

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
Exploded View Diagram & 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 31575

1.0 TECHNICAL SPECIFICATION

General

Dimensions (W x H x D): 255 x 170 x 31 mm
 Weight: 0.97kg
 Power supply: 100 – 240V (AC adaptor)
 DC 12V (Battery)
 Power consumption: 24W
 Operating temp. & RH: 0 – 45 degC / 30 – 90% RH

Audio System
 Output voltage 1kHz: 1.2Vrms typical
 THD 20-20kHz (%): 0.03% typical
 Dynamic range: >80dB
 Signal/Noise ratio: >80dB
 Frequency response (20-20kHz): +1dB/-0.5
 Channel Separation 1kHz: >=85dB
 Channel Balance 1kHz: 1dB

Current consumption

DC-IN SUPPLY (9V)	
Standby Power off	5mA
BATT. SUPPLY	
Voltage	7.4V
Capacity	2600mAH
Battery playtime	3 hour
Charging time	<4.0 hour
Standby Power off	<300uA

Headphone out (headphone output load 2x16 ohm)

Maximum output power: 10mW
 Frequency response: +/-3dB
 SNR (A-wght): >80dB
 THD (0.2-20kHz): 0.2% typical
 Left-Right Channel Separation: >55dB
 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 / MPEG4 / DIVX3,4,5,6

Audio Playback Format: CD/MP3, MP3-DVD, WMA

Disc Diameter: 12cm

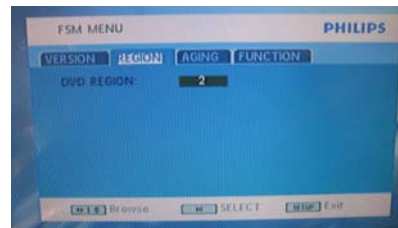
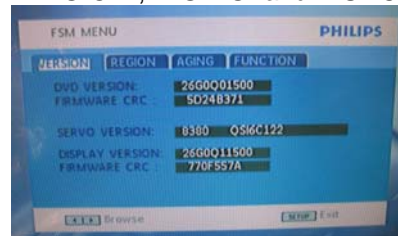
Pixel specification

Zero bright-dot & max. 3 dark-dots

Factory Service Mode (FSM)

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

1. Press “■▲” (STOP/EJECT) on the main set
2. Press “▶||” (PLAY/PAUSE) on the main set
3. Press “1” -> “4” -> “0” -> “0” by remote control
4. The screen is under “FSM MENU”
5. Press “▲, ▼, ◀, ▶” to select “VERSION”, “REGION”, “AGING” and “FUNCTION”



6. 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

7. Press “▶||” to save your setting
8. Press “SETUP” to exit

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) PANEL firmware upgrade

1. Unzip the WDR830.ROM
2. Drag-n-drop to USB drive
3. Power on PET830 with AC/DC adaptor
4. Insert USB drive to the USB port of the main set
5. The set will detect the updated firmware
6. Press "OK" to confirm and proceed

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

B) DVD firmware upgrade

7. Unzip the WDR830.ROM (different file from step 1)
8. Drag-n-drop to USB drive
9. Power on PET830 with AC/DC adaptor
10. Insert USB drive to the USB port of the main set
11. The set will detect the updated firmware
12. Press "OK" to confirm and proceed

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



1.0 TECHNICAL SPECIFICATION

Symptom:

Pop up screen "FSM AGING FAIL INFO" after replacing the mainboard

Cure:

After replacing the mainboard or LCD, power on the set with below error message:



It could be resolved by the following procedure:

1. Press "SETUP" key on the remote control
2. Press "RETURN" key on the remote control to enter the FSM menu
3. Go to aging with the "NAVIGATION" key on the set ("PLAY/PAUSE" key)
4. Change FSM aging to "FINAL" and then press "OK" key to confirm phase changed
5. Exit the menu by pressing the "SETUP" key

(It could be found by S/C # PI-07/031 on service support site.)

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. Betrakta 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.

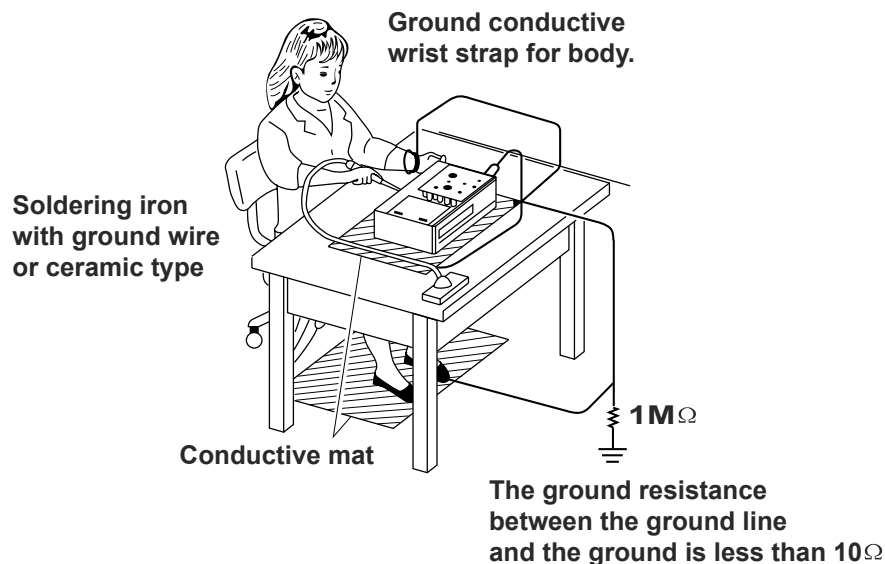
When the power supply is being turned on, you may not remove this laser cautions label. If it removes, radiation of laser may be received.

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.



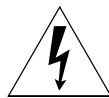
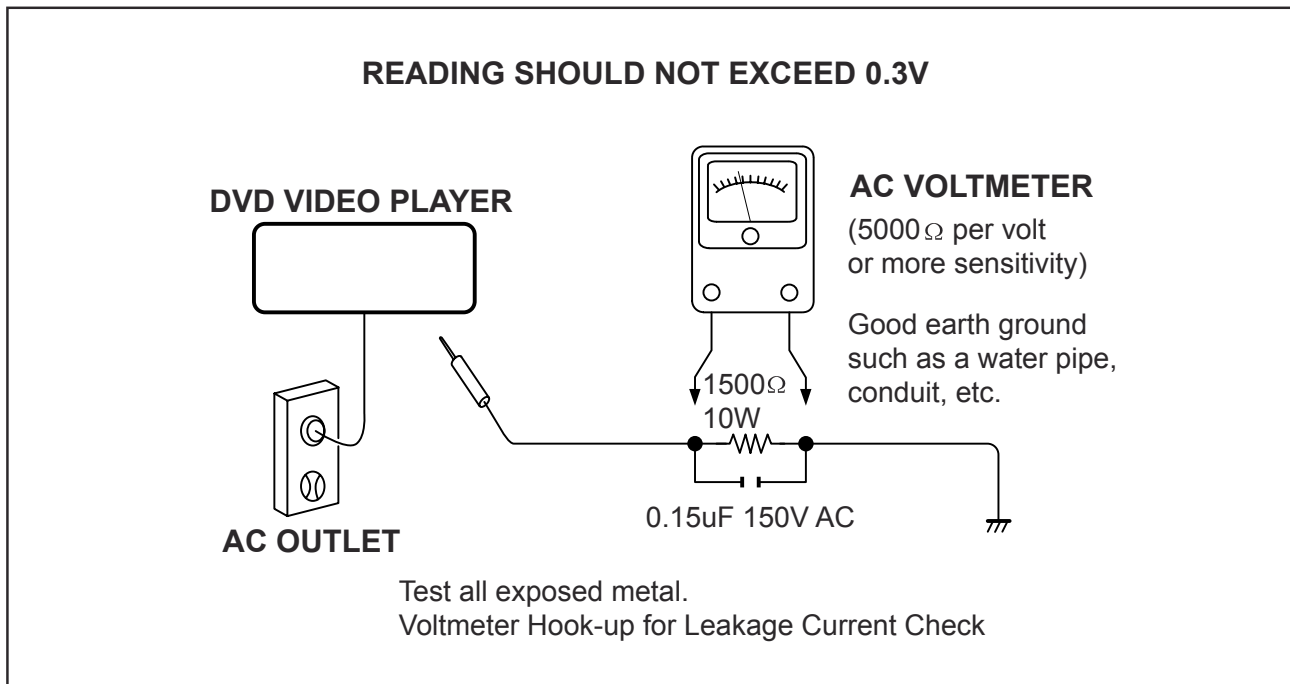
SAFTY NOTICE

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.

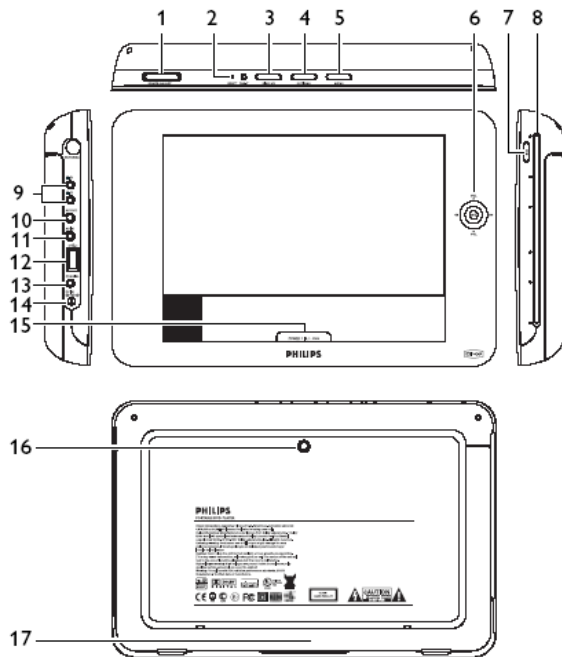


The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

3.0 INSTRUCTION FOR USE

PET830

1



1.1 Top of the player (see figure 1)

1 POWER ON/OFF

Switch the player on / off

2 RESET

Reset the player when it hangs

3 DISPLAY

Adjust the display value of the system

4 OPTIONS

Access additional functions

5 MENU

Display the DVD disc menu

1.2 Left side of the player (see figure 1)

9 Headphone jack

10 AV OUT

Audio video output

11 AV IN

Audio video input

12 USB

USB connector

13 Coaxial

Digital audio output

14 DC IN

Charger / Adapter connection for power supply

1.3 Front side of the player (see figure 1)

6 ►||

OK or play/pause

▲ / ▼

Up/down navigation key or up/down volume control during playback

◀◀ / ▶▶

Left/right navigation key or previous/next track or fast search backward/forward

15 POWER•IR•CHG

POWER

Power LED in green

IR

IR sensor

Charging

Charging LED appears in RED during charging and goes off when fully charged.

1.4 Right side of the player (see figure 1)

7 ■▲

Press once to stop playback. Press twice to eject the disc

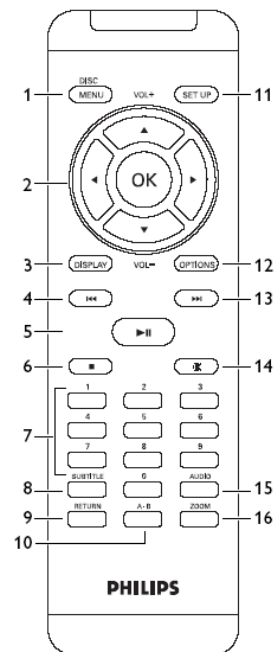
8 Disc slot

1.5 Right side of the player (see figure 1)

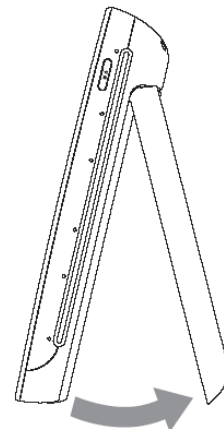
16 Car mounting screw hole

17 Stand

2



3



1.6 Remote Control (see figure 2)

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 ■

Press twice to stop playback

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 静音

Mute player volume

15 AUDIO

Audio language selector

16 ZOOM

Enlarge video image

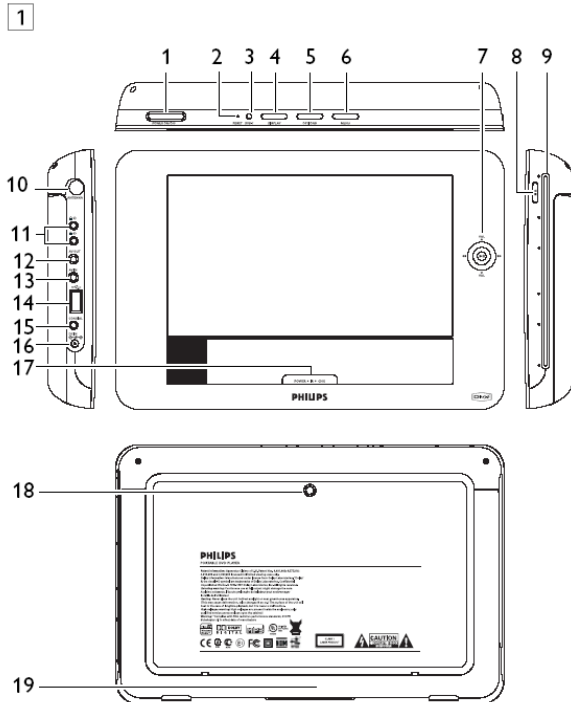
1.7 Desk stand of the player (see figure 3)

You can prop up the DVD player on your table for movie watching.

Pull out the stand at the rear of the player.

3.0 INSTRUCTION FOR USE

PET835



1.1 Top of the player (see figure 1)

- 1 **POWER ON/OFF** Switch the player on / off
- 2 **RESET** Reset the player when it hangs
- 3 **SOURCE** Switch between DVD > TV > Radio > USB > AV-in
- 4 **DISPLAY** Adjust the display value of the system
- 5 **OPTIONS** Access additional functions
- 6 **MENU** Display the DVD disc menu

1.2 Left side of the player (see figure 1)

- 10 **ANTENNA** Connection to antenna plug
- 11 **Headphone jack**
- 12 **AV OUT** Audio video output
- 13 **AV IN** Audio video input
- 14 **USB** USB connector
- 15 **Coaxial** Digital audio output
- 16 **DC IN** Charger / Adapter connection for power supply

1.3 Front side of the player (see figure 1)

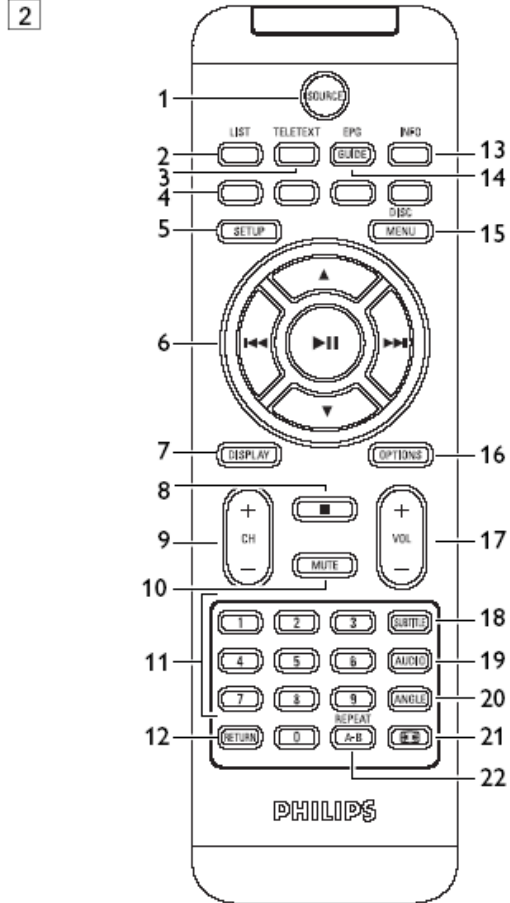
- 7 **▶||** OK or play/pause
- VOL + / VOL -** Up/down navigation key or up/down volume control during playback
- ◀◀ / ▶▶** Left/right navigation key or previous/next track or fast search backward/forward
- 17 **POWER-IR-CHG**
- POWER** Power LED in green
- IR** IR sensor
- Charging** Charging LED appears in RED during charging and goes off when fully charged.

1.4 Right side of the player (see figure 1)

- 8 **■▲** Press once to stop playback. Press twice to eject the disc
- 9 **Disc slot**

1.5 Right side of the player (see figure 1)




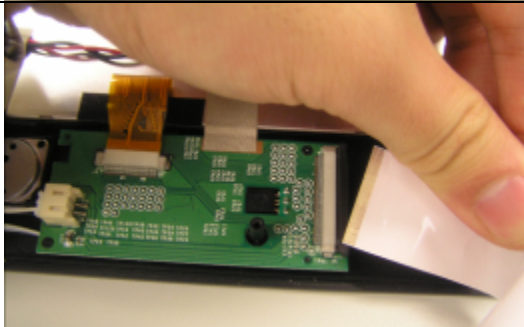
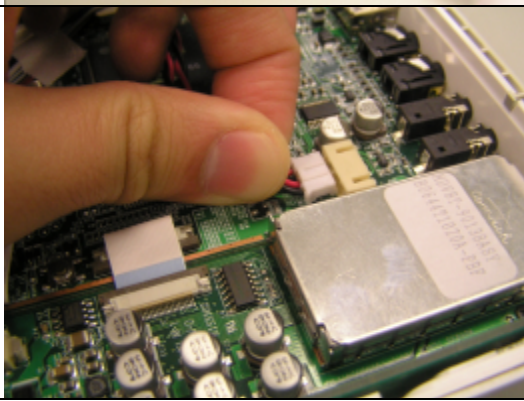
- 18 **Car mounting screw hole**
- 19 **Stand**




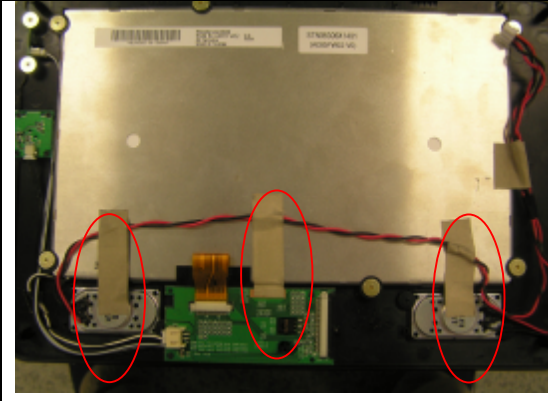

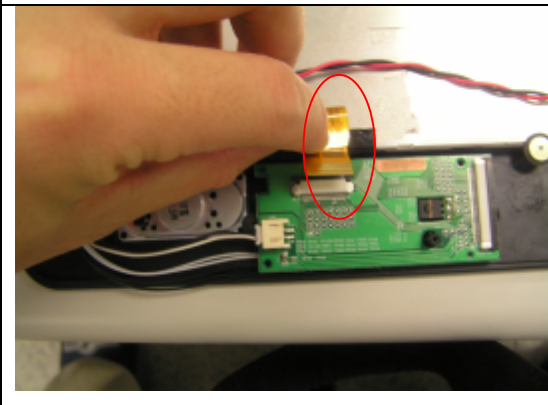
1.6 Remote Control (see figure 2)

- 1 **SOURCE** Switch between DVD > TV > Radio > USB > AV-in
- 2 **LIST** View channels
- 3 **TELETEXT** Activate TELETEXT
- 4 **Direct access to the items** Coloured areas are displayed at the bottom of the screen. The 4 coloured keys are used to access the items or corresponding pages. The coloured areas flash when the item or the page is not yet available.
- 5 **SETUP** Enter **SETUP** menu
- 6 **▶||** OK or play/pause
- ▲ / ▼** Up/down navigation key
- ◀◀ / ▶▶** Left/right navigation key or previous/next track or fast search backward/forward
- 7 **DISPLAY** Adjust the display value of the system
- 8 **■** Press once to stop playback
- 9 **+ CH -** Channel control
- 10 **MUTE** Muting player volume
- 11 **0 - 9** Numeric keypad
- 12 **RETURN** For VCD menu page
- 13 **INFO** List program information
- 14 **EPG** Activate Electronic program guide
- 15 **DISC MENU** Display the DVD disc menu
- 16 **OPTIONS** Access additional functions
- 17 **+ VOL -** Volume control
- 18 **SUBTITLE** Subtitle language selector
- 19 **AUDIO** Audio language selector
- 20 **ANGLE** Selects DVD camera angle
- 21 **REPEAT** To adjust the screen of 16:9 or 4:3
- 22 **A - B** To repeat or loop a sequence in a title

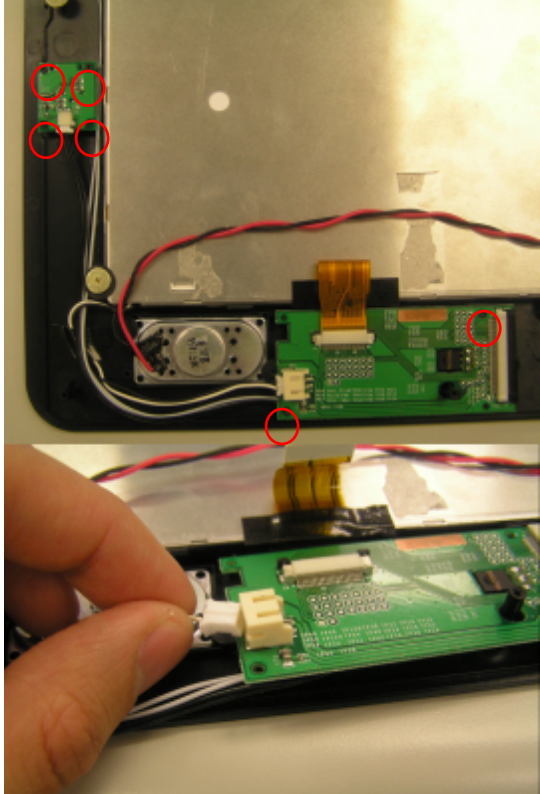

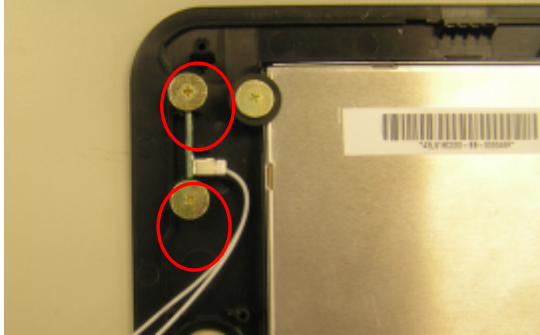

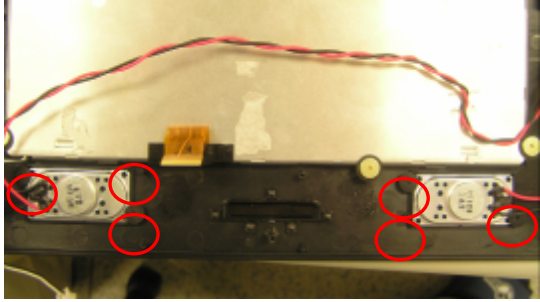

4.0 MECHANICAL INSTRUCTION

Disassembly Procedure on PET830	Spare Parts		
	1	Remove five screws on back cabinet to separate top cabinet and back cabinet.	(5pcs) 
	2	Generally open the front cabinet.	
	3	Disassemble FPC from turn board on top cabinet.	
	4	Disassemble connector of speaker from main board.	





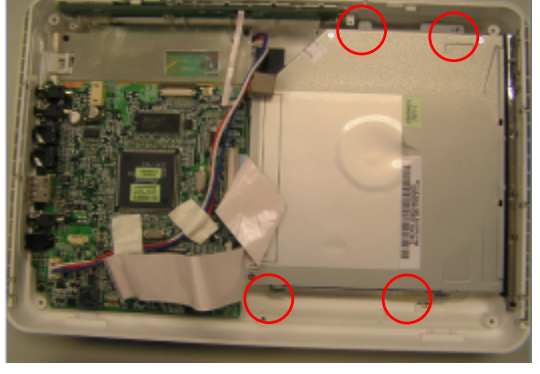


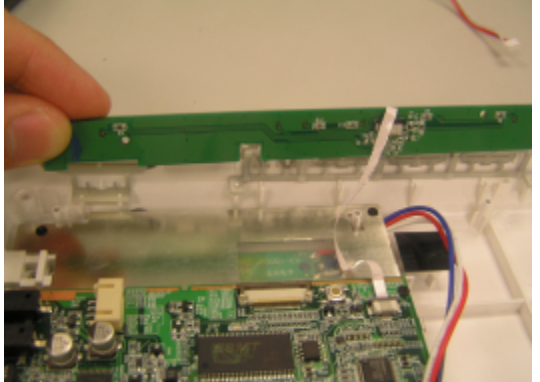


4.0 MECHANICAL INSTRUCTION

	5	After 3 and 4 procedures, we will get top cabinet assembly and back cabinet assembly.	
	6	Remove three conductive fabrics.	(3pcs) 
	7	Disassemble FPC of TFT-LCD from turn board.	

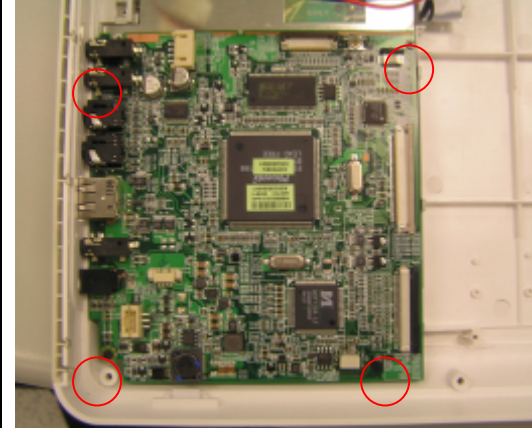

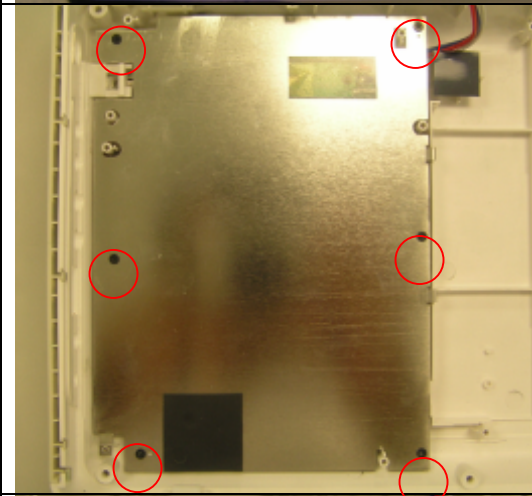

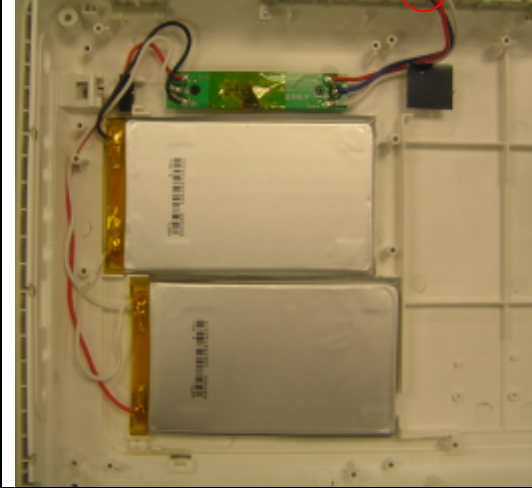

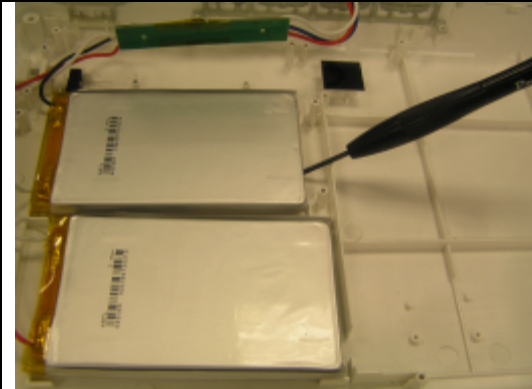
4.0 MECHANICAL INSTRUCTION

	8	Remove six screws on turn board and jogging board. Disassemble connector of TFT-LCD from turn board.	(6pcs) 
	9	Remove two screws on eject board.	(2pcs) 
	10	Remove all PCB boards on top cabinet. Remove six screws on speaker, and then remove speaker.	(6pcs) 

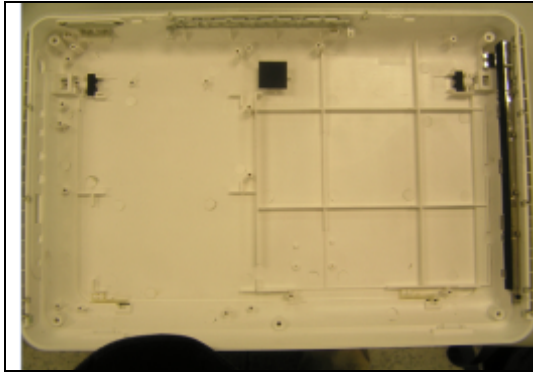
4.0 MECHANICAL INSTRUCTION

	<p>11</p>	<p>Remove six screws and sponges on TFT-LCD.</p>	<p>(6pcs)</p>  <p>(6pcs)</p> 
	<p>12</p>	<p>Remove TFT-LCD and disassembly of top cabinet is ok.</p>	
	<p>13</p>	<p>Remove four screws on driver and FFC of driver from main board.</p>	<p>(4pcs)</p>  
	<p>14</p>	<p>Remove top keypad board from back cabinet, and disassemble FFC from main board.</p>	 

4.0 MECHANICAL INSTRUCTION

	15	Remove four screws on main board.	(4pcs) 
	16	Remove six screws on plate metal EMI.	(6pcs) 
	17	Remove two screws on PCB of battery.	(2pcs) 
	18	Use tool to remove battery from back cabinet.	

