

Service Service **Service**



Service Manual

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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
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Video Playback Format:	DVD / VCD / JPEG / MPEG4 / DIVX3,4,5,6
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Audio Playback Format:	CD/MP3, MP3-DVD, WMA
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Disc Diameter	12cm
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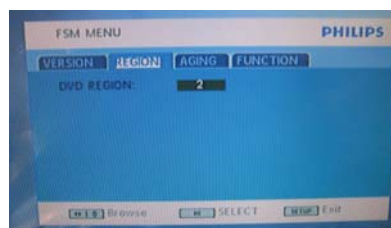
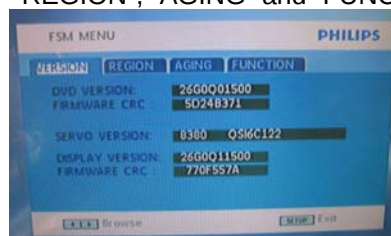
Pixel specification

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.

ESD



NL WAARSCHUWING

Alle IC's en vele andere halfgeleiders zijn gevoelig voor electrostatische ontladingen (ESD). Onzorgvuldig behandelen tijdens reparatie kan de levensduur drastisch doen verminderen. Zorg ervoor dat u tijdens reparatie via een polsband met weerstand verbonden bent met hetzelfde potentiaal als de massa van het apparaat. Houd componenten en hulpmiddelen ook op hetzelfde potentiaal.

F ATTENTION

Tous les IC et beaucoup d'autres semi-conducteurs sont sensibles aux décharges statiques (ESD). Leur longévité pourrait être considérablement écourtée par le fait qu'aucune précaution n'est prise à leur manipulation. Lors de réparations, s'assurer de bien être relié au même potentiel que la masse de l'appareil et enfiler le bracelet serti d'une résistance de sécurité. Veiller à ce que les composants ainsi que les outils que l'on utilise soient également à ce potentiel.

D WARNUNG

Alle ICs und viele andere Halbleiter sind empfindlich gegenüber elektrostatischen Entladungen (ESD). Unsorgfältige Behandlung im Reparaturfall kann die Lebensdauer drastisch reduzieren. Veranlassen Sie, dass Sie im Reparaturfall über ein Pulsarmband mit Widerstand verbunden sind mit dem gleichen Potential wie die Masse des Gerätes. Bauteile und Hilfsmittel auch auf dieses gleiche Potential halten.

I AVVERTIMENTO

Tutti IC e parecchi semi-conduttori sono sensibili alle scariche statiche (ESD). La loro longevità potrebbe essere fortemente ridatta in caso di non osservazione della più grande cauzione alla loro manipolazione. Durante le riparazioni occorre quindi essere collegato allo stesso potenziale che quello della massa dell'apparecchio tramite un braccialetto a resistenza. Assicurarsi che i componenti e anche gli utensili con quali si lavora siano anche a questo potenziale.

GB

Safety regulations require that the set be restored to its original condition and that parts which are identical with those specified, be used.

"Pour votre sécurité, ces documents doivent être utilisés par des spécialistes agréés, seuls habilités à réparer votre appareil en panne".

NL

Veiligheidsbepalingen vereisen, dat het apparaat bij reparatie in zijn oorspronkelijke toestand wordt teruggebracht en dat onderdelen, identiek aan de gespecificeerde, worden toegepast.

F

Les normes de sécurité exigent que l'appareil soit remis à l'état d'origine et que soient utilisées les pièces de rechange identiques à celles spécifiées.

D

Bei jeder Reparatur sind die geltenden Sicherheitsvorschriften zu beachten. Der Originalzustand des Geräts darf nicht verändert werden; für Reparaturen sind Original-Ersatzteile zu verwenden.

I

Le norme di sicurezza esigono che l'apparecchio venga rimesso nelle condizioni originali e che siano utilizzati i pezzi di ricambio identici a quelli specificati.

"After servicing and before returning set to customer perform a leakage current measurement test from all exposed metal parts to earth ground to assure no shock hazard exist. The leakage current must not exceed 0.5mA."



GB Warning !

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

S Varning !

Osynlig laserstrålning när apparaten är öppnad och spärren är urkopplad. Betrakta ej strålen.

SF Varoitus !

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

DK Advarse !

Usynlig laserstråling ved åbning når sikkerhedsafbrydere er ude af funktion. Undgå udsættelse for stråling.

2.1 ESD PROTECTION

- レンズには絶対に触れないでください。
- DO NOT TOUCH THE LENS.
- LINSE NICHT BRÜHREN.
- NE PAS TOUCHER LA LENTILLE.

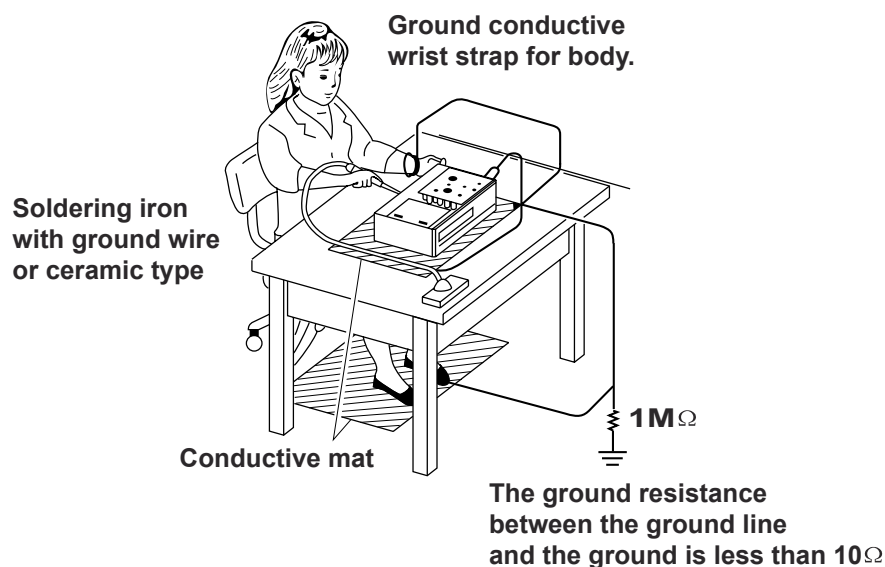
When the power supply is being turned on, you may not remove this laser cautions label. If it removes, radiation of laser may be received.

PREPARATION OF SERVICING

Pickup Head consists of a laser diode that is very susceptible to external static electricity.

Although it operates properly after replacement, if it was subject to electrostatic discharge during replacement, its life might be shortened. When replacing, use a conductive mat, soldering iron with ground wire, etc. to protect the laser diode from damage by static electricity.

And also, the LSI and IC are same as above.



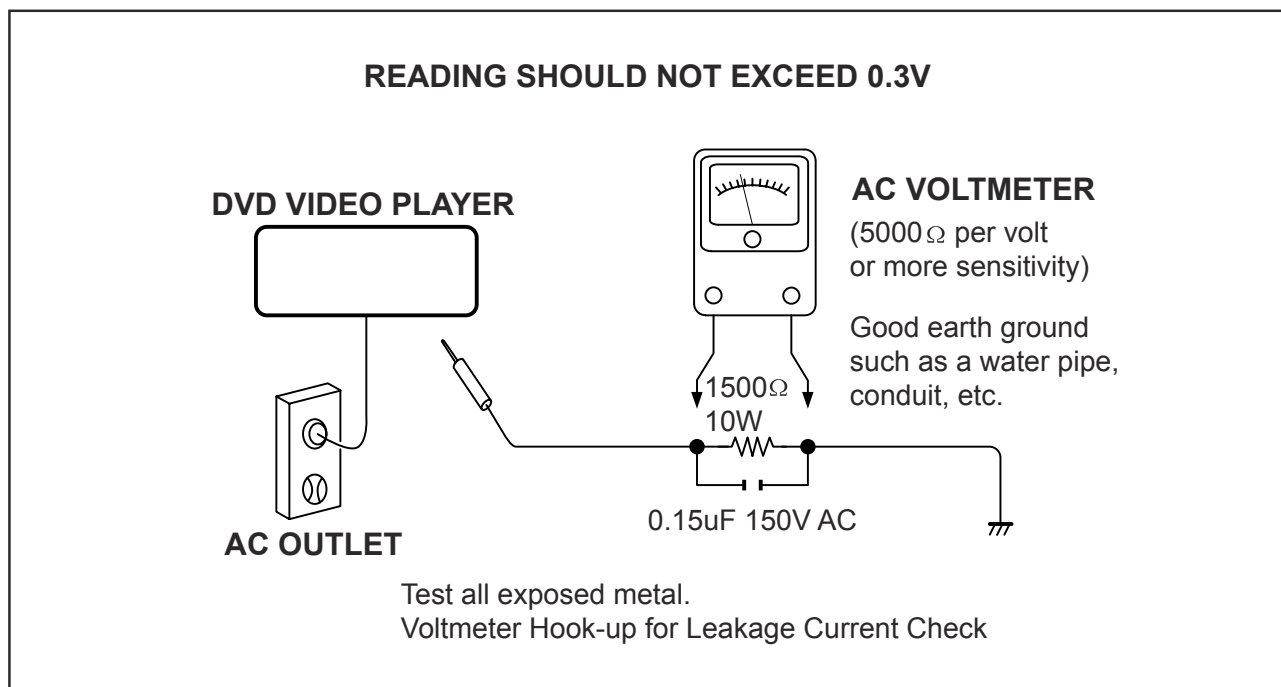
SAFTY NOTICE

SAFTY PRECAUTIONS

LEAKAGE CURRENT CHECK

Plug the AC line cord directly into a 120V AC outlet (do not use an isolation transformer for this check). Use an AC voltmeter, having 5000Ω per volt or more sensitivity. Connect a 1500Ω 10W resistor, paralleled by a 0.15uF 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.

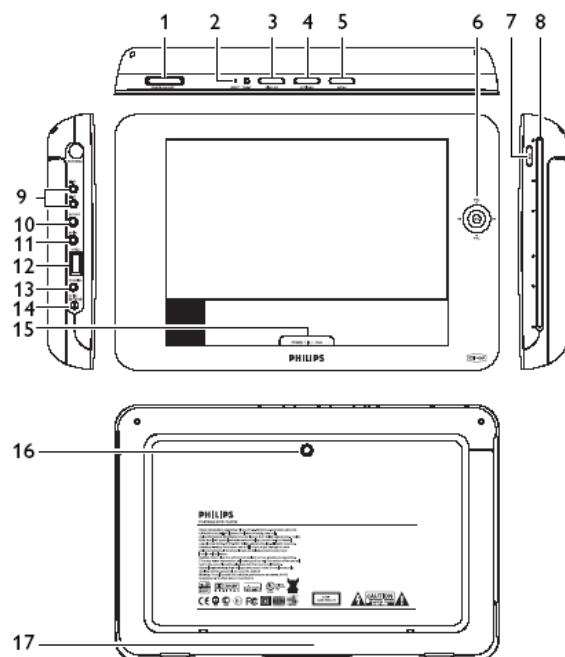


The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

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

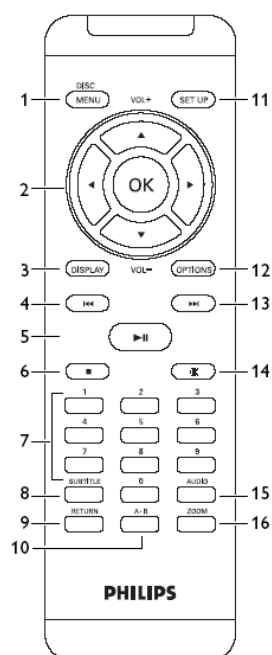
8 Disc slot

1.5 Right side of the player (see figure 1)

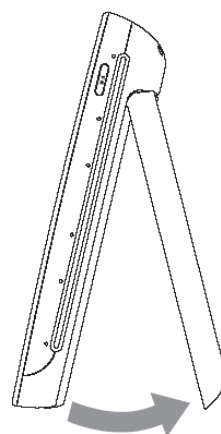
16 Car mounting screw hole

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 ■ Mute player volume

15 AUDIO Audio language selector

16 ZOOM Enlarge video image

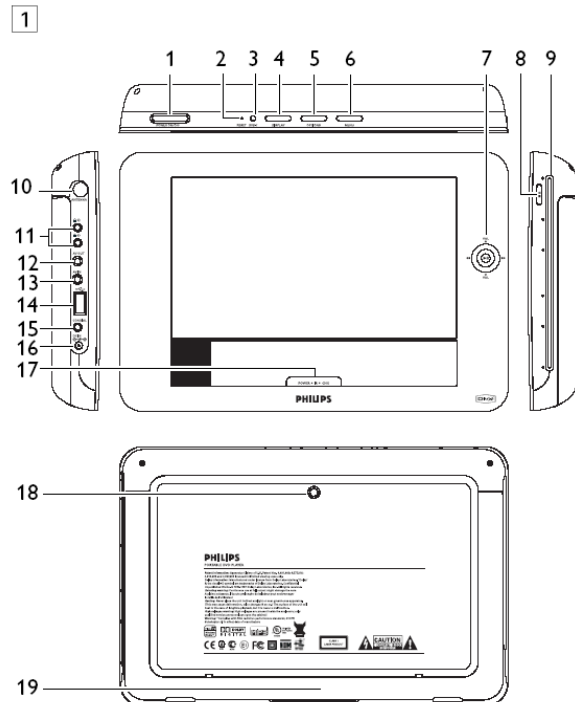
1.7 Desk stand of the player (see figure 3)

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

- 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)

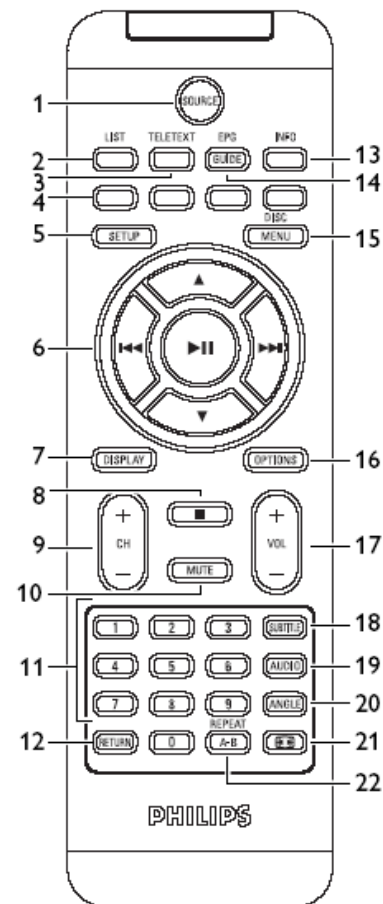
- 8 **■▲** Press once to stop playback. Press twice to eject the disc

9 Disc slot

1.5 Right side of the player (see figure 1)

- 18 Car mounting screw hole
- 19 Stand

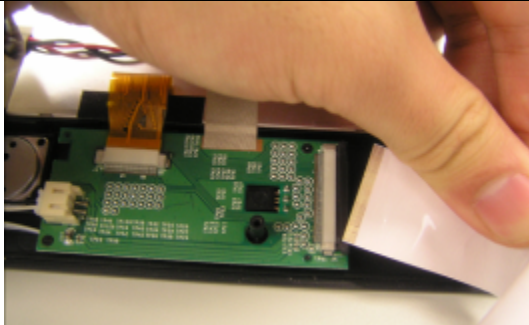
2



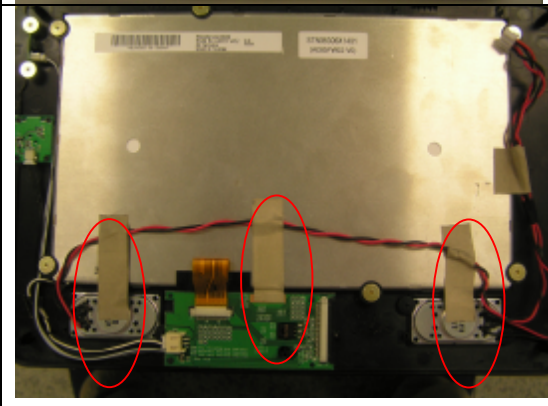
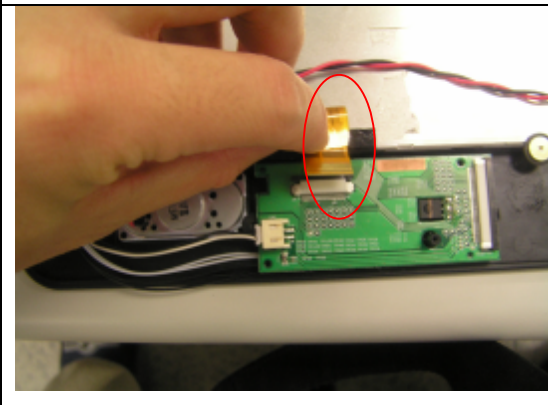
1.6 Remote Control (see figure 2)

- 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

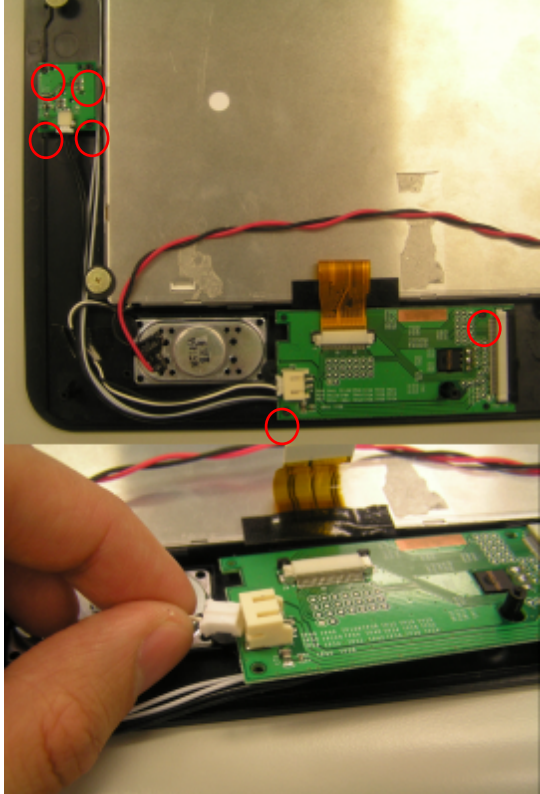
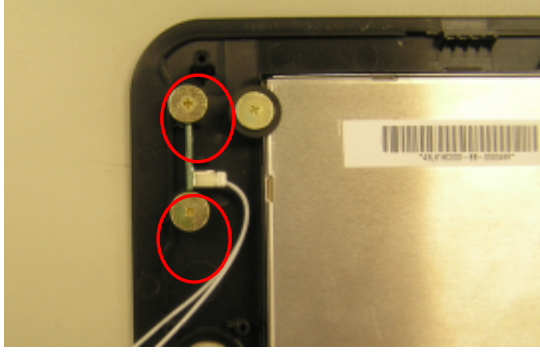
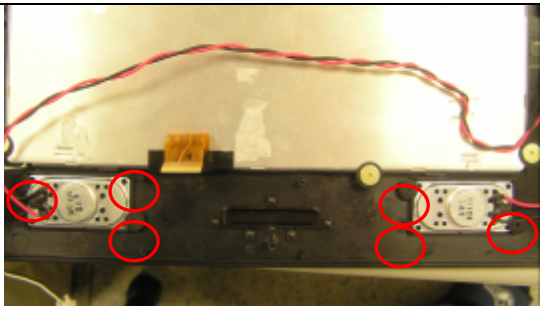
4.0 MECHANICAL INSTRUCTION

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.	

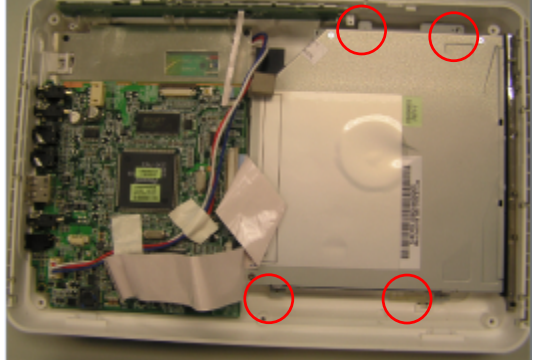
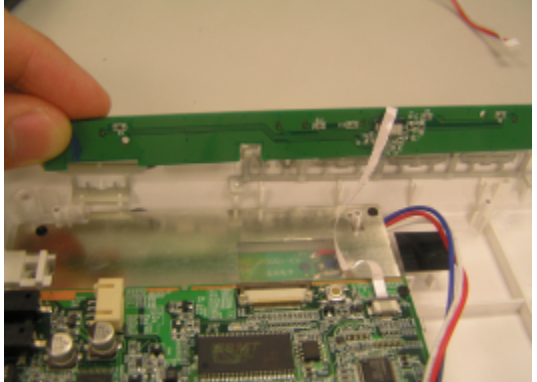
4.0 MECHANICAL INSTRUCTION

	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.	

