

Notebook Computer

D400S/D410S

**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 *D400S/D410S* series 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.

Appendix A, Part Lists

Appendix B, Schematic Diagrams

Appendix C, Upgrading Flash ROM BIOS

### 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.

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# 1: Introduction

## Overview

This manual covers the information you need to service or upgrade the **D400S/D410S** 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 **D400S/D410S** 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

### Processor

- Intel Pentium 4 Processor - (478-pin) FC-PGA2 package
  - ( $\mu$ 0.13) 0.13 Micron Process Technology, 512KB L2 Cache & 400MHz FSB - 2.0/ 2.2/ 2.4/ 2.5 /2.6 GHz
  - ( $\mu$ 0.13) 0.13 Micron Process Technology, 512KB L2 Cache & 533MHz FSB - 2.26/ 2.4/ 2.53/ 2.66/ 2.66/ 2.8 GHz

### Core Logic

- SIS M650 + 962

### Structure

- PC99 compliant

### Security

- Security (Kensington® Type) Lock
- BIOS Password

### Memory

- Two 200-pin DDR SODIMM sockets, supporting DDR SDRAM SODIMM (2.5V) - DDR 200/ DDR 266/ DDR 333 compliant
- Memory expandable up to 1024MB (128/256/512MB SODIMM Modules)

### BIOS

- One 512KB Flash ROM
- Phoenix BIOS

### LCD Options

- 14.1" XGA TFT (1024\*768)
- 15.0" XGA TFT (1024\*768)
- 15.0" SXGA+ TFT(1400\*1050)





### Video Memory

The system allocates or "shares" a portion of system memory for video use. "Shared" memory is user-configurable via the SCU. The default setting is set to 32MB.

## Display

- High Performance 256-bit 3D engine
- Advanced HW accelerator for DVD playback
- Fully Direct X 8.0 compliant graphics engine
- Dual-View display monitor
- CRT Resolution up to 2048 \* 1536

## Storage Devices

- 3.5" 3-mode **Floppy Disk Drive**
- Easy changeable 2.5" 9.5 mm (h) Hard Disk Drive  
Supporting Master mode IDE  
Supports PIO mode 4  
ATA-33/66/100/133  
Ultra DMA
- 12.7mm(h) **Device Bay** for **ONE** of the following drive configuration options:
  - 24\* CD-ROM
  - 8\* DVD-ROM
  - CD-RW (16\* CD-R/ 10\* CD-RW/ 24\* CD-ROM)
  - Combo (8\* DVD-ROM/ 8\* CD-R/ 8\* CD-RW/ 24\* CD-ROM)
  - Combo (8\* DVD-ROM/ 24\* CD-R/ 10\* CD-RW/ 24\* CD-ROM)

## Audio

- AC'97 2.1 compliant interface
- 3D stereo enhanced sound system
- Compatible with Sound-Blaster PRO™
- S/PDIF Digital output (5.1 CH) for DVD content and stereo audio
- Microphone-in jack
- Headphone-out jack
- Built-in microphone
- 2 built-in speakers (1 watt 35 \* 16 mm)

## Introduction

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### Keyboard

- “Win Key” keyboard

### Interface

- Built-in TouchPad (scrolling key functionality integrated)
- Three USB 2.0 ports
- One IEEE 1394 port
- One S-Video jack for TV output
- One serial port
- One parallel port (LPT1), supporting ECP / EPP
- Infrared transceiver IrDA 1.1 FIR/SIR/ASKIR
- One external CRT monitor port
- One external keyboard/mouse (through Y cable) PS/2 port
- One speaker-out/headphone-out jack
- One microphone-in jack
- One RJ-11 jack for modem
- One RJ-45 jack for 100M/10M LAN
- One S/PDIF out port
- One DC-in jack

### PC Card

- One type II PCMCIA 3.3V/5V socket supporting CardBus

### Communication

- Wireless Infrared transfer IrDA 1.1 compliant, 1cm - 1M operating distance, 115.2K bps SIR/ 4Mbps FIR
- 10/100Mb Ethernet LAN built-in
- 56K MDC modem V.90 & V.92 compliant
- 802.11b wireless LAN module (available as a factory option)
- Bluetooth module (available as a factory option)
- Built-in PC camera module (available as a factory option)

