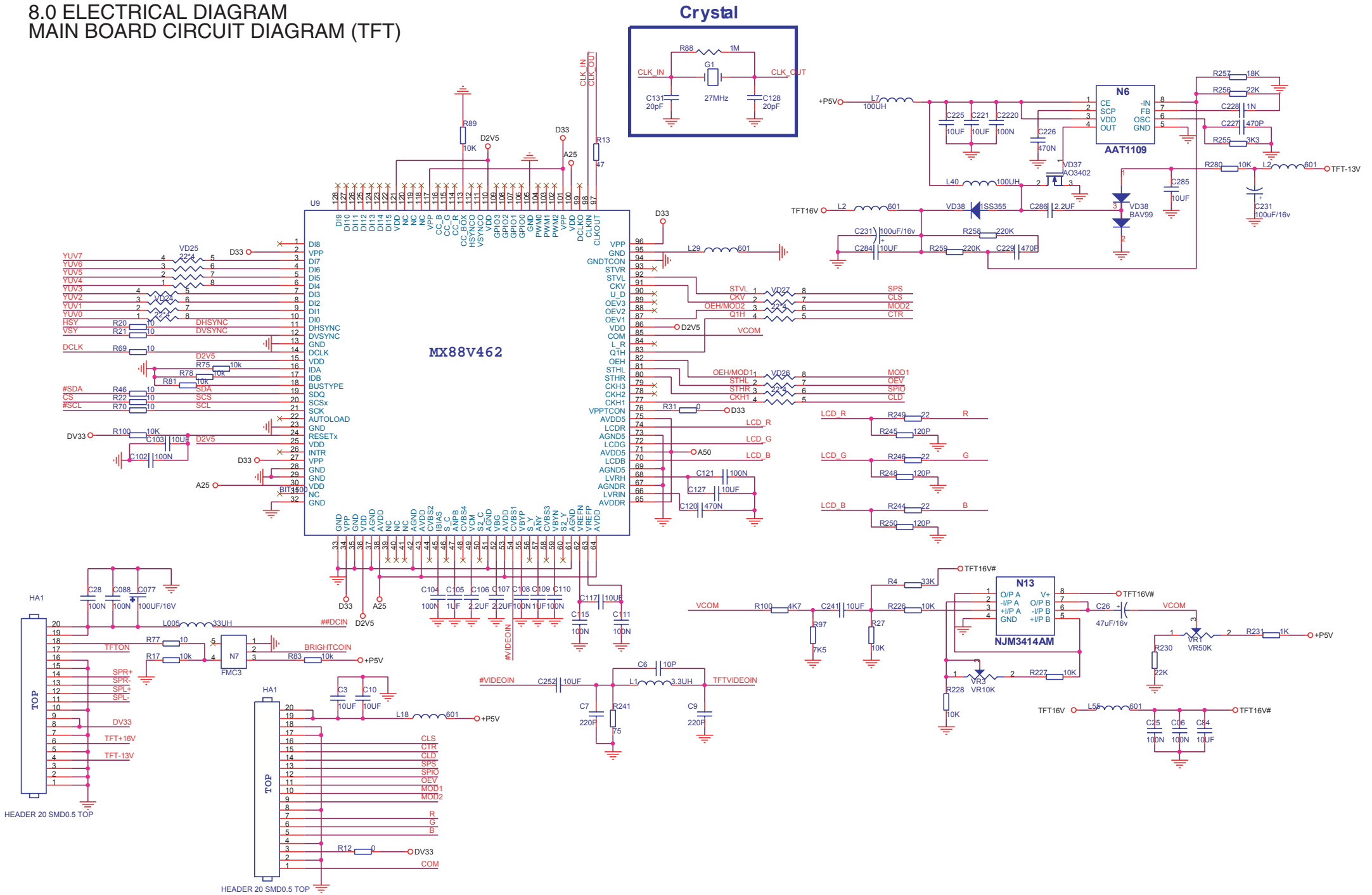
YUV1_6	YUV1_6	4
VIDEO INTERFACE		
AD_21	AD[0..21]	3
AD_7	AD[0..7]	3
PRM#	PRM#	3
PWR#	PWR#	3
PCIF#	PCIF#	3
PCIF#		
MD_11	MD[0..11]	3
EQ_15	EQ[0..15]	3
MD_0_1	MD[0..1]	3
CLCK	CLCK	3
DCKE	DCKE	3
CAS#	CAS#	3
WE#	WE#	3
CS#	CS#	3
MEMORY		
SCL	SCL	3
SDA	SDA	3
IIC		
ASDATA_2	ASDATA[0..2]	3.5
ALCK	ALCK	5
ABCK	ABCK	5
ASPDIF	ASPDIF	4
AUDIO INTERFACE		