4.0 MECHANICAL INSTRUCTION

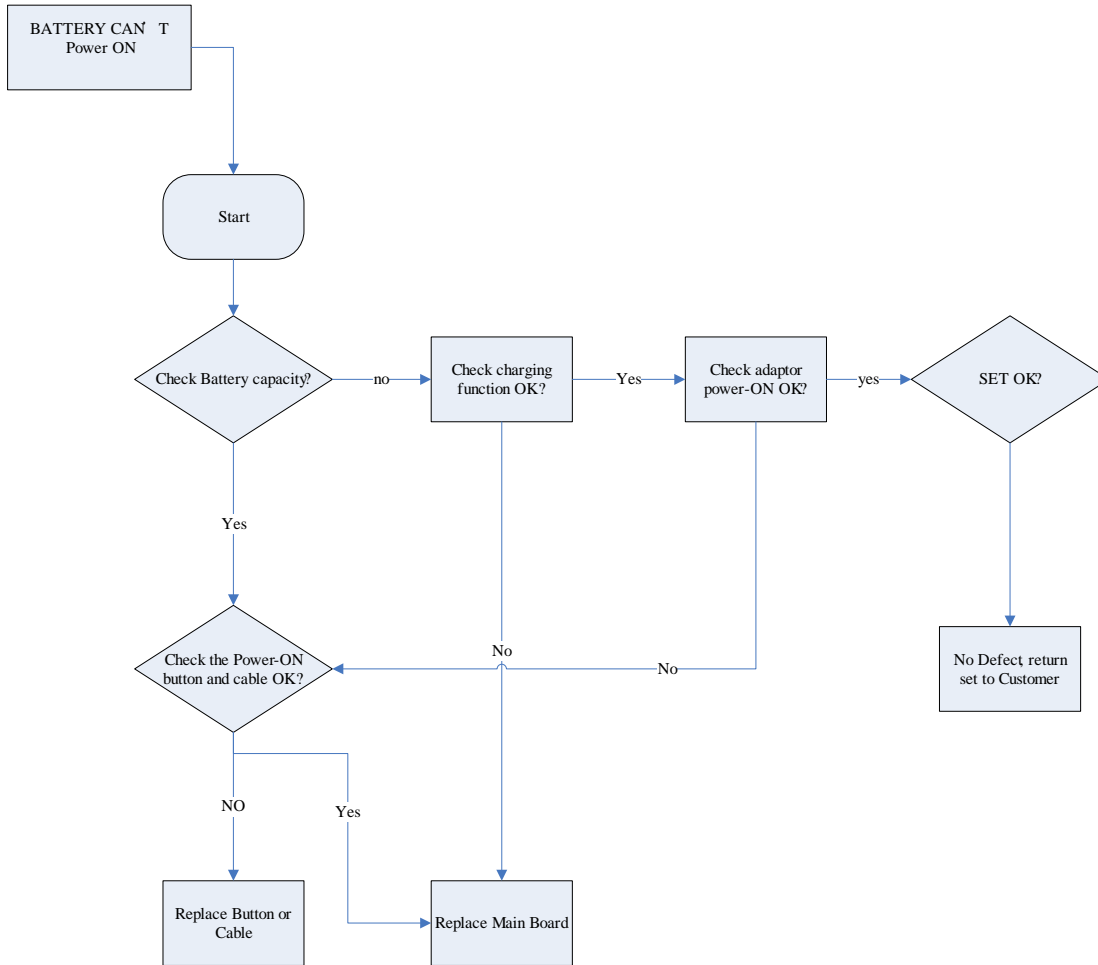


19

Finally, we will get the back cabinet.

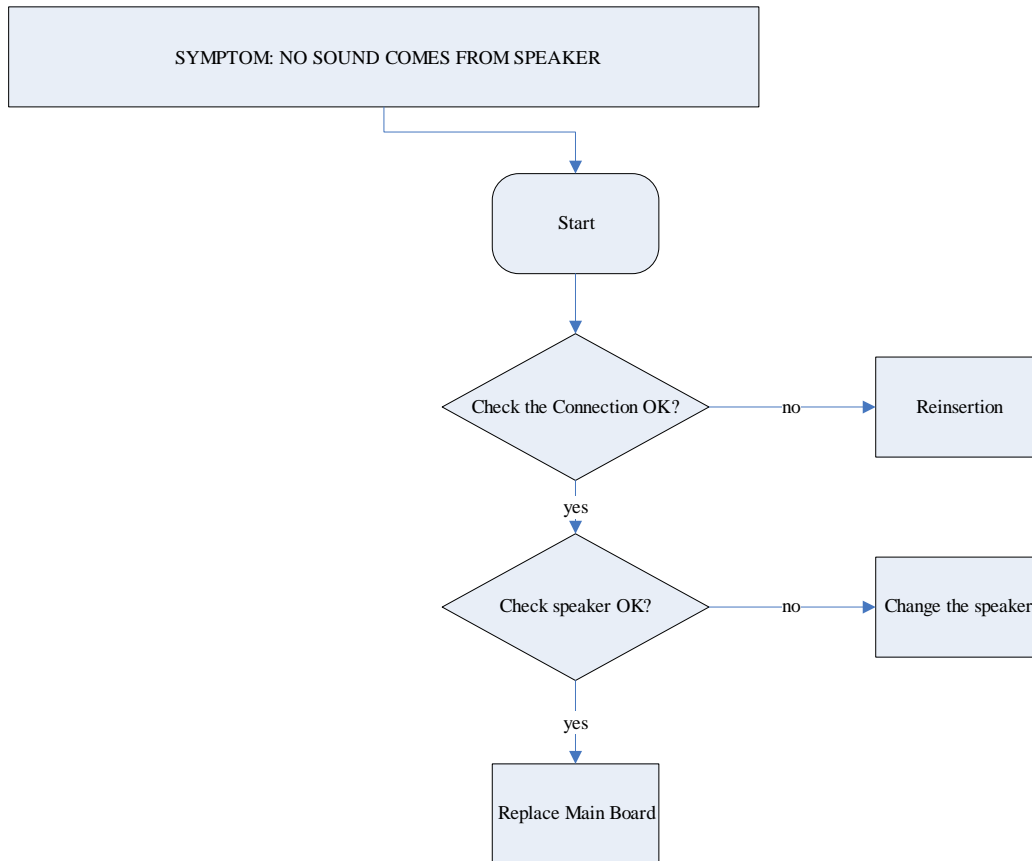
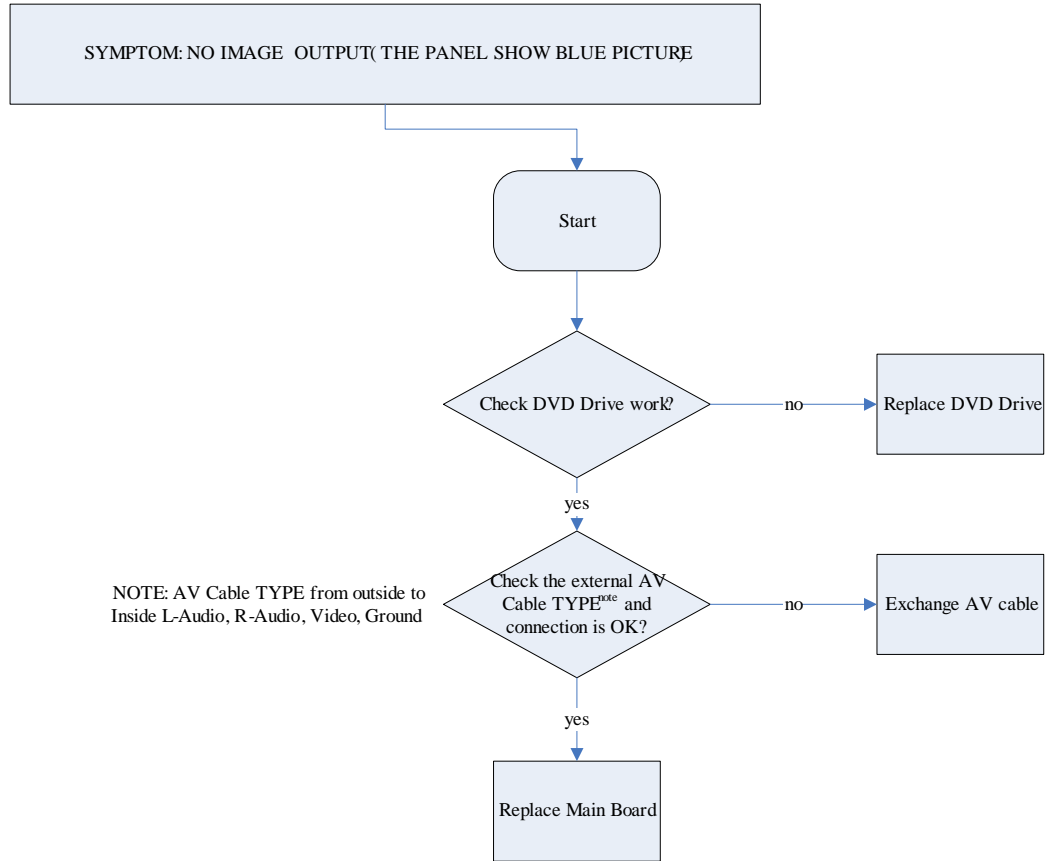
5.0 TROUBLESHOOTING

