SERVICE MANUAL

D870P

notebook

Notebook Computer

D870P Series

Service Manual

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About this Manual

This manual is intended for service personnel who have completed sufficient training to undertake the maintenance and inspection of personal computers.

It is organized to allow you to look up basic information for servicing and/or upgrading components of the notebook PC.

The following information is included:

Chapter 1, Introduction, provides general information about the location of system elements and their specifications.
Chapter 2, Disassembly, provides step-by-step instructions for disassembling parts and subsystems and how to upgrade elements of the system.
Appendices A, Part Lists
Appendices B, Schematic Diagrams

Related Documents

You may also need to consult the following manual for additional information:

User's Manual on CD

This describes the notebook PC's features and the procedures for operating the computer and its ROM-based setup program. It also describes the installation and operation of the utility programs provided with the notebook PC.

Contents

1: Introduction

Overview

This manual covers the information you need to service or upgrade the ***D870P*** series notebook computer. Information about operating the computer (e.g. getting started, and the *Setup* utility) is in the *User's Manual*. Information about drivers (e.g. VGA & audio) is also found in *User's Manual*. That manual is shipped with the computer.

Operating systems (e.g. *DOS, Windows 9x, Windows NT 4.0, Windows 2000, Windows XP, OS/2 Warp, UNIX,* etc.) have their own manuals as do application software (e.g. word processing and database programs). If you have questions about those programs, you should consult those manuals.

The ***D870P*** series notebook is designed to be upgradeable. See ***"Disassembly" on page 2 - 1*** for a detailed description of the upgrade procedures for each specific component. Please note the warning and safety information indicated by the "  " symbol.

The balance of this chapter reviews the computer's technical specifications and features.

System Specifications

Feature	Specification	
Processor Types	Intel Pentium® Processor (478-pin) Micro-(µ)FCPGA Package	(µ0.13) 0.13 Micron Process Technology, 512K On-Die L2 Cache & 800MHz Front Side Bus - **2.4/ 2.6/ 2.8/ 3.0/ 3.2** GHz
	Intel Prescott Processor (478-pin) Micro-(µ)FCPGA Package	(µ0.09) 0.09 Micron Process Technology, 102l4K On-Die L2 Cache & 800MHz Front Side Bus - **3.2/ 3.4/ 3.6** GHz
	All the above processors support **Hyper Threading Technology**	
Core Logic	Intel 865PE + ICH5	
Security	Security (Kensington® Type) Lock Slot	BIOS Password
Memory	Two 64-bit wide DDR Data Channels Two 200 Pin DDR SODIMM Sockets Supporting DDR 333/400 MHz Modules	Supporting 256/512/1024 MB DDR RAM Modules Expandable up to 2GB
BIOS	One 512KB Flash ROM	Phoenix BIOS
LCD	17.0" WXGA TFT LCD	
Display	ATI Mobility Radeon 9700 High Perfomance Chip Integrated 128-bit 2D/3D Graphics Accelerator Advanced HW Acceleration for DVD Playback Fully DirectX® 9 Support Ultra AGP™ 8x 256MB DDR SGRAM On Board Dual-View Display Monitor External Display Resolution up to 1600 * 1200 HDTV Support	

Feature	Specification
Storage	One Changeable Optical Device (DVD-ROM/ Combo/ CD-RW/ DVD+RW/ DVD-RW /DVD-Dual Drive) One Changeable Primary 2.5” 9.5mm (h) Hard Disk Drive One External USB 1.44Mb Floppy Disk Drive (**Optional**) One Changeable 2nd 2.5” 9.5mm (h) **RAID** (**Optional**) Supports Master Mode IDE, Supporting PIO Mode 5 / ATA-33/66/100/133 (Ultra DMA) One Fixed 7-In-1 Card Reader Module (**Factory Option**) One Changeable TV Tuner (**Optional**)
Data Backup	RAID 0, RAID 1, HDD Fault Tolerance System (**Optional**)
Audio	AC’97 2.2 Compliant Device 3D Stereo Enhanced Sound System Virtual 6-Channel Audio Output Compatible Sound Blaster PRO™ S/PDIF Digital Output (5.1 CH) Built-In Microphone Built-In 4 Speakers Built-in Sub Woofer (**Factory Option**)
Keyboard, Pointing Device & Buttons	Full Size Winkey Keyboard with Numeric Keypad Built-In TouchPad 3 Hot Keys (Default Internet Browser/ Default Email Program & Application)
Interface & Communication	Three USB 2.0 Ports One Mini IEEE1394 Ports One S-Video Jack for TV Output One Serial Port One Parallel Port (LPT1) Supporting ECP/EPP One Infrared Transceiver (IrDA 1.1/FIR/SIR/ASKIR) Infrared Transfer 1cm ~ 1M Operating Distance 115.2K bps SIR 4M bps FIR One DVI-Out Port One PS/2 Port (Mouse/Keyboard) One Headphone Jack One Microphone Jack One S/PDIF Out Port One RJ-11 Jack (Modem) One RJ-45 Jack (Local Area Network) 1000BASE-T (Gigabit) LAN On Board 10/100 BASE-T Compatible Integrated V.90/l56K MDC Modem (V.92 Compliant) One DC-In Jack 802.11g Wireless LAN (**Optional**) 300K Pixel Video Camera Module (**Optional**) Bluetooth Module (**Optional**) One S-Video Jack for Video Input (**Optional** with TV Tuner Module) One Line-In Jack for Audio Input (**Optional** with TV Tuner Module)
PCMCIA	One Type II PCMCIA 3.3V/5V Socket Supporting CardBus
Indicators	LED Indicators (HDD Activity, Suspend/Power On/AC-In, Battery Charging/Battery Full, Num Lock, Caps Lock, Scroll Lock)

Feature	Specification
Power Management	Supports ACPI v1.0b Supports Hibernate/Standby Modes Supports Battery Low Sleep Supports Resume From Modem Ring
Power	Full Range AC Adapter - AC-In 100~240V, 50~60Hz, DC Output 20V, 7.5A Easy Changeable Main Battery Smart Li-Ion
Environmental Spec	**Temperature** Operating: 5°C ~ 35°C Non-Operating: -20°C ~ 60°C **Relative Humidity** Operating: 20% ~ 80% Non-Operating: 10% ~ 90%
Physical Dimensions & Weight	393mm (w) * 280mm (d) * 42mm (h) 3.90kg without Battery
Optional	DVD-ROM Drive Module CD-RW Drive Module DVD/CD-RW Combo Drive Module DVD-RW Drive Module DVD+RW/DVD-Dual Module Software DVD Player Wireless LAN Module Bluetooth Module Video Camera Module 7-In-1 Card Reader Module TV-Tuner Module Sub Woofer Module 12-Cell Battery Pack

External Locator - Top View

Figure 1
Top View

1. Built-In PC Camera (Optional)
2. LCD
3. Built-In Microphone
4. LED Power, Battery & E-Mail Status Indicators
5. Close Cover Switch
6. LED Status Indicators
7. Hot-Key Buttons
8. Power Button
9. Keyboard
10. Numeric Keypad
11. Built-In Speakers
12. TouchPad and Buttons

External Locator - Front & Left Side Views

Figure 2
Front View

1. LCD Latches
2. Mini-IEEE 1394 Port
3. S/PDIF Out Port
4. Microphone-In Jack
5. Headphone-Out Jack
6. Infrared Transceiver
7. Built-In Speakers

Figure 3
Left Side View

1. **Bay Two** - CD/DVD Device Bay
2. PC Card Slot
3. PC Card Slot Eject Button
4. USB 2.0/1.1 Port
5. **Bay One** - **Optional** for 7-In-1 Card Reader (pictured) **OR** Sub Woofer

External Locator - Right Side & Rear Views

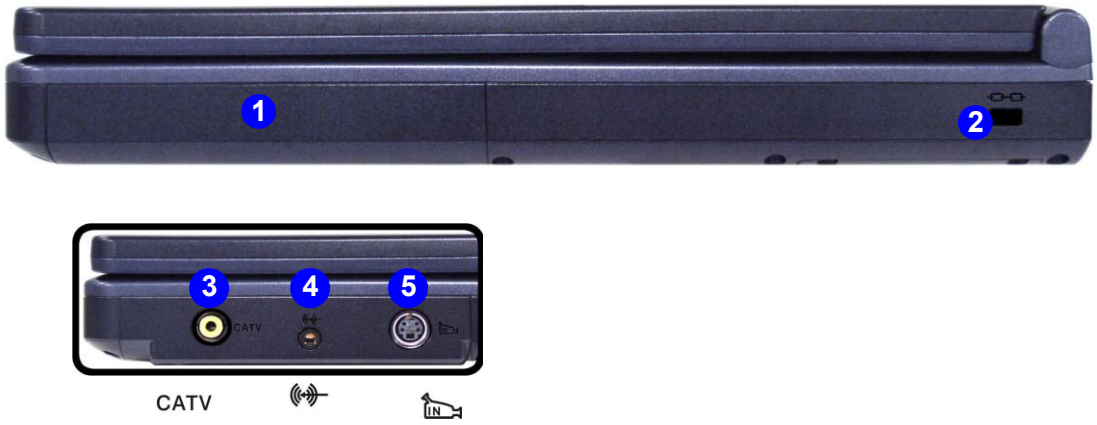


Figure 4
Right Side View

1. **Bay Three** - **Optional** for TV-Tuner OR Sub Woofer
2. Security Lock Slot
3. CATV Port
4. Line-In Port
5. S-Video-In Port

Figure 5
Rear View

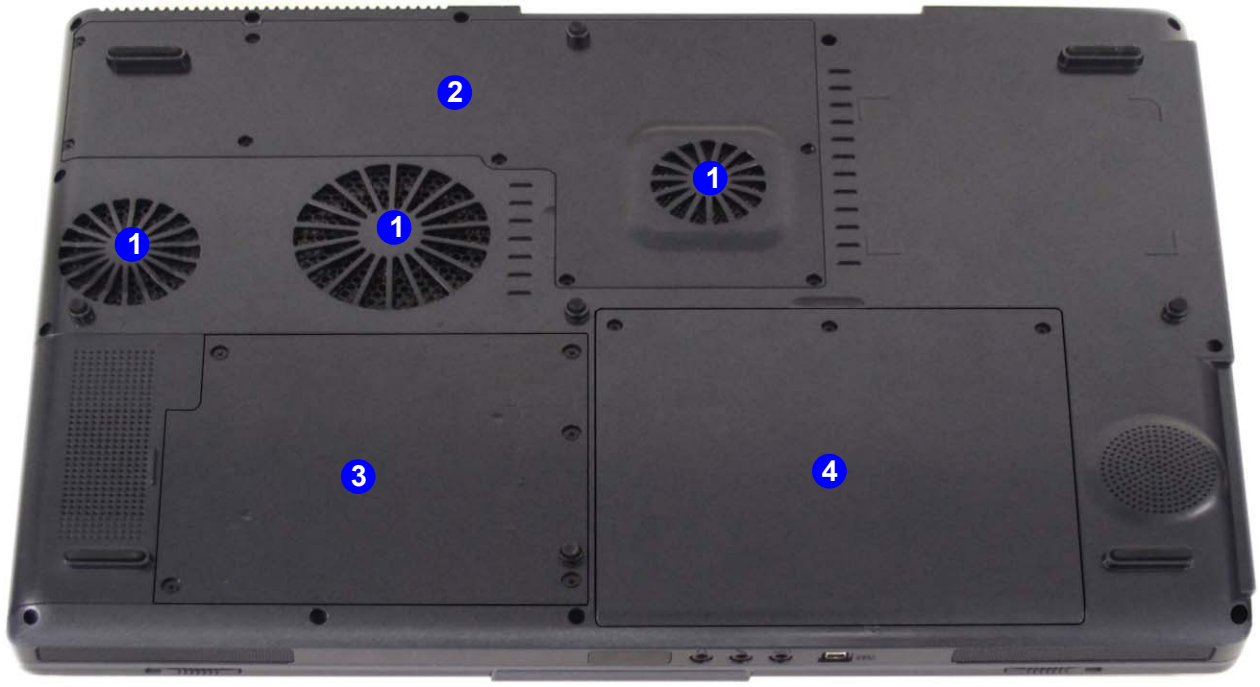
1. Vent/Fan Intake
2. DC-In Jack
3. Printer/Parallel Port
4. DVI-Out Monitor Port
5. Serial/Com Port
6. 2 * USB Ports
7. S-Video-Out Port
8. PS/2 Type Port
9. RJ-11 Phone Jack
10. RJ-45 LAN Jack

External Locator - Bottom View

Figure 6
Bottom View

1. Vent/Fan Intake
2. CPU/RAM Cover
3. Battery
4. Hard Disk/WLAN Module/Bluetooth Module Cover

Note: The RAM and optional Wireless LAN module are located under the CPU Heatsink Cover.



Overheating

To prevent your computer from overheating make sure nothing blocks the vent/fan intakes while the computer is in use.

Mainboard Overview - Top (Key Parts)

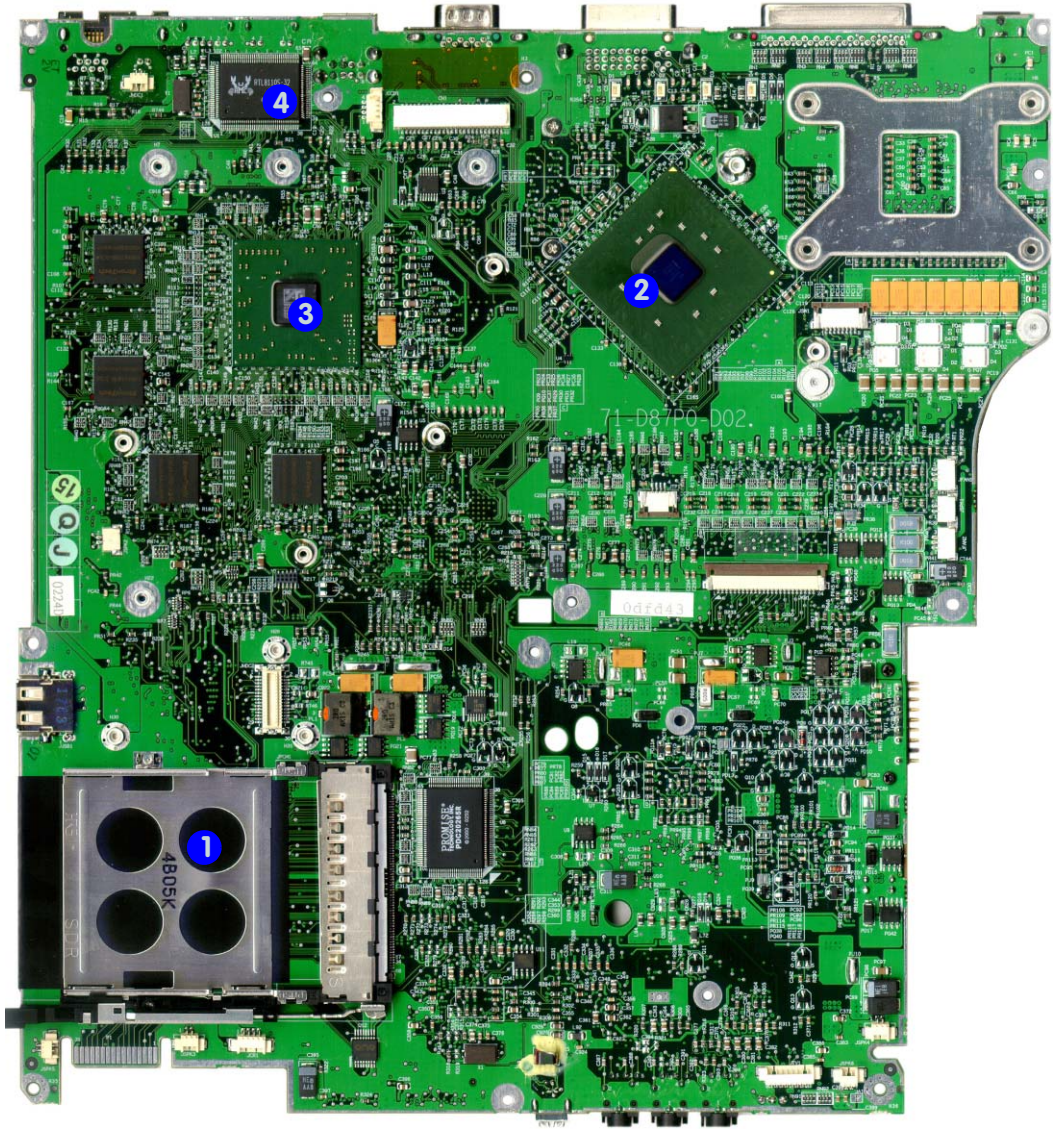


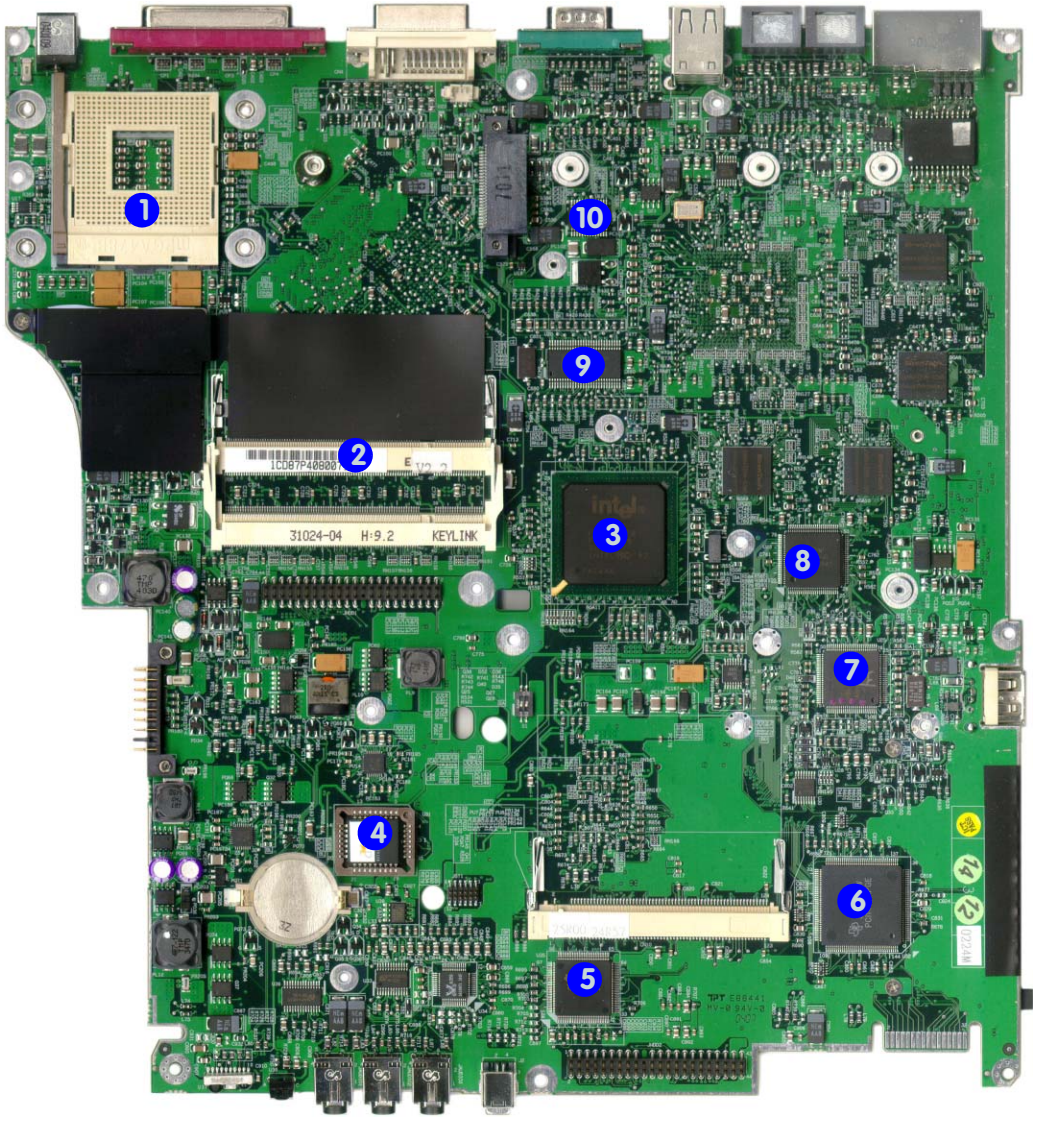
Figure 7
Mainboard Top Key Parts

1. PC Card Assembly
2. Northbridge - Intel 865PE
3. ATI Mobility Radeon 9700
4. LAN Controller RTL8110S-32

Mainboard Overview - Bottom (Key Parts)

Figure 8
Mainboard Bottom Key Parts

1. CPU Socket (no CPU installed)
2. Memory Slots (no memory installed)
3. ICH-5
4. Flash BIOS ROM
5. 1394 TSB43AB21
6. CardBus PCI1410
7. Keyboard Controller - KBC H8 H8S-2149 HM
8. LPC Super I/O NS PC87393
9. Clock Generator
10. ALC650 - Audio Codec



Mainboard Overview - Top (Connectors)

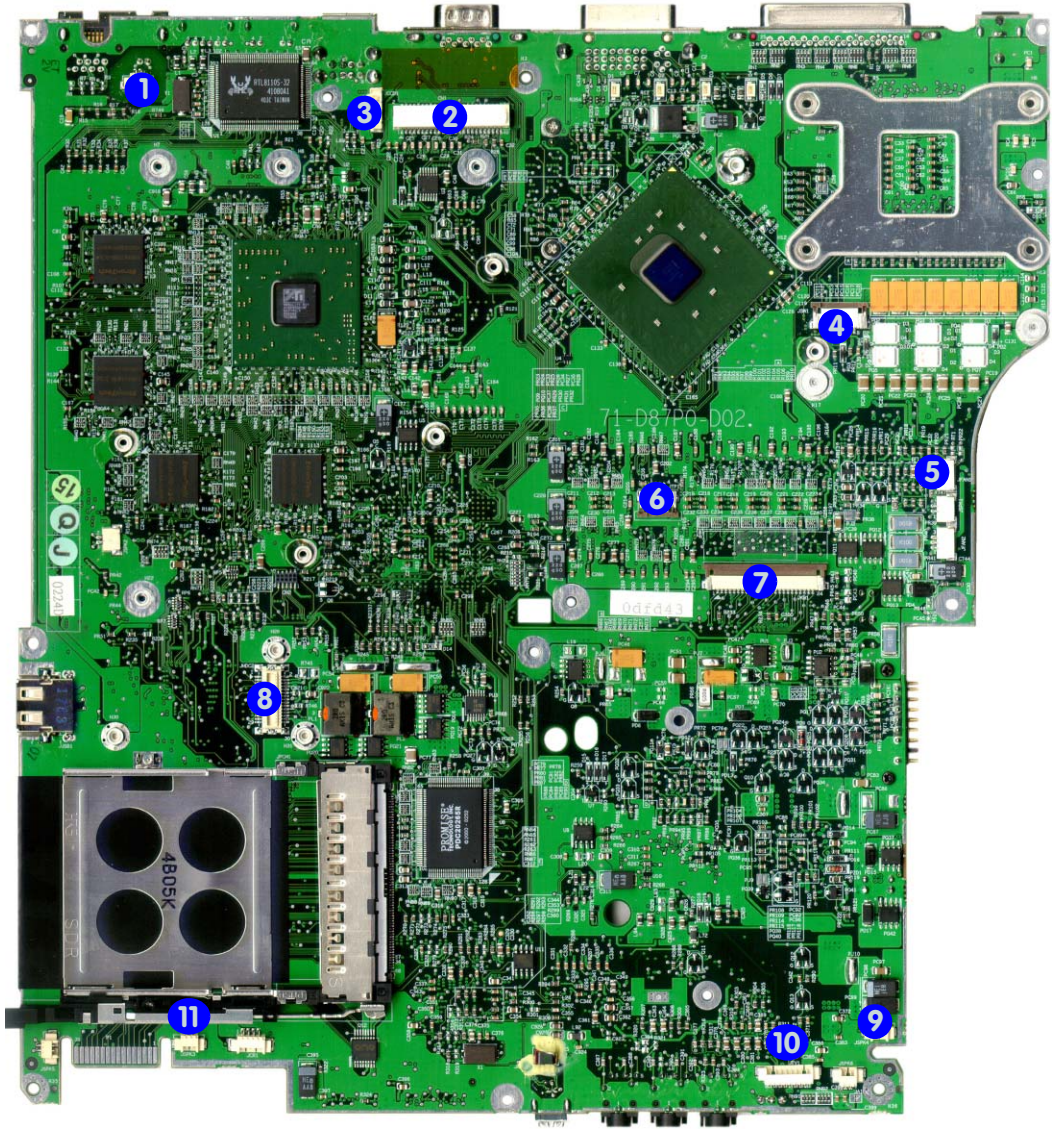


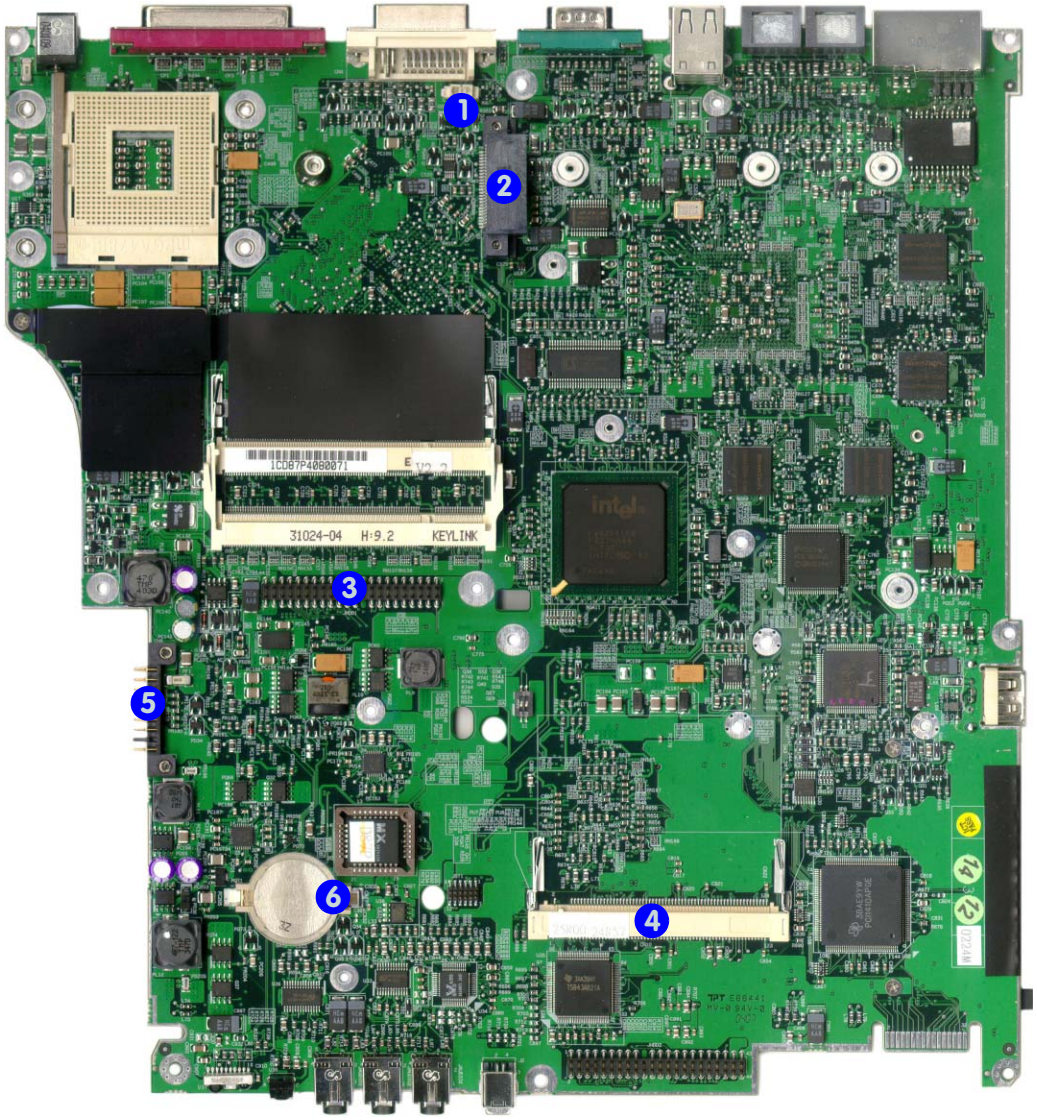
Figure 9
Mainboard Top Connectors

1. Modem Cable Connector (JMDC1)
2. LCD (and Inverter) Connector (CN1)
3. Video Camera Cable Connector (JCCD1)
4. Power Switch Board Cable Connector (JSW1)
5. Fan Cable Connector (JFAN1)
6. TouchPad Cable Connector (JTP1)
7. Keyboard Cable Connector (JKB1)
8. Modem Module Connector (JMDC2)
9. Speaker Cable Connector (JSPK4)
10. TV Tuner Connector (JTV1)
11. Speaker Cable Connector (JSPK3)

Mainboard Overview - Bottom (Connectors)

Figure 10
Mainboard Bottom Connectors

1. DDR RAM Fan Connector (JFAN3)
2. CD-ROM Device Connector (JCDROM1)
3. Hard Disk Cable Connector (JHDD1)
4. Mini-PCI (Wireless Lan Module) Connector (CN10)
5. Battery Connector (CN9)
6. CMOS Battery Connector (BAT1)



2: Disassembly

Overview

This chapter provides step-by-step instructions for disassembling the ***D870P*** series notebook's parts and subsystems. When it comes to reassembly, reverse the procedures (unless otherwise indicated).

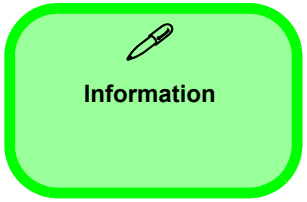
We suggest you completely review any procedure before you take the computer apart.

Procedures such as upgrading/replacing the RAM, CD device and hard disk are included in the User's Manual but are repeated here for your convenience.

To make the disassembly process easier each section may have a box in the page margin. Information contained under the figure # will give a synopsis of the sequence of procedures involved in the disassembly procedure. A box with a  lists the relevant parts you will have after the disassembly process is complete. **Note**: The parts listed will be for the disassembly procedure listed ONLY, and not any previous disassembly step(s) required. Refer to the part list for the previous disassembly procedure. The amount of screws you should be left with will be listed here also.

A box with a  will provide any possible helpful information. A box with a  contains warnings.

An example of these types of boxes are shown in the sidebar.



NOTE: All disassembly procedures assume that the system is turned **OFF**, and disconnected from any power supply (the battery is removed too).

Maintenance Tools

The following tools are recommended when working on the notebook PC:

- M3 Philips-head screwdriver
- M2.5 Philips-head screwdriver (magnetized)
- M2 Philips-head screwdriver
- Small flat-head screwdriver
- Pair of needle-nose pliers
- Anti-static wrist-strap

Connections

Connections within the computer are one of four types:

Locking collar sockets for ribbon connectors	To release these connectors, use a small flat-head screwdriver to gently pry the locking collar away from its base. When replacing the connection, make sure the connector is oriented in the same way. The pin1 side is usually not indicated.
Pressure sockets for multi-wire connectors	To release this connector type, grasp it at its head and gently rock it from side to side as you pull it out. Do not pull on the wires themselves. When replacing the connection, do not try to force it. The socket only fits one way.
Pressure sockets for ribbon connectors	To release these connectors, use a small pair of needle-nose pliers to gently lift the connector away from its socket. When replacing the connection, make sure the connector is oriented in the same way. The pin1 side is usually not indicated.
Board-to-board or multi-pin sockets	To separate the boards, gently rock them from side to side as you pull them apart. If the connection is very tight, use a small flat-head screwdriver - use just enough force to start.