8.0 ELECTRICAL DIAGRAM MAIN BOARD CIRCUIT DIAGRAM (FLASH & SDRAM)



8.0 ELECTRICAL DIAGRAM MAIN BOARD CIRCUIT DIAGRAM (TFT)



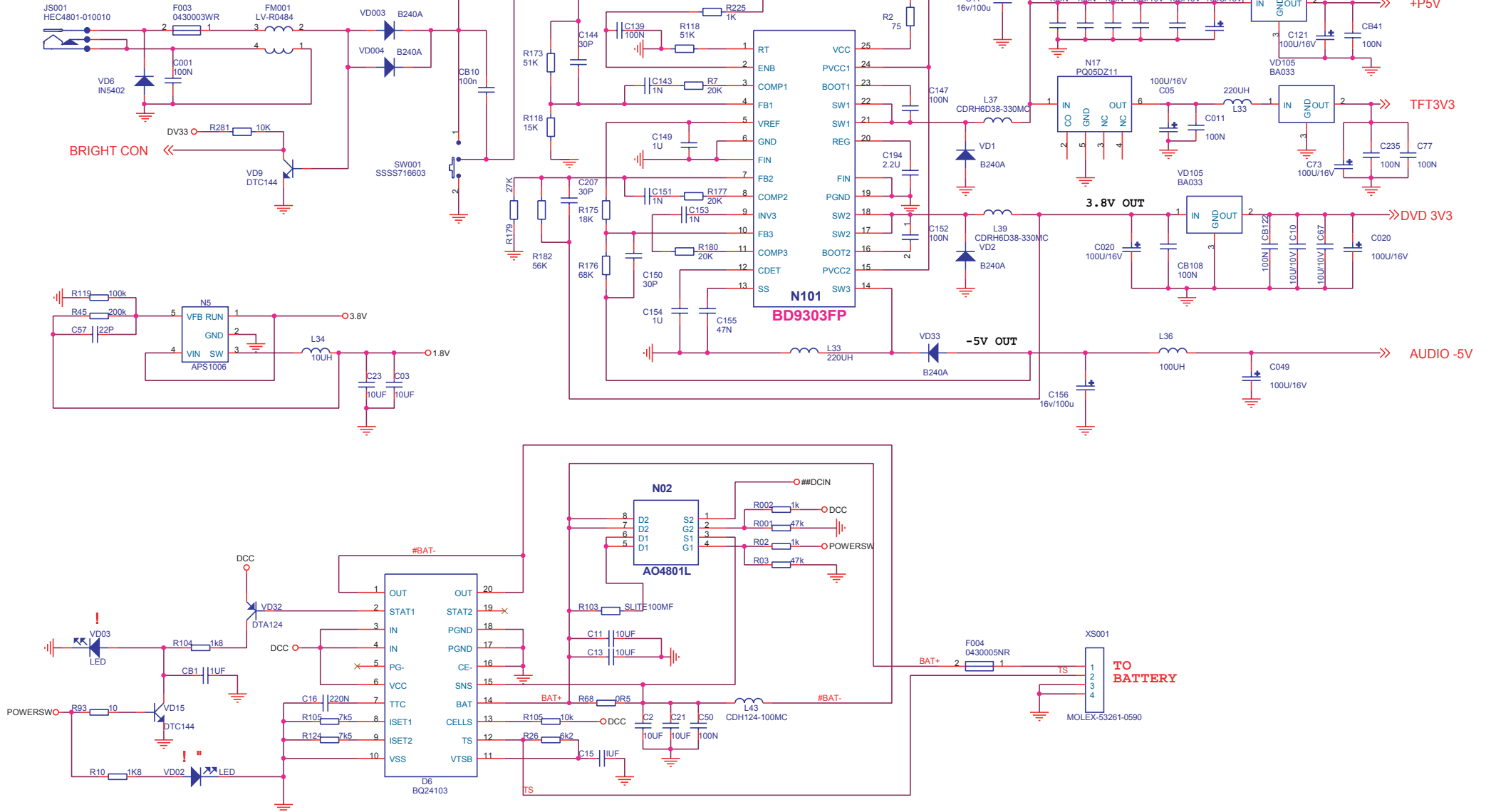
8.0 ELECTRICAL DIAGRAM MAIN BOARD CIRCUIT DIAGRAM (DC POWER)