## Power Management

- Supports ACPI v1.0b
- Supports Hibernate mode
- Supports Standby mode
- Supports battery low sleep
- Supports resume from modem ring

## Power

- Full range AC adapter
- AC-Input 100~240V, 50~60Hz
- DC Output 20V, 3.25A (**90w**)
- Supports one removable Smart Li-Ion battery 2200mAh/8 cell

## Indicators

- LED indicators (HDD, Power On/ AC-In/ Suspend, Battery Charging/Battery Full, Num Lock, Caps Lock, Scroll Lock)

## 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

- 329 (w) x 275 (d) x 36.5 (h) mm

## Weight

- 3.0 kg w/o battery

## Introduction

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### Optional

- DVD-ROM Drive
- CD-RW Drive
- Combination Drive
- Software DVD player
- Wireless LAN module
- Bluetooth module
- Video Camera

### Design Differences

This manual refers to the two notebook designs pictured below. The designs vary slightly in external design. Photographs used throughout this manual are of Design I.

*Figure 1*  
Design Differences

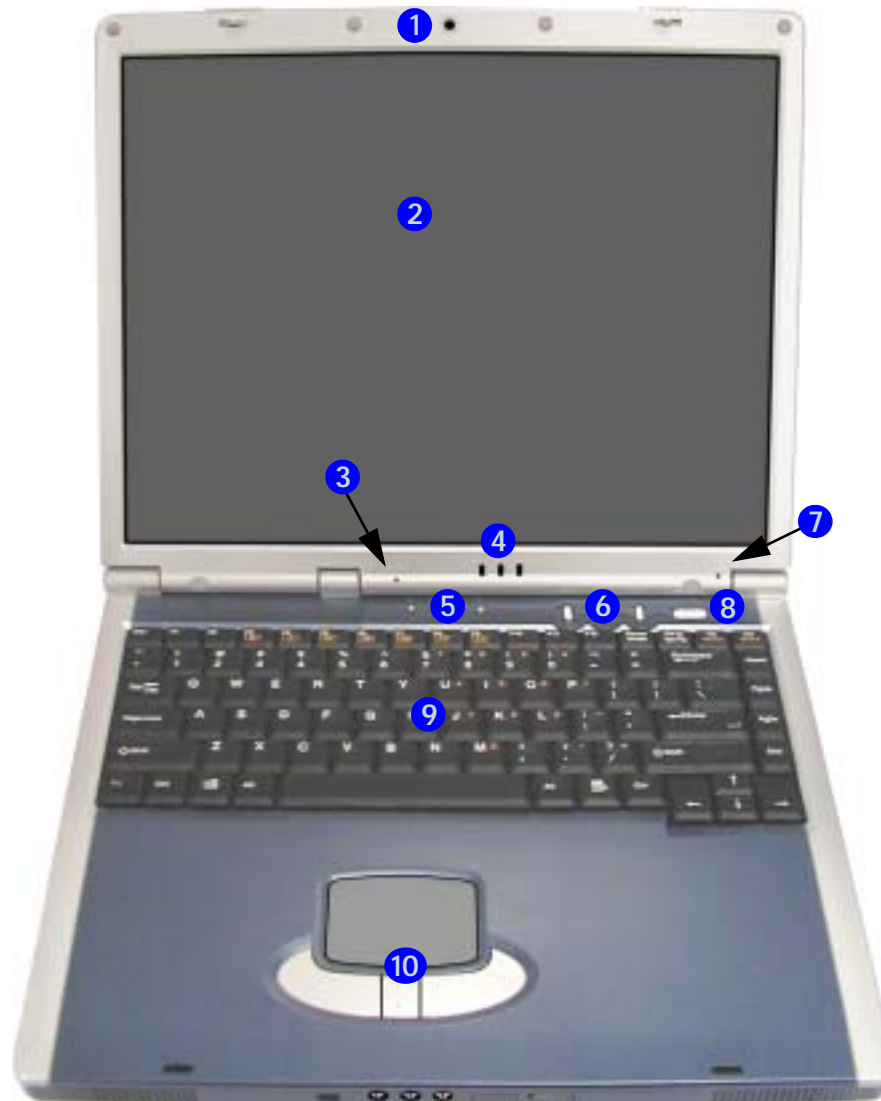


Design I



Design II

## External Locator - Top View



*Figure 2*  
**Top View**

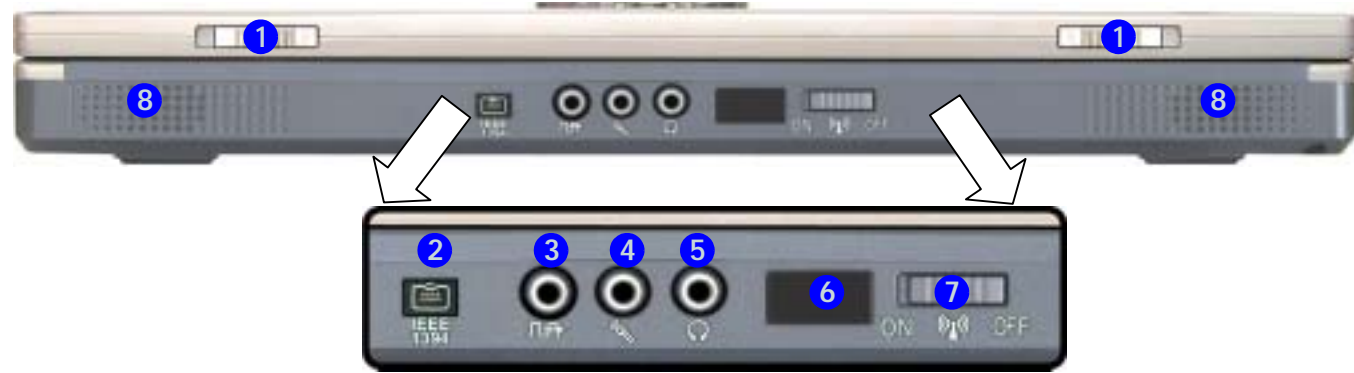
1. Optional Built-in USB Camera
2. LCD
3. Built-In Microphone
4. LED Power & Communication Indicators
5. LED Status Indicators
6. Hot-Key buttons
7. Close Cover Switch
8. Power Button
9. Keyboard
10. TouchPad and Buttons

## Introduction

*Figure 3*  
**Front View**

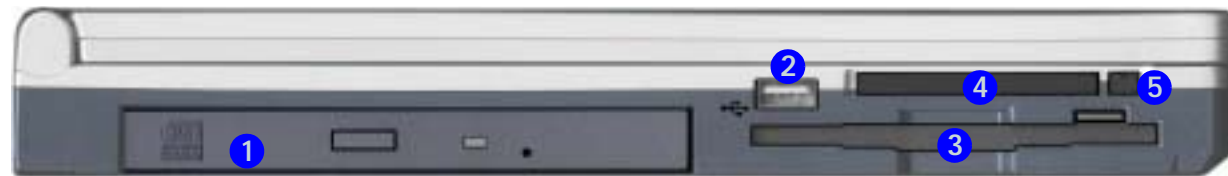
1. LCD Latches
2. IEEE 1394 Port
3. S/PDIF Out Port
4. Microphone-In Jack
5. Headphone-Out Jack
6. Infrared Transceiver
7. Wireless LAN On/Off Switch
8. Built-In Speakers