Maintenance Precautions

The following precautions are a reminder. To avoid personal injury or damage to the computer while performing a removal and/or replacement job, take the following precautions:

1. **Don't drop it**. Perform your repairs and/or upgrades on a stable surface. If the computer falls, the case and other components could be damaged.
2. **Don't overheat it**. Note the proximity of any heating elements. Keep the computer out of direct sunlight.
3. **Avoid interference**. Note the proximity of any high capacity transformers, electric motors, and other strong magnetic fields. These can hinder proper performance and damage components and/or data. You should also monitor the position of magnetized tools (i.e. screwdrivers).
4. **Keep it dry**. This is an electrical appliance. If water or any other liquid gets into it, the computer could be badly damaged.
5. **Be careful with power**. Avoid accidental shocks, discharges or explosions.
   - Before removing or servicing any part from the computer, turn the computer off and detach any power supplies.
   - When you want to unplug the power cord or any cable/wire, be sure to disconnect it by the plug head. Do not pull on the wire.
6. **Peripherals** – Turn off and detach any peripherals.
7. **Beware of static discharge**. ICs, such as the CPU and main support chips, are vulnerable to static electricity. Before handling any part in the computer, discharge any static electricity inside the computer. When handling a printed circuit board, do not use gloves or other materials which allow static electricity buildup. We suggest that you use an anti-static wrist strap instead.
8. **Beware of corrosion**. As you perform your job, avoid touching any connector leads. Even the cleanest hands produce oils which can attract corrosive elements.
9. **Keep your work environment clean**. Tobacco smoke, dust or other air-born particulate matter is often attracted to charged surfaces, reducing performance.
10. **Keep track of the components**. When removing or replacing any part, be careful not to leave small parts, such as screws, loose inside the computer.

Power Safety Warning

Before you undertake any upgrade procedures, make sure that you have turned off the power, and disconnected all peripherals and cables (including telephone lines). It is advisable to also remove your battery in order to prevent accidentally turning the machine on.

Cleaning

Do not apply cleaner directly to the computer, use a soft clean cloth.
Do not use volatile (petroleum distillates) or abrasive cleaners on any part of the computer.

Disassembly Steps

The following table lists the disassembly steps, and on which page to find the related information. **PLEASE PERFORM THE DISASSEMBLY STEPS IN THE ORDER INDICATED.**

To remove the Battery:

1. Remove the battery *page 2 - 5*

To remove the System Memory:

1. Remove the battery *page 2 - 5*
2. Remove the system memory *page 2 - 6*

To remove the CD Device:

1. Remove the battery *page 2 - 5*
2. Remove the CD Device *page 2 - 8*

To remove the Processor:

1. Remove the battery *page 2 - 5*
2. Remove the processor *page 2 - 9*

To remove the HDD:

1. Remove the battery *page 2 - 5*
2. Remove the HDD *page 2 - 11*

To remove the Bluetooth Module:

1. Remove the battery *page 2 - 5*
2. Remove the HDD *page 2 - 11*
3. Remove the Bluetooth module *page 2 - 13*

To remove the Wireless LAN Module:

1. Remove the battery *page 2 - 5*
2. Remove the HDD *page 2 - 11*
3. Remove the Wireless LAN module *page 2 - 14*

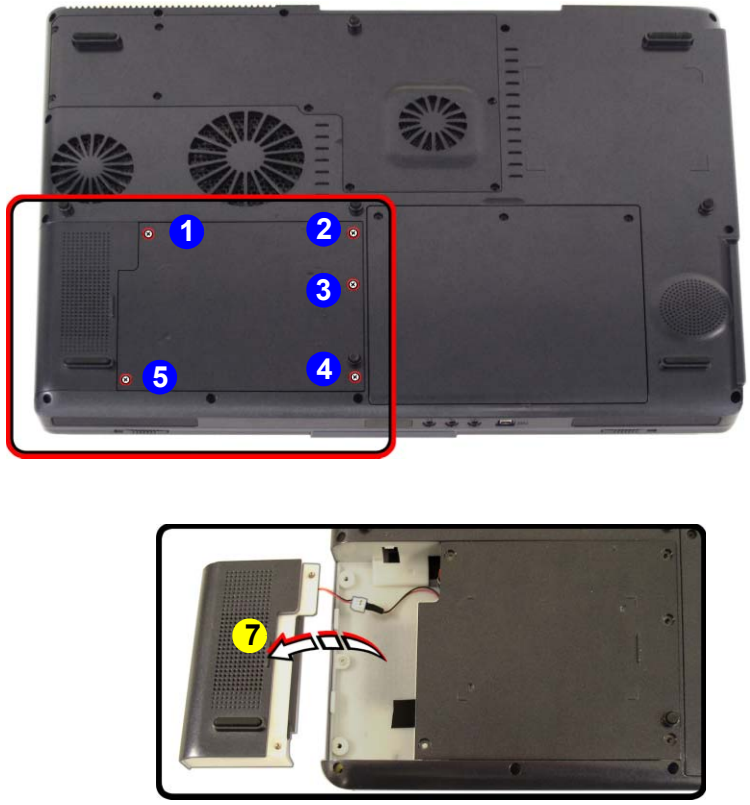
To remove the Keyboard:

1. Remove the battery *page 2 - 5*
2. Remove the kayboard *page 2 - 15*

Removing the Battery

1. Turn the computer **off**, place it on a clean, stable surface and turn it over.
2. Remove screws 1 - 5 (*Figure 1a*).
3. Remove the battery 6 (and Bay Three device 7 if applicable) by applying gentle pressure to slide it in the direction of the arrow (*Figure 1b*).
4. Reverse the process to replace the battery.

a.



b.

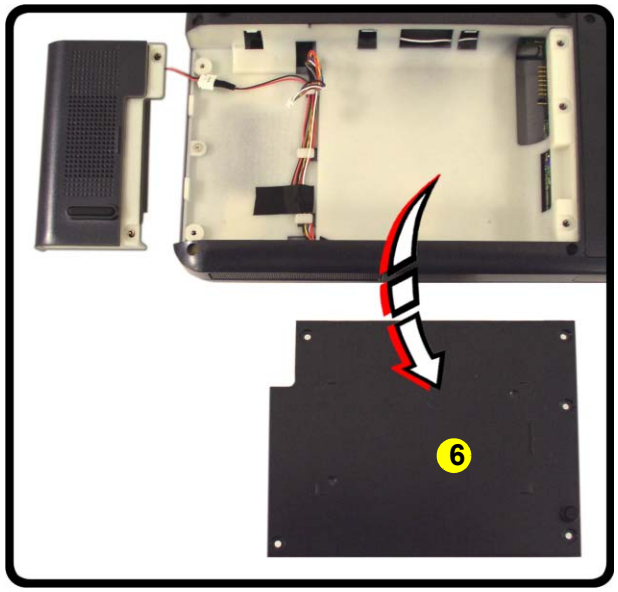


Figure 1
Battery Removal

a. Remove the screws.
b. Remove the battery (and Bay Three Device is applicable).

6. Battery
7. Bay Three Device

- 5 Screws

Removing the System Memory (RAM)

The computer has two memory sockets for 200 pin Small Outline Dual In-line Memory Modules (SO-DIMM) supporting DDR 200/266 MHz. The main memory can be expanded up to 1024MB. The SO-DIMM modules supported are 128Mb, 256Mb, and 512Mb. The total memory size is automatically detected by the POST routine once you turn on your computer.

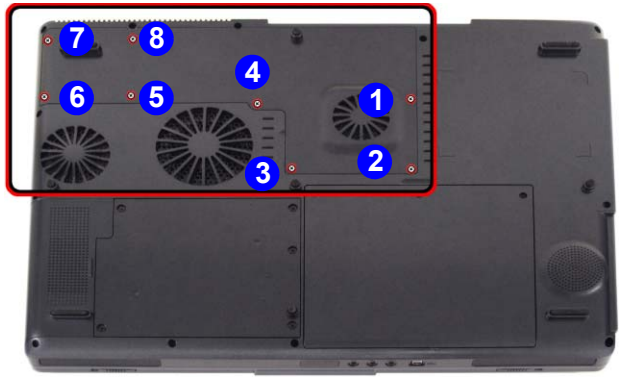
Memory Upgrade Process

1. Turn **off** the computer, remove the battery (*page 2 - 5*).
2. Remove screws 1 - 8 (*Figure 2a*) from the memory socket cover.
3. Carefully lift up the memory socket cover 9 (*Figure 2b*) (a fan cable 10 is still attached to the mainboard and you can disconnect it or leave it attached).
4. If there is a module currently installed which needs to be upgraded/replaced then remove it.

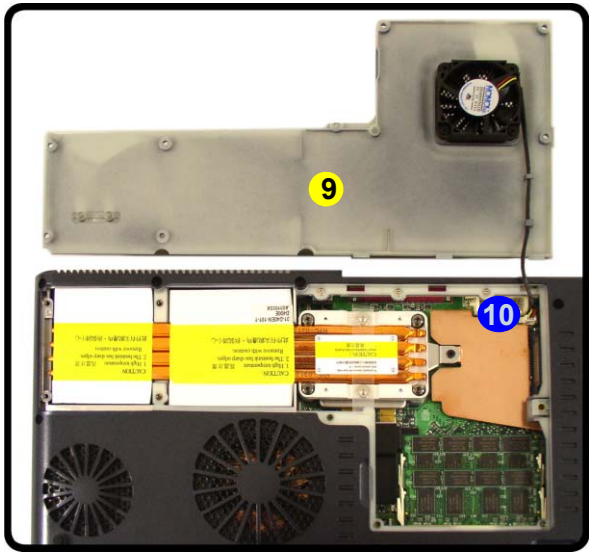
Figure 2
Memory Socket Cover Removal

a. Remove the screws.
b. Carefully lift the cover off the computer.

a.



b.



9. Socket Cover

- 8 Screws

5. Gently pull the two release latches (1 & 2) on the sides of the memory socket toward the sides of the computer.

a.

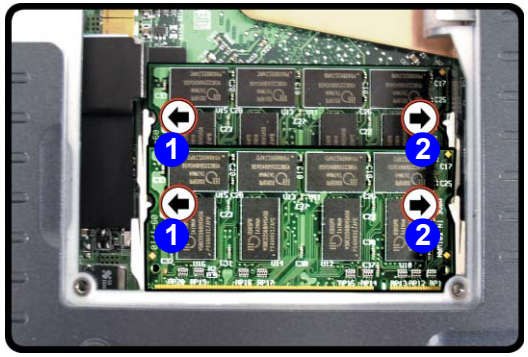
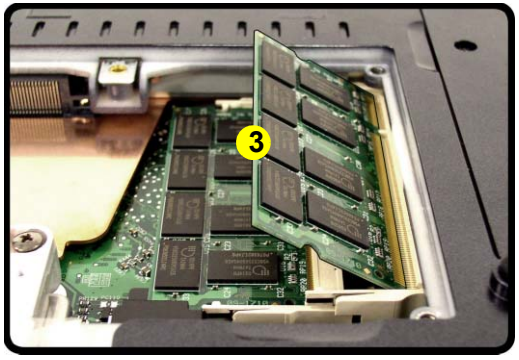


Figure 3
Removing/ Installing a RAM Module

a. Pull the release latches.
b. Remove the module.

6. The module 3 (***Figure 3b***) will pop-up, and you can remove it.
7. Repeat the process for the second module if necessary.
8. Insert a new module holding it at about a 30° angle and fit the connectors firmly into the memory slot.

b.



Contact Warning

Be careful not to touch the metal pins on the module's connecting edge. Even the cleanest hands have oils which can attract particles, and degrade the module's performance.

9. The module will only fit one way as defined by its pin alignment. Make sure the module is seated as far into the slot as it will go. DO NOT FORCE IT; it should fit without much pressure.
10. Press the module down towards the mainboard until the slot levers click into place to secure the module.
11. Replace the memory socket cover (be careful with the fan cable) and the **8** screws (***page 2 - 6***).
12. Restart the computer.
13. The BIOS will register the new memory configuration as it starts up.

3. RAM Module

Removing the CD/DVD Device (Bay Two)

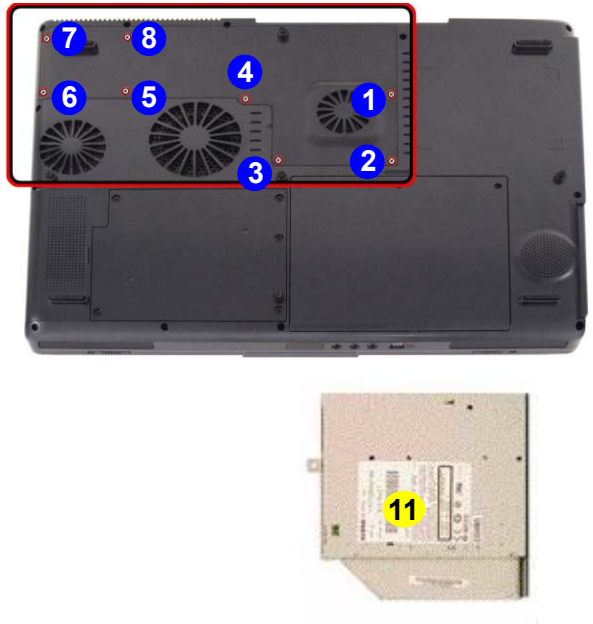
The easy changeable CD device may be upgraded or changed.

1. Turn **off** the computer, remove the battery (*page 2 - 5*).
2. Remove screws 1 - 8 (*Figure 4a*) from the memory socket cover.
3. Carefully lift up the memory socket cover 9 (a fan cable 10 is still attached to the mainboard and you can either disconnect it or leave it attached).
4. Use a screwdriver to carefully push the CD/DVD device assembly 11 out of the computer at point 12.

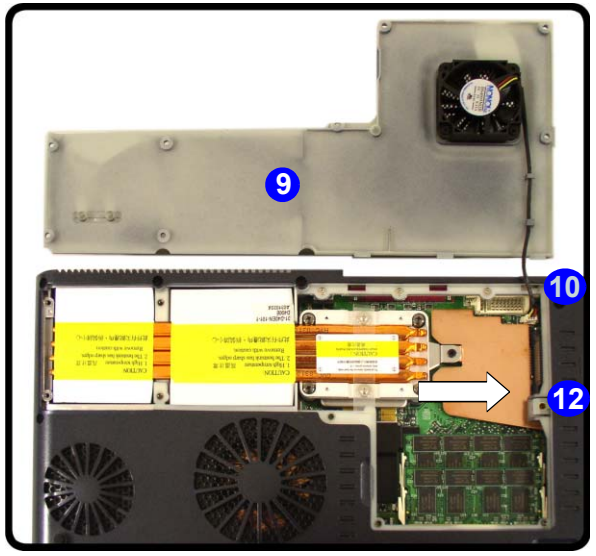
Figure 4
CD Device Removal

a. Remove the screws.
b. Carefully lift the socket cover and slide the CD/DVD device out of the computer.

a.



b.



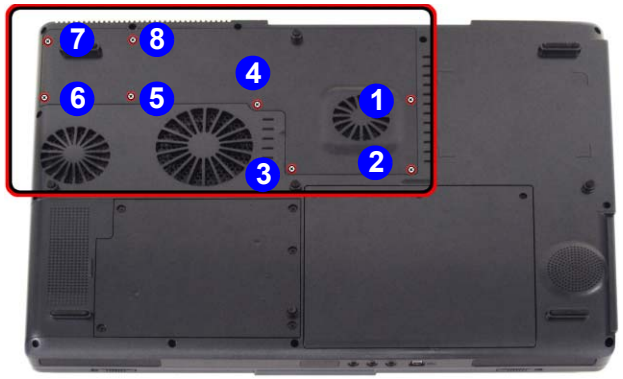
11. CD/DVD Device
- 8 Screws

5. Insert the new device and carefully slide it into the computer (the device only fits one way. DO NOT FORCE IT; The screw holes should line up.
6. Replace the memory socket cover (be careful with the fan cable) and the **8** screws (*page 2 - 8*).
7. Restart the computer to allow it to automatically detect the new device.

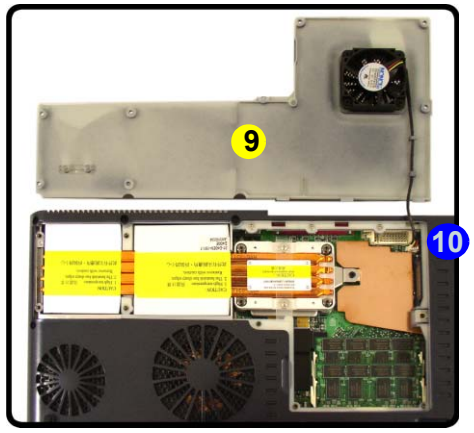
Removing the Processor

1. Turn **off** the computer, remove the battery (*page 2 - 5*).
2. Remove screws 1 - 8 from the memory socket cover.
3. Carefully lift up the memory socket cover 9 (a fan cable 10 is still attached to the mainboard and you can disconnect it).
4. Remove screws 11 - 14 (*Figure 5c*) from the heat sink, **in the order indicated on the label**.
5. Carefully lift up the heat sink 15 (*Figure 5d*) off the computer.

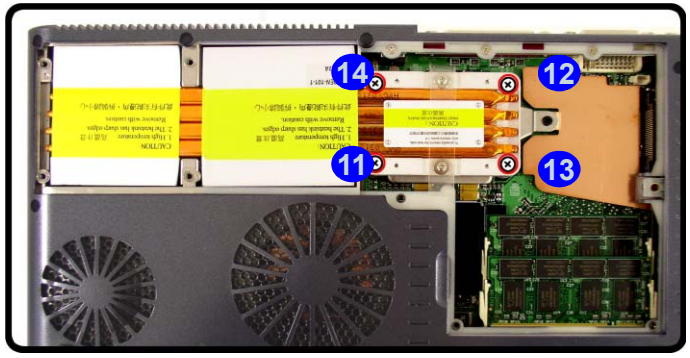
a.



b.



c.



d.

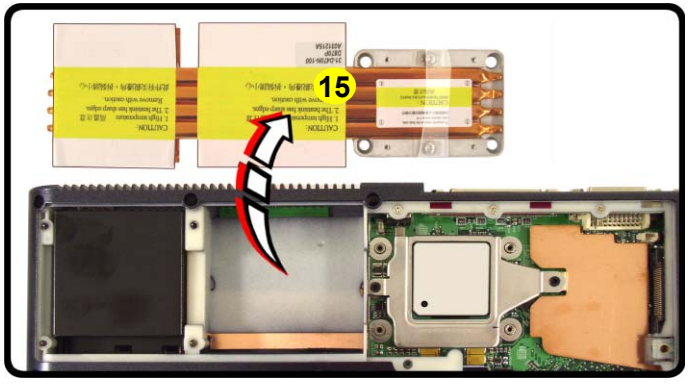


Figure 5
Processor Removal

a. Remove the screws.
b. Carefully lift the cover off the computer.
c. Remove the screws in the order indicated.
d. Remove the heat sink.

Reassembly Screw Order

When replacing the heat sink, make sure you insert the screws in the same order indicated on the label.

15. Heat Sink

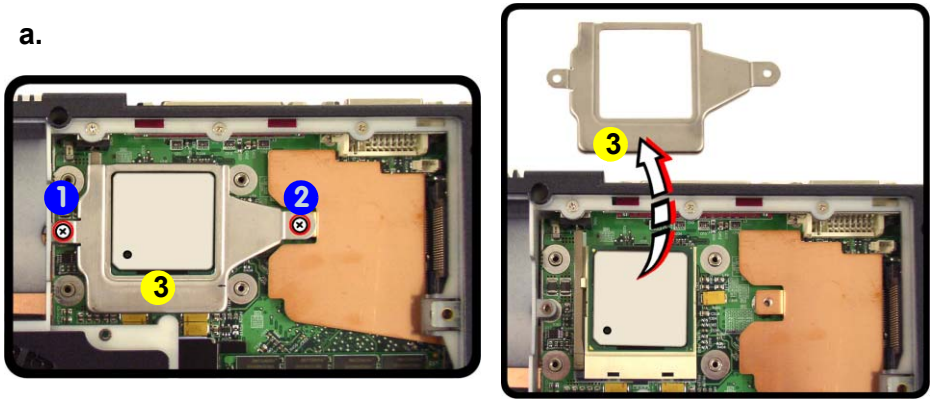
- 12 Screws

6. Remove screws 1 - 2 (*Figure 6a*) and lift the CPU bracket 3 off the computer.
7. Unlock the processor by raising lever 4 (*Figure 6b*).
8. Lift the CPU 5 (*Figure 6c*) off the computer.

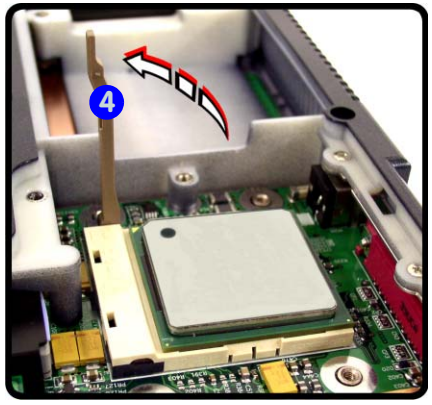
Figure 6
Processor Removal (cont'd)

a. Remove the screws and lift the CPU bracket off the computer.
b. Raise the lever to unlock the CPU.
c. Lift the CPU off the socket.

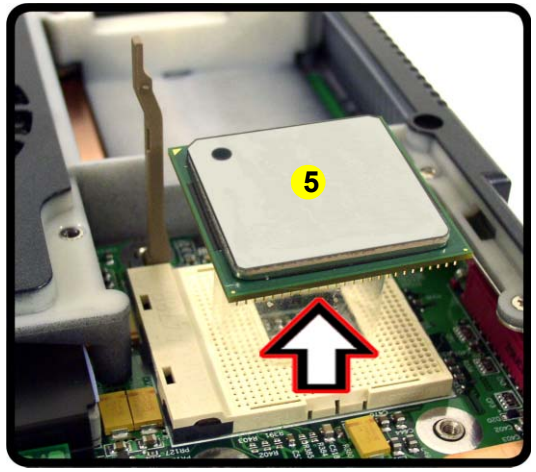
a.



b.



c.



3. CPU Bracket
5. CPU

- 2 Screws

Caution

The heat sink, and CPU area in general, contains parts which are subject to high temperatures. Allow the area time to cool before removing these parts.

Removing the Hard Disk Drive

The hard disk drive(s) is (are) mounted in a removable case and can be taken out to accommodate other 2.5" IDE hard disk drives with a height of 9.5mm (h). Follow your operating system's installation instructions, and install all necessary drivers and utilities (as outlined in **Chapter 4 of the User's Manual**) when setting up a new hard disk.

Hard Disks in a RAID Configuration

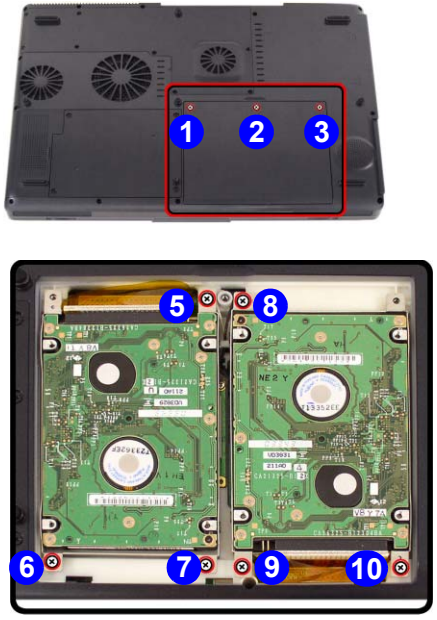
If you are using **two** hard disks in a RAID configuration, the jumper on the mainboard needs to be set in order to configure the hard disks in ATA or RAID mode.

Hard Disk Upgrade Process

1. Turn **off** the computer, remove the battery (*page 2 - 5*).
2. Remove screws 1 - 3 (*Figure 7a*) from the hard disk cover 4, and remove the cover.
3. Remove screws 5 - 7 from the **primary hard disk assembly** (or 8 - 10 **secondary hard disk assembly**).

Jumper Settings for Multiple Hard Disk Use

If you are using **more than one hard disk** in your computer, make sure to set the jumpers on **all** your hard disks to the **cable select option** in order for the system to recognize all the disks (see your hard disk manual or the information printed on the hard disk itself for details on the jumper settings).



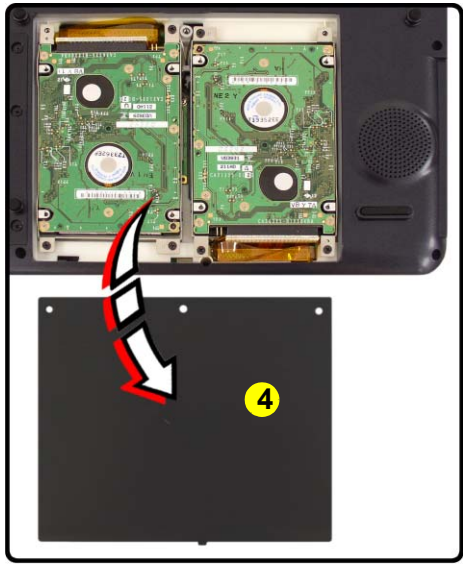


Figure 7
HDD Assembly Removal

a. Remove the screws and the HDD cover.
b. Remove the screws from HDD assembly.

4. Hard Disk Cover

- 9 Screws

4. Take the HDD assembly out of the case.
5. Remove the screws 1 - 4 and separate the HDD connector cable 5, and case 6.
6. Just reverse the removal procedure to install the new HDD assembly 7.

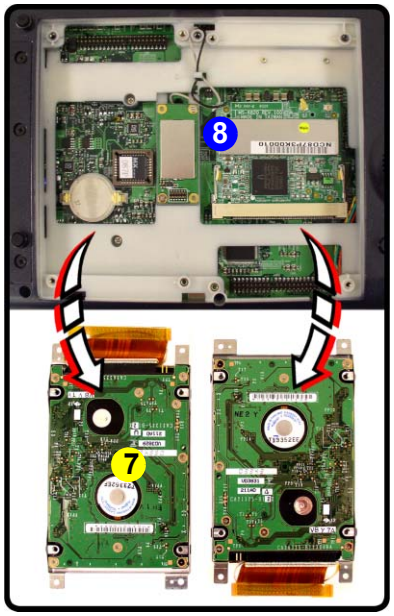
Jumper Setting for RAID/ATA Configuration

1. Turn **off** the computer, remove the battery (*page 2 - 5*) and hard disk (*page 2 - 11*).
2. Locate the jumper at point 8 (*Figure 8a*).
3. Use a bent paper clip to push the switches up to **ON** for **RAID** mode, or down to off for **ATA** mode.

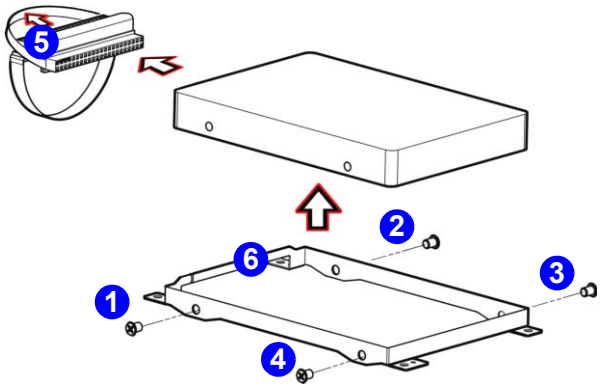
Figure 8
HDD Cable & Case Removal

a. Remove the 4 screws.
b. Disconnect the HDD cable and lift the HDD assembly out of the bay.

a.



b.



7. Hard Disk

- 4 Screws

HDD System Warning

New HDD's are blank. Before you begin make sure:

You have backed up any data you want to keep from your old HDD.

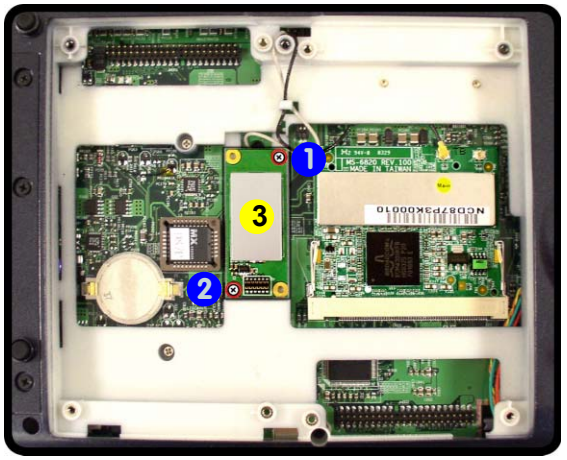
You have all the CD-ROMs and FDDs required to install your operating system and programs.

If you have access to the internet, download the latest application and hardware driver updates for the operating system you plan to install. Copy these to a removable medium.

Removing the Bluetooth Module

1. Turn **off** the computer, remove the battery (*page 2 - 5*) and hard disk (*page 2 - 11*).
2. Remove screws 1 - 2 (*Figure 9a*) from the Bluetooth module.
3. Carefully lift up the Bluetooth module 3 off the connector and disconnect the antenna cable 4 (*Figure 9b*).
4. Remove the Bluetooth module off the computer.

a.



b.

c.

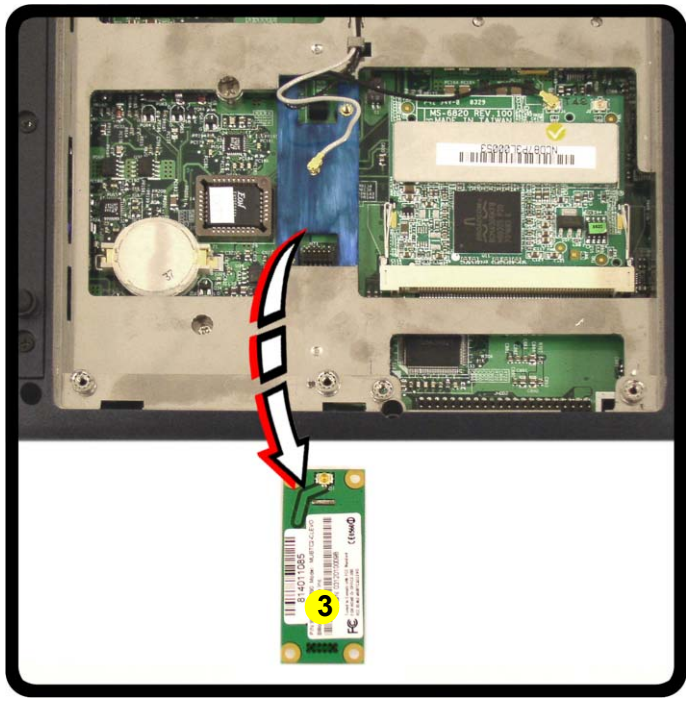


Figure 9
Bluetooth Module Removal

a. Remove the screws.
b. Carefully lift the Bluetooth module off the connector and disconnect the cable.
d. Remove the Bluetooth module off the computer.

3. Bluetooth Module
- 2 Screws

Removing the Wireless LAN Module

1. Turn **off** the computer, remove the battery (*page 2 - 5*) and hard disk (*page 2 - 11*).
2. If there is a module currently installed which needs to be upgraded/replaced then remove it.
3. Disconnect the antenna cable 1 from the wireless LAN module and gently pull the two release latches (2 & 3) in the direction of the arrow.
4. The wireless LAN module 4 (*Figure 3b*) will pop-up, and you can remove it.
5. Insert a new module holding it at about a 30° angle and fit the connectors firmly into the slot.
6. The module will only fit one way as defined by its pin alignment. Make sure the module is seated as far into the slot as it will go. DO NOT FORCE IT; it should fit without much pressure.
7. Press the module down towards the mainboard until the slot levers click into place to secure the module.
8. Replace the hard disk, hard disk cover and the **9** screws (*page 2 - 6*).

Figure 10
Wireless LAN Module Removal

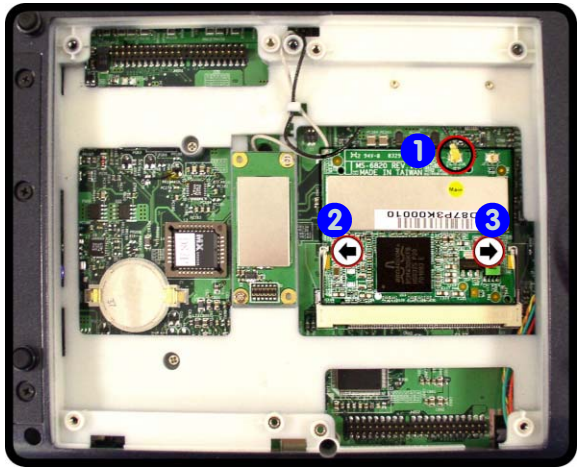
a. Disconnect the cable and pull the release latches.
b. Remove the wireless LAN module.

