

Service
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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
Overall Wiring Diagram.....	7
Electrical Diagram.....	8
Component Layout.....	9
Service Part List.....	10
Revision List.....	11

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3141 785 31597

1.0 TECHNICAL SPECIFICATION

General

Dimensions (W x H x D): 293 x 170 x 33 mm
 Weight: 0.85kg
 Power supply: DC 9V 1.8A
 Power consumption: 20W
 Operating temp. & RH: 0 - 50 degC / 30 – 90% RH
 Laser wavelength: 650nm
 Video system: NTSC / PAL / AUTO

 Output voltage 1kHz: 1.5V typical
 THD 20-20kHz (%): 0.03% typical
 Dynamic range: >/=80dB
 Signal/Noise ratio: >/=85dB
 Frequency response 0.2-20kHz: +/-1dB
 Channel Separation 1kHz: >/=85dB
 Channel Balance 1kHz: 1dB

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

Zero bright-dot & max. 3 dark-dots

Current consumption

DC-IN SUPPLY (9V)	
Battery Charging Current	1.2A typical
BATT. SUPPLY (7.2V)	
Power Off	0A
Playback with TFT on	<1.2A typical
Playback without TFT on	<600mA
Battery time (playback)	>2.5 hour

Headphone out (headphone output load 2x16 ohm)

Maximum output power: >10mW
 Frequency response: 20Hz – 20kHz
 SNR (A-wght): 80dB typical
 THD (0.2-20kHz): <1%
 Left-Right Channel: 32dB
 Separation:
 Left-Right Channel: 1dB
 Balance:

Supported disc type

Video Playback Formats:



Audio Playback Formats:



1.0 TECHNICAL SPECIFICATION

Factory Service Mode (FSM)

Procedure to check the software version of your portable DVD Player

1. Press [SETUP] to enter the setup Menu
2. Press [RETURN] and then press "1" -> "2" -> "3" by 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.

Procedure to upgrade the software of your portable DVD Portable

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

1. Download the latest software from the Philips support site
2. Unzip the files and then burn it into a CD-ROM to make a disc for upgrade
3. Power on the Portable DVD Player with AC/DC adaptor
4. Play CD-ROM 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 is reset automatically
6. Open the DVD door to remove the disc

Procedure to change region code of your portable DVD player

1. Power on player and open the DVD door
2. Press [SETUP] by remote control.
3. In Set Up Menu, select <Audio> and press [OK]
4. Press [2], [1], [2], [2], [2], [5], [<], [V]
5. Display will show the Region Code
6. Press Number Key button by remote control to select the region code
7. 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

Region code "0" can be used for all regions!

8. Press [SETUP] to save and exit your setting
9. Power off and power on again to verify if region code change is done

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**

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.

GB Warning !

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

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.

S Varning !

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

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.

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.

"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.

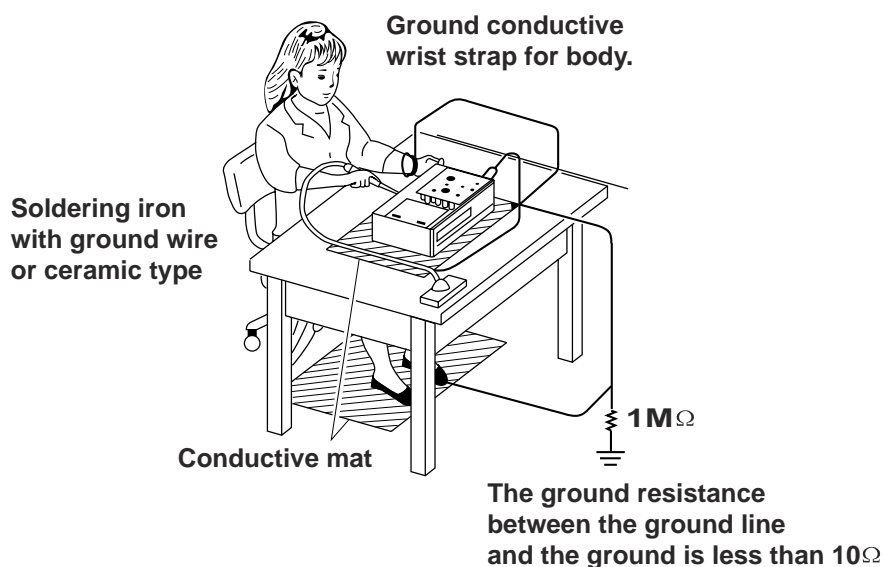
When the power supply is being turned on, you may not remove this laser cautions label. If it removes, radiation of laser may be received.

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.



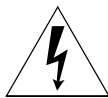
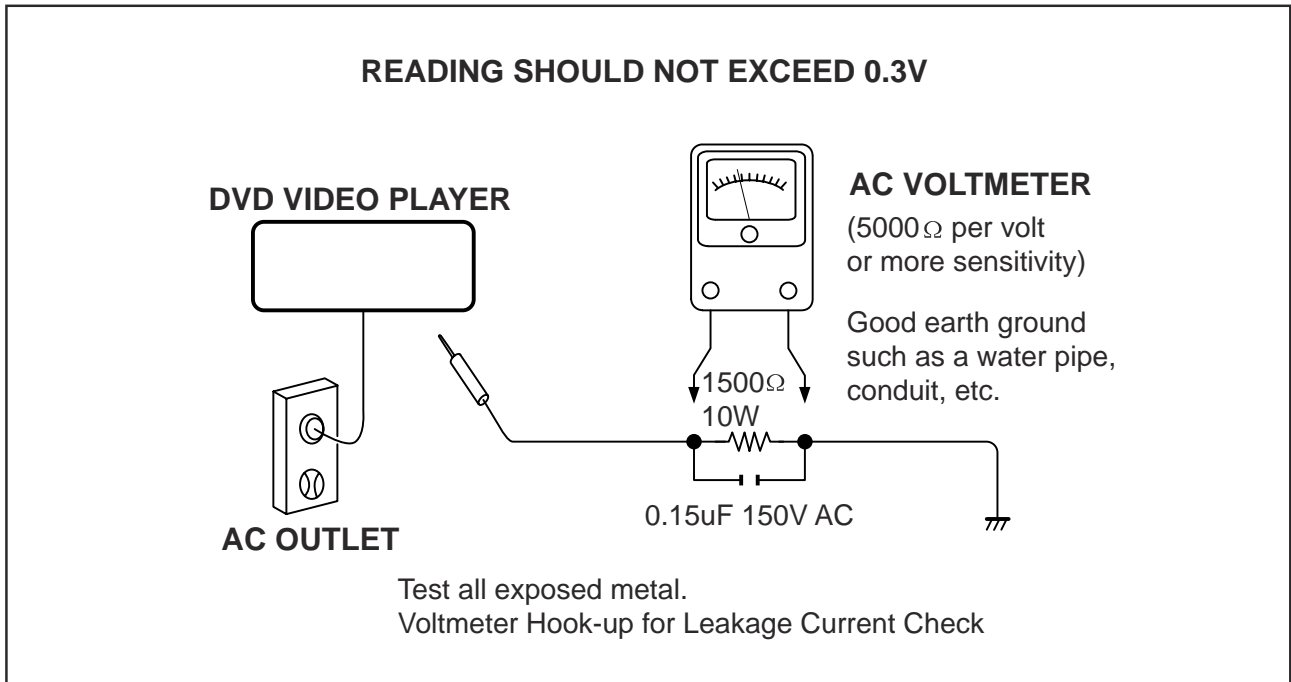
SAFTY NOTICE

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 $0.15\mu\text{F}$ 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.

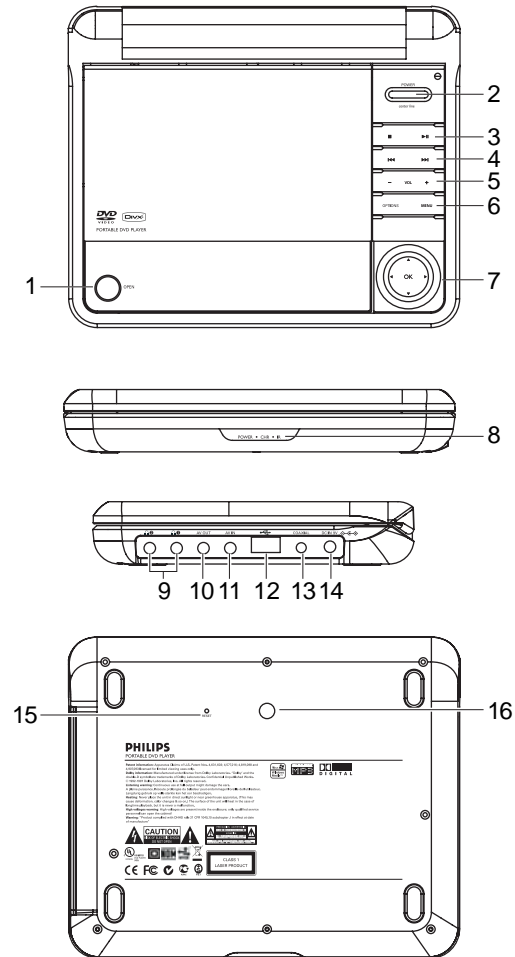
3.0 INSTRUCTIONS FOR USE

- | | |
|---|---|
| <p>① OPEN
Opens disc door to insert or remove disc
Confirms selection</p> <p>② POWER
Switches the player on / off</p> <p>③ ■
Press once to stop playback and store the stop position.
Press twice to stop playback completely.
▶
Start / pause / resume playback</p> <p>④ ◀◀ / ▶▶
Search backward (◀◀) or search forward (▶▶).</p> <p>⑤ - VOL +
Volume control.</p> <p>⑥ OPTION
Access additional functions.
MENU
Display MUNE page.</p> <p>⑦ ▲, ▼, ◀, ▶
Up / down / left / right cursor
OK
Confirm selection</p> | <p>⑧ POWER/IR/CHR
Power /remote sensor /charging indicator.</p> <p>⑨ PHONES 1 & 2
Headphones jack</p> <p>⑩ A/V OUT
Audio/video output jack</p> <p>⑪ A/V IN
Audio/video input jack</p> <p>⑫ USB
USB connector</p> <p>⑬ COAXIAL
Digital Audio output jack</p> <p>⑭ DC IN 9V
Power supply socket</p> <p>⑮ RESET
Reset the player when it is hanged up.</p> <p>⑯ Car mounting screw hole</p> |
|---|---|

CAUTION

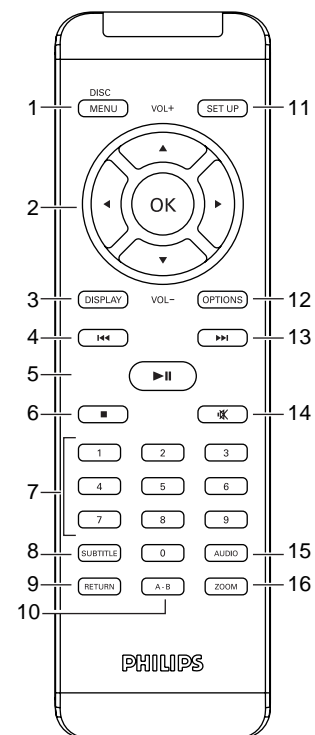
Use of controls or adjustments or performance of procedures other than herein may result in hazardous radiation exposure or other unsafe operation.

DVD PLAYER LAYOUT



REMOTE CONTROL

- ① **MENU**
Display **MENU** page.
- ② ▲, ▼, ◀, ▶
Up / down / left / right navigation key.
OK
Confirm selection.
VOL +/-
Volume control.
- ③ **DISPLAY**
Adjust the display value of the system.
- ④ ⏮
Skip to previous chapter, track or title.
- ⑤ ▶⏪
Start / pause / resume playback
- ⑥ ■
Access additional functions.
- ⑦ **0 - 9**
Numeric keypad.
- ⑧ **SUBTITLE**
Subtitle language selector.
- ⑨ **RETURN**
For VCD menu page.
- ⑩ **A - B**
To repeat or loop a sequence in a title.
- ⑪ **SETUP**
Enter **SETUP** menu.
- ⑫ **OPTION**
Access additional functions.
- ⑬ ⏭
Skip to next chapter, track or title.
- ⑭ 🔇
Mute player volume
- ⑮ **AUDIO**
Audio language selector.
- ⑯ **ZOOM**
Enlarge video image.



4.0 MECHANICAL INSTRUCTIONS

1. Back side of the set as shown in Fig.1
Remove the screws on the base cover.

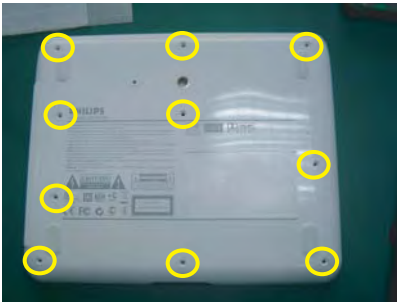


Fig.1

5. Remove speaker grill and screw cushion on display frame as shown in Fig.5



Fig.5

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

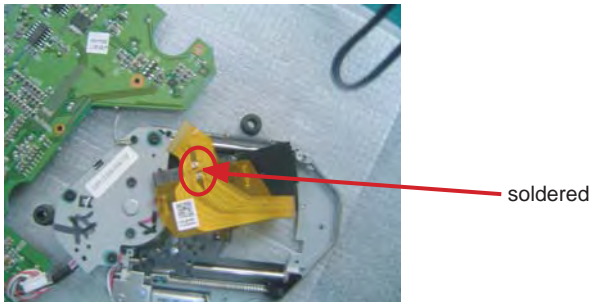


Fig.2

6. Remove the screws on display frame as shown in Fig.6.



Fig.6

3. Disconnect the flex from TFT LCD.
Remove the screws on button PCB board as shown in Fig.3

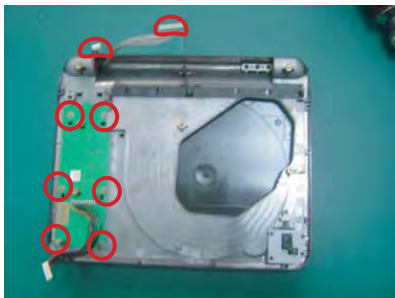


Fig.3

7. Remove the screws on IF board as shown in Fig.7.



Fig.7

4. Disconnect the flex from DVD loader & PCB boards.
Then it will be able to remove DVD loader and main PCB and Lithium battery as shown in Fig.4

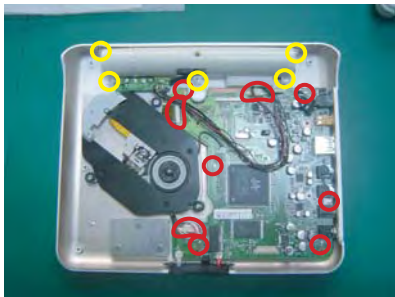


Fig.4

8. Disconnect the flex between IF board, power board and TFT LCD.
Remove the screws on IF board, power board and TFT LCD.
As shown in Fig.8.