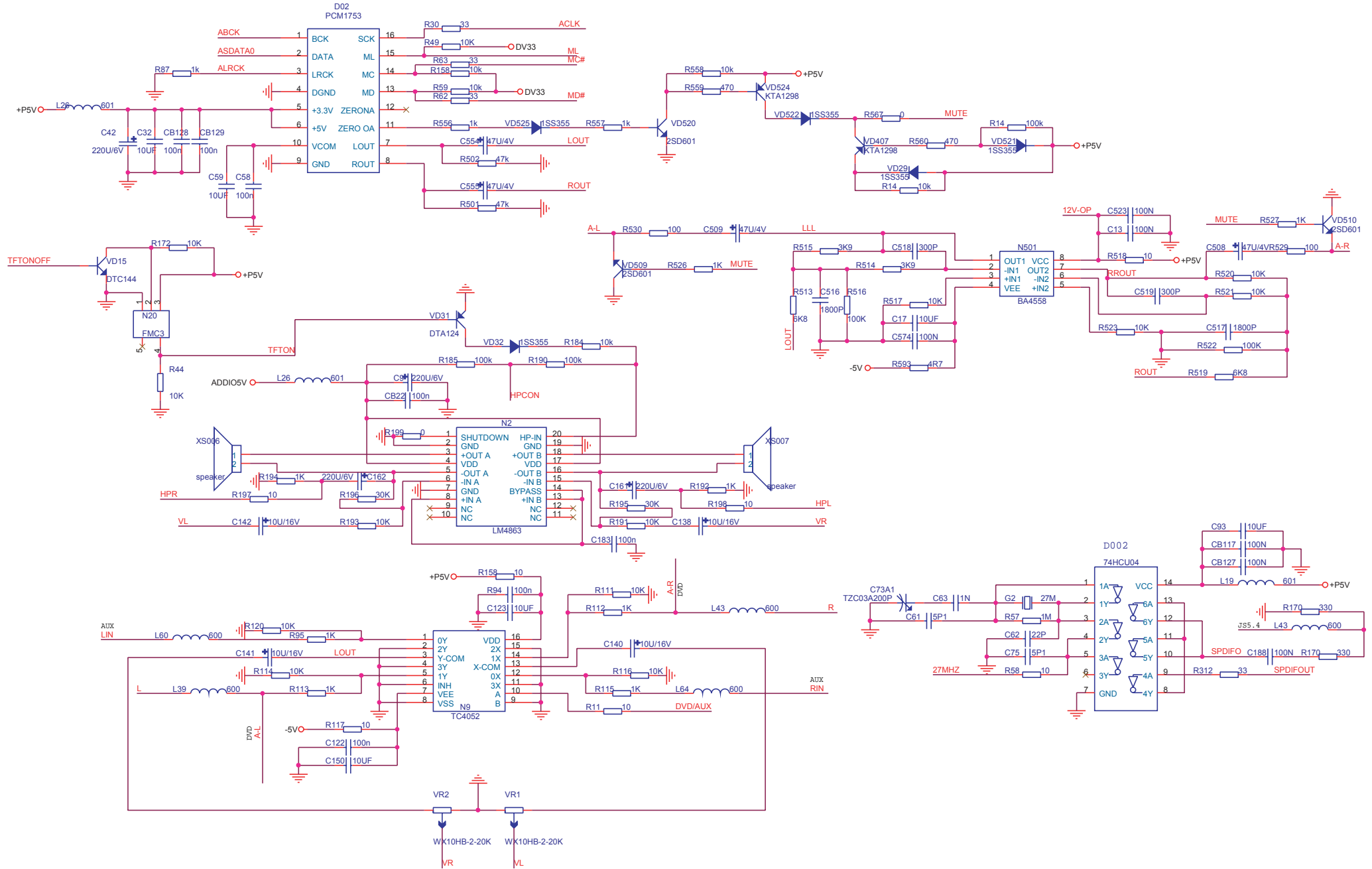
CAUTION: REPLACE FUSE WITH SAME

TYPE AND RATING