SYMPTOM: BATTERY NO POWER



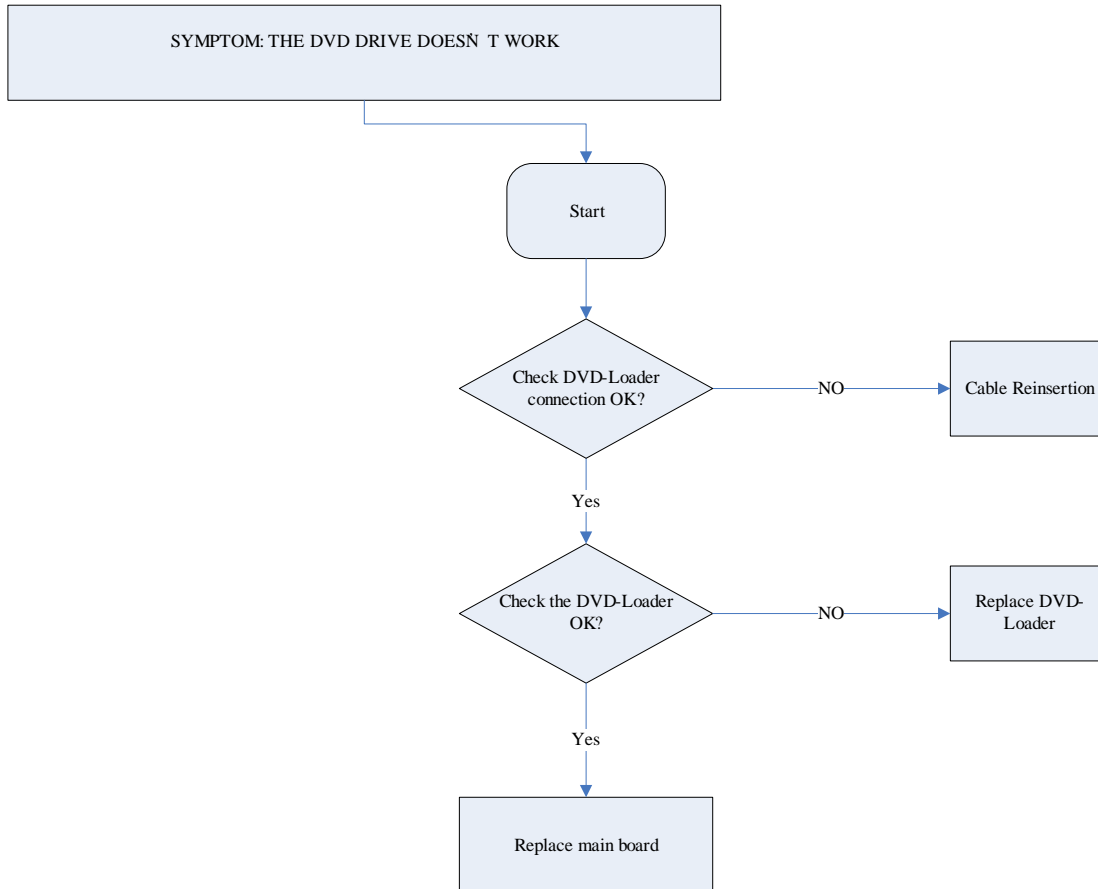
5.0 TROUBLESHOOTING

SYMPTOM: NO IMAGE / NO SOUND



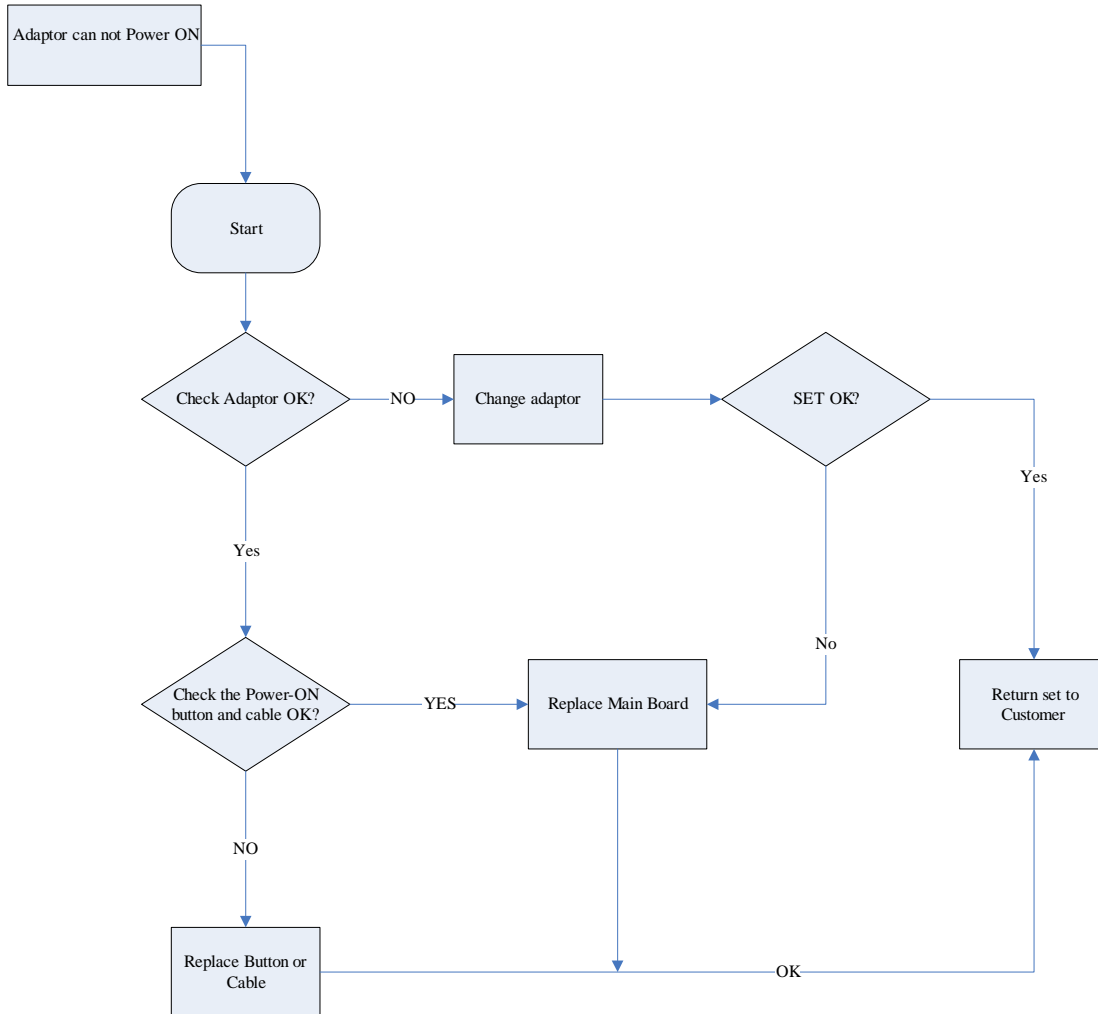
5.0 TROUBLESHOOTING

SYMPTOM: THE DVD DRIVE DOES NOT WORK



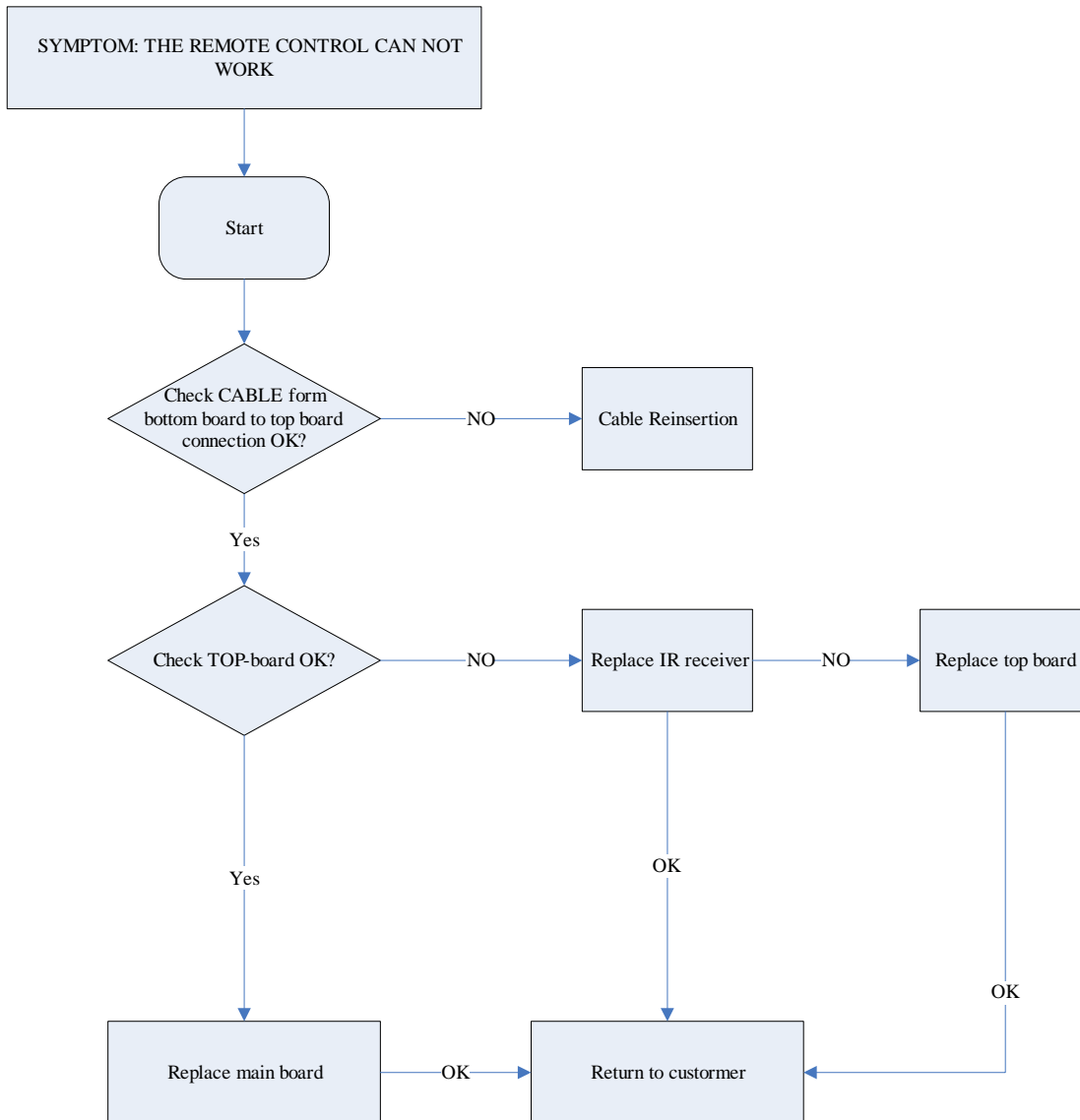
5.0 TROUBLESHOOTING

SYMPTOM: ADAPTOR CANNOT POWER ON



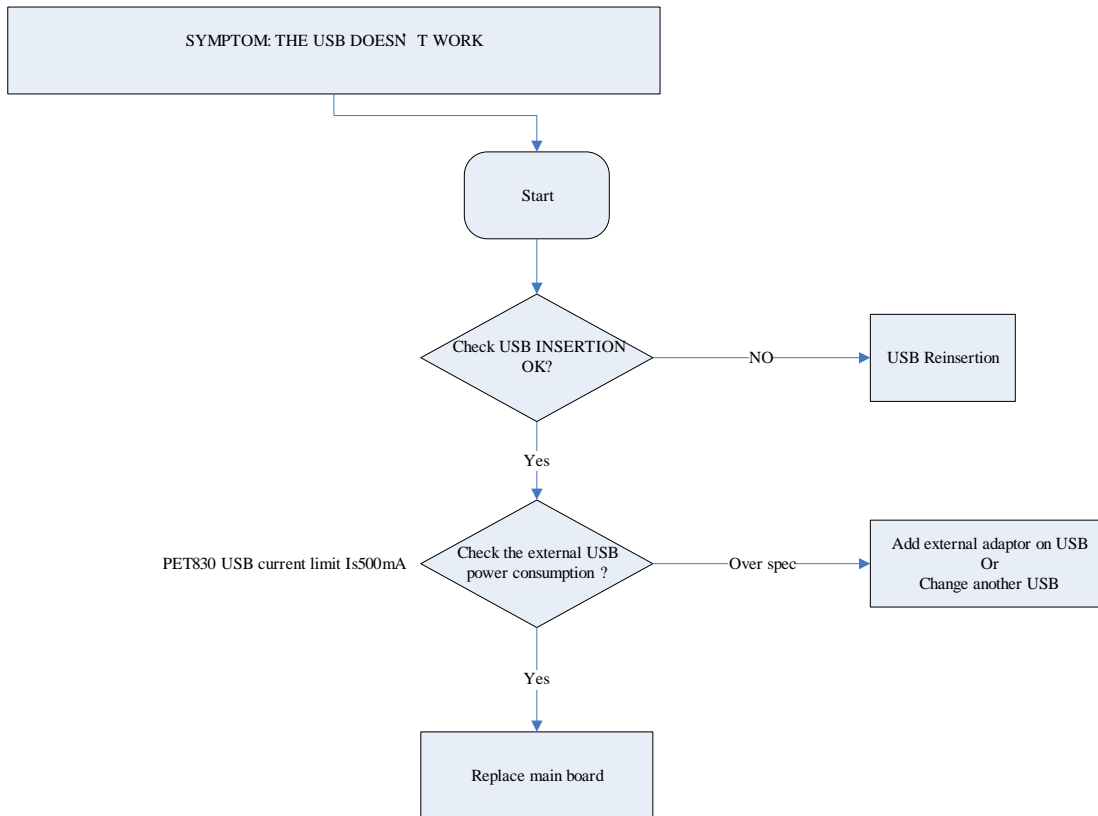
5.0 TROUBLESHOOTING

SYMPTOM: REMOTE CONTROL CANNOT WORK

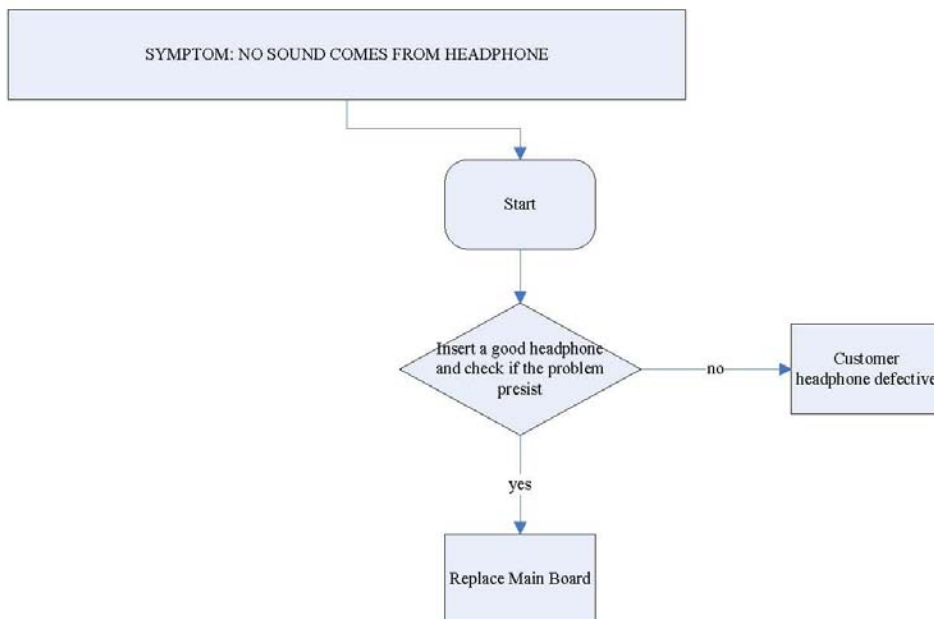


5.0 TROUBLESHOOTING

SYMPTOM: USB CANNOT WORK

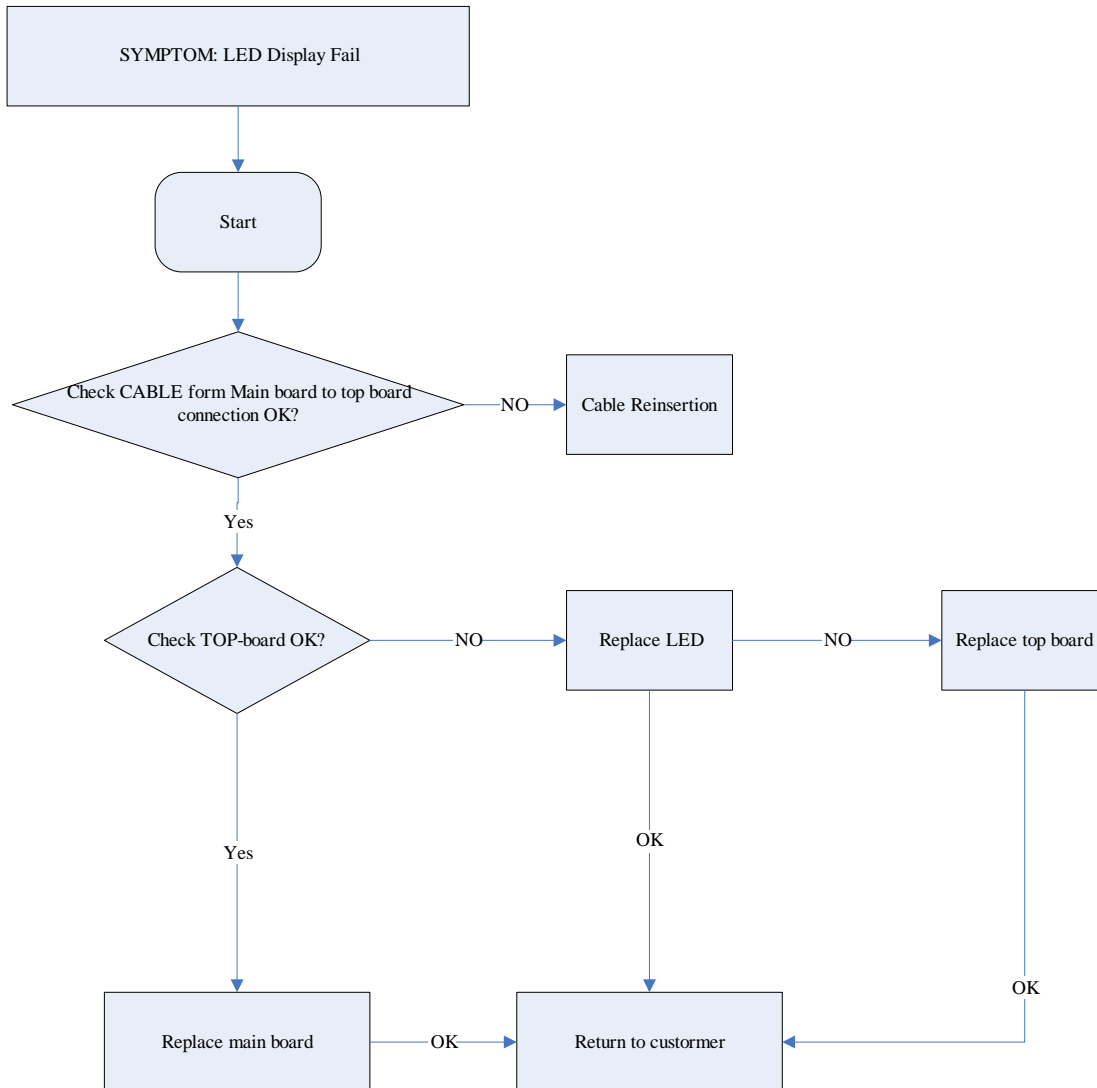


SYMPTOM: NO SOUND FROM HEADPHONE



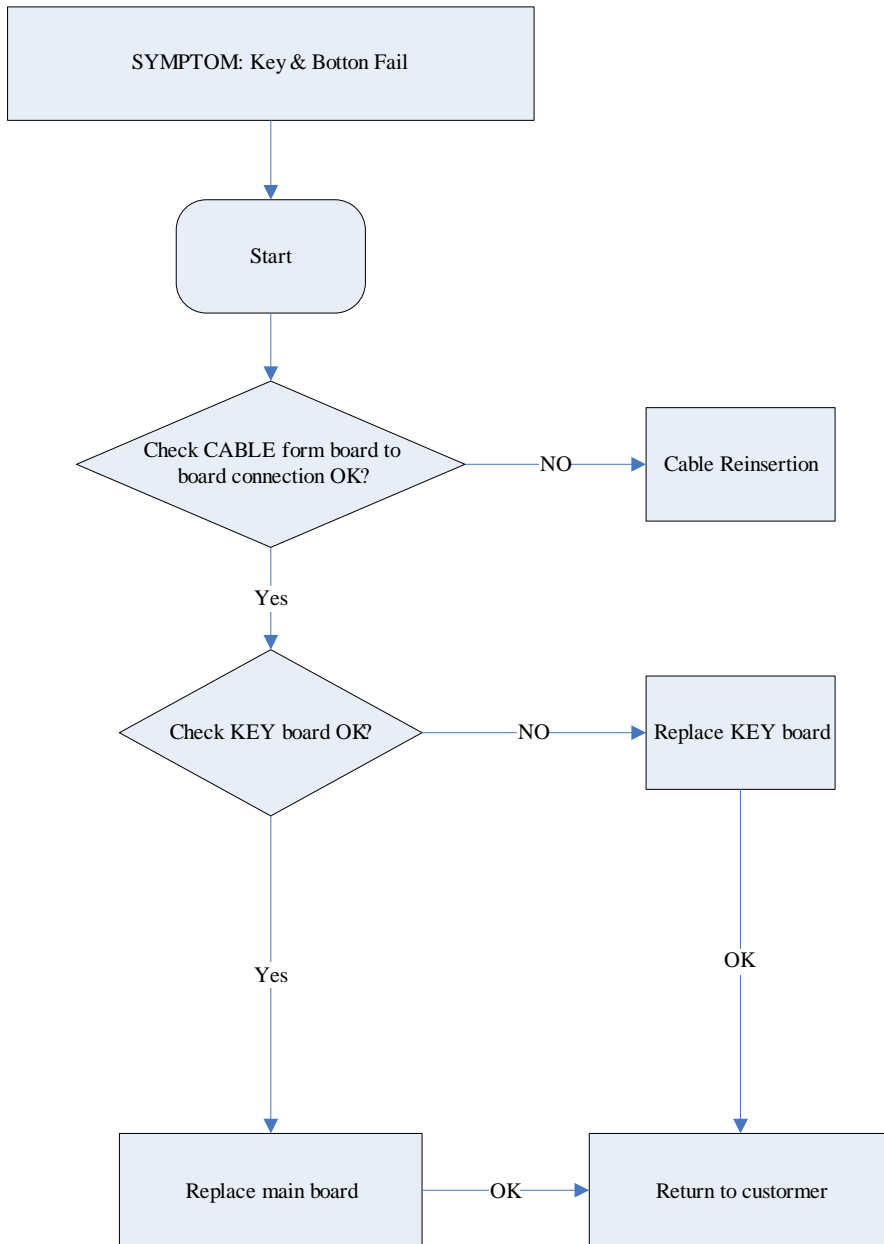
5.0 TROUBLESHOOTING

SYMPTOM: LED DISPLAY FAILURE



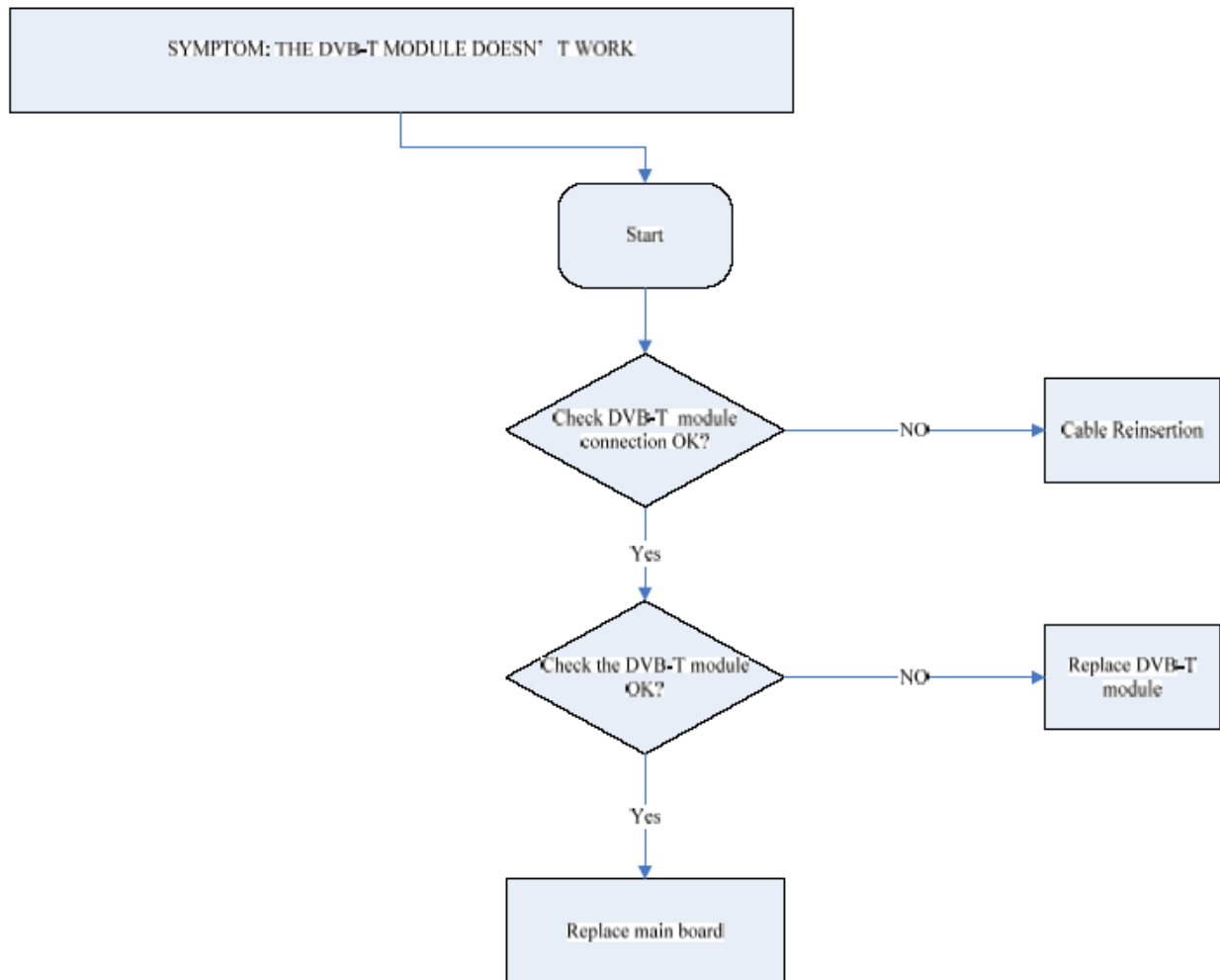
5.0 TROUBLESHOOTING

SYMPTOM: KEY & BOTTON FAILURE

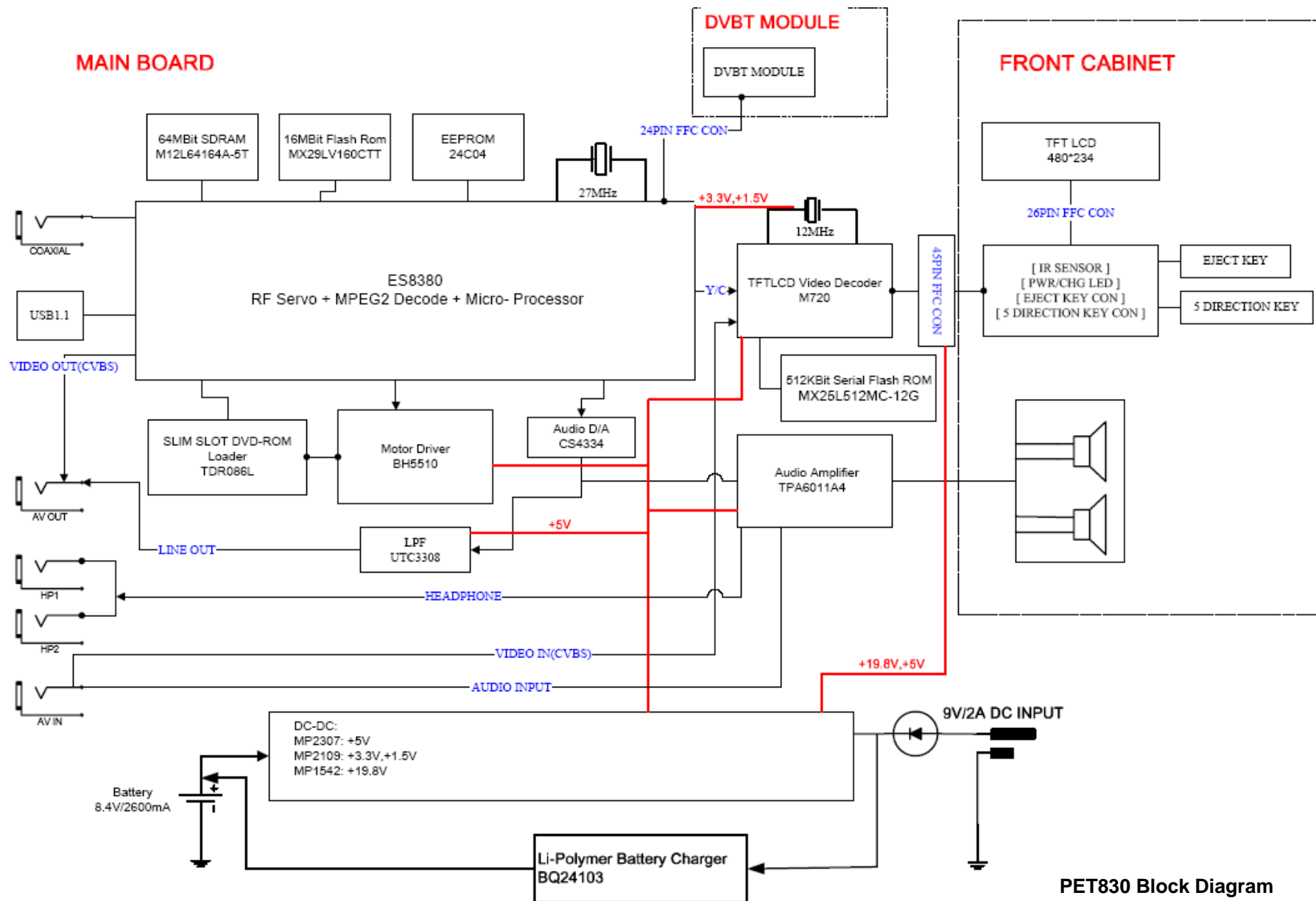


5.0 TROUBLESHOOTING

SYMPTOM: DVB-T FAILURE

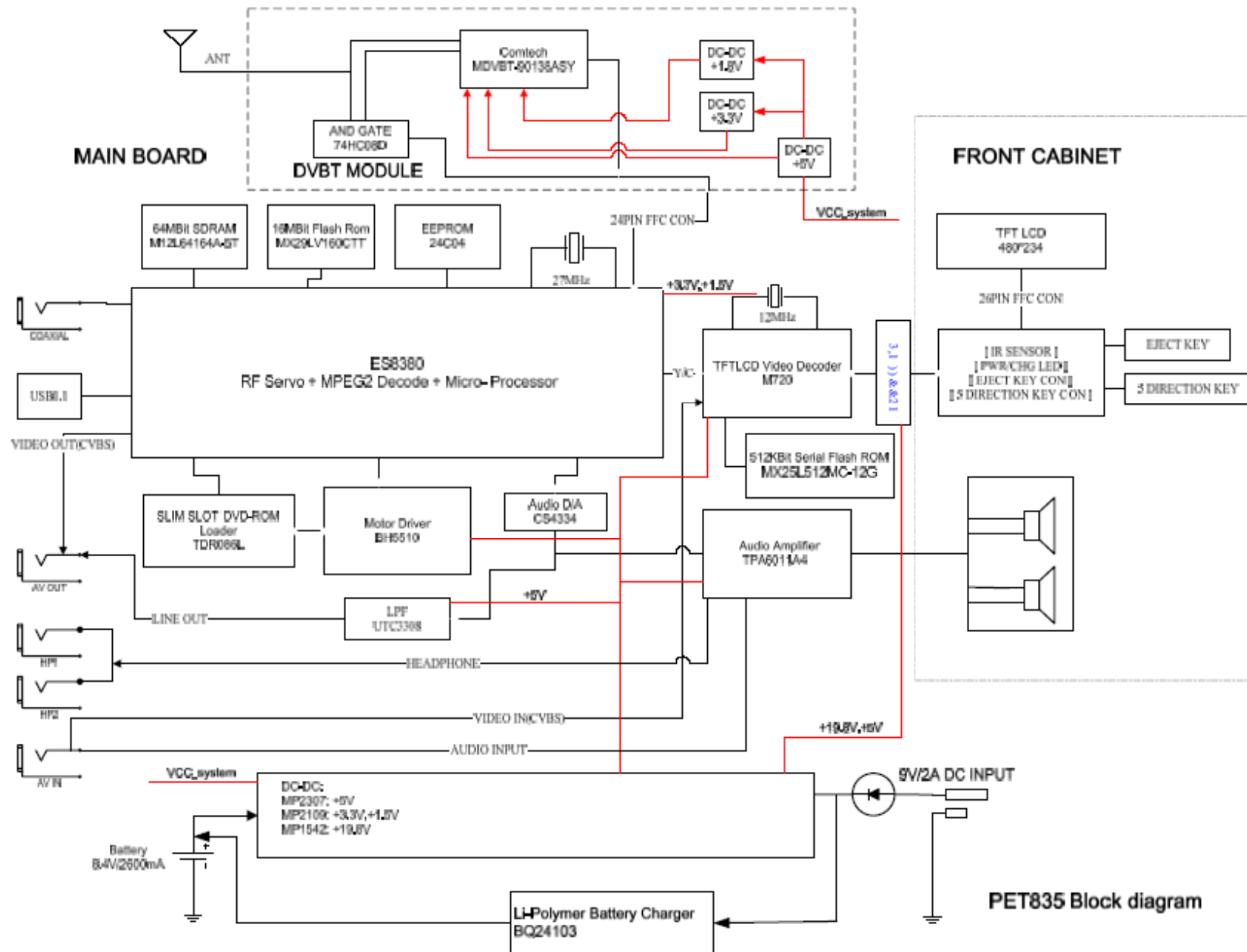


6.0 OVERALL BLOCK DIAGRAM



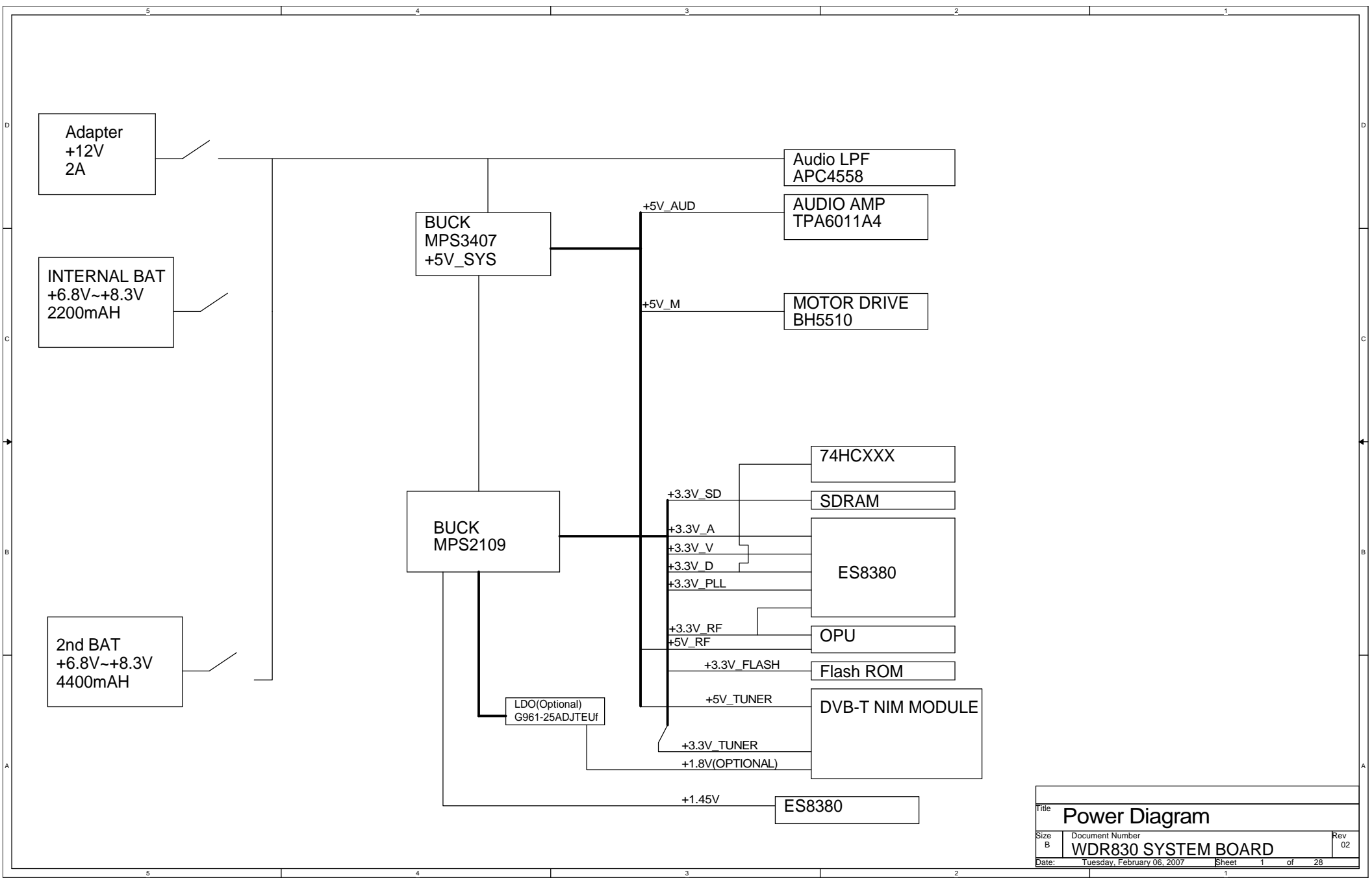
PET830 Block Diagram

6.0 OVERALL BLOCK DIAGRAM



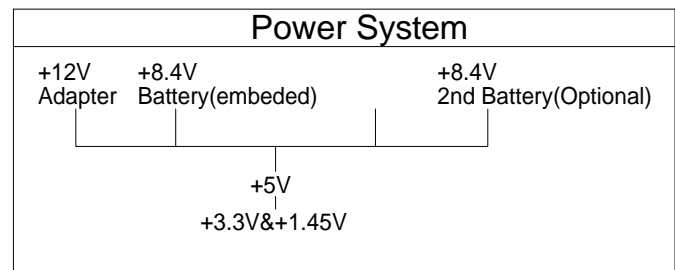
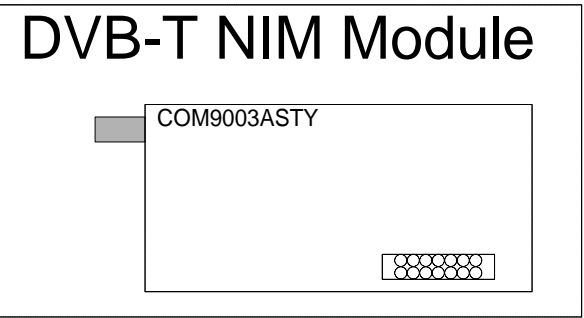
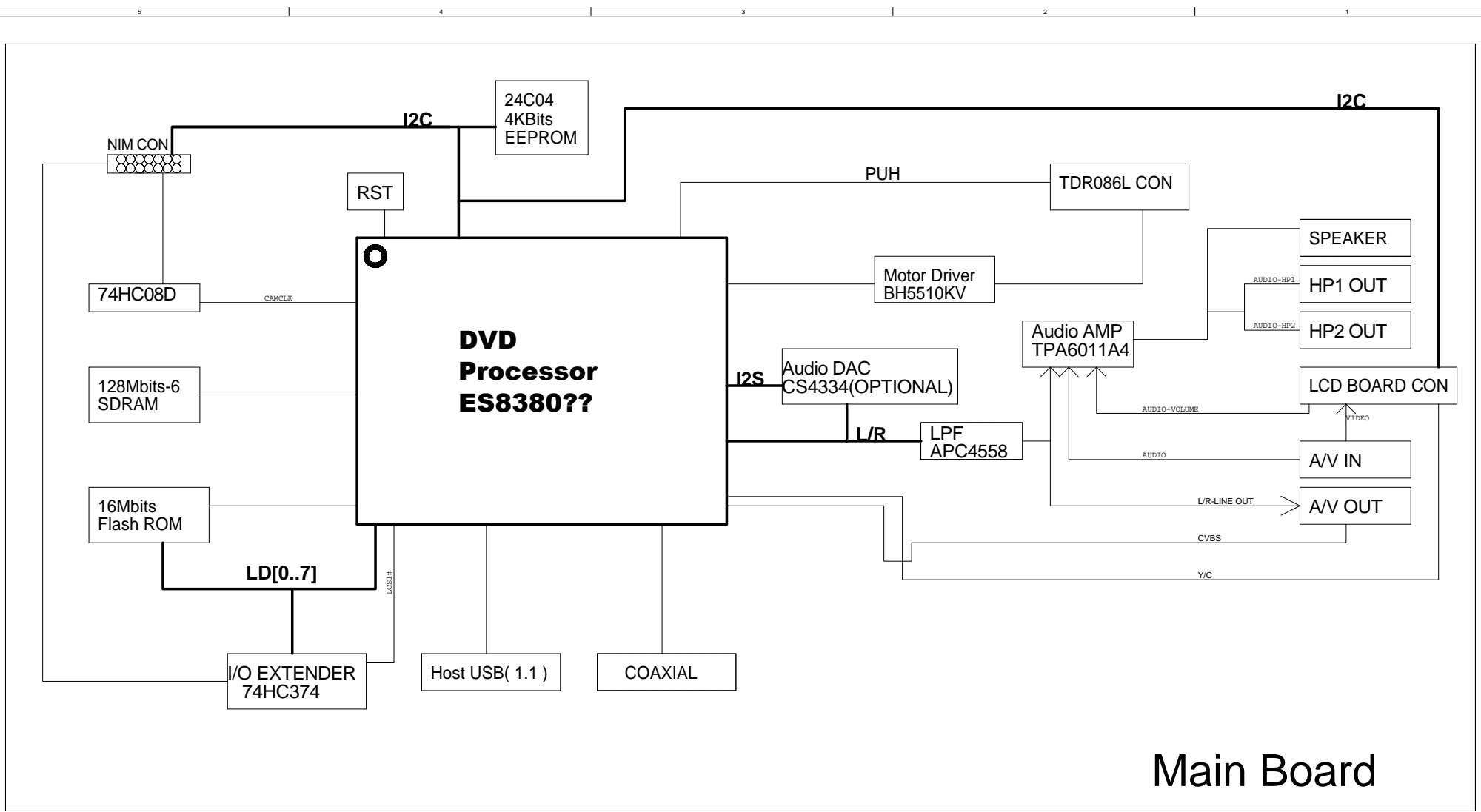
PET835 Block diagram

7.0 ELECTRICAL DIAGRAM



Title			Power Diagram		
Size	Document Number				Rev
B	WDR830 SYSTEM BOARD				02
Date:	Tuesday, February 06, 2007	Sheet	1	of	28