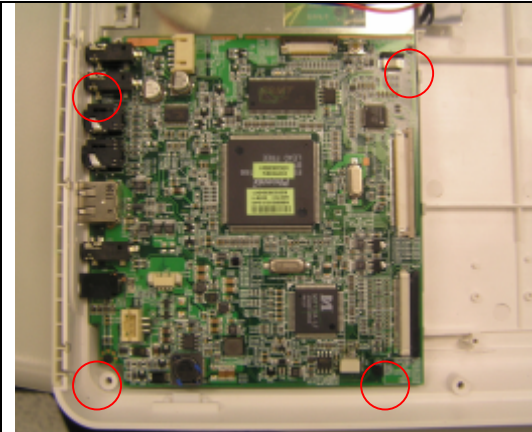
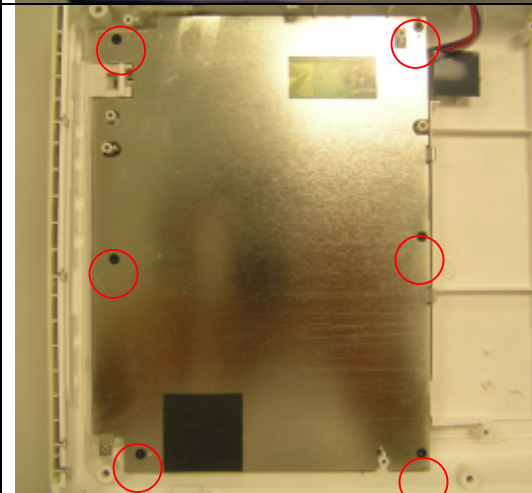
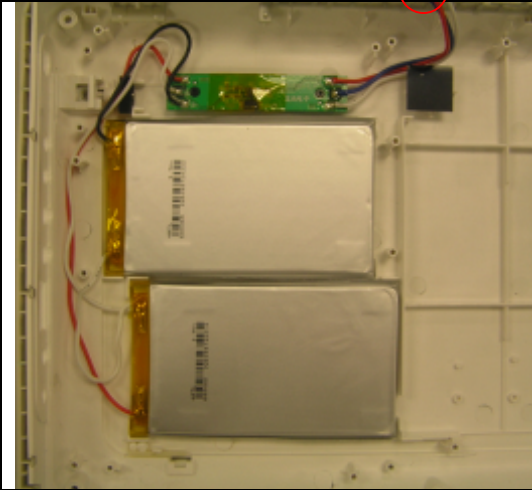
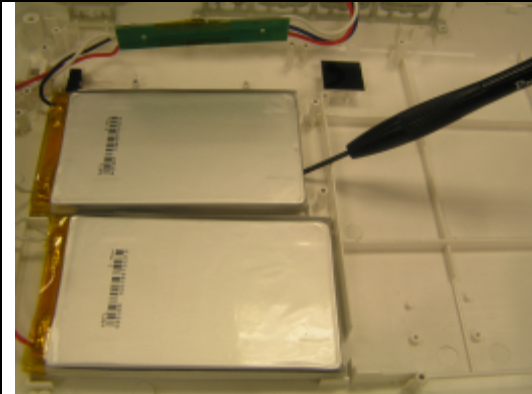
4.0 MECHANICAL INSTRUCTION

	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) 

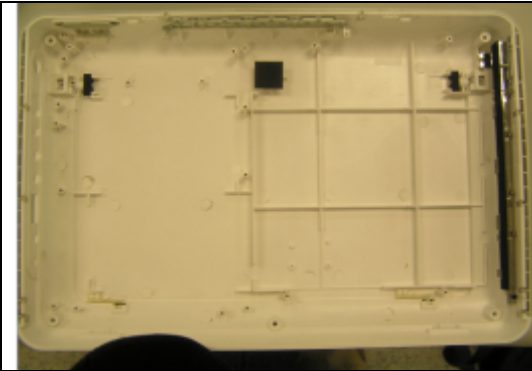
4.0 MECHANICAL INSTRUCTION

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

4.0 MECHANICAL INSTRUCTION

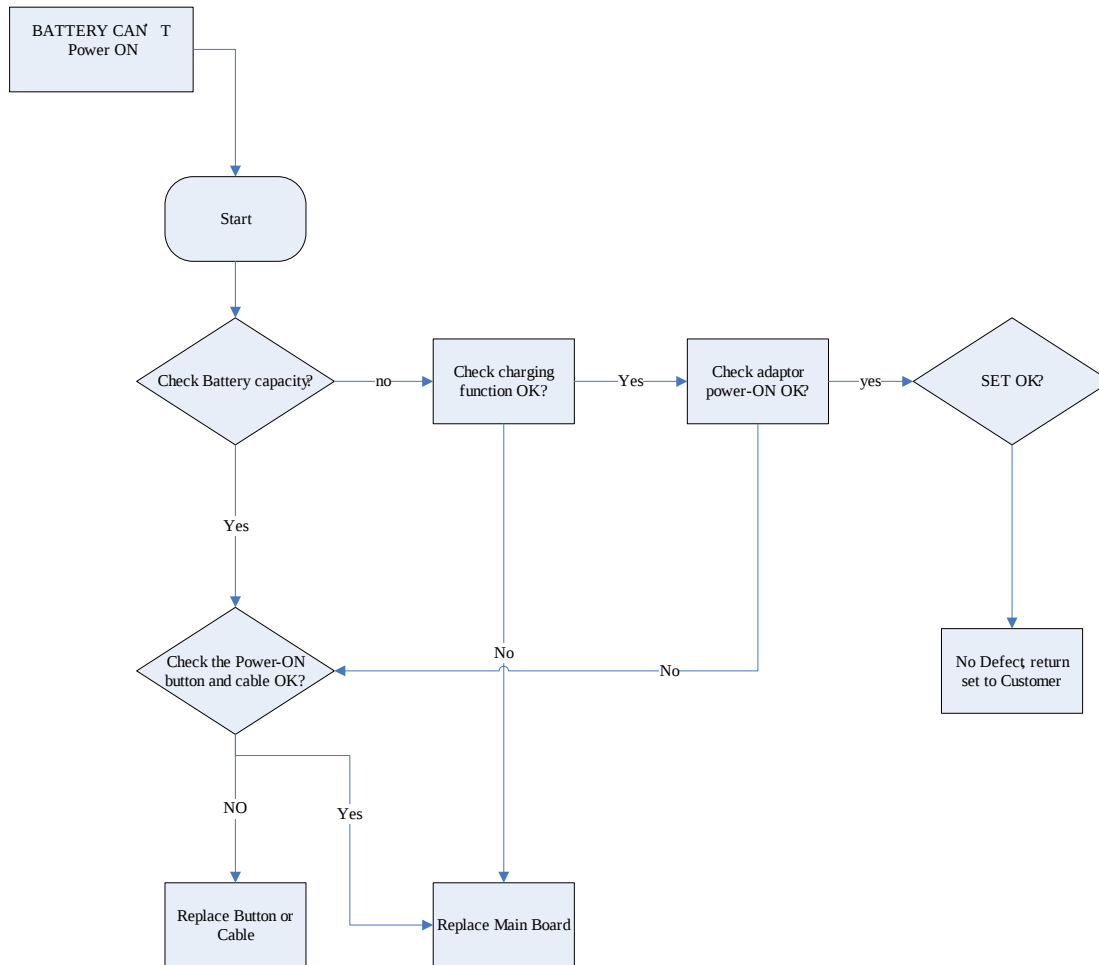
	15	Remove four screws on main board.	(4pcs) 
	16	Remove six screws on plate metal EMI.	(6pcs) 
	17	Remove two screws on PCB of battery.	(2pcs) 
	18	Use tool to remove battery from back cabinet.	

4.0 MECHANICAL INSTRUCTION

	19	Finally, we will get the back cabinet.	
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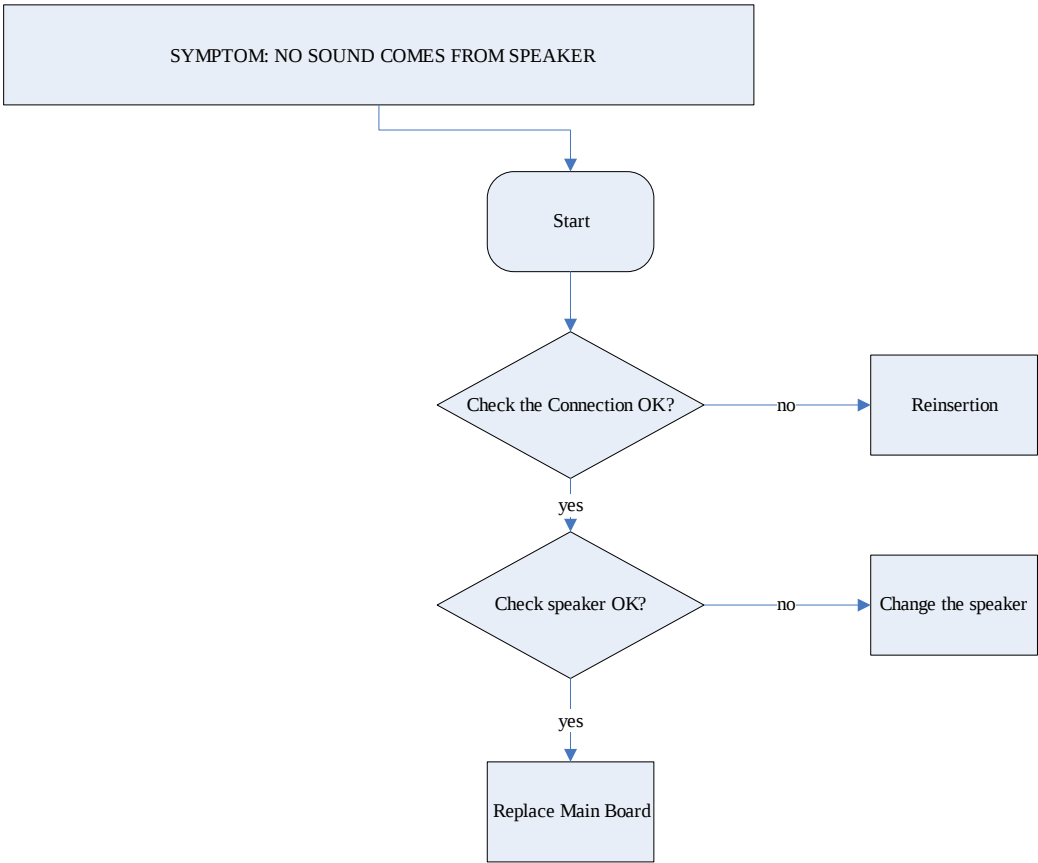
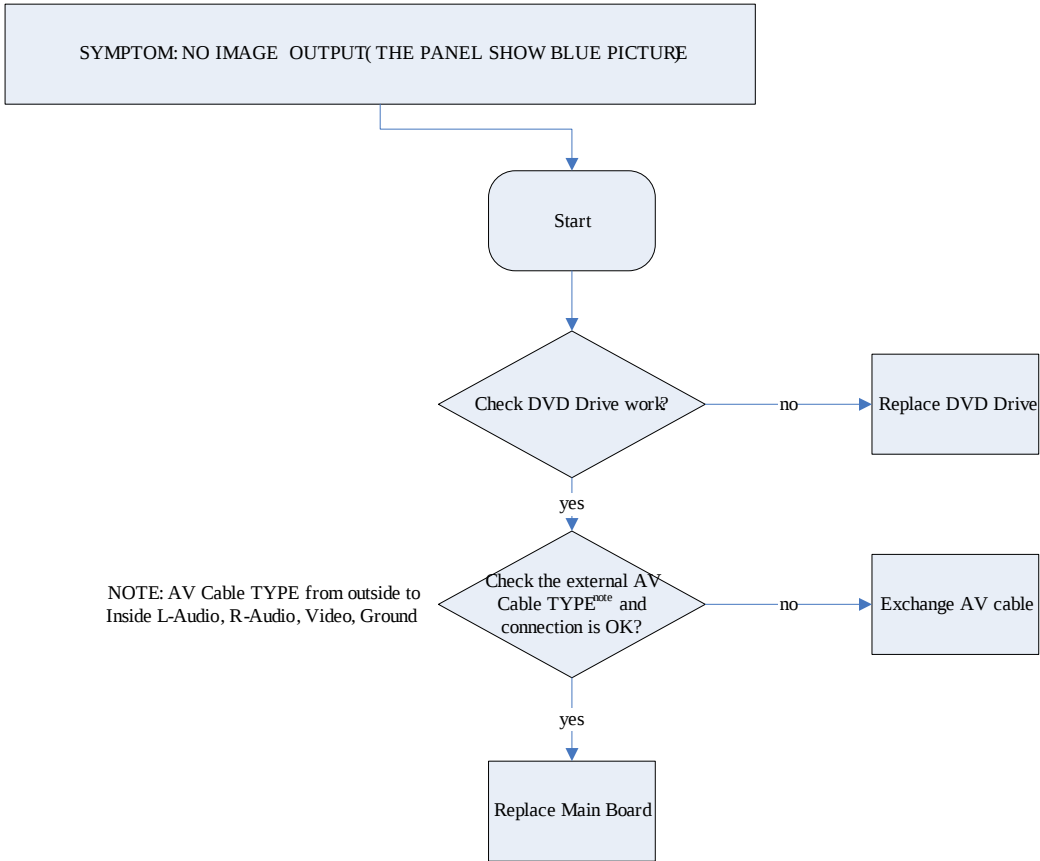
5.0 TROUBLESHOOTING