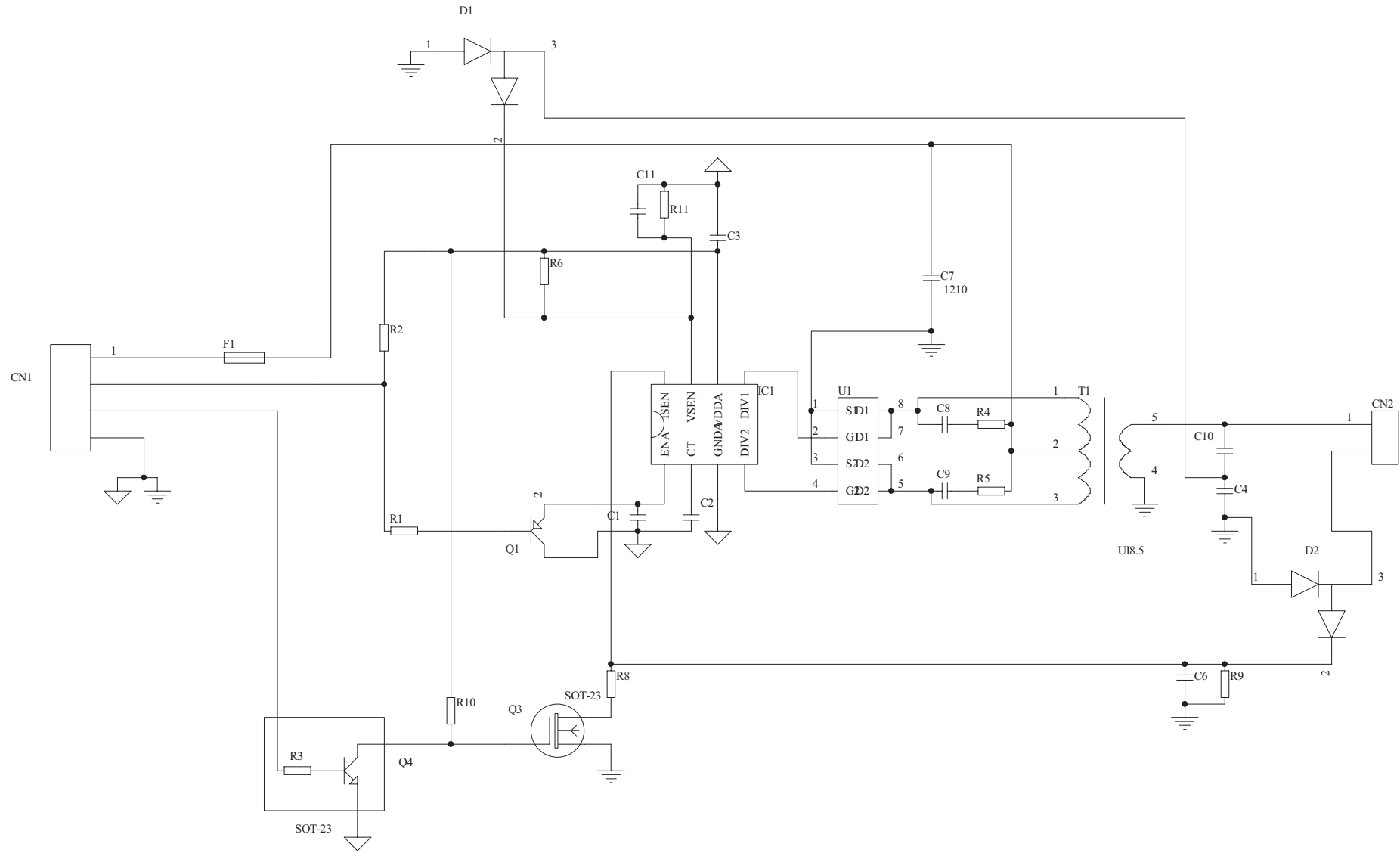
Littelfuse
T3A/125V