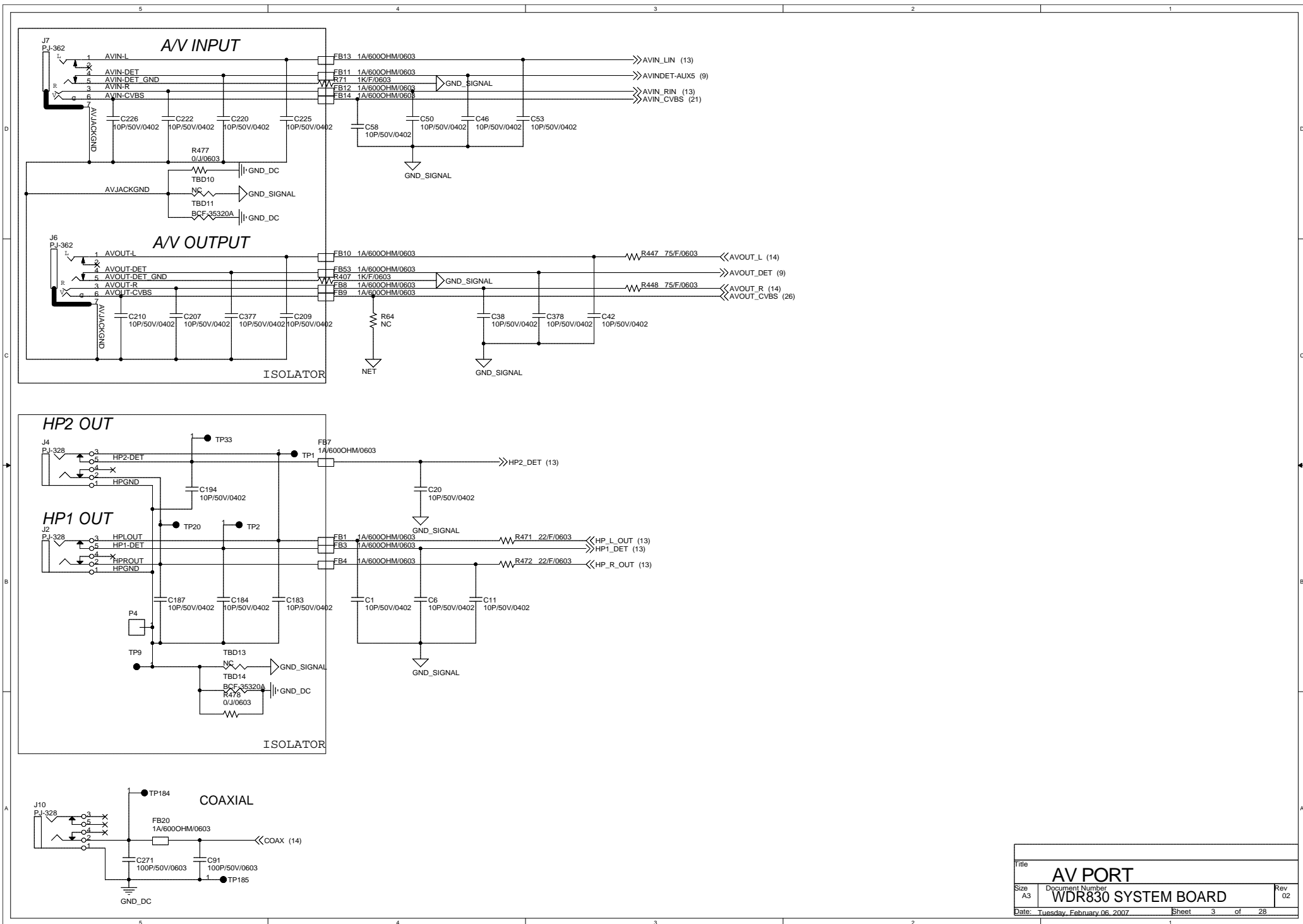
7.0 ELECTRICAL DIAGRAM



Main Board

Title			Block Diagram		
Size	Document Number				Rev
A3	WDR830 SYSTEM BOARD				02
Date:	Tuesday, February 06, 2007	Sheet	2	of	28

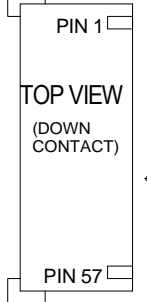
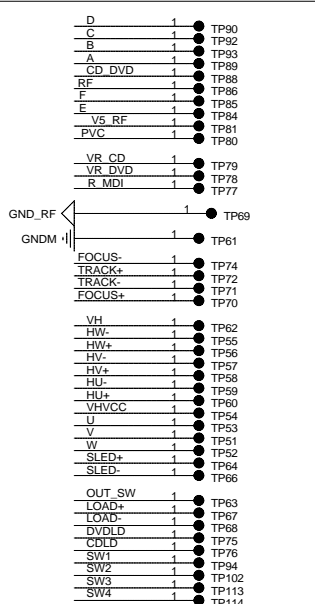
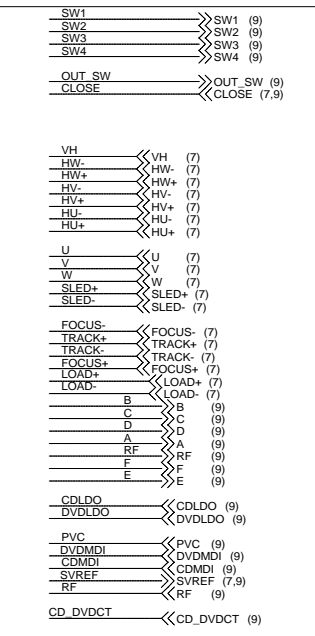
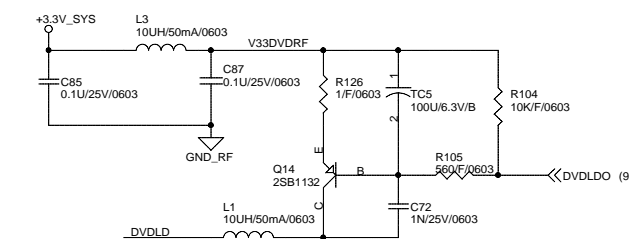
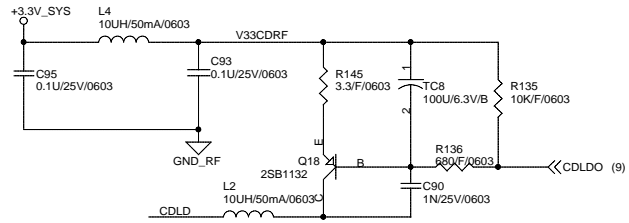
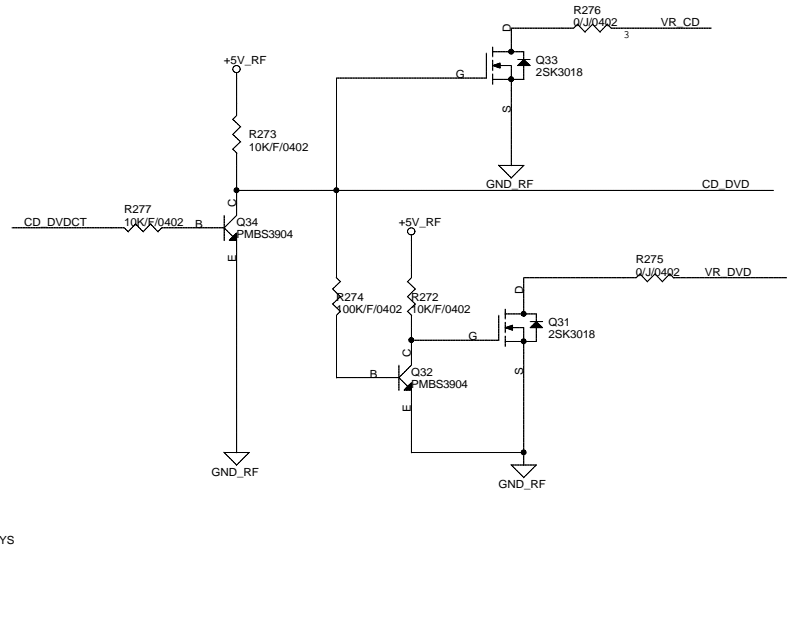
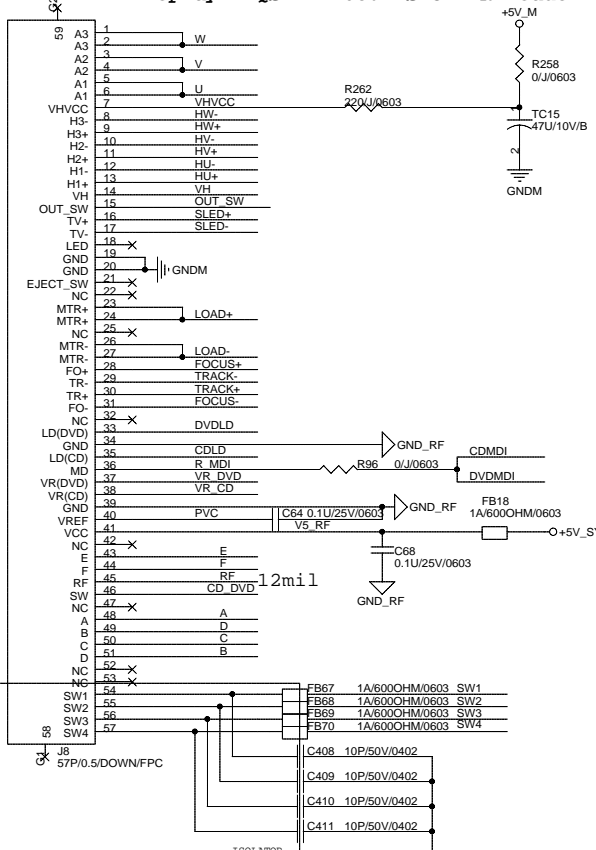
7.0 ELECTRICAL DIAGRAM



Title		
AV PORT		
Size	Document Number	Rev
A3	WDR830 SYSTEM BOARD	02
Date:	Tuesday, February 06, 2007	Sheet 3 of 28

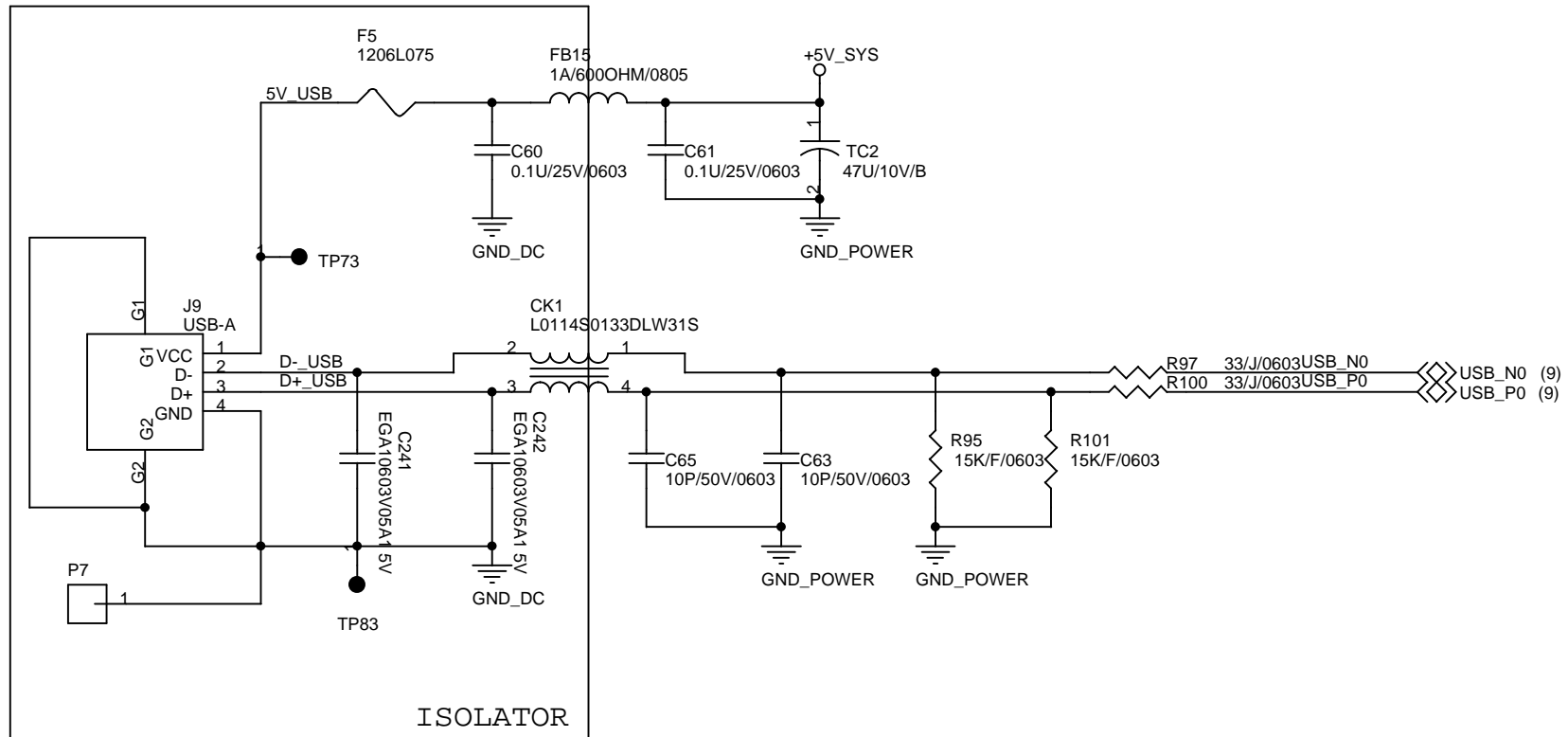
7.0 ELECTRICAL DIAGRAM

TopRay + QSI TDR086L SLOT-IN Loader



Title		
Connector of Loader		
Size	Document Number	Rev
A3	WDR830 SYSTEM BOARD	02
Date:	Tuesday, February 06, 2007	Sheet 4 of 28

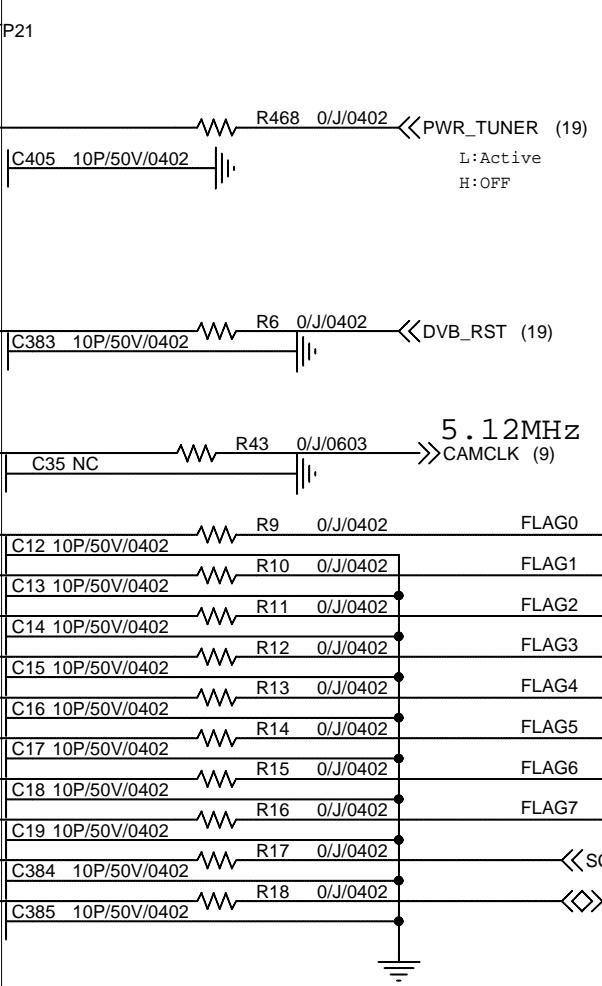
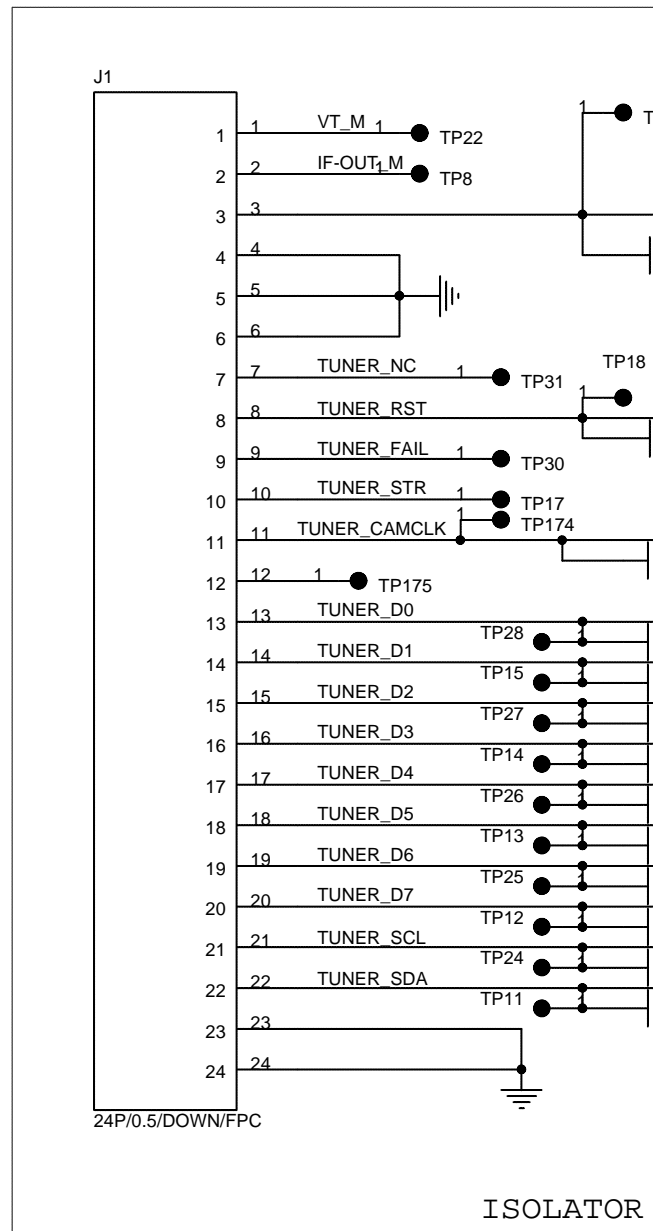
7.0 ELECTRICAL DIAGRAM



Title		
CON_USB		
Size	Document Number	Rev
A	WDR830 SYSTEM BOARD	02
Date:	Tuesday, February 06, 2007	Sheet 5 of 28

7.0 ELECTRICAL DIAGRAM

5 4 3 2 1

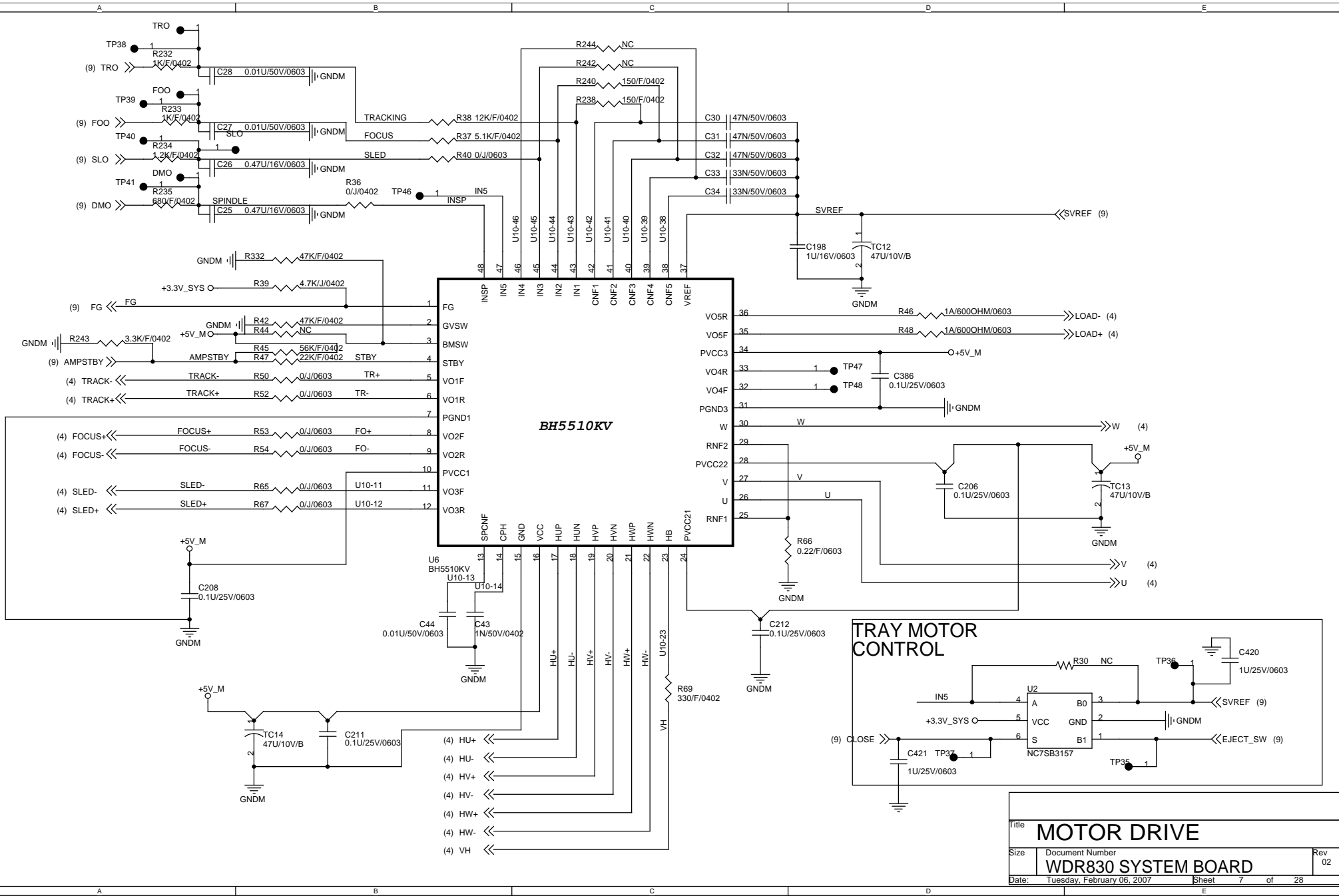


7xx~1.9MHz
FLAG[0..7] (9)

Title		
CON OF NIM Module		
Size	Document Number	Rev
A	WDR830 SYSTEM BOARD	02
Date:	Tuesday, February 06, 2007	Sheet 6 of 28

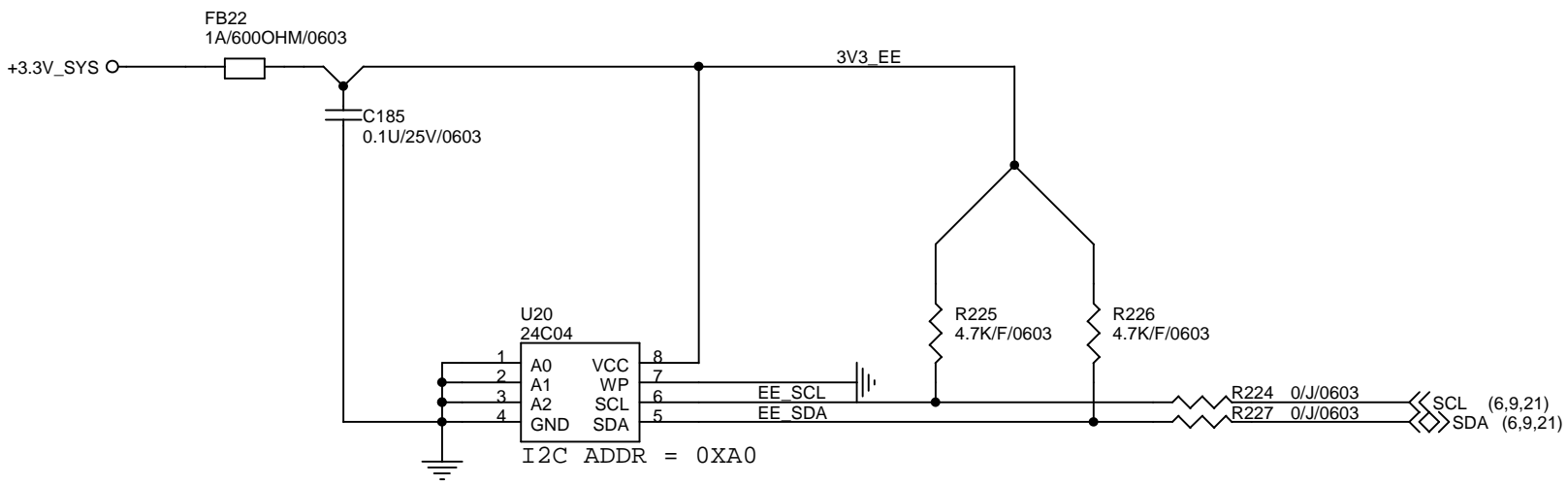
5 4 3 2 1

7.0 ELECTRICAL DIAGRAM



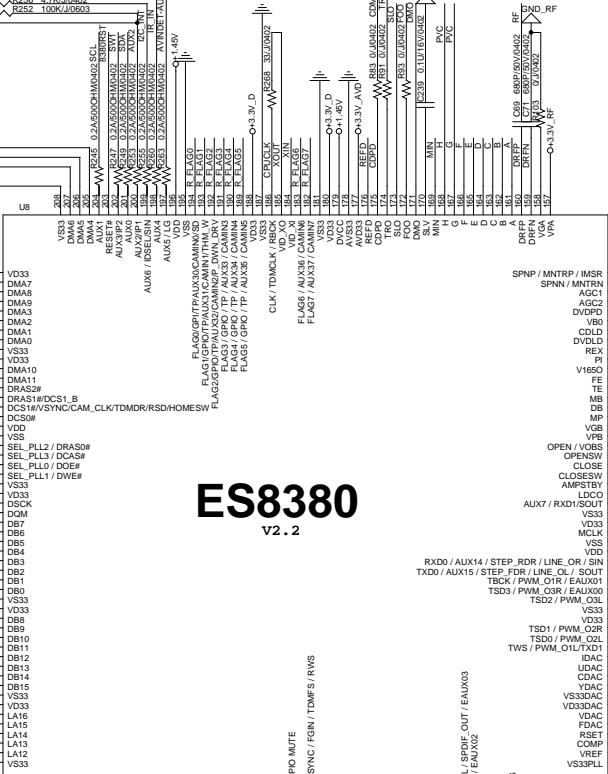
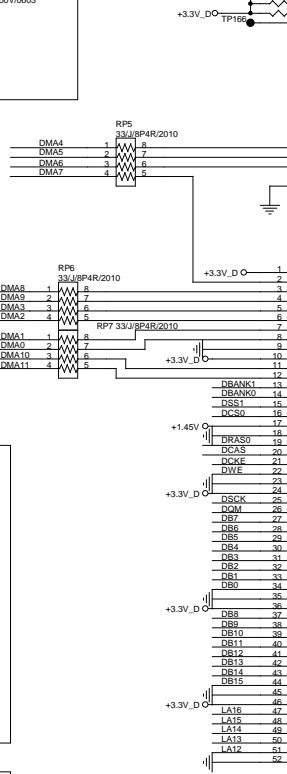
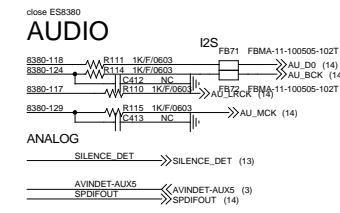
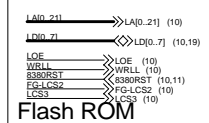
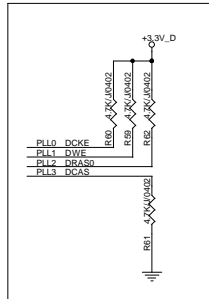
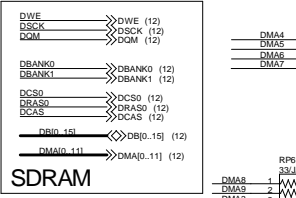
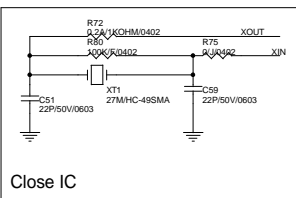
Title			MOTOR DRIVE		
Size	Document Number				Rev
	WDR830 SYSTEM BOARD				02
Date:	Tuesday, February 06, 2007	Sheet	7	of	28