## External Locator - Front & Left Side Views

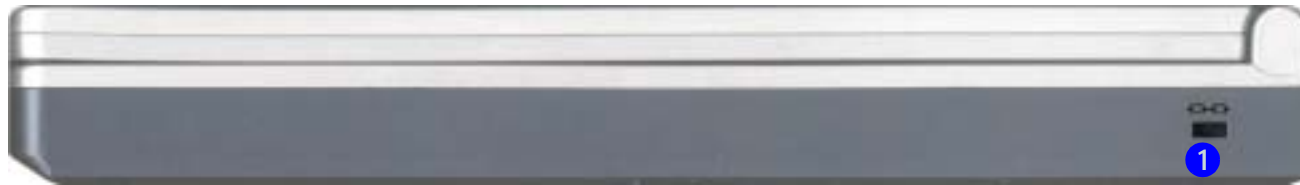


*Figure 4*  
**Left Side View**

1. CD Device Bay
2. USB 2.0 Port
3. Floppy Disk Drive
4. PC Card Slot
5. PC Card Slot Eject Buttons



## External Locator - Right Side & Rear Views



*Figure 5*  
**Right Side View**

1. Security Lock Slot



*Figure 6*  
**Rear View**

1. Vent
2. DC-In Jack
3. 2 \* USB Ports
4. External Monitor (CRT) Port
5. Parallel Port
6. Serial Port
7. S-Video-Out Port
8. PS/2 Type Port
9. RJ-11 Phone Jack
10. RJ-45 LAN Jack