Antenna Cable Connection

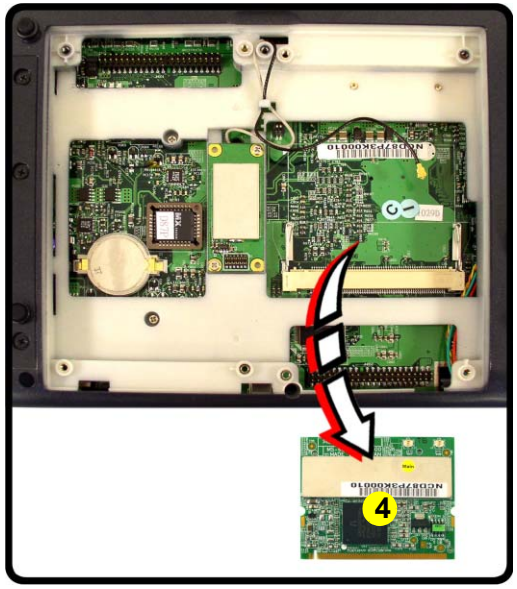
When re-inserting a Wireless LAN module, make sure the antenna cable connects to the connector **J1** which is indicated in *Figure 10a*.

4. WLAN Module

a.



b.



Removing the Keyboard

1. Turn **off** the computer, remove the battery (*page 2 - 5*) and turn it over.
2. Press the **four** keyboard latches at the top of the keyboard to elevate the keyboard from its normal position (you may need to use a small screwdriver to do this).
3. Carefully lift the keyboard 5 up, being careful not to bend the keyboard ribbon cable 6 (*Figure 11c*).
4. Disconnect the keyboard ribbon cable 6 from the locking collar socket 7.

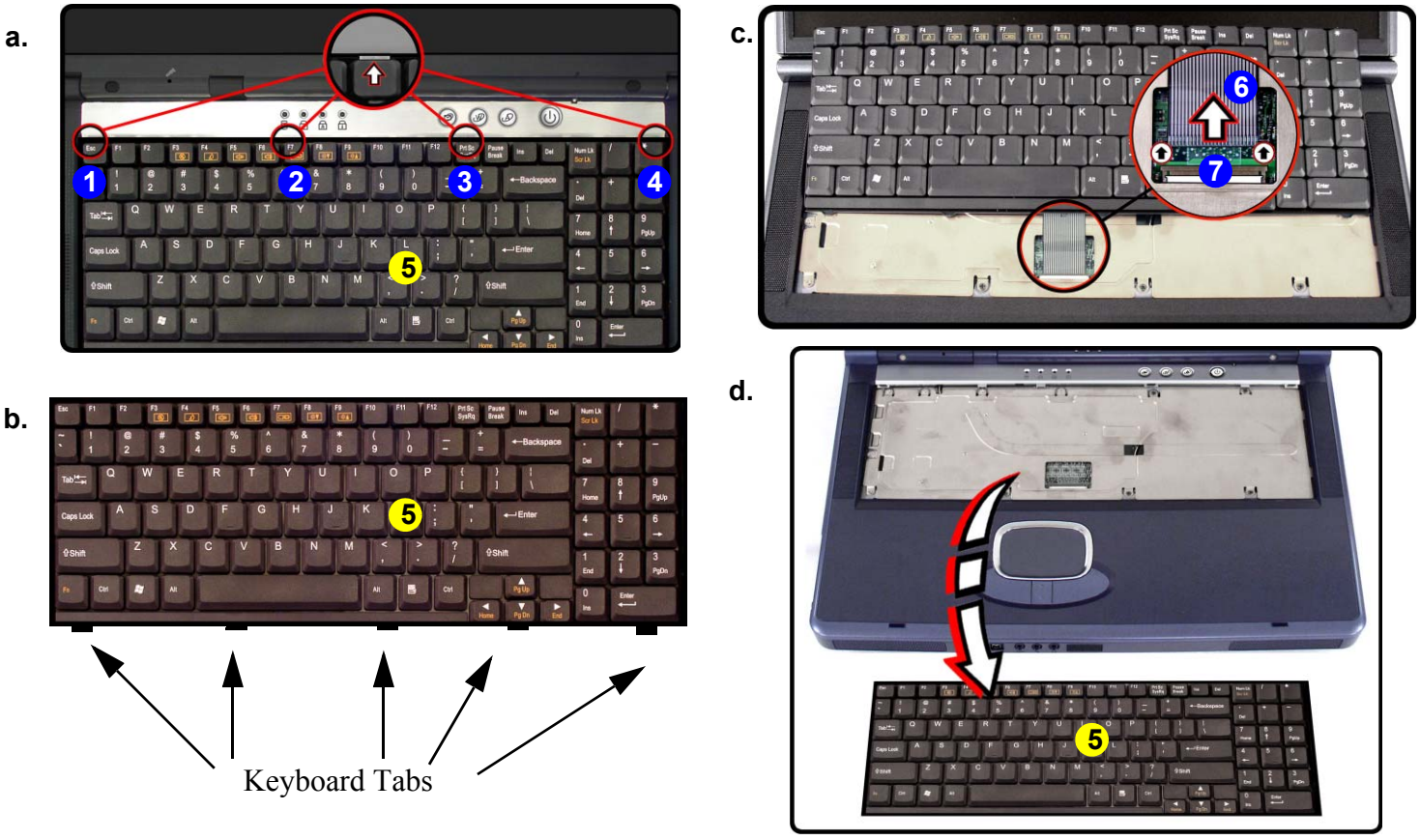


Figure 11
Keyboard Removal

a. Press the four latches to release the keyboard.
b. Lift the keyboard up.
c. Disconnect the cable from the locking collar.

Re-Inserting the Keyboard

When re-inserting the keyboard firstly align the **five** keyboard tabs (*Figure 11b*) at the bottom of the keyboard with the slots in the case.

5. Keyboard

Appendix A:Part Lists for D870P

This appendix breaks down the **D870P** model notebook's construction into a series of illustrations. The component part numbers are indicated in the tables opposite the drawings.

Note: This section indicates the *manufacturer's* part numbers. Your organization may use a different system, so be sure to cross-check any relevant documentation.

Note: Some assemblies may have parts in common (especially screws). However, the part lists DO NOT indicate the total number of duplicated parts used.

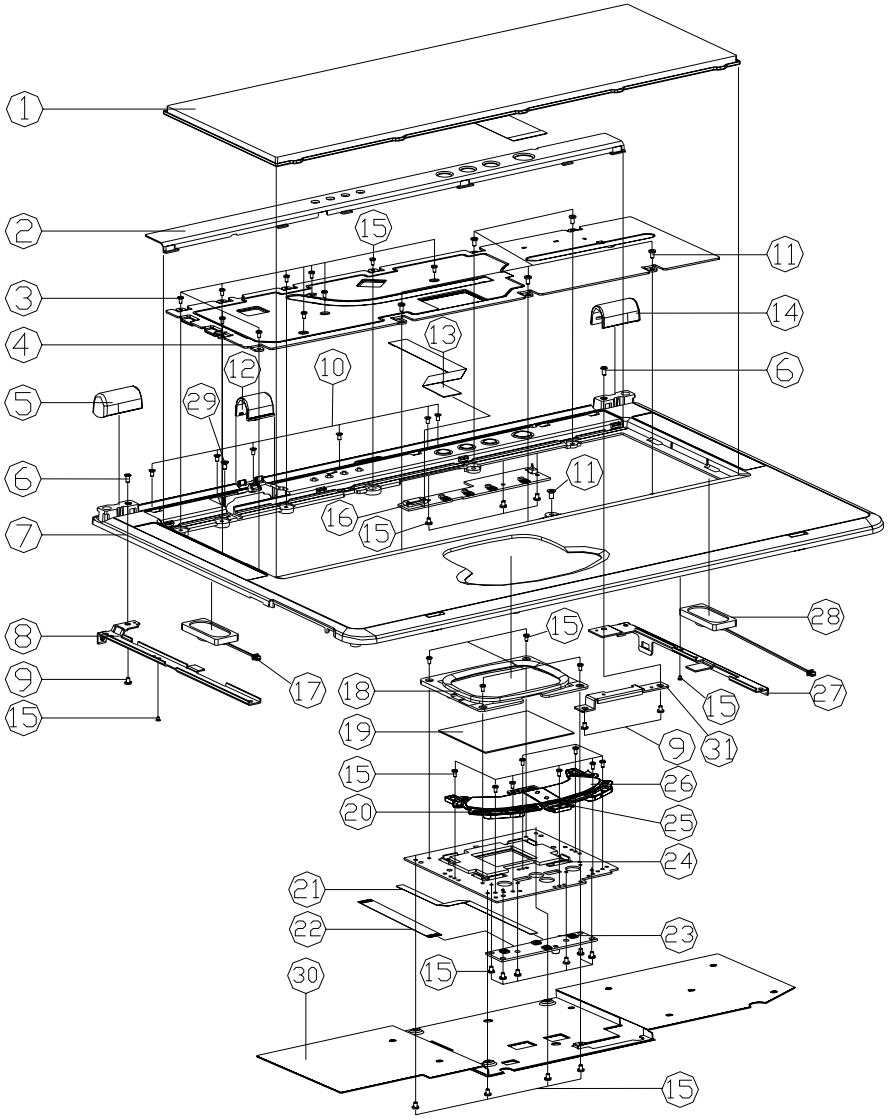
Note: Be sure to check any update notices. The parts shown in these illustrations are appropriate for the system at the time of publication. Over the product life, some parts may be improved or re-configured, resulting in *new* part numbers.

Part List Illustration Location

The following table indicates where to find the appropriate part list illustration.

Table A- 1
Part List Illustration Location

Top



ITEM	PART NAME	PART NO	REMARK
1	KEYBOARD	80-D4708-7G0	
2	D470W CENTER COVER	42-D4702-012	
3	SCREW M2*5L K NI NY	35-81120-5R0	
4	D870P KEYBOARD SHIELDING	33-D87P2-041	
5	HINGE COVER(L) 無鉛	42-D87PY-020	
6	SCREW M3*6L K1 NI ICT NY	35-B1130-6RA	
7	TOP CASE MODULE 無鉛	39-D87P2-011	
8	HINGE BRACKET(L) 無鉛	33-D87P2-080	
9	SCREW M3*5L K1 NI ICT NY	35-B1130-5RA	
10	SCREW M2*4L F NI ICT NY Dt=1.0	35-21120-4RB	
11	SCREW M2.5*8L K1 BNI ICT NY	35-B9125-8R0	
12	CONNECTER COVER 無鉛	42-D87P8-011	
13	FFC CABLE FOR POWER SWITCH BOARD	43-D4702-010	
14	HINGE COVER (R) 無鉛	42-D470Y-010	
15	SCREW M2*3L K1 NI ICT NY	35-B1120-3RB	
16	SWITCH BOARD	77-D87PS-D0X	
17	SPK.WITH CABLE 50MM,1W,8 OHM, 35N1682, L	23-5A410-501	
18	TOUCH PAD FRAME	42-D87P2-090	
19	KGDFT021A ALPS	49-D87P2-010	
20	G/P KNOB (L) 無鉛	42-D87P2-070	
21	FFC CABLE FOR CLICK BOARD	43-D4702-010	
22	FFC CABLE FOR CLICK TO TOUCH PAD 45MM	43-D4000-040	
23	CLICK BOARD	77-D87P2-D0X	
24	TOUCH PAD BRACKET	33-D87P2-051	
25	G/P KNOB (M) 無鉛	42-D87P2-060	
26	G/P KNOB (R) 無鉛	42-D87P2-050	
27	HINGE BRACKET(R)	33-D87P2-070	
28	SPK.WITH CABLE 200MM,1W,8 OHM, 35N1682, R	23-5A410-201	
29	SCREW M2.5*5L K1 BNI ICT NY	35-B9125-5R0	
30	D870P TOP CASE HEAT SINK	31-D87PS-050	
31	D870P TOP IO BRACKET	33-D87P2-010	

Figure A-1
Top

Bottom

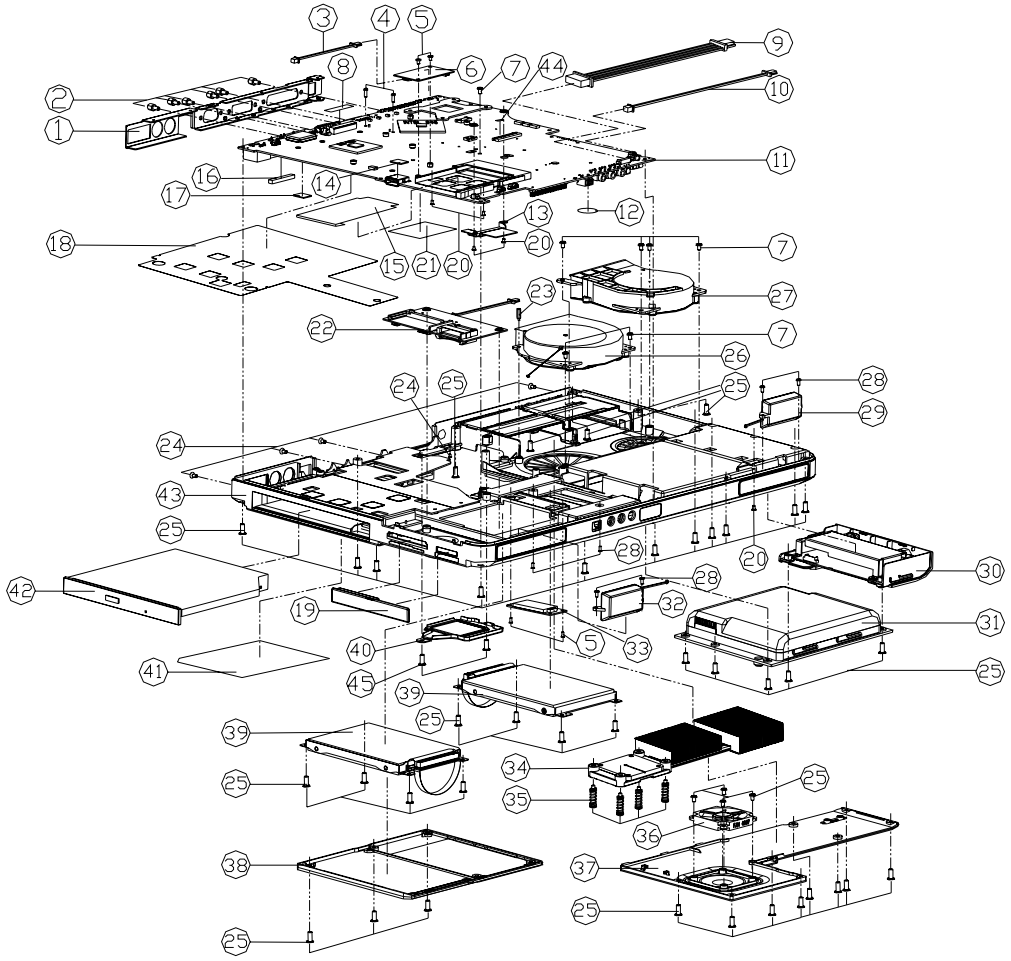
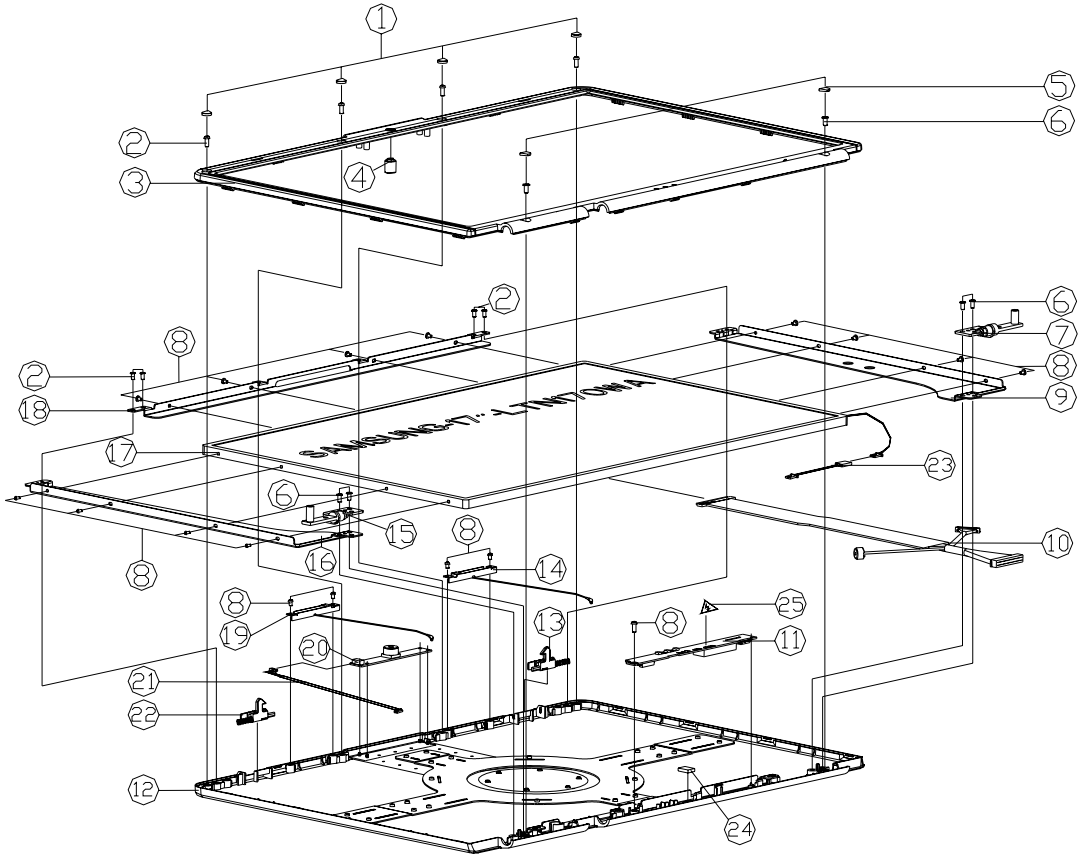


Figure A-2
Bottom

ITEM	PART NAME	PART NO	REMARK
1	D870P I/O BRACKET	33-D87PS-010	
2	HEX STUD(SUM22 NI-PL) 11MM	34-07009-011-A	
3	CABLE FOR MDC,175MM,JAE FI-S2S,ACES 85206	43-D400U-012	
4	SCREW M2*6L P BZ ICT NY	35-06120-6RA	
5	SCREW M2*3L K1 NI ICT NY	35-B1120-3RA	
6	MDC MODEM+TEL.CABLE MODULE	76-32200-101	
7	SCREW M2.5*5L K1 BNI ICT NY	35-B9125-5R0	
8	MYLAR(33*10*0.075t,KAPTON) FOR D400S M/B	40-00150-330	
9	TV TUNER CABLE FOR D870P	43-D87PT-010	
10	SUB SPEAKER CABLE FOR D870P	43-D87PT-020	
11	MAIN BOARD	77-D87P0-D0X	
12	MYLAR FOR BATT.	40-8505M-010	
13	D870P CHOCK SINK FOR MB	33-D87PS-020	
14	EMI GASKET W:10MM H:6MM L:15MM	47-00190-15D	
15	PCMCIA MYLAR MYLAR 320	40-32004-000	
16	GASKET FOR PS2 AND S-VIDEO(W:5mm H:5mm L:35mm)	47-00190-353	
17	EMI GASKET W:10MM H:4MM L:17MM	47-00190-177	
18	D870P MYLAR FOR M/B	40-D87PS-011	
19	SAFETY RUBBER FOR CARD READER	47-D87PR-010	FOR CARD READER
20	SCREW M2*3L K1 NI ICT NY	35-B1120-3RB	
21	MYLAR FOR DDR	40-D87PS-020	
22	CARD READER ASS'Y D870P	79-D87PR-010	Reference Ass'y Dwg (99-D87P5-060)
22	SUB SPEAKER L ASS'Y D870P	79-D87PS-020	Reference Ass'y Dwg (99-D87P5-070)
23	STUD 25*5M-N0130 FOR VIDEO CAPTURE L297P	34-P297V-010	
24	SCREW M2*4L F NI ICT NY	35-21120-4RB	
25	SCREW M2.5*6L K BZ ICT	35-82125-6R0	
26	FAN MODULE D870P	31-D87PS-100	
27	FAN MODULE D470W	31-D470S-100	
28	SCREW M2*5L K NI NY	35-81120-5R0	
29	FRONT SPEAKER RIGHT 1.2W 8OHM	23-30112-800	
30	TV TUNNER ASS'Y (OPTION) D870P	79-D87PT-010	Reference Ass'y Dwg (99-D87P5-130)
30	SUB SPEAKER ASS'Y(OPTION) D870P	79-D87PS-010	Reference Ass'y Dwg (99-D87P5-120)
31	BAT.P(3) S LI 14.8V/6.6AH 12C	87-D87PS-446	德騰科技 無鉛
31	BAT.P(3) S LI 14.8V/6.6AH 12C(MOLICEL)	87-D87PS-496	能元科技 無鉛
31	BAT.P(3) S LI 14.8V/6.6AH 12C	87-D87PS-44E	德騰科技 無鉛
31	BAT.P(3) S LI 14.8V/6.6AH 12C(MOLICEL)	87-D87PS-49E	能元科技 無鉛
32	FRONT SPEAKER LEFT 1.2W 8OHM	23-30012-800	
33	BLUETOOTH MODULE V1.1 USB INTERFACE(USI)	88-18250-370	
34	D870P HEAT SINK MODULE (CU PLATE T=4MM)	31-D87PN-100	
35	SCREW M2.5*0.45P*15.5 dl=3.5 L=15.5 S=2.5	35-49025-155	
36	FAN 40*40*7T 5V 0.2A(A-POWER)	23-A4011-462	
37	D870P CPU COVER MODULE	42-D87PS-100	
38	D870P HDD COVER MODULE	42-D87P1-100	
39	W/O HDD ASS'Y	79-D87P1-010	Reference Ass'y Dwg (99-D87P5-050)
40	D870P CPU HOLDER 無鉛	33-D87P3-030	
41	PRODUCT LABEL D870P	45-D87P3-010	
42	DVD-ROM ASS'Y(OPTION) D870P	79-D87PV-000	Reference Ass'y Dwg (99-D87P5-080)
42	CD-RW ASS'Y(OPTION) D870P	79-D870W-000	Reference Ass'y Dwg (99-D87P5-090)
42	COMBO ASS'Y(OPTION) D870P	79-D87PX-000	Reference Ass'y Dwg (99-D87P5-100)
42	DVD-RW ASS'Y(OPTION) D870P	79-D87PQ-000	Reference Ass'y Dwg (99-D87P5-110)
43	D870P BOTTOM CASE MODULE	39-D87P3-011	
44	MYLAR(5*8*0.25t) FOR 65V LCD(SAMSUNG)	40-00150-150	
45	SCREW M2.5*4 K NI ICT (D=4.3, T=0.5)	35-B0125-4RA	

LCD 17"

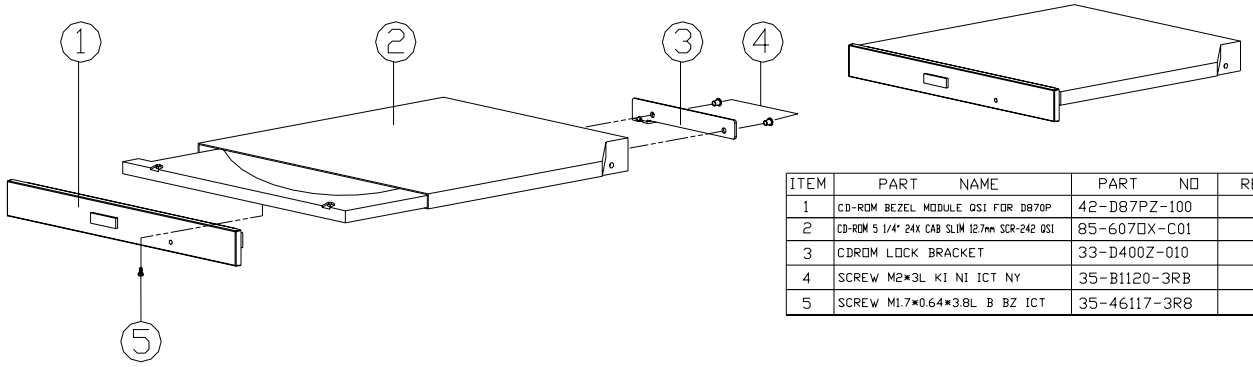


ITEM	PART NAME	PART NO	REMARK
1	DISPLAY FOR RUBBER (TOP)(BLACK)	47-D87P1-010	
2	SCREW M2*4L I BZ ICT NY	35-C6120-4RA	
3	D870P LCD FRONT PANEL CASE MODULE	39-D87P1-100	
4	D470W CCD ORNAMENT RUBBER	47-D470T-010	
5	DISPLAY RUBBER PAD (DOWN)(Black)	47-D41E1-020	
6	SCREW M3*6L K1 NI ICT NY	35-B1130-6RA	
7	D870P HINGE (R)	33-D87P1-050	
8	SCREW M2*3L K1 NI ICT NY	35-B1120-3RA	
9	D470W LCD BRACKET (R) FOR SAMSANG	33-D4701-030	
9	D470W LCD BRACKET (R) FOR LG	33-D4701-011	
10	WIRE CLABLE FOR LG LP171W01 17.1" WXGA LCD	43-D4701-012	
11	EPS INVERTER BOARD V1.1 FOR D800	76-D800R-001-2	
12	D870P LCD BACK PANEL CASE MODULE	39-D87P1-200	
13	D870P HOOK KNOB (R) MODULE	42-D87P1-700	
14	WIRELESS ANTENNA 2.4G PIFA (L=43mm) FOR D870P	23-742R4-C30	
15	D870P HINGE (L)	33-D87P1-060	
16	D470W LCD BRACKET (L) FOR SAMSUNG	33-D4701-030	
16	D470W LCD BRACKET (L) FOR LG	33-D4701-021	
17	LCD 17" SAMSUNG LTN170WA-L01(1440*900)	50-M7262-M00	
17	LCD 17" LG LP171W01(WXGA) 1440*900	50-N7265-L00	
18	D470W BACK CASE BRACKET (TOP) SAMSANG	33-D4701-040	
18	D470W BACK CASE BRACKET (TOP) LG	33-D4701-181	
19	BLUETOOTH ANTENNA PIFA 2.4G (L=54D) FOR D870P	23-742R4-C40	
20	VIDEO CAMERA CMOS130, 300K Pixels Resolu	88-D40C0-410	OPTION
21	WIRE CABLE MAIN BD TO CCD MODULE V1.00	43-D4000-060	
22	D870P HOOK KNOB MODULE (L)	42-D87P1-800	
23	WIRE CABLE CONVERTER(50mm) FOR LG PANEL	43-56P01-090	
24	PORON 16X6X2 FOR 15" CPT 4200	47-42091-040	
25	ELECTRIC SHOCK CAUTION 82H	45-82004-000	

Figure A-3
LCD 17"

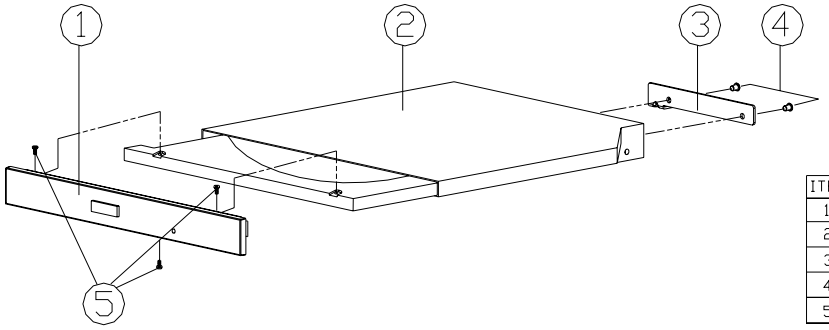
CD-ROM Drive - QSI

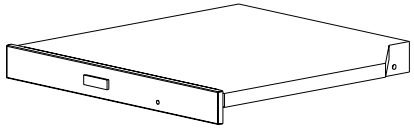
Figure A-4
CD-ROM Drive - QSI



ITEM	PART NAME	PART NO	REMARK
1	CD-ROM BEZEL MODULE QSI FOR D870P	42-D87PZ-100	
2	CD-ROM 5 1/4" 24X CAB SLIM 12.7mm SCR-242 QSI	85-607□X-C01	
3	CDROM LOCK BRACKET	33-D400Z-010	
4	SCREW M2*3L KI NI ICT NY	35-B1120-3RB	
5	SCREW M1.7*0.64*3.8L B BZ ICT	35-46117-3R8	

CD-ROM Drive - TEAC



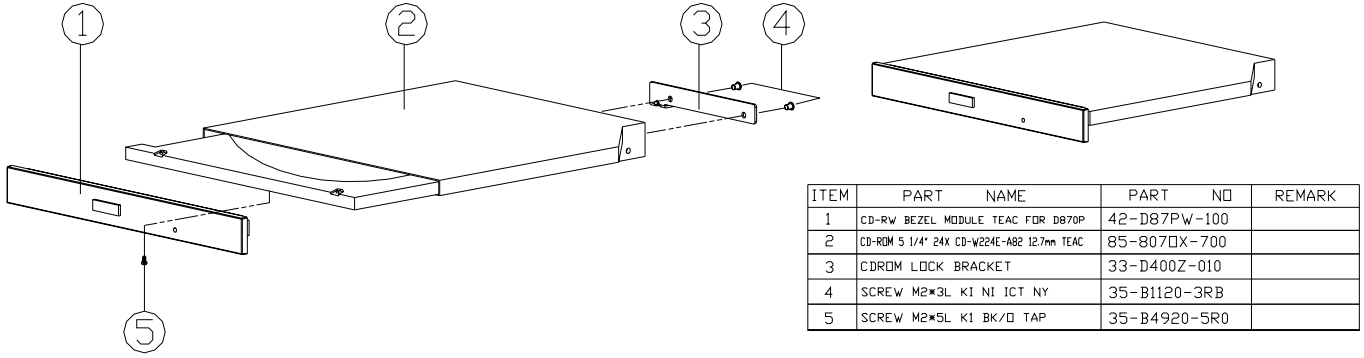


ITEM	PART NAME	PART NO	REMARK
1	CD-ROM BEZEL MODULE TEAC FOR D870P	42-D87PZ-300	
2	DVD 5 1/4" 24X 12.7mm CD-224E-C20 TEAC	85-607□X-709	
3	CDROM LOCK BRACKET	33-D400Z-010	
4	SCREW M2*3L KI NI ICT NY	35-B1120-3RB	
5	SCREW Ø2.0*5.0L I BZ TAP	35-26720-5R0-1	

Figure A-5
CD-ROM Drive - TEAC

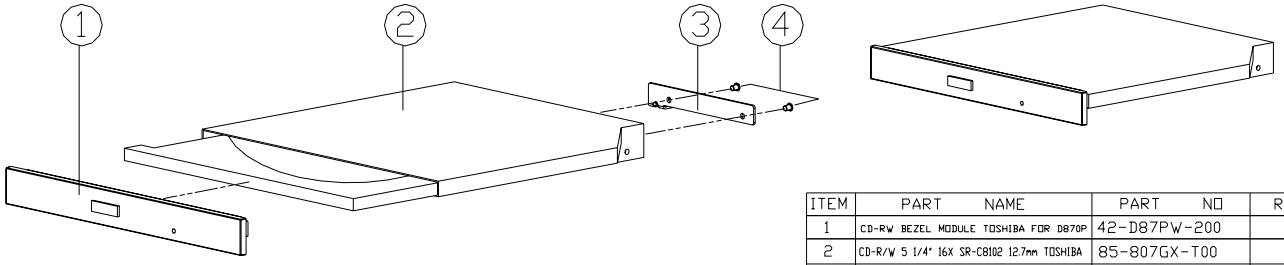
CD-RW Drive - TEAC

Figure A-6
CD-RW Drive - TEAC



ITEM	PART NAME	PART NO	REMARK
1	CD-RW BEZEL MODULE TEAC FOR D870P	42-D87PW-100	
2	CD-ROM 5 1/4" 24X CD-W224E-A82 12.7mm TEAC	85-807□X-700	
3	CDROM LOCK BRACKET	33-D400Z-010	
4	SCREW M2*3L K1 NI ICT NY	35-B1120-3RB	
5	SCREW M2*5L K1 BK/□ TAP	35-B4920-5R0	