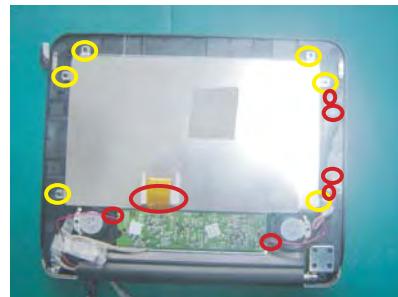
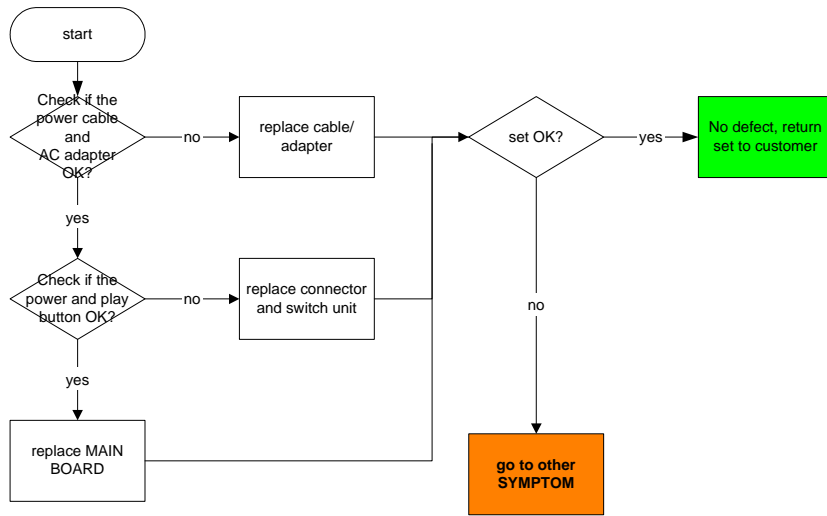