SYMPTOM: BATTERY NO POWER



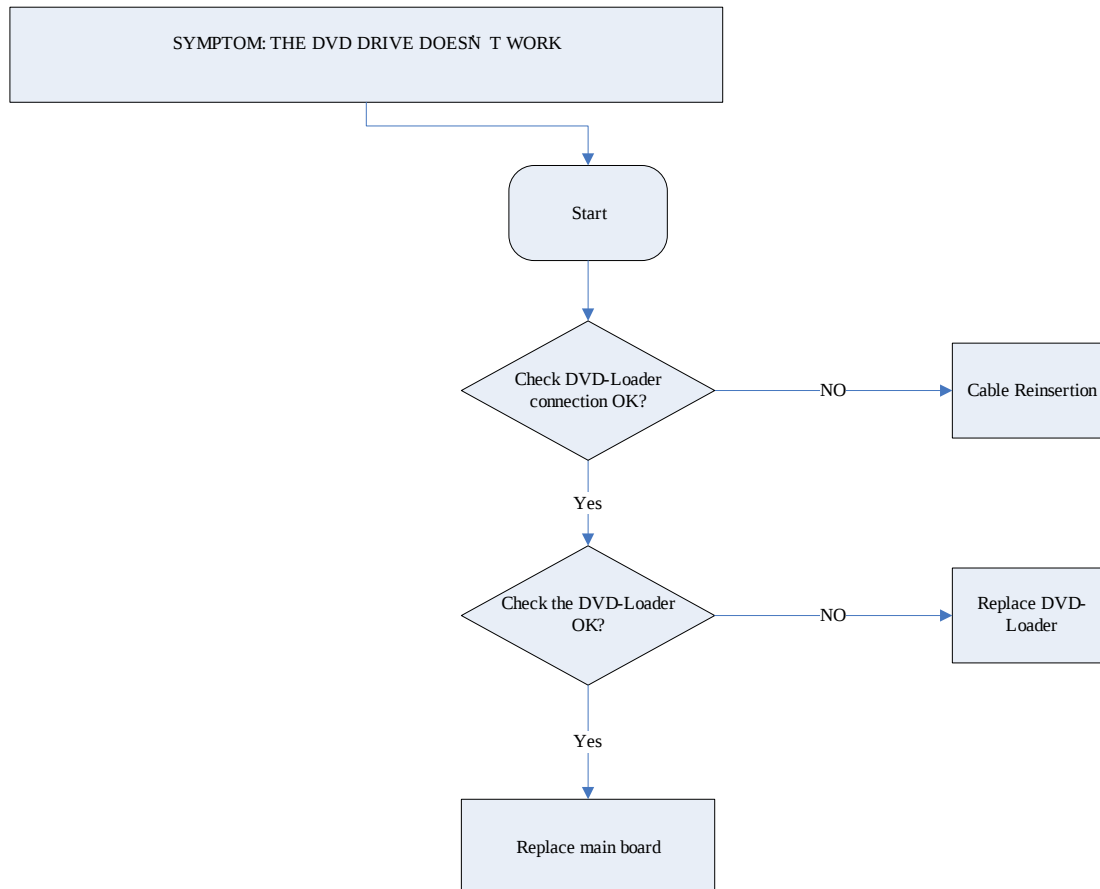
5.0 TROUBLESHOOTING

SYMPTOM: NO IMAGE / NO SOUND



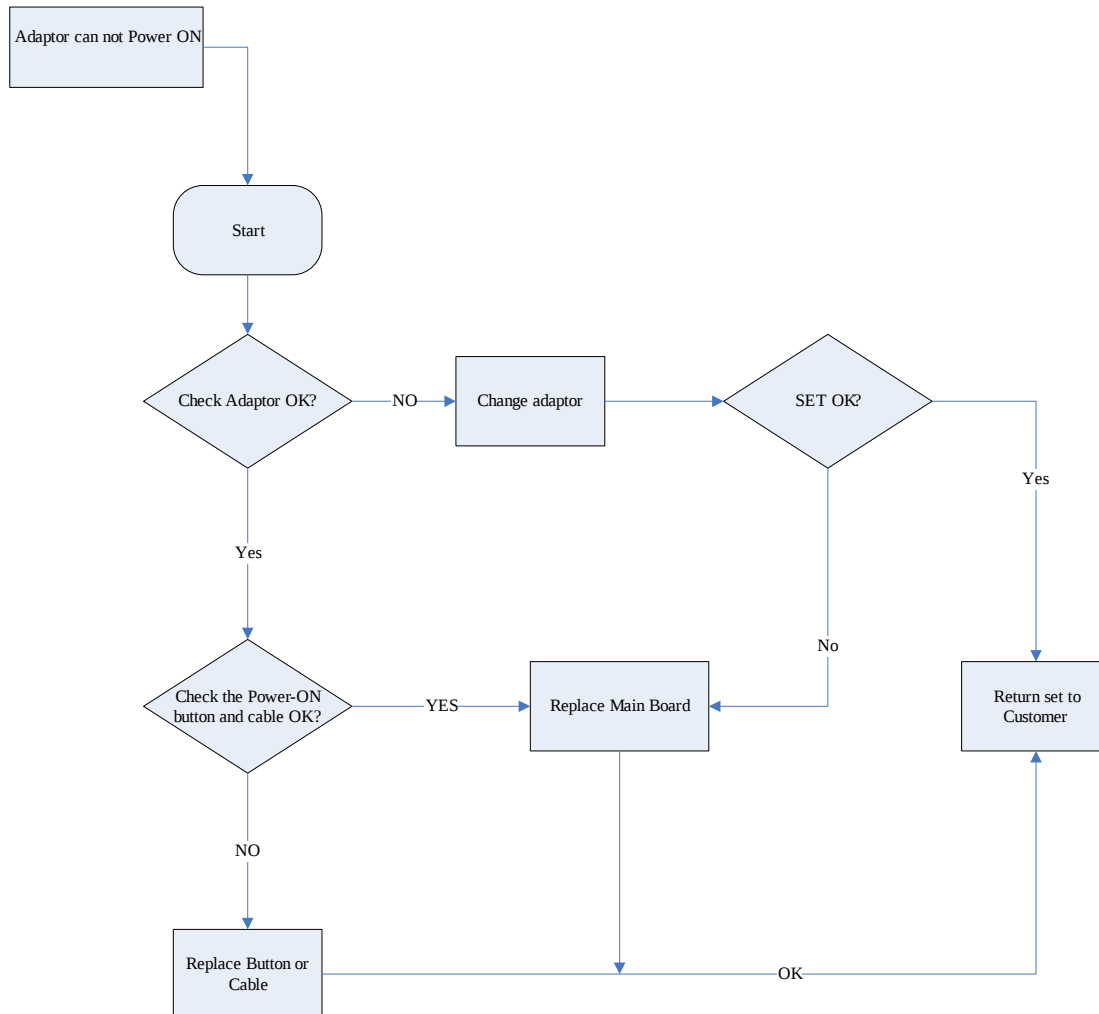
5.0 TROUBLESHOOTING

SYMPTOM: THE DVD DRIVE DOES NOT WORK



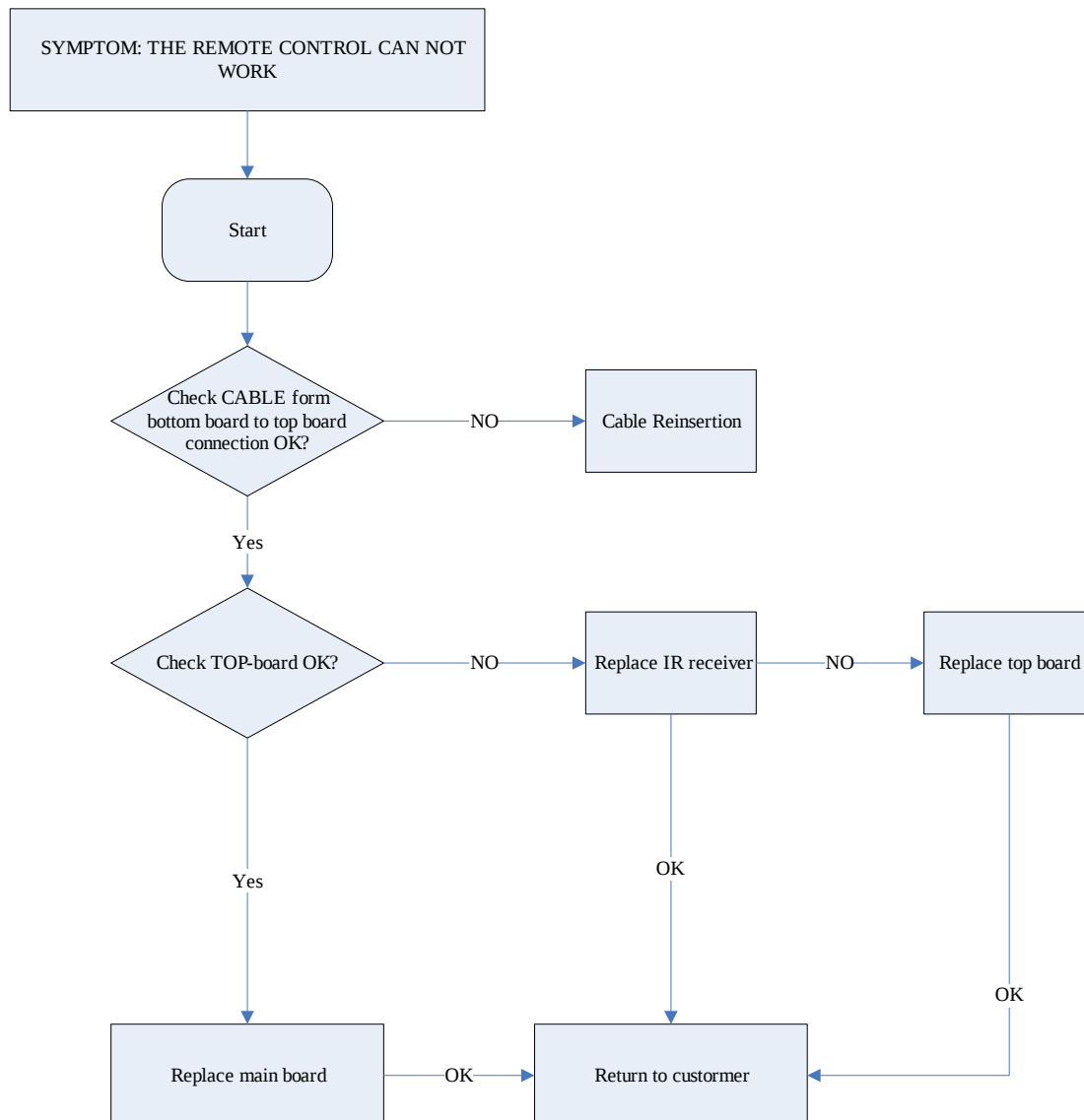
5.0 TROUBLESHOOTING

SYMPTOM: ADAPTOR CANNOT POWER ON



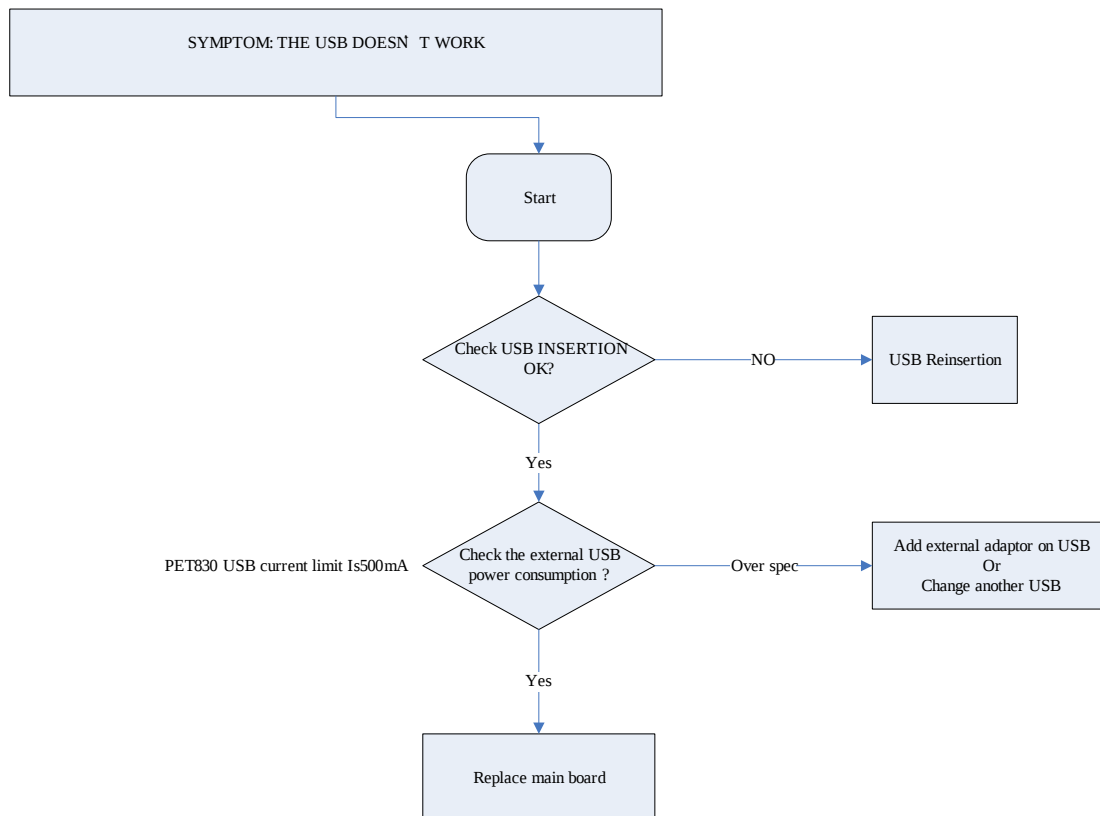
5.0 TROUBLESHOOTING

SYMPTOM: REMOTE CONTROL CANNOT WORK

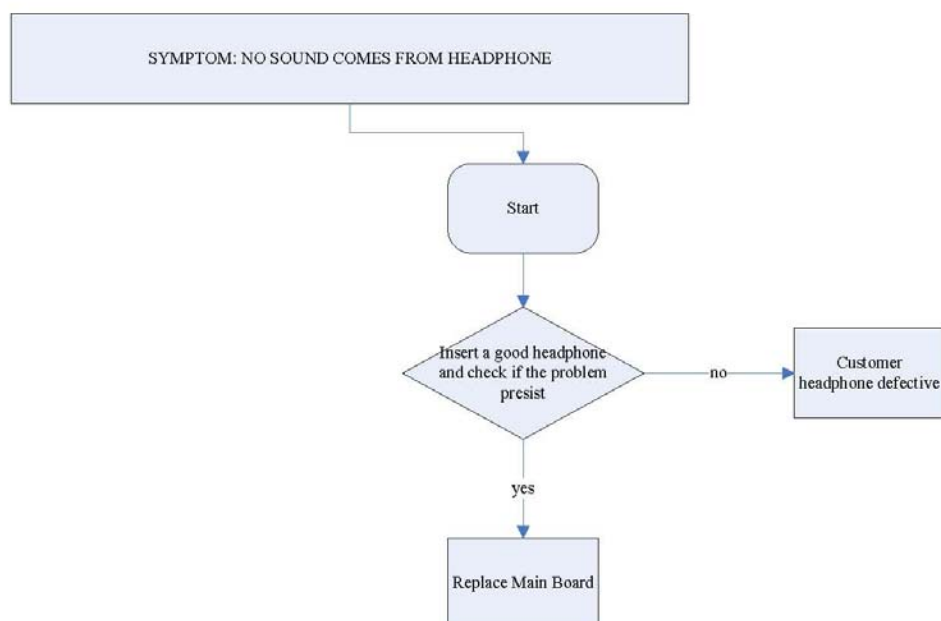


5.0 TROUBLESHOOTING

SYMPTOM: USB CANNOT WORK

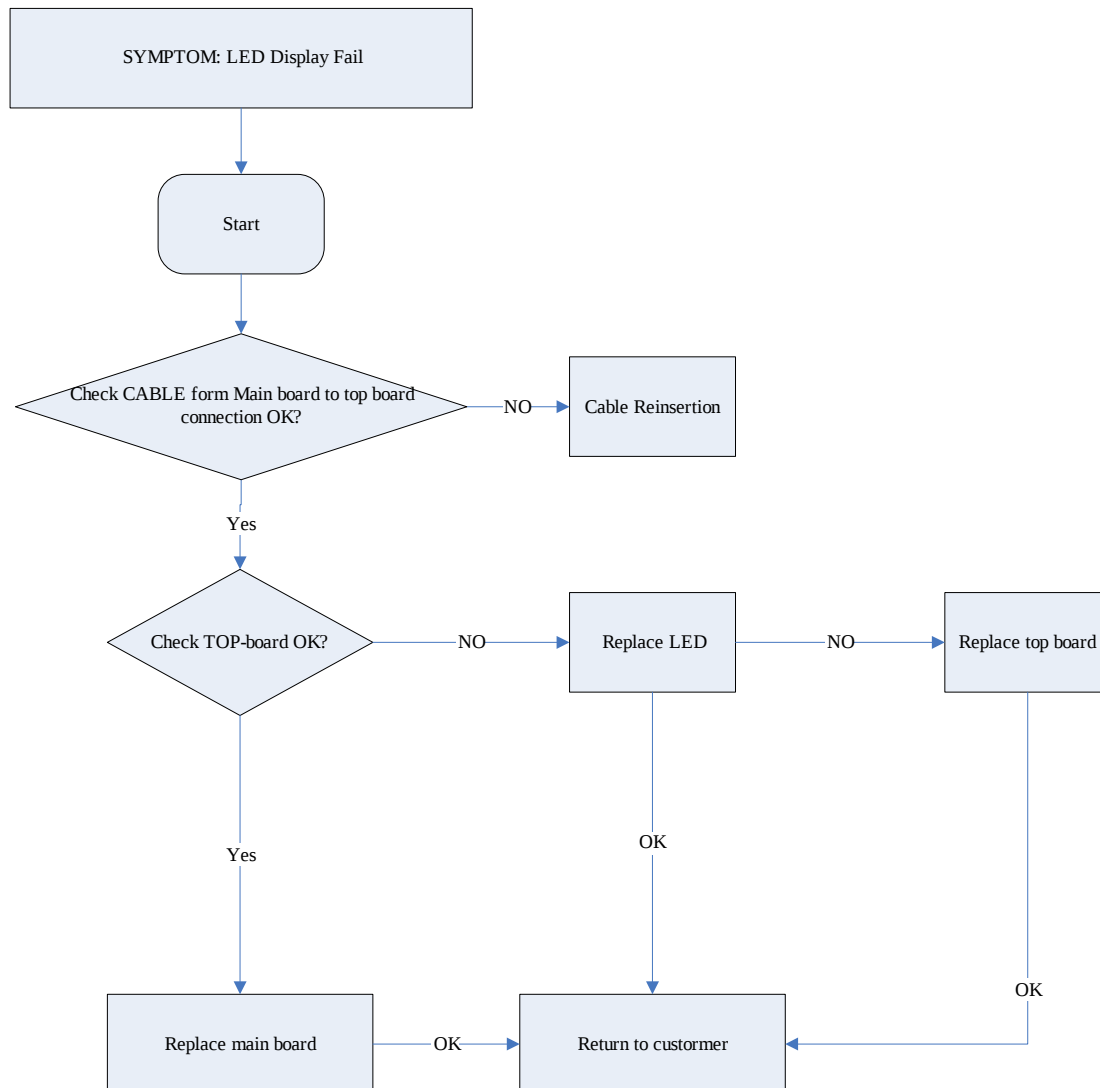


SYMPTOM: NO SOUND FROM HEADPHONE



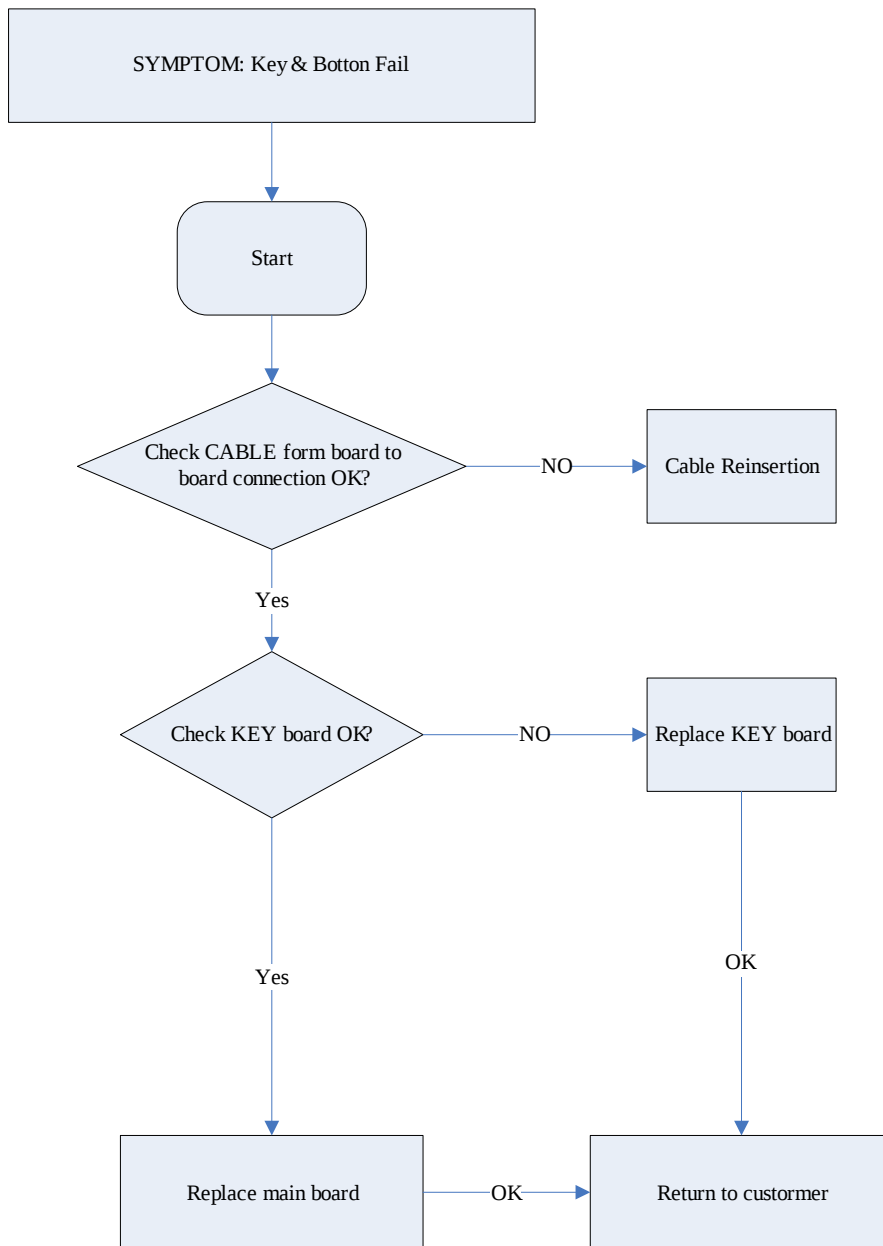
5.0 TROUBLESHOOTING

SYMPTOM: LED DISPLAY FAILURE



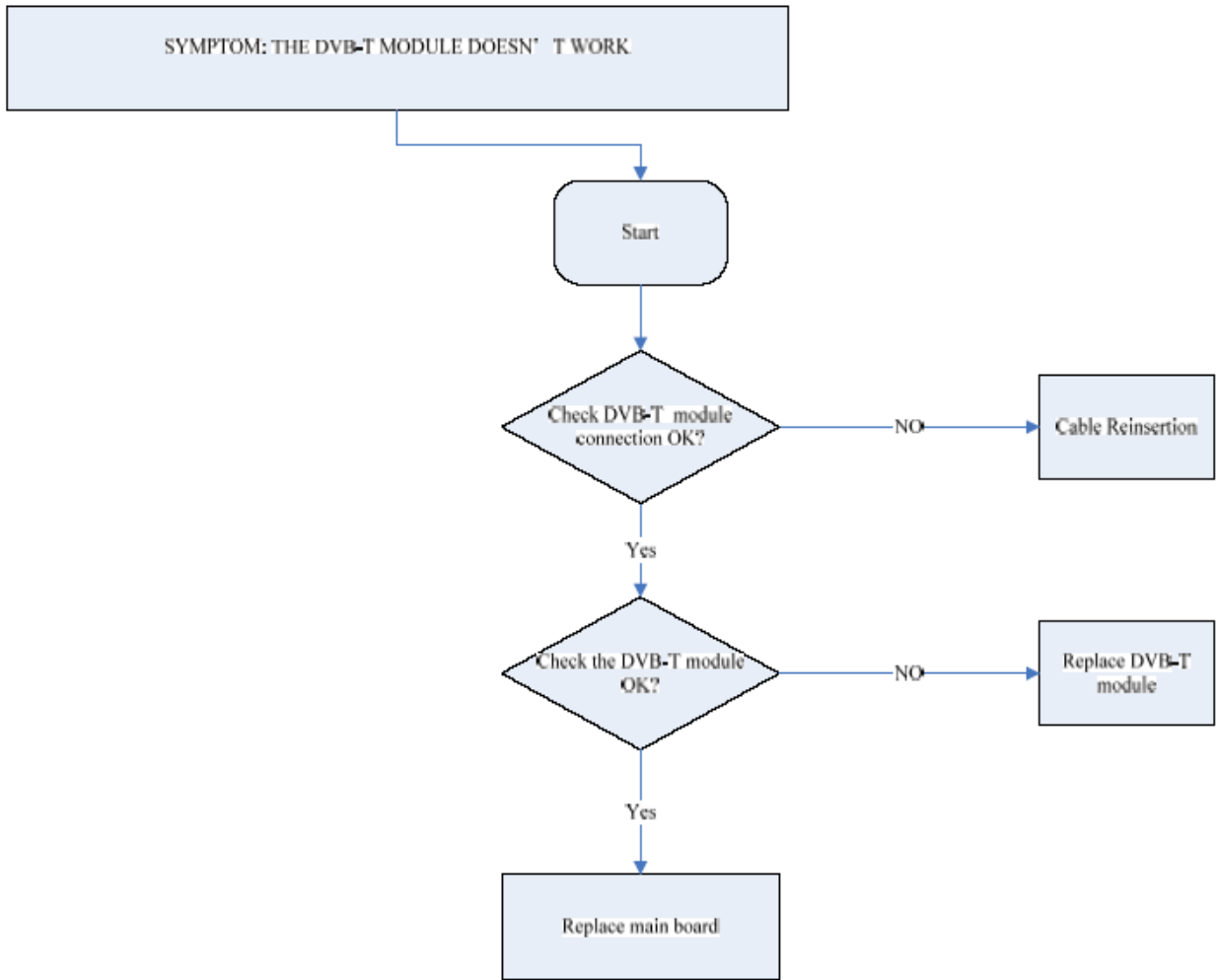
5.0 TROUBLESHOOTING

SYMPTOM: KEY & BOTTON FAILURE

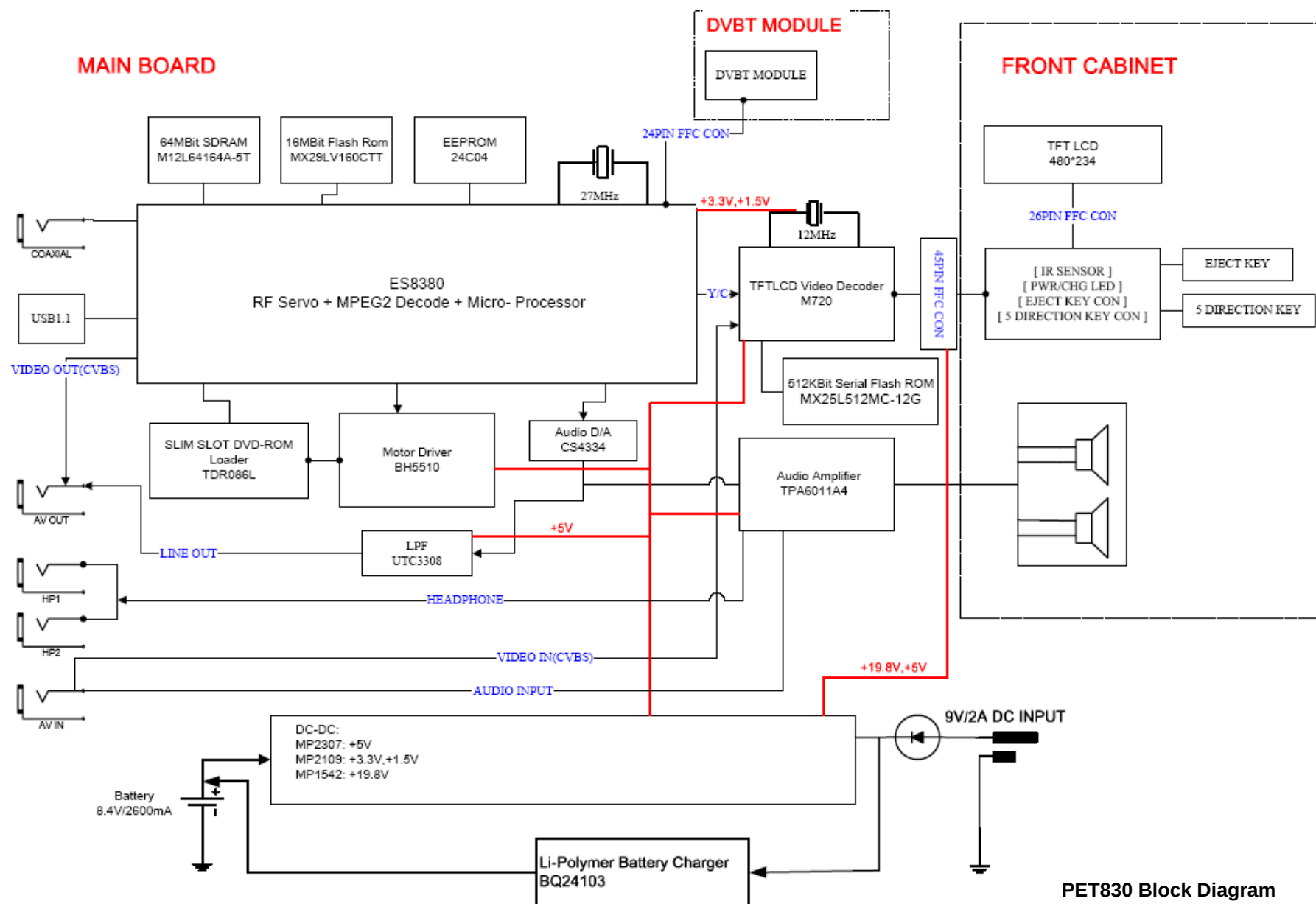


5.0 TROUBLESHOOTING

SYMPTOM: DVB-T FAILURE

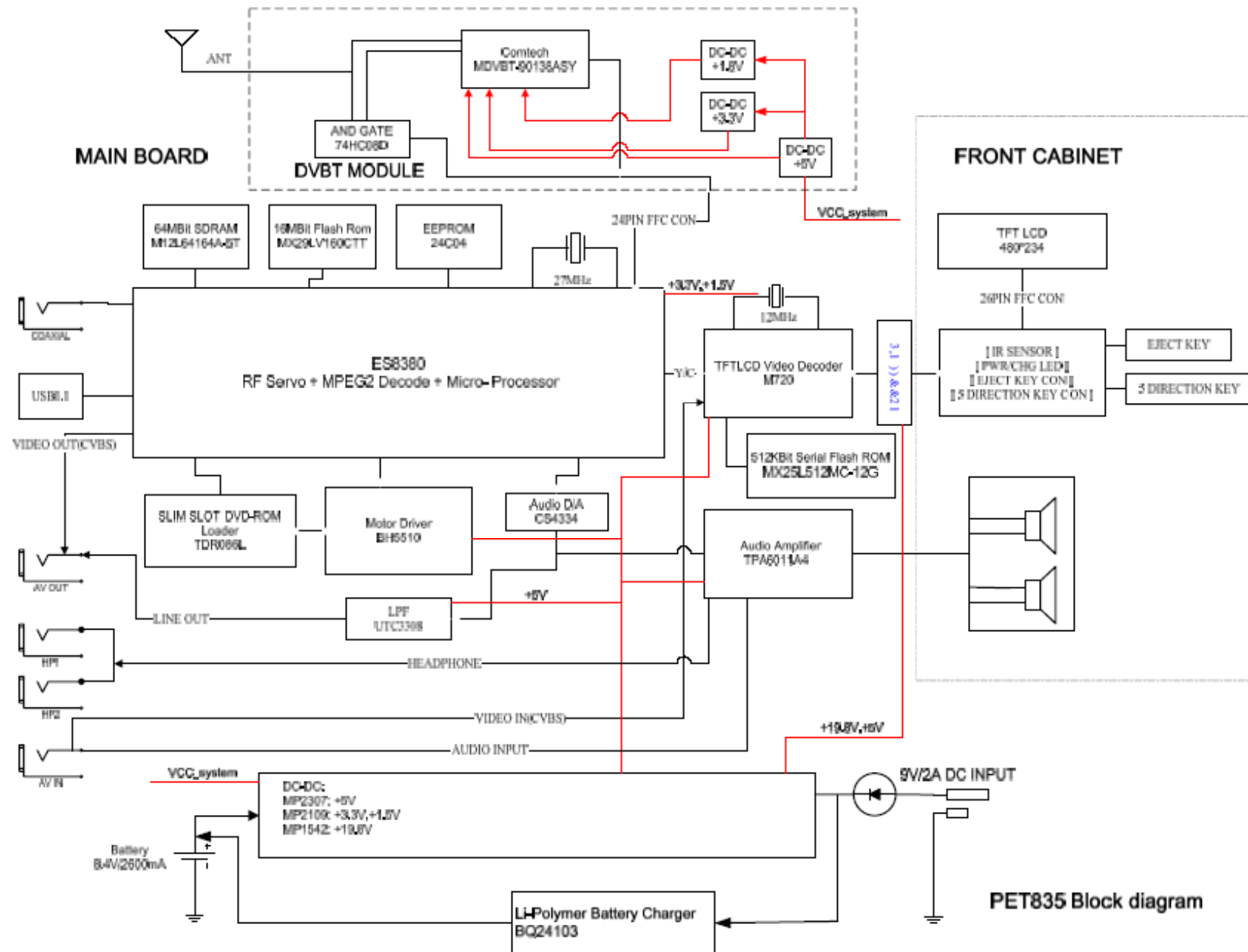


6.0 OVERALL BLOCK DIAGRAM

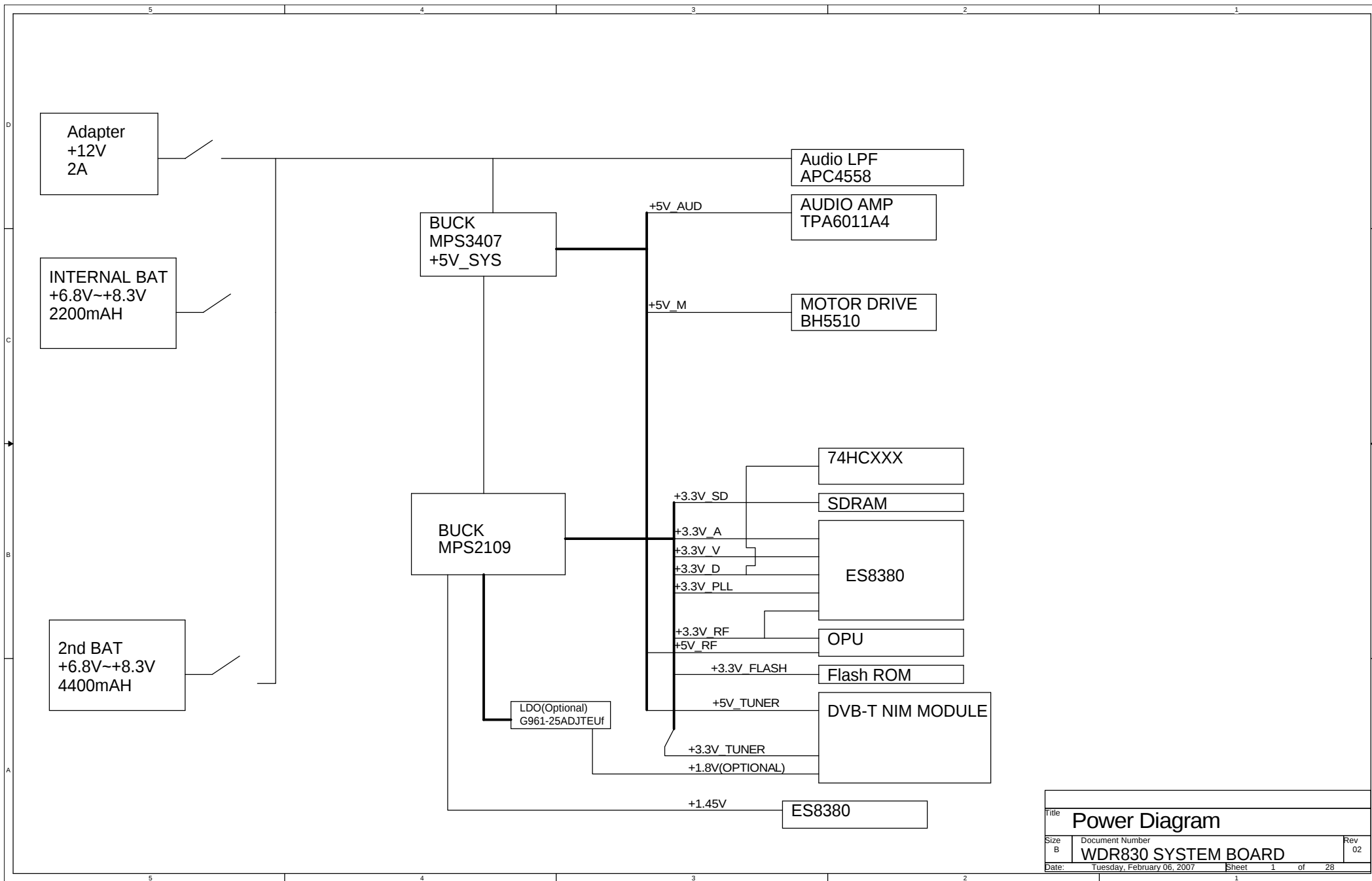


PET830 Block Diagram

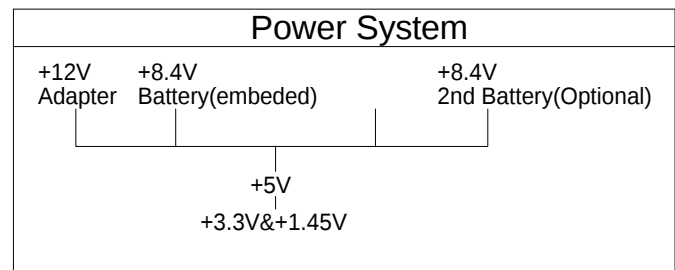
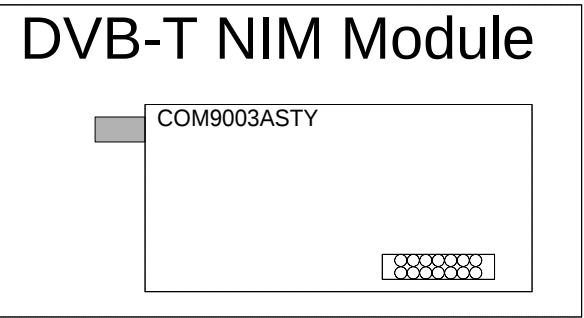
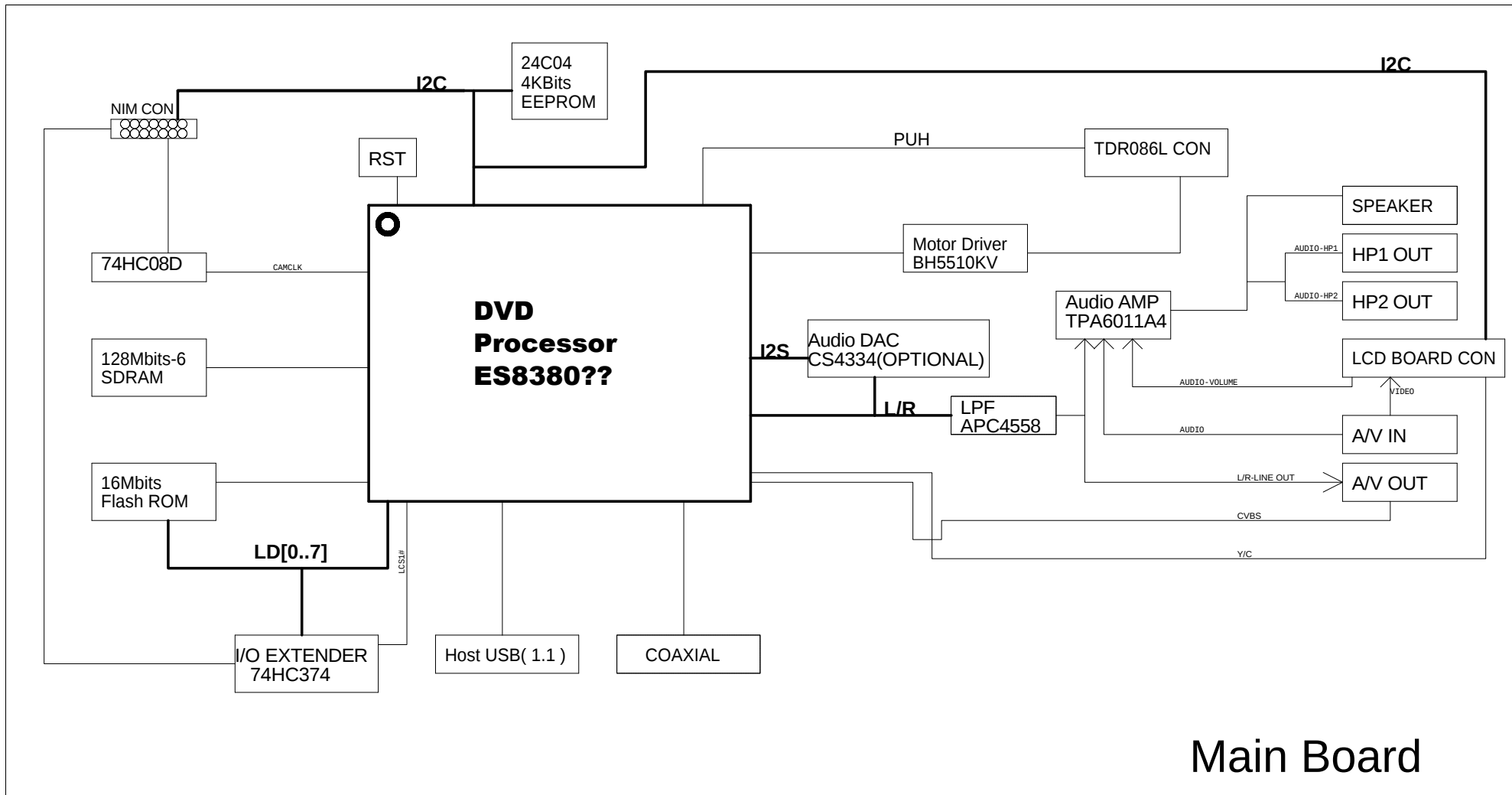
6.0 OVERALL BLOCK DIAGRAM



7.0 ELECTRICAL DIAGRAM

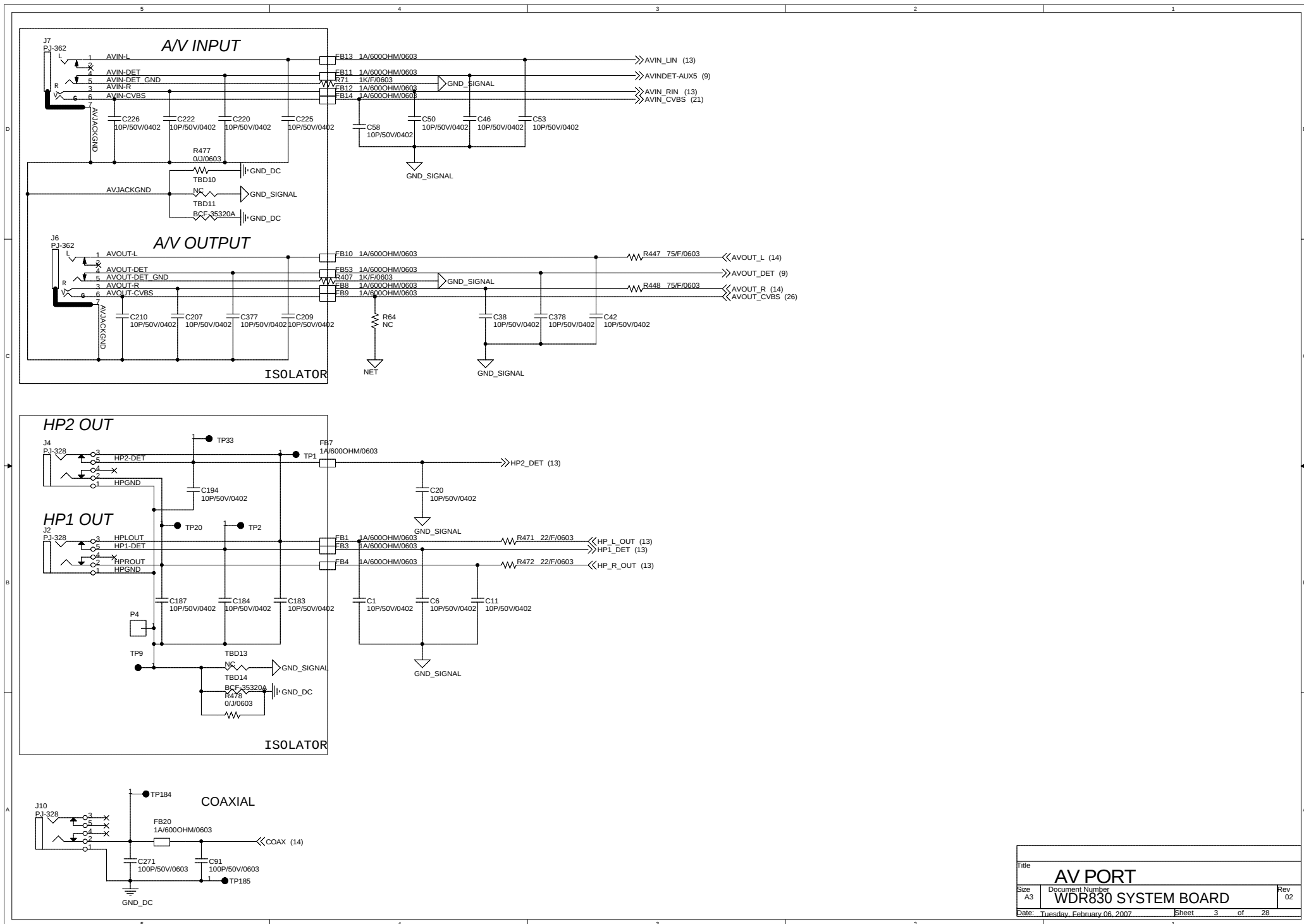


7.0 ELECTRICAL DIAGRAM

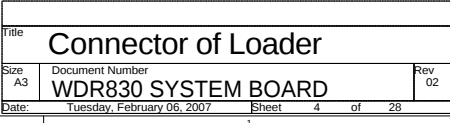


Title			
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Size	Document Number		Rev
A3	WDR830 SYSTEM BOARD		02