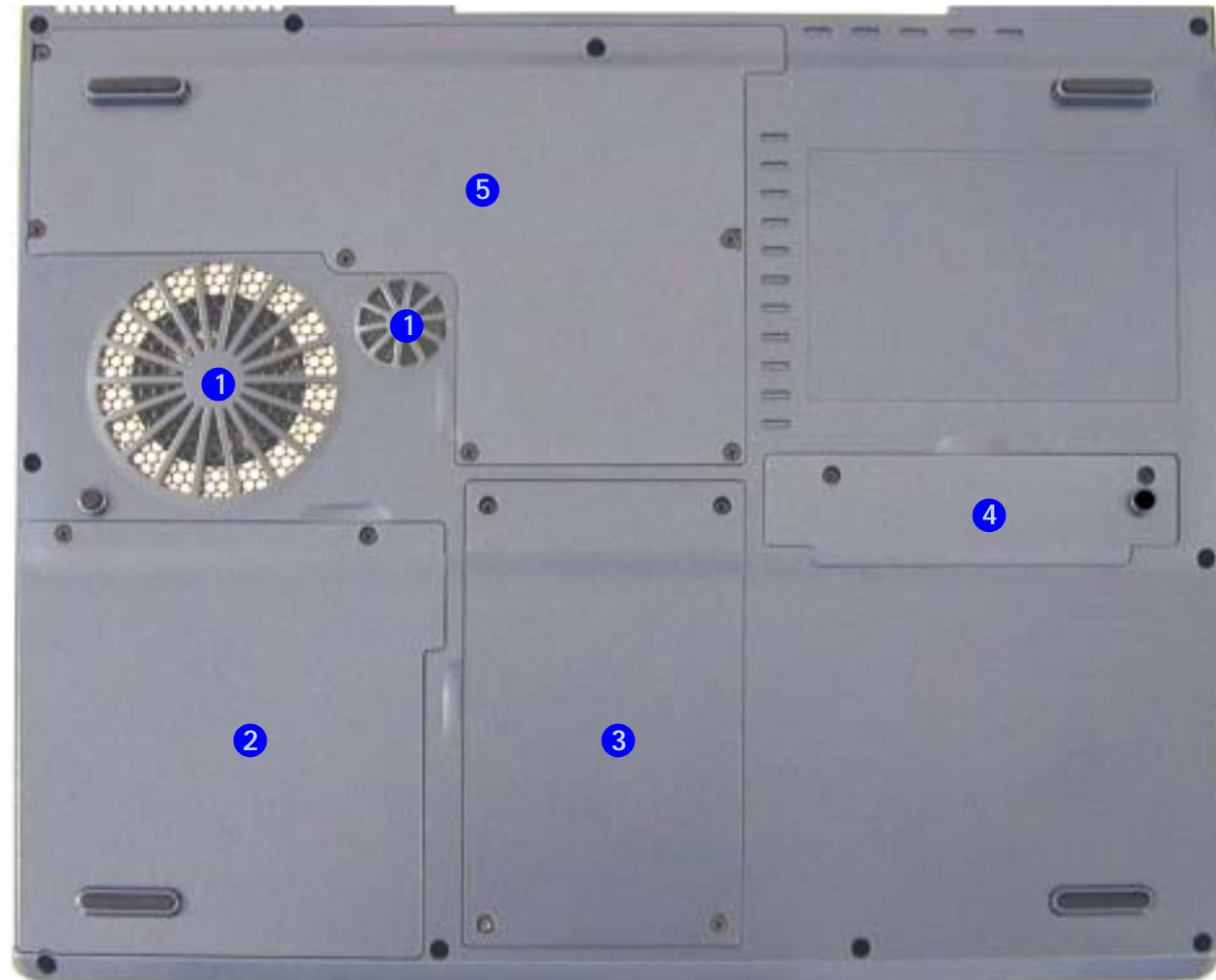


## External Locator - Bottom View

*Figure 7*  
**Bottom View**