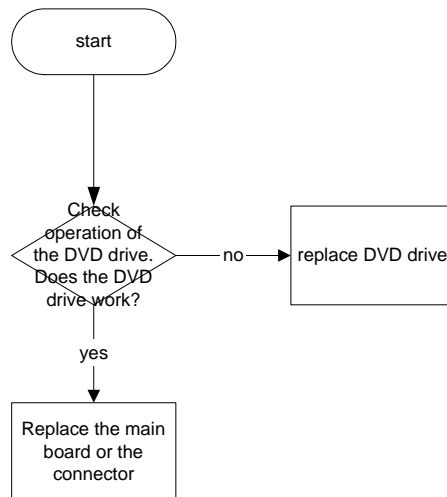
Fig.8

5.0 TROUBLESHOOTING

SYMPTOM: NO POWER, NO GREEN LED

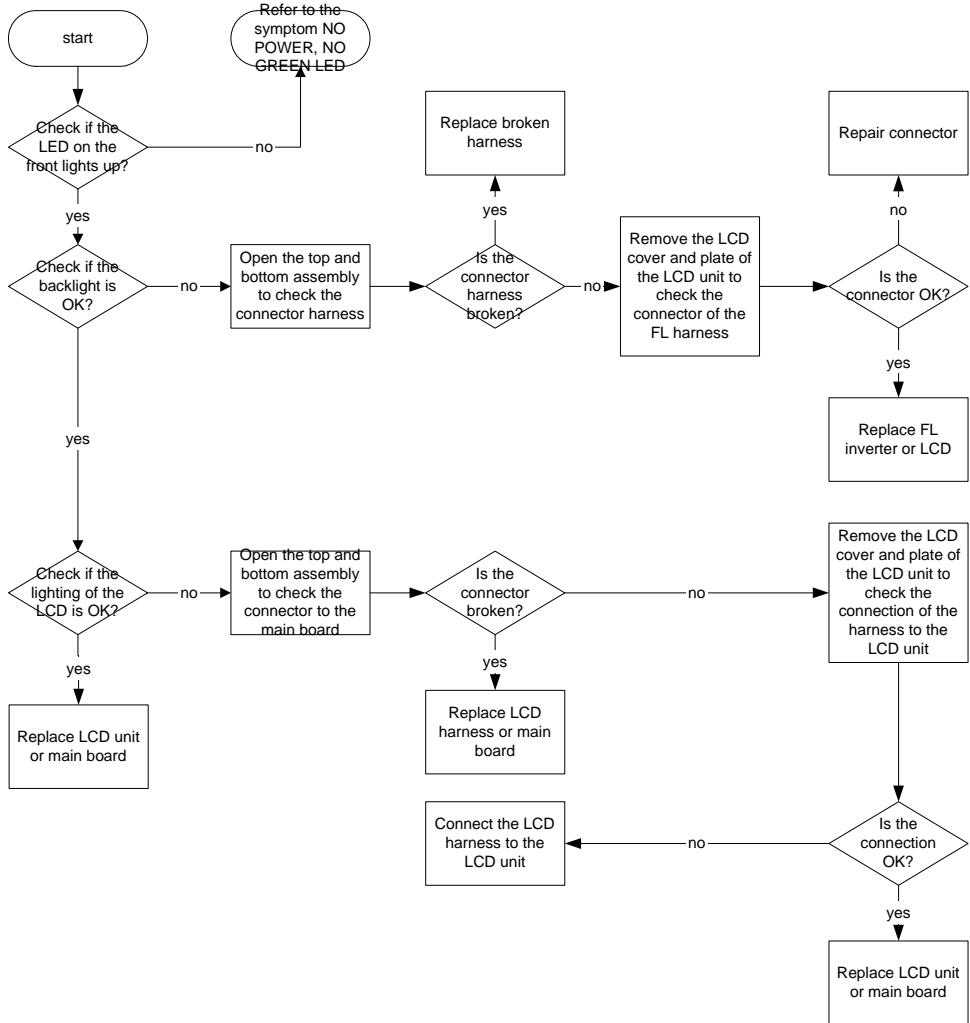


SYMPTOM: NO IMAGE OR SOUND COMES OUT FROM THE EXTERNAL OUTPUT

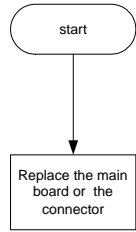


5.0 TROUBLESHOOTING

SYMPTOM: THE INITIAL SCREEN IS NOT DISPLAYED ON THE LCD

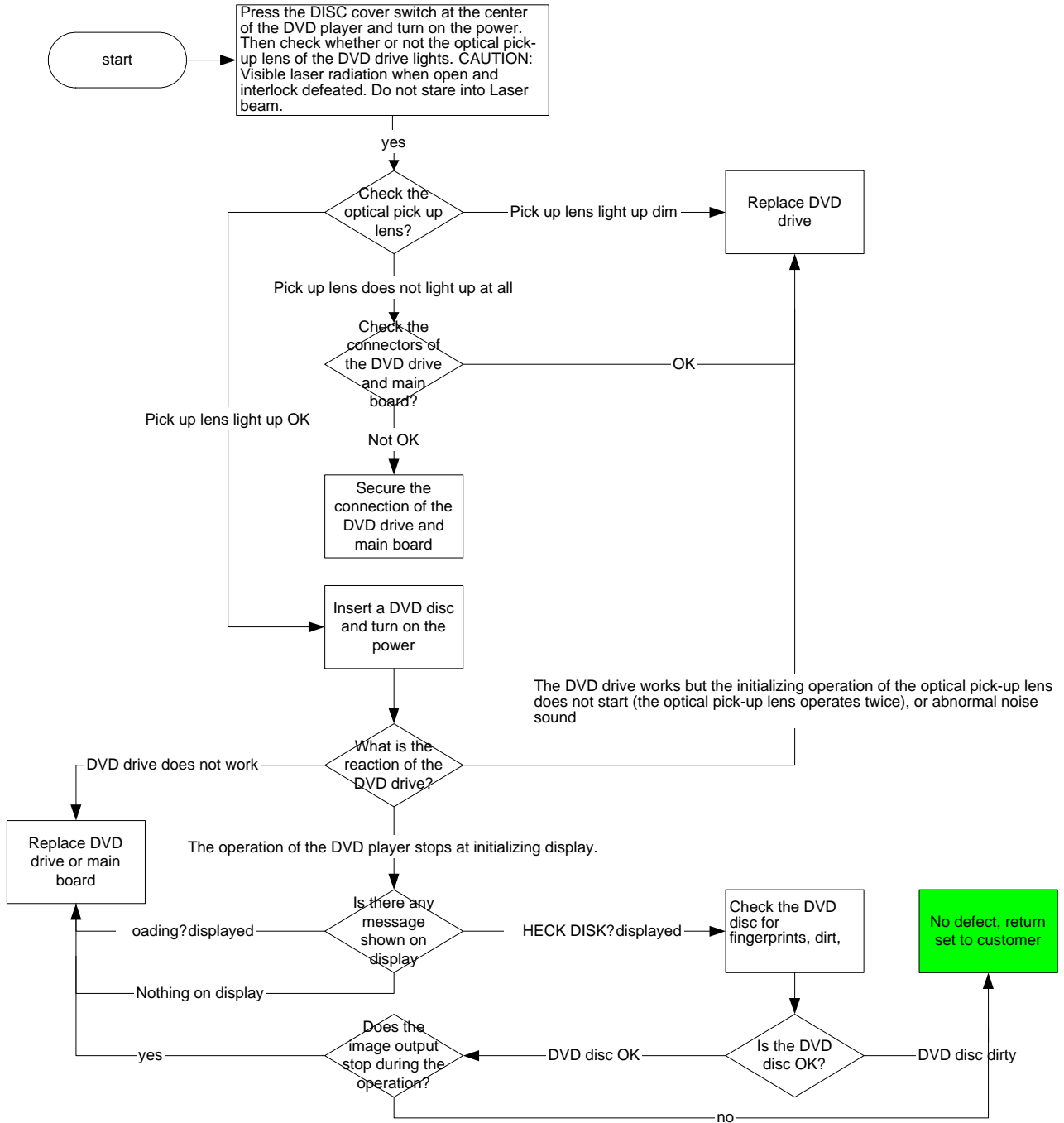


SYMPTOM: NO IMAGE OR SOUND COMES OUT FROM THE EXTERNAL INPUT



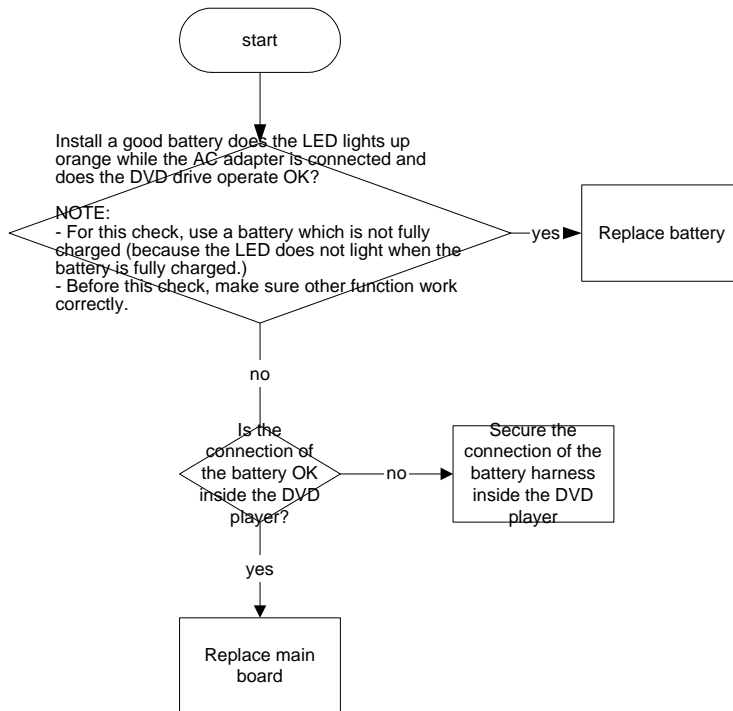
5.0 TROUBLESHOOTING

SYMPTOM: THE DVD DRIVE DOES NOT WORK

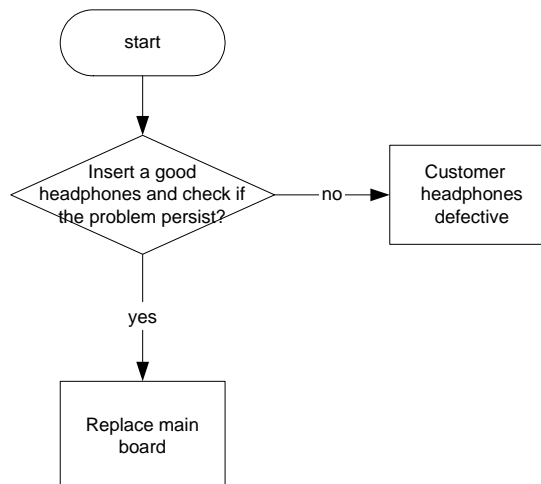


5.0 TROUBLESHOOTING

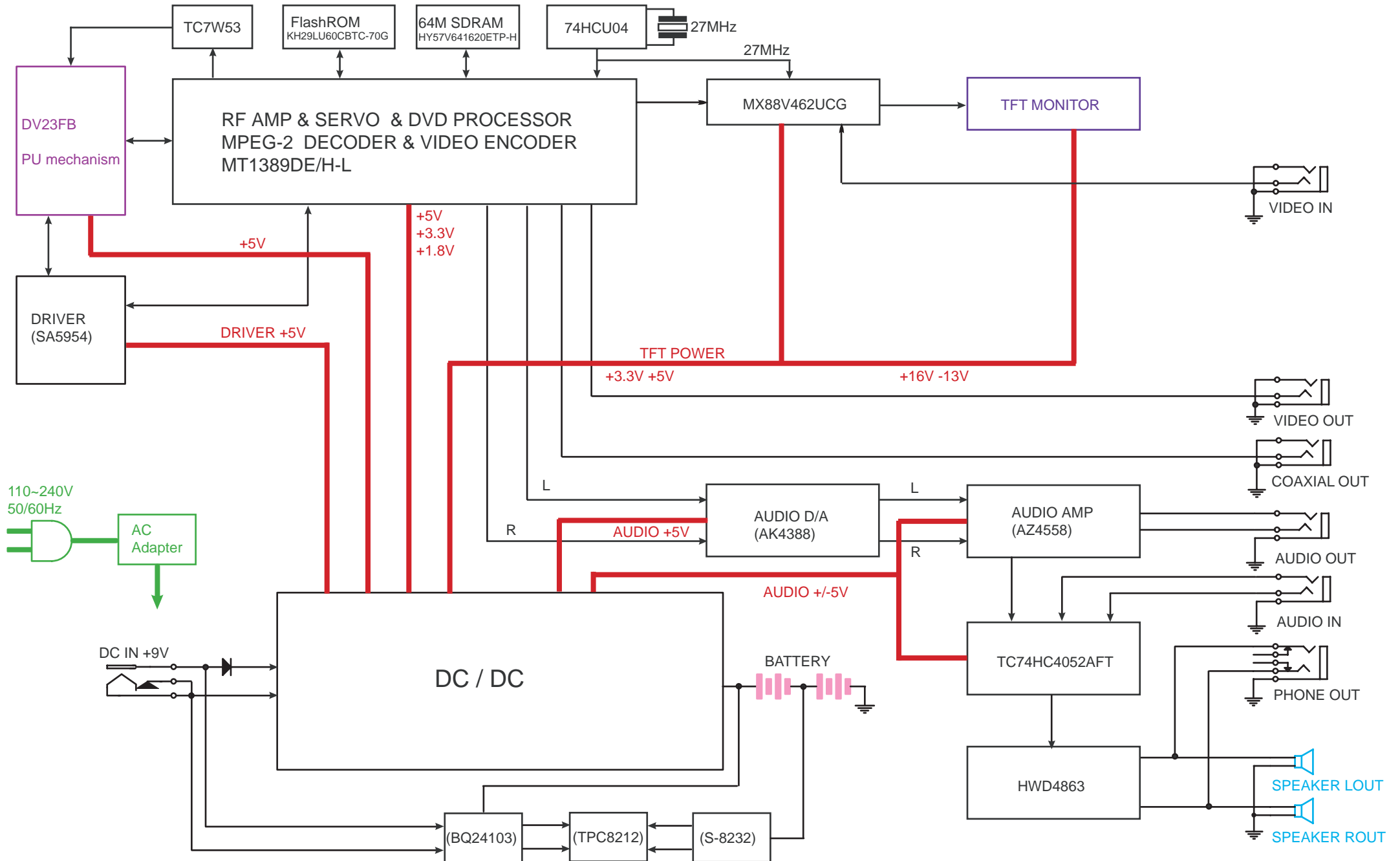
SYMPTOM: THE DVD DRIVE DOES NOT OPERATE WITH BATTERY



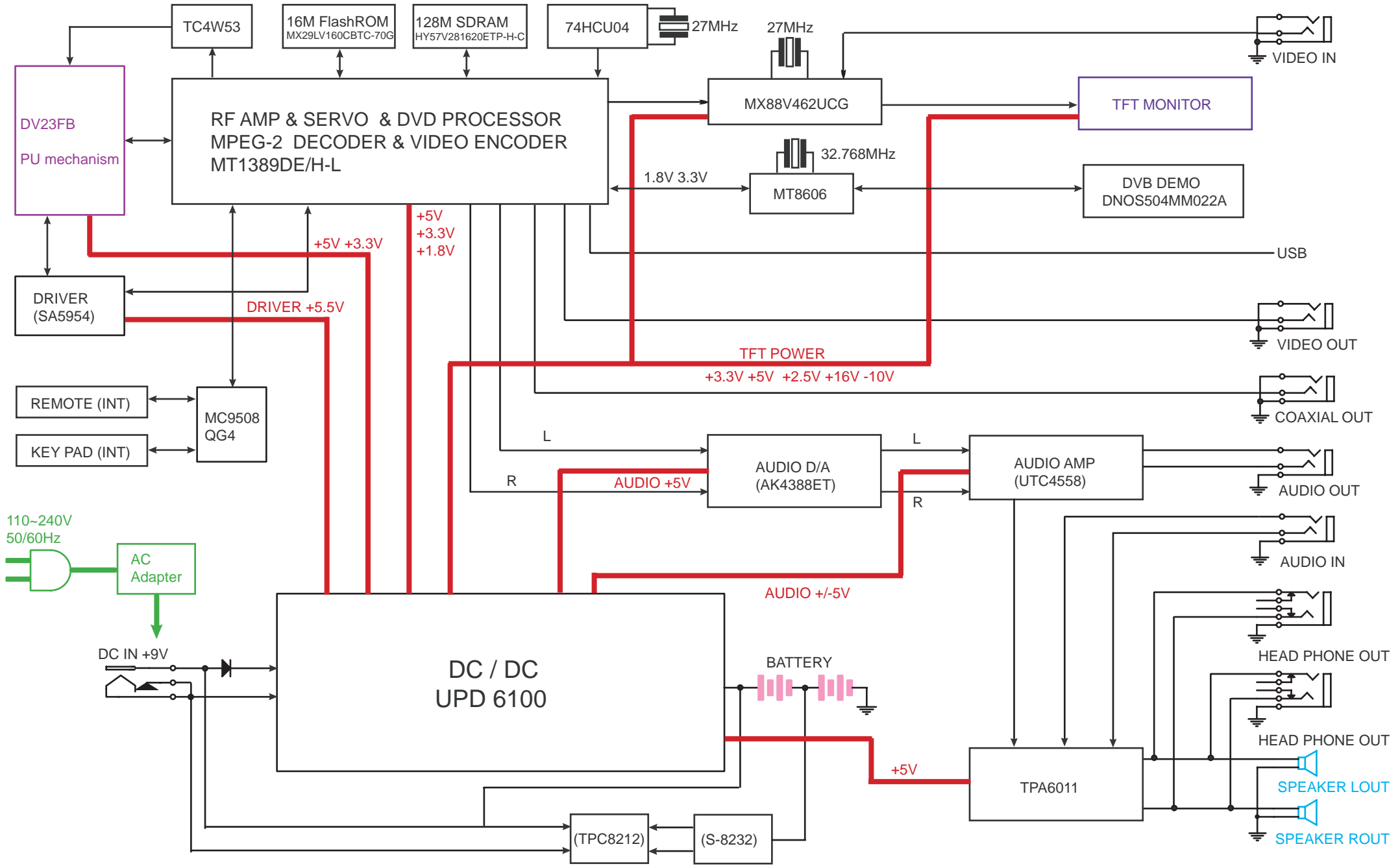
SYMPTOM: NO SOUND COMES FROM THE HEADPHONES



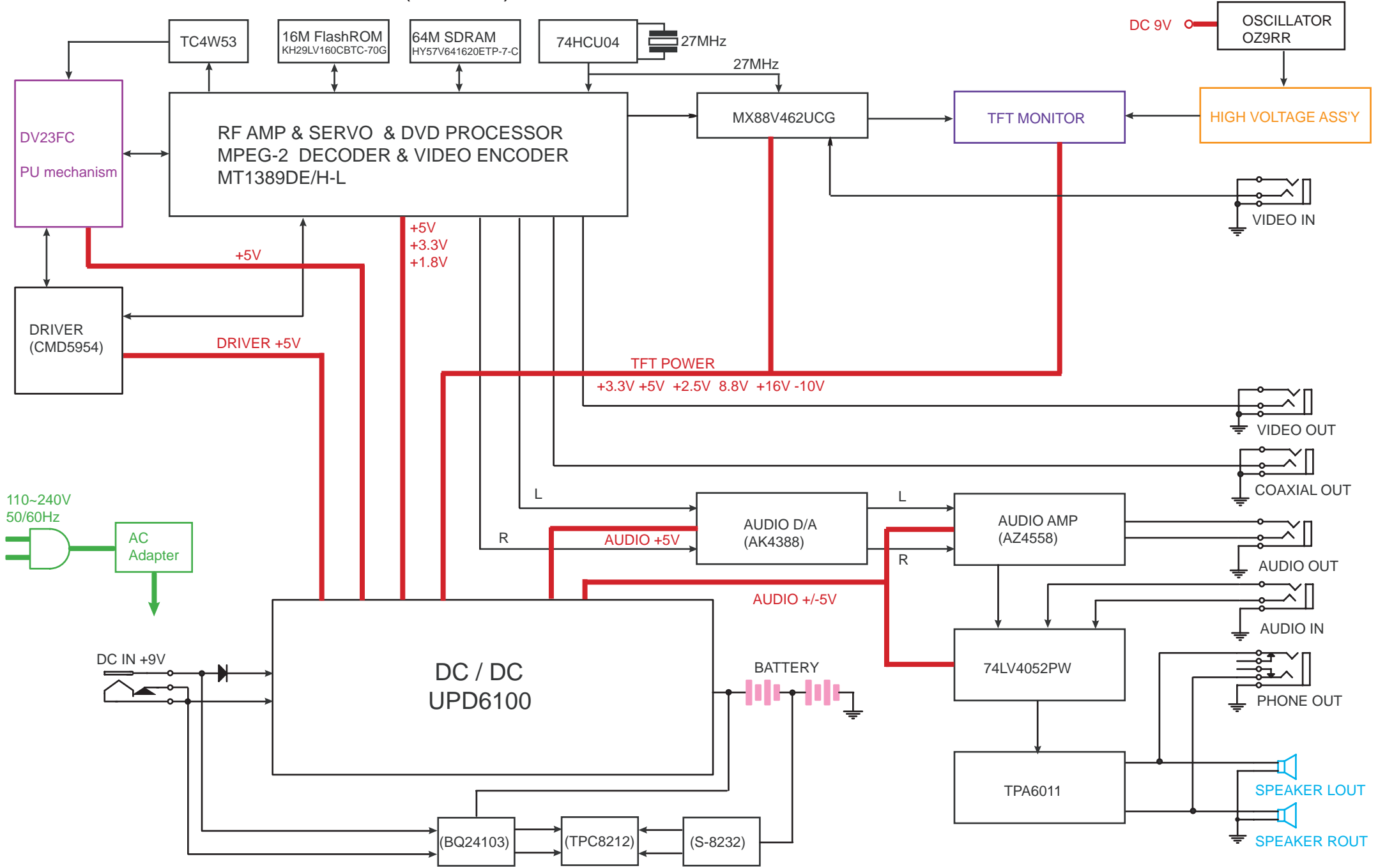
6.0 OVERALL BLOCK DIAGRAM (for PET730/732)



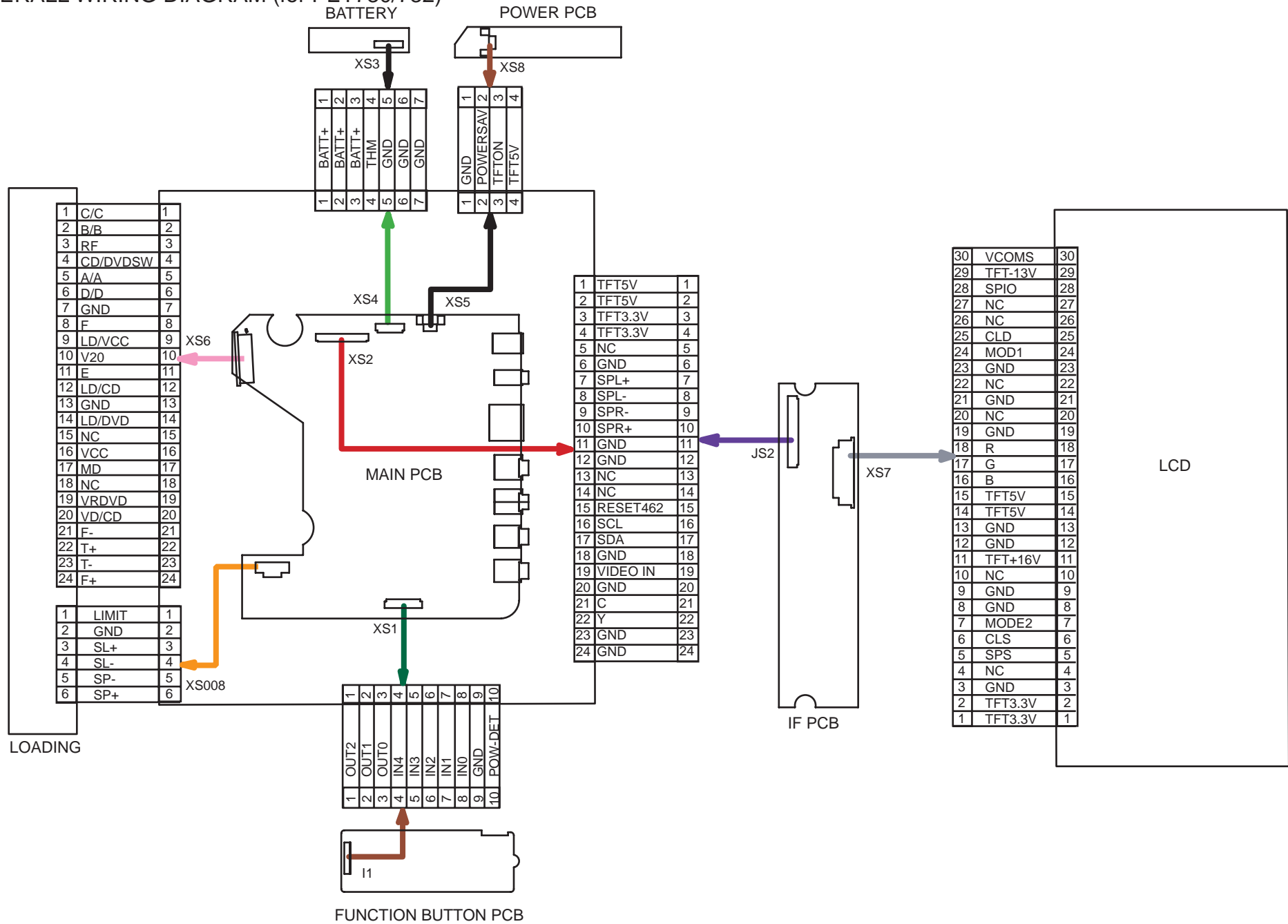
6.0 OVERALL BLOCK DIAGRAM (for PET735)



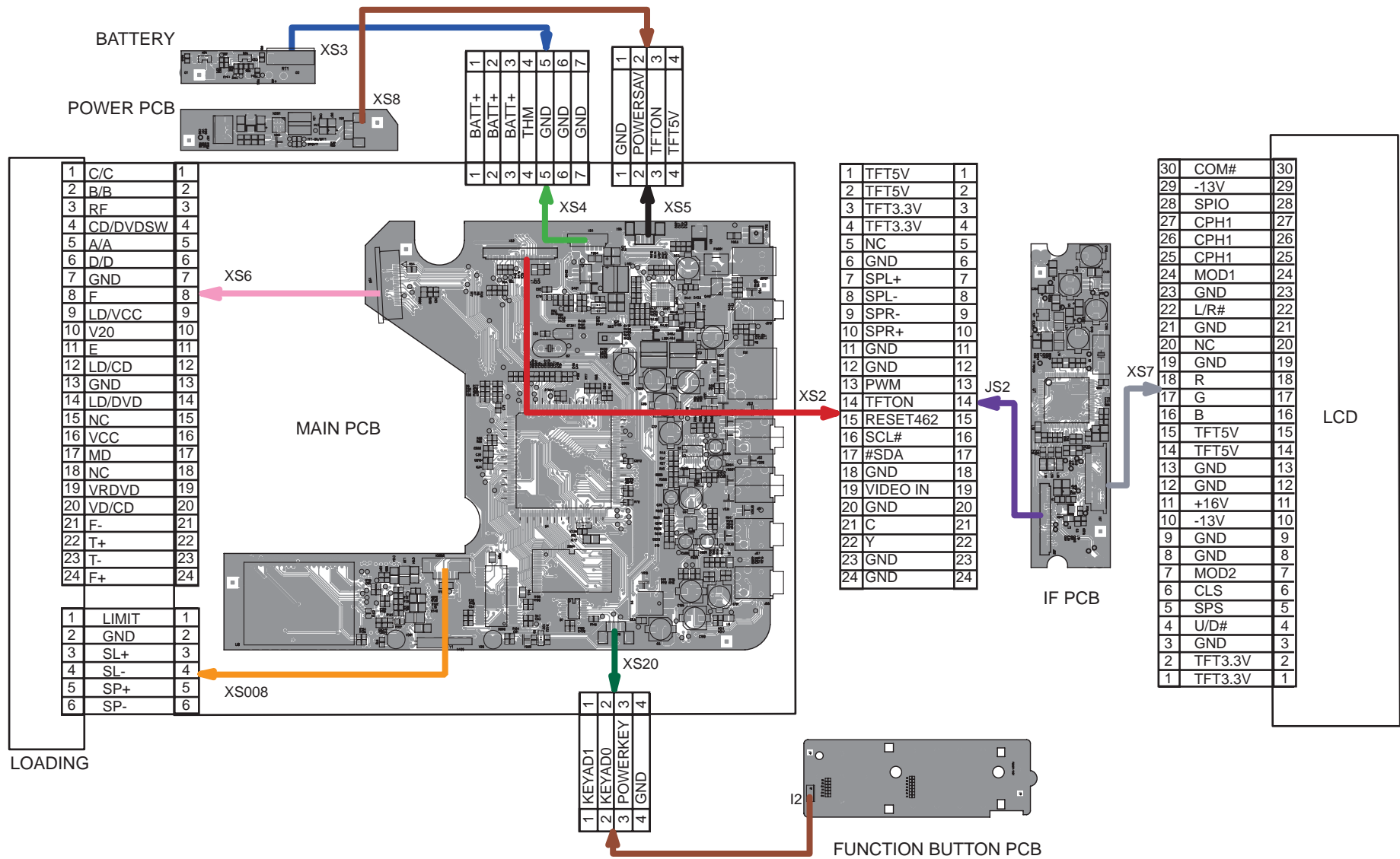
6.0 OVERALL BLOCK DIAGRAM (PET738)



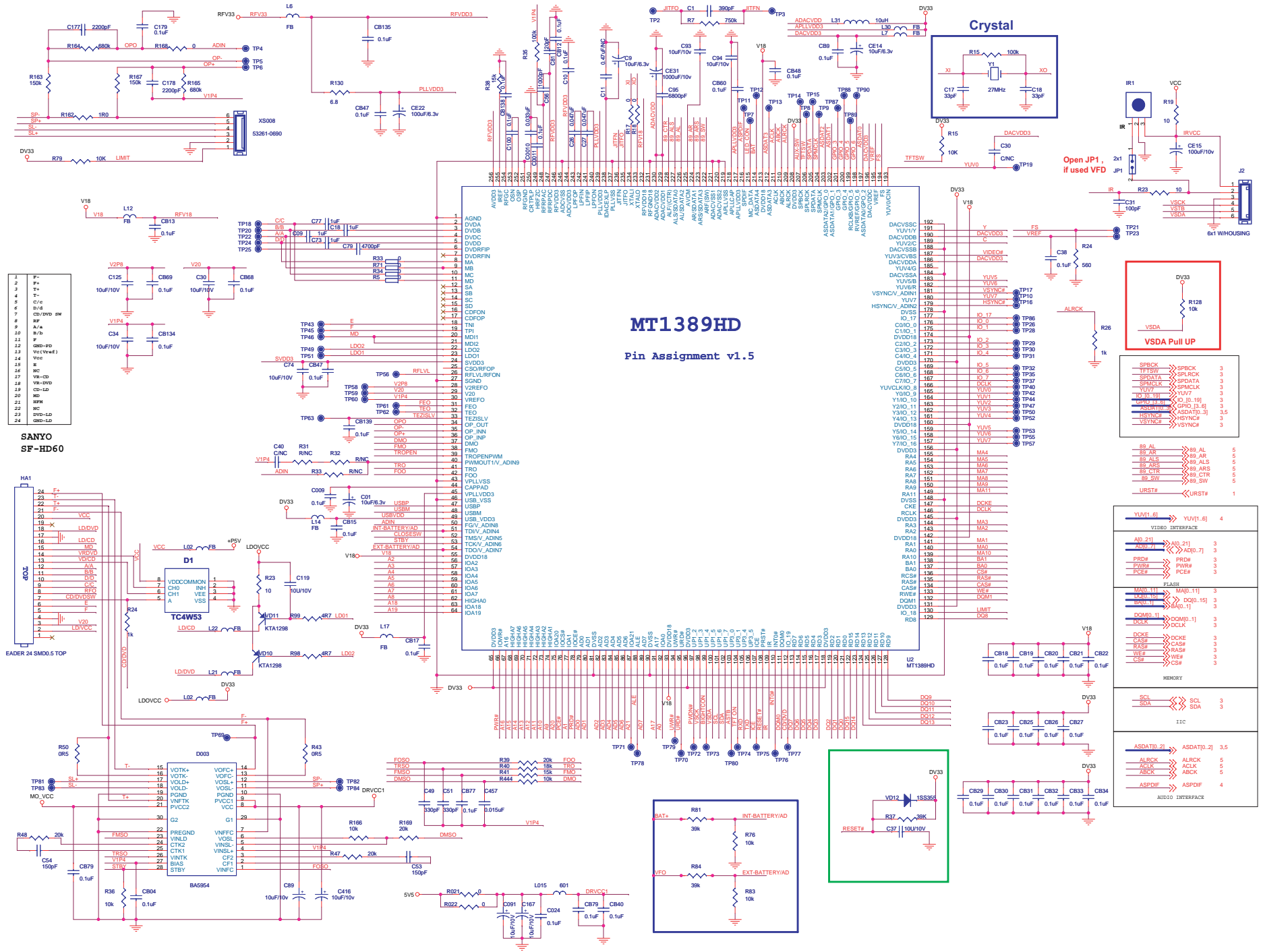
7.0 OVERALL WIRING DIAGRAM (for PET730/732)