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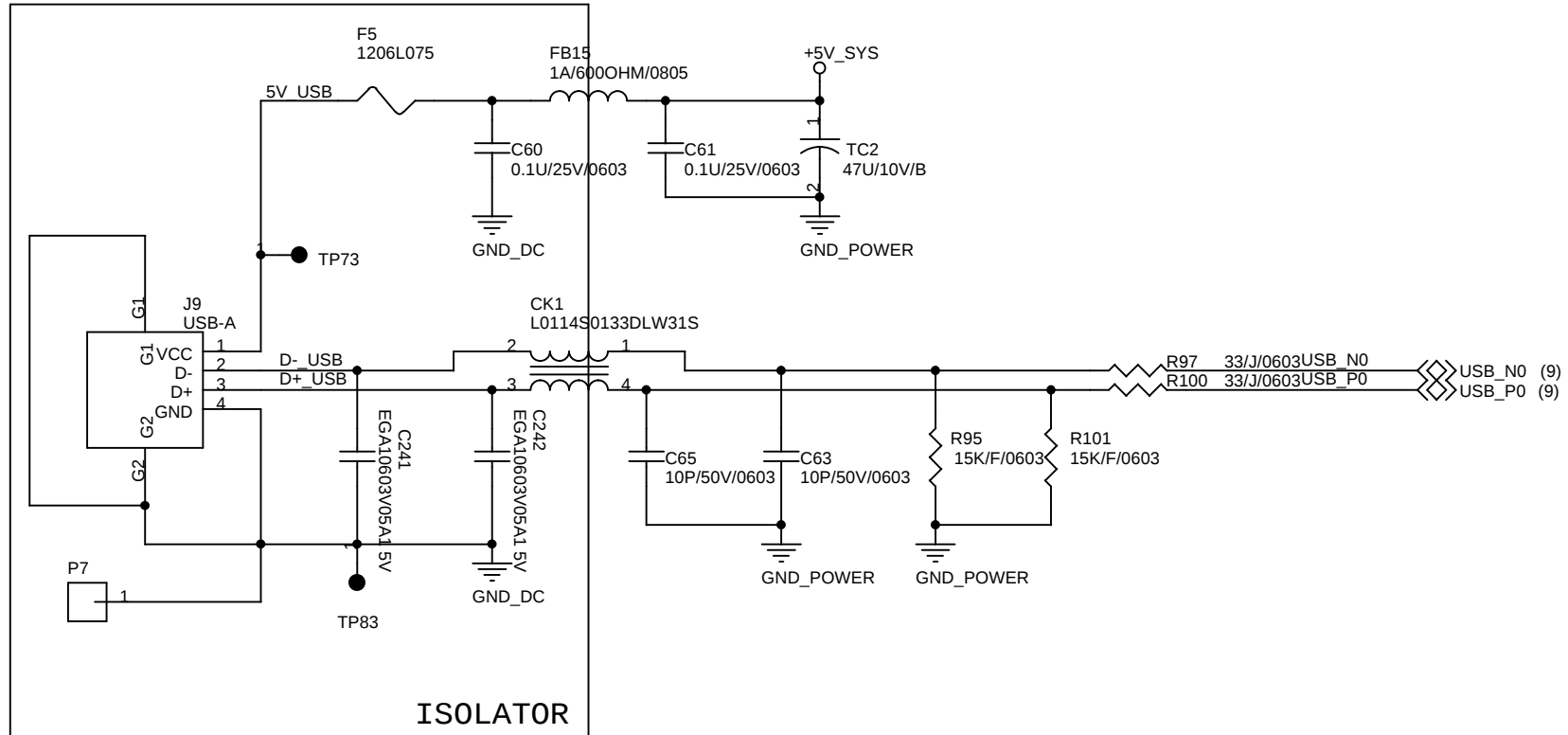
7.0 ELECTRICAL DIAGRAM



5	4	3	2	1
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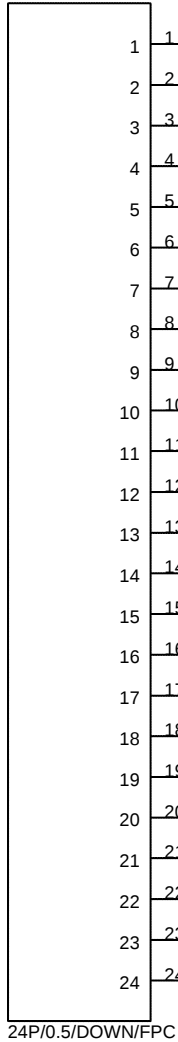
7.0 ELECTRICAL DIAGRAM



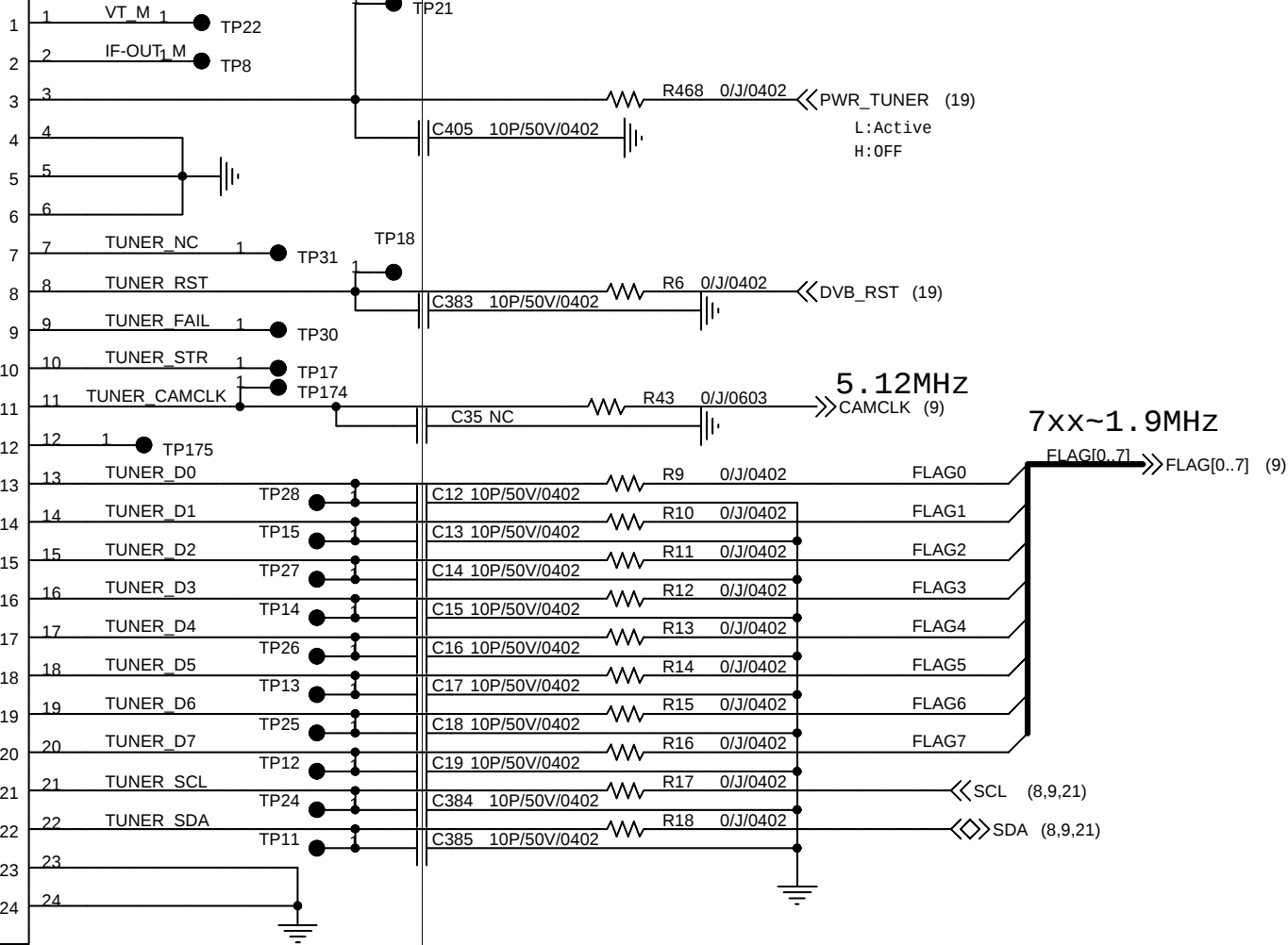
Title		
CON_USB		
Size	Document Number	Rev
A	WDR830 SYSTEM BOARD	02
Date:	Tuesday, February 06, 2007	Sheet 5 of 28

7.0 ELECTRICAL DIAGRAM

J1



ISOLATOR

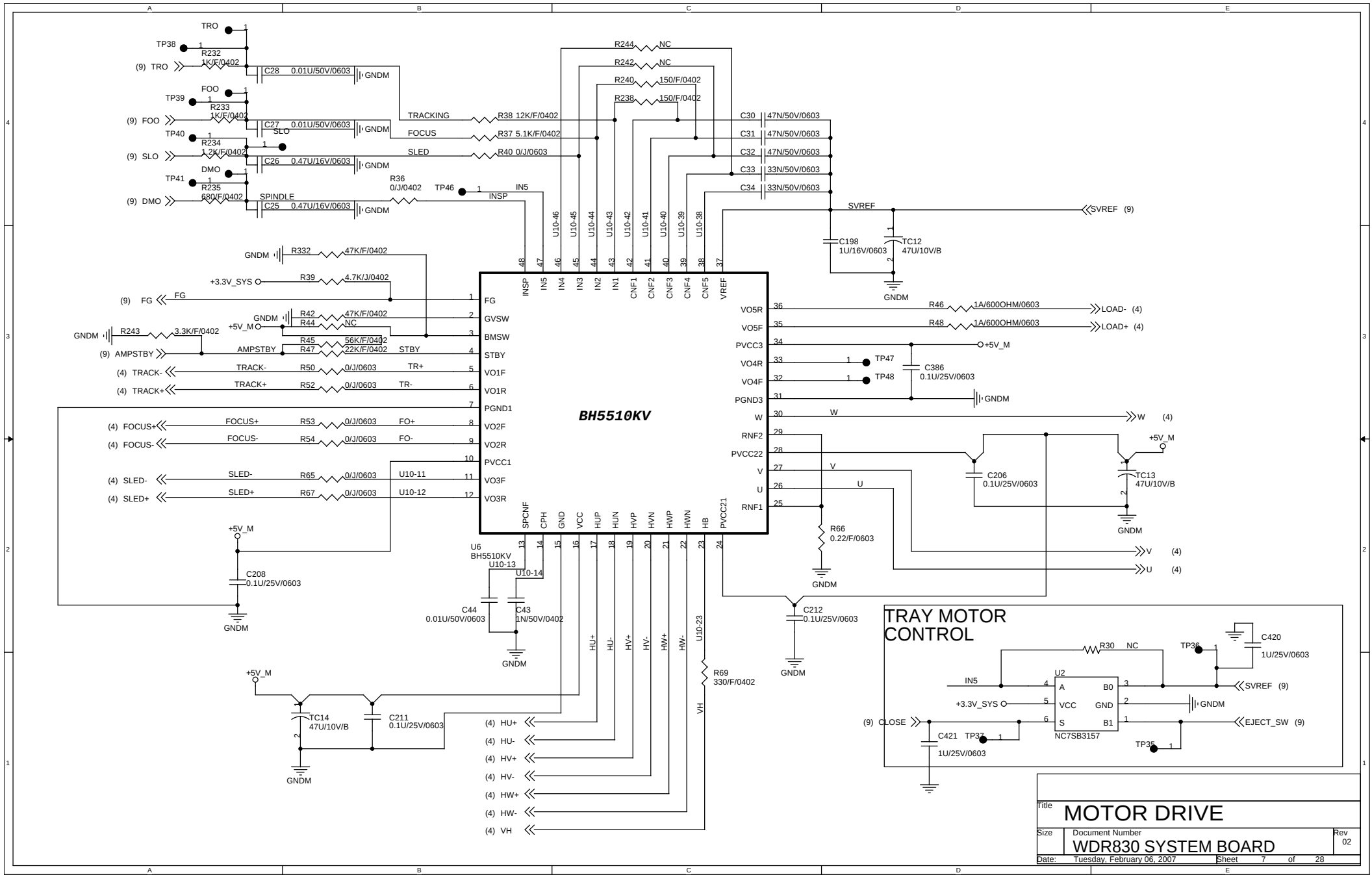


Title CON OF NIM Module

Size A Document Number WDR830 SYSTEM BOARD Rev 02

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7.0 ELECTRICAL DIAGRAM



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

The schematic diagram illustrates the connection of an EEPROM (U20, 24C04) to the WDR830 System Board. The circuit is powered by a +3.3V_SYS supply, which passes through a fuse (FB22, 1A/6000OHM/0603) and a capacitor (C185, 0.1U/25V/0603) before reaching the VCC pin (8) of the EEPROM. The WP pin (7) is connected to the 3V3 EE supply through a 4.7K/F/0603 resistor (R225). The SCL pin (6) is connected to the 3V3 EE supply through a 4.7K/F/0603 resistor (R226). The SDA pin (5) is connected to the 3V3 EE supply through a 4.7K/F/0603 resistor (R227). The A0, A1, and A2 pins (1, 2, 3) are connected to ground. The GND pin (4) is connected to ground. The I2C address is 0xA0. The circuit is labeled 'EEPROM' and 'WDR830 SYSTEM BOARD'.