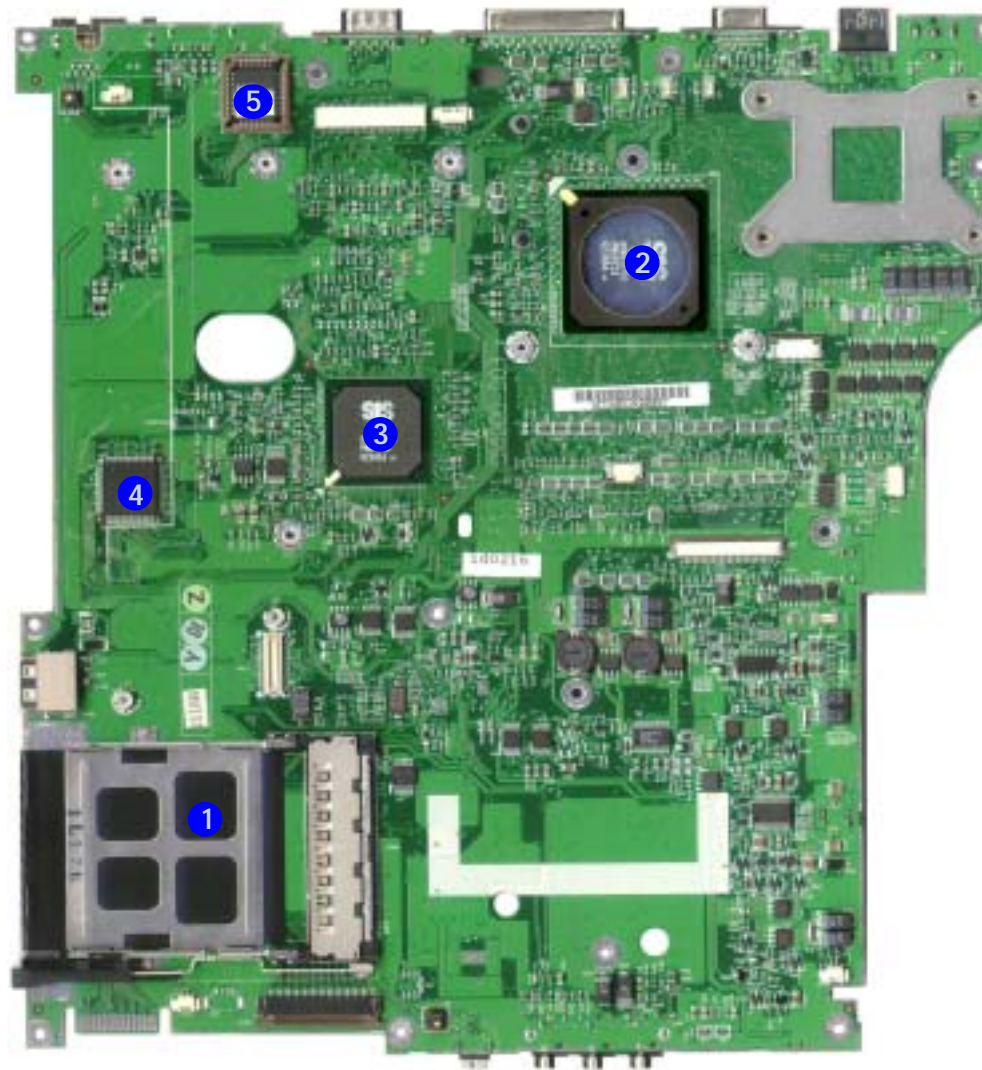
1. Vent/Fan Outlets
2. Battery Cover
3. Hard Disk Cover
4. Bluetooth Module Cover
5. CPU Heatsink Cover