7.0 ELECTRICAL DIAGRAM

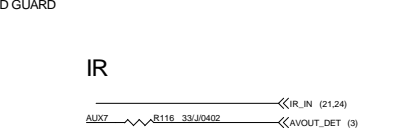
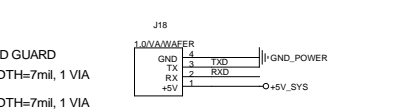
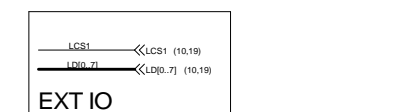
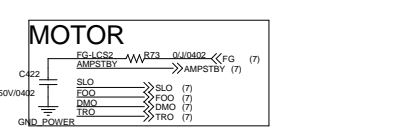
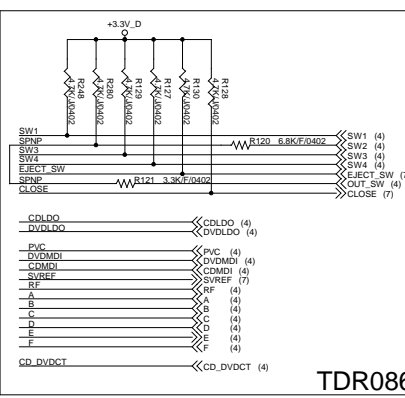
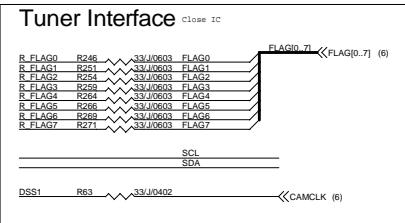
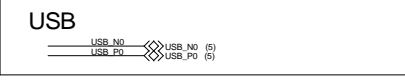
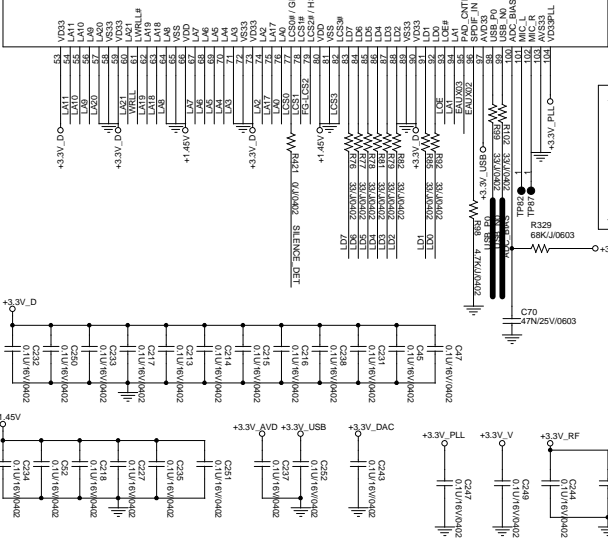


Title		
EEPROM		
Size	Document Number	Rev
A	WDR830 SYSTEM BOARD	02
Date:	Tuesday, February 06, 2007	Sheet 8 of 28

7.0 ELECTRICAL DIAGRAM



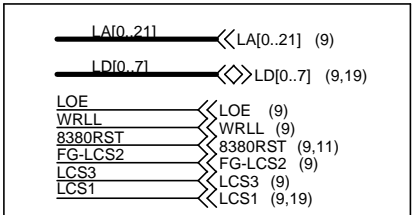
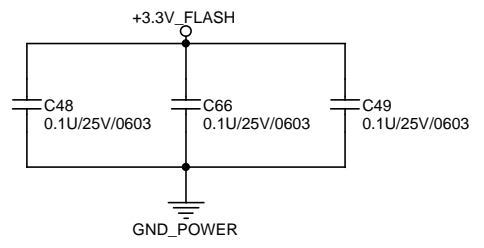
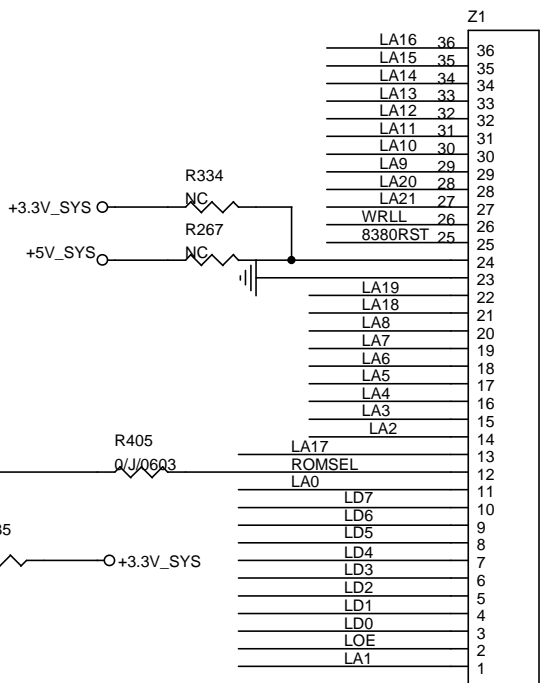
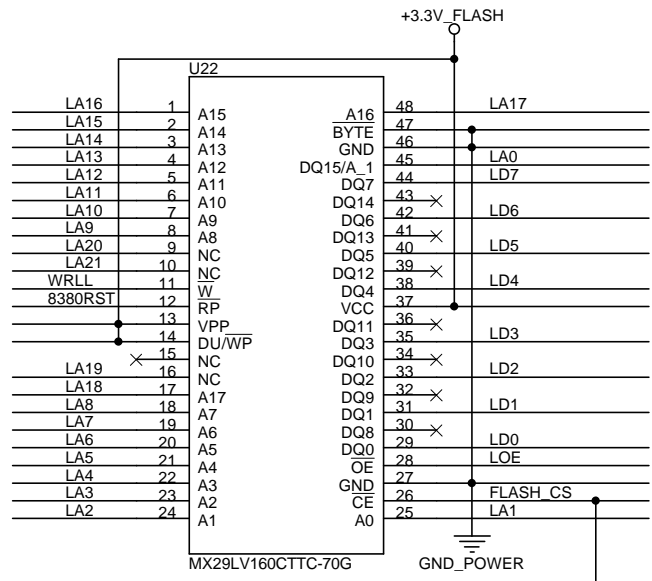
ES8380 V2.2



Title ES8380		
Size Document Number WDR830 SYSTEM BOARD	Rev 02	
Date Tuesday, February 28, 2007	Sheet 9	of 20

7.0 ELECTRICAL DIAGRAM

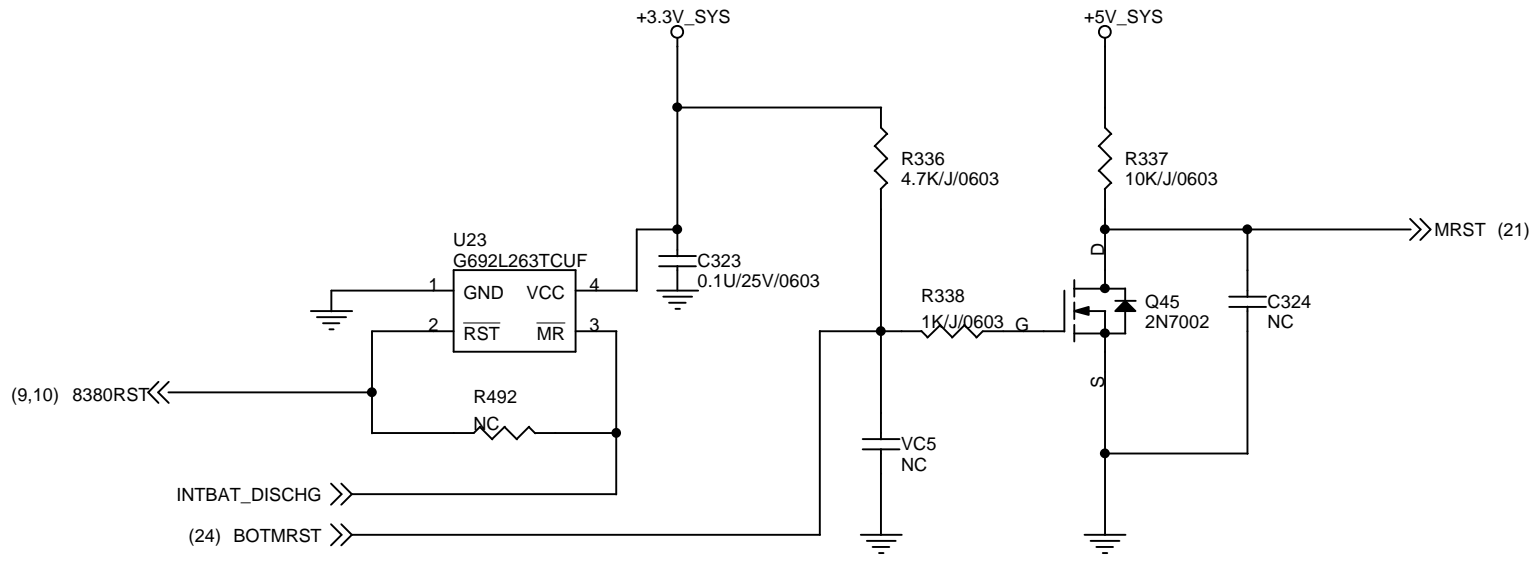
5 4 3 2 1



Title		
FLASH ROM		
Size A4	Document Number WDR830 SYSTEM BOARD	Rev 02
Date: Tuesday, February 06, 2007	Sheet 10	of 28

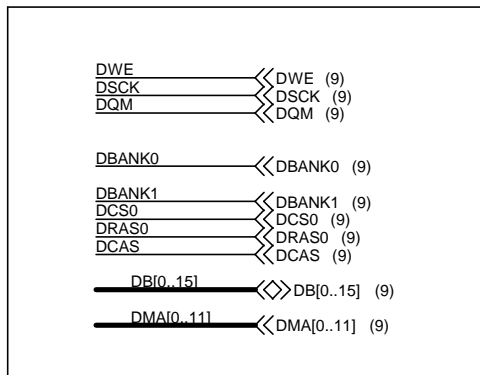
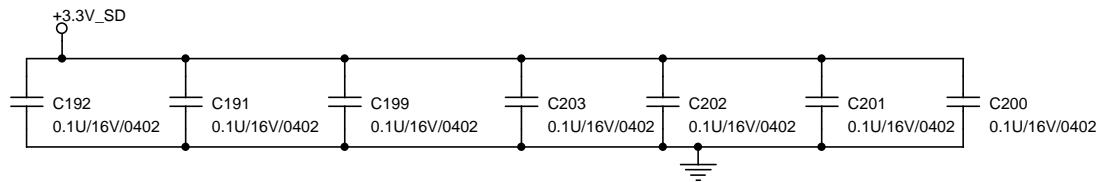
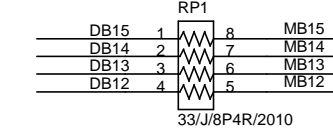
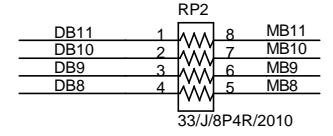
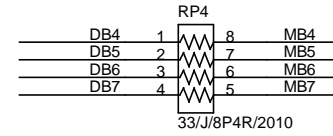
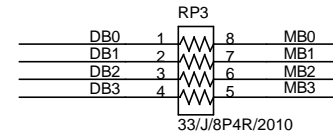
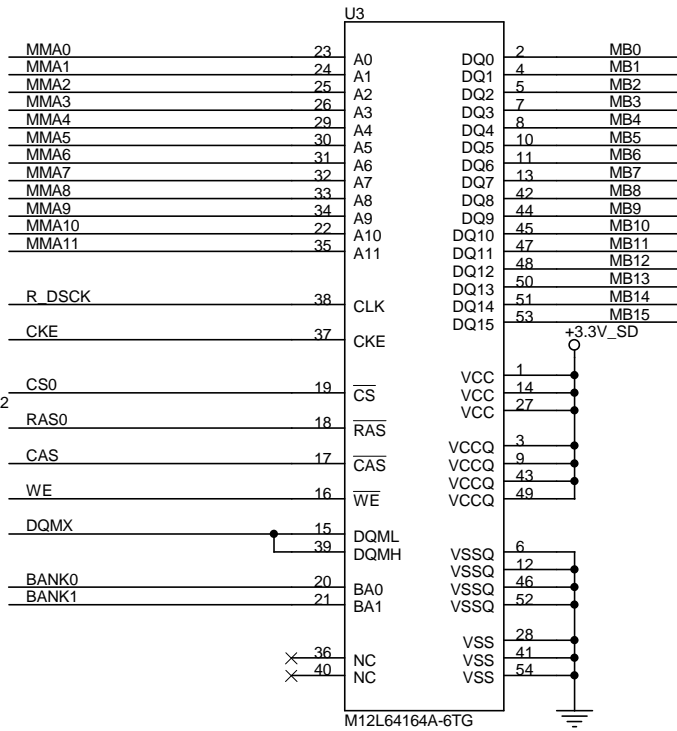
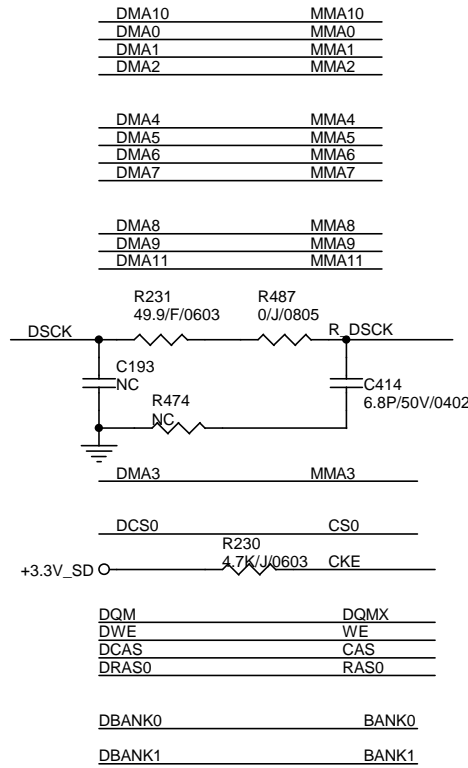
5 4 3 2 1

7.0 ELECTRICAL DIAGRAM



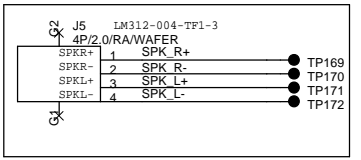
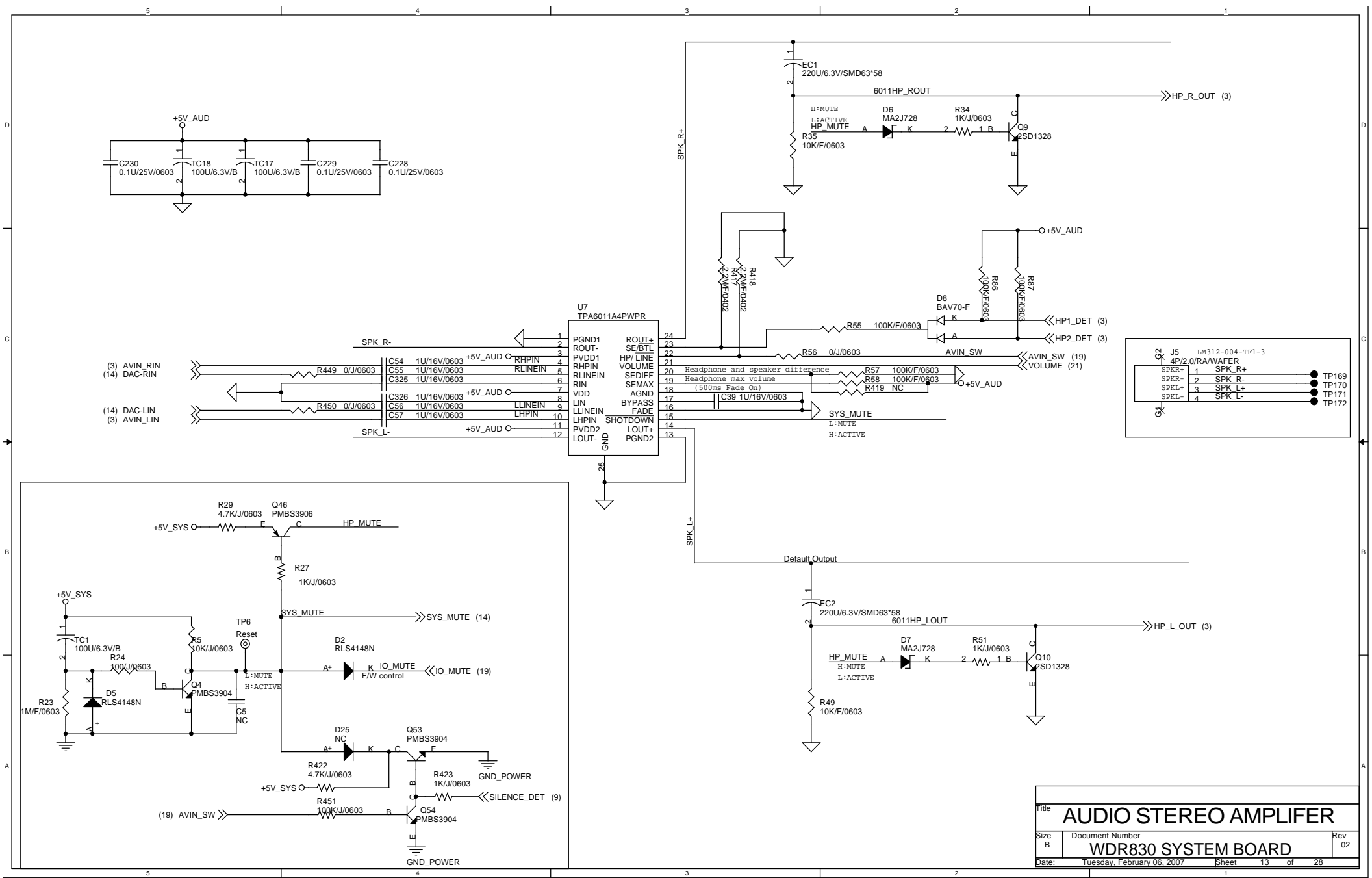
Title		
RESET		
Size	Document Number	Rev
A	WDR830 SYSTEM BOARD	02
Date:	Tuesday, February 06, 2007	Sheet 11 of 28

7.0 ELECTRICAL DIAGRAM



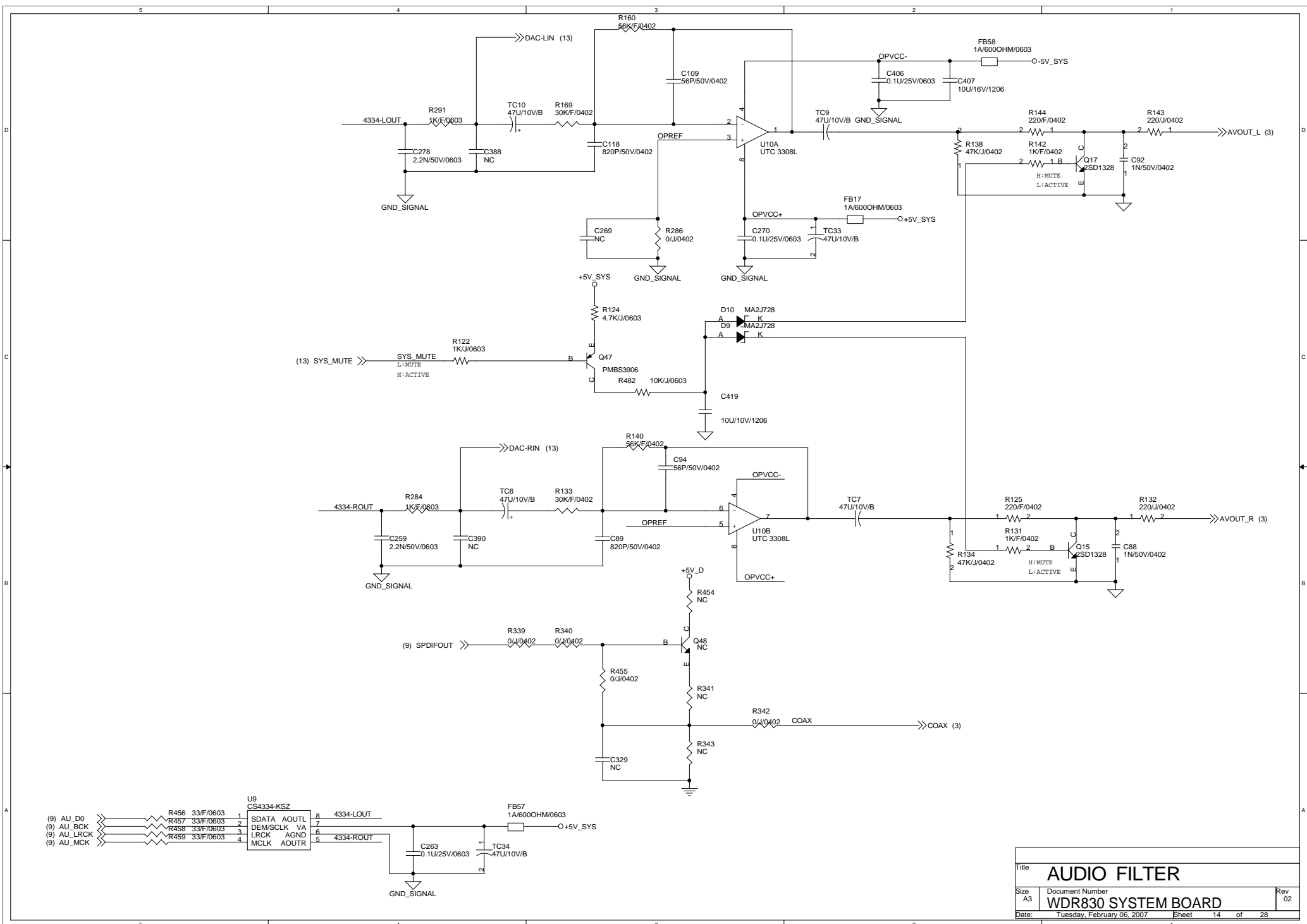
Title		
SDRAM		
Size	Document Number	Rev
A4	WDR830 SYSTEM BOARD	02
Date:	Tuesday, February 06, 2007	Sheet 12 of 28

7.0 ELECTRICAL DIAGRAM



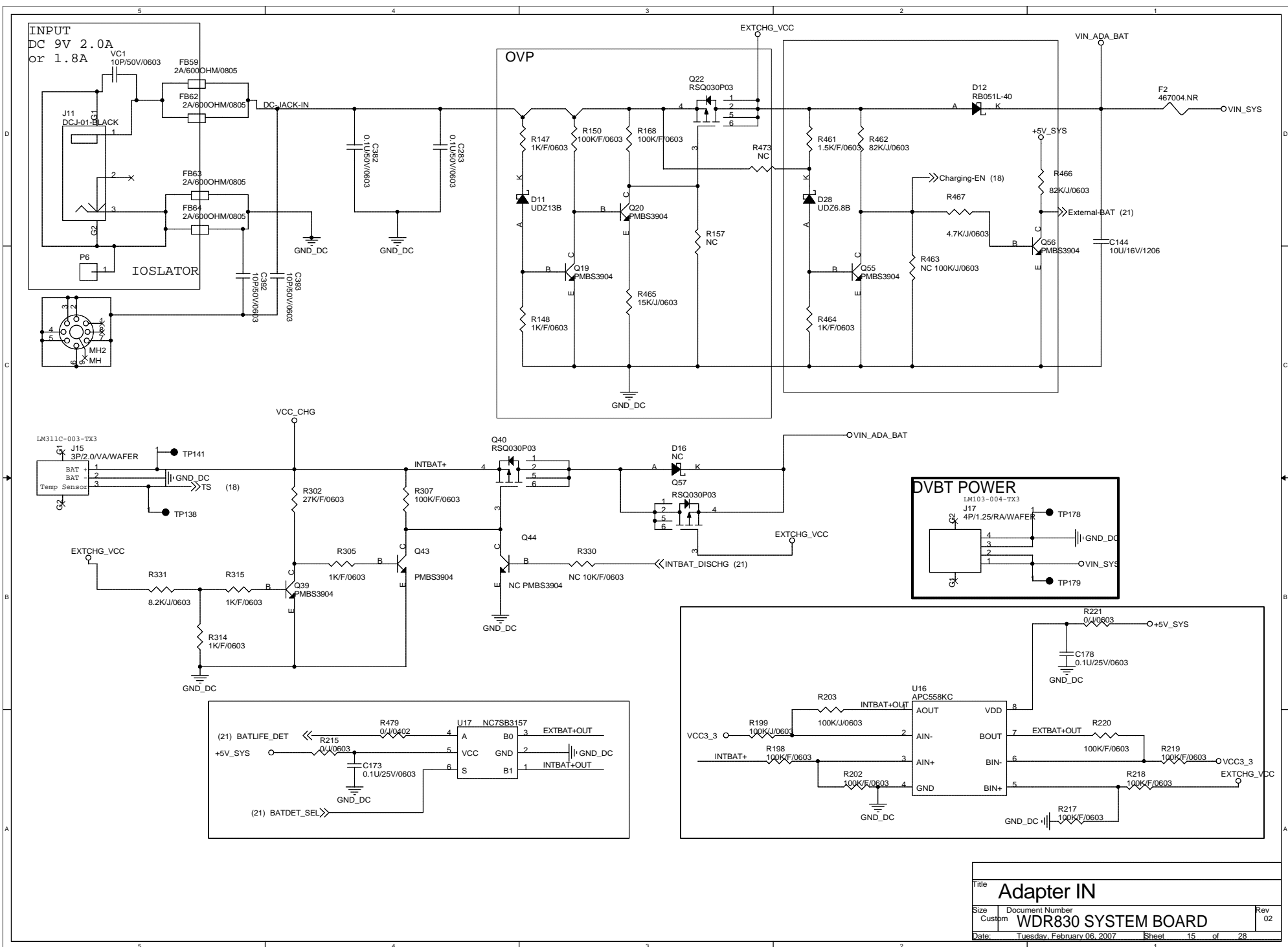
Title			AUDIO STEREO AMPLIFIER		
Size	Document Number		Rev		02
B	WDR830 SYSTEM BOARD				
Date:	Tuesday, February 06, 2007	Sheet	13	of	28