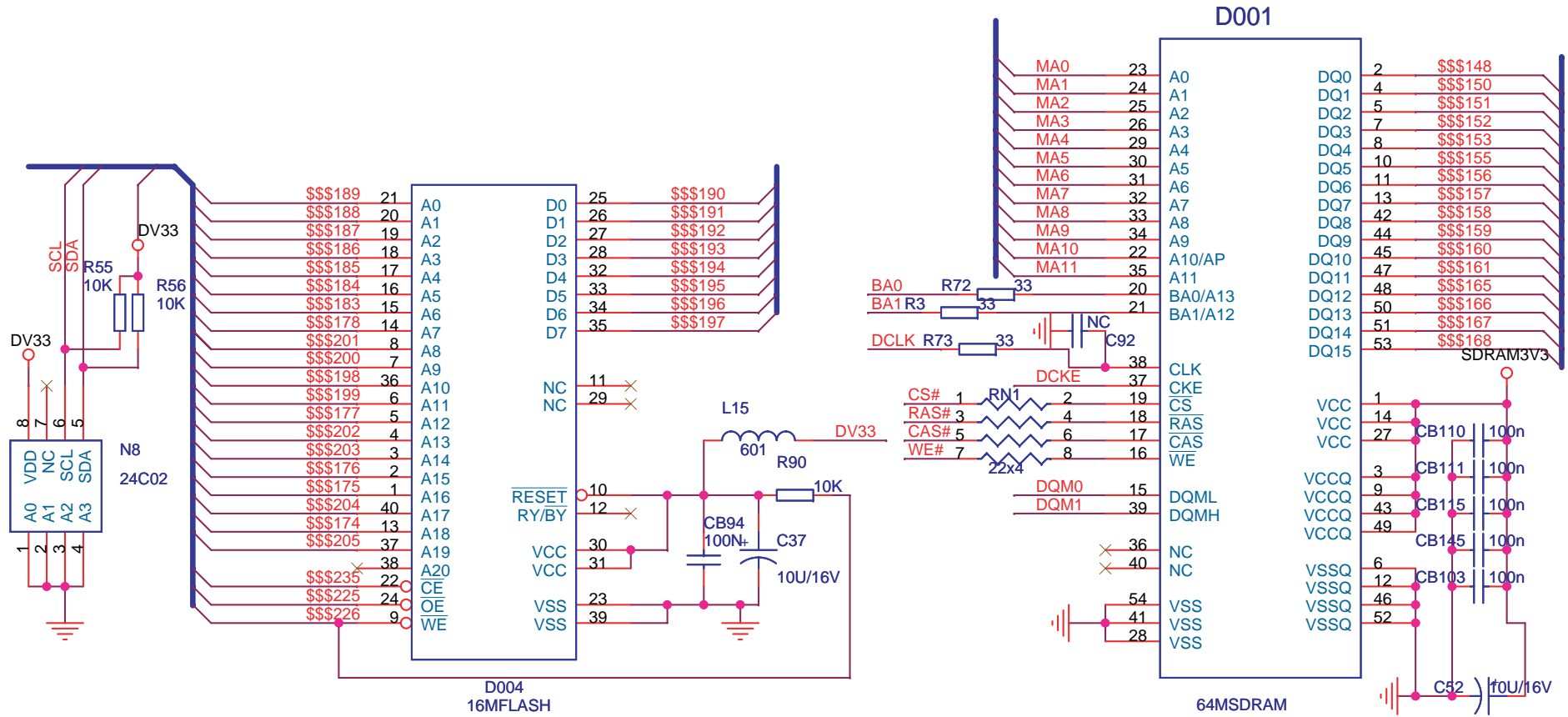
7.0 OVERALL WIRING DIAGRAM (for PET735/PET738)



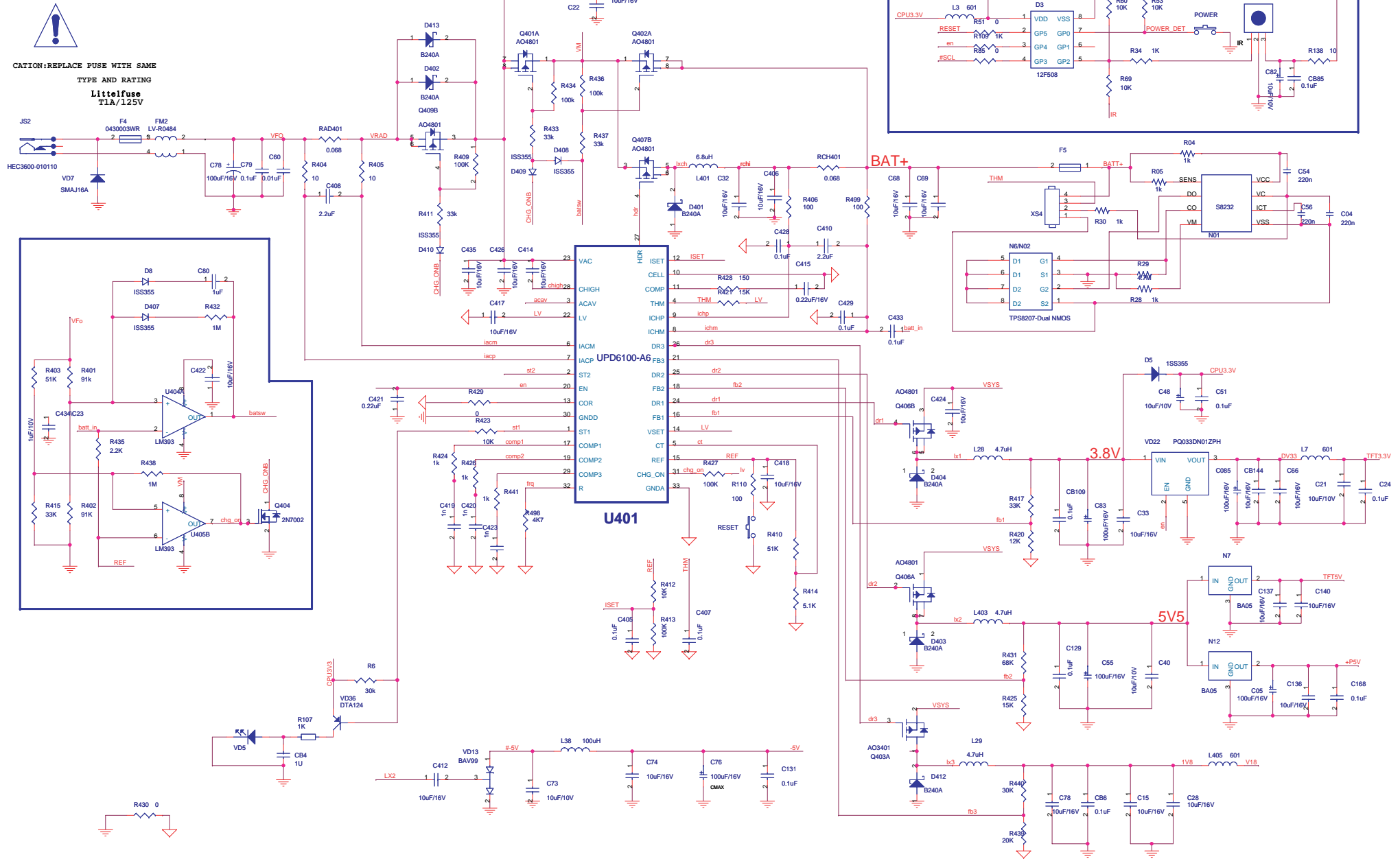
8.0 ELECTRICAL DIAGRAM (for PET730/732) MAIN BOARD CIRCUIT DIAGRAM (MT1389HD)



8.0 ELECTRICAL DIAGRAM (for PET730/732) MAIN BOARD CIRCUIT DIAGRAM (FLASH&SDRAM)

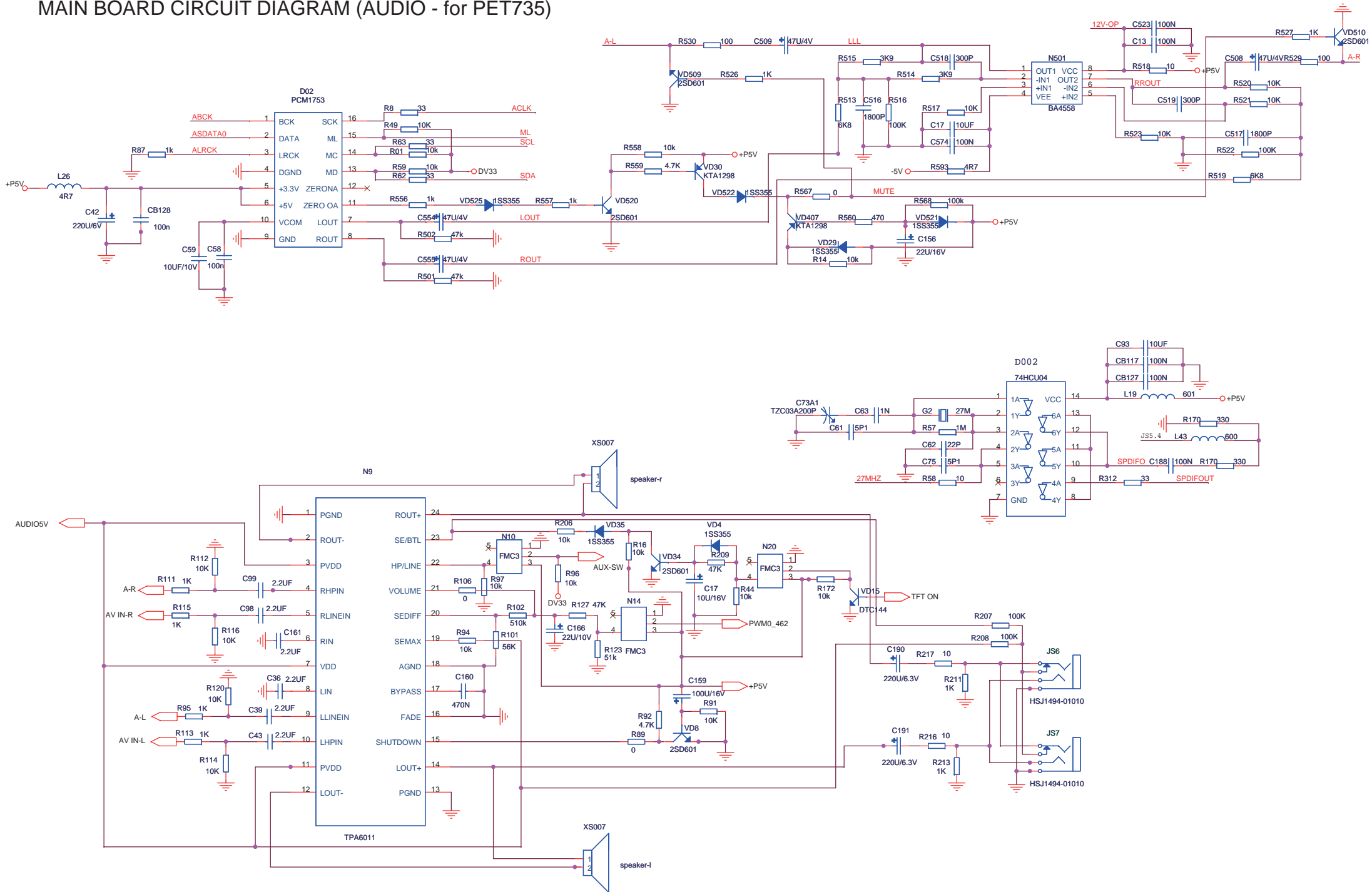


8.0 ELECTRICAL DIAGRAM (for PET730/732) MAIN BOARD CIRCUIT DIAGRAM (POWER & CHARGE)

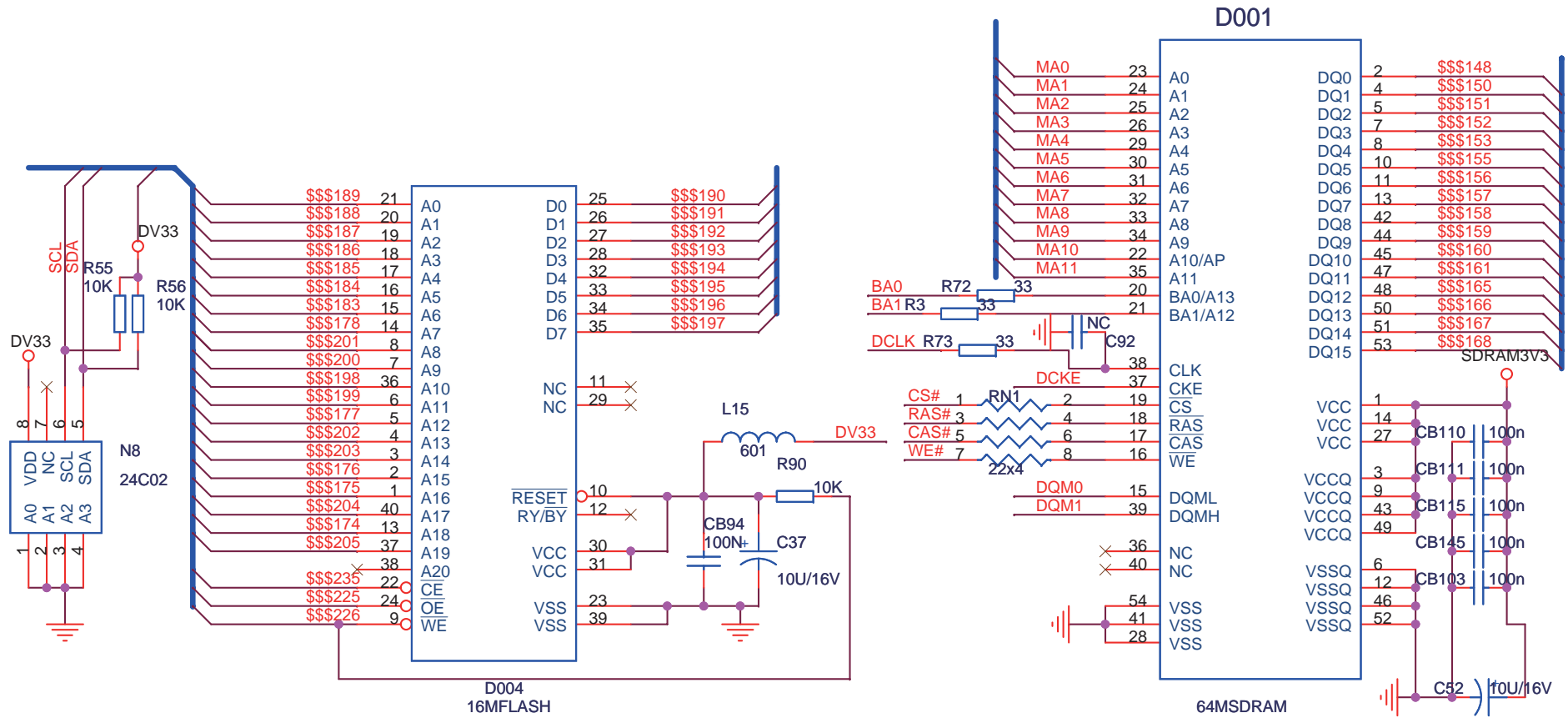


!!!R219 was connected to ##DCIN now to VSYS

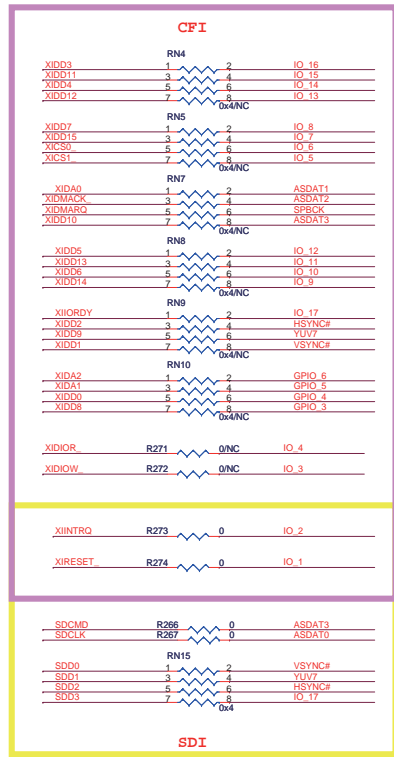
8.0 ELECTRICAL DIAGRAM MAIN BOARD CIRCUIT DIAGRAM (AUDIO - for PET735)