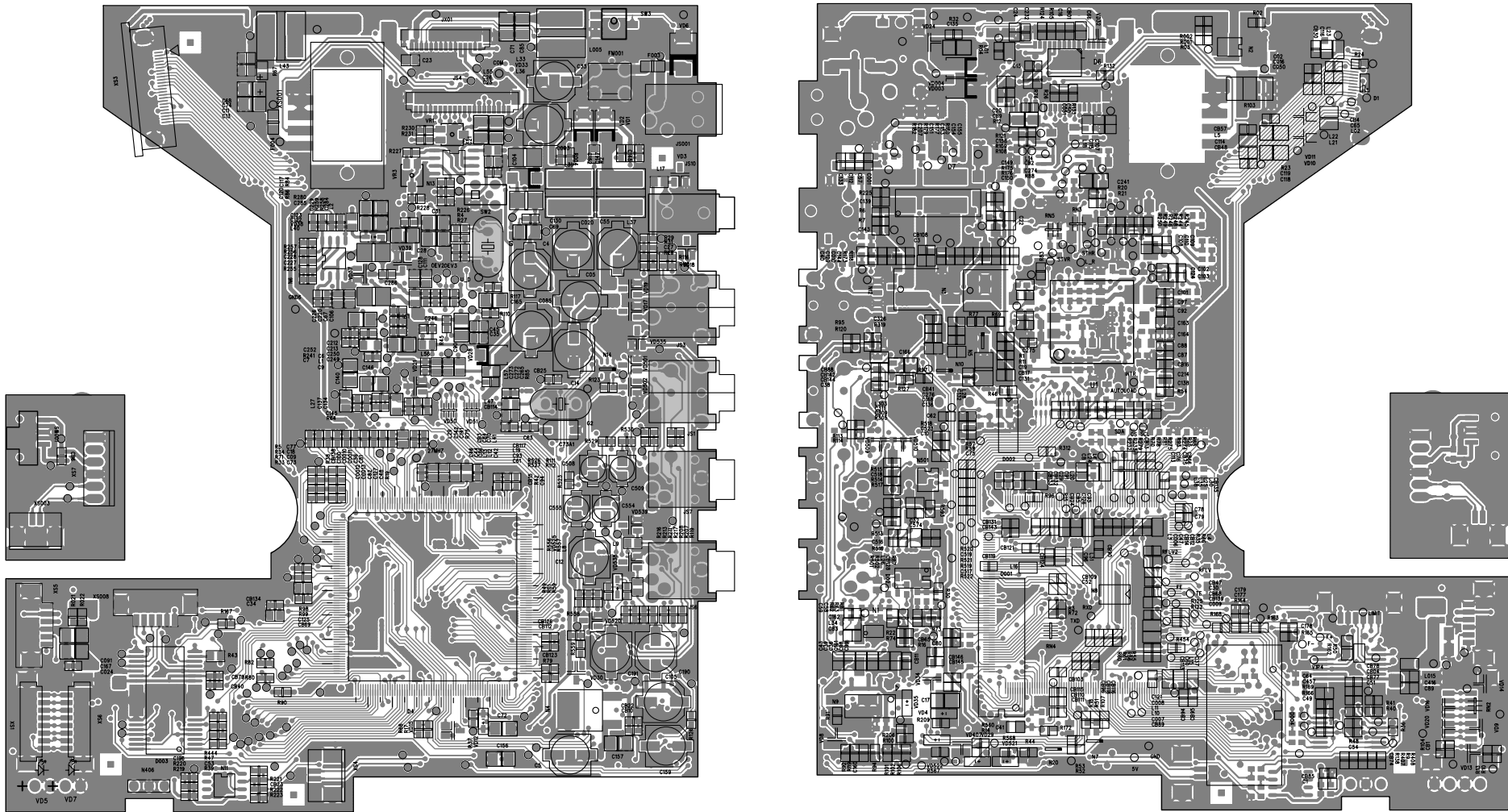
8.0 ELECTRICAL DIAGRAM MAIN BOARD CIRCUIT DIAGRAM (AUDIO)