7.0 ELECTRICAL DIAGRAM



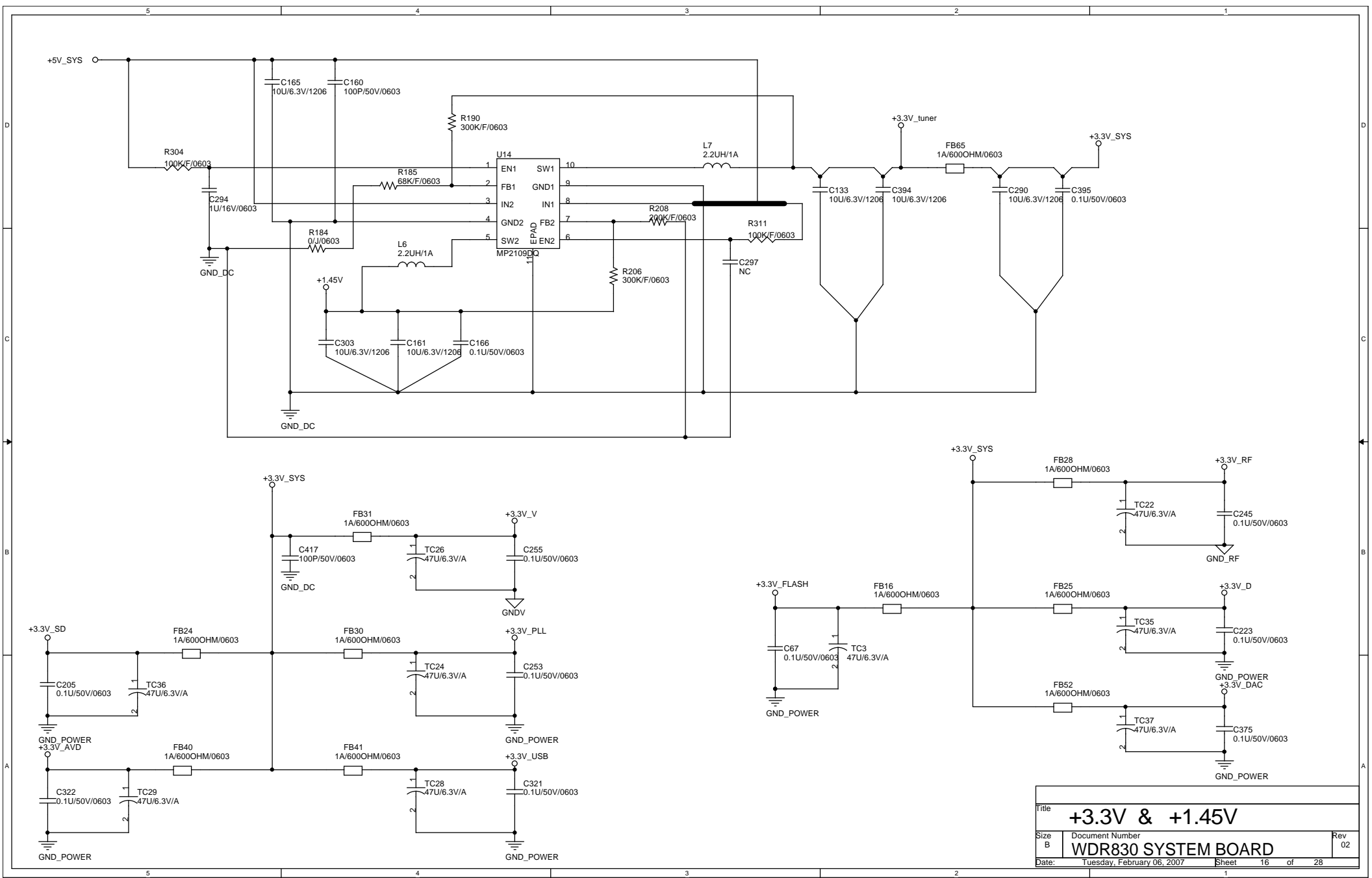
Title		
AUDIO FILTER		
Size	Document Number	Rev
A3	WDR830 SYSTEM BOARD	02
Date:	Tuesday, February 06, 2007	Sheet 14 of 28

7.0 ELECTRICAL DIAGRAM



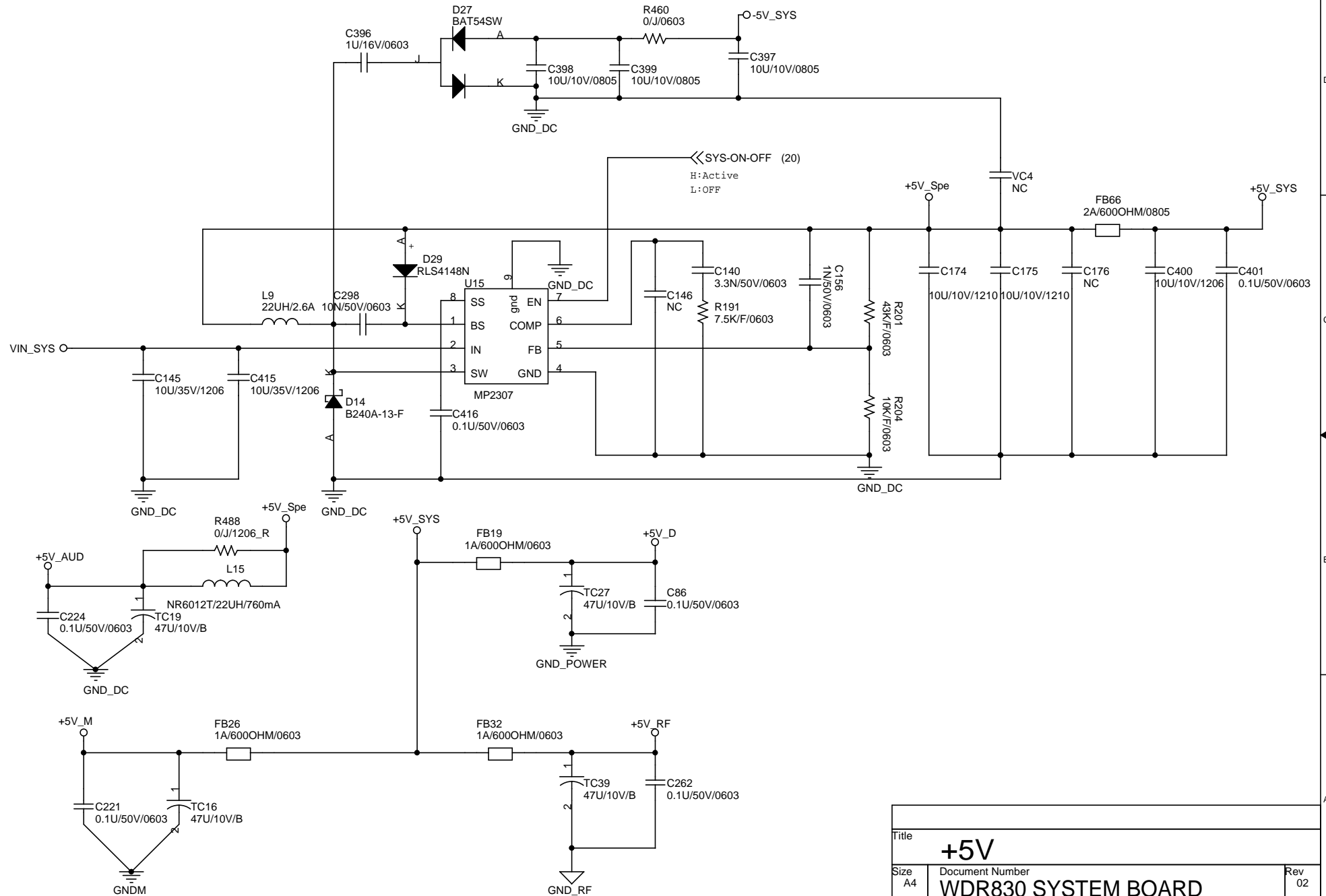
Title			Adapter IN		
Size	Document Number				Rev
Custom	WDR830 SYSTEM BOARD			02	
Date:	Tuesday, February 06, 2007	Sheet	15	of	28

7.0 ELECTRICAL DIAGRAM



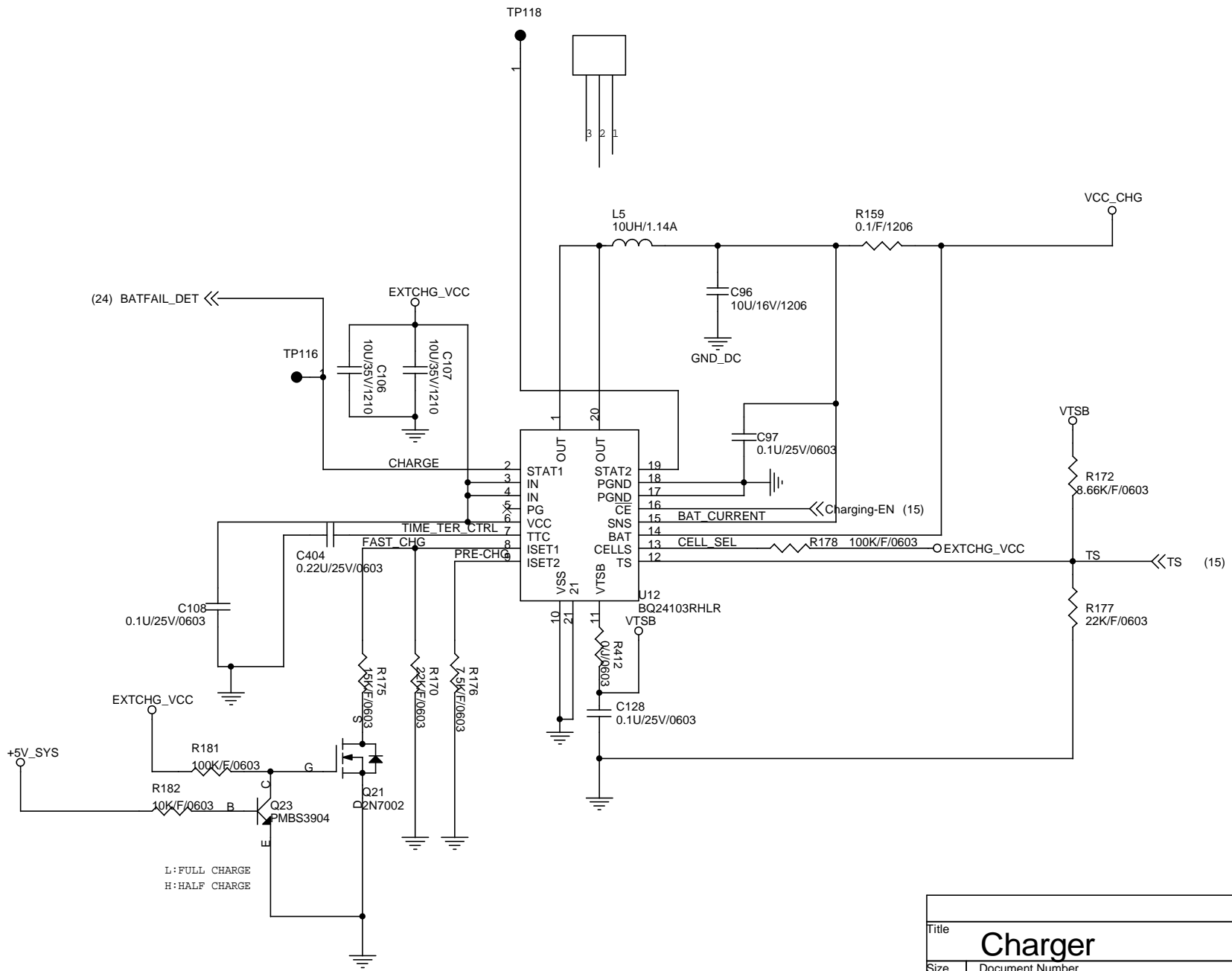
Title		
+3.3V & +1.45V		
Size	Document Number	Rev
B	WDR830 SYSTEM BOARD	02
Date:	Tuesday, February 06, 2007	Sheet 16 of 28

7.0 ELECTRICAL DIAGRAM



Title		
+5V		
Size	Document Number	Rev
A4	WDR830 SYSTEM BOARD	02
Date:	Tuesday, February 06, 2007	Sheet 17 of 28

7.0 ELECTRICAL DIAGRAM



L: FULL CHARGE
H: HALF CHARGE

Title		
Charger		
Size	Document Number	Rev
A4	WDR830 SYSTEM BOARD	02
Date:	Tuesday, February 06, 2007	Sheet 18 of 28

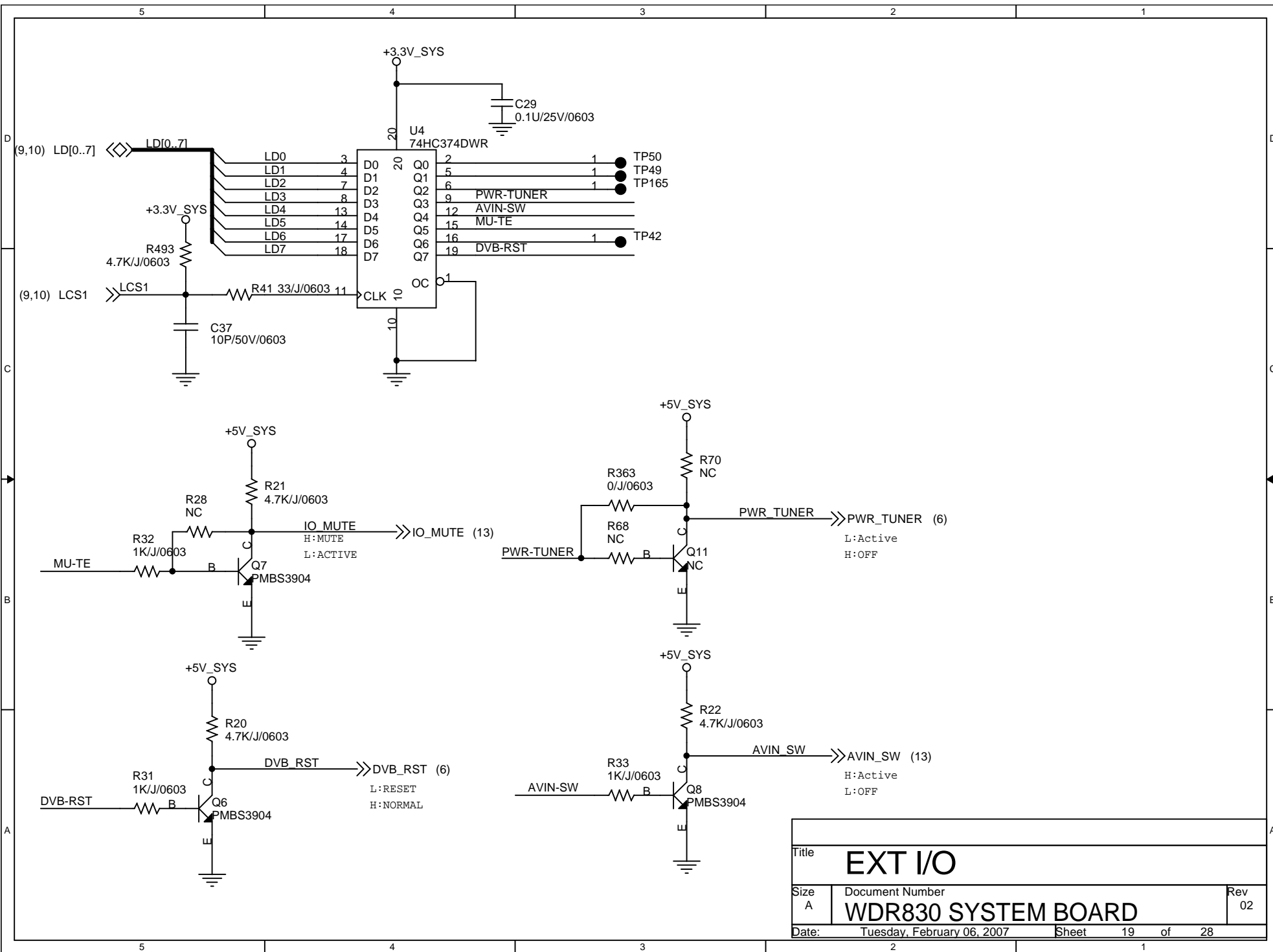
D
C
B
A

D
C
B
A

5 4 3 2 1

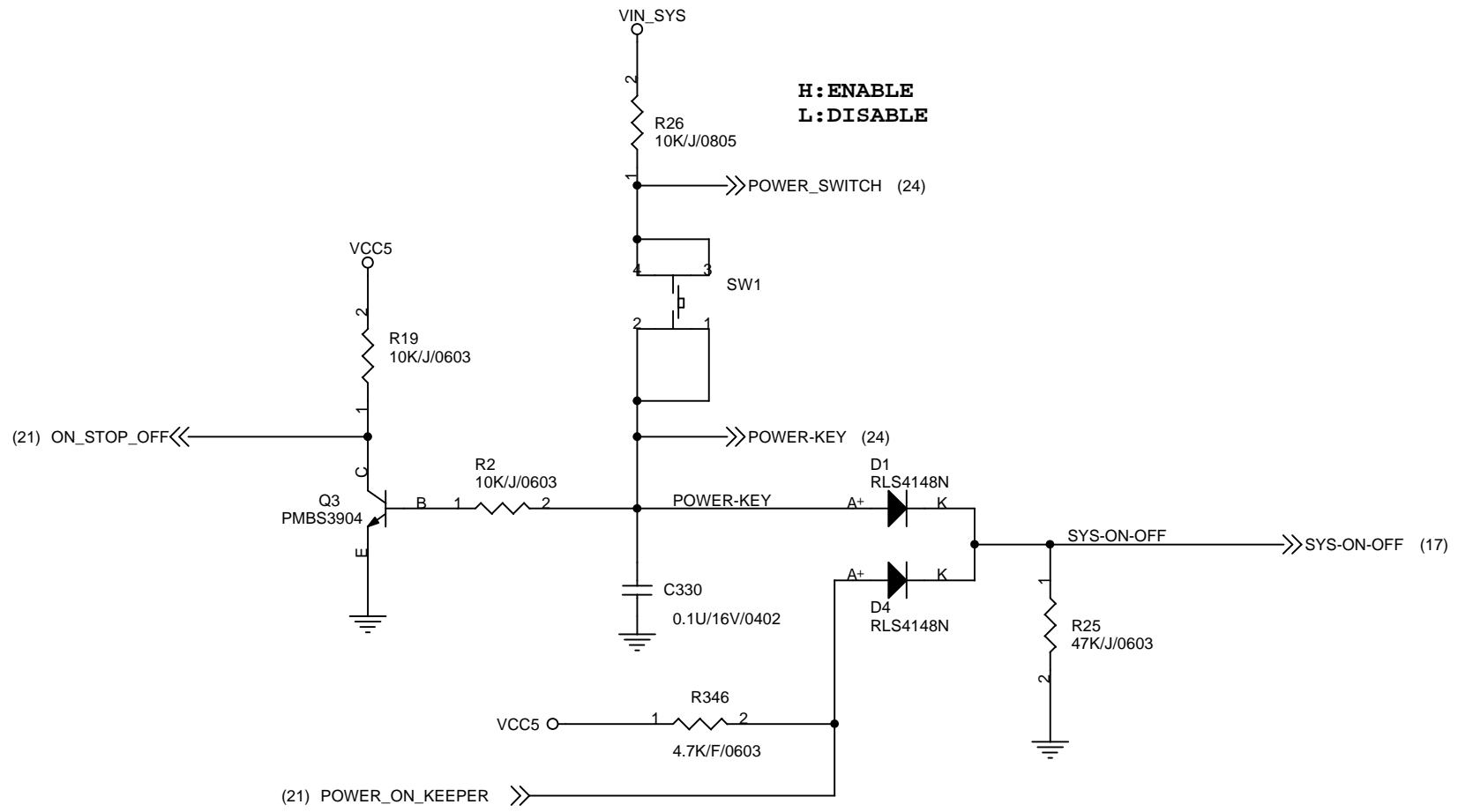
5 4 3 2 1

7.0 ELECTRICAL DIAGRAM



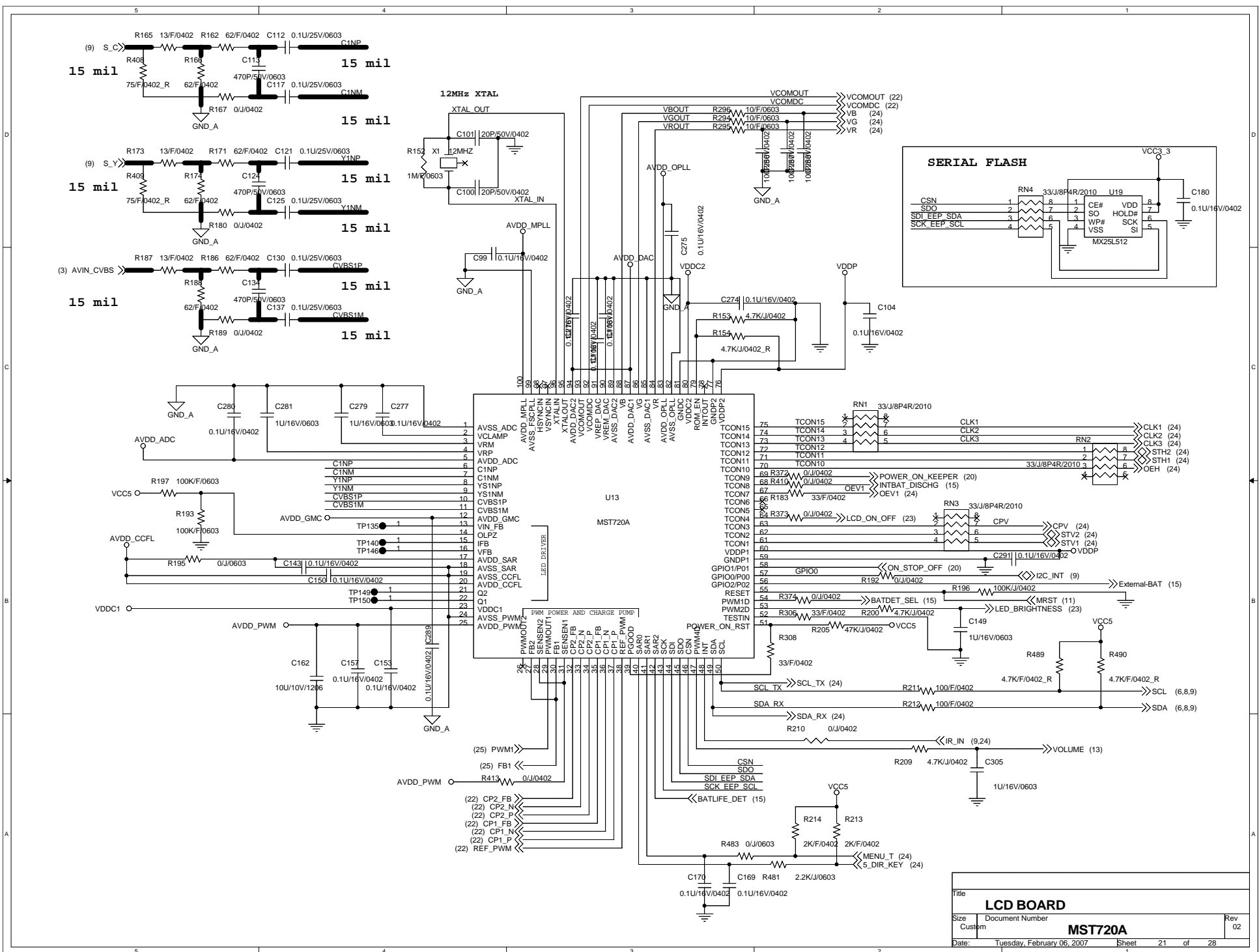
Title		
EXT I/O		
Size	Document Number	Rev
A	WDR830 SYSTEM BOARD	02
Date:	Tuesday, February 06, 2007	Sheet 19 of 28

7.0 ELECTRICAL DIAGRAM



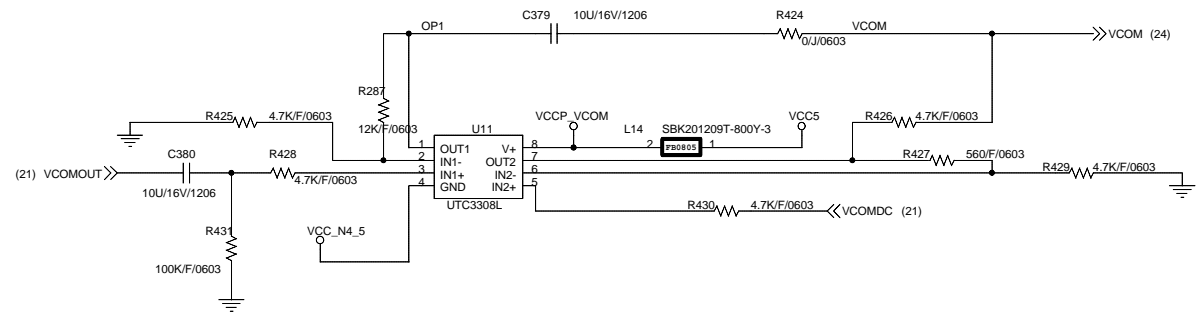
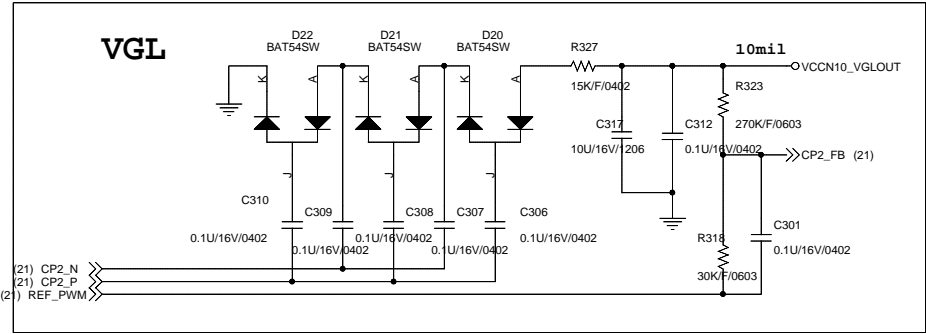
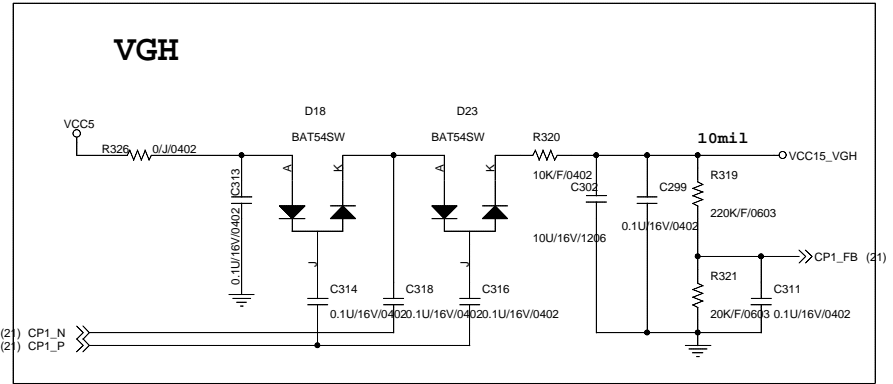
Title		
POWER ON/OFF SWITCH		
Size	Document Number	Rev
A	WDR830 SYSTEM BOARD	02
Date:	Tuesday, February 06, 2007	Sheet 20 of 28

7.0 ELECTRICAL DIAGRAM



Title		
LCD BOARD		
Size	Document Number	Rev
Custom	MST720A	02
Date:	Tuesday, February 06, 2007	21 of 28

7.0 ELECTRICAL DIAGRAM

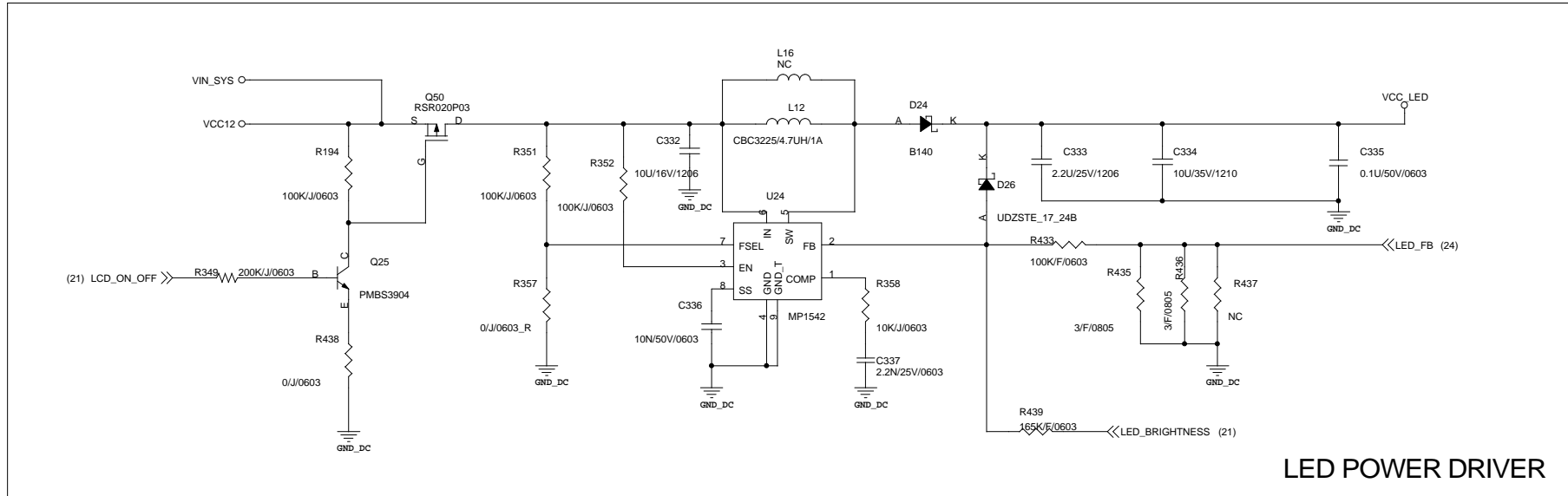


Title		
LCD BOARD		
Size	Document Number	Rev
Custom	VGL,VGH,VCOM	02
Date:	Tuesday, February 06, 2007	Sheet 22 of 28