Title		
EEPROM		
Size A	Document Number	Rev 02
WDR830 SYSTEM BOARD		
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EEPROM

Document Number

WDR830 SYSTEM BOARD

Rev	02
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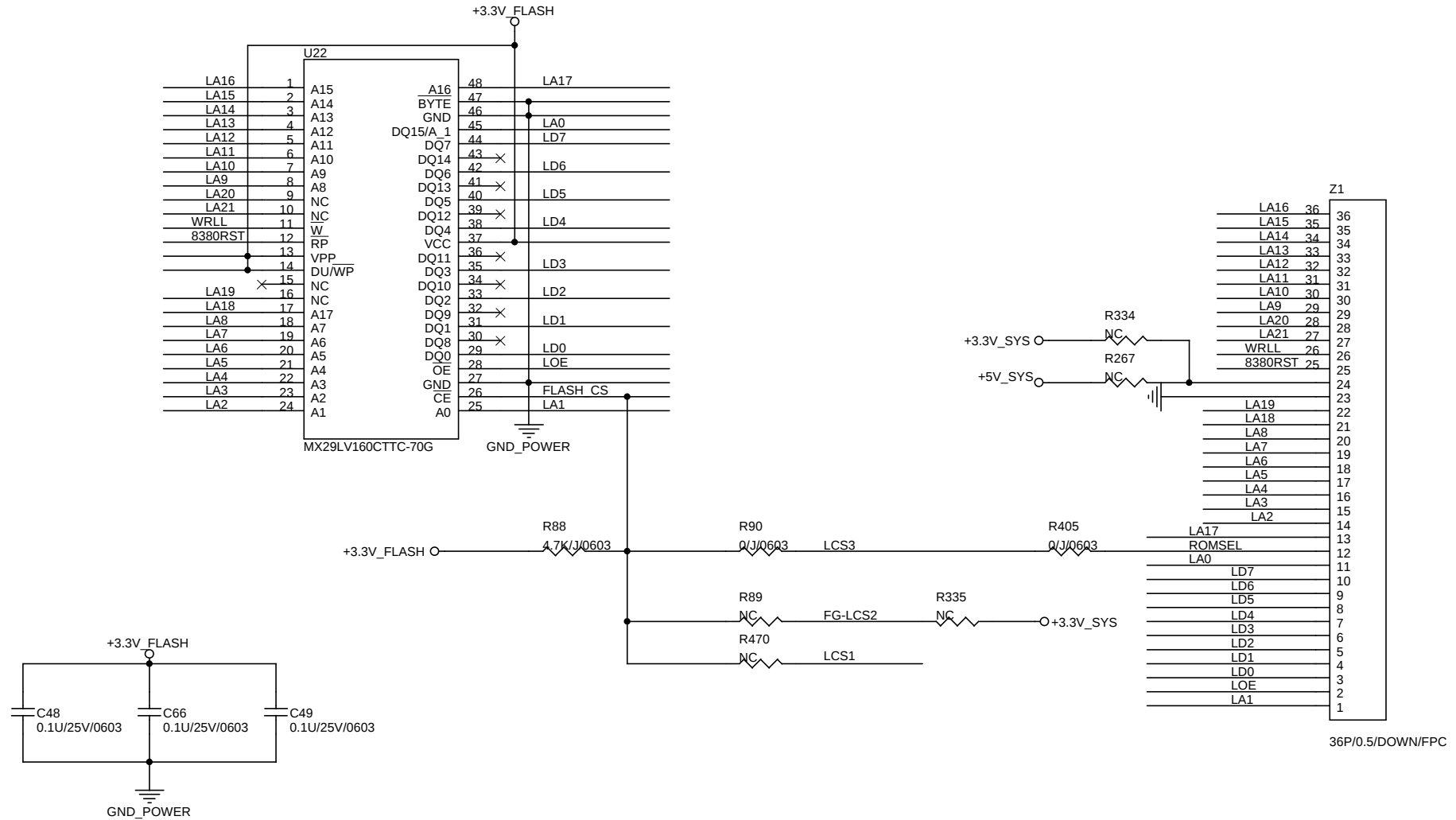
Date:

Tuesday, February 06, 2007

Sheet

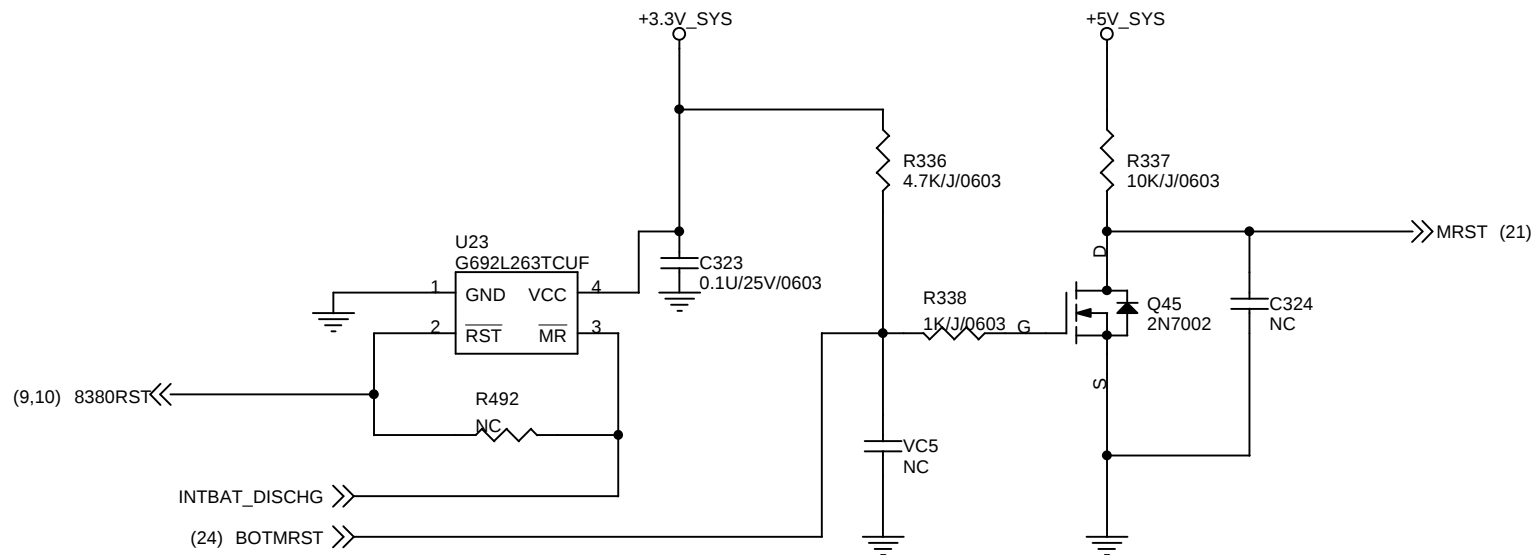
8 of 28

7.0 ELECTRICAL DIAGRAM



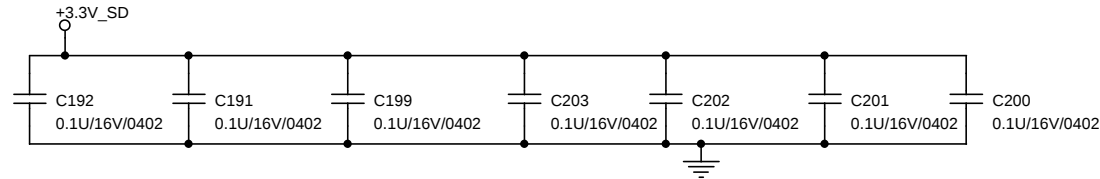
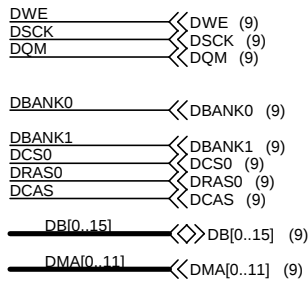
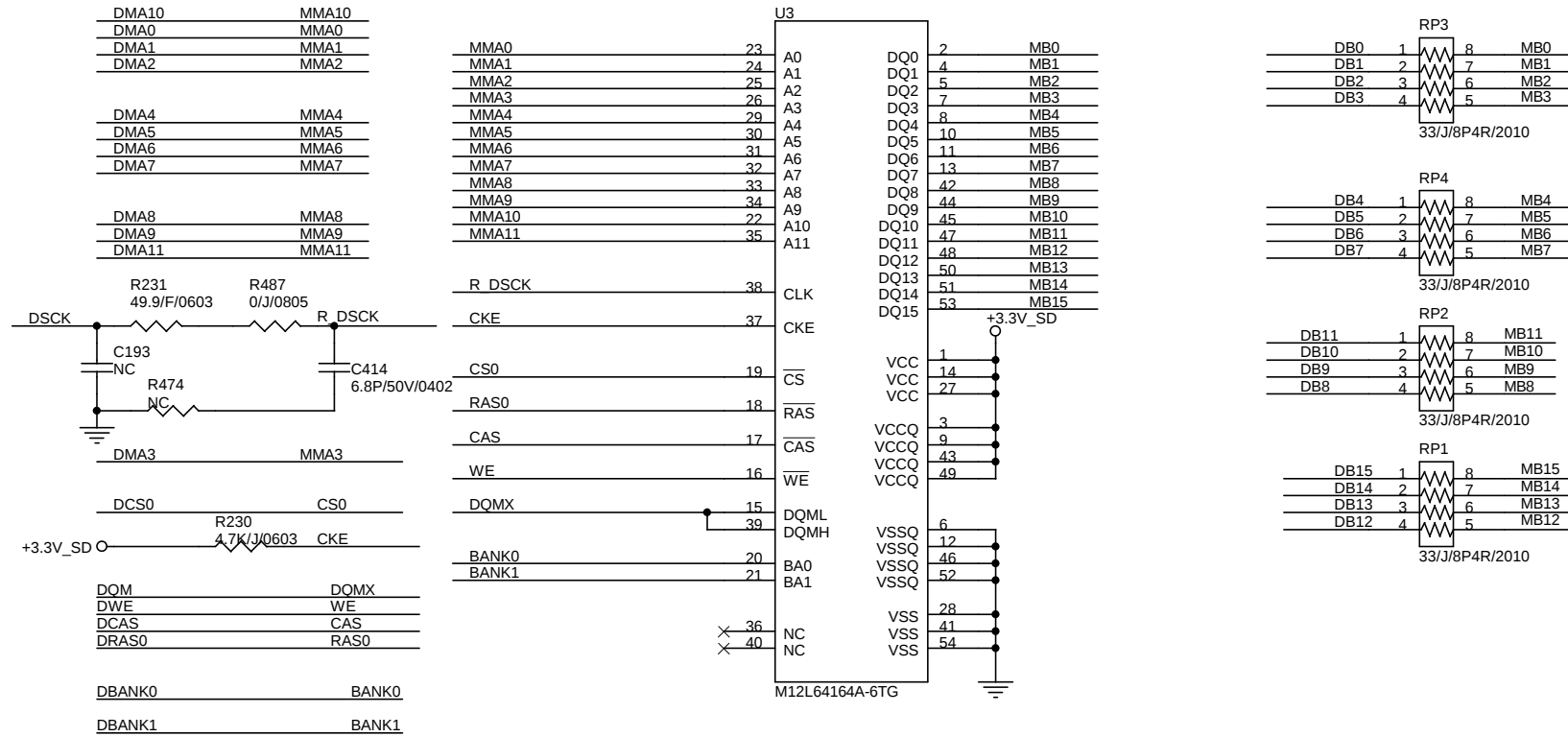
Title		
FLASH ROM		
Size A4	Document Number	Rev 02
WDR830 SYSTEM BOARD		
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7.0 ELECTRICAL DIAGRAM



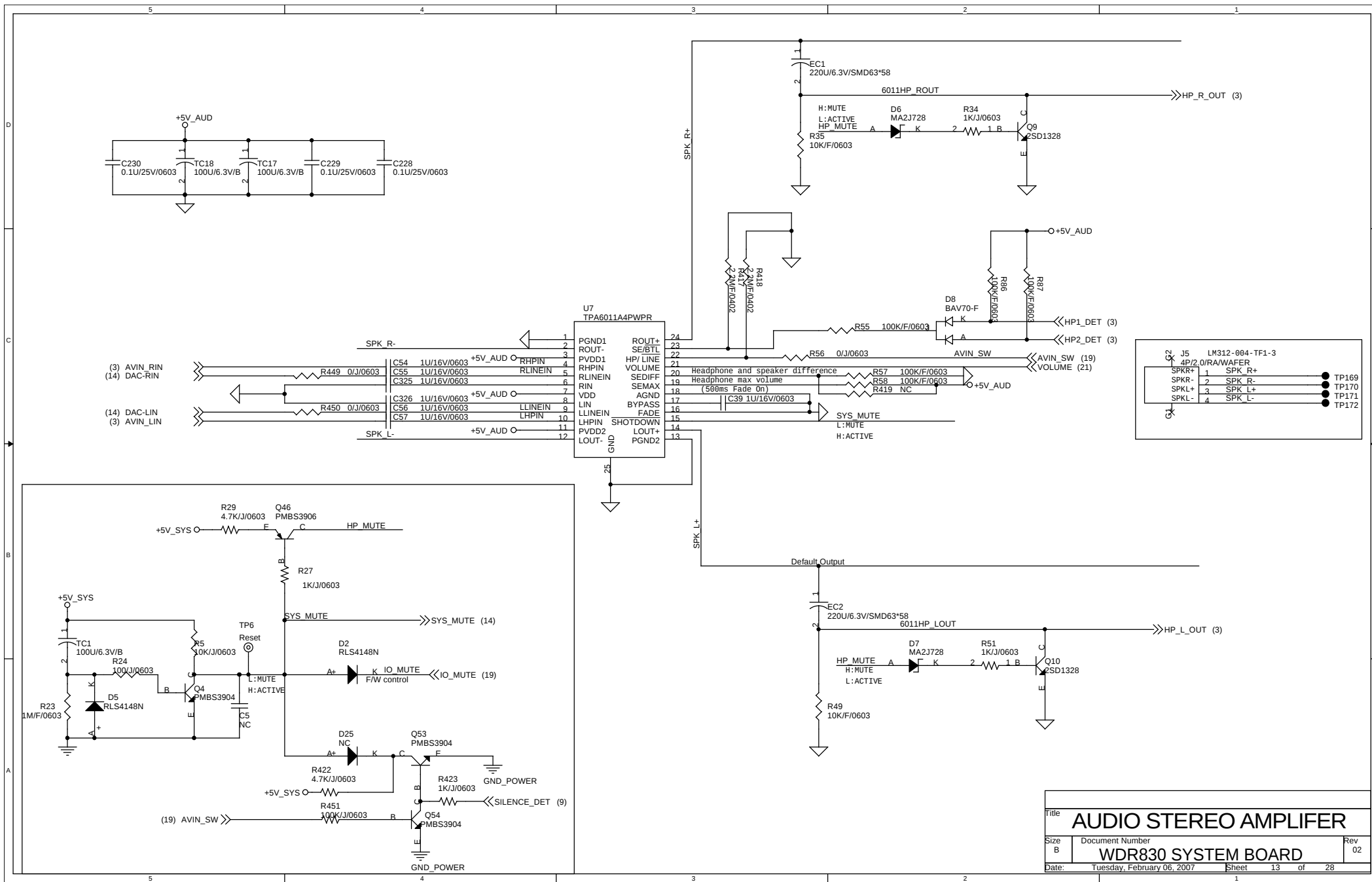
Title		
RESET		
Size A	Document Number WDR830 SYSTEM BOARD	Rev 02
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7.0 ELECTRICAL DIAGRAM

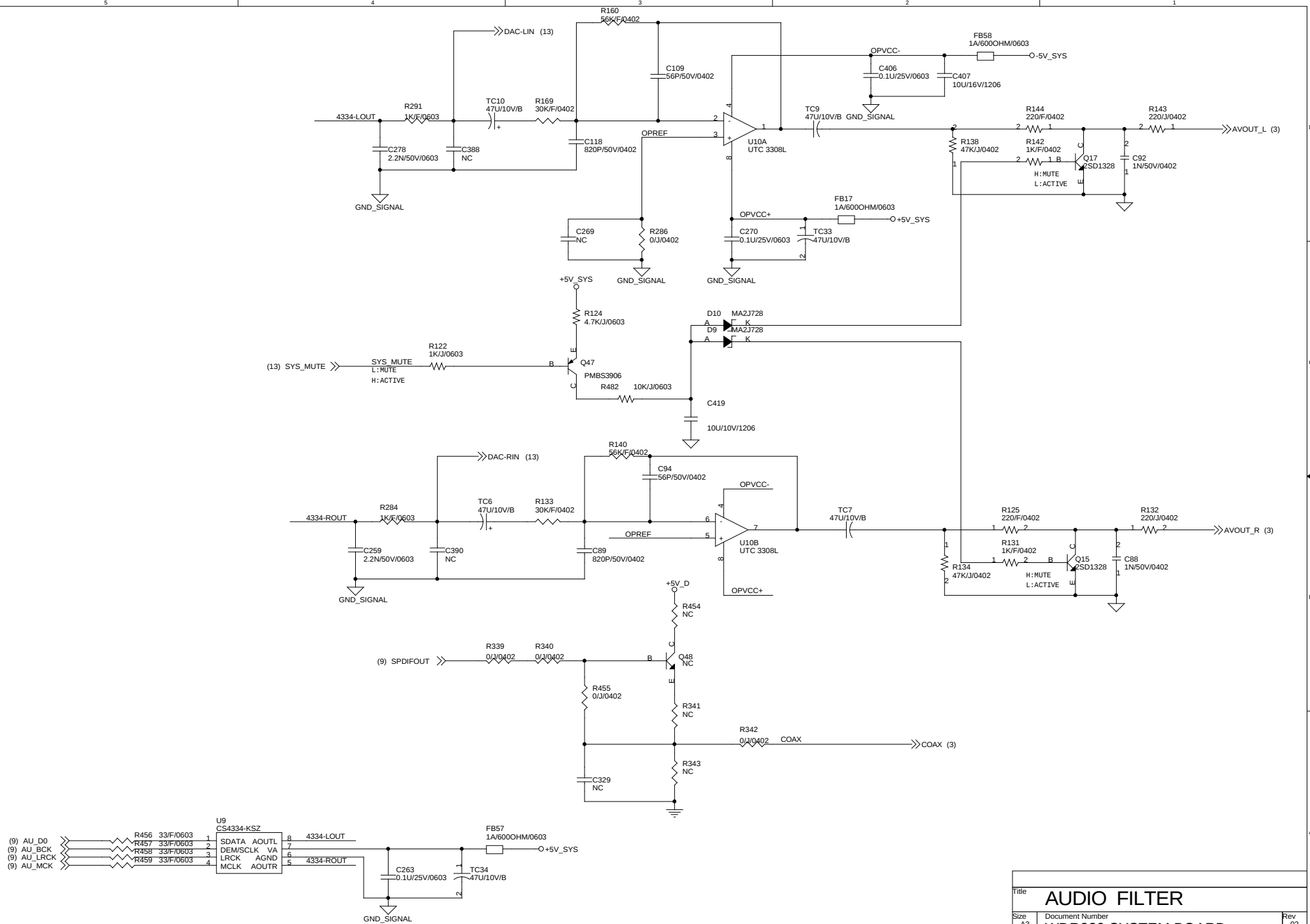


Title		
SDRAM		
Size	Document Number	Rev
A4	WDR830 SYSTEM BOARD	02
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7.0 ELECTRICAL DIAGRAM



7.0 ELECTRICAL DIAGRAM



Title			AUDIO FILTER		
Size	Document Number		WDR830 SYSTEM BOARD		Rev
A3					02
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INPUT
DC 9V 2.0A
or 1.8A