8.0 ELECTICAL DIAGRAM - HIGH VOLTAGE BOARD CIRCUIT DIAGRAM

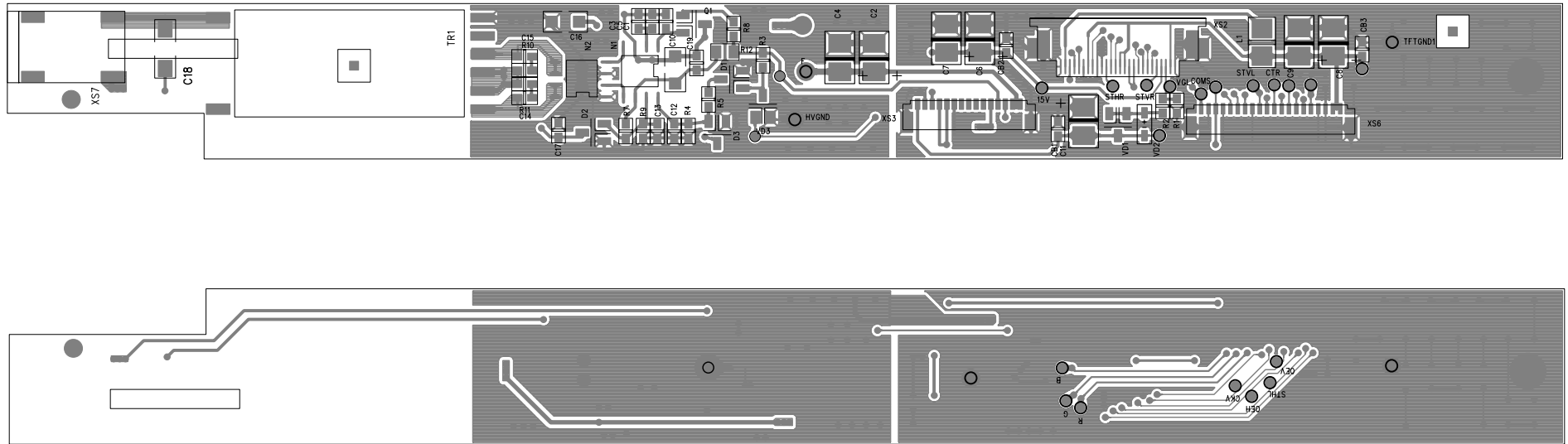


9.0 COMPONENT LAYOUT



MAIN BOARD DIAGRAM

9.0 COMPONENT LAYOUT



PTH BOARD DIAGRAM

10.0 SERVICE PARTS LIST

The following service BOMs are applied for all version unless specified.

Model#	Service 12NC	Description	Photos	Location Code
PET824 PET825	994000004805	RB-LI69 LITHIUM BATTERY		BATTERY
PET821	994000005367	RB75 LITHIUM BATTERY		BATTERY
PET821 PET824 PET825	994000001912	AV CABLE		AVCABLE
PET824/37 PET824/17 PET824/C	994000003947	ADPV26A AC POWER ADAPTER/37		ACADAPTOR
PET821/00 PET825/00	994000003946	ADPV16A AC POWER ADAPTOR/00		ACADAPTOR
PET821/05 PET825/05	994000003524	ADPV18A AC POWER ADAPTOR/05		ACADAPTOR
PET825/75	994000005792	ADPV18A AC POWER ADAPTOR/75		ACADAPTOR
PET825/93	996500039077	ADPV25A AC POWER ADAPTOR/93		ACADAPTOR
PET821 PET824 PET825	994000003945	RC-810 REMOTE CONTROL		RC
PET824 PET825	994000005372	TRAVEL BAG		BGA
PET821 PET824 PET825	994000003948	CAR CIGARETTE ADAPTER		CARADAPTOR