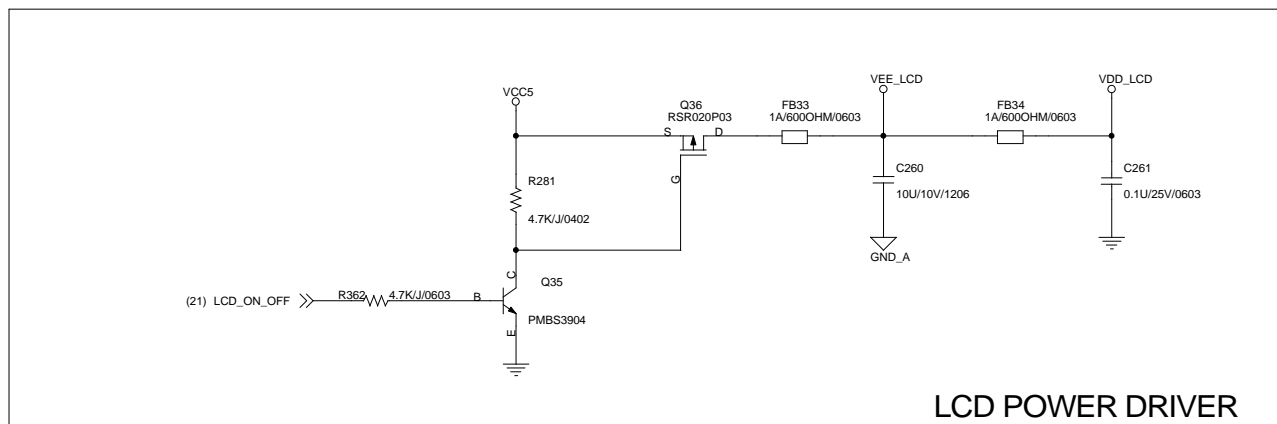
7.0 ELECTRICAL DIAGRAM

20V, 100mA LED Backlight

$$I_{out} = V_{brt} / (3 \times R128)$$



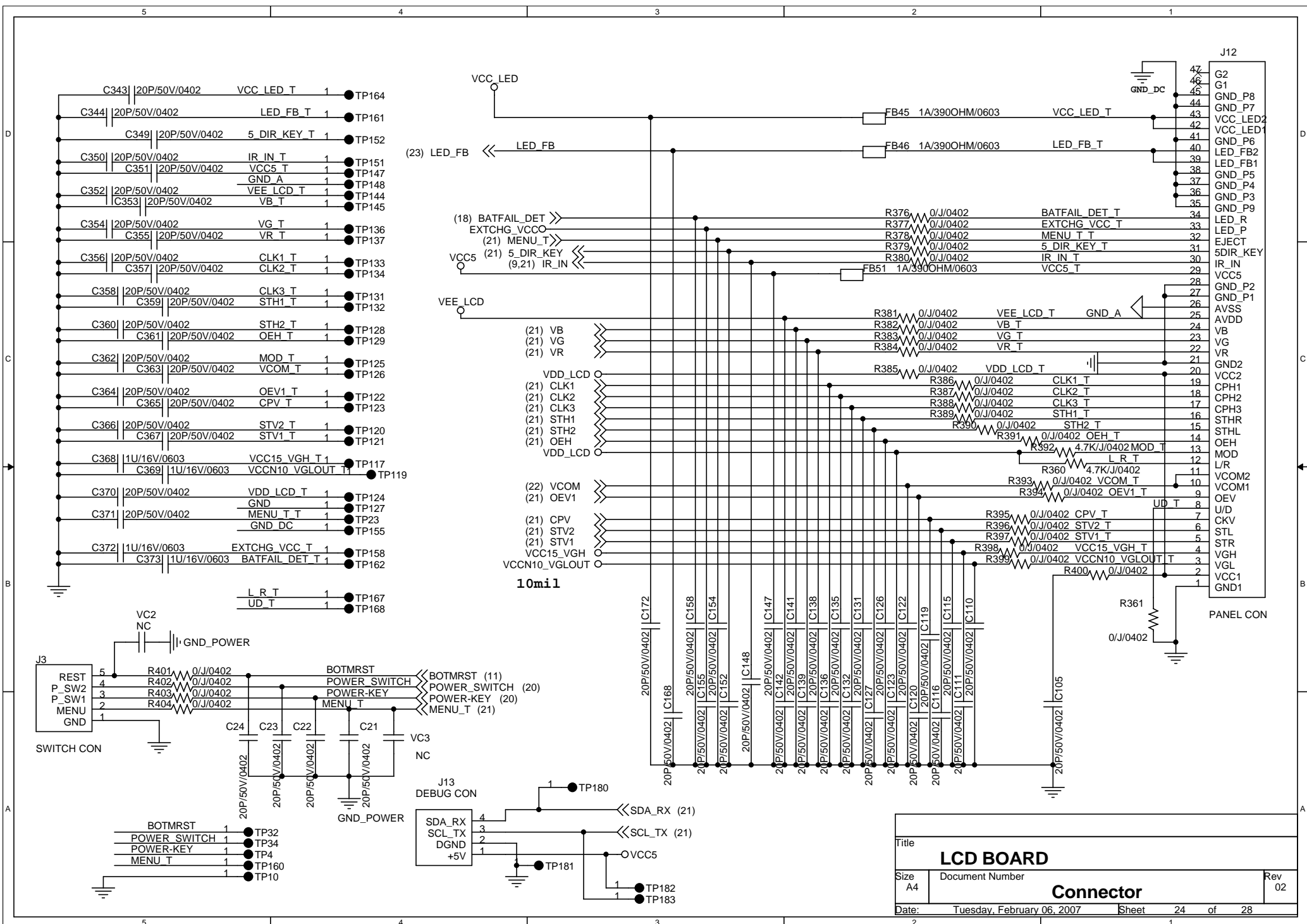
LED POWER DRIVER



LCD POWER DRIVER

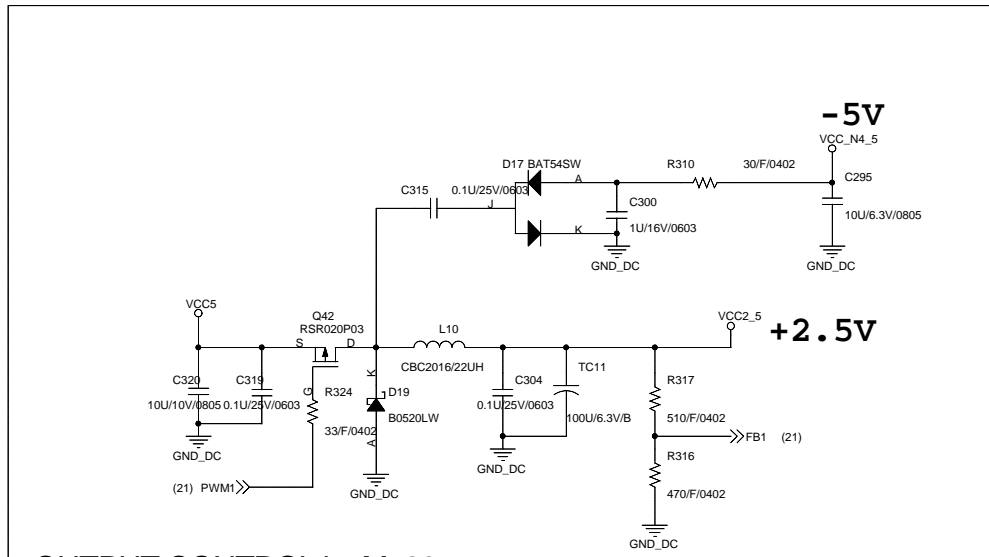
Title			LCD&LED POWER DRIVER		
Size	Document Number	Rev			
Custom	WDR830 SYSTEM BOARD	02			
Date:	Tuesday, February 06, 2007	Sheet	23	of	28

7.0 ELECTRICAL DIAGRAM

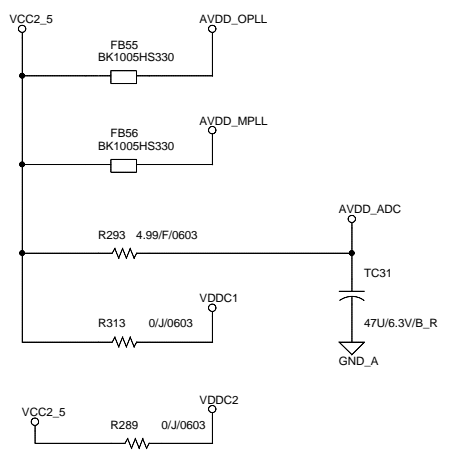
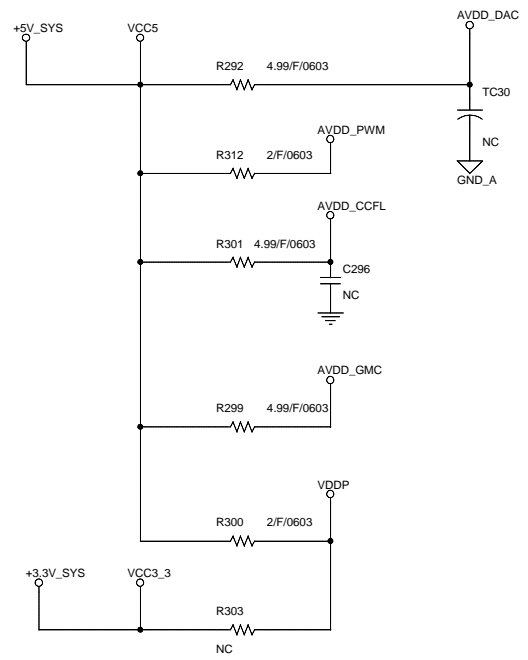


Title		
LCD BOARD		
Size	Document Number	Rev
A4	Connector	02
Date:	Tuesday, February 06, 2007	Sheet 24 of 28

7.0 ELECTRICAL DIAGRAM

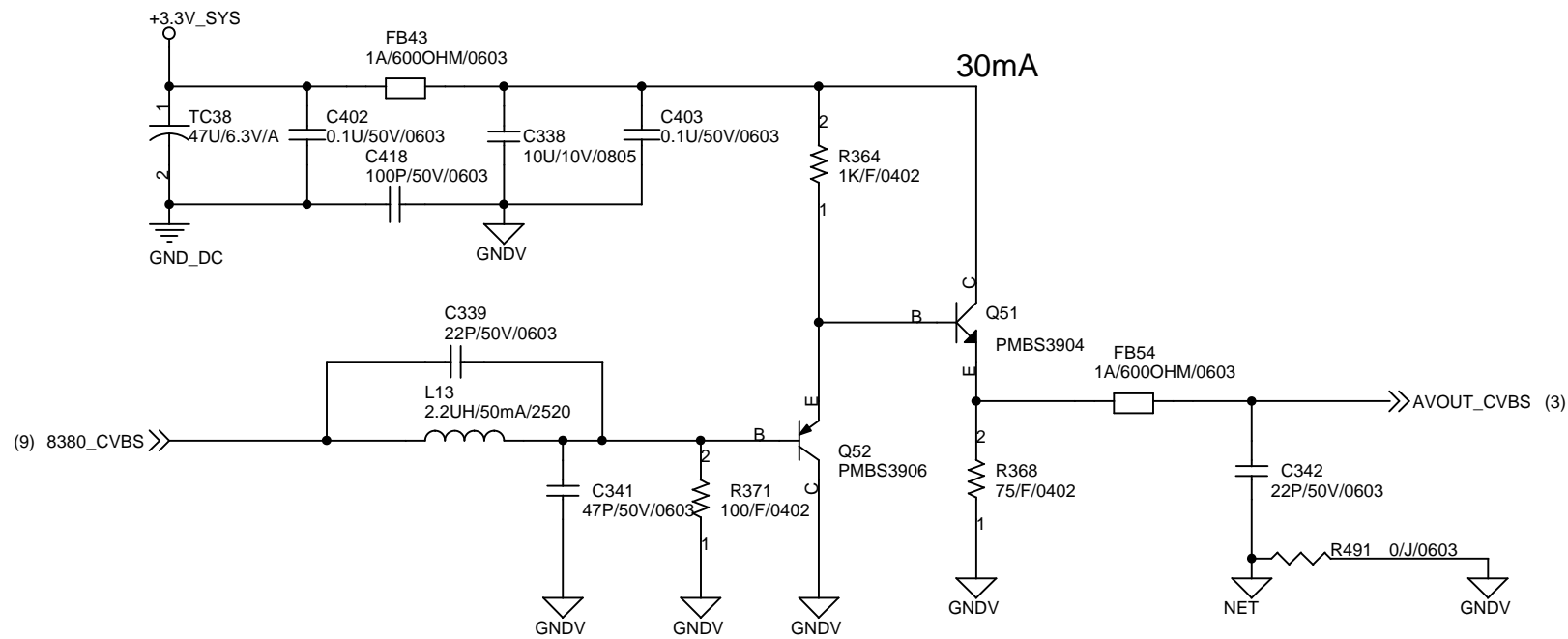


OUTPUT CONTROL by M720



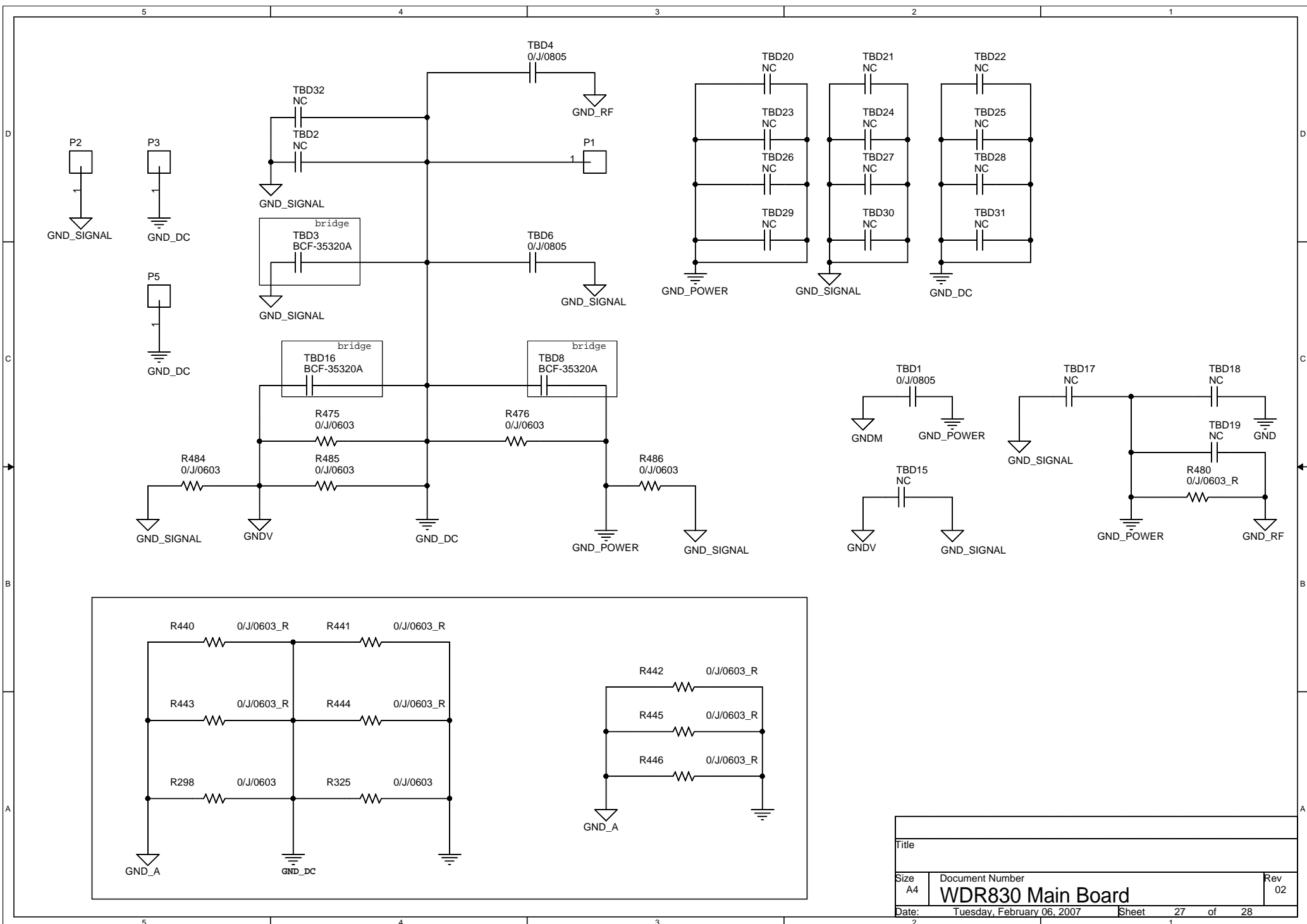
Title			
M720 POWER			
Size	Document Number	Rev	
Custom	Power	02	
Date:	Tuesday, February 06, 2007	Sheet	25 of 28

7.0 ELECTRICAL DIAGRAM



Title		
Video buffer		
Size	Document Number	Rev
A		02
Date:	Tuesday, February 06, 2007	Sheet 26 of 28

7.0 ELECTRICAL DIAGRAM



Title		
Size A4	Document Number WDR830 Main Board	Rev 02
Date: Tuesday, February 06, 2007	Sheet 27	of 28

7.0 ELECTRICAL DIAGRAM

System Configuration

CHIP	FUNCTION
ES8380FCA	Single chip processor that handles all system control, DVD decoding and servo control.
128MBit SDRAM	Data storage and frame buffer using 1 pc of 4Mx16 SDRAM
16Mbit EPROM/FLASH	Program storage using 16Mbit Flash
24C04 SERIAL EE	System setup configuration storage

LCSx#	FUNCTION
LCS0#	NC
LCS1#	I/O expand
LCS2#	FLASH/MOTOR DRIVE (FG CONTROL)
LCS3#	ROM/FLASH

AUXx	FUNCTION
AUX0	I2C DATA
AUX1	I2C CLOCK
AUX2	DC PWR PLUG DET
AUX3	TDR086L LIMIT SWITCH
AUX4	IR
AUX5	AVIN CABLE PLUG DET
AUX6	I2C INTERRUPT
AUX7	SPARE

Revision History

Ver-A

Prototype design.

Rev-B

- 1.Change AVIN cable plug detect by software
- 2.Add coaxial digital output
- 3.Del D1,D2,D3,D4, connect net (LOAD+&LOAD-)
- 4.Change docking and int/ext BAT connector package, battery life detect by M720, add subtraction for battery life detect
- 5.Change NIM module connector package
- 6.Change motor drive FG to +3.3V
- 7.Change EEPROM pull high to +3.3V
- 8.Change ES8380 AUX function,
- 9.Change romter connector package to FPC 36 pin
10. Connect RESET to M720, H/W reset button
11. Del input R,C filter of TPA6011A4, modify power on mute, add headphone mute circuit
12. Add coaxial digital audio output buffer
- 13.Change +1.45V,+3.3V power solution
- 14.Add extend I/O output +3.3V->5V buffer
15. seperate ground to motor ,pickup(RF)

Rev-C

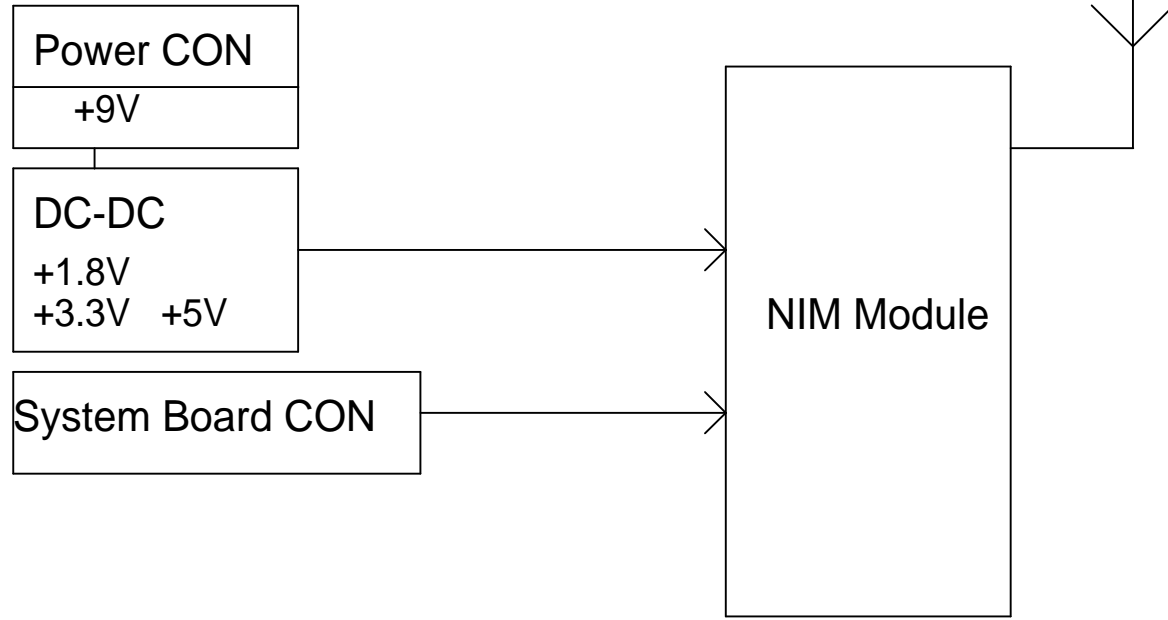
- 1.Add R329
- 2.Change NET NAME(ESS8380-97->+3.3V_USB, ESS8380-177->+3.3V_AVD
- 3.Add FB40,FB41,C321,C322,TC28,TC29

Rev-F

- 1.change footprint for assembly
J5->LM312004TF13
J15->LM311C003TX3
J17->LM103004TX3
2. Change U15->MP2307 for power supply large current

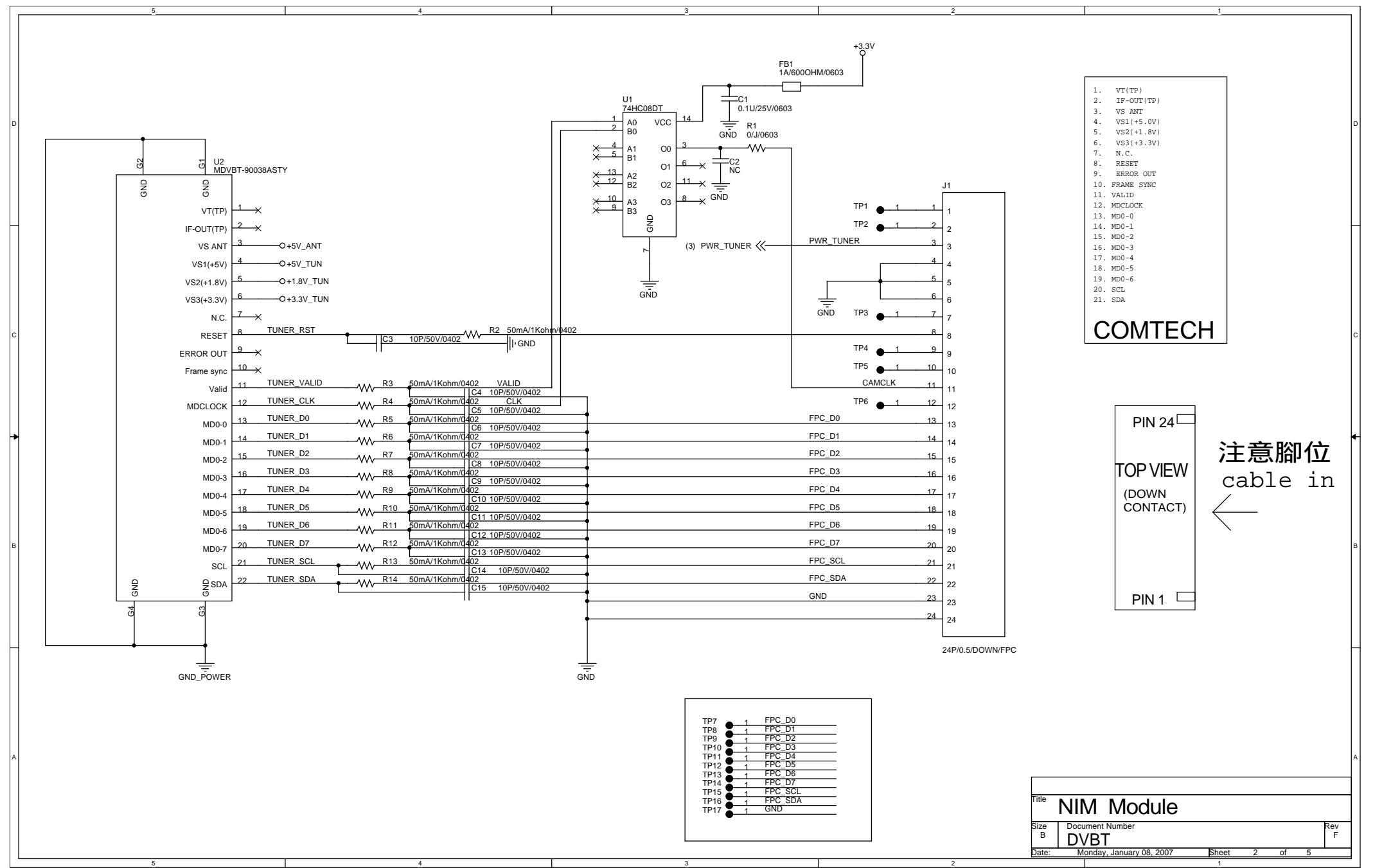
Title			HISTORY		
Size	Document Number				Rev
A3	WDR830 SYSTEM BOARD				F
Date:	Tuesday, February 06, 2007	Sheet	28	of	28

7.0 ELECTRICAL DIAGRAM



Title		
Block Diagram		
Size	Document Number	Rev
A	DVBT	F
Date:	Monday, January 08, 2007	Sheet 1 of 5

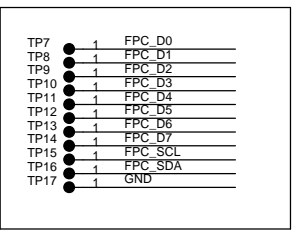
7.0 ELECTRICAL DIAGRAM



1. VT(TP)
 2. IF-OUT(TP)
 3. VS ANT
 4. VS1(+5.0V)
 5. VS2(+1.8V)
 6. VS3(+3.3V)
 7. N.C.
 8. RESET
 9. ERROR OUT
 10. FRAME SYNC
 11. VALID
 12. MDCLOCK
 13. MD0-0
 14. MD0-1
 15. MD0-2
 16. MD0-3
 17. MD0-4
 18. MD0-5
 19. MD0-6
 20. SCL
 21. SDA
- COMTECH**