IOLATOR

OVP

DVBT POWER
LM193-994-TX3
J17
4P/1.25/RA/WAFER

Adapter IN

Document Number
WDR830 SYSTEM BOARD

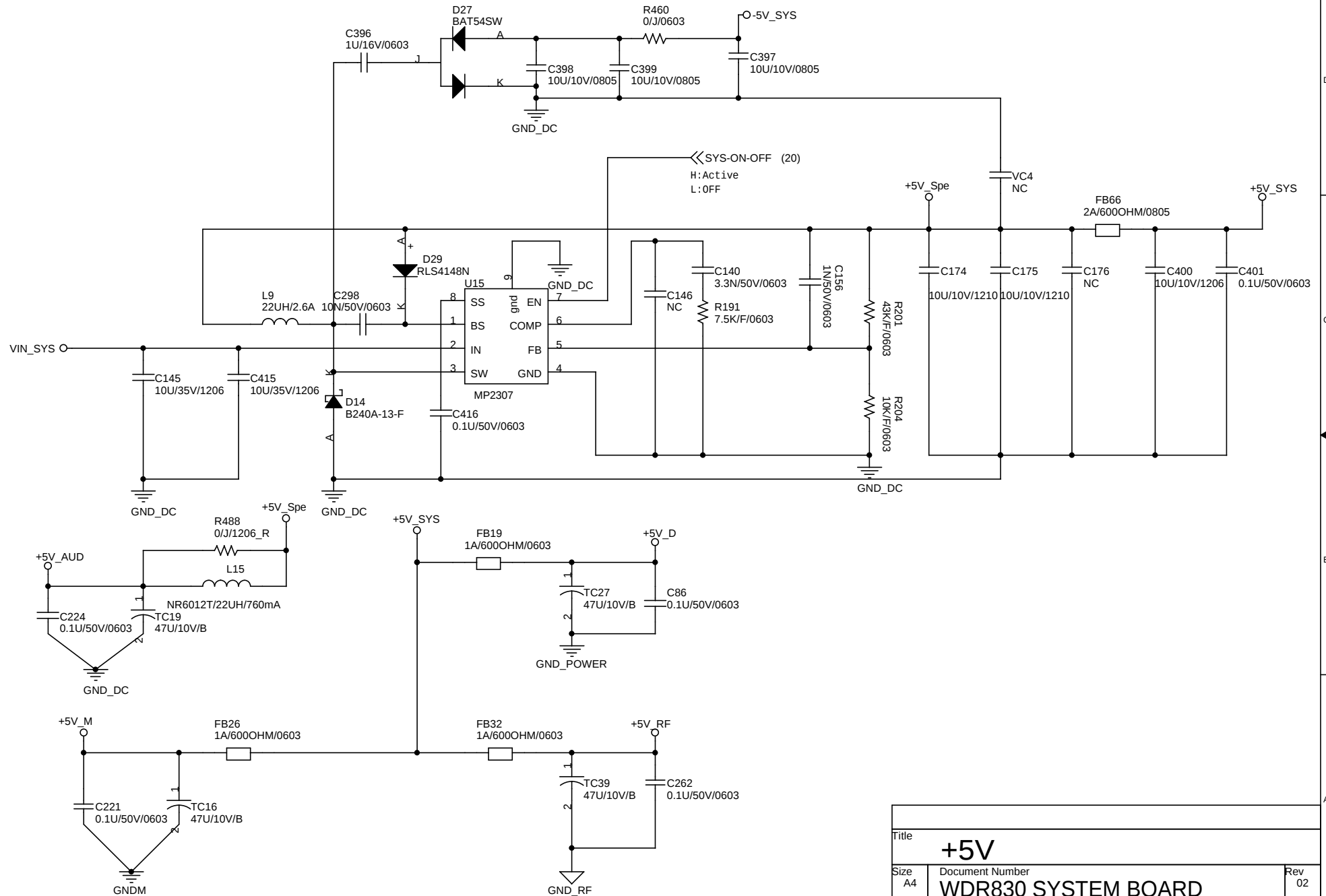
Rev
02

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The schematic diagram illustrates the power regulation and signal processing components of the WDR830 SYSTEM BOARD. The board is powered by a +5V_SYS input, which is regulated to +3.3V_SYS and +1.45V. The +3.3V_SYS is further regulated to +3.3V_V, +3.3V_PL, +3.3V_USB, +3.3V_SD, +3.3V_FLASH, +3.3V_D, +3.3V_RF, and +3.3V_DAC. The +1.45V is regulated to +1.45V_V, +1.45V_PL, +1.45V_USB, +1.45V_SD, +1.45V_FLASH, +1.45V_D, +1.45V_RF, and +1.45V_DAC. The signal processing components include a U14 MP2109DO, a U15 MP2109DO, and a U16 MP2109DO. The board also includes various capacitors (C165, C160, C133, C394, C290, C395, C297, C303, C161, C166, C417, C255, C253, C251, C252, C254, C256, C257, C258, C259, C260, C261, C262, C263, C264, C265, C266, C267, C268, C269, C270, C271, C272, C273, C274, C275, C276, C277, C278, C279, C280, C281, C282, C283, C284, C285, C286, C287, C288, C289, C290, C291, C292, C293, C294, C295, C296, C297, C298, C299, C300, C301, C302, C303, C304, C305, C306, C307, C308, C309, C310, C311, C312, C313, C314, C315, C316, C317, C318, C319, C320, C321, C322, C323, C324, C325, C326, C327, C328, C329, C330, C331, C332, C333, C334, C335, C336, C337, C338, C339, C340, C341, C342, C343, C344, C345, C346, C347, C348, C349, C350, C351, C352, C353, C354, C355, C356, C357, C358, C359, C360, C361, C362, C363, C364, C365, C366, C367, C368, C369, C370, C371, C372, C373, C374, C375, C376, C377, C378, C379, C380, C381, C382, C383, C384, C385, C386, C387, C388, C389, C390, C391, C392, C393, C394, C395, C396, C397, C398, C399, C400, C401, C402, C403, C404, C405, C406, C407, C408, C409, C410, C411, C412, C413, C414, C415, C416, C417, C418, C419, C420, C421, C422, C423, C424, C425, C426, C427, C428, C429, C430, C431, C432, C433, C434, C435, C436, C437, C438, C439, C440, C441, C442, C443, C444, C445, C446, C447, C448, C449, C450, C451, C452, C453, C454, C455, C456, C457, C458, C459, C460, C461, C462, C463, C464, C465, C466, C467, C468, C469, C470, C471, C472, C473, C474, C475, C476, C477, C478, C479, C480, C481, C482, C483, C484, C485, C486, C487, C488, C489, C490, C491, C492, C493, C494, C495, C496, C497, C498, C499, C500, C501, C502, C503, C504, C505, C506, C507, C508, C509, C510, C511, C512, C513, C514, C515, C516, C517, C518, C519, C520, C521, C522, C523, C524, C525, C526, C527, C528, C529, C530, C531, C532, C533, C534, C535, C536, C537, C538, C539, C540, C541, C542, C543, C544, C545, C546, C547, C548, C549, C550, C551, C552, C553, C554, C555, C556, C557, C558, C559, C560, C561, C562, C563, C564, C565, C566, C567, C568, C569, C570, C571, C572, C573, C574, C575, C576, C577, C578, C579, C580, C581, C582, C583, C584, C585, C586, C587, C588, C589, C590, C591, C592, C593, C594, C595, C596, C597, C598, C599, C600, C601, C602, C603, C604, C605, C606, C607, C608, C609, C610, C611, C612, C613, C614, C615, C616, C617, C618, C619, C620, C621, C622, C623, C624, C625, C626, C627, C628, C629, C630, C631, C632, C633, C634, C635, C636, C637, C638, C639, C640, C641, C642, C643, C644, C645, C646, C647, C648, C649, C650, C651, C652, C653, C654, C655, C656, C657, C658, C659, C660, C661, C662, C663, C664, C665, C666, C667, C668, C669, C670, C671, C672, C673, C674, C675, C676, C677, C678, C679, C680, C681, C682, C683, C684, C685, C686, C687, C688, C689, C690, C691, C692, C693, C694, C695, C696, C697, C698, C699, C700, C701, C702, C703, C704, C705, C706, C707, C708, C709, C710, C711, C712, C713, C714, C715, C716, C717, C718, C719, C720, C721, C722, C723, C724, C725, C726, C727, C728, C729, C730, C731, C732, C733, C734, C735, C736, C737, C738, C739, C740, C741, C742, C743, C744, C745, C746, C747, C748, C749, C750, C751, C752, C753, C754, C755, C756, C757, C758, C759, C760, C761, C762, C763, C764, C765, C766, C767, C768, C769, C770, C771, C772, C773, C774, C775, C776, C777, C778, C779, C780, C781, C782, C783, C784, C785, C786, C787, C788, C789, C790, C791, C792, C793, C794, C795, C796, C797, C798, C799, C800, C801, C802, C803, C804, C805, C806, C807, C808, C809, C810, C811, C812, C813, C814, C815, C816, C817, C818, C819, C820, C821, C822, C823, C824, C825, C826, C827, C828, C829, C830, C831, C832, C833, C834, C835, C836, C837, C838, C839, C840, C841, C842, C843, C844, C845, C846, C847, C848, C849, C850, C851, C852, C853, C854, C855, C856, C857, C858, C859, C860, C861, C862, C863, C864, C865, C866, C867, C868, C869, C870, C871, C872, C873, C874, C875, C876, C877, C878, C879, C880, C881, C882, C883, C884, C885, C886, C887, C888, C889, C890, C891, C892, C893, C894, C895, C896, C897, C898, C899, C900, C901, C902, C903, C904, C905, C906, C907, C908, C909, C910, C911, C912, C913, C914, C915, C916, C917, C918, C919, C920, C921, C922, C923, C924, C925, C926, C927, C928, C929, C930, C931, C932, C933, C934, C935, C936, C937, C938, C939, C940, C941, C942, C943, C944, C945, C946, C947, C948, C949, C950, C951, C952, C953, C954, C955, C956, C957, C958, C959, C960, C961, C962, C963, C964, C965, C966, C967, C968, C969, C970, C971, C972, C973, C974, C975, C976, C977, C978, C979, C980, C981, C982, C983, C984, C985, C986, C987, C988, C989, C990, C991, C992, C993, C994, C995, C996, C997, C998, C999, C1000, C1001, C1002, C1003, C1004

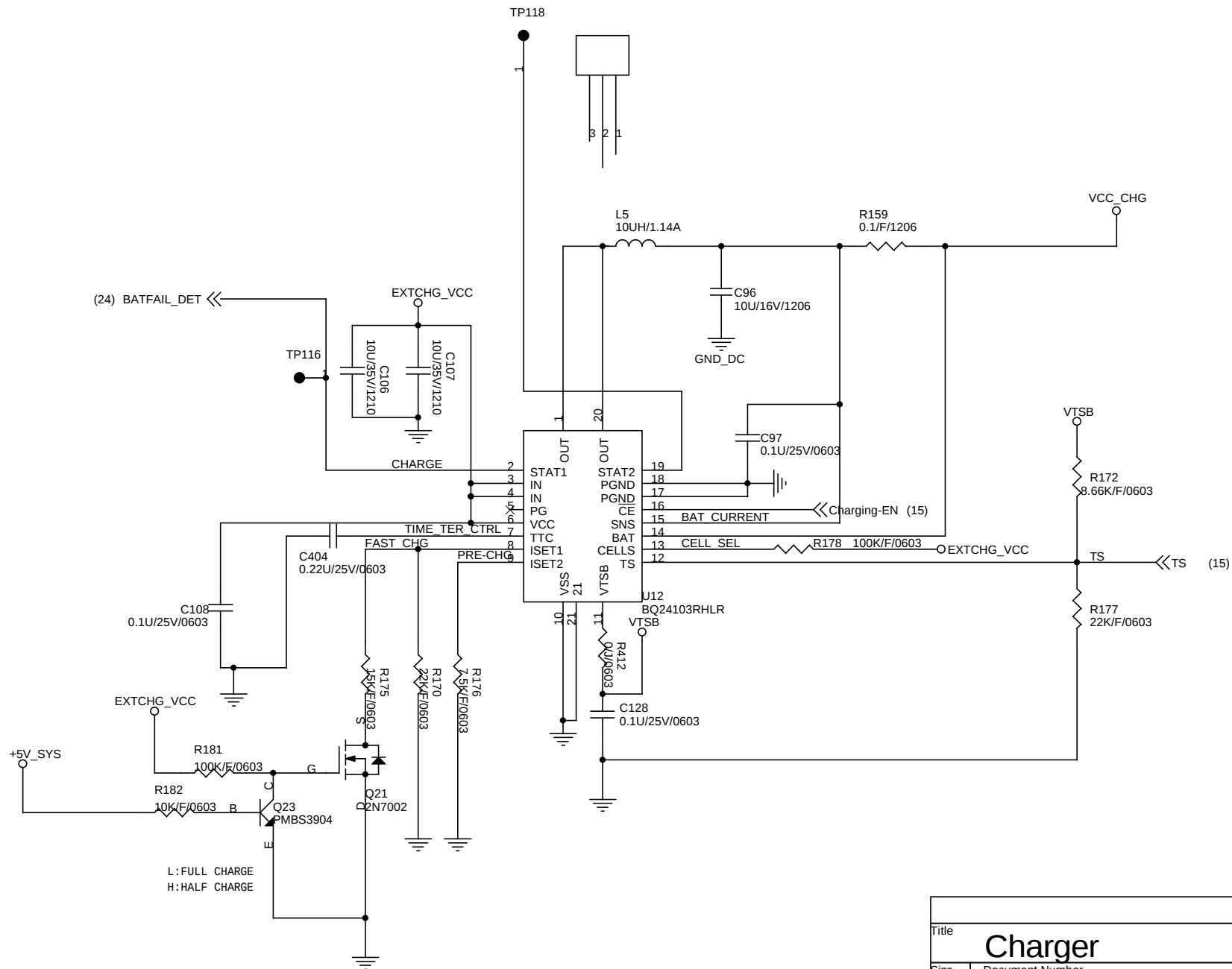
Title				+3.3V & +1.45V			
Size	Document Number						Rev
B	WDR830 SYSTEM BOARD						02
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7.0 ELECTRICAL DIAGRAM



Title		
+5V		
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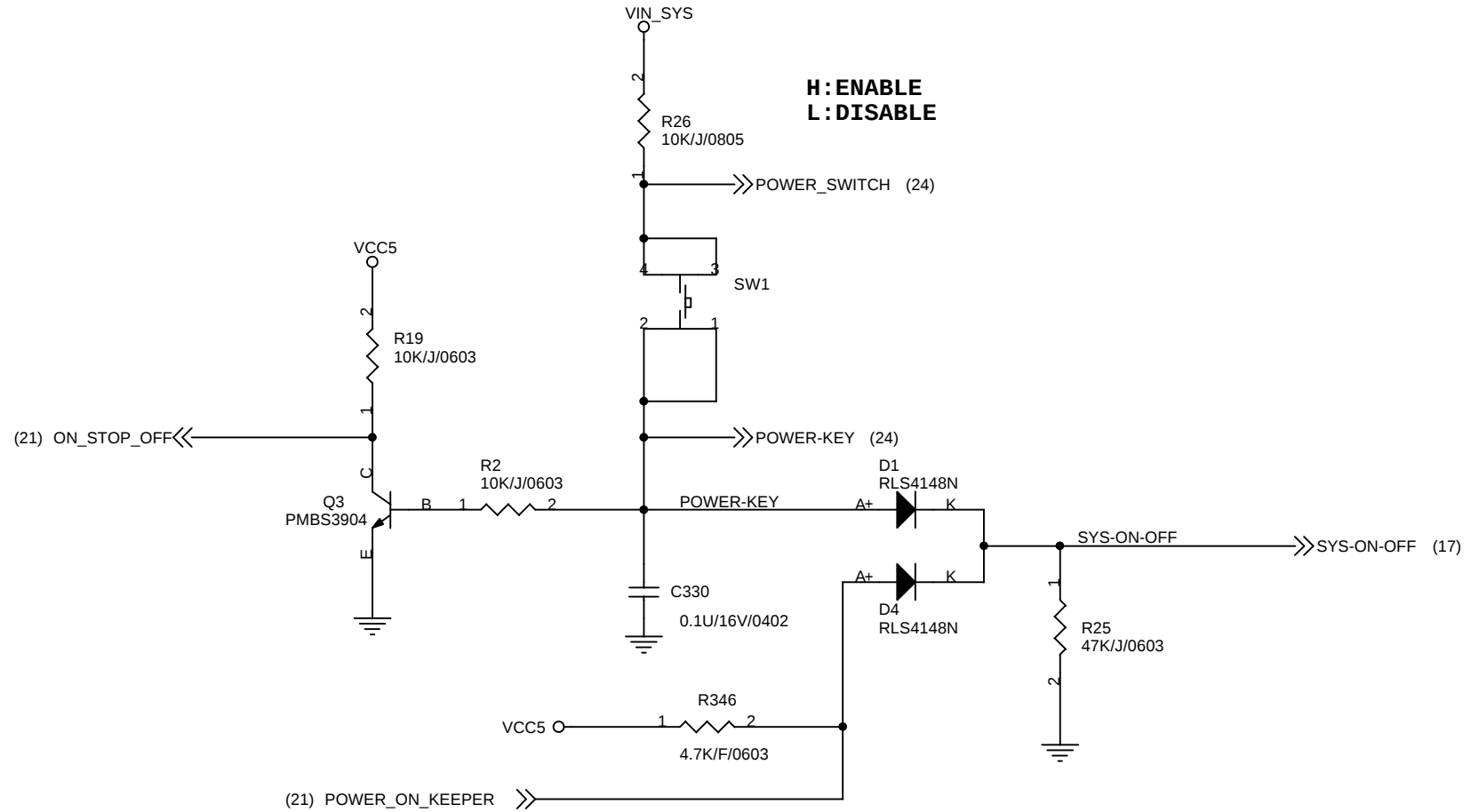
7.0 ELECTRICAL DIAGRAM



Title		
Charger		
Size	Document Number	Rev
A4	WDR830 SYSTEM BOARD	02
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[illegible]

7.0 ELECTRICAL DIAGRAM



Title **POWER ON/OFF SWITCH**

Size
A

Document Number

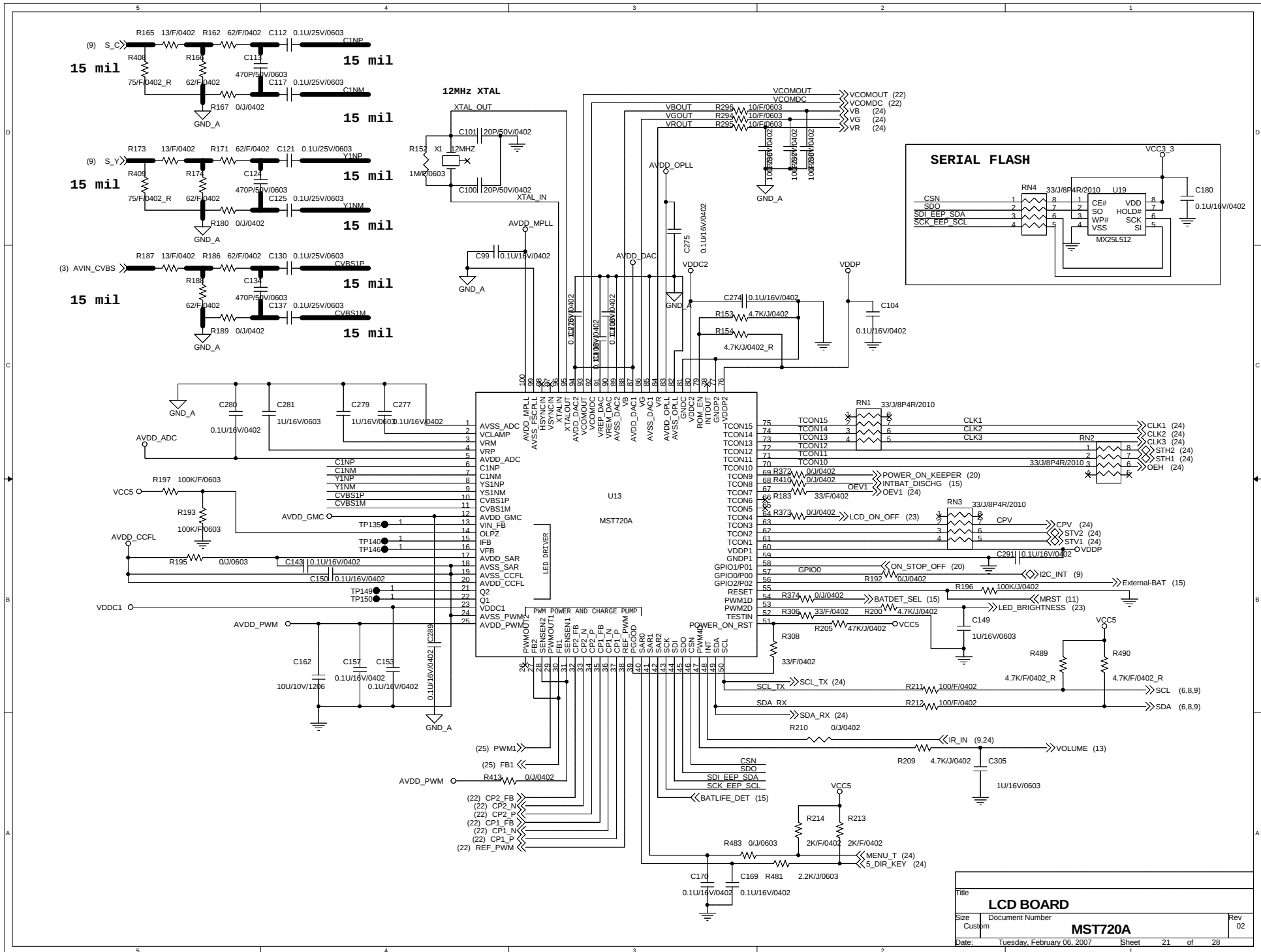
WDR830 SYSTEM BOARD

Rev
02

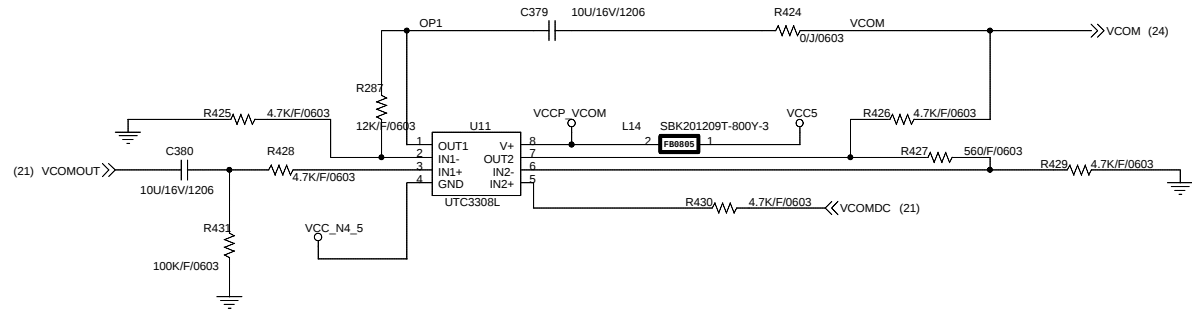
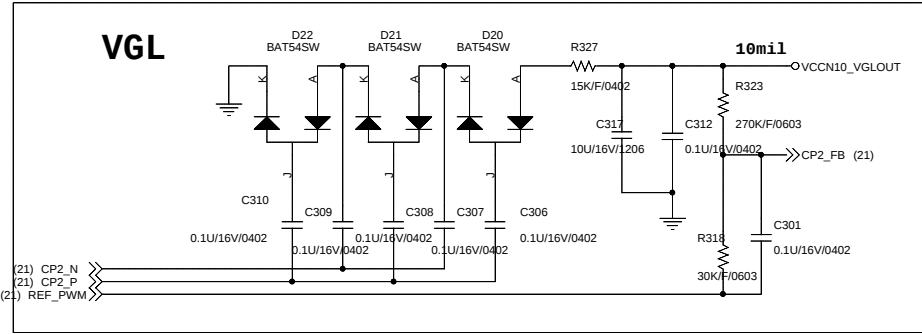
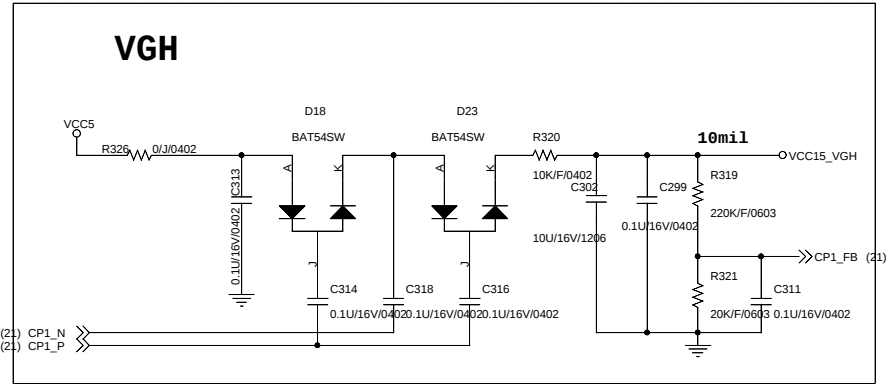
Date: Tuesday, February 06, 2007