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





## Mainboard Overview - Top (Key Parts)



*Figure 8*  
**Mainboard Top  
Key Parts**

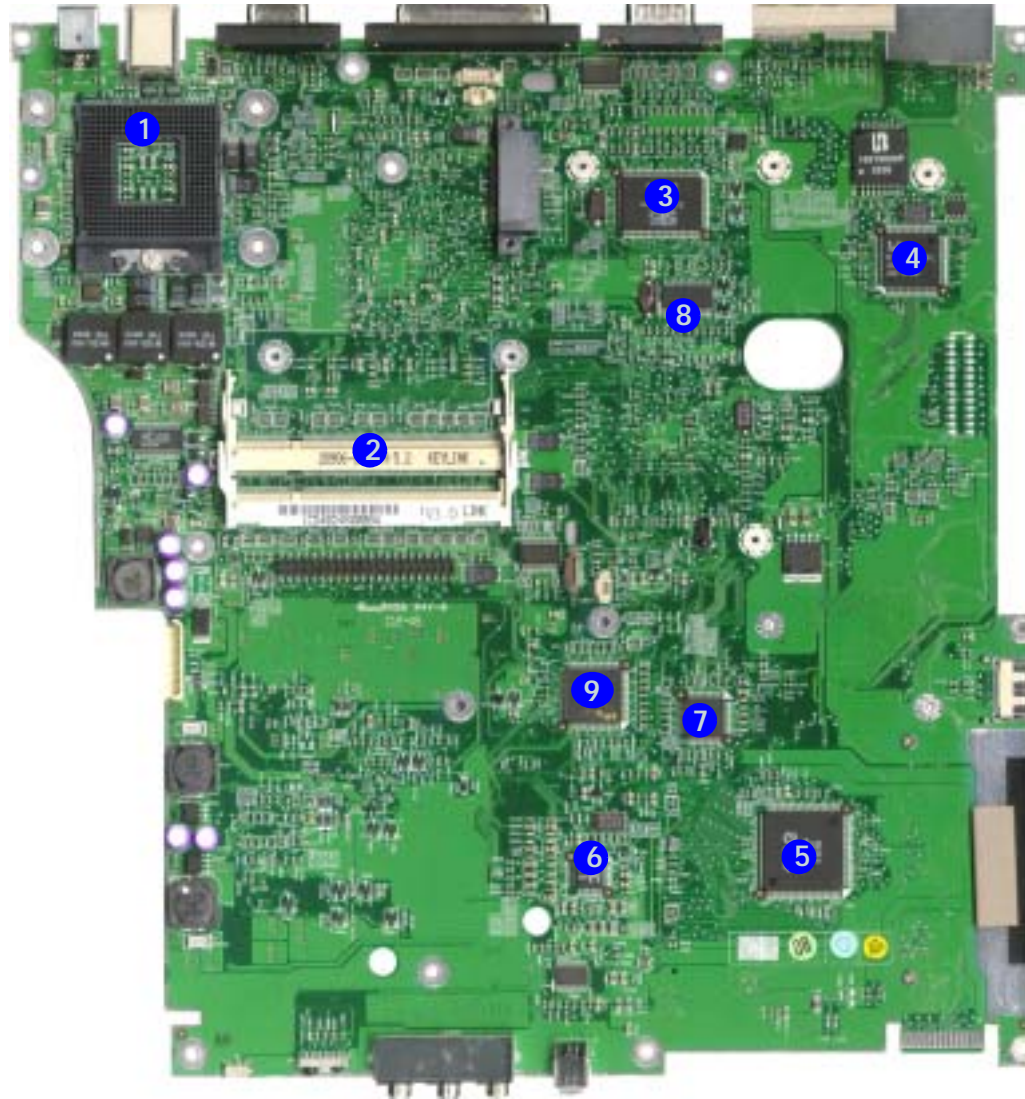
1. PC Card Assembly
2. Northbridge - SiS M650
3. Southbridge - SiS 962
4. LPC Super I/O NS PC87393
5. Flash ROM BIOS