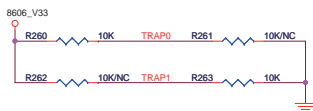
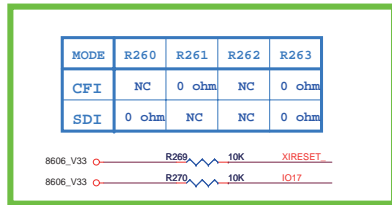
8.0 ELECTRICAL DIAGRAM MAIN BOARD CIRCUIT DIAGRAM (FLASH AND SDRAM - for PET735)



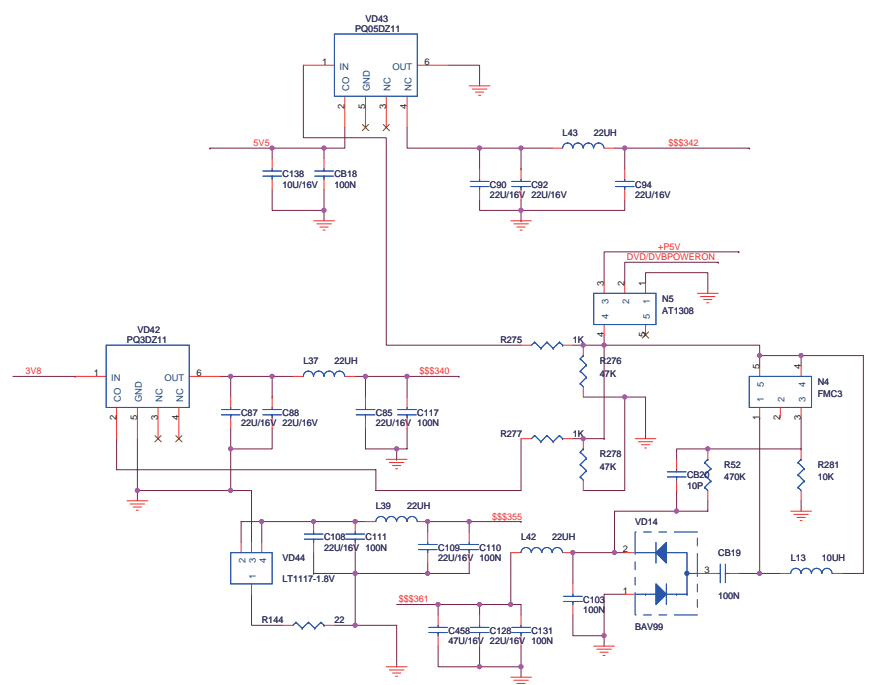
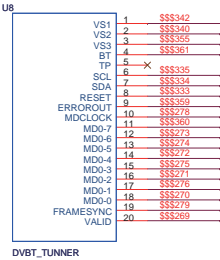
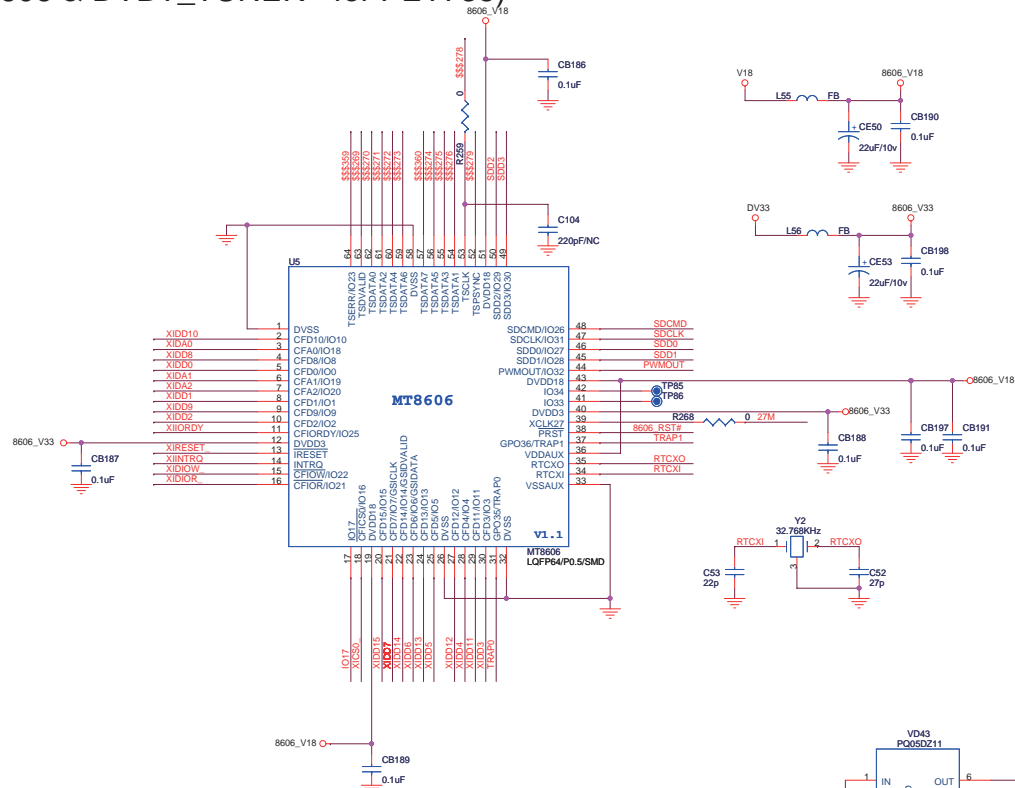
8.0 ELECTRICAL DIAGRAM MAIN BOARD CIRCUIT DIAGRAM (MT8606 & DVBT_TUNER - for PET735)



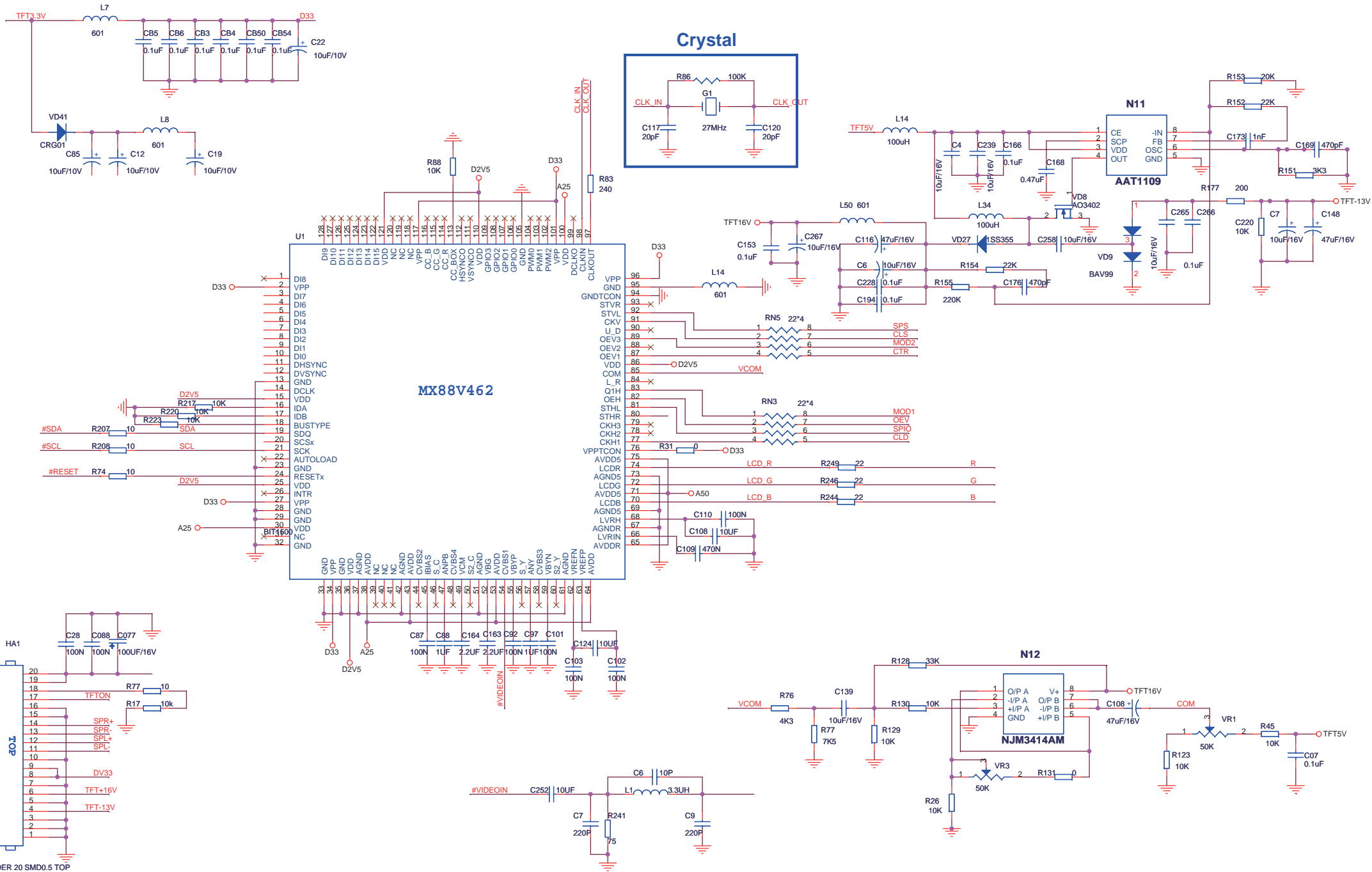
MT8606 Pin assignment V1.0 Use following configurations



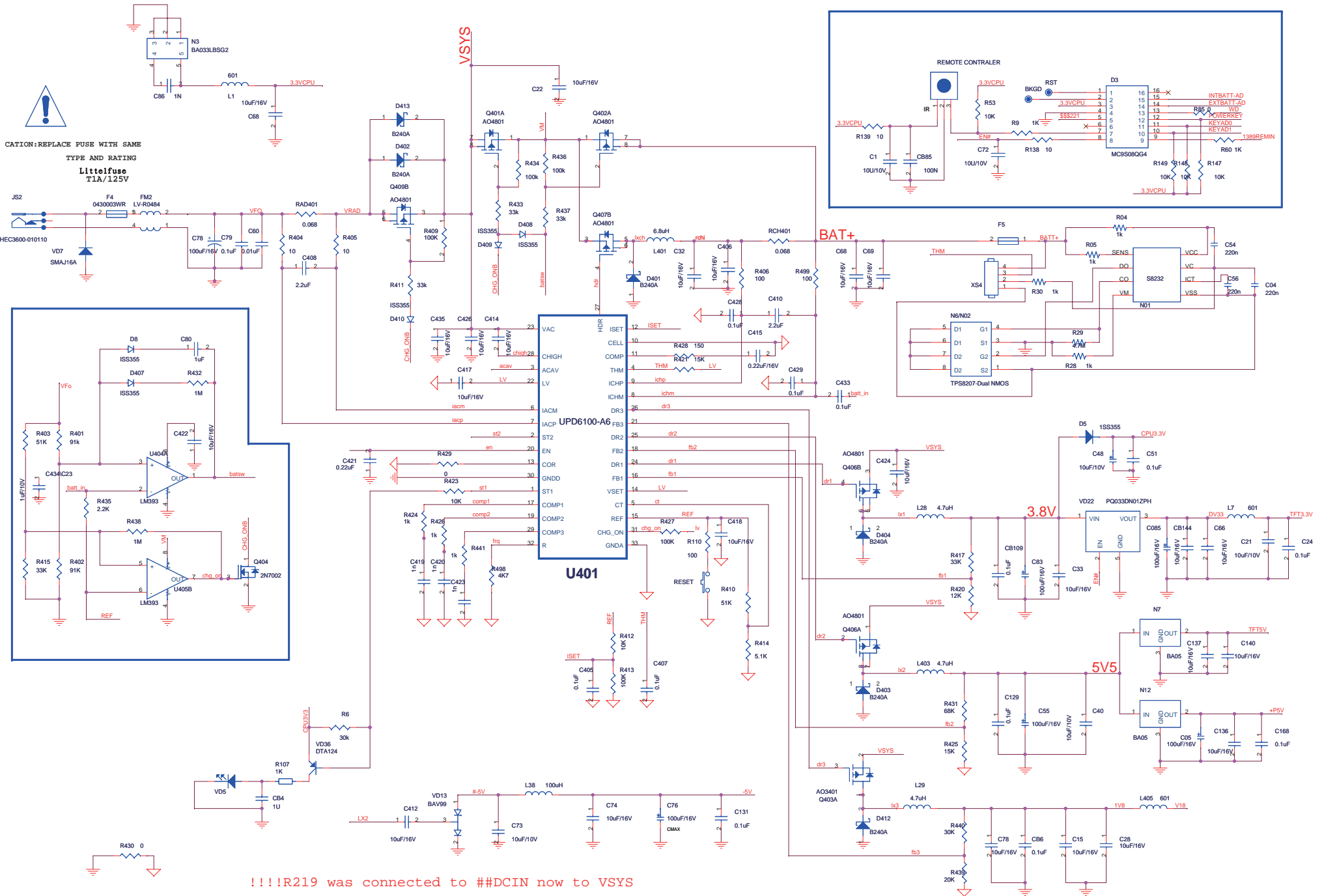
MODE	TRAP0	TRAP1
CFI	Low	Low
SDI	Hi	Low
TEST	Hi	Hi



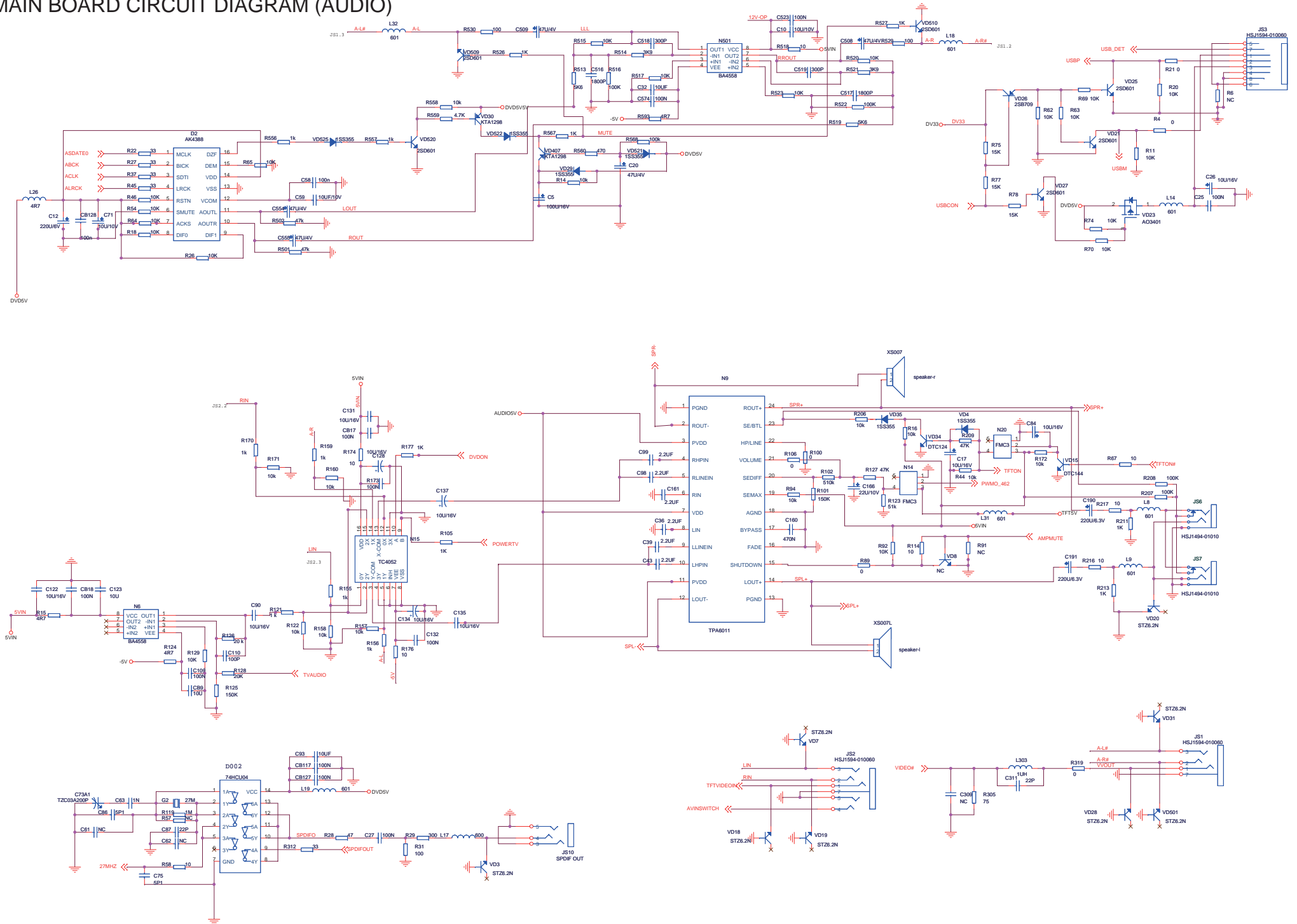
8.0 ELECTRICAL DIAGRAM MAIN BOARD CIRCUIT DIAGRAM (MX88V462 - for PET735)