10.0 SERVICE PARTS LIST

The following service BOMs are applied for all version unless specified.

Model#	Service 12NC	Description	Photos	Location Code
PET821 PET824 PET825	994000004806	PET82X MAIN PCBA		100
PET821 PET824 PET825	994000004807	PET82X IF&HV PCBA		110
PET821 PET824 PET825	994000004808	PET82XFUNCTION PCBA		130
PET821 PET824 PET824	994000004811	15 PIN HARNESS (L135)		141
PET821 PET824 PET825	994000002242	20 PIN HARNESS (LE140)		144
PET821 PET824 PET825	994000004809	PET82XTFT LCD (A085FW010/V1)		200
PET821 PET824 PET825	994000002228	DV23 LOADING ASSY		210
PET821 PET824 PET825	994000002165	SPEAKER (YDP16135-2)		220
PET821 PET824 PET825	994000004825	SPEAKER GRILL		230

10.0 SERVICE PARTS LIST

The following service BOMs are applied for all version unless specified.

Model#	Service 12NC	Description	Photos	Location Code
PET821 PET824 PET825	994000005368	PET82X TOP COVER		300
PET821 PET824 PET825	994000004818	TOP COVER PLAQUE (LEFT)		301
PET821 PET824 PET825	994000004819	TOP COVER PLAQUE (RIGHT)		302
PET821 PET824 PET825	994000004815	DISPLAY FRAME		310
PET821 PET824 PET825	994000004813	PET82XMIDDLE CABINET		320
PET821 PET824 PET825	994000004821	MIDDLE CABINET ADORN SHEET A		321
PET821 PET824 PET825	994000004822	MIDDLE CABINET ADORN SHEET B		322
PET821/00	994000005369	PET821/00 BASE COVER		330

10.0 SERVICE PARTS LIST

The following service BOMs are applied for all version unless specified.

Model#	Service 12NC	Description	Photos	Location Code
PET821/05	994000005416	PET821/05 BASE COVER		330
PET825/00	994000005418	PET825/00 BASE COVER		330
PET825/05	994000005419	PET825/05 BASE COVER		330
PET825/75	996500036772	PET825/75 BASE COVER		330
PET821 PET824 PET825	994000004823	KEY DISCRETENESS (LEFT)		351
PET821 PET824 PET825	994000004824	KEY DISCRETENESS (RIGHT)		352
PET821 PET824 PET825	994000005421	DVD DOOR DISCRETENESS (W/Z DIVX LOGO)		360
PET825/58	996510002099	HINGE PET825		370
PET821 PET824 PET825	994000004816	DOOR SPRING		410
PET821 PET824 PET825	994000002469	TOP COVER LOCK SPRING		420
PET821 PET824 PET825	994000004817	OPEN DOOR SPRING		430
PET821 PET824 PET825	996500042356	DOOR MAGNET		440

11.0 REVISION LIST

Version 1.0 (3141 785 30960)

- Initial release PET824/37

Version 1.1 (3141 785 30961)

- Update service BOM for PET821/00, PET821/05, PET824/C, PET825/00, PET825/05

Version 1.2 (3141 785 30962)

- Update service BOM for PET825/75

Version 1.3 (3141 785 30963)

- Update product specification and service BOM on PET821

Version 1.4 (3141 785 30964)

- Update service BOM for PET825/93 (996500039077 ADPV25A ADAPTOR/93)

Version 1.5 (3141 785 30965)

- Update service BOM with location code

Version 1.6 (3141 785 30966)

- Update service BOM (996510002099 HINGE PET825)