CD-RW Drive - Toshiba

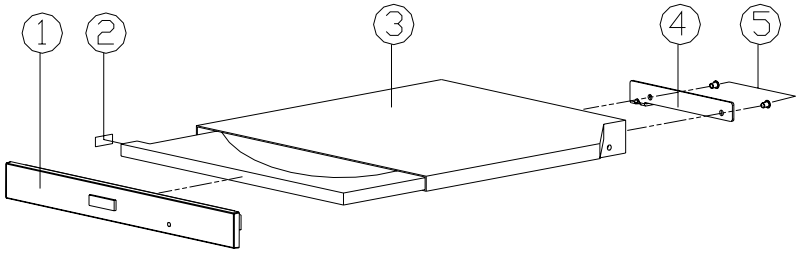


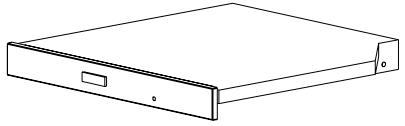
ITEM	PART NAME	PART NO	REMARK
1	CD-RW BEZEL MODULE TOSHIBA FOR D870P	42-D87PW-200	
2	CD-R/W 5 1/4" 16X SR-C8102 12.7mm TOSHIBA	85-807GX-T00	
3	CDROM LOCK BRACKET	33-D400Z-010	
4	SCREW M2*3L KI NI ICT NY	35-B1120-3RB	

Figure A-7
CD-RW Drive - Tosbiha

Combo Drive

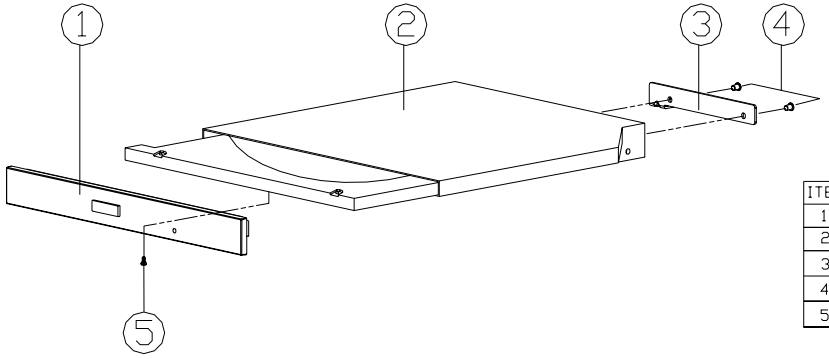
Figure A-8
Combo Drive

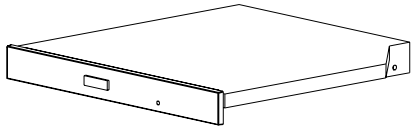




ITEM	PART NAME	PART NO	REMARK
1	COMBO BEZEL MODULE QSI FOR D870P	42-D87PX-100	
1	COMBO BEZEL MODULE SAMSUNG FOR D870P	42-D87PX-200	
1	COMBO BEZEL MODULE TEAC FOR D870P	42-D87PX-300	
2	MYLAR 6*3*0.4T	40-11A5J-020	
3	CD-RW/DVD 5 1/4" 24X 12.7mm SBW-242 QSI	85-907□X-C01	
3	CD-RW/DVD 5 1/4" 24X 12.7mm SN-324F SAMSUNG	85-907□X-S01	
3	CD-RW/DVD 5 1/4" 24X 12.7mm DW-224E-A82 TEAC	85-907□X-701	
4	CDROM LOCK BRACKET	33-D400Z-010	
5	SCREW M2*3L KI NI ICT NY	35-B1120-3RB	

DVD-ROM Drive - QSI



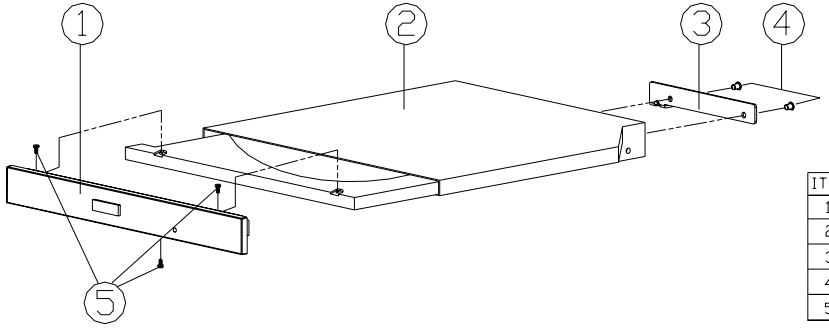


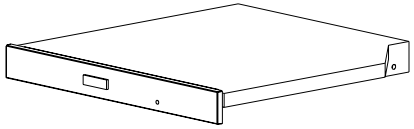
ITEM	PART NAME	PART NO	REMARK
1	DVD BEZEL MODULE QSI FOR D870P	42-D87PV-100	
2	DVD 5 1/4" 8X 12.7mm SDR-083 QSI	85-7078X-C02	
3	CDROM LOCK BRACKET	33-D400Z-010	
4	SCREW M2*3L KI NI ICT NY	35-B1120-3RB	
5	SCREW M1.7*0.64*3.8L B BZ ICT	35-46117-3R8	

Figure A-9
DVD-ROM Drive - QSI

DVD-ROM Drive - TEAC

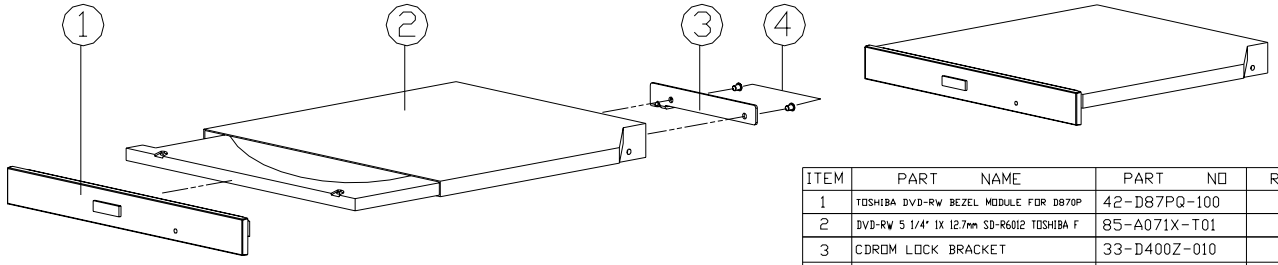
Figure A-10
DVD-ROM Drive - TEAC





ITEM	PART NAME	PART NO	REMARK
1	DVD BEZEL MODULE TEAC FOR D870P	42-D87PV-200	
2	DVD 5 1/4" 8X 12.7mm DV-28E-B82 TEAC	85-7078X-700	
3	CDROM LOCK BRACKET	33-D400Z-010	
4	SCREW M2*3L KI NI ICT NY	35-B1120-3RB	
5	SCREW M1.7*0.64*3.8L B BZ ICT	35-46117-3R8	

DVD-RW Drive

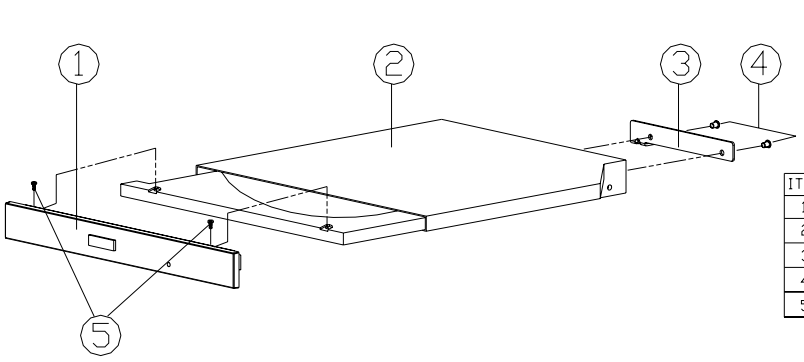


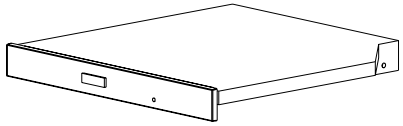
ITEM	PART NAME	PART NO	REMARK
1	TOSHIBA DVD-RW BEZEL MODULE FOR D870P	42-D87PQ-100	
2	DVD-RW 5 1/4" 1X 12.7mm SD-R6012 TOSHIBA F	85-A071X-T01	
3	CDROM LOCK BRACKET	33-D400Z-010	
4	SCREW M2*3L KI NI ICT NY	35-B1120-3RB	

Figure A-11
DVD-RW Drive

DVD+RW Drive - Pioneer

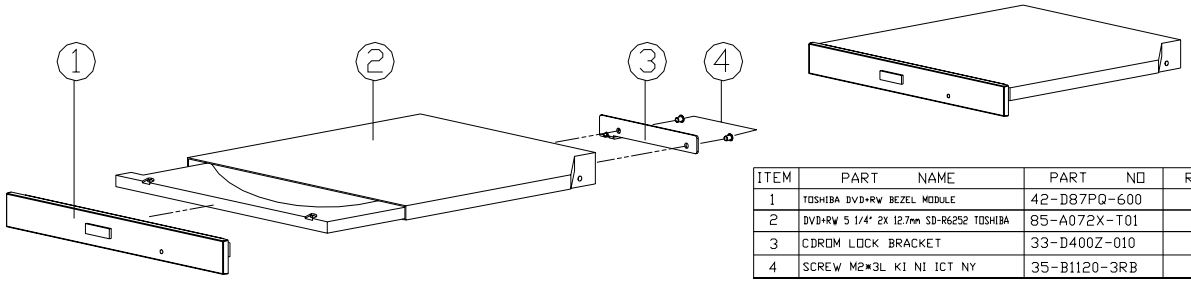
Figure A-12
DVD+RW Drive - Pioneer





ITEM	PART NAME	PART NO	REMARK
1	PIONEER DVD+RW BEZEL MODULE	42-D87PQ-700	
2	DVD/ DUAL RW 5 1/4" 2X 12.7MM DVR-K12RA PIONEER	85-9072X-B10	
3	CDROM LOCK BRACKET	33-D400Z-010	
4	SCREW M2*3L KI NI ICT NY	35-B1120-3RB	
5	SCREW Ø1.7*6L T NI TAP	35-61717-6R0	

DVD+RW Drive - Toshiba

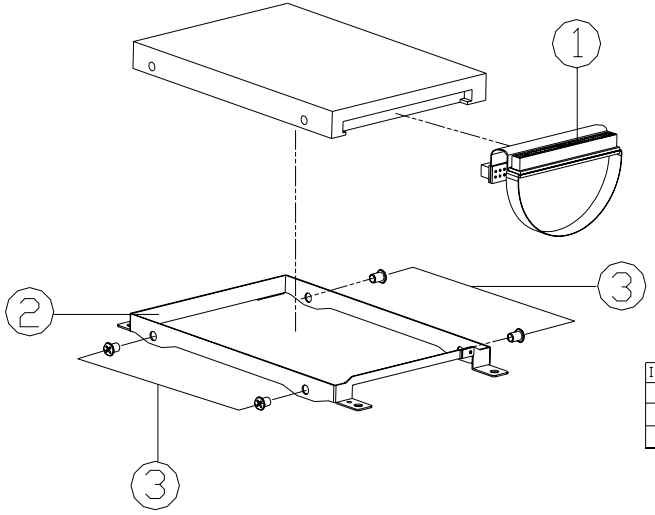


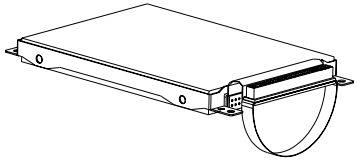
ITEM	PART NAME	PART NO	REMARK
1	TOSHIBA DVD+RW BEZEL MODULE	42-D87PQ-600	
2	DVD+RW 5 1/4" 2X 12.7mm SD-R6252 TOSHIBA	85-A072X-T01	
3	CDROM LOCK BRACKET	33-D400Z-010	
4	SCREW M2*3L K1 NI ICT NY	35-B1120-3RB	

Figure A-13
DVD+RW Drive - Toshiba

Hard Disk Device

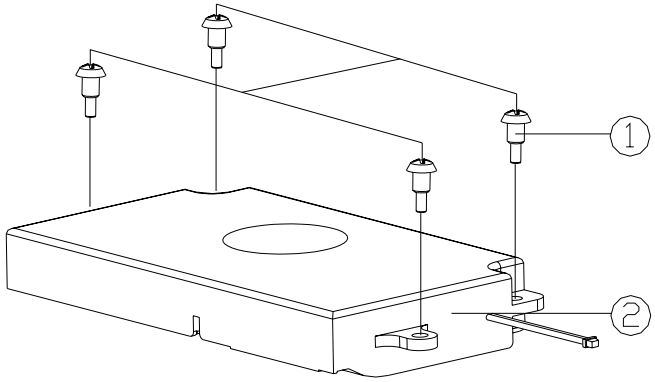
Figure A-14
Hard Disk Device

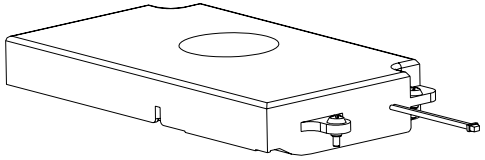




ITEM	PART NAME	PART NO	REMARK
1	FPC CABLE FOR HD TO MAIN BD, 30MM, 8880	43-88800-010	
2	HDD BRACKET	33-D400I-010	
3	SCREW M3*4L KI BZ ICT NY	35-B6130-4RB	

Sub Woofer Speaker



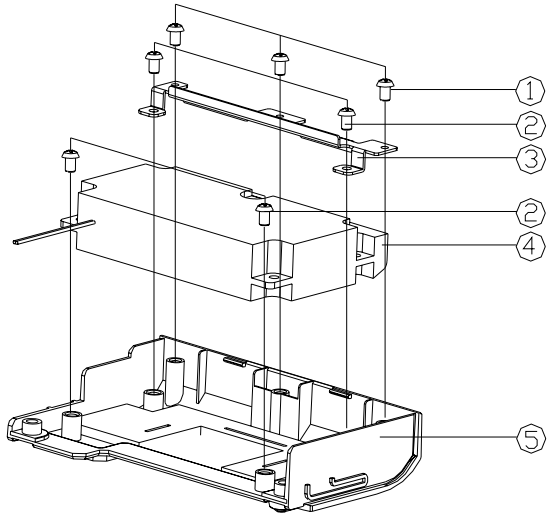


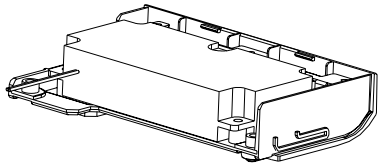
ITEM	PART NAME	PART NO	REMARK
1	SCREW M2.5*8L B LIMITED3.5MM NI ICT	35-41125-8RA	
2	SUB SPERKER MODULE 3W 4OHM(34SB03)SUB	23-55030-100	

Figure A-15
Sub Woofer Speaker

Sub Woofer Speaker 8

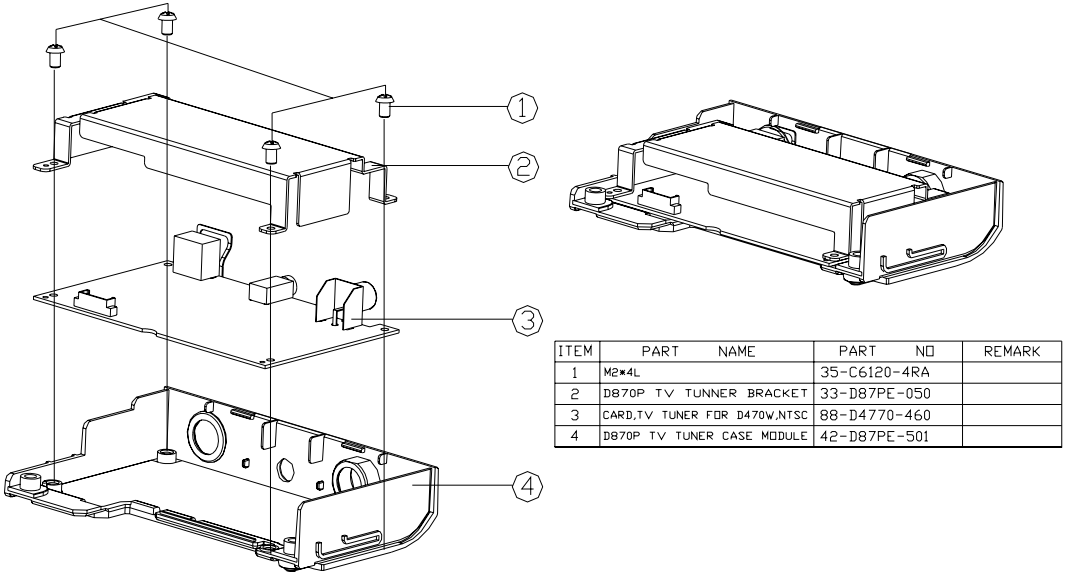
Figure A-16
Sub Woofer Speaker 8





ITEM	PART NAME	PART NO	REMARK
1	SCREW M2*4L I BZ ICT NY	35-C6120-4RA	
2	SCREW M2.5*5L K1 BNI ICT NY	35-B9125-5R0	
3	D870P SUB BRACKET	33-D87P3-050	
4	SPK. WITH CABLE 35MM,3W,3 OHM,34SB03	23-5A430-352	
5	D870P SUB SPERKER CASE MODULE	42-D87PE-401	

TV Tuner

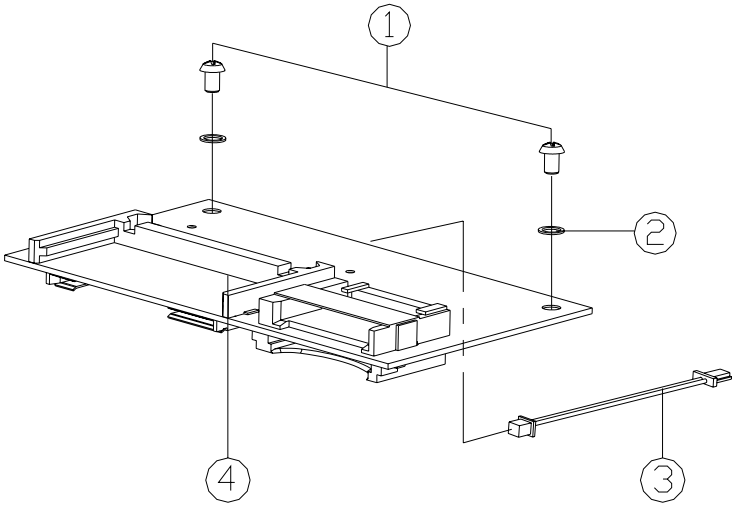


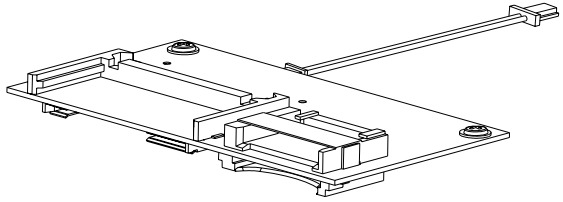
ITEM	PART NAME	PART NO	REMARK
1	M2*4L	35-C6120-4RA	
2	D870P TV TUNNER BRACKET	33-D87PE-050	
3	CARD,TV TUNER FOR D470W,NTSC	88-D4770-460	
4	D870P TV TUNER CASE MODULE	42-D87PE-501	

Figure A-17
TV Tuner

Card Reader

Figure A-18
Card Reader





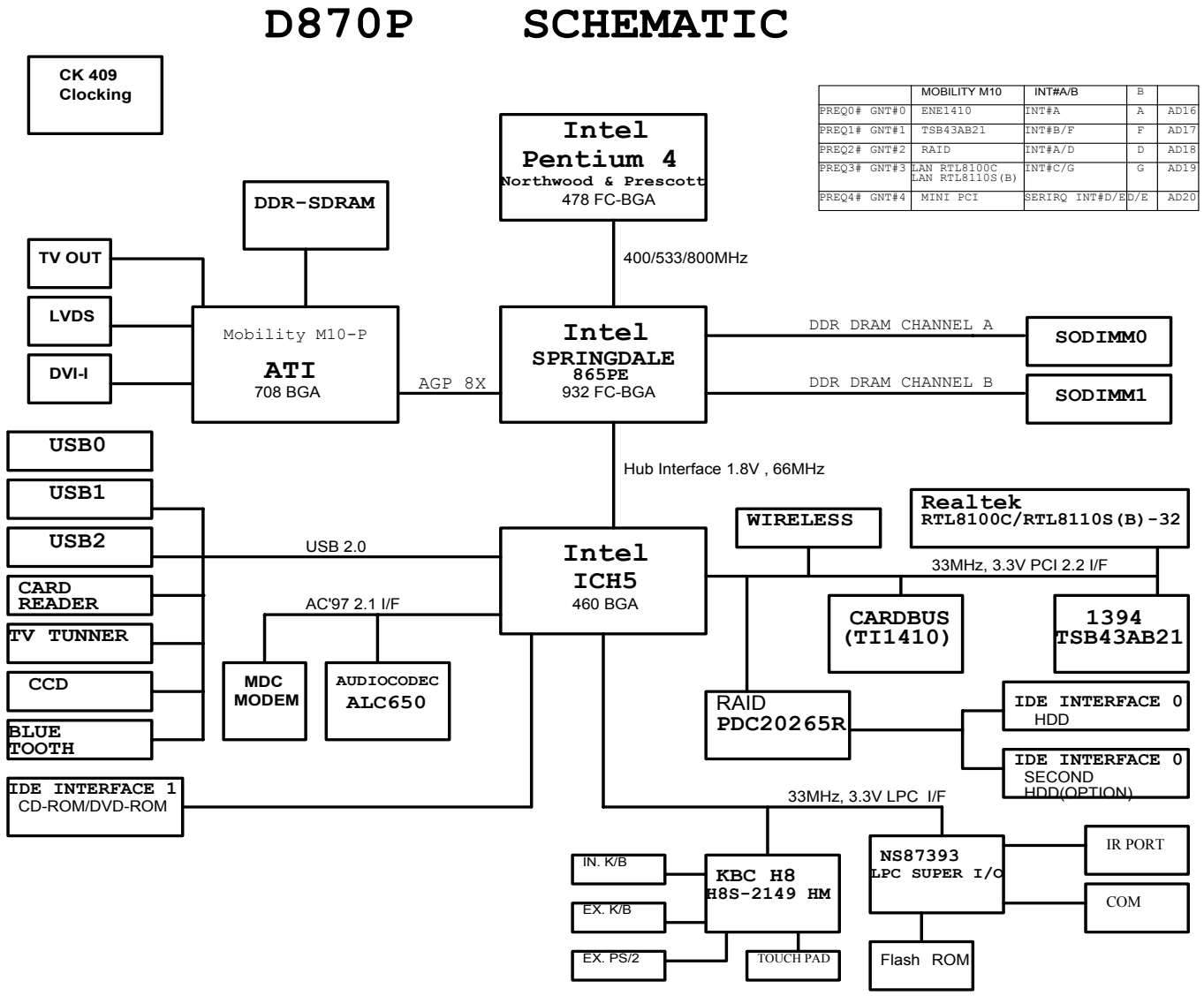
ITEM	PART NAME	PART NO	REMARK
1	SCREW M2.5*5L K1 BNI ICT NY	35-B9125-5R0	
2	PLASTIC WASHER D7 d2.65 t2	42-D470E-A10	
3	WIRE CABLE FOR M/B TO CARD READER	43-M47CE-010	
4	CARD READER MODULE V10, FOR D470W	88-D47E0-430	

Appendix B: Schematic Diagrams for D870P

This appendix has circuit diagrams of the **D870P notebook** computer's PCBs.

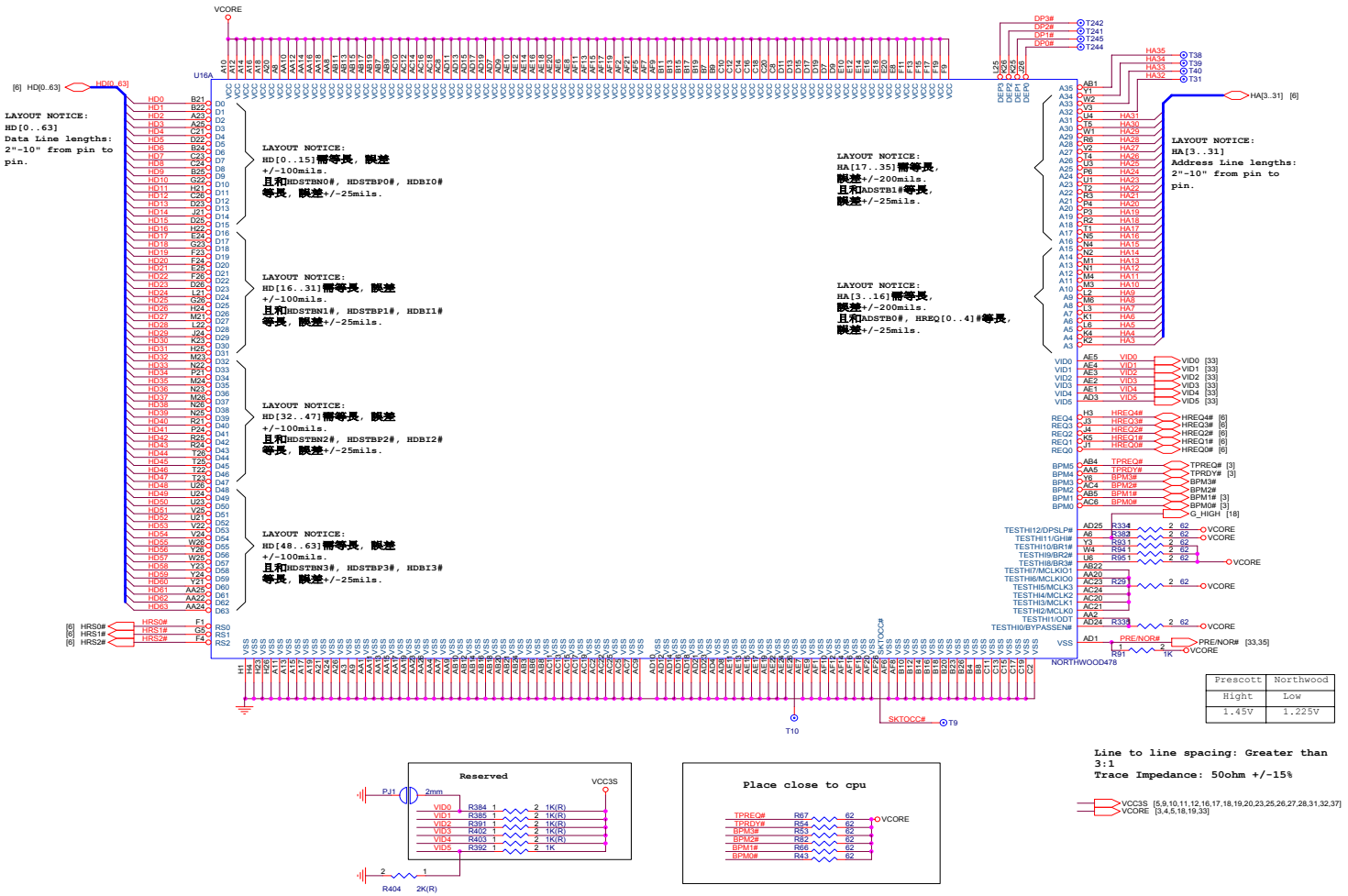
System Block Diagram

Sheet 1 of 39
System Block Diagram



	MOBILITY M10	INT#A/B	B	
PREQ0# GNT#0	ENE1410	INT#A	A	AD16
PREQ1# GNT#1	TSB43AB21	INT#B/F	F	AD17
PREQ2# GNT#2	RAID	INT#A/D	D	AD18
PREQ3# GNT#3	LAN RTL8100C LAN RTL8110S(B)	INT#C/G	G	AD19
PREQ4# GNT#4	MINI PCI	SERIRQ INT#D/E	D/E	AD20

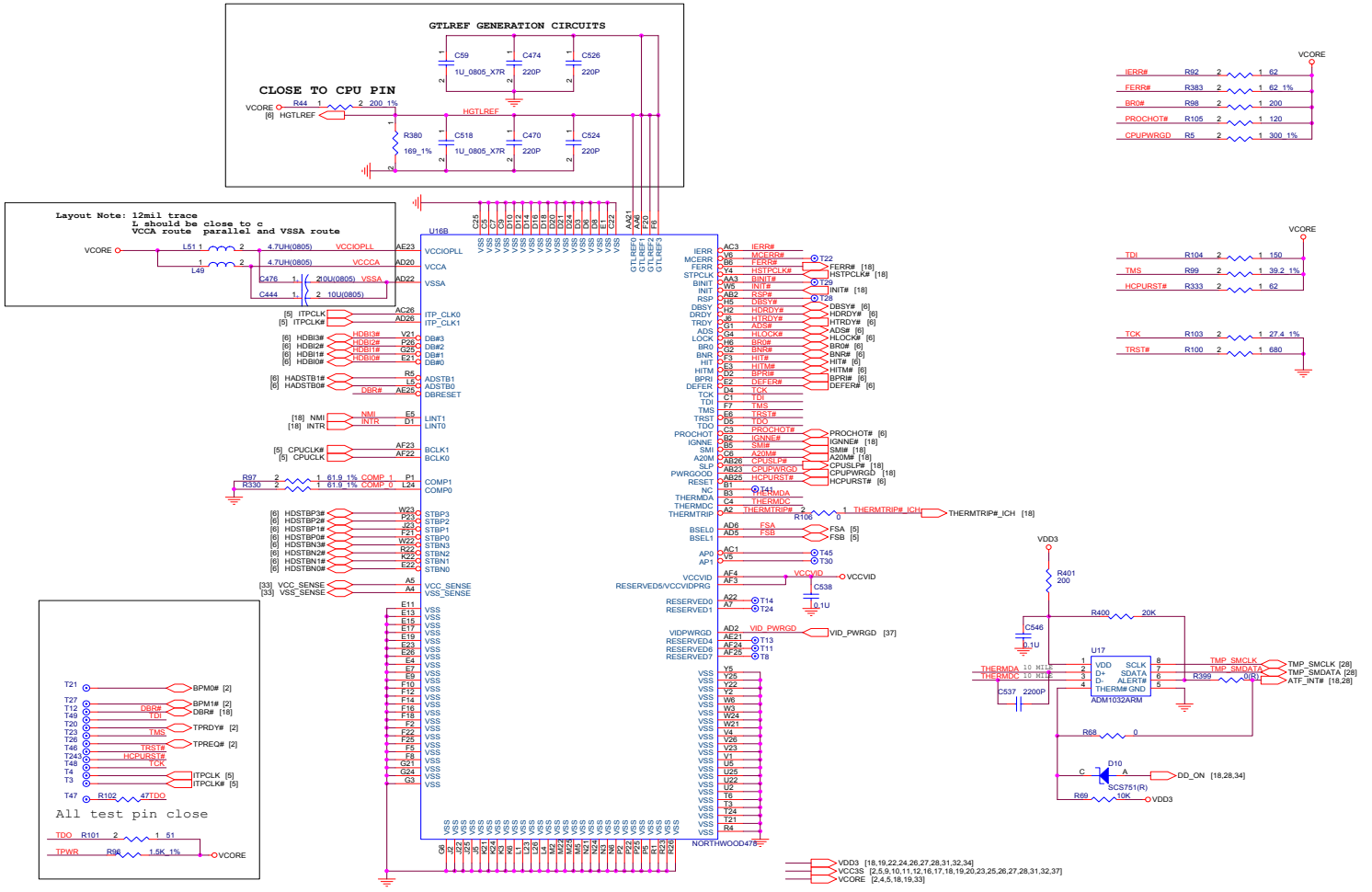
CPU Northwood & Prescott (1 of 2)



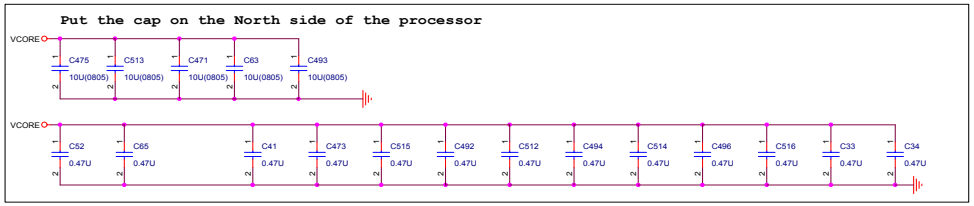
Sheet 2 of 39
CPU Northwood & Prescott (1 of 2)

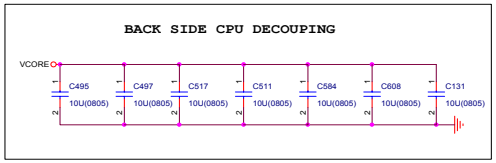
CPU Northwood & Prescott (2 of 2)