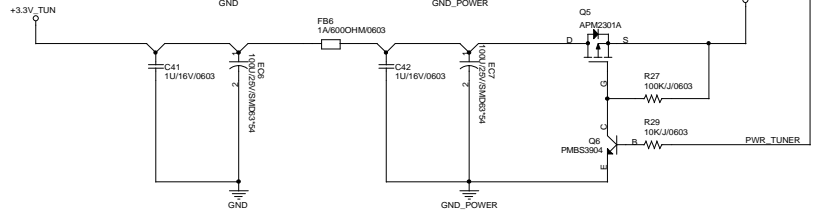
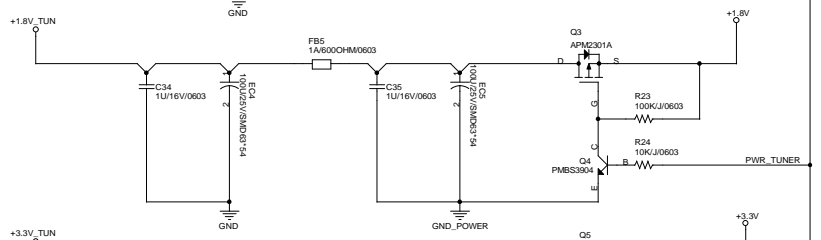
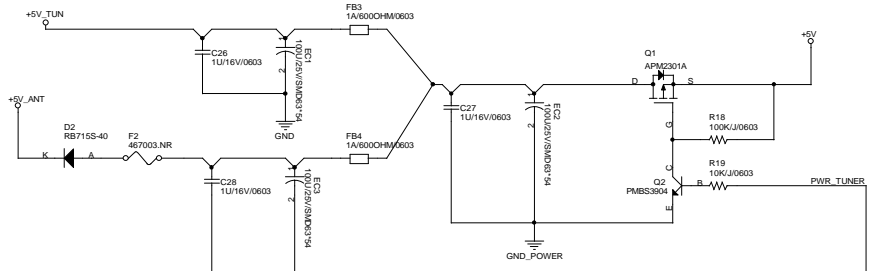
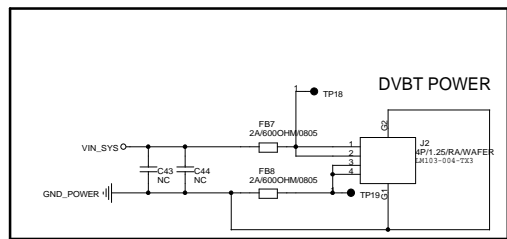
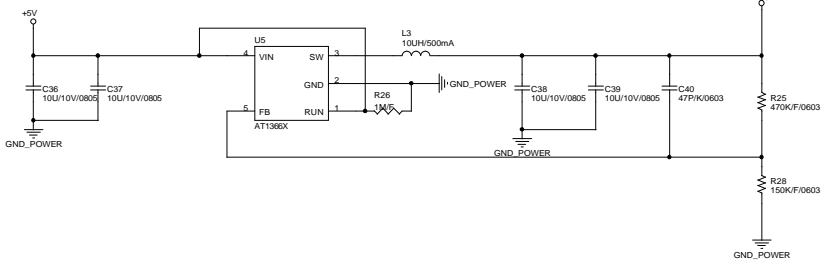
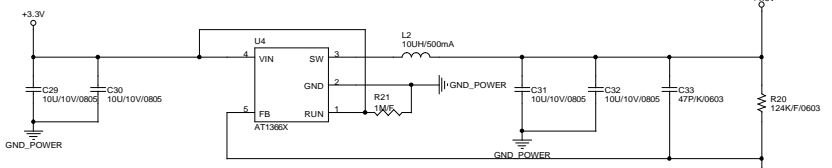
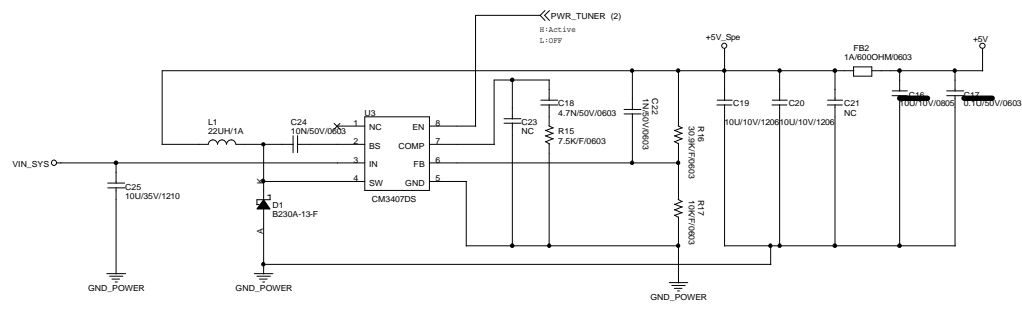


注意脚位
cable in



Title		
NIM Module		
Size B	Document Number	Rev F
	DVBT	
Date:	Monday, January 08, 2007	Sheet 2 of 5

7.0 ELECTRICAL DIAGRAM



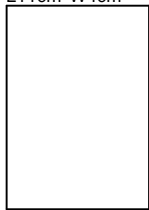
Title			POWER
Size	Document Number	Rev	
Cust#	DVBT	F	
Date:	Monday, January 08, 2007	Sheet	3 of 5

7.0 ELECTRICAL DIAGRAM

PCB1
L11cm*W3.5cm



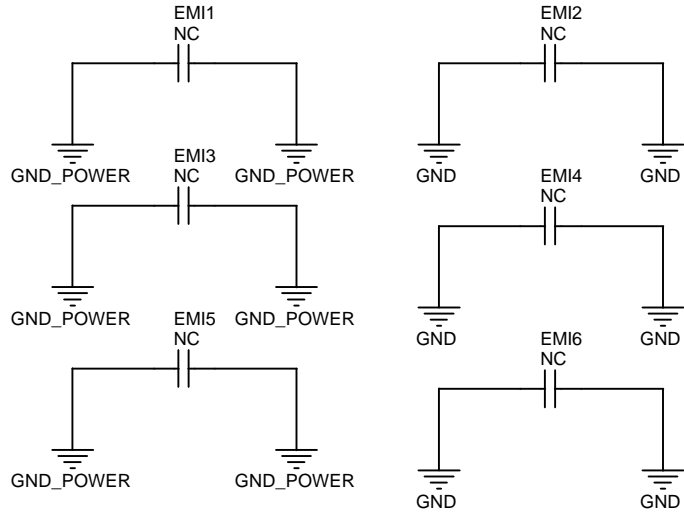
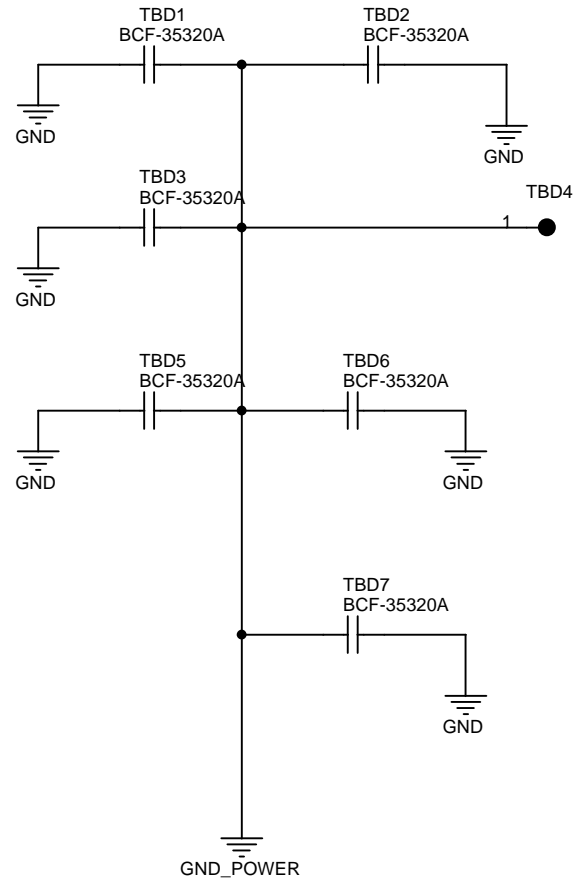
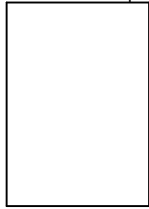
CONDUCTIVE FABRIC TAPE1
L11cm*W4cm



ANTENNA1
ANT-012K/P-470/ 890-12-2[PENGTENG]



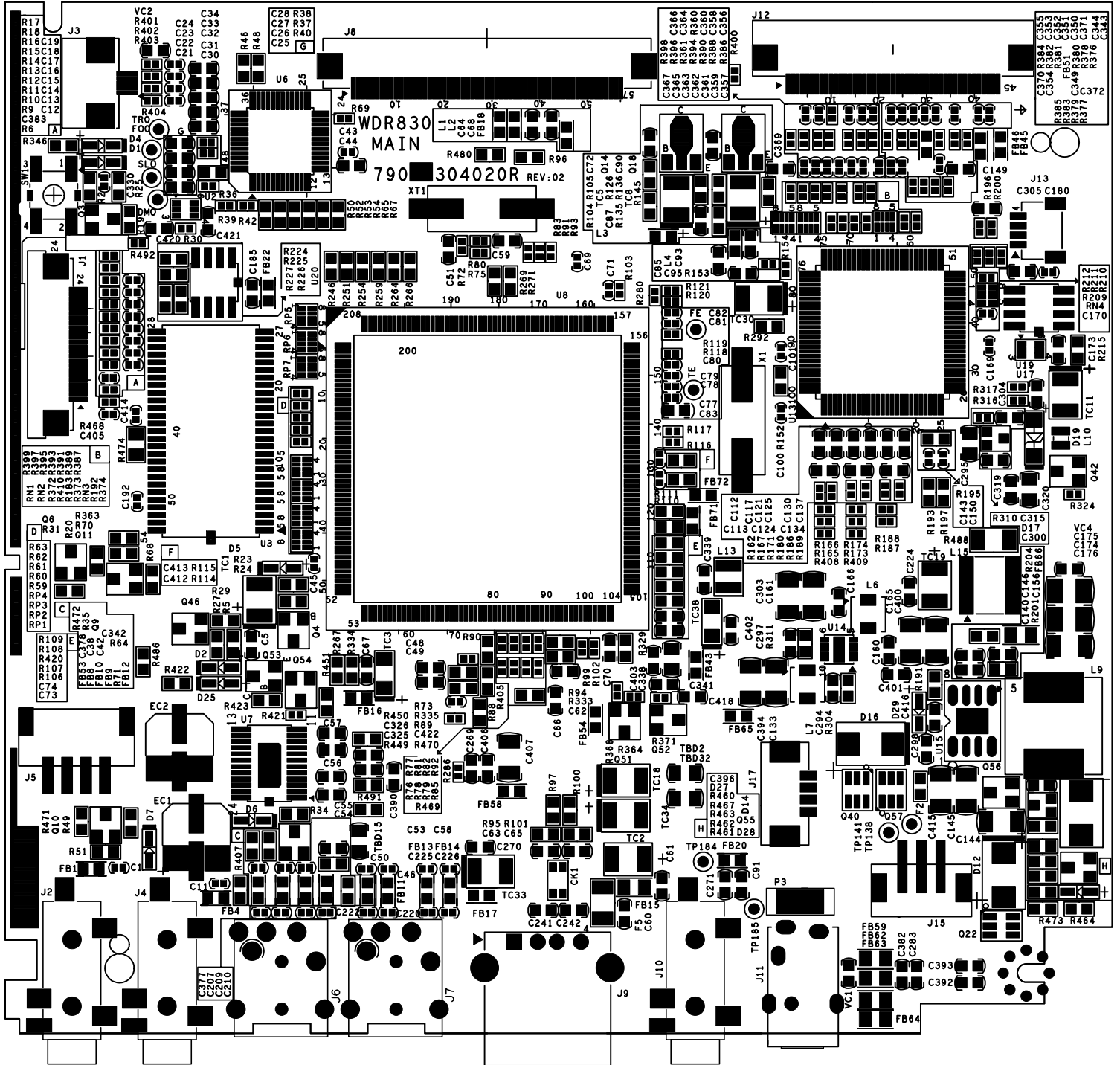
CABLE1
FFC cable 0.5-pitch 24-pin contact same side 3CM



Title		
EMI		
Size	Document Number	Rev
A	DVBT	F
Date:	Monday, January 08, 2007	Sheet 4 of 5

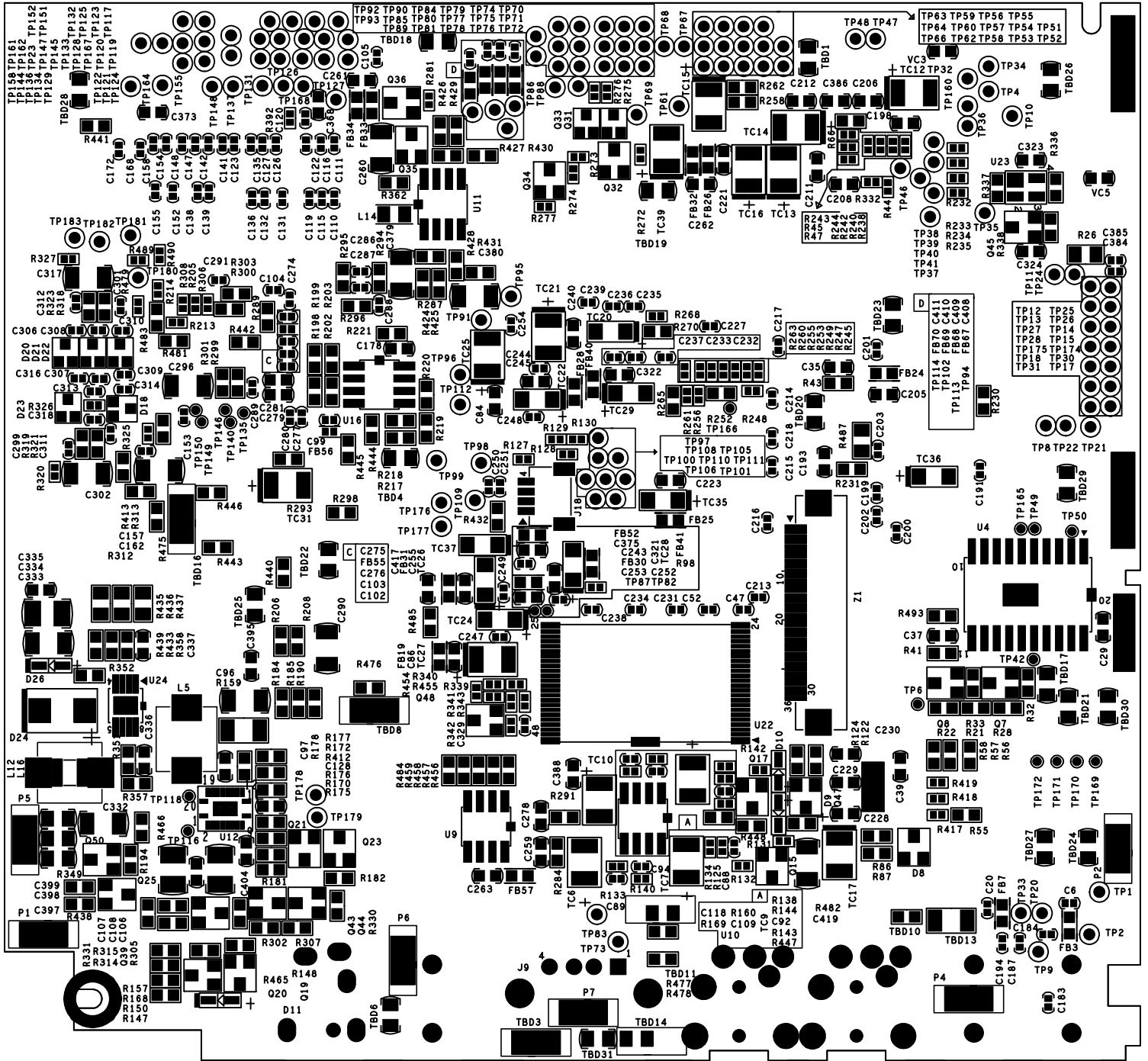
7.0 ELECTRICAL DIAGRAM

MALSK STORE EN TOP

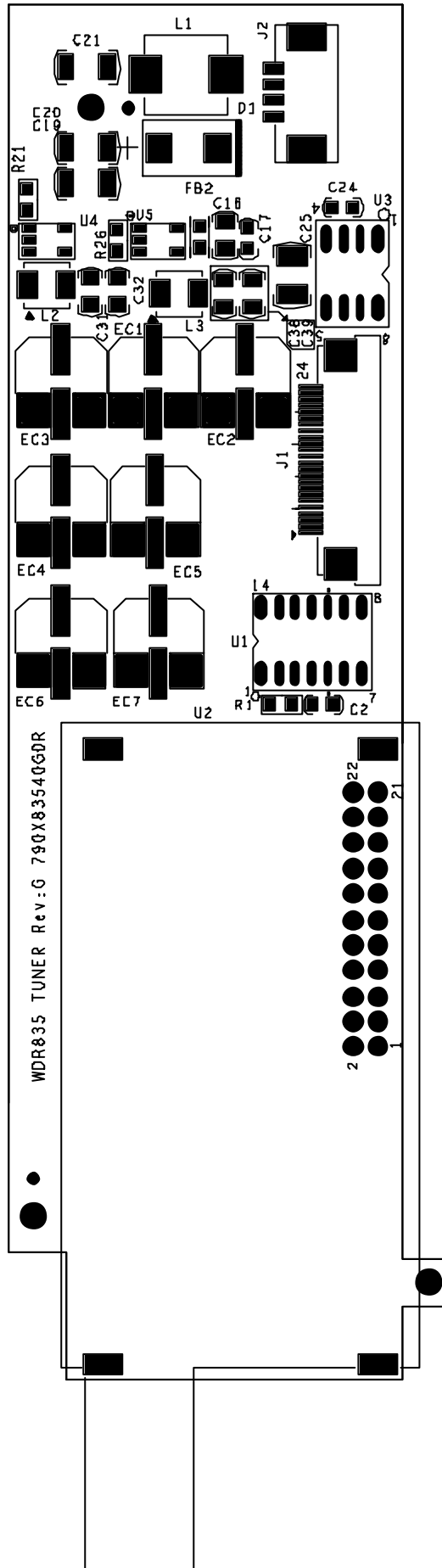


7.0 ELECTRICAL DIAGRAM

MARZUKBOREIN BOT



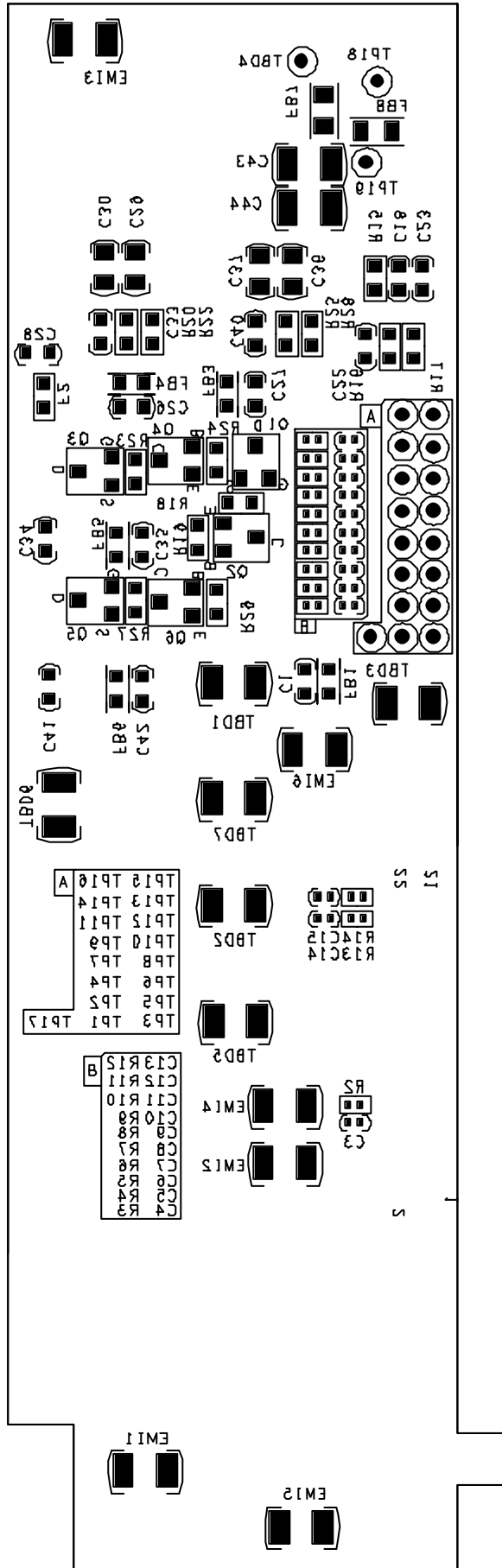
7.0 ELECTRICAL DIAGRAM SILKSCREEN TOP MASK TOP



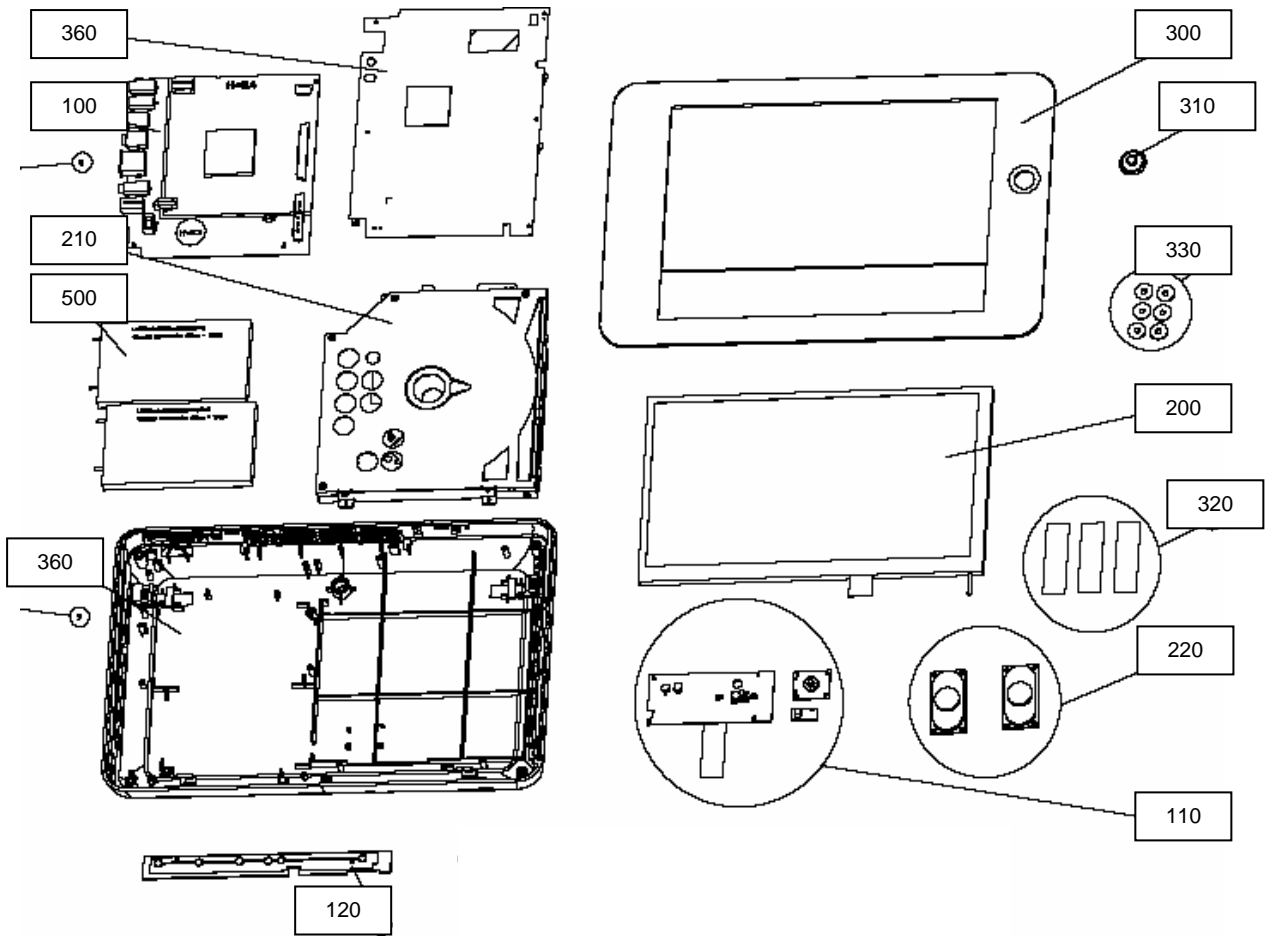
7.0 ELECTRICAL DIAGRAM

SILKSCREEN BOT

PASTE BOT



8.0 EXPLODED VIEW DIAGRAM & SERVICE PART LIST



8.0 EXPLODED VIEW DIAGRAM & SERVICE PART LIST

Electrical Part list:

Pos No.	12NC	Description	Remark
100	996510001019	MAIN PCBA PET830	FOR S/N: AY2xxxxxxxxxx
100R	996510006307	MAIN PCBA PET830 FOR NEW LCD	FOR S/N: AY3xxxxxxxxxx or above
100	996510001795	MAIN PCBA PET835	FOR S/N: AY2xxxxxxxxxx
100R	996510006308	MAIN PCBA PET835 FOR NEW LCD	FOR S/N: AY3xxxxxxxxxx or above
110	996510001020	3-IN-1 KEYPAD PCBA	
120	996510001021	TOP KEYPAD PCBA	
141	996510001022	FFC 5PIN P=0.5 L=80 LINK KEYPAD	
142	996510001023	FFC 45PIN P=0.5 L=140 LINK TUNER	
143	9965100001798	FFC 24PIN P=0.5 L=30 (FOR PET835)	
150	996510001796	TUNER BOARD (FOR PET835 ONLY)	

Mechanical Part list:

Pos No.	12NC	Description	Remark
200	996510001024	TFT LCD	FOR S/N: AY2xxxxxxxxxx
200R	996510006337	TFT LCD A085FW01V7 (NEW LCD)	FOR S/N: AY3xxxxxxxxxx or above
205R	996510006338	CABLE FOR NEW LCD	FOR S/N: AY3xxxxxxxxxx or above
210	996510001025	DVD LOADER	
220	996510001026	SPEAKER ASSY(IN PAIR)	
300	996510001027	FRONT CABINET ASSY	
310	996510001028	JOGGING BUTTON	
320	996510001029	CONDUCTIVE FABER TUNER BOARD	
330	996510001030	SPONGE LCD PANDEL	
340	996510001031	WIRE 1.0MM PITCH 2P/155MM BLACK	
345	996510001797	WIRE PITCH 4P/1.25MM WHITE	FOR PET835 ONLY
350	996510001032	WIRE 1.0MM PITCH 2P/195MM WHITE	
360	996510001033	BACK CABINET ASSY PET830	
360	996510001794	BACK CABINET ASSY PET835	
370	996510001034	RUBBER HEAT CONDUCTOR	
500	996510001035	BATTERY ASSY	

Accessories Part list:

Pos No.	12NC	Description	Remark
ACADAPTOR	996510001049	AD/DC ADAPTOR AY4129/00	FOR PET830/00, /58, /98 PET835/00
	996510001052	AD/DC ADAPTOR AY4129/05	FOR PET830/05
	996510001041	AD/DC ADAPTOR AY4129/37	FOR PET830/37
	996510001051	AD/DC ADAPTOR AY4129/44	FOR PET830/44
	996510001050	AD/DC ADAPTOR AY4129/75	FOR PET830/75 & PET835/75
	996510006072	AD/DC ADAPTOR AY4129/93	FOR PET830/93
CARADAPTOR	996510001036	CAR ADAPTOR	
RC	996510001037	REMOTE CONTROL	
RCA CABLE	996510001038	RCA CABLE	
BAG	996510001039	CARRY BAY (POUCH)	
CARMOUNT	996510001040	CAR MOUNT EXT ASSY	

9.0 REVISION LIST

Version 1.0 (3141 785 31570)

- Initial release PET830/00/05/37/44/58/75

Version 1.1 (3141 785 31571)

- Update service manual content to include PET835

Version 1.2 (3141 785 31572)

- Update service manual content to include PET830/98

Version 1.3 (3141 785 31573)

- Update service manual content to include PET830/93

Version 1.4 (3141 785 31574)

- Update service part list to add 996510006337, 996510006338, 996510006307, 996510006308

Version 1.5 (3141 785 31575)

- Add Symptom & Cure # PI-07/031 in chapter 1 - alignment procedure after replace the main board