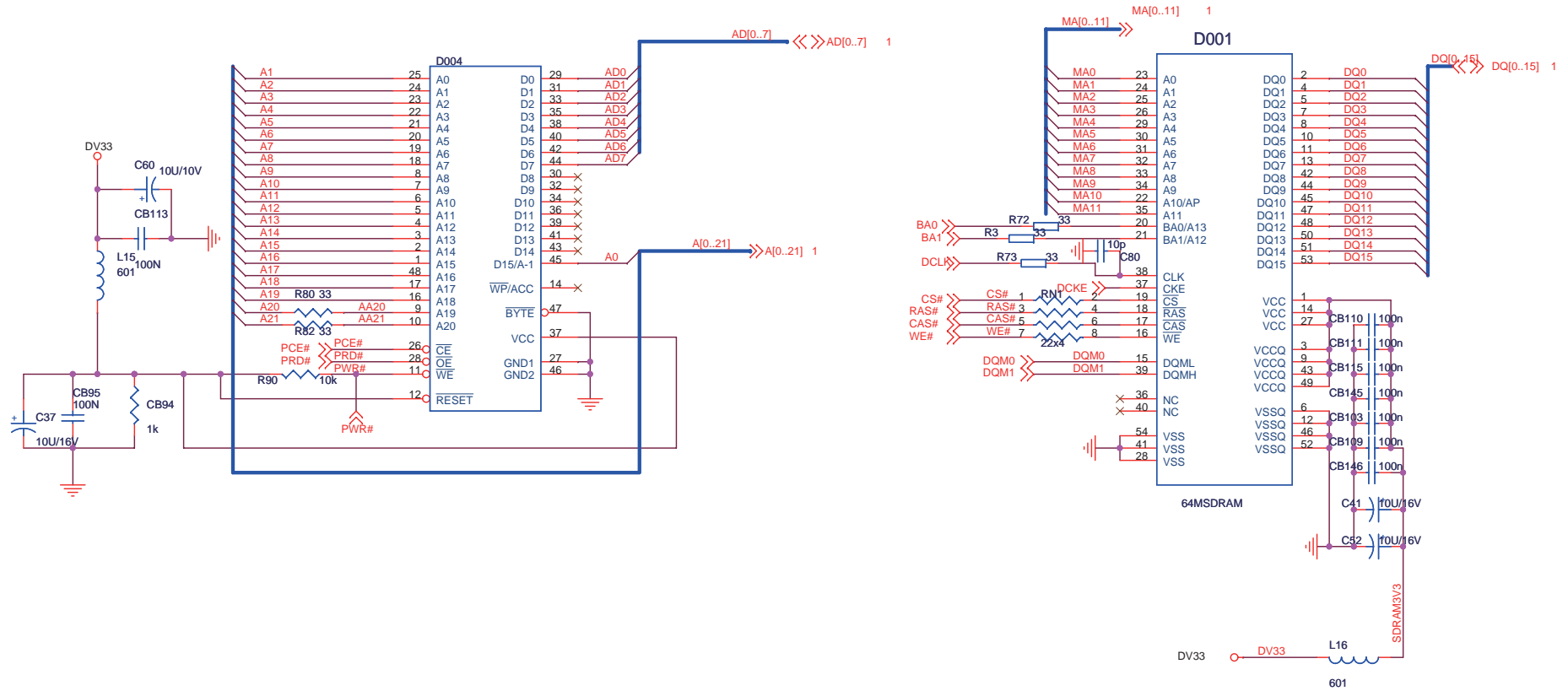
8.0 ELECTRICAL DIAGRAM MAIN BOARD CIRCUIT DIAGRAM (POWER AND CHARGE - for PET735)



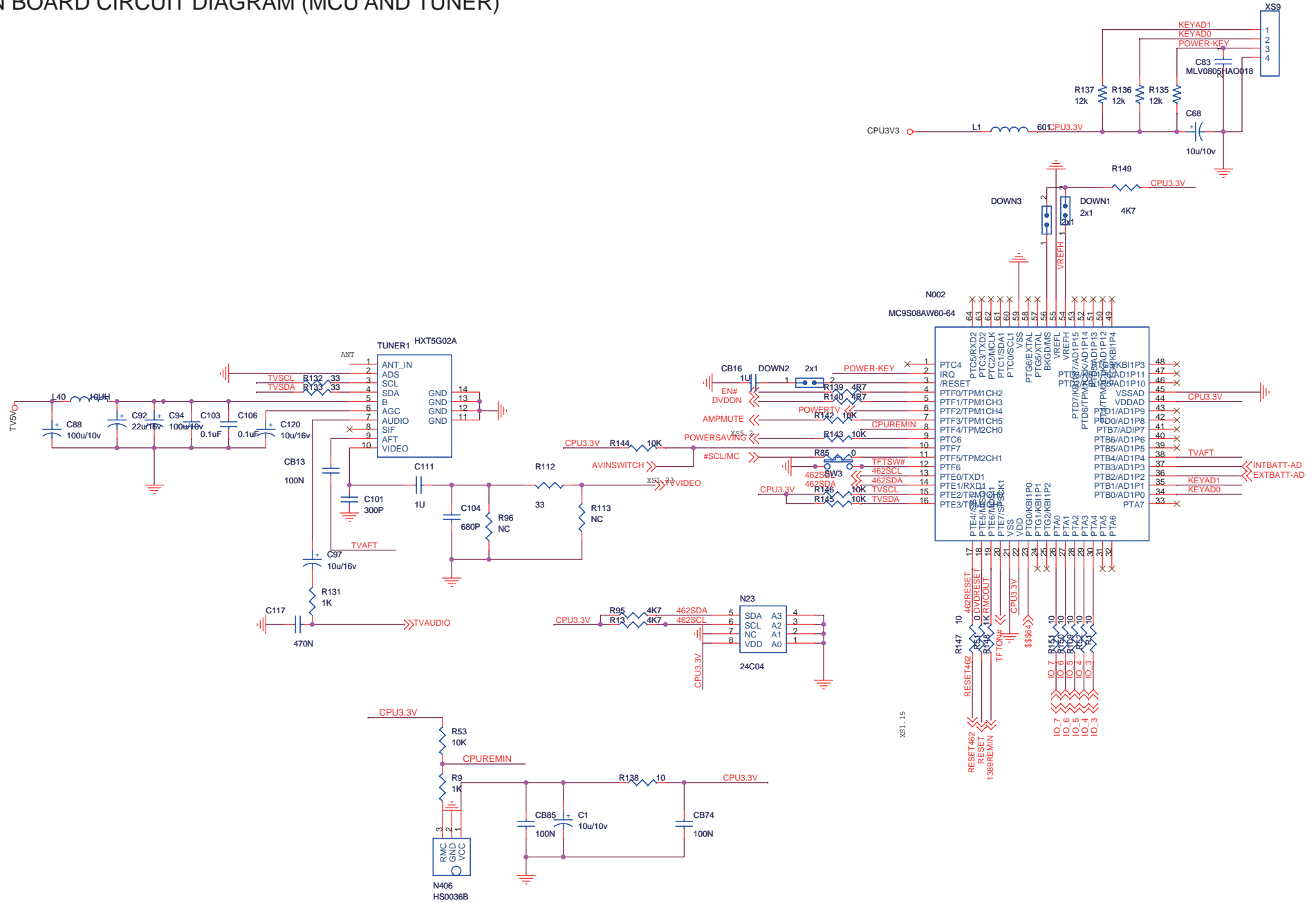
8.0 ELECTRICAL DIAGRAM (PET738) MAIN BOARD CIRCUIT DIAGRAM (AUDIO)



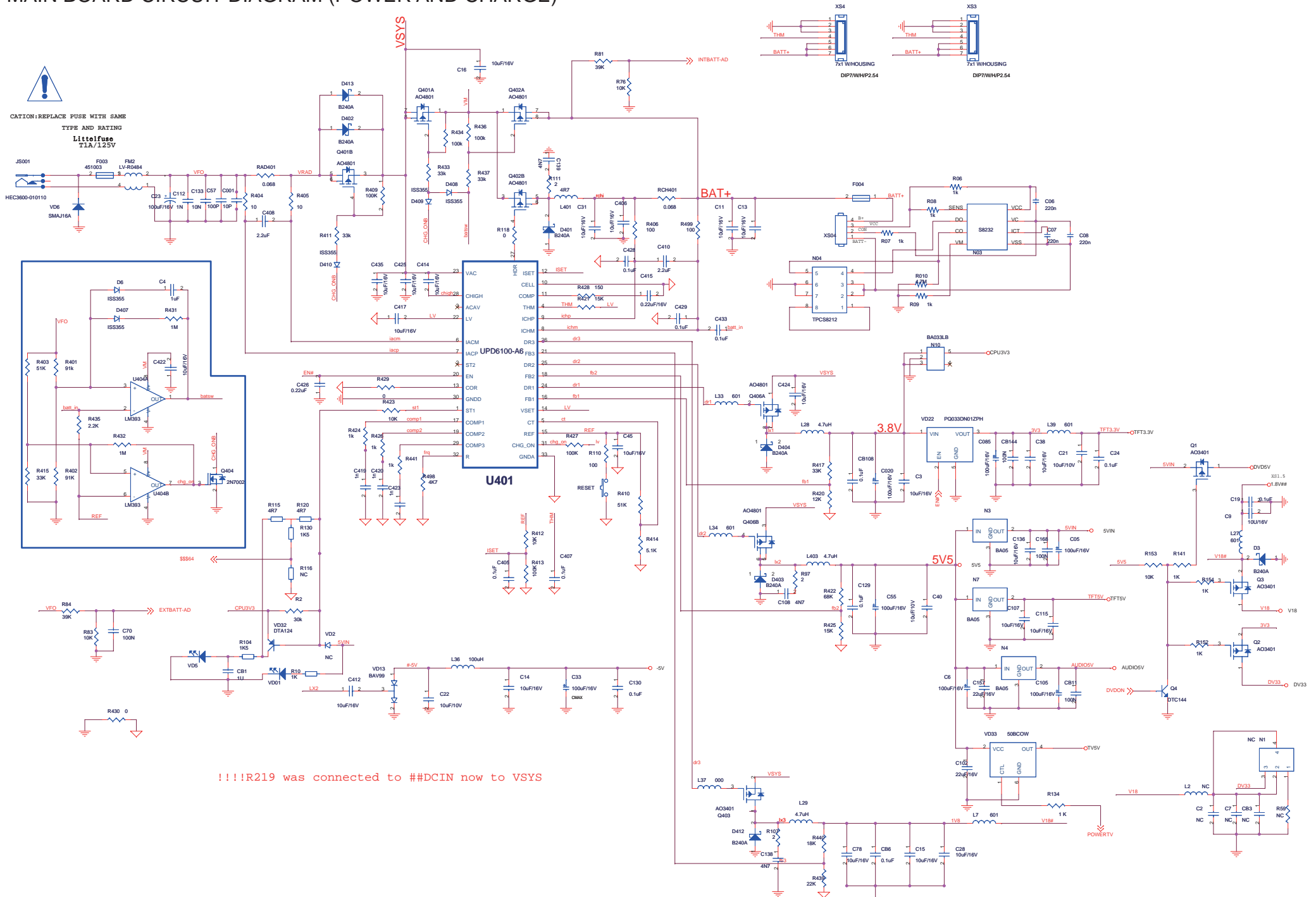
8.0 ELECTRICAL DIAGRAM (PET738) MAIN BOARD CIRCUIT DIAGRAM (FLASH AND SDRAM)