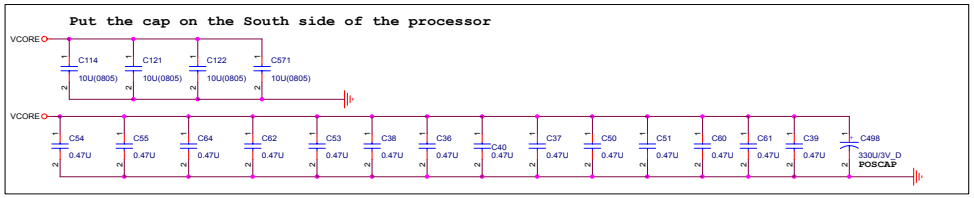
Sheet 3 of 39
CPU Northwood & Prescott
(2 of 2)

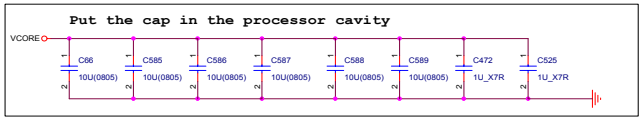


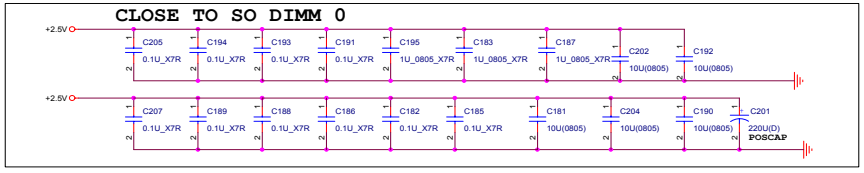
CPU Decoupling

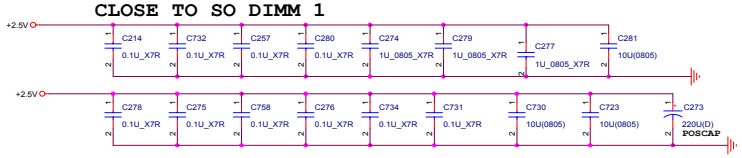


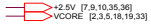








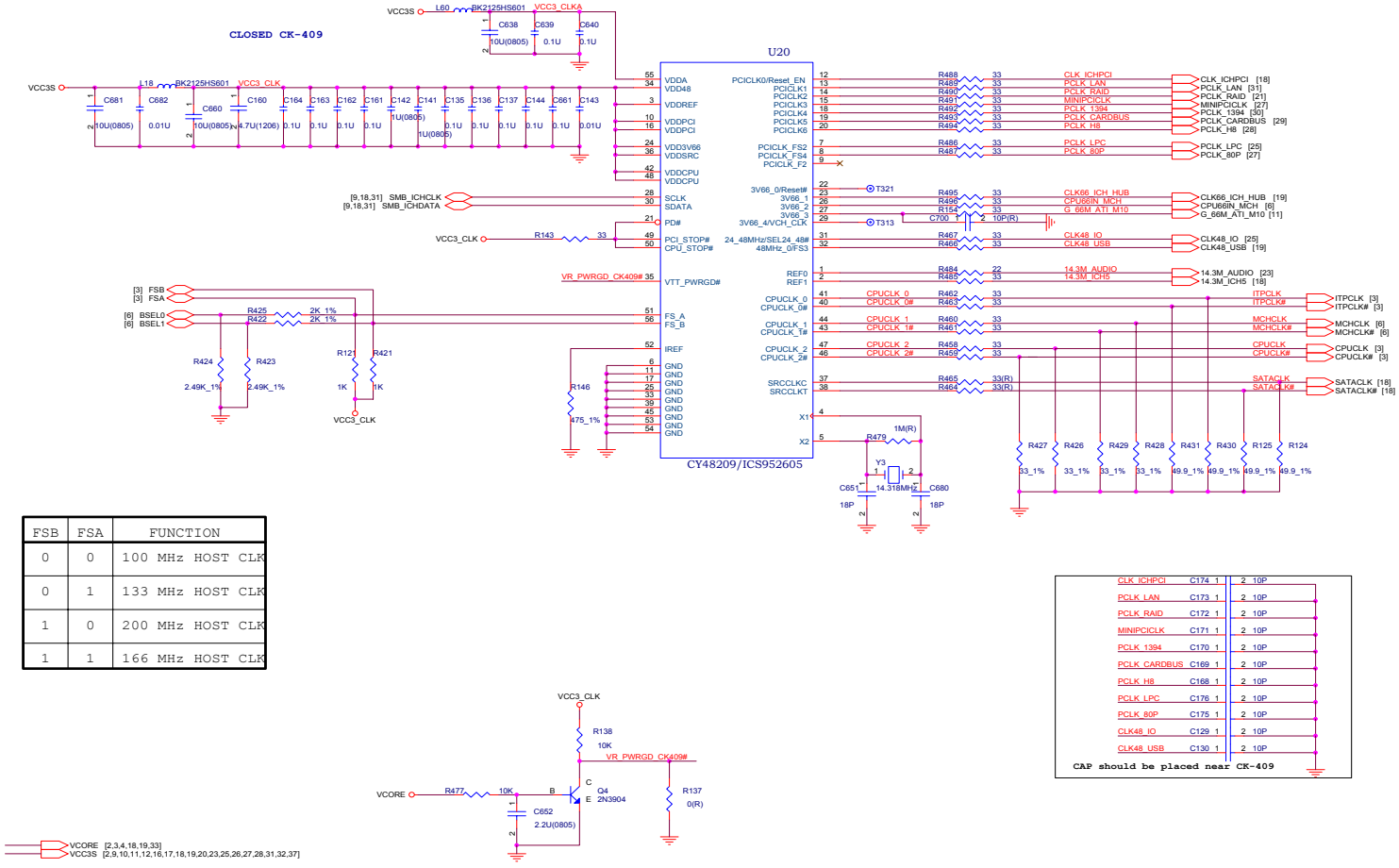




Sheet 4 of 39
CPU Decoupling

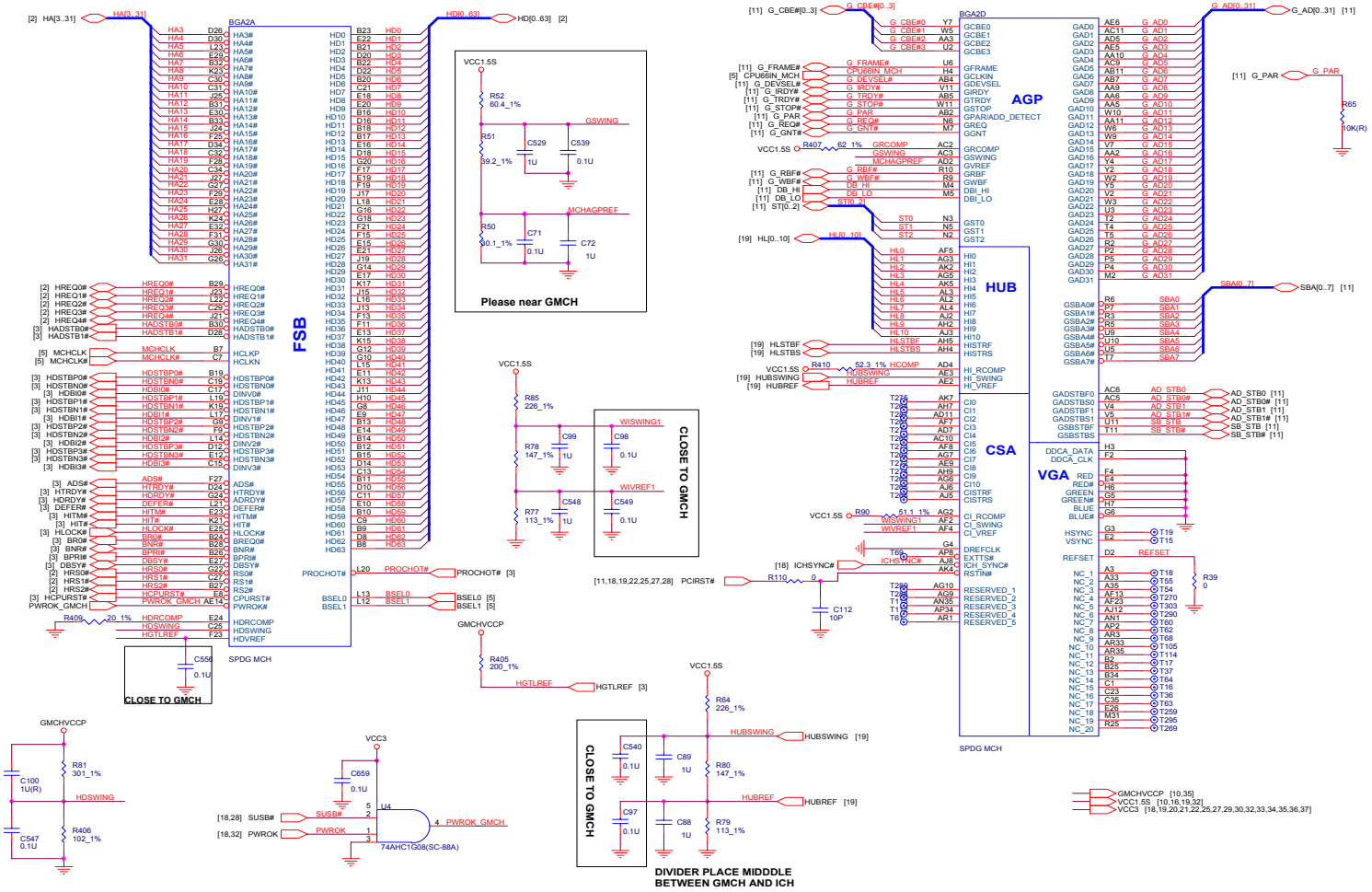
CLK409

Sheet 5 of 39
CLK409



FSB	FSA	FUNCTION
0	0	100 MHz HOST CLK
0	1	133 MHz HOST CLK
1	0	200 MHz HOST CLK
1	1	166 MHz HOST CLK

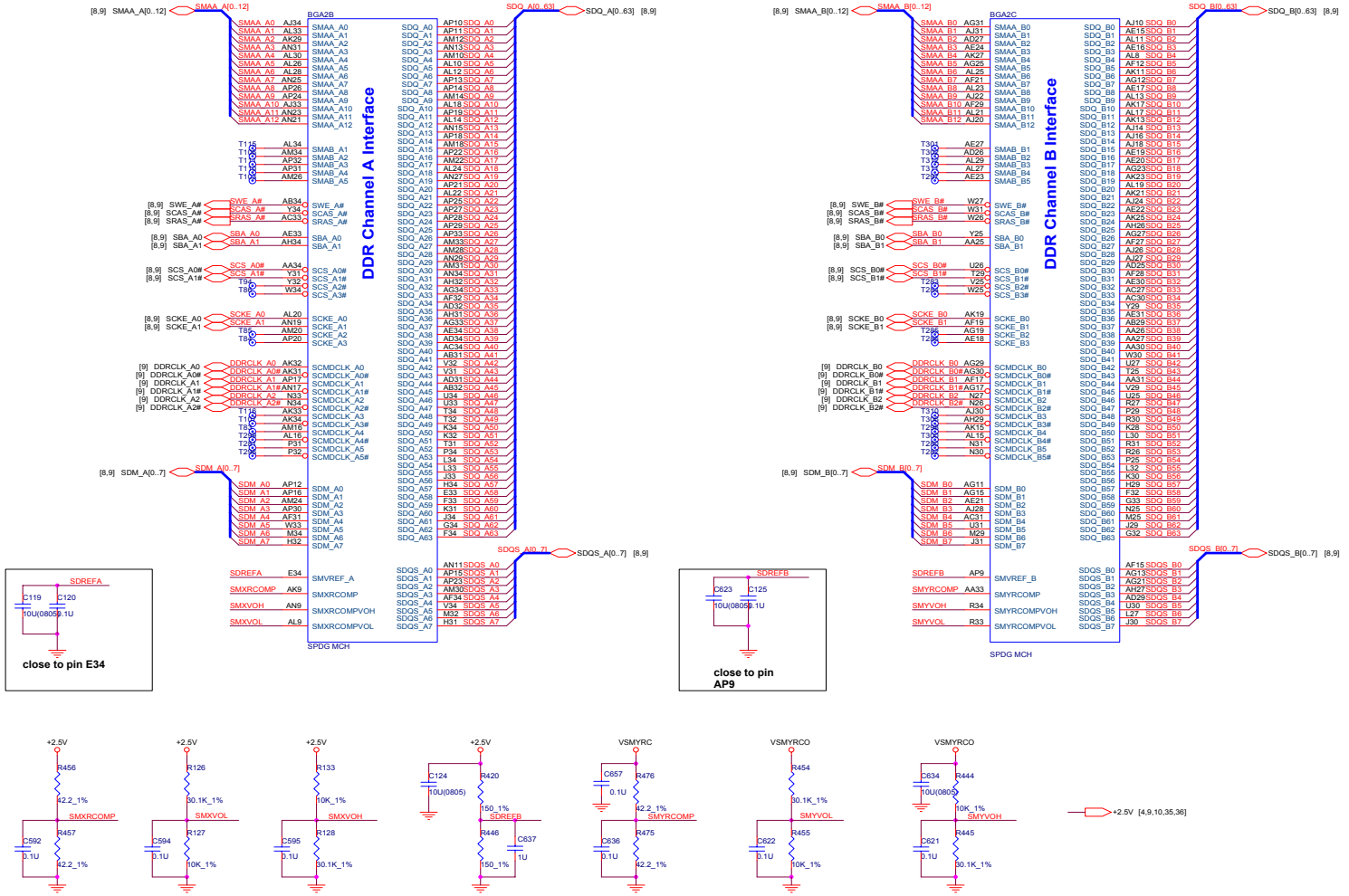
Springdale (HOST, AGP, Hub)



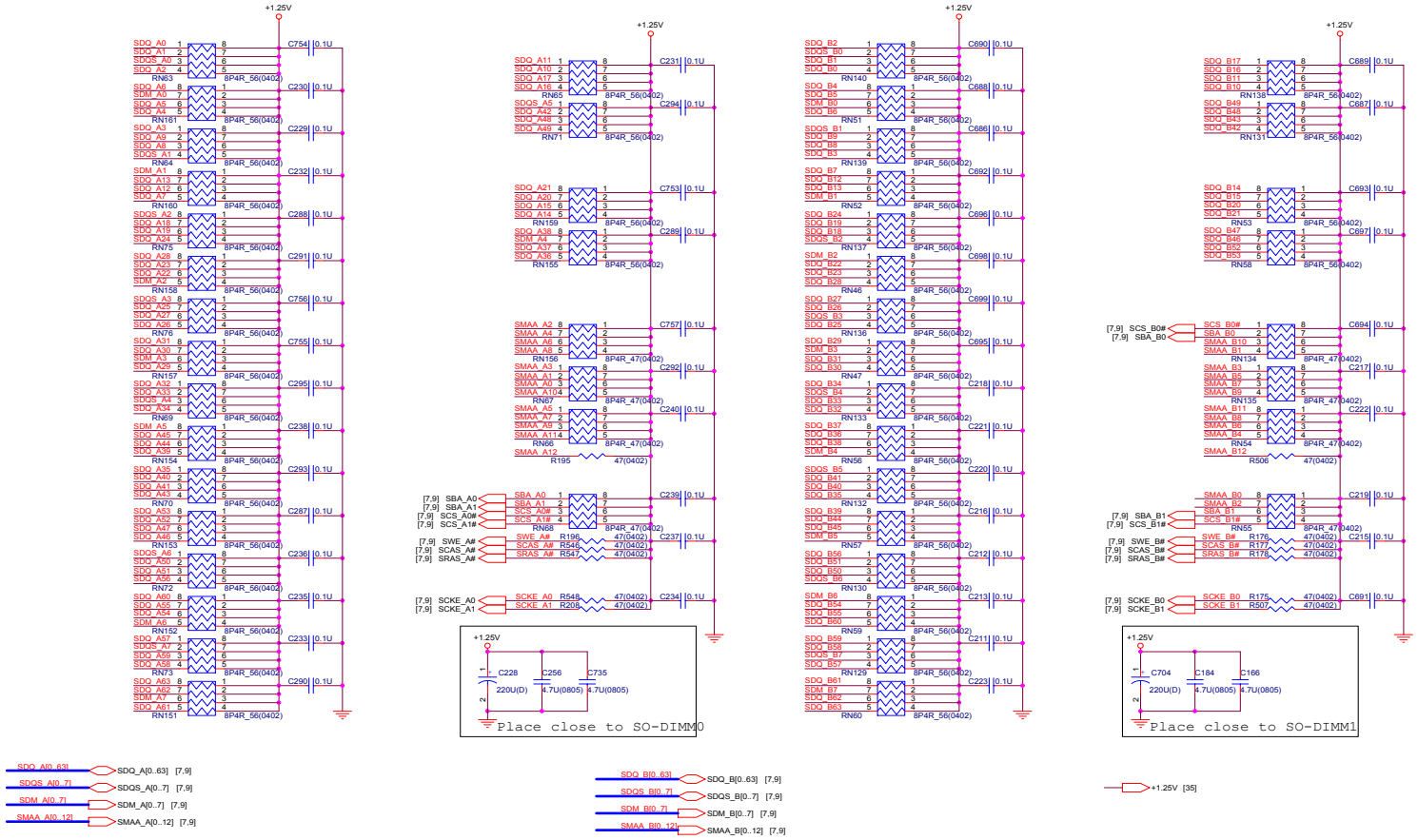
Sheet 6 of 39
Springdale
(HOST, AGP, Hub)

Springdale (DDR Interface)

Sheet 7 of 39
Springdale
(DDR Interface)



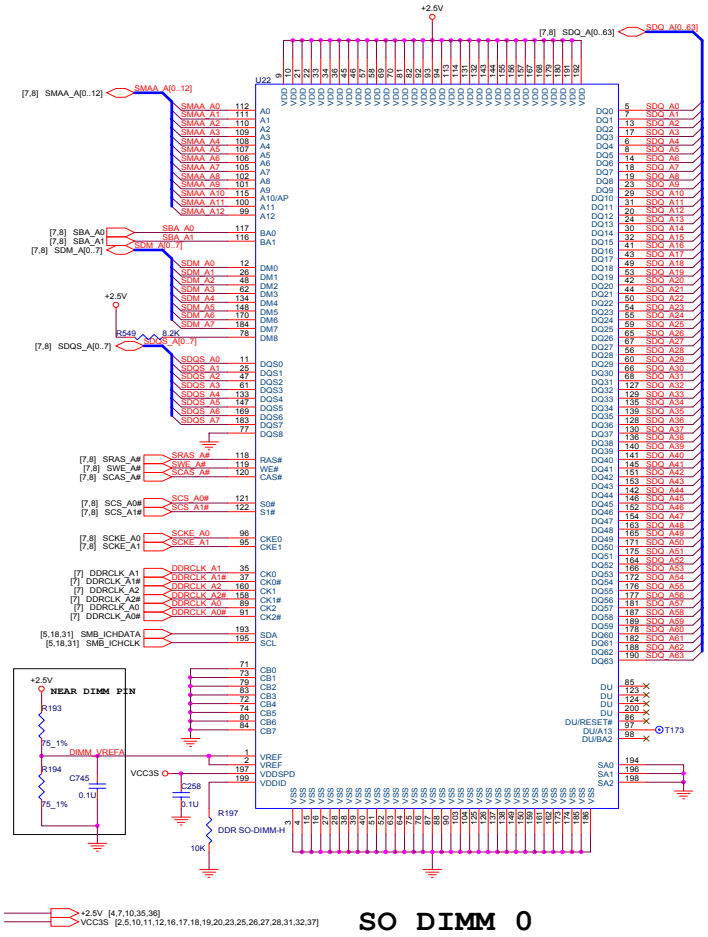
DDR Termination

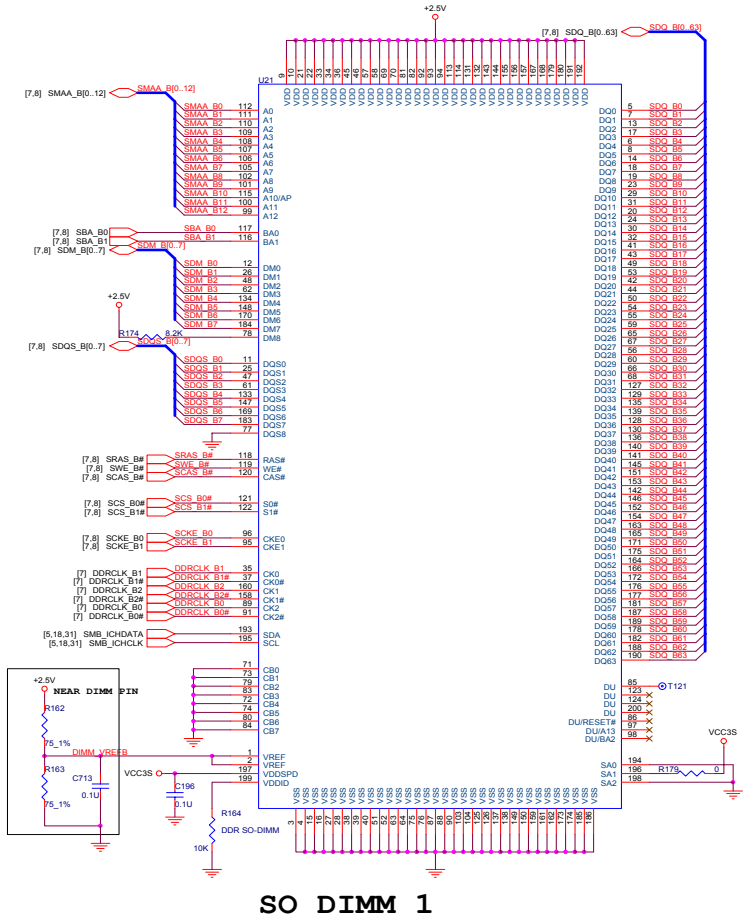


Sheet 8 of 39
DDR Termination

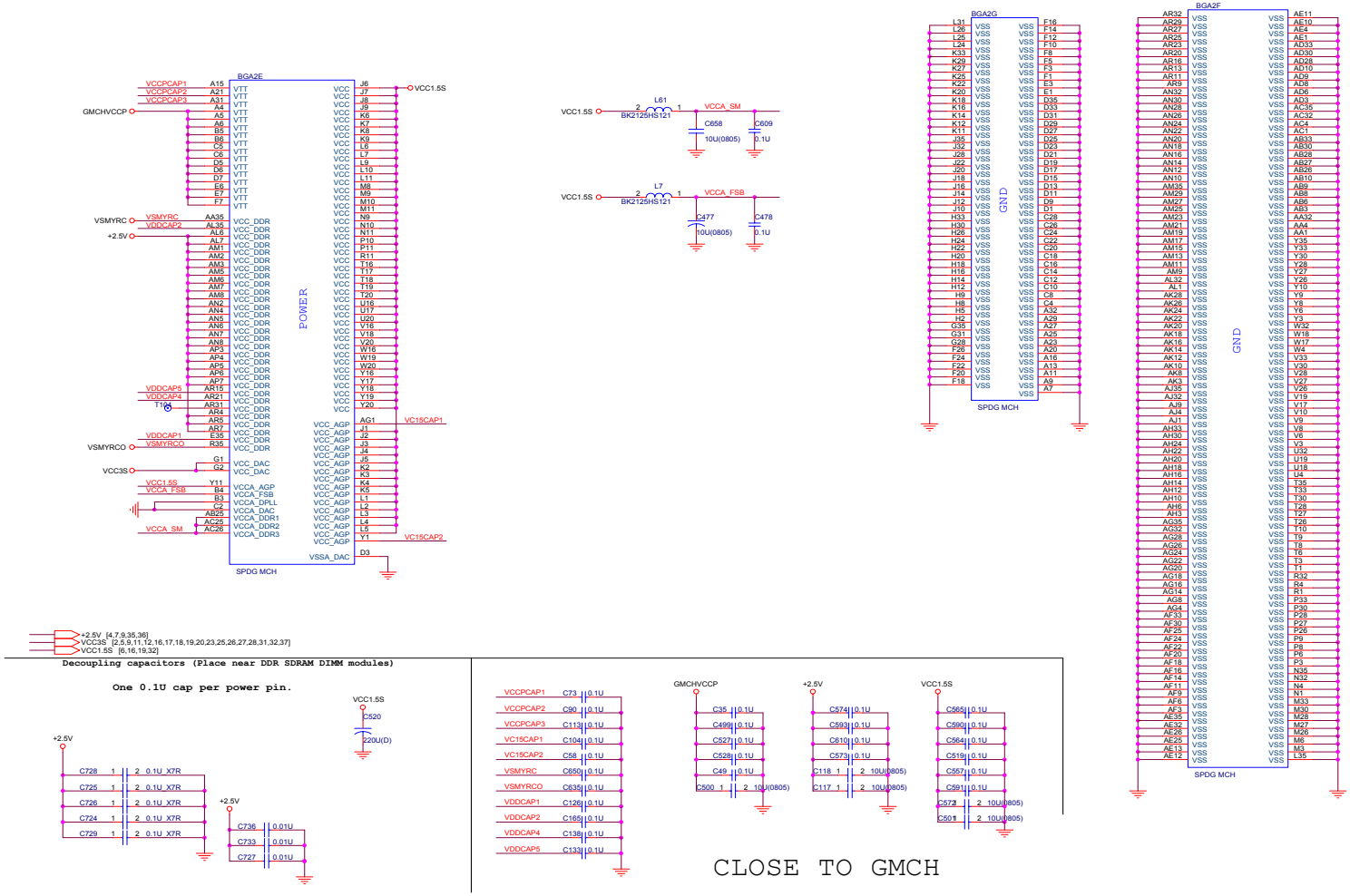
DDR SODIMM

Sheet 9 of 39
DDR SODIMM





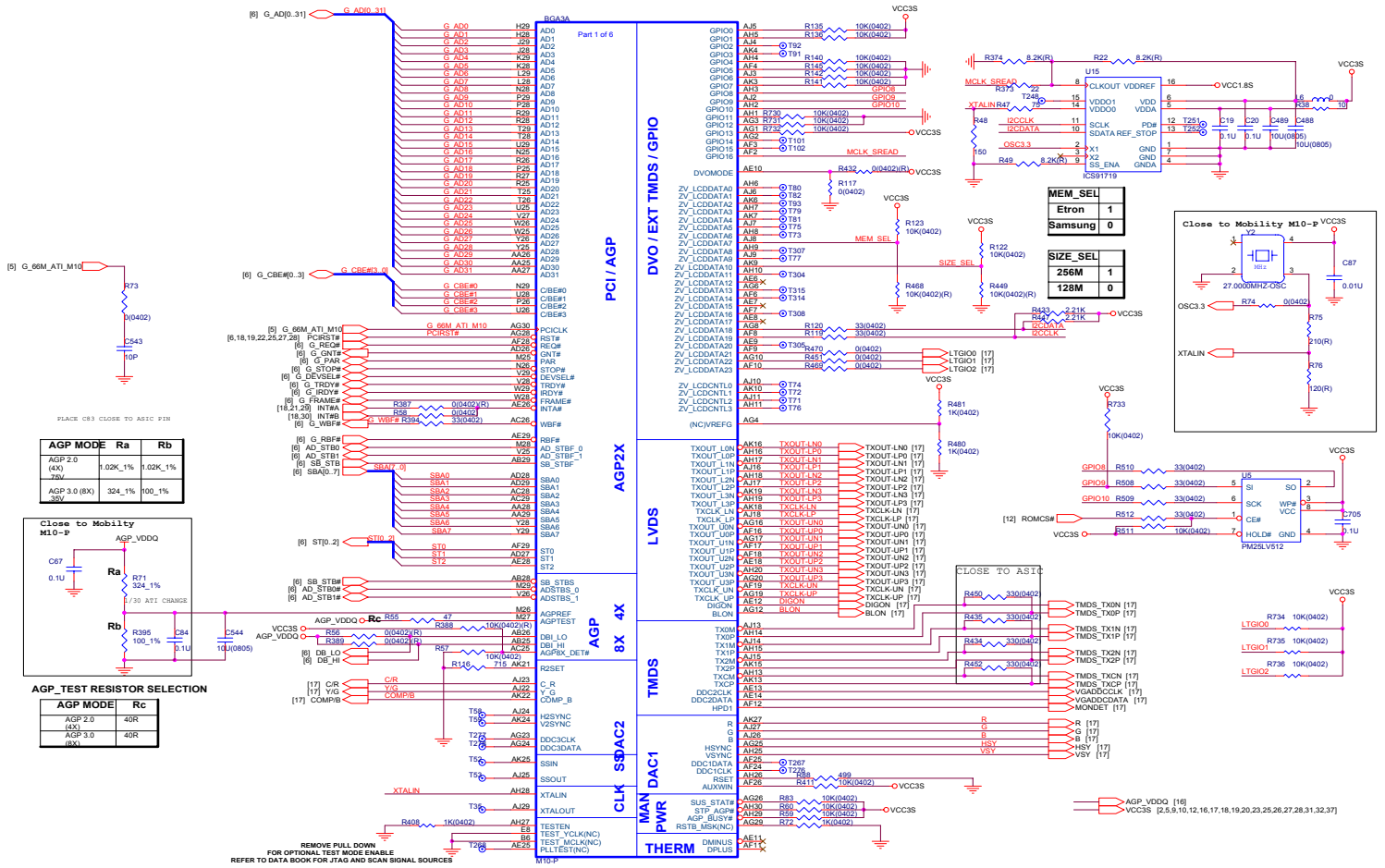
Springdale (Voltage, PLL, VSS)



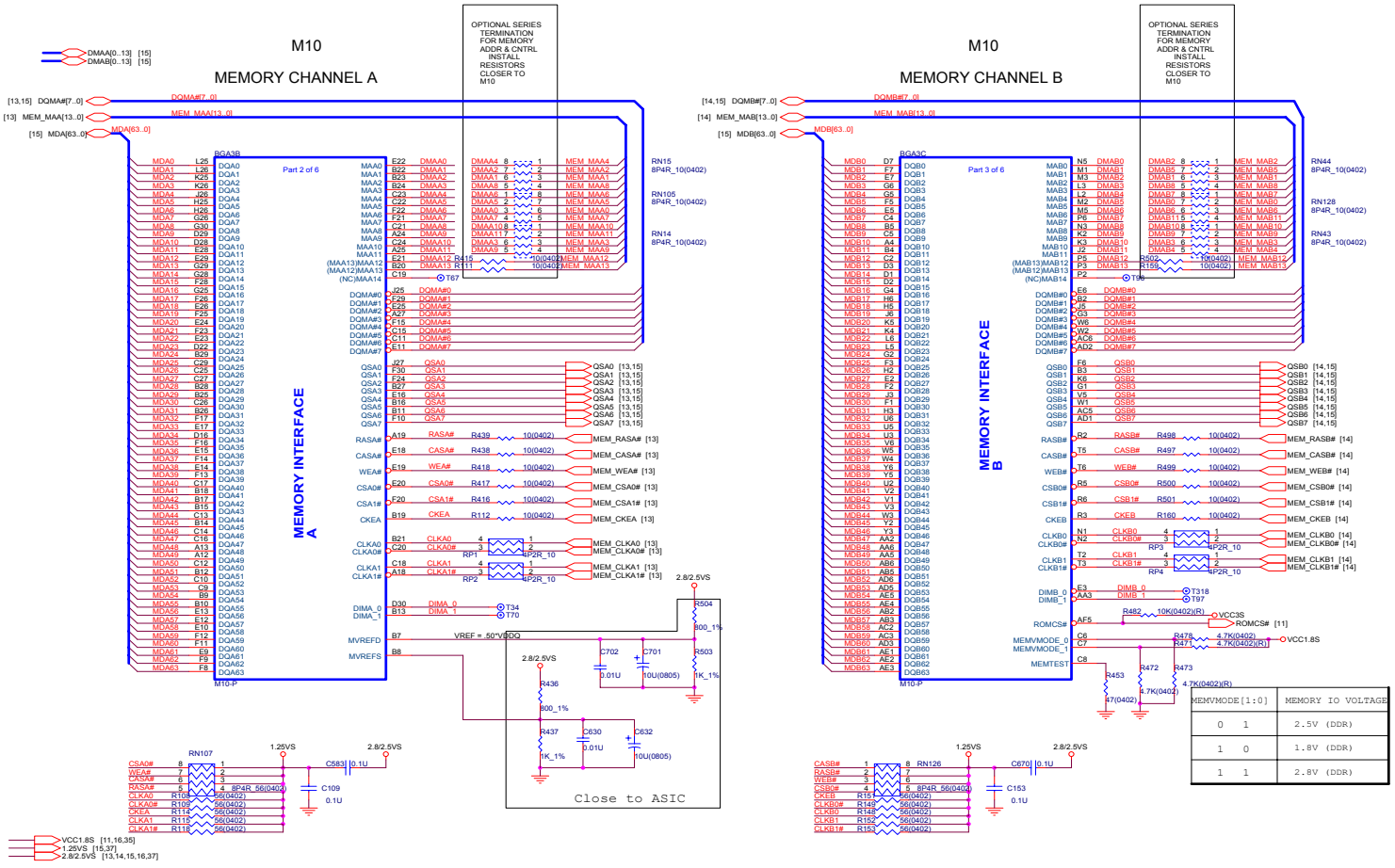
Sheet 10 of 39
Springdale
(Voltage, PLL, VSS)