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7.0 ELECTRICAL DIAGRAM



7.0 ELECTRICAL DIAGRAM

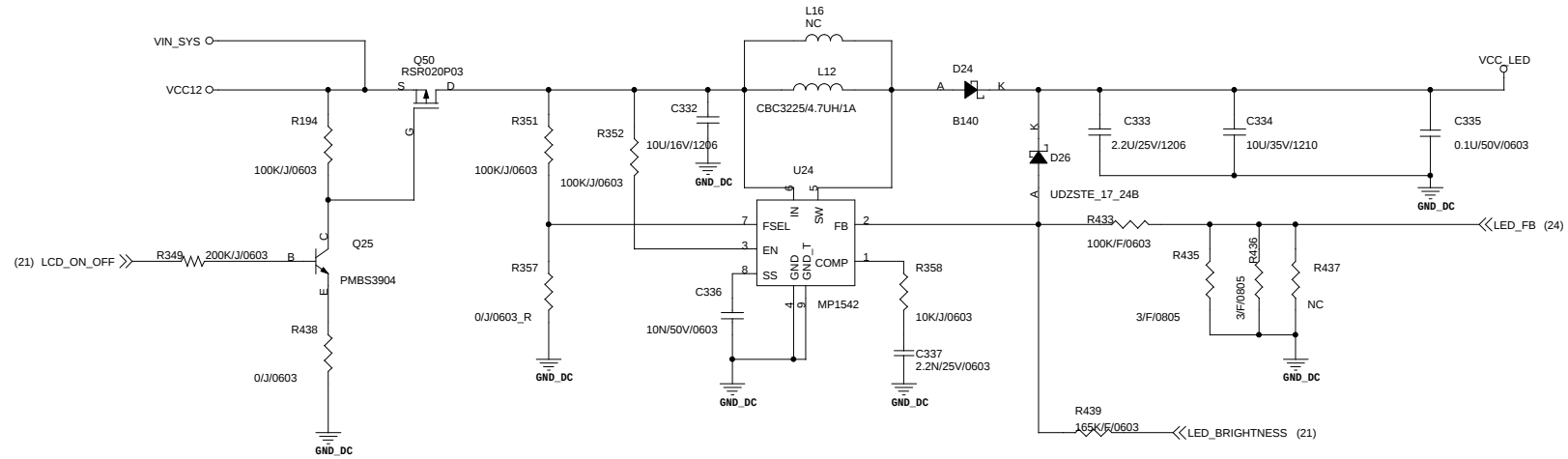


Title			
LCD BOARD			
Size	Document Number	Rev	
Custom	VGL,VGH,VCOM	02	
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		1	

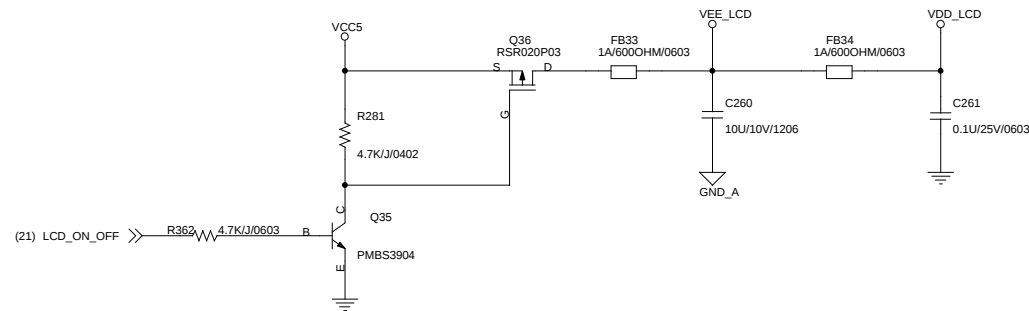
7.0 ELECTRICAL DIAGRAM

20V, 100mA LED Backlight

$$I_{out} = V_{bri} / (3 \times R_{128})$$



LED POWER DRIVER



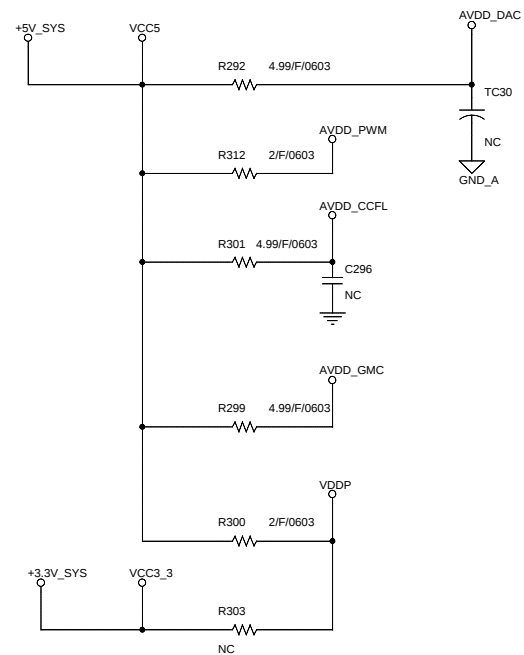
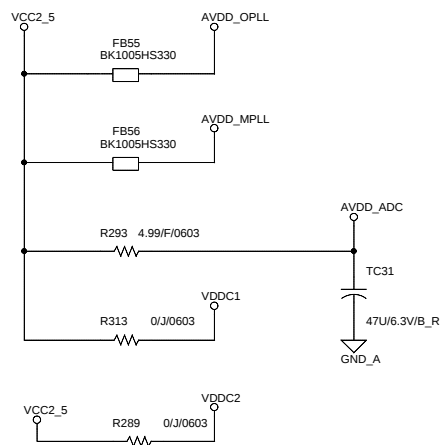
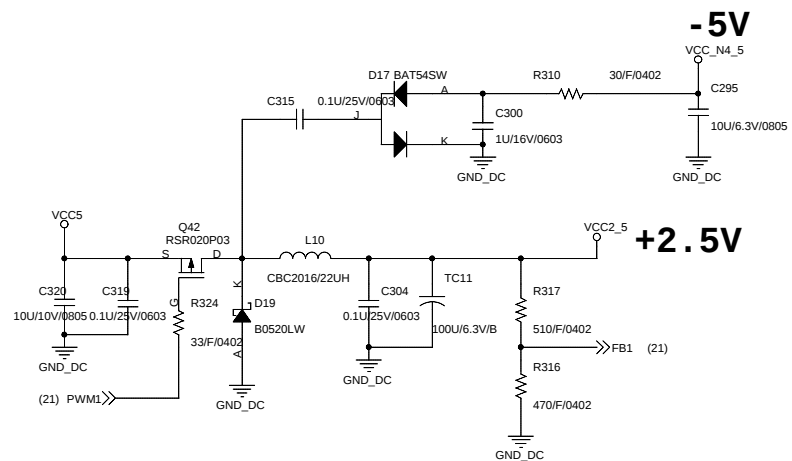
LCD POWER DRIVER

Title			
LCD&LED POWER DRIVER			
Size	Custom	Document Number	Rev
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Title			
LCD BOARD			
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Connector			
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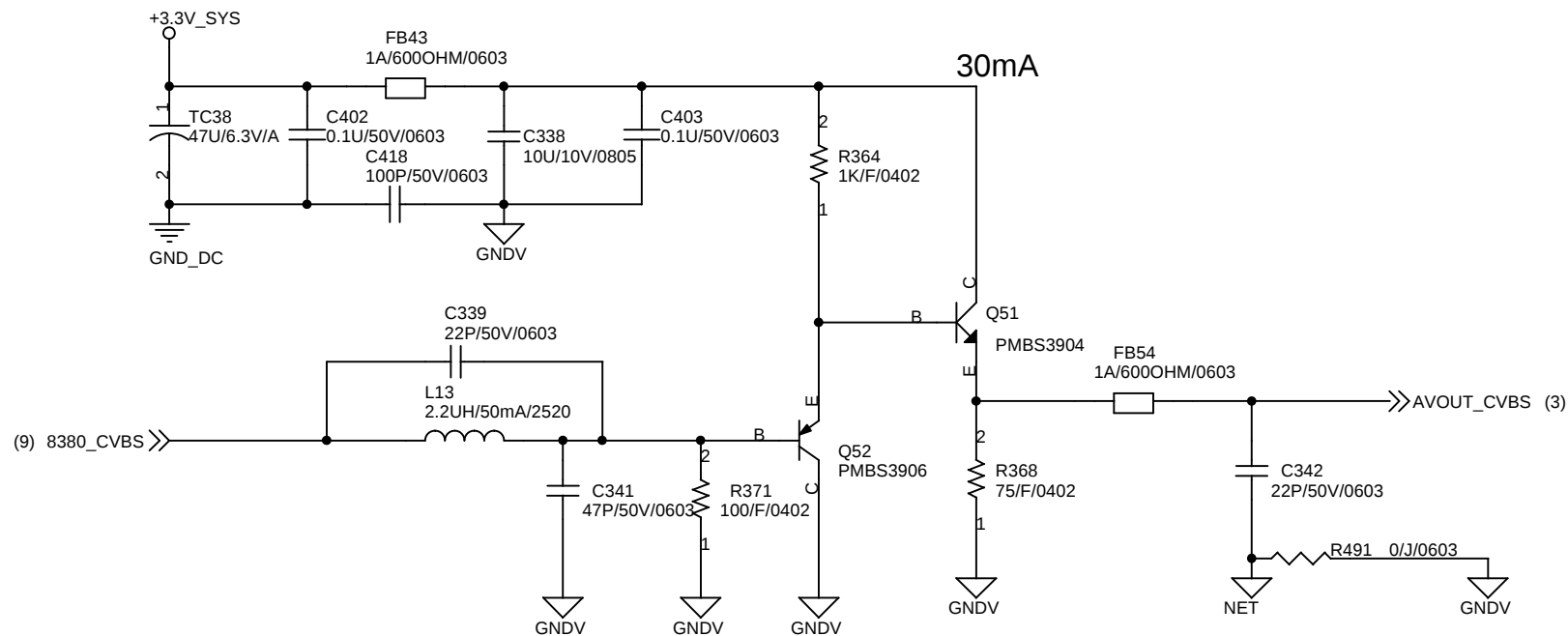
7.0 ELECTRICAL DIAGRAM

OUTPUT CONTROL by M720



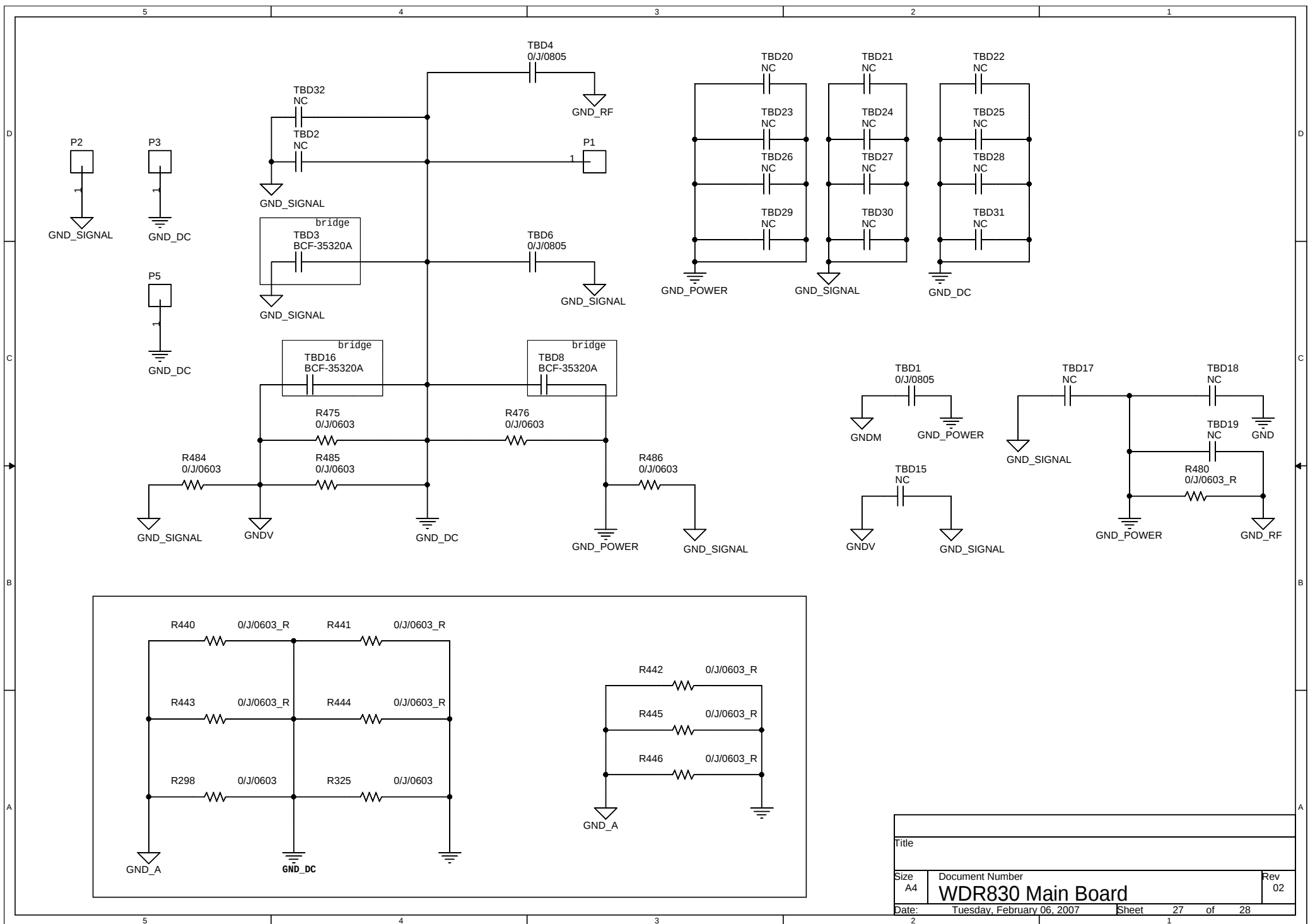
Title			
M720 POWER			
Size	Document Number	Rev	
Custom	Power	02	
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7.0 ELECTRICAL DIAGRAM



Title		
Video buffer		
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7.0 ELECTRICAL DIAGRAM



Title		
Size A4	Document Number WDR830 Main Board	Rev 02
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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

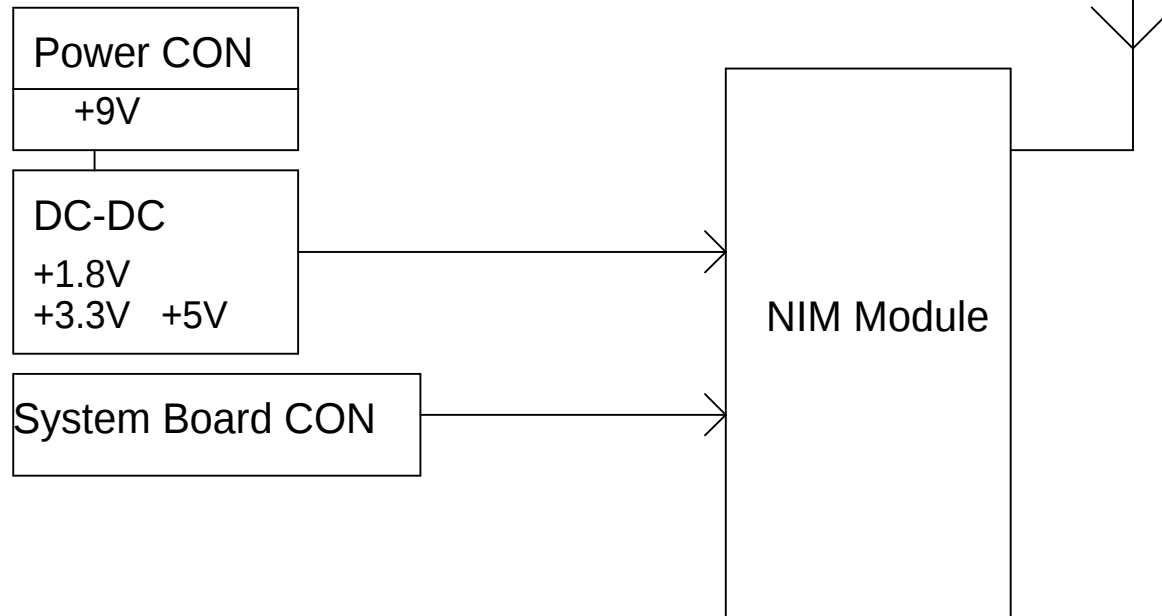
- 1.change footprint for assembly
J5->LM312004TF13
J15->LM311C003TX3
J17->LM103004TX3

2. Change U15->MP2307 for power supply large current

HISTORY

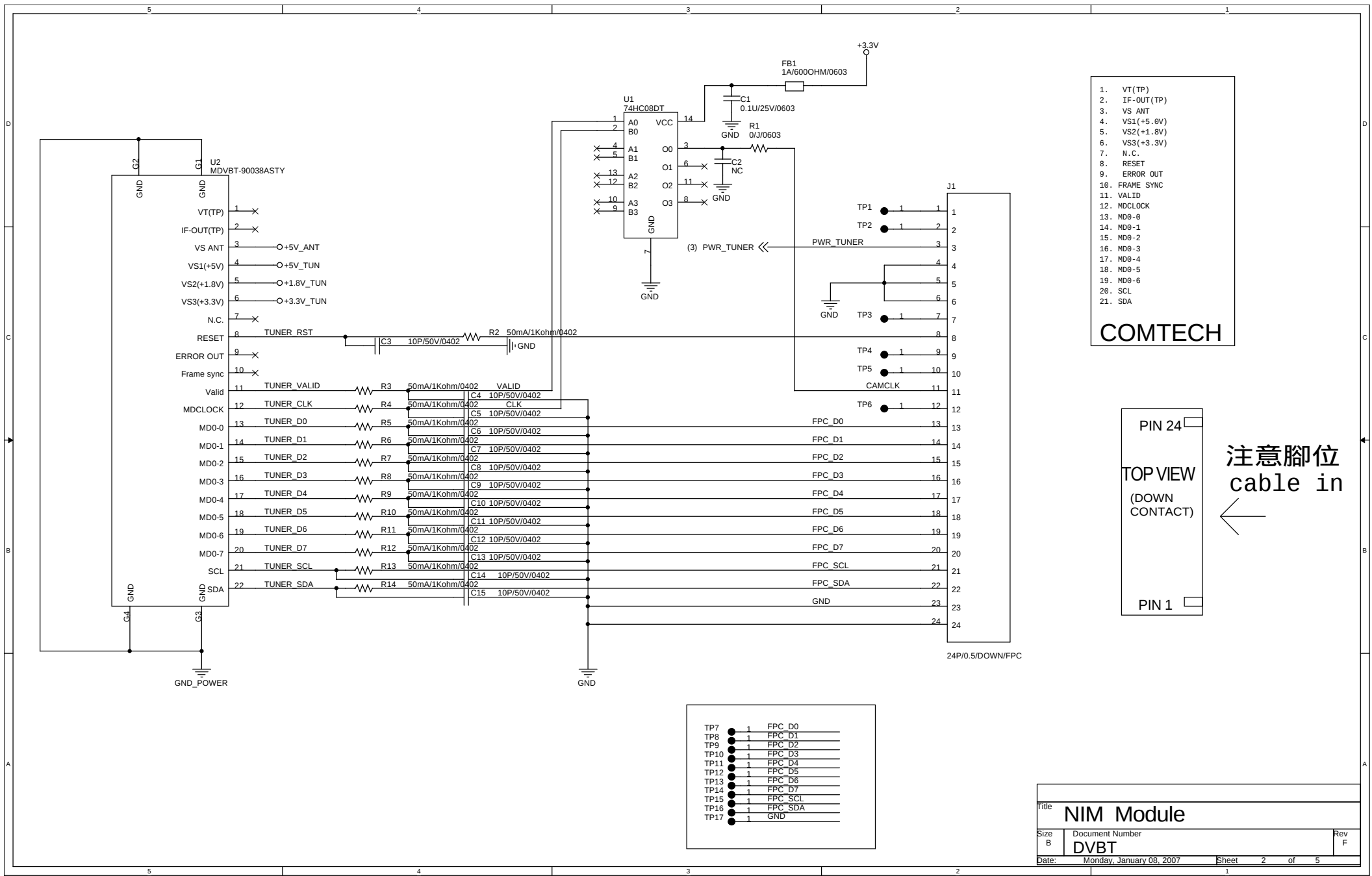
Size A3	Document Number WDR830 SYSTEM BOARD	Rev F
Date:	Tuesday, February 06, 2007	Sheet 28 of 28