8.0 ELECTRICAL DIAGRAM (PET738) MAIN BOARD CIRCUIT DIAGRAM (MCU AND TUNER)

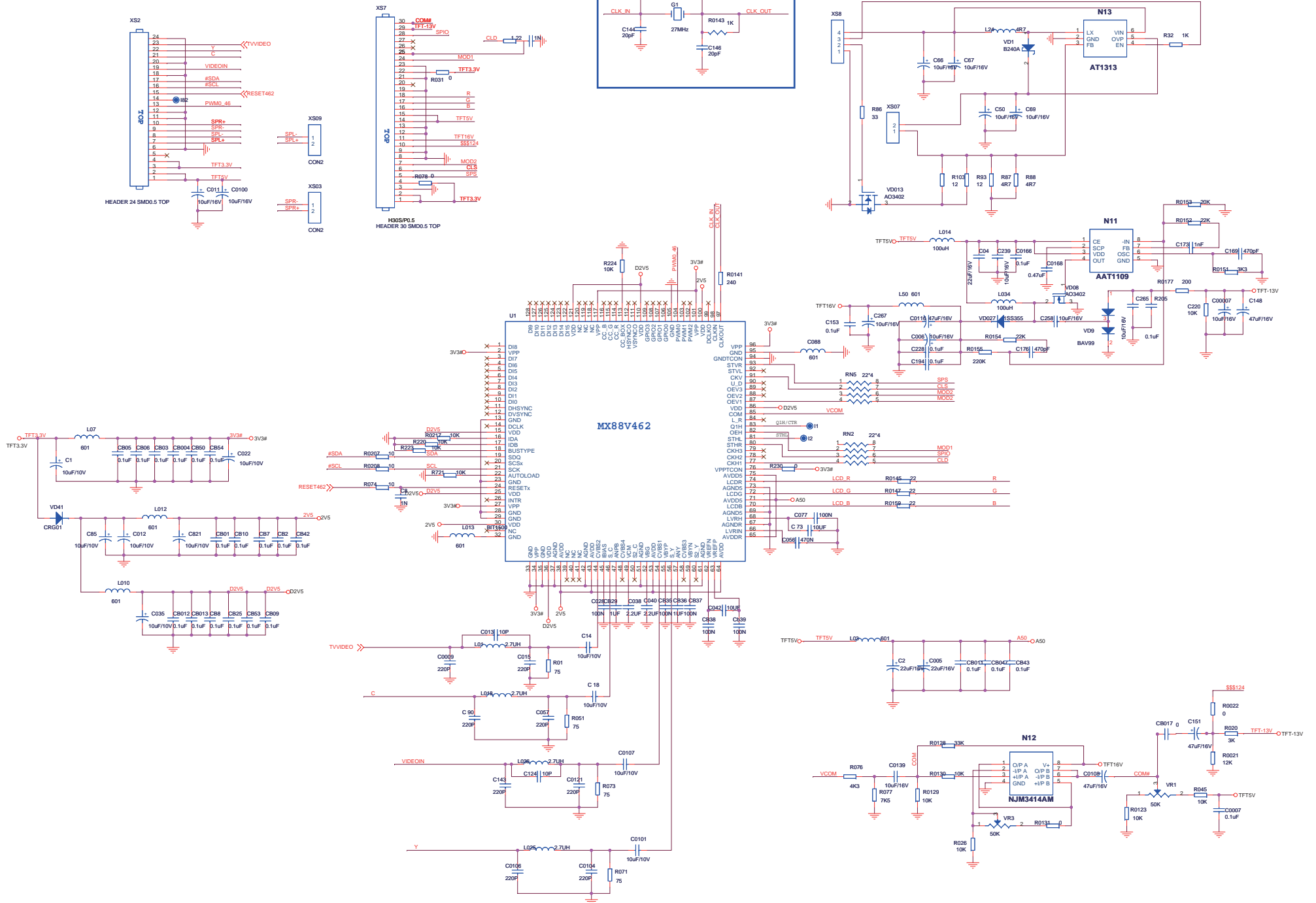


8.0 ELECTRICAL DIAGRAM (PET738) MAIN BOARD CIRCUIT DIAGRAM (POWER AND CHARGE)



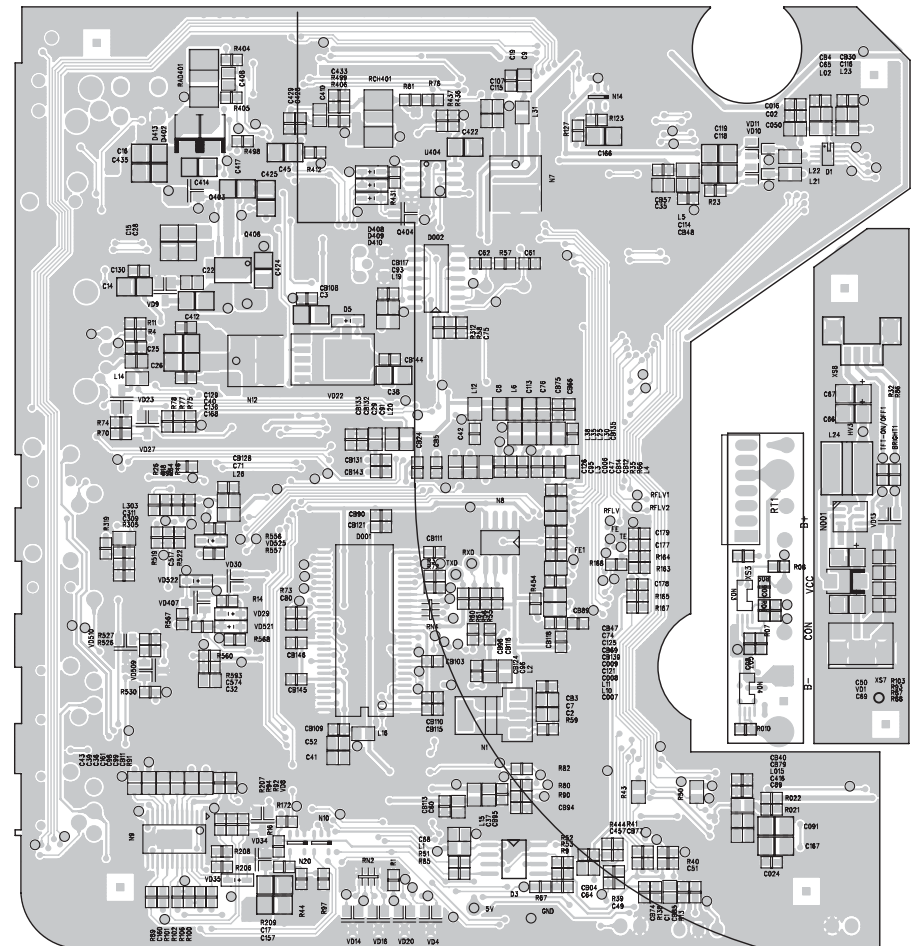
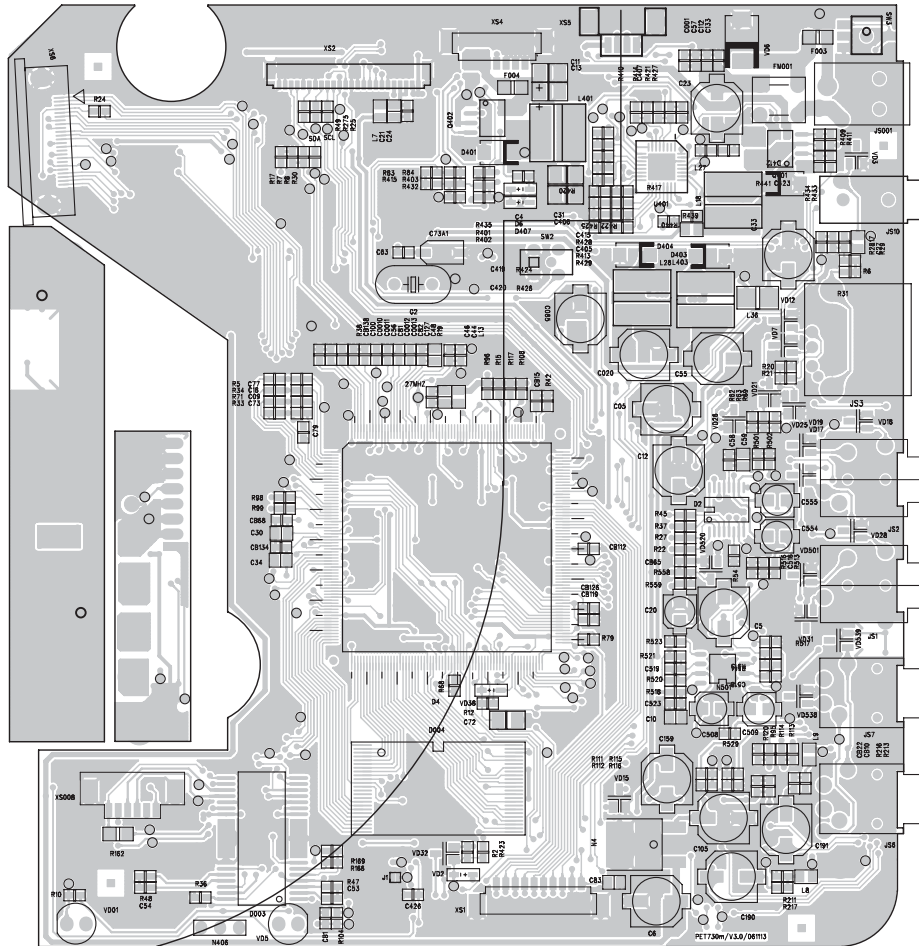
!!!!R219 was connected to ##DCIN now to VSYS

8.0 ELECTRICAL DIAGRAM (PET738) CONNECT BOARD CIRCUIT DIAGRAM (MX88V462)



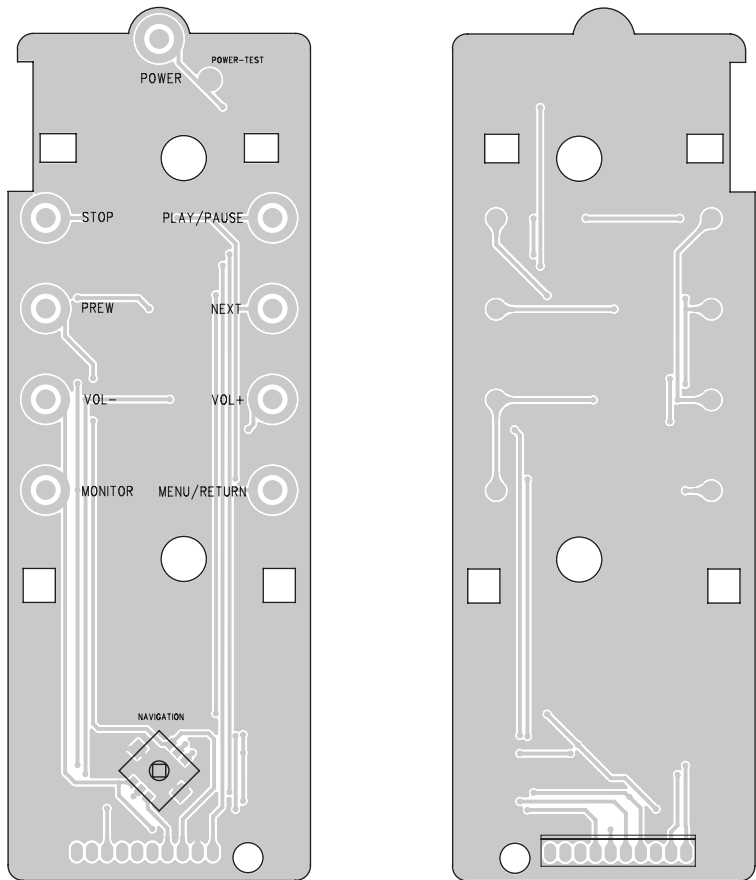
9.0 COMPONENT LAYOUT

PET730 MAIN BOARD DIAGRAM

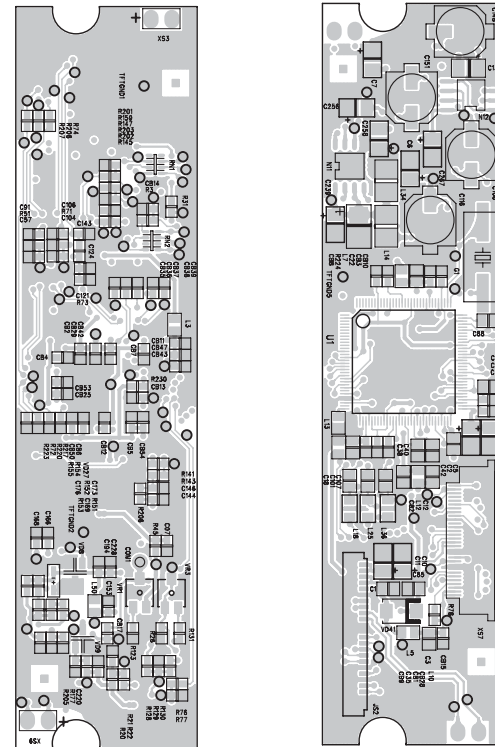


9.0 COMPONENT LAYOUT

PET730 FUNCTION BOARD DIAGRAM

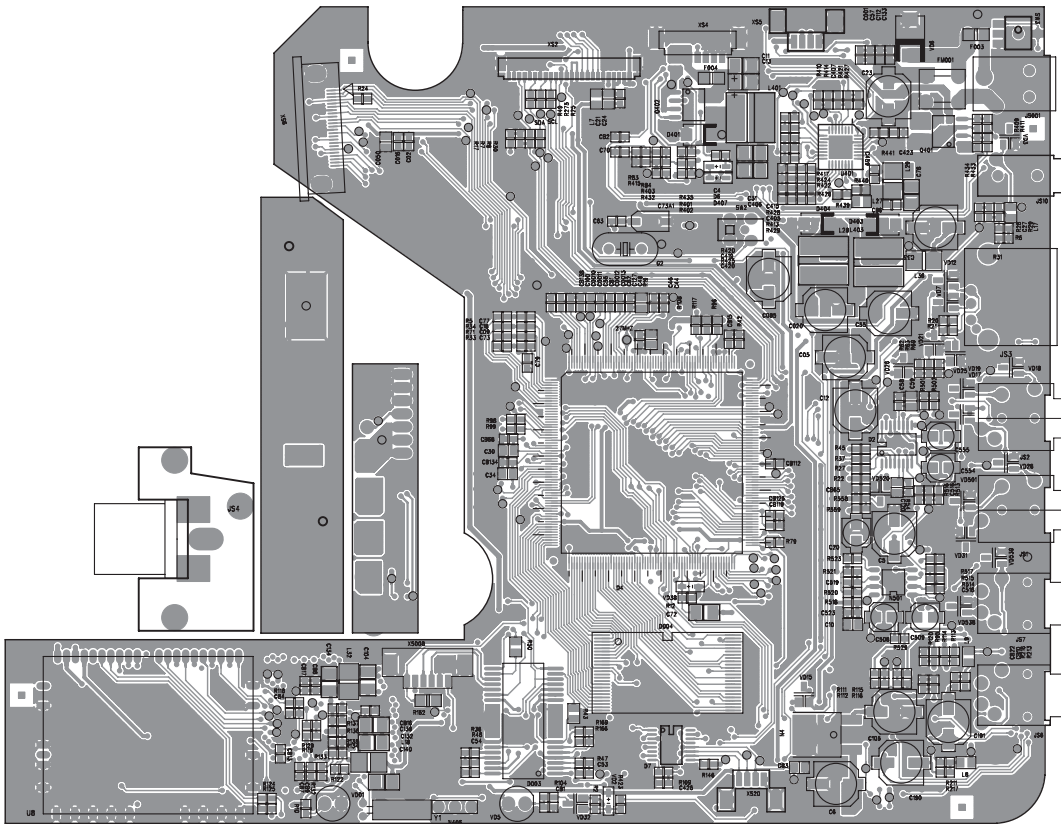


PET730 IF BOARD DIAGRAM

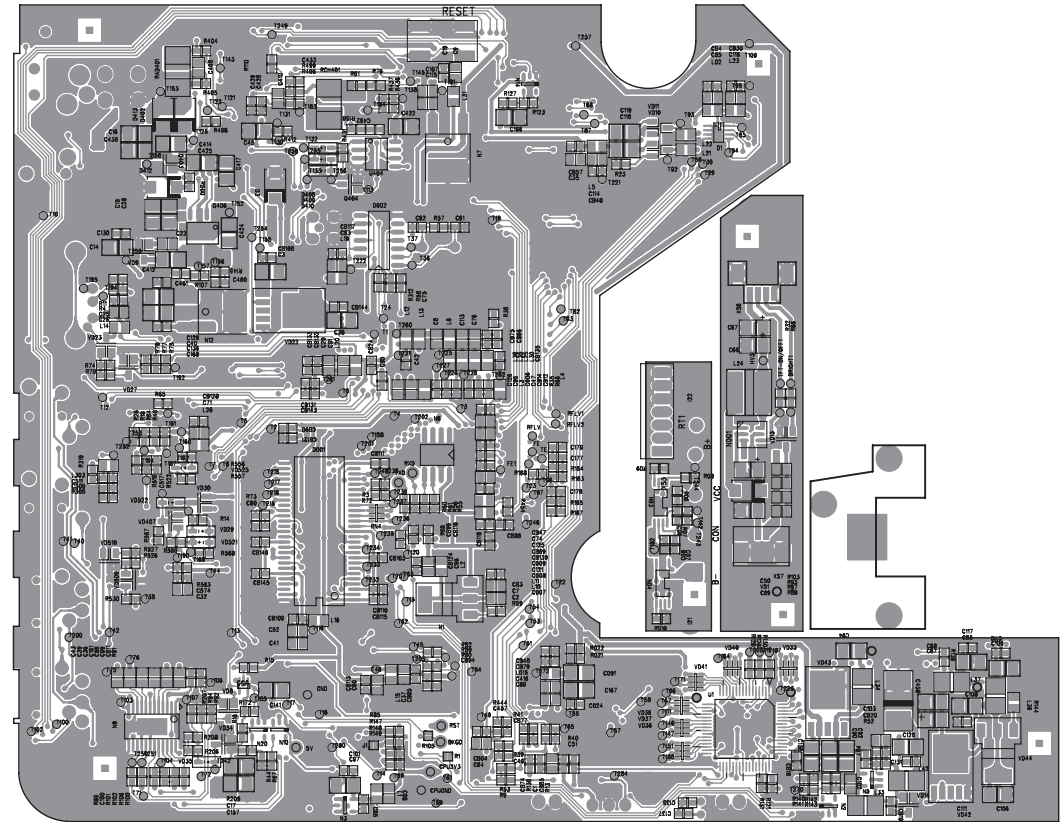


9.0 COMPONENT LAYOUT

PET735 MAIN BOARD DIAGRAM (TOP)

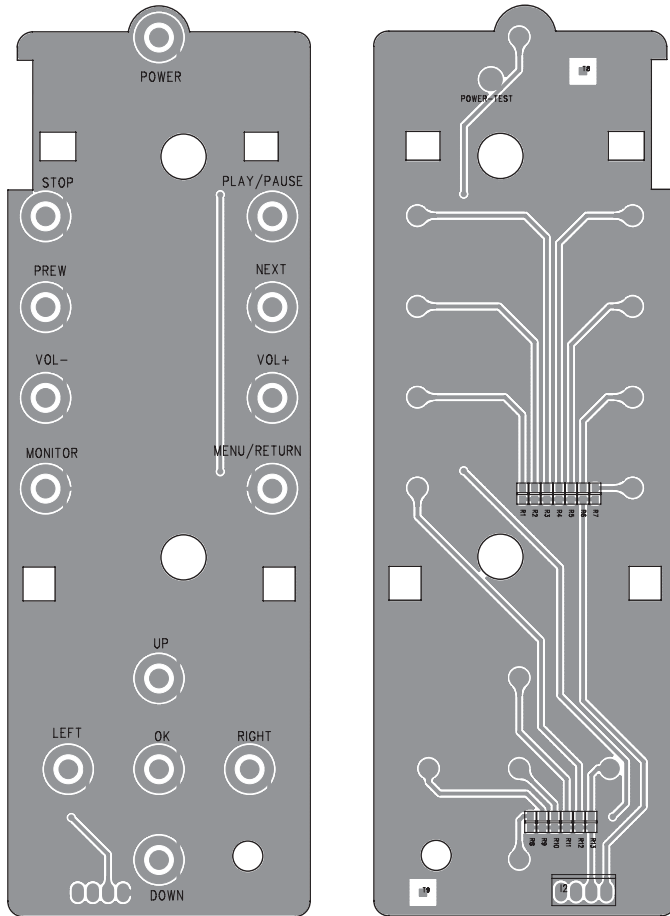


PET735 MAIN BOARD DIAGRAM (BOTTOM)