Mobility M10-P

Sheet 11 of 39
Mobility M10-P



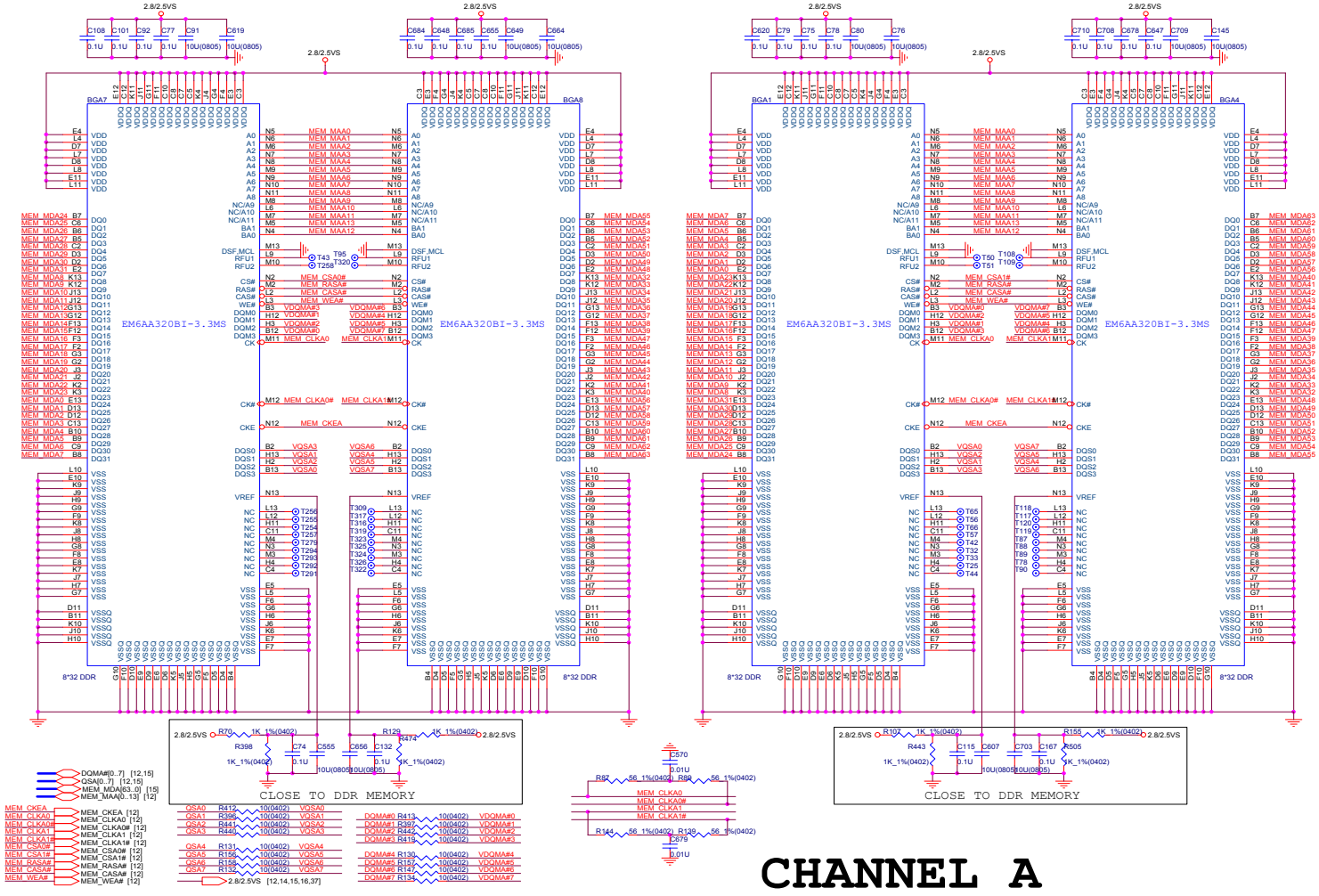
Mobility M10-P MEM A/B



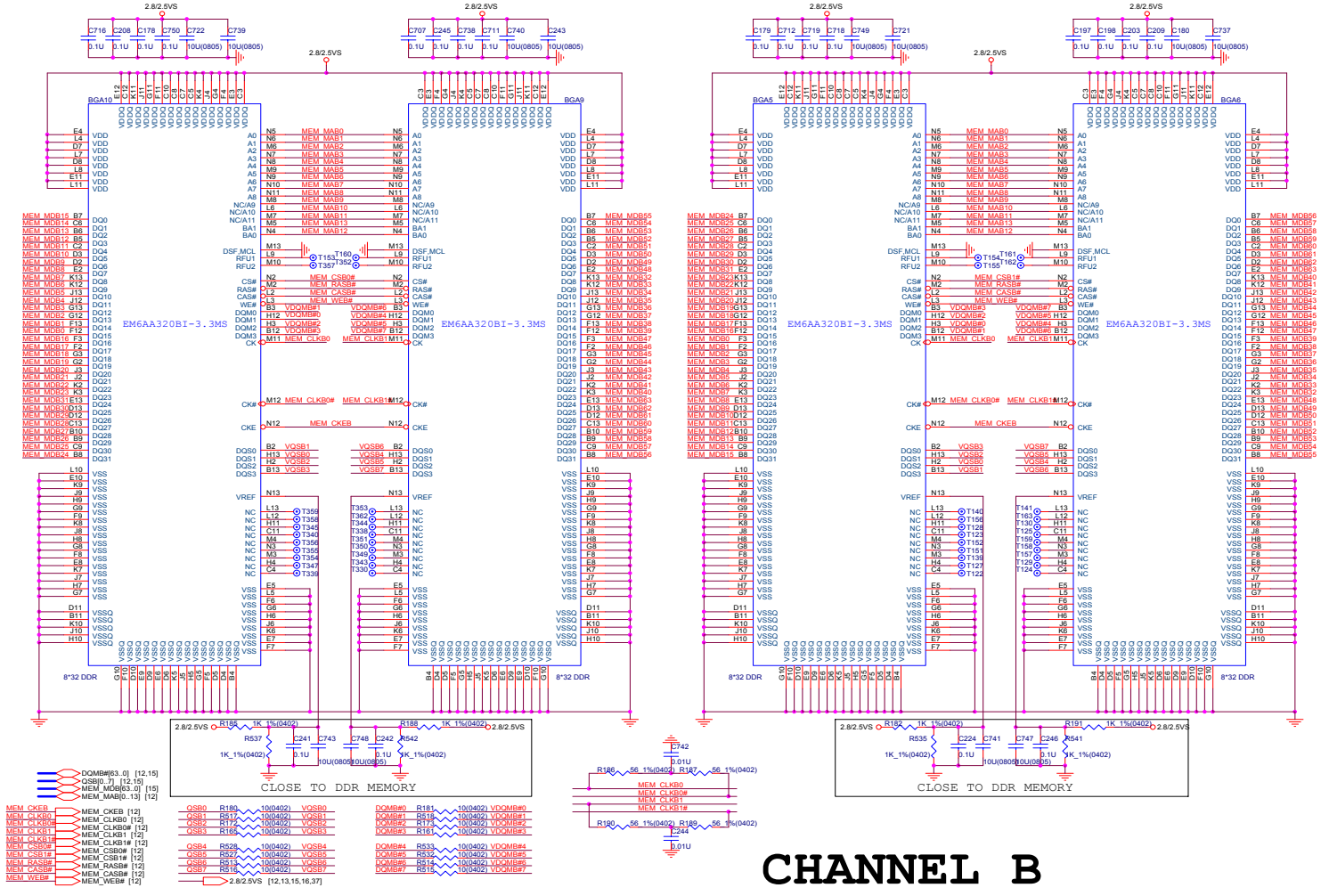
Sheet 12 of 39
Mobility M10-P
MEM A/B

VGA DDR DRAM Channel A

Sheet 13 of 39
VGA DDR DRAM
Channel A



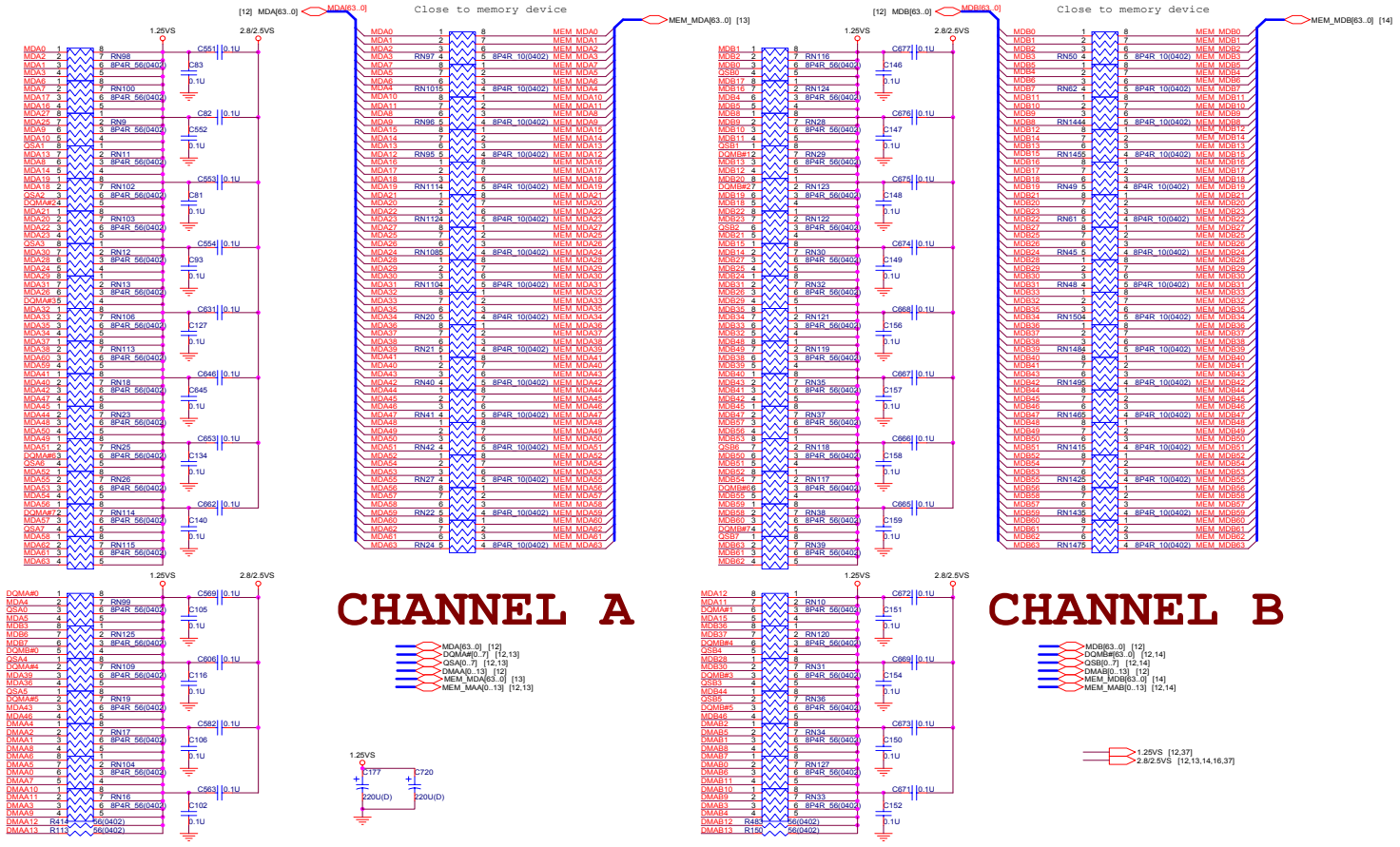
VGA DDR DRAM Channel B



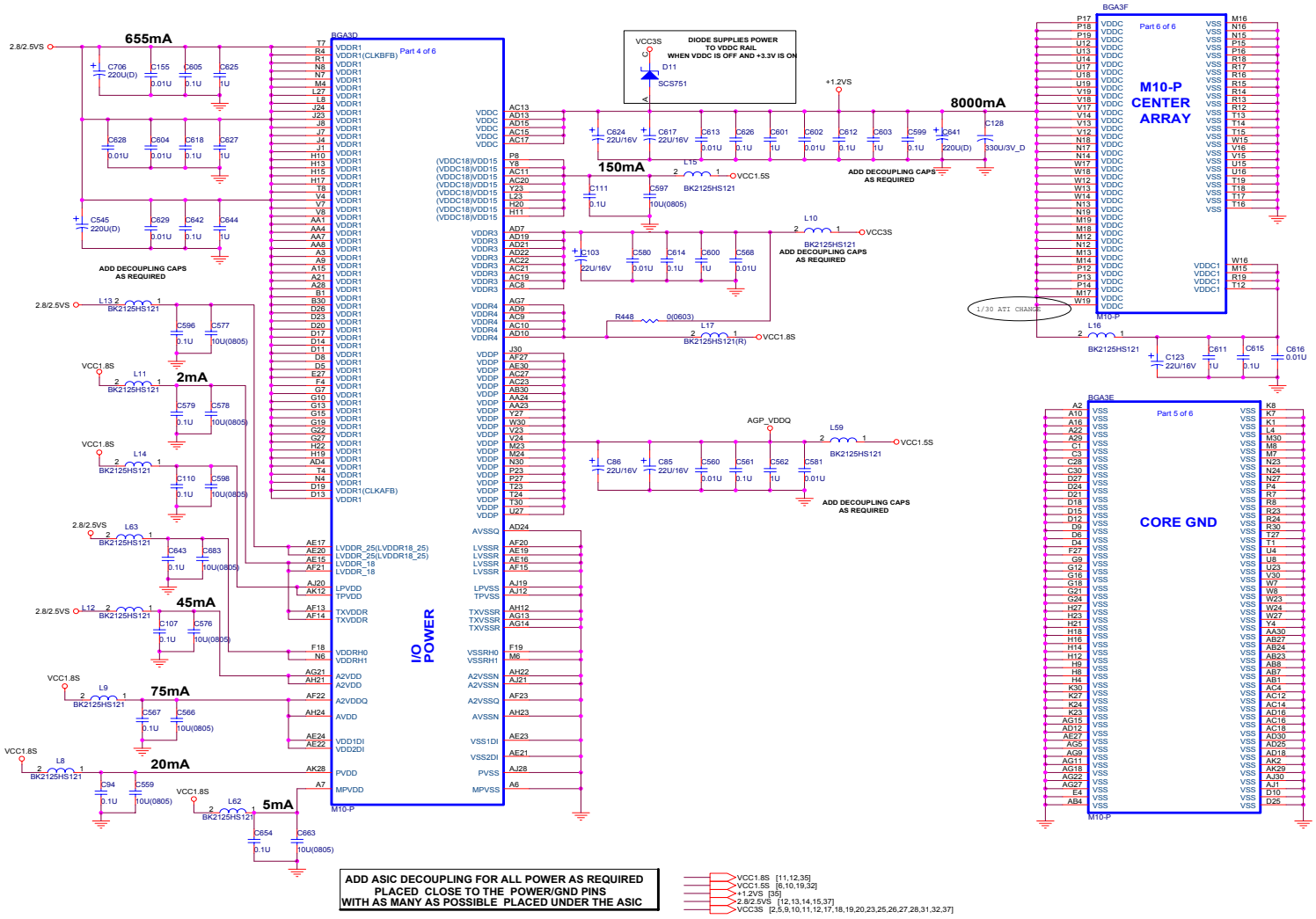
Sheet 14 of 39
VGA DDR DRAM
Channel B

VGA DDR DRAM Termination

Sheet 15 of 39
VGA DDR DRAM Termination



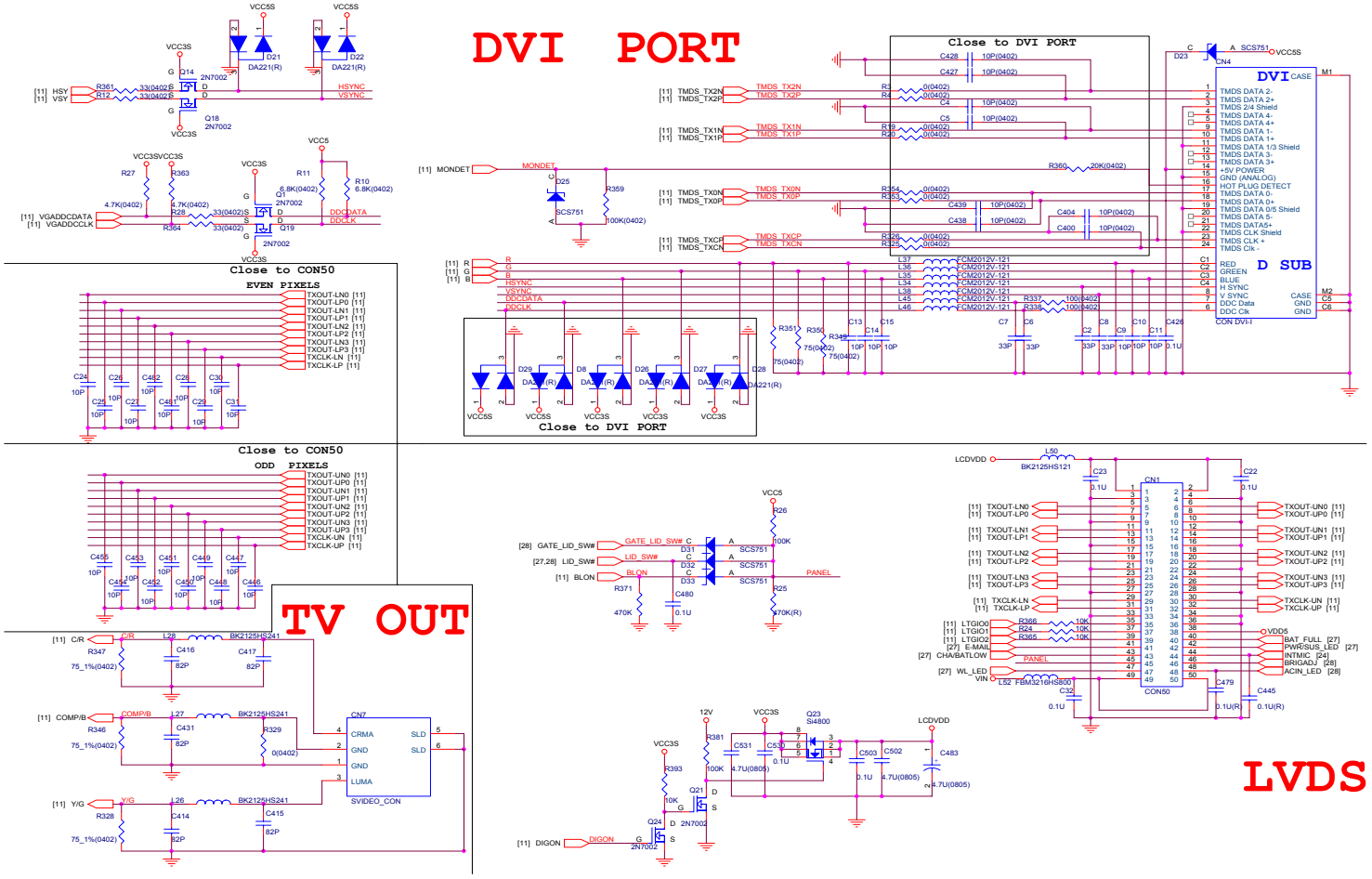
Mobility M10-P_POW



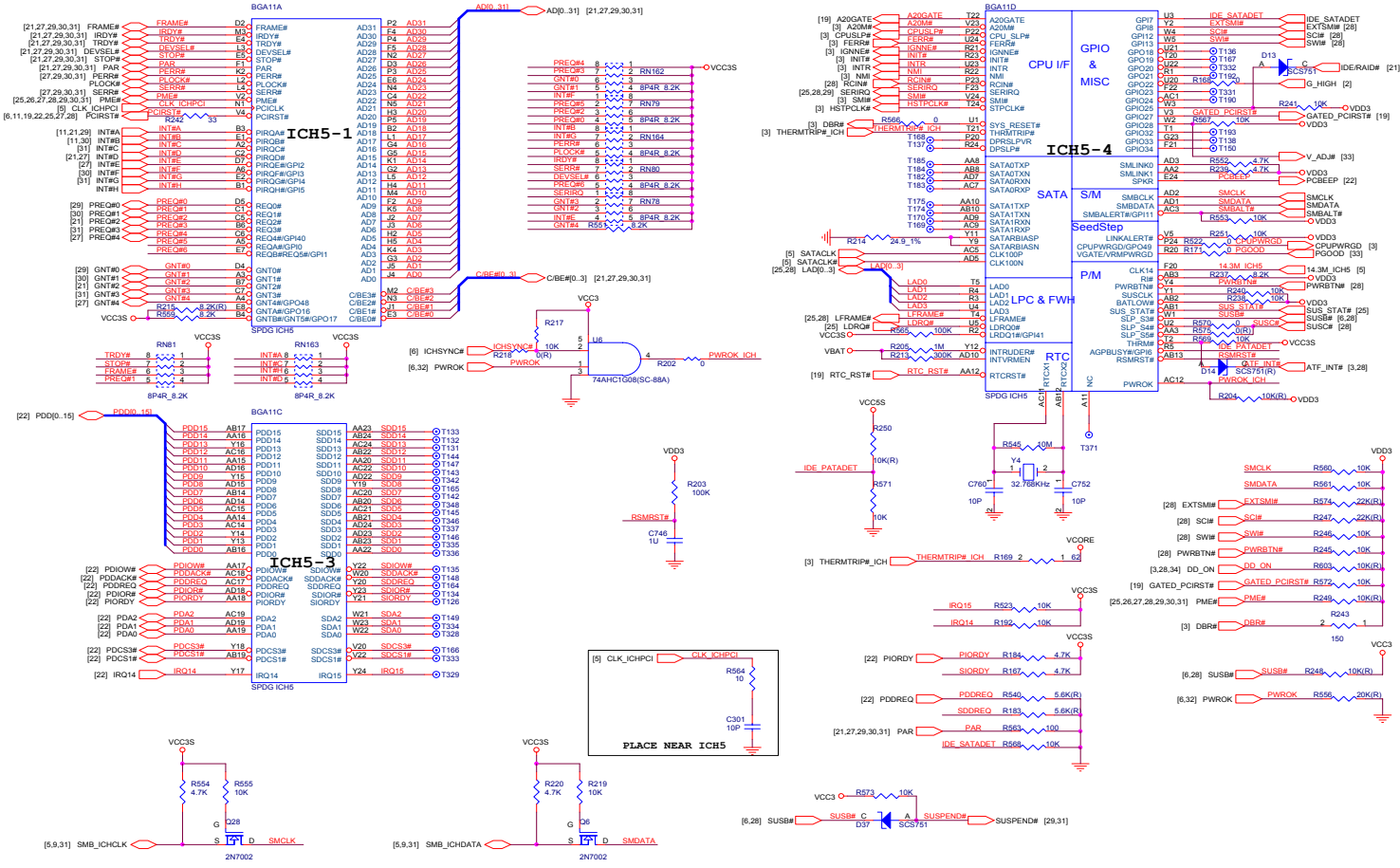
Sheet 16 of 39
Mobility M10-P_POW

DVI, TV Out & LVDS

Sheet 17 of 39
DVI, TV Out & LVDS



ICH5 (1 of 2)



Sheet 18 of 39
ICH5
(1 of 2)

ICH5 (2 of 2)

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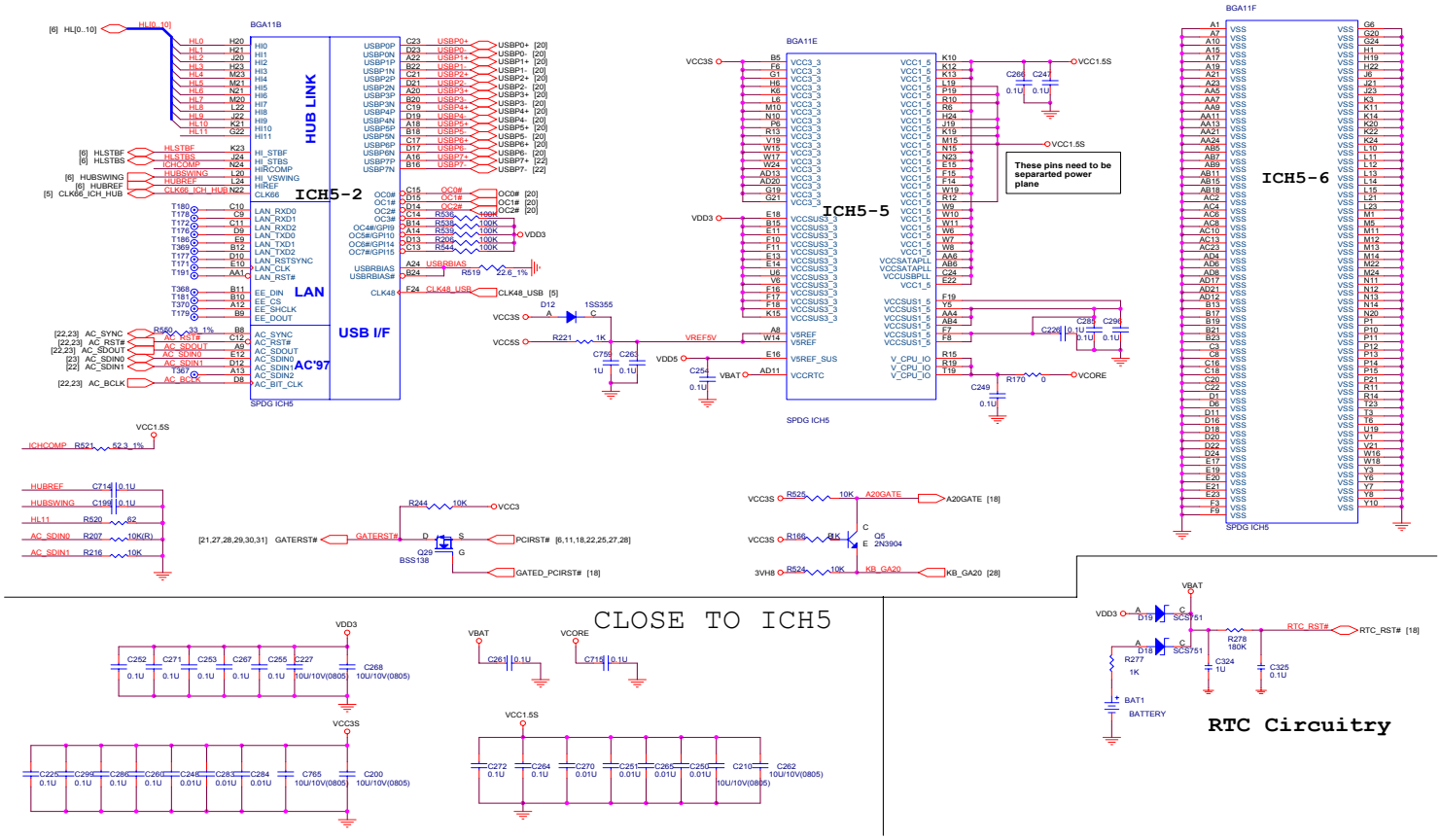
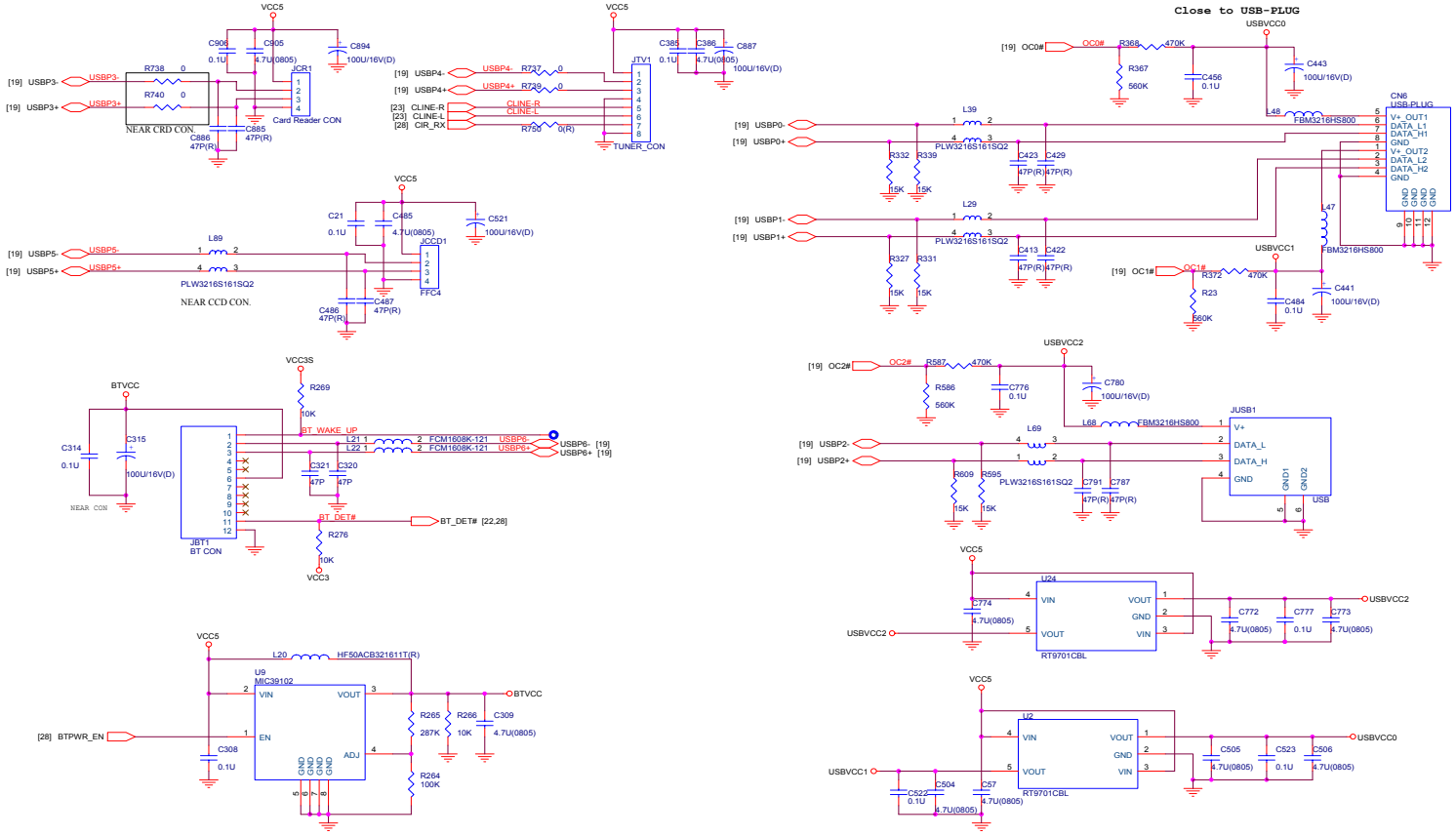
ICH5 2/2



USB Port & RTC


Close to USB-PLUG
NEAR CRD CON.
Card Reader CON
TUNER_CON
NEAR CCD CON.
PLW3216S161SQ2
FBM3216HS800
RT9701CBL
MIC39102
BT CON
USB-PLUG