7.0 ELECTRICAL DIAGRAM

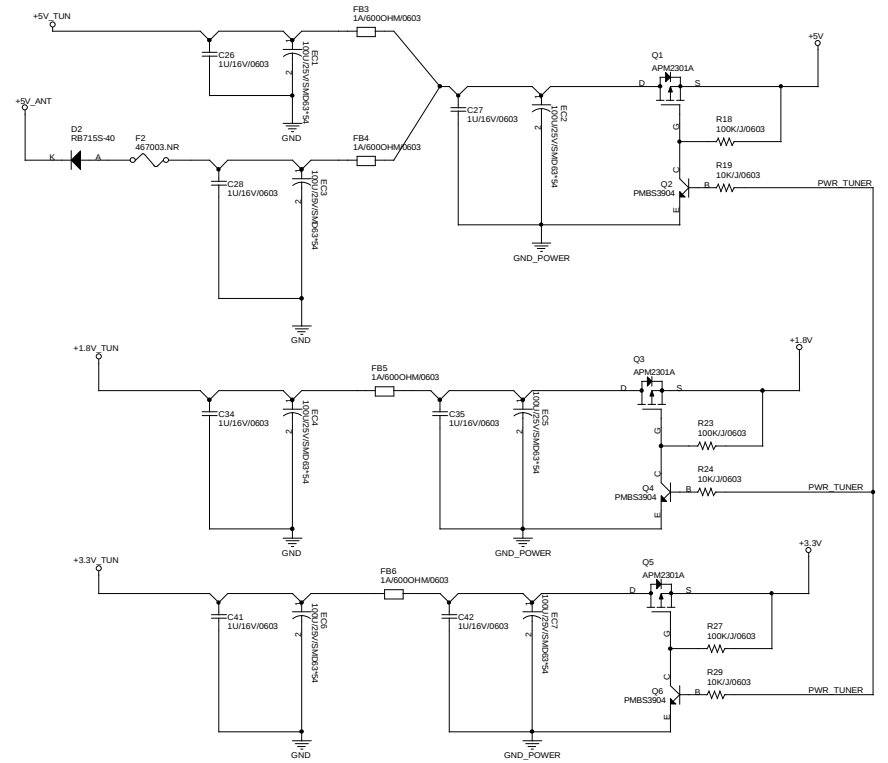
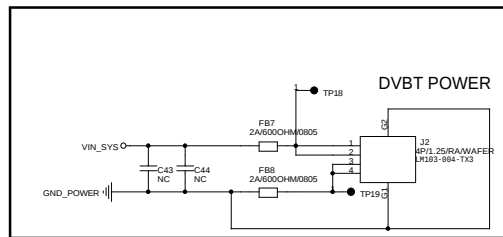
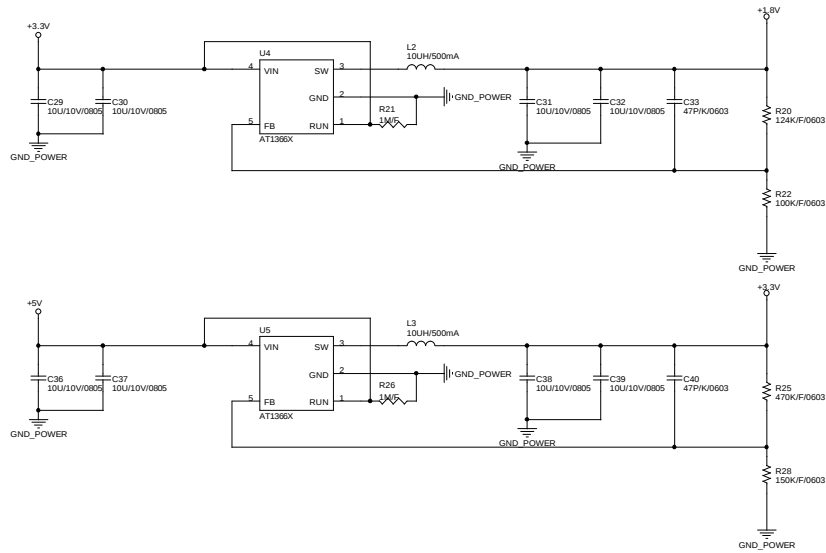
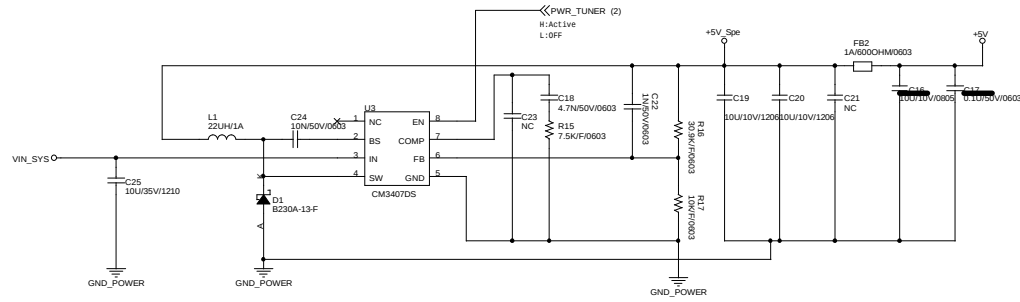


Title		
Block Diagram		
Size	Document Number	Rev
A	DVBT	F
Date: Monday, January 08, 2007		
Sheet 1 of 5		

7.0 ELECTRICAL DIAGRAM



7.0 ELECTRICAL DIAGRAM



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

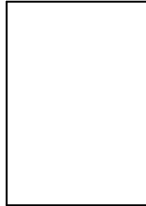
7.0 ELECTRICAL DIAGRAM

5 4 3 2 1

PCB1
L11cm*W3.5cm



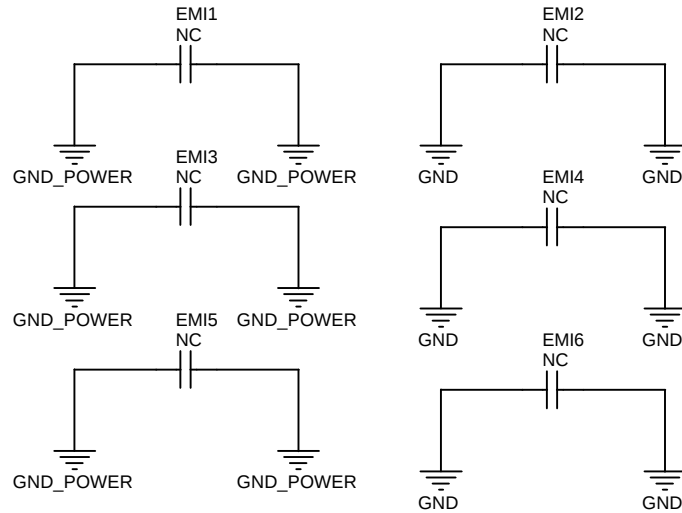
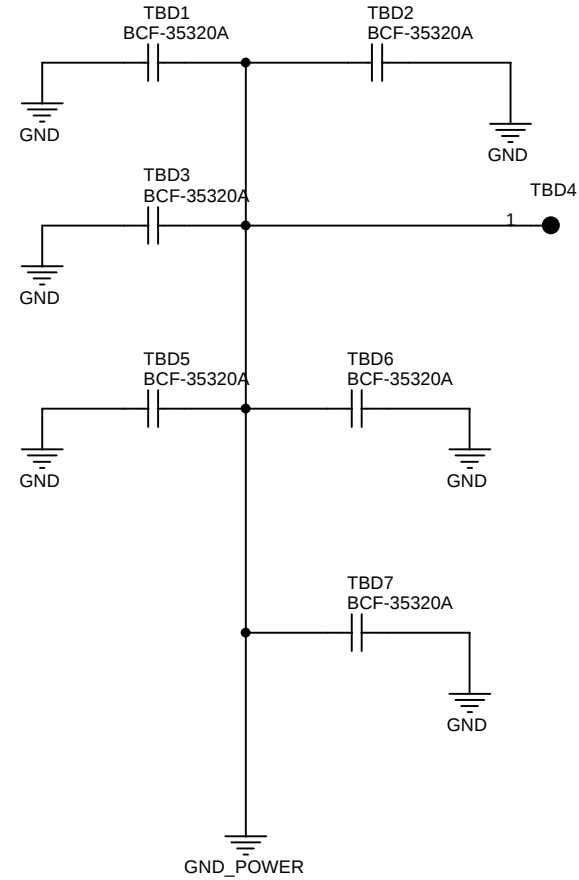
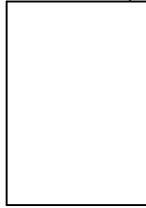
CONDUCTIVE FABRIC TAPE1
L11cm*W4cm



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



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

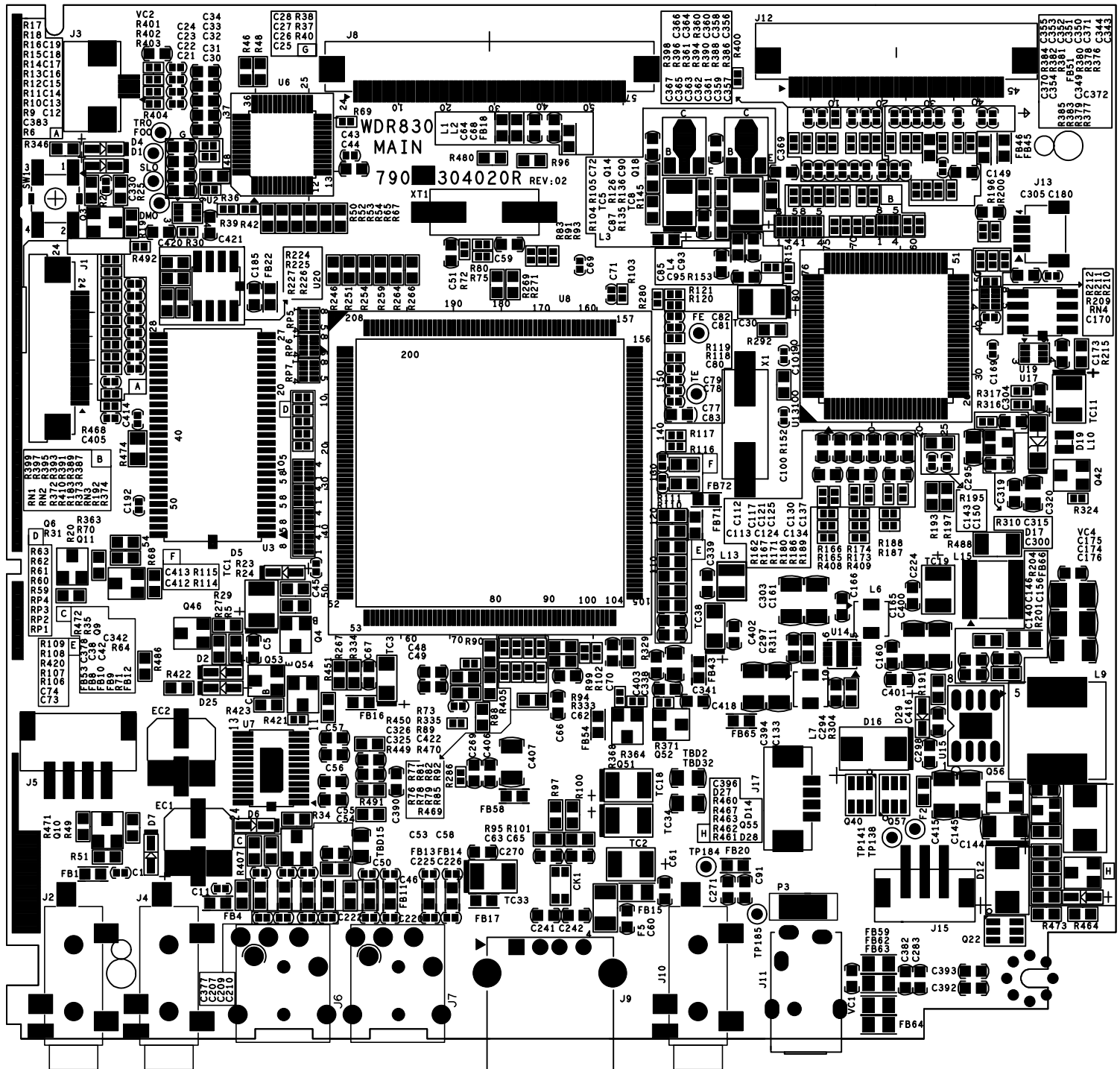


Title		
EMI		
Size	Document Number	Rev
A	DVBT	F
Date: Monday, January 08, 2007		
Sheet 4 of 5		

5 4 3 2 1

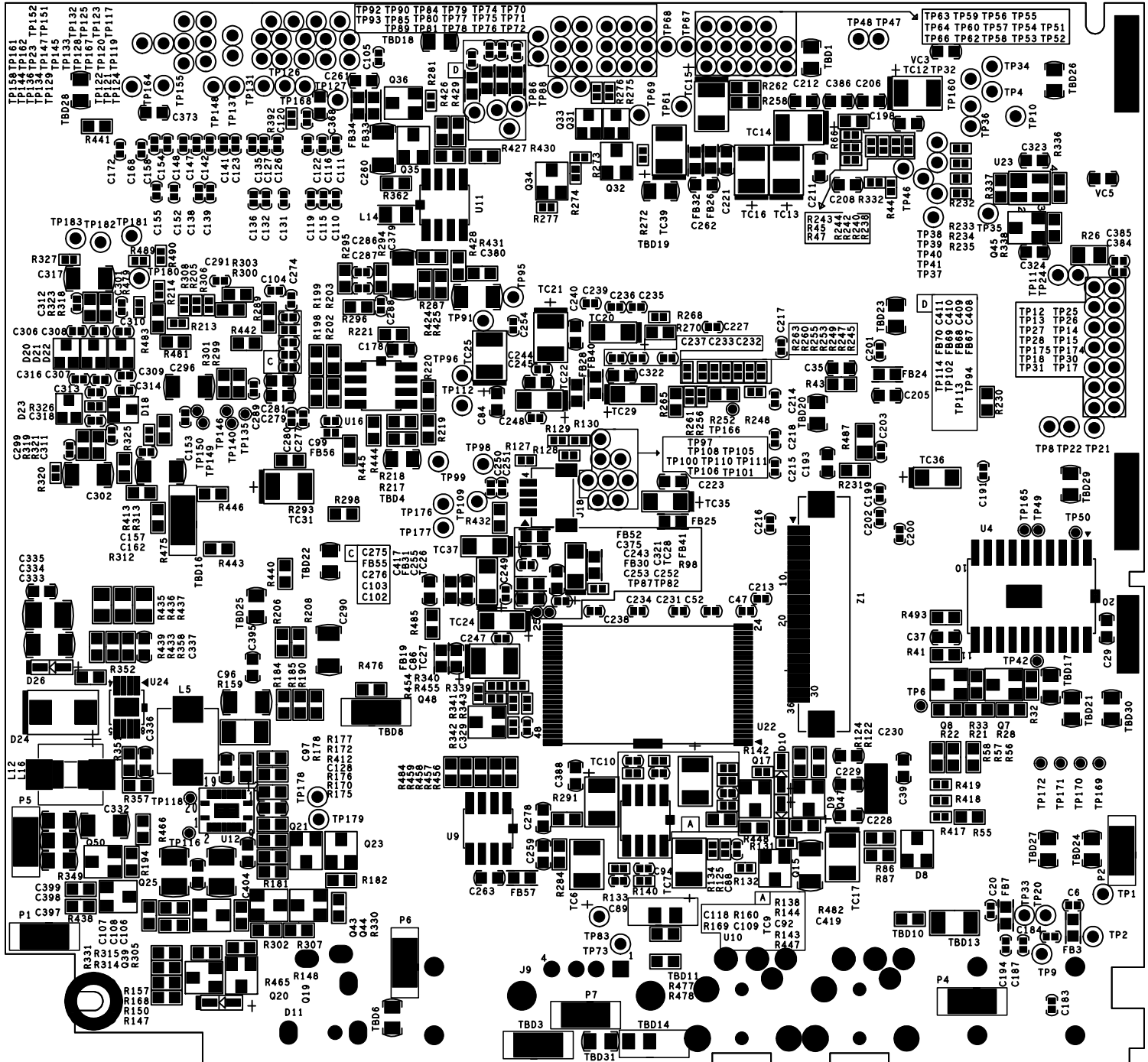
7.0 ELECTRICAL DIAGRAM

MALSK STORE EN TOP



7.0 ELECTRICAL DIAGRAM

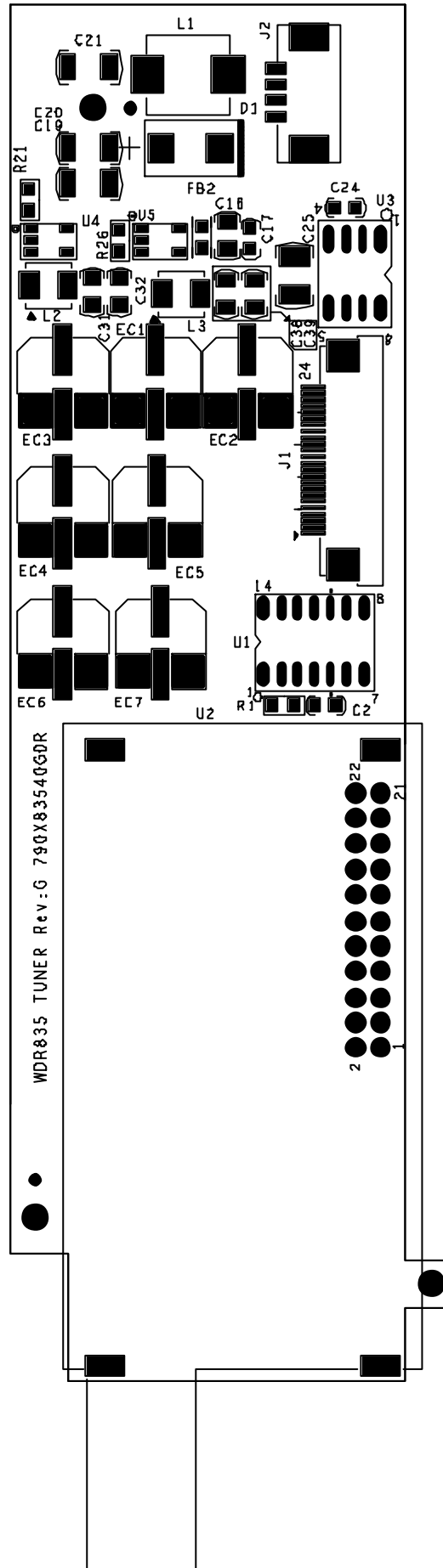
MARK BOREN BOT



SILKSCREEN TOP

7.0 ELECTRICAL DIAGRAM

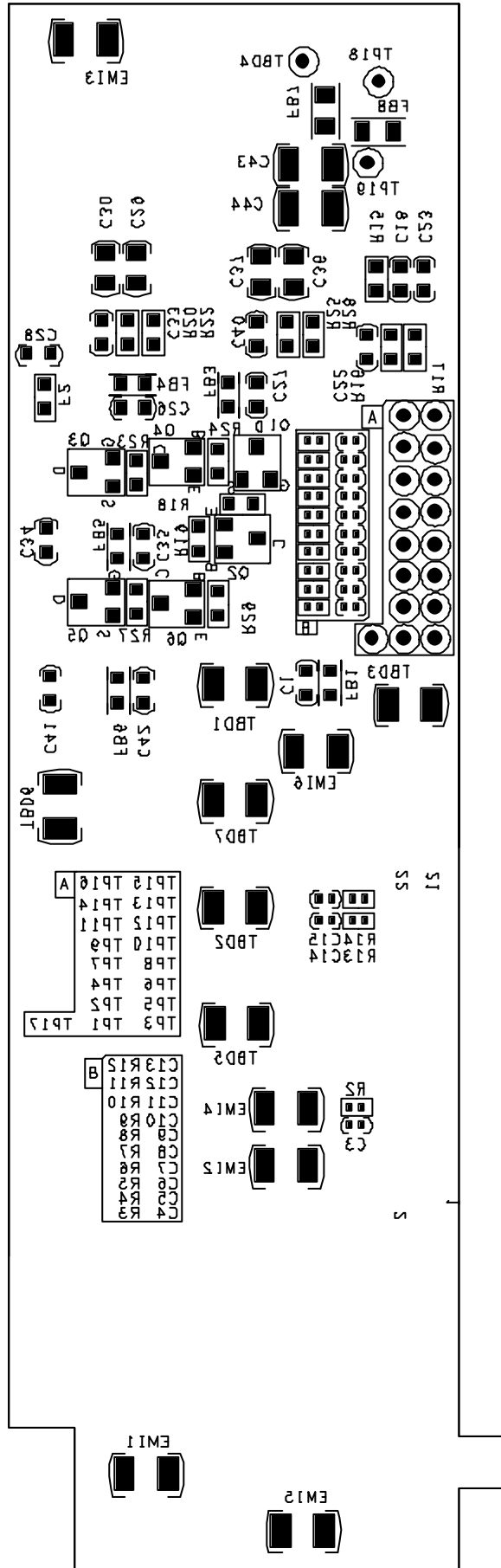
MASK TOP



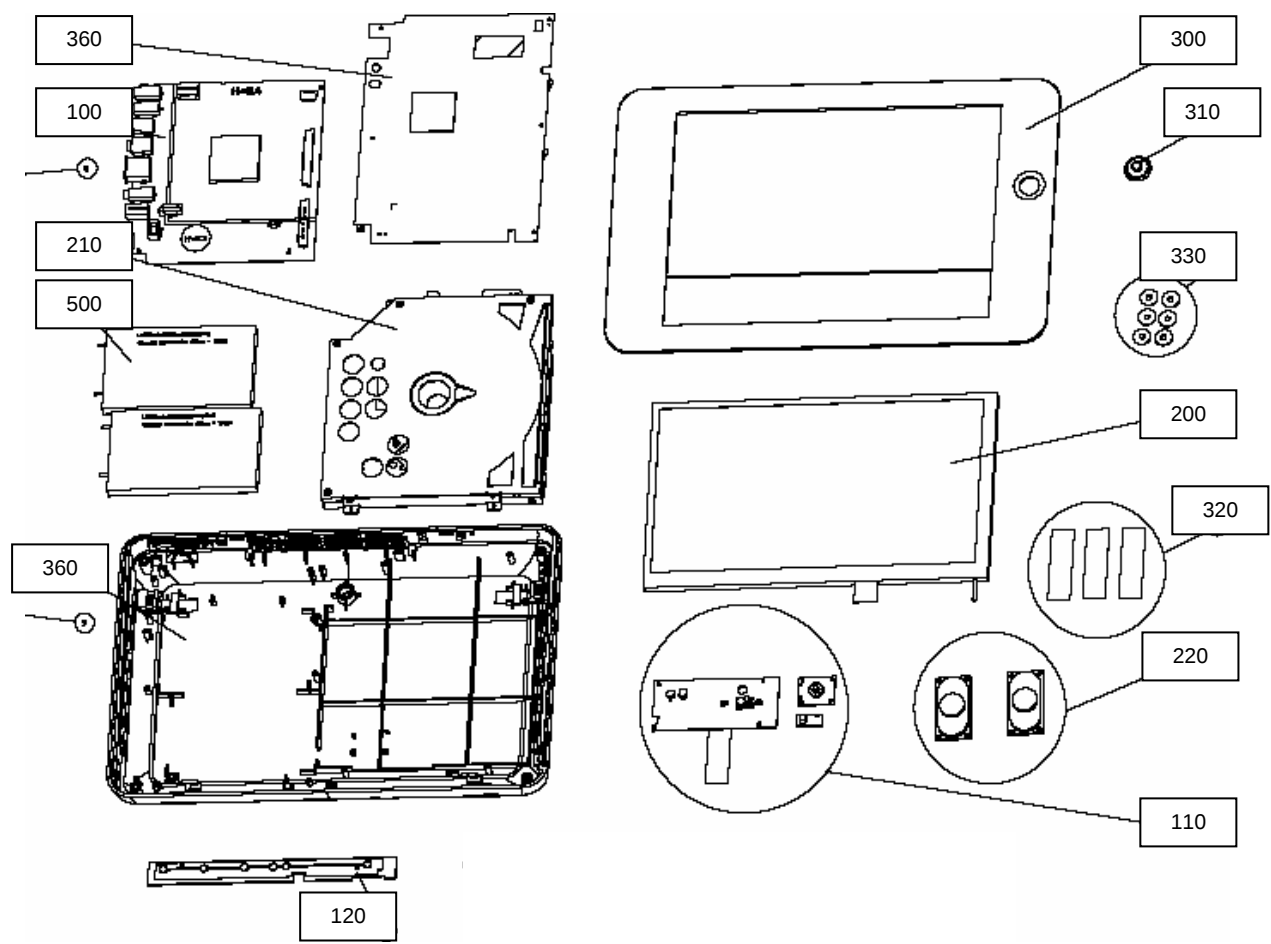
SILKSCREEN BOT

PASTE BOT

7.0 ELECTRICAL DIAGRAM



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	FCC 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