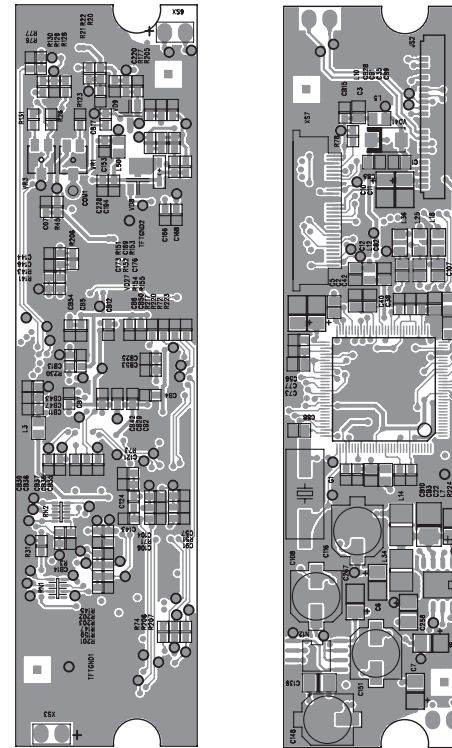


9.0 COMPONENT LAYOUT

PET735 FUNCTION BOARD DIAGRAM

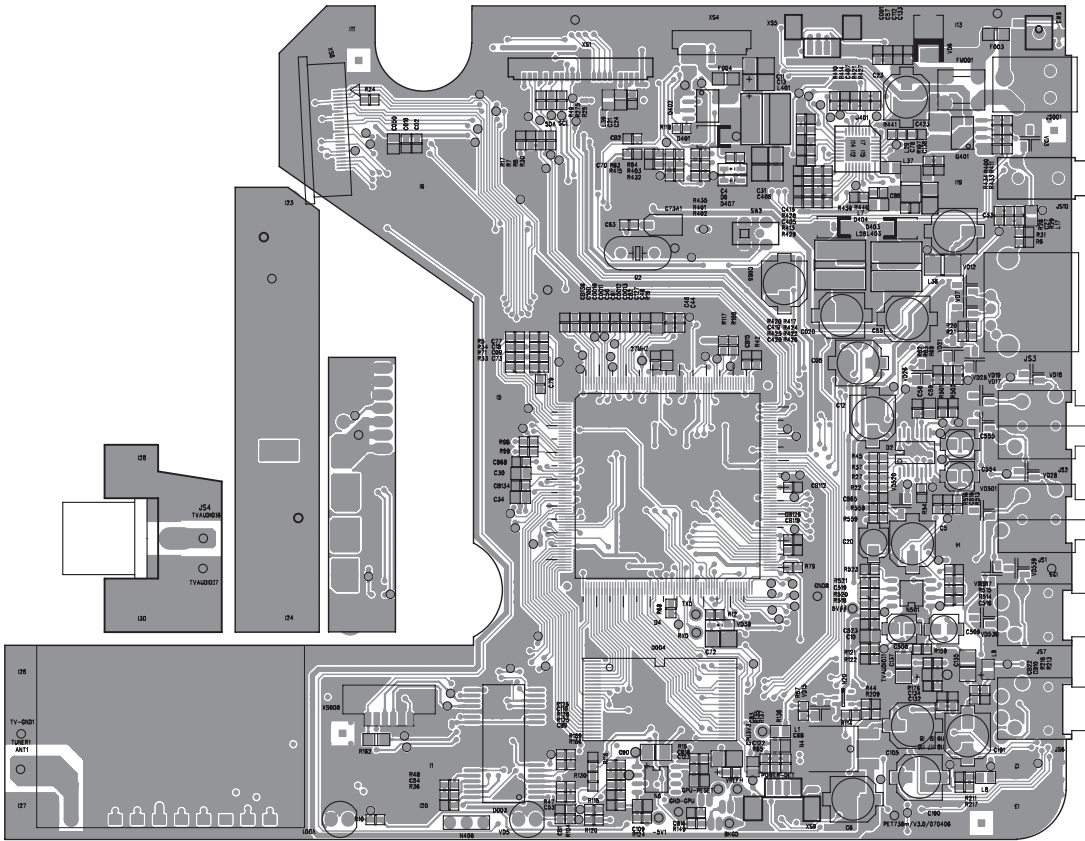


PET735 IF BOARD DIAGRAM

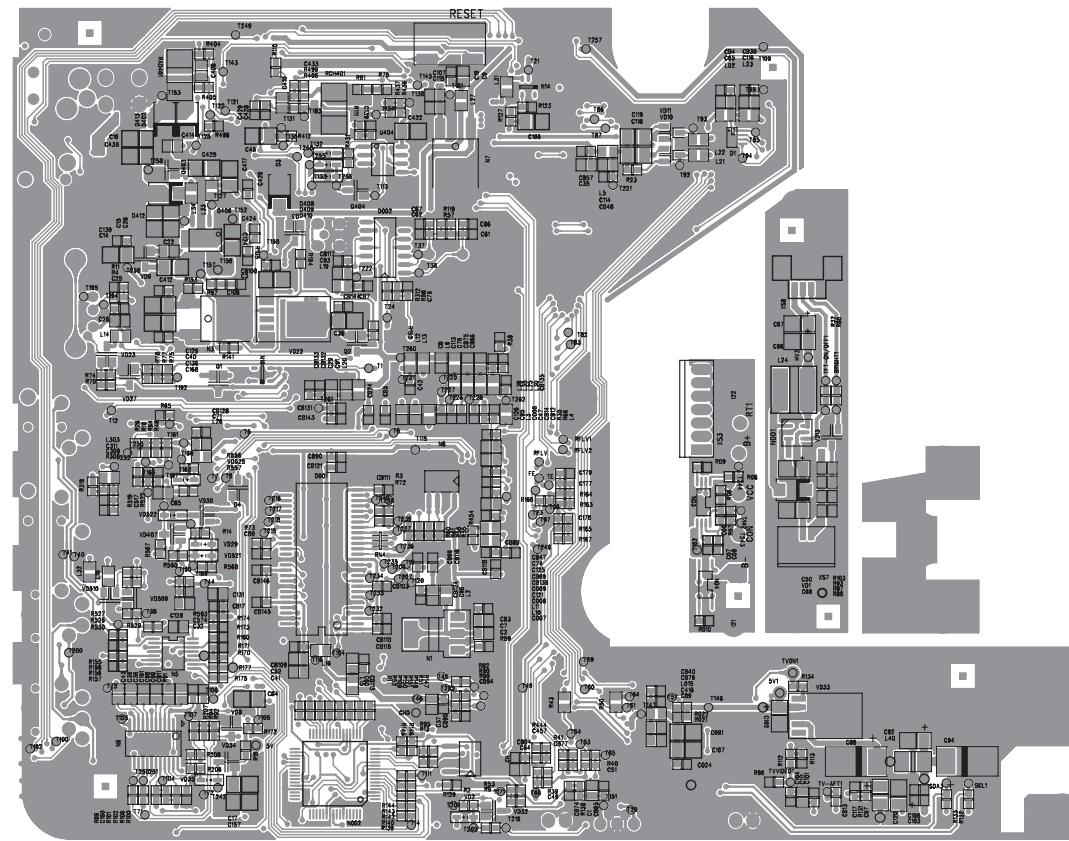


9.0 COMPONENT LAYOUT

PET738M MAIN BOARD DIAGRAM (TOP)

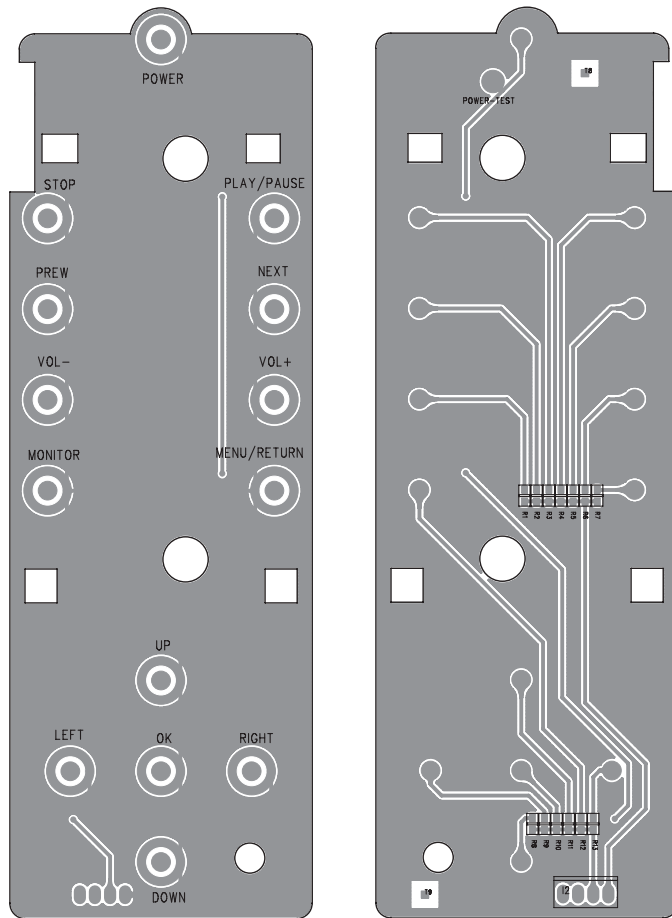


PET738M MAIN BOARD DIAGRAM (BOTTOM)

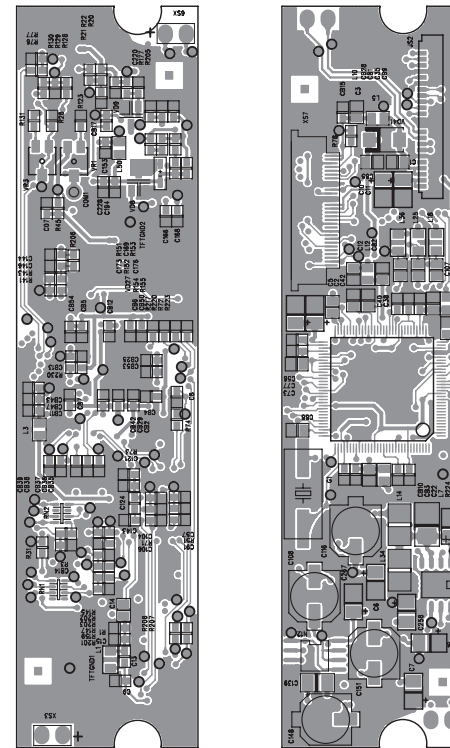


9.0 COMPONENT LAYOUT

PET735K KEY BOARD DIAGRAM






PET738T IF BOARD DIAGRAM



10.0 SERVICE PART LIST

Electrical Part List:

No.	CTN	Service 12NC	Service Description	Photo	Pos. No.
1	PET730/00 PET732/00	996510001290	PET730M MAIN PCBA/00		100
	PET730/05	996510001288	PET730M MAIN PCBA/05		
	PET730/44	996510001291	PET730M MAIN PCBA/44		
	PET730/58	996510001270	PET730M MAIN PCBA/58		
	PET730/98	996510004951	PET730M MAIN PCBA/98		
	PET735/00	996510003005	PET735M MAIN PCB ASS'Y/00		
	PET738/93	996510006298	PET738M MAIN PCB ASS'Y/93		
2	PET730 PET732 PET735	996510001271	PET730T (5210G+LED) IF PCB ASS'Y		110
	PET738	996510006299	PET738T IF PCB ASS'Y		
3	PET730 PET732	996510001272	PET730K FUNCTION PCB ASS'Y		120
	PET735	996510003006	PET735K FUNCTION PCB ASS'Y		
4	PET730 PET732 PET735 PET738	996510001273	PET730X BATTERY ASS'Y		130
5	PET730 PET732 PET735 PET738	996510001274	24 PIN HARDNESS-180-PF		146

10.0 SERVICE PART LIST

Mechanical Part List:

No.	CTN	Service 12NC	Service Description	Photo	Pos. No.
6	PET730 PET732 PET735 PET738	996510001275	LB070W02-TME1-SC TFT LCD		200
7	PET730 PET732 PET735	996510001276	DV23FB LOADING ASS'Y		210
	PET738	996510004977	DV23FC LOADING ASS'Y		
8	PET730 PET732 PET735 PET738	994000002157	YD2027 SPEAKER		220
9	PET730 PET732 PET735 PET738	996510001277	SPEAKER GRILL PET73X		230
10	PET730 PET732 PET735 PET738	996510006300	TOP COVER PET73X		300
11	PET730 PET735 PET738	996510001279	DISPLAY FRAME PET73X (BLACK COLOR)		310
	PET732	996510001549	DISPLAY FRAME PET732 (SILVER COLOR)		
12	PET730	996510001280	MIDDLE CAB & BUTTON ASS'Y PET73X (BLACK)		320
	PET732	996510001548	MIDDLE CAB & BUTTON ASSY PET732 (SILVER)		
	PET735 PET738	996510003007	MIDDLE CAB & BUTTON ASSY PET735 (without navigation key)		

10.0 SERVICE PART LIST

Mechanical Part List:

No.	CTN	Service 12NC	Service Description	Photo	Pos. No.
13	PET730 PET732	996510001281	BASE COVER PET73X		330
	PET735 PET738	996510003008	BASE COVER PET735		
14	PET730 PET732 PET735 PET738	996510001282	ADJUST HINGE PET73X		340
15	PET730 PET735 PET738	996510001283	DOOR DISCRETENESS PET73X (BLACK)		350
	PET732	996510001547	DOOR DISCRETENESS PET732 (SILVER)		
16	PET730 PET732 PET735 PET738	996510001284	LENS REMOTE SENSOR PET73X		360
17	PET730 PET732 PET735 PET738	996510002082	DISPLAY FRAME PLAQUE (SCREW CUSHION) PET73X (BLACK COLOR)		370
18	PET730 PET732 PET735 PET738	996510005755	NAVIGATION KEY		380
19	PET730 PET732 PET735 PET738	996510001285	OPEN DOOR SPRING		430

10.0 SERVICE PART LIST

Accessories Part List:

No.	CTN	Service 12NC	Service Description	Photo	Pos. No.
19	PET730/00 PET730/44 PET730/58 PET730/98 PET732/00 PET735/00	996510001286	AY4117 AC POWER ADAPTOR/00		ACADAPTOR
	PET730/05	996510001289	AY4117 AC POWER ADAPTOR/05		
	PET730/37	994000004183	AY4117 AC POWER ADAPTOR/37		
	PET738/93	9965100039077	ADPV25A AC POWER ADAPTOR/93		
20	PET730 PET732 PET735 PET738	996510001124	CAR CIGARETTE ADAPTER		CARADAPTOR
21	PET730 PET732 PET735 PET738	994000001912	AV CABLE		AVCABLE
22	PET730 PET732	996510001287	RC-AY5507 REMOTE CONTROL		RC
	PET735	996510003009	AY5506 REMOTE CONTROL		
	PET738	996510004319	AY5511 REMOTE CONTROL		
23	PET730 PET732 PET735 PET738	996510001130	CAR MOUNT AY4246		CARMOUNT
24	PET735	996510003010	ANTENNA		ANTENNA
	PET738	996510004318	ANTENNA		

11.0 REVISION LIST

Version 1.0 (3141 785 31590)

- Initial release PET730/00/05/37/44/58

Version 1.1 (3141 785 31591)

- Add service part list for PET732/00

Version 1.2 (3141 785 31592)

- Correct the Procedure to Change Region Code in chapter 1.

Version 1.3 (3141 785 31593)

- Revise service part list. Replace 996510001550 to 996510001284 for PET732. Add 12NC of display frame plaque (display frame screw cushion) 996510002082 for PET730 & PET732.

Version 1.4 (3141 785 31594)

- Add service part list for PET735/00

Version 1.5 (3141 785 31595)

- Add service part list for PET730/98

Version 1.6 (3141 785 31596)

- Add service part list 996510005755 Navigation key

Version 1.7 (3141 785 31597)

- Add service part list for PET738/93