RAID PDC20265R

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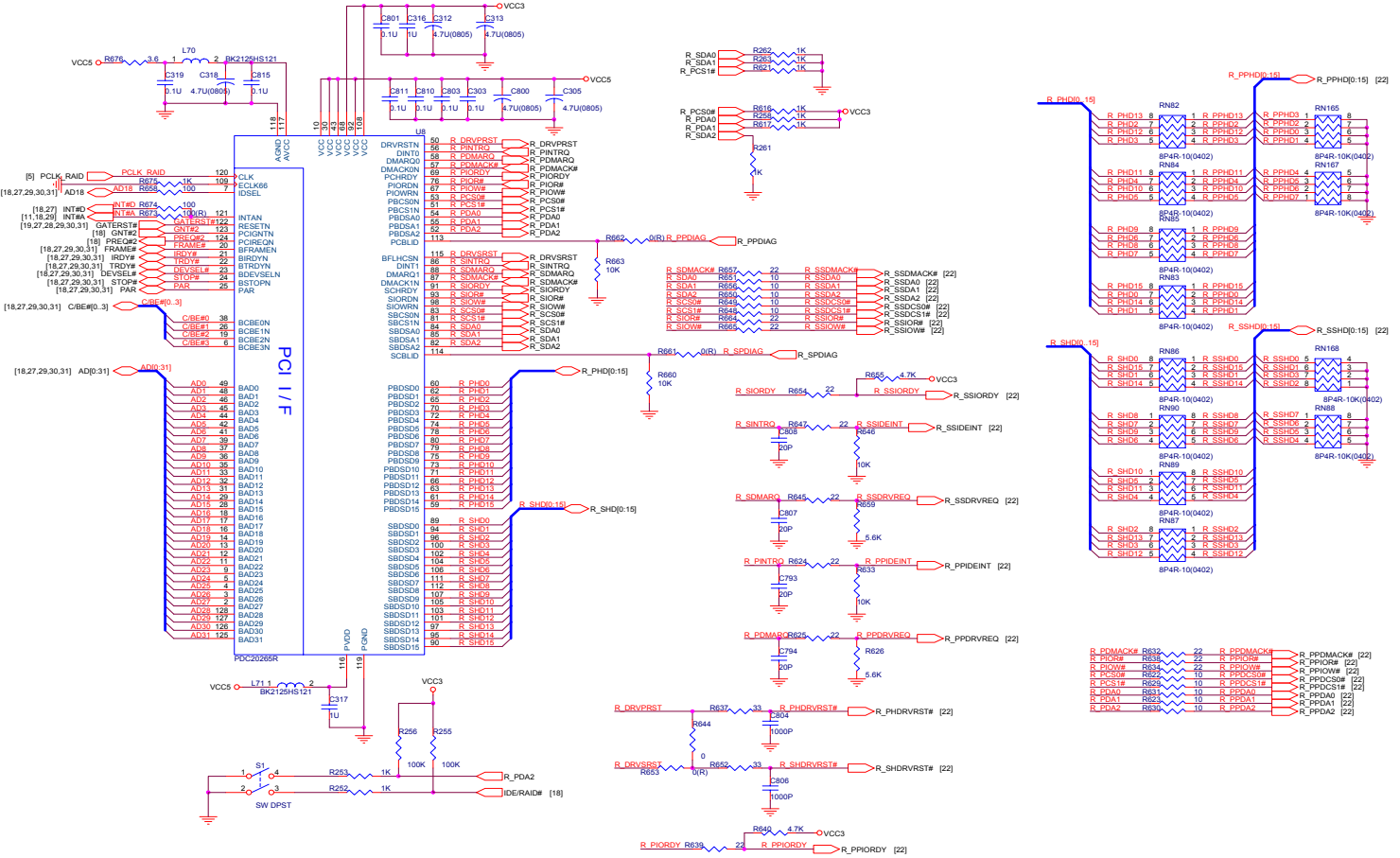
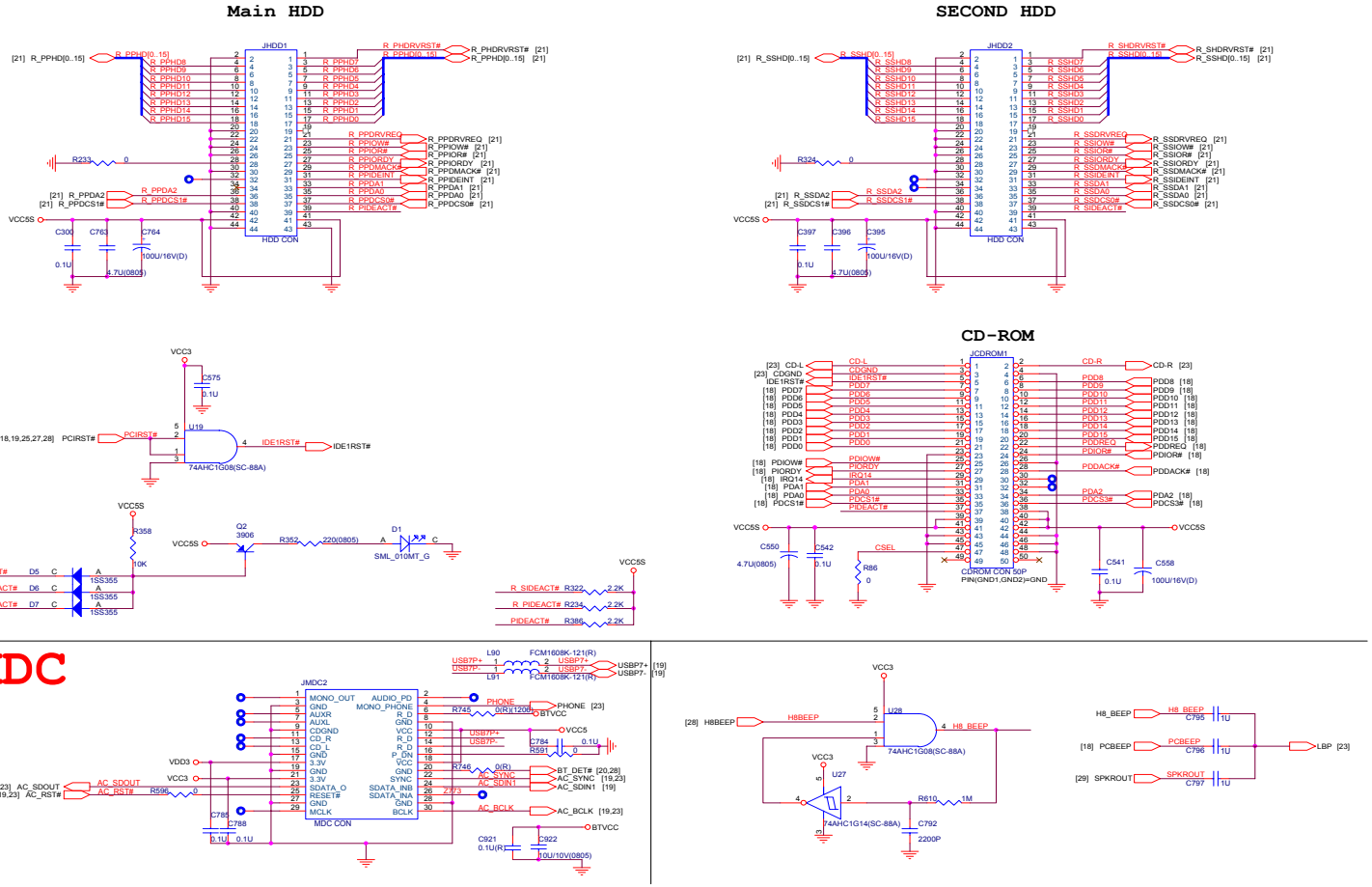
RAID PDC20265R



HDD & CD-R/W



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HDD & CD-R/W

AMP TPA0202 / ALC650

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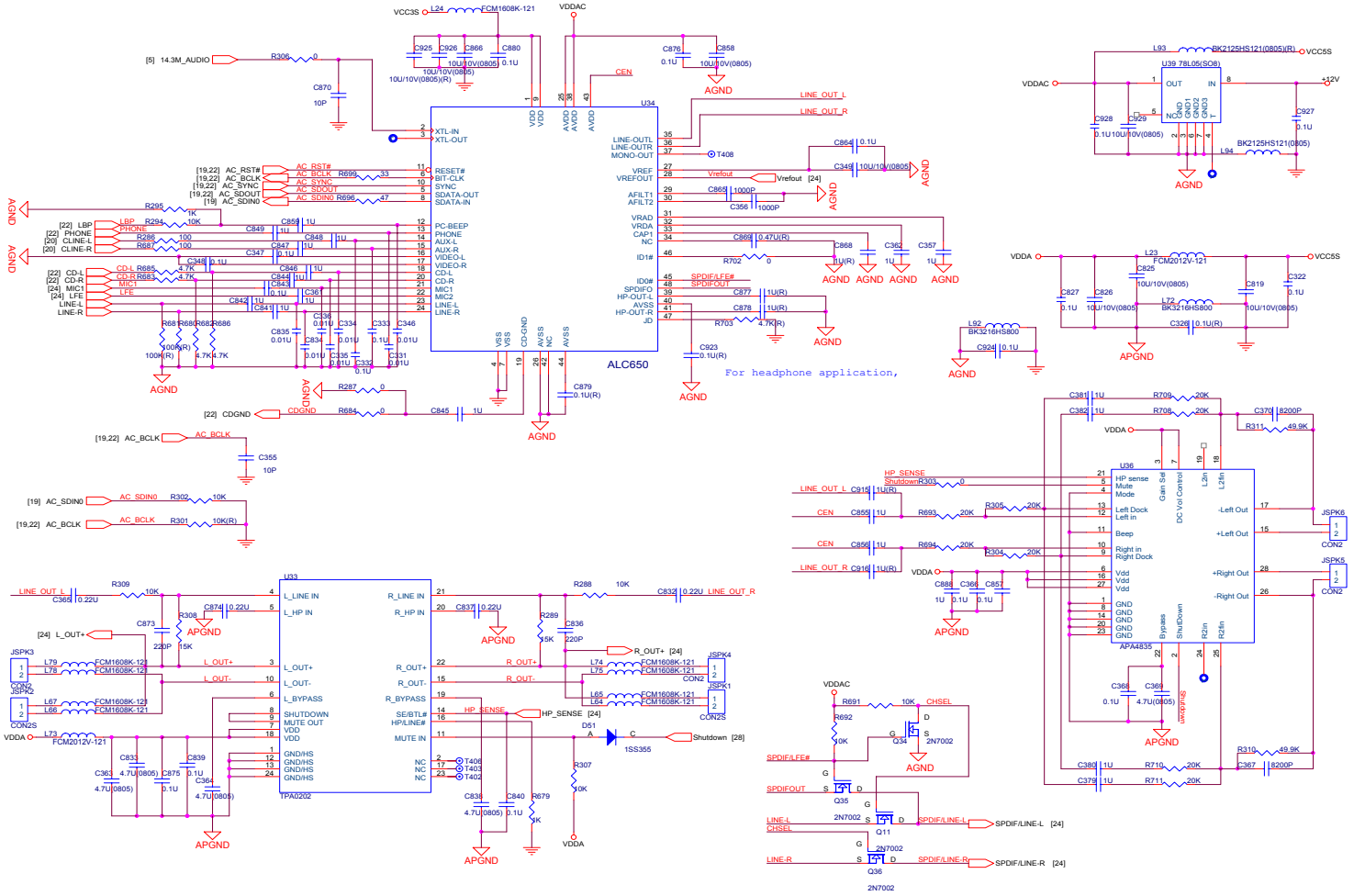
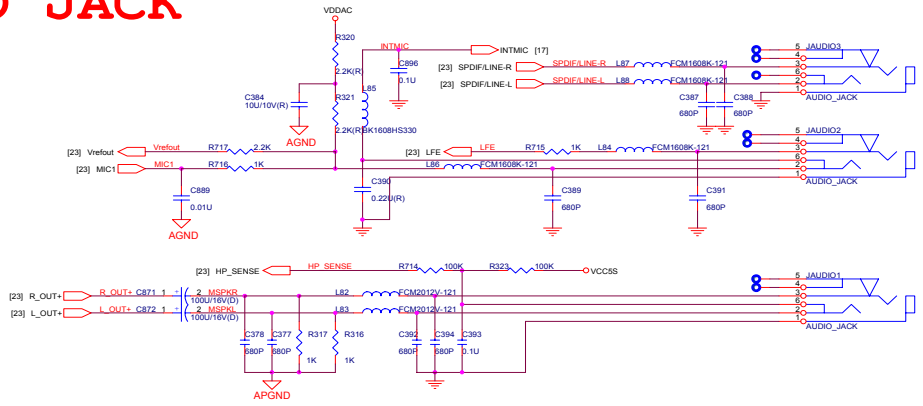
AMP TPA0202 / ALC650



Audio Jack & Fan Control

AUDIO JACK

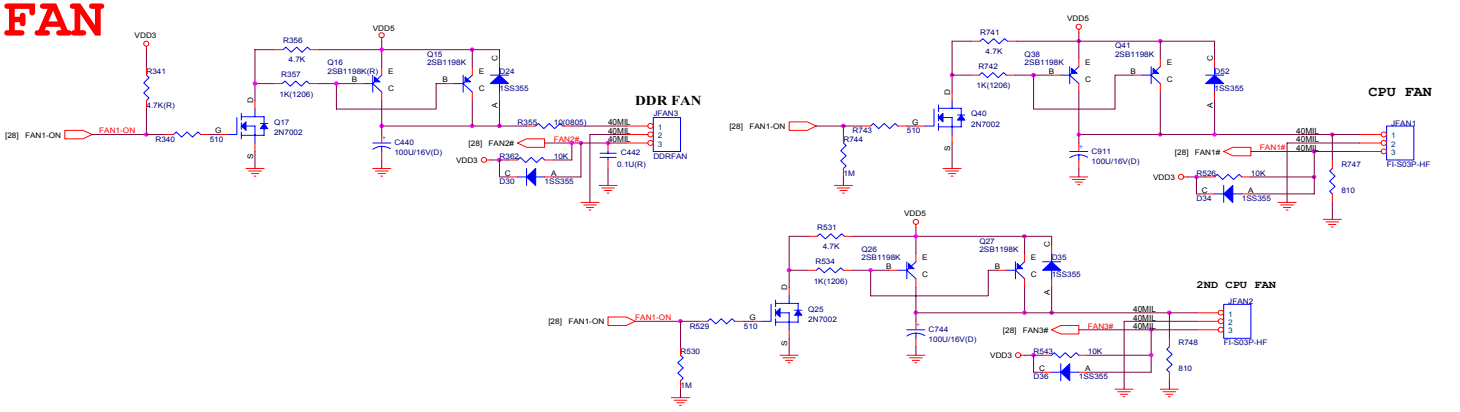


SPDIF OUT

MIC IN

SPEAKER OUT

FAN



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Audio Jack & Fan Control

NS87393 LPC Bridge & Super I/O

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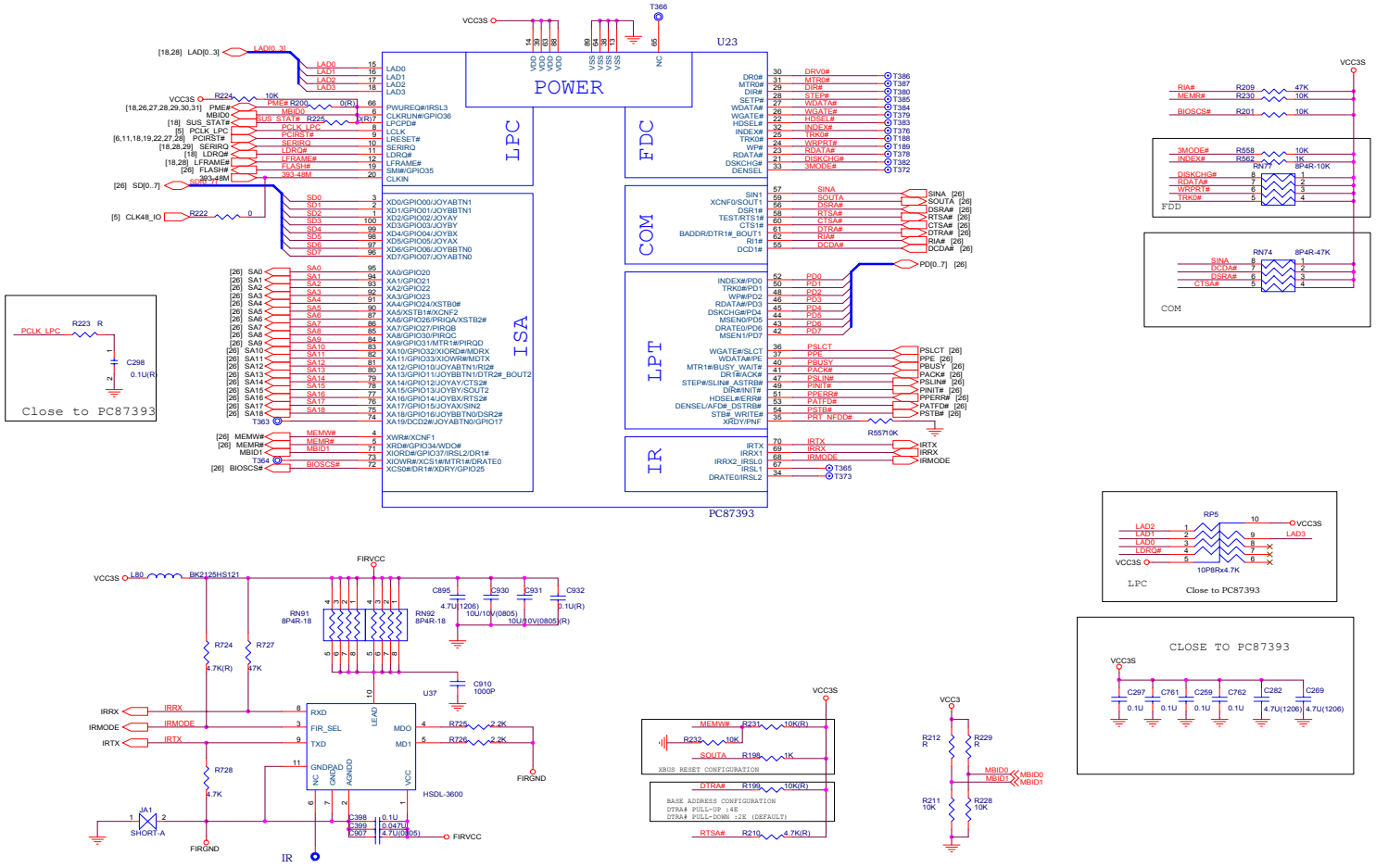
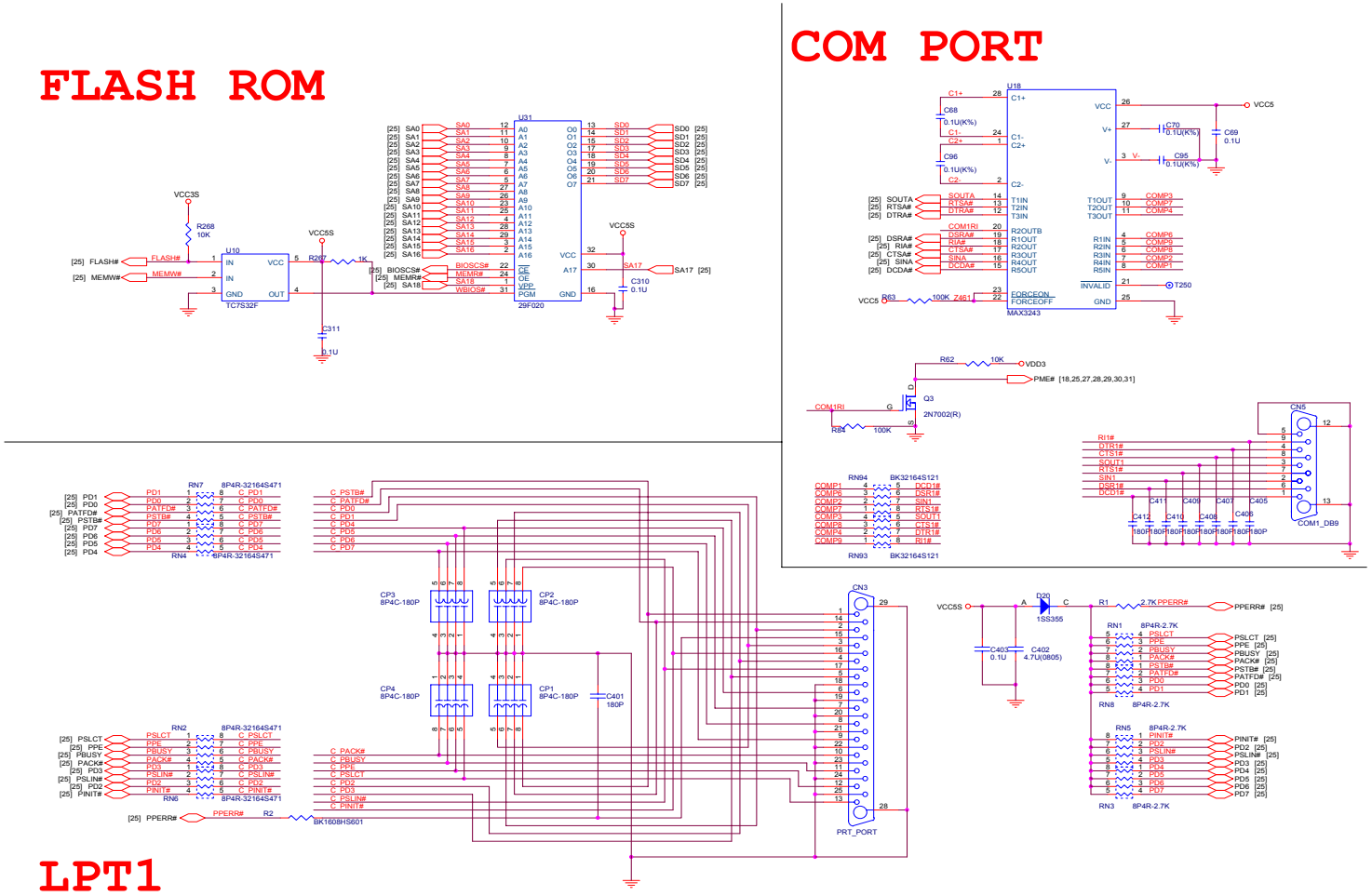
LPC Bridge & Super I/O



Flash ROM/LPT1



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Flash ROM/LPT1

I/O, FDD, LED & Debug

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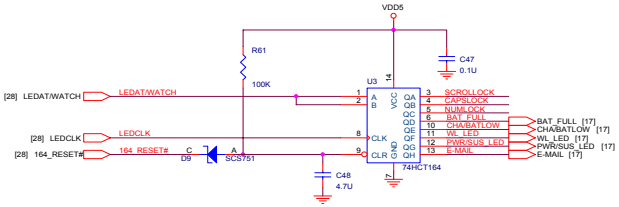
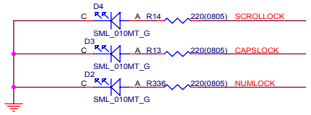
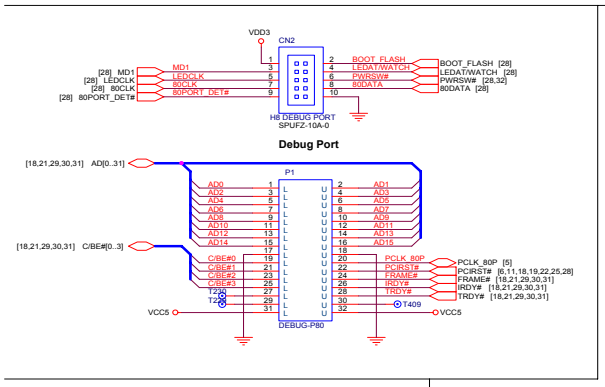
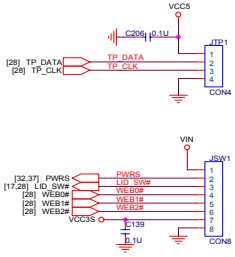
I/O, FDD, LED & Debug

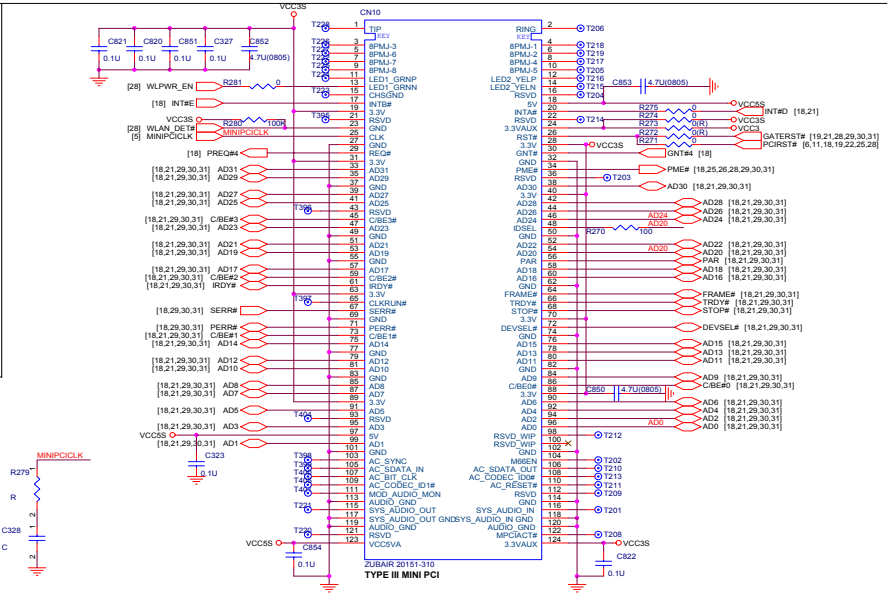






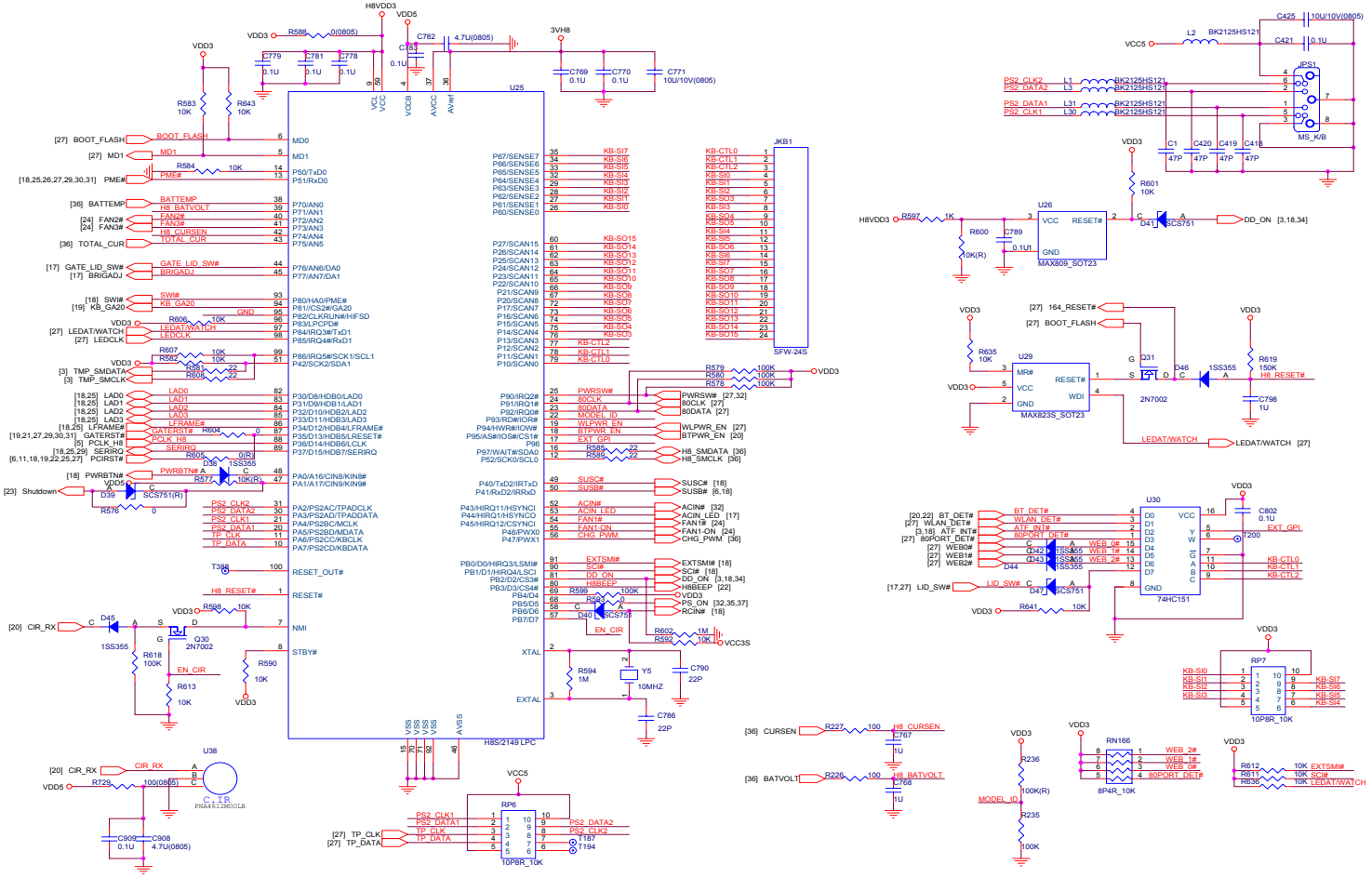


OFF-BOARD CON.



MINI PCI

KBC H8



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KBC H8

PCMCIA ENE1410

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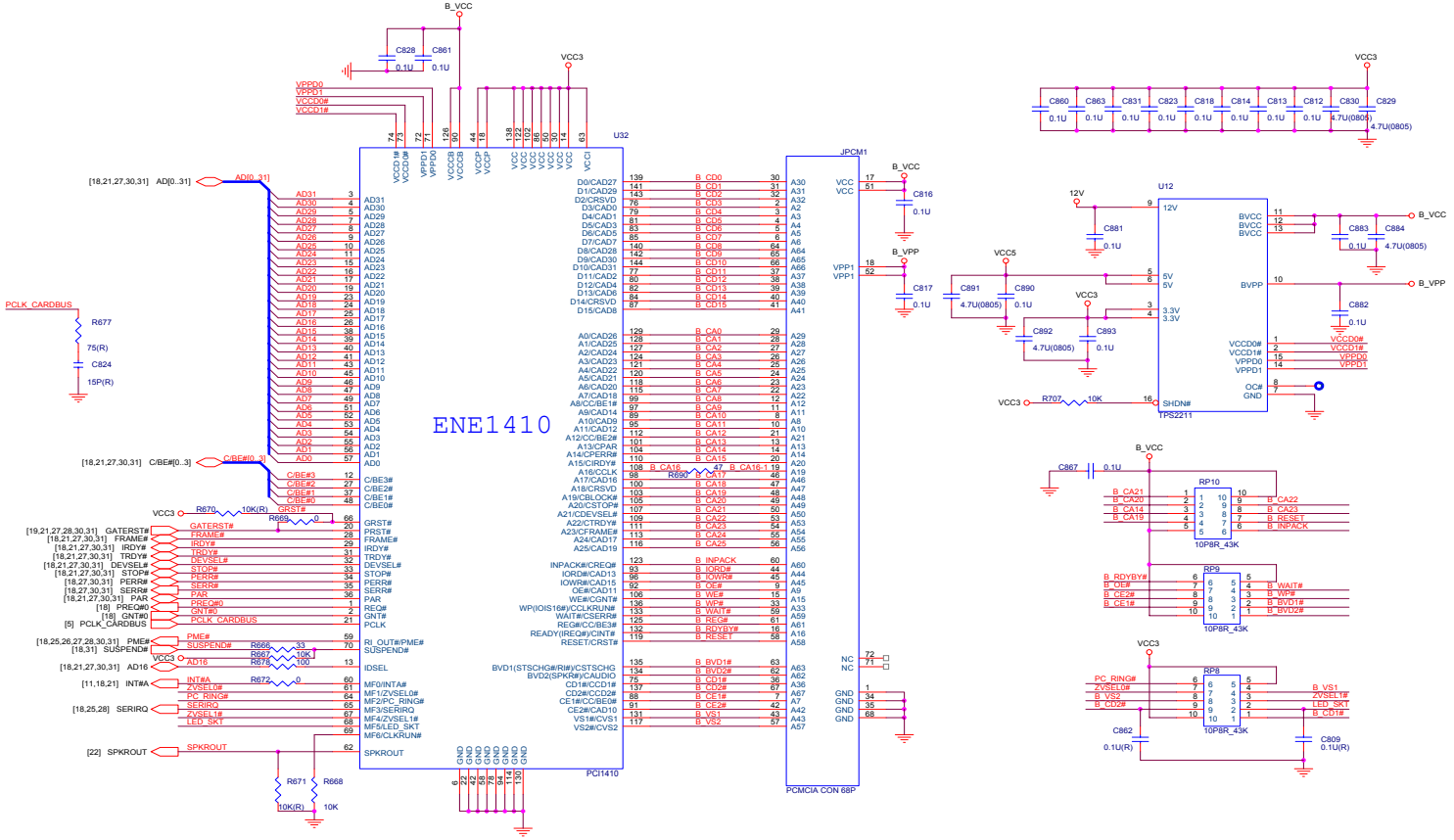
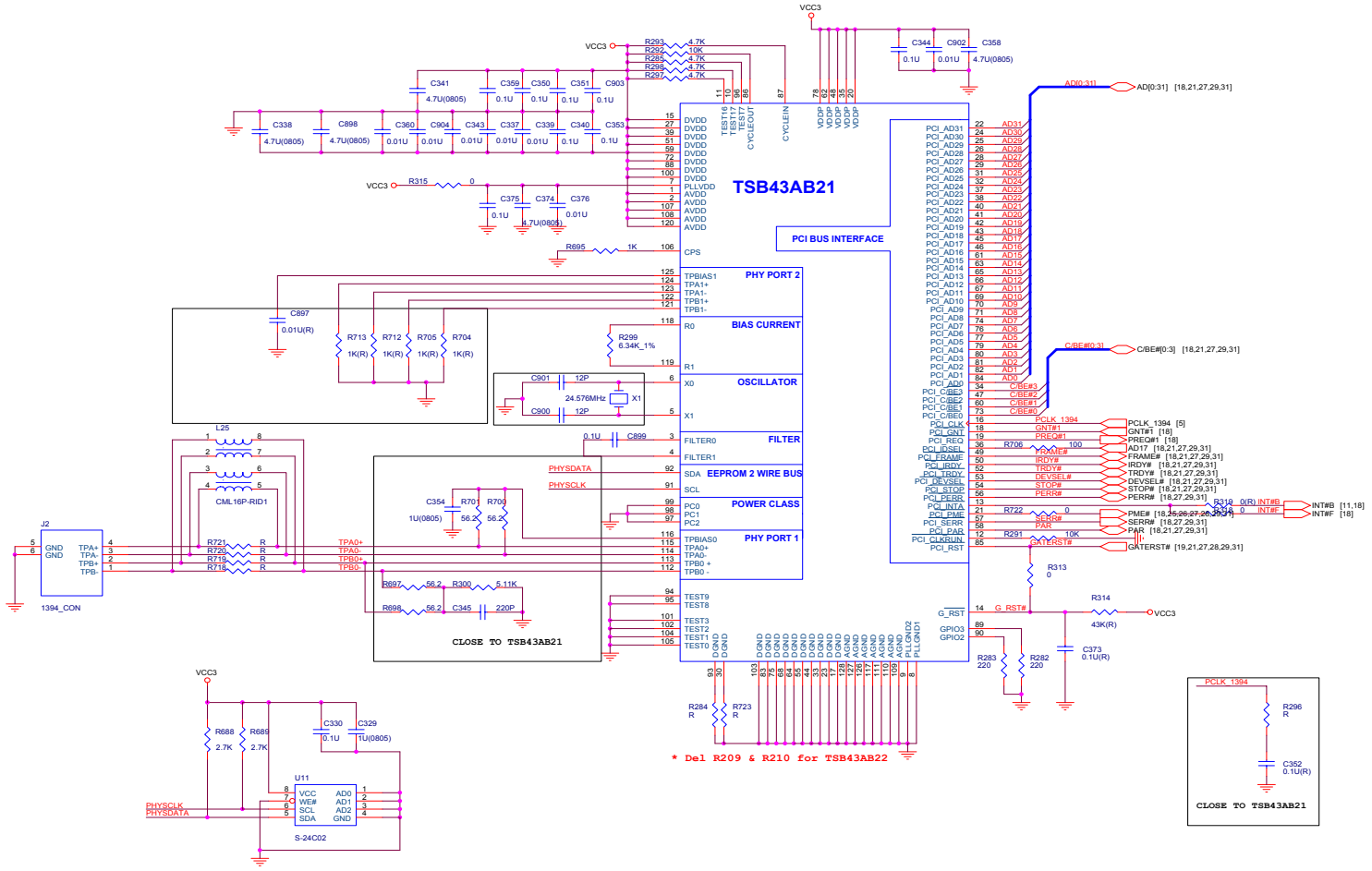
PCMCIA ENE1410



IEEE 1394 TSB43AB21



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IEEE1394
TSB43AB21

LAN RTL8100C/RTL8110S(B)-32

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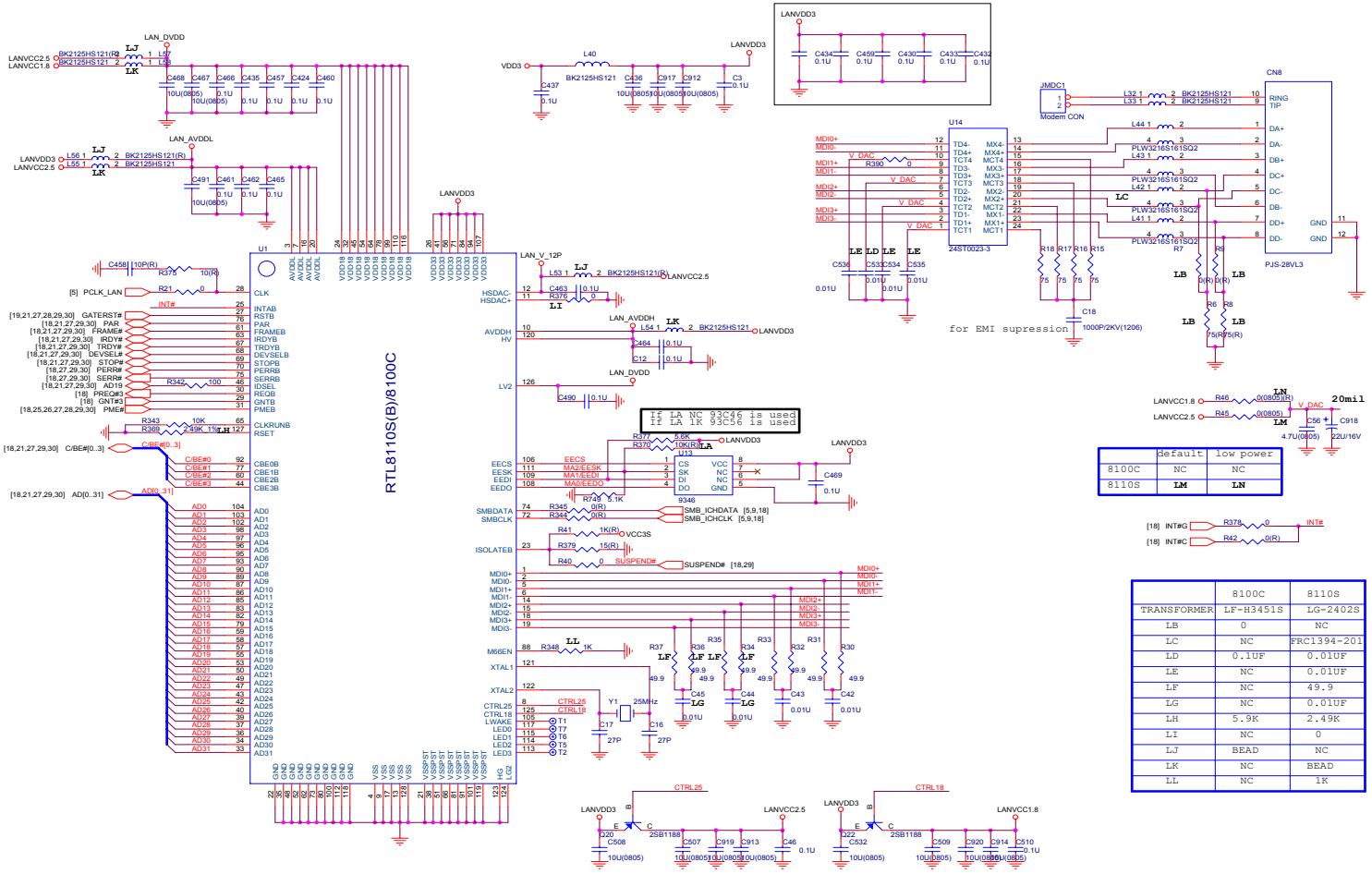
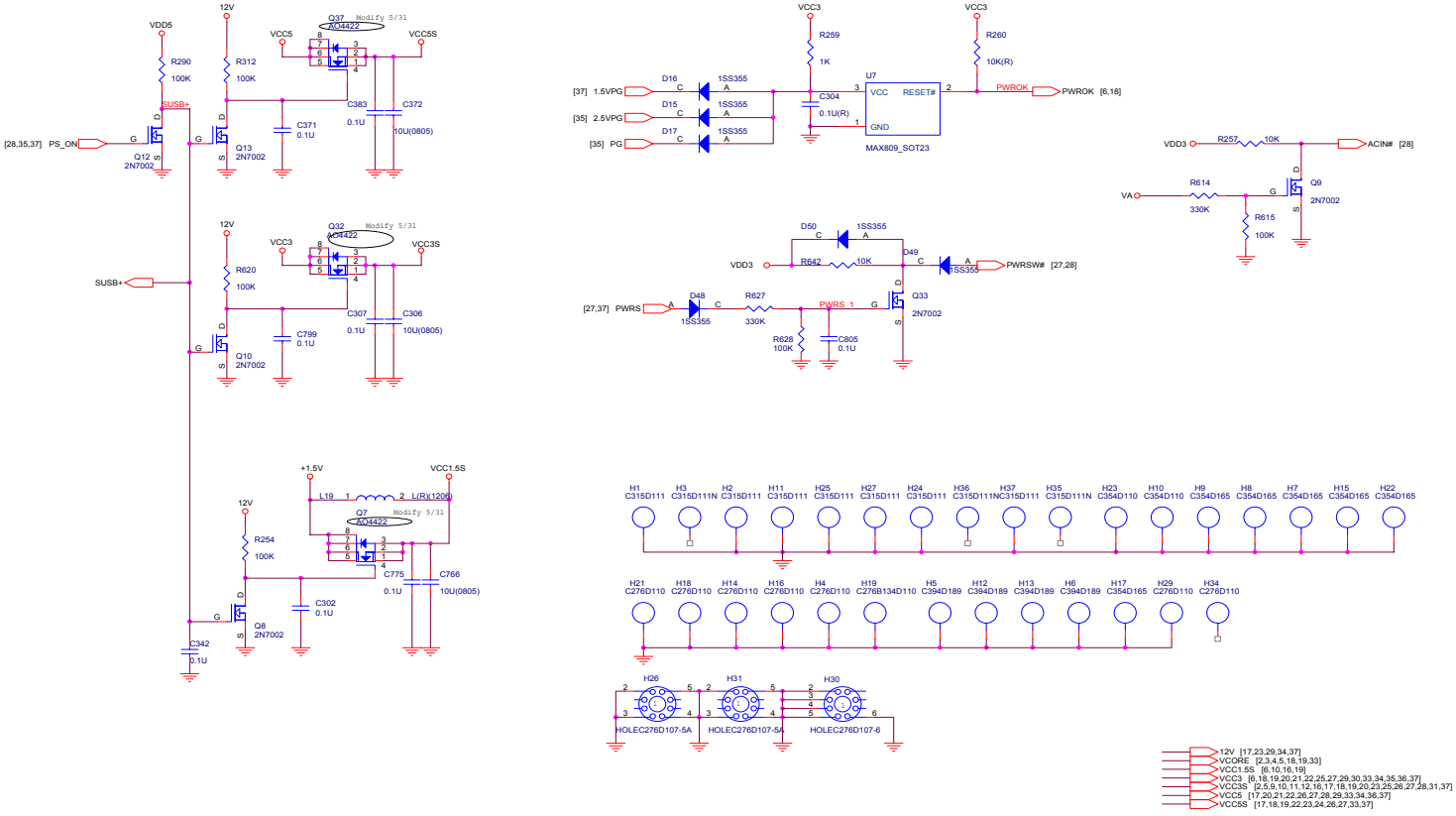
LAN RTL8100C/
RTL8110S(B)-32



	default	low power
8100C	NC	NC
8110S	LM	LN

	8100C	8110S
TRANSFORMER	LF-H3451S	LG-2402S
LB	0	NC
LC	NC	FRC1394-201
LD	0.1UF	0.01UF
LE	NC	0.01UF
LF	NC	49.9
LG	NC	0.01UF
LH	5.9K	2.49K
LI	NC	0
LJ	BEAD	NC
LK	NC	BEAD
LL	NC	1K

Power Plane



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Power Plane

Vcore

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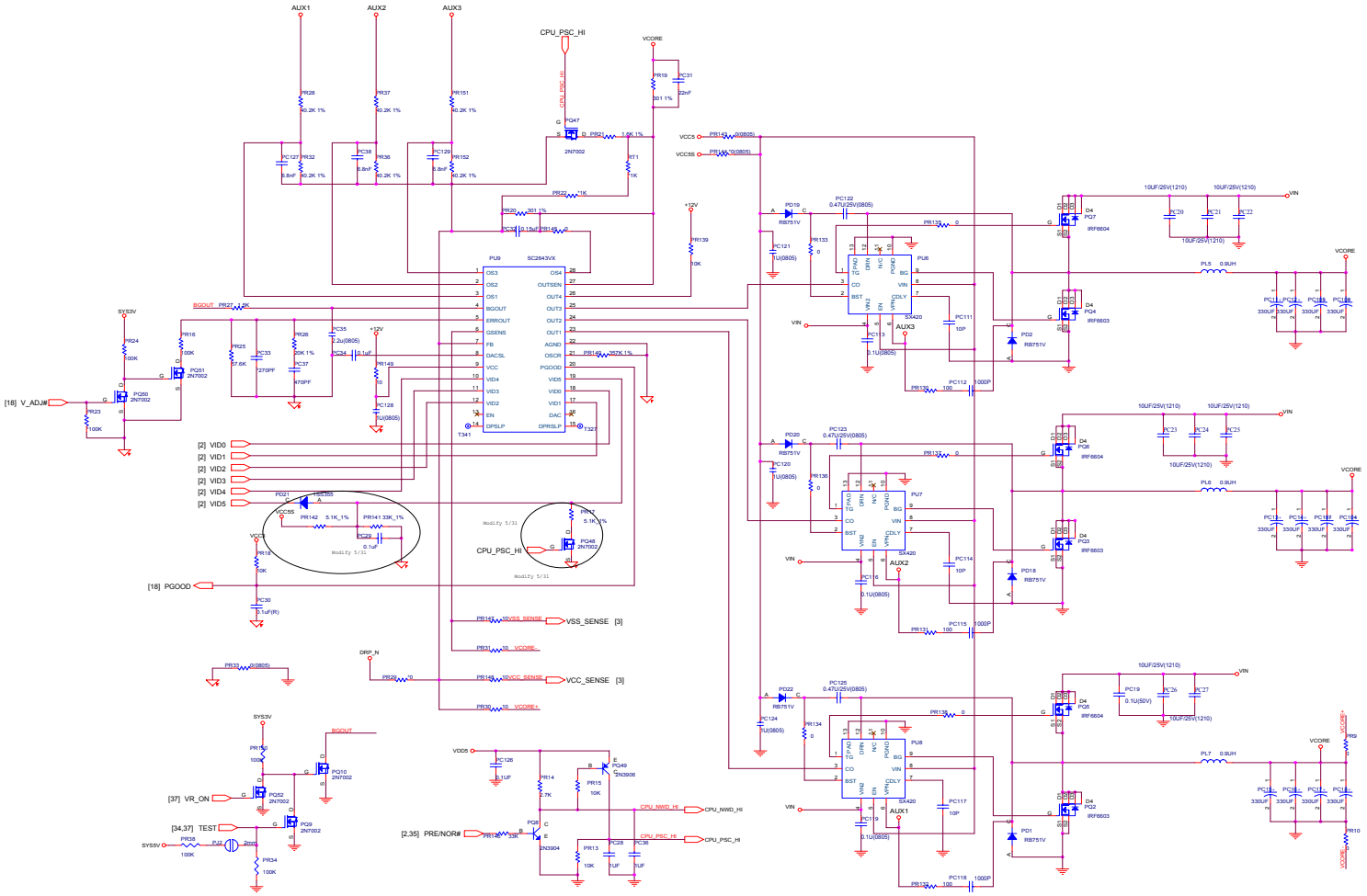
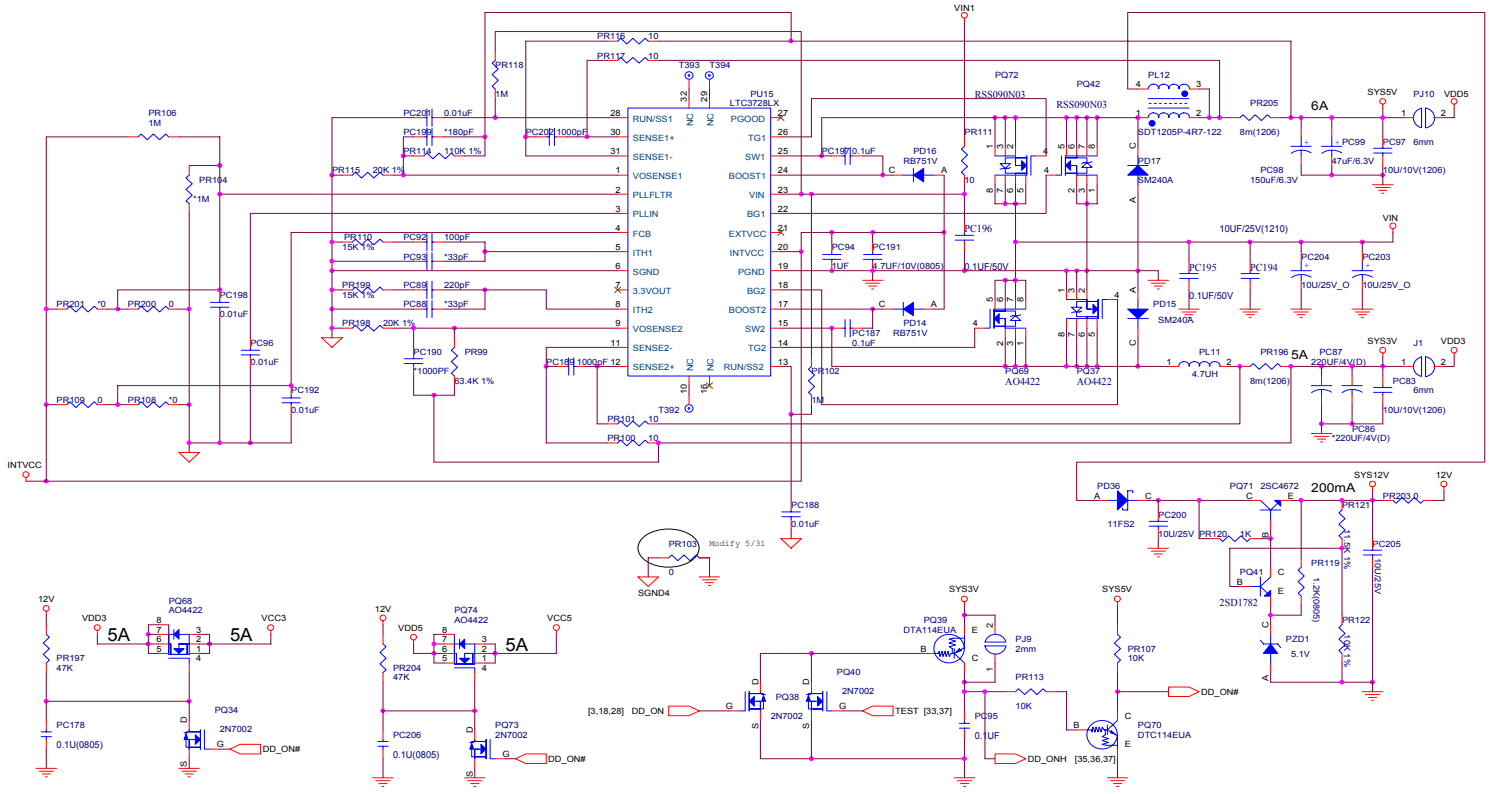
Vcore



System Power 1



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System Power 1

System Power 2

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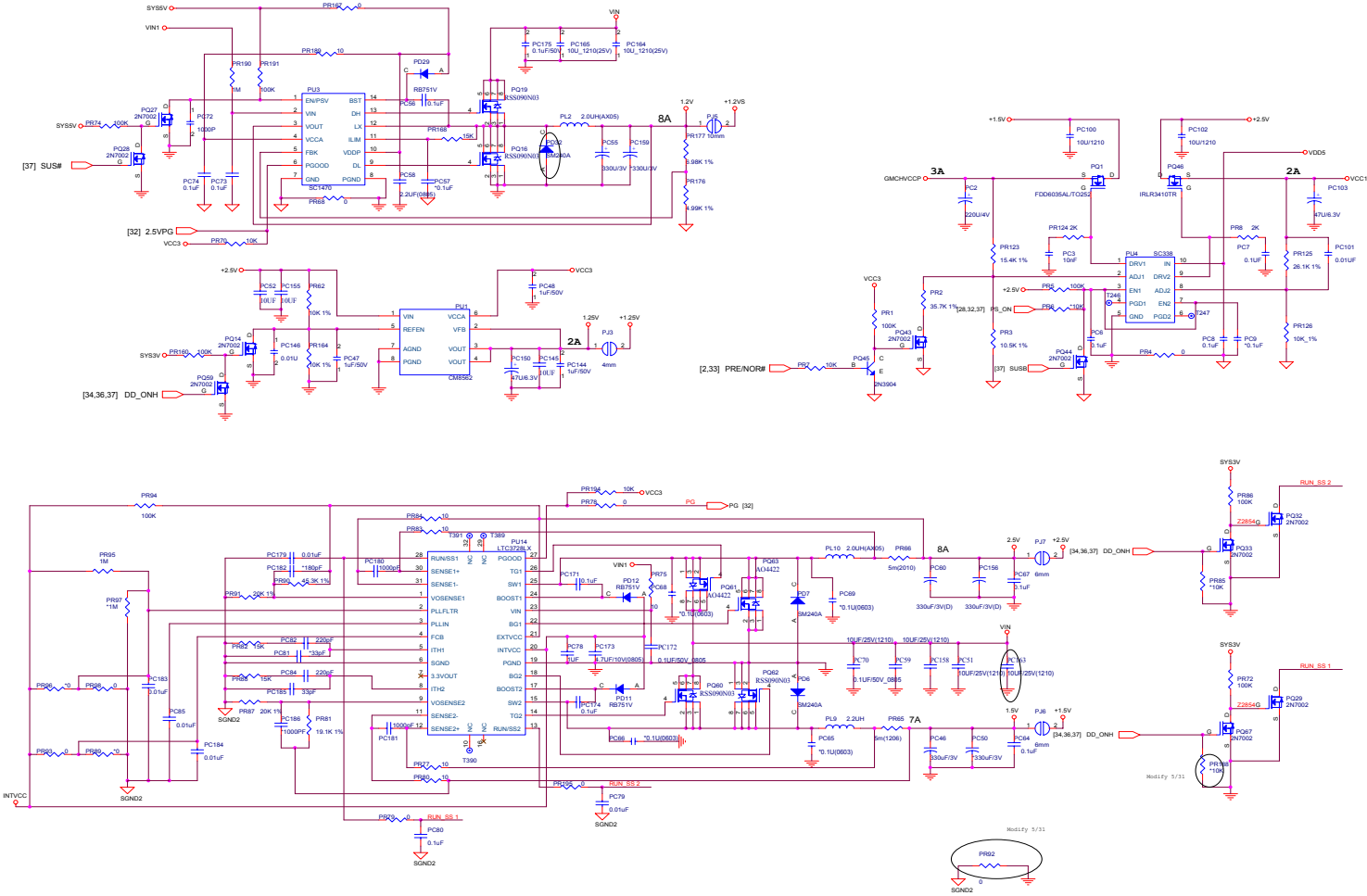
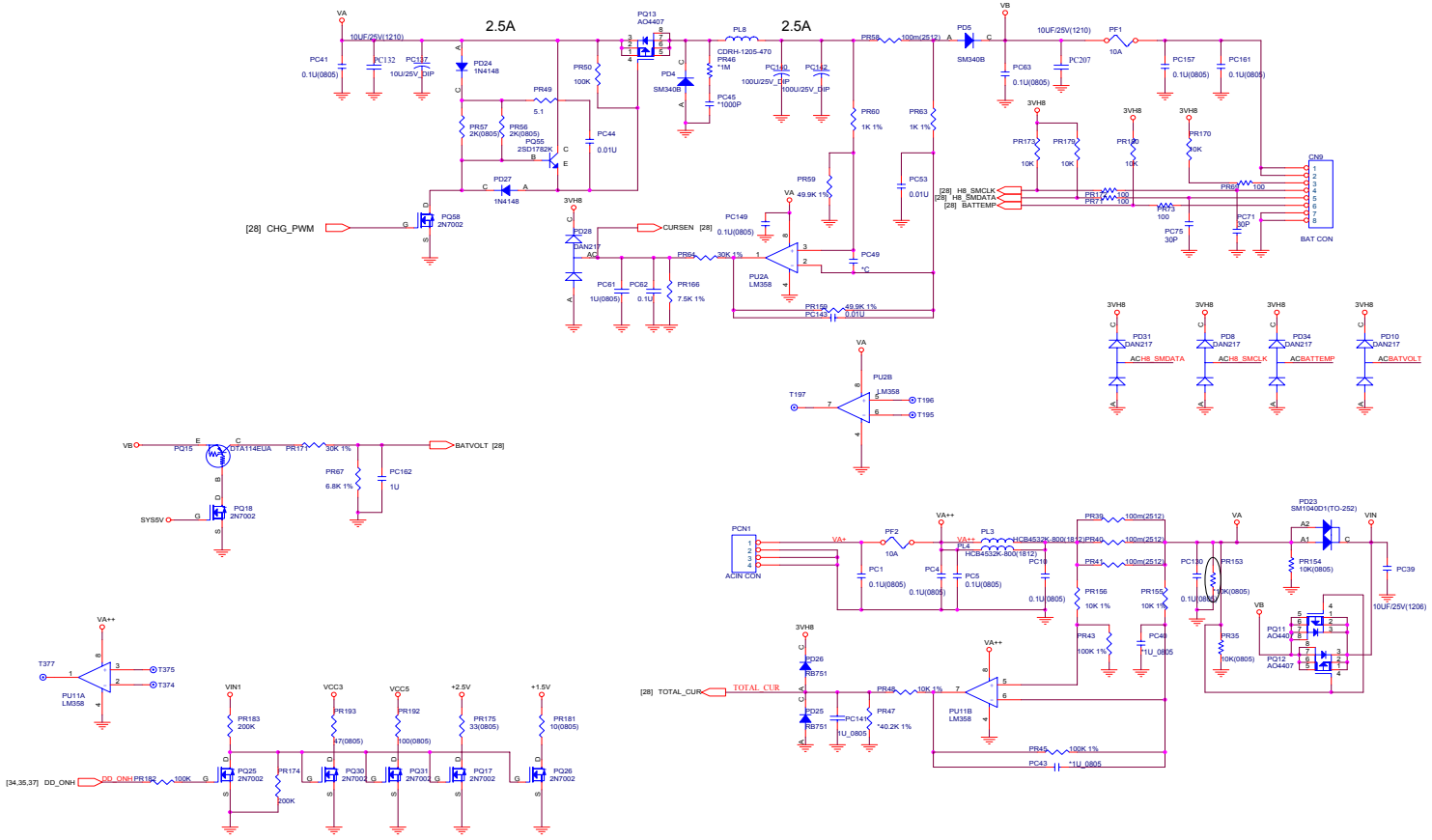
System Power 2



Charger



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Charger

3VH8, VDD1.8

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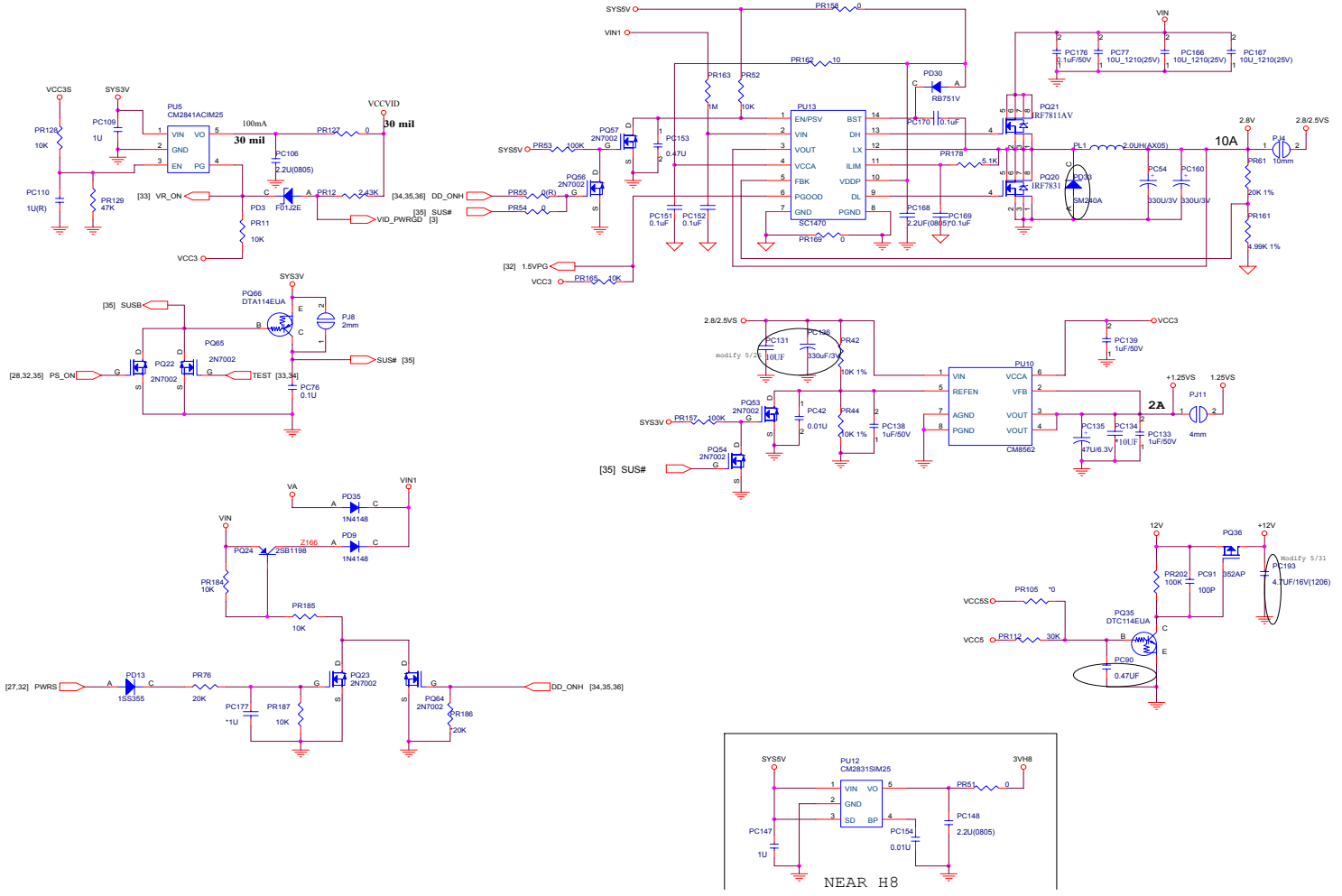
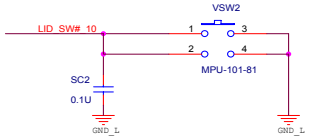
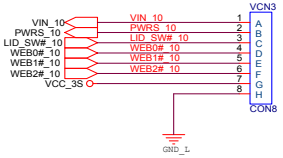
3VH8, VDD1.8

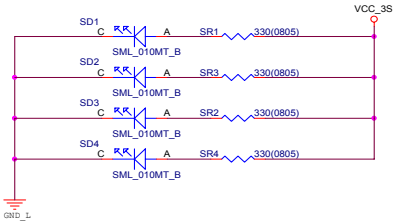


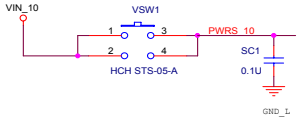
S/W Board & Hot-Key

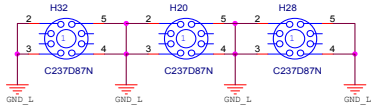


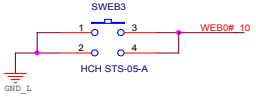


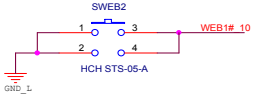
Hot keys,Power switch,key,Lid

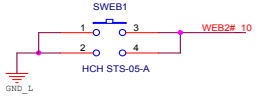












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S/W Board & Hot-Key

TouchPad Switchboard

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TouchPad
Switchboard