## Introduction

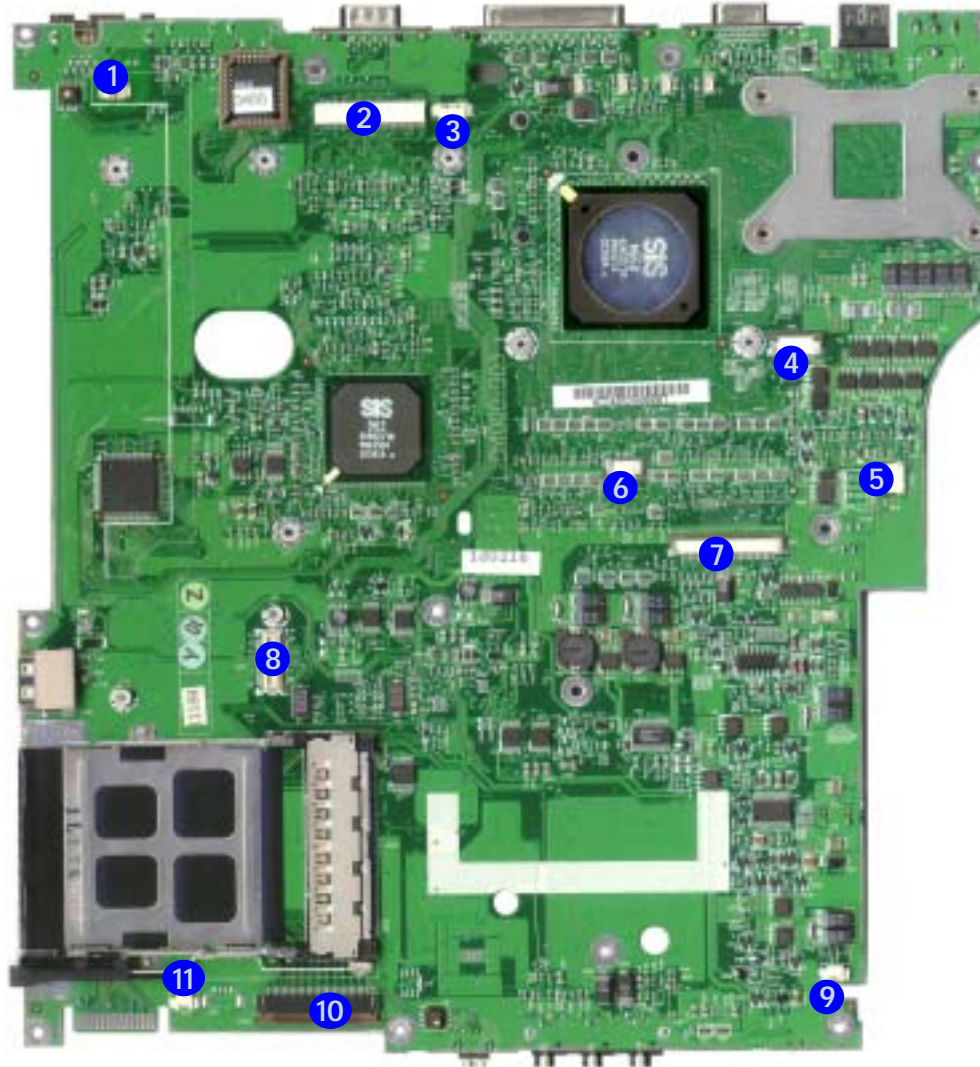
*Figure 9*  
**Mainboard Bottom  
Key Parts**

1. CPU Socket (no CPU installed)
2. Memory Sockets (no memory installed)
3. SiS 302LV TV-Out Controller
4. LAN Controller RTL8100BL
5. CardBus ENE 1410
6. ALC202 - Audio Codec
7. 1394 PHY TSB41LV01
8. Clock Generator
9. Keyboard Controller - KBC H8 H8S-2149 HM

## Mainboard Overview - Bottom (Key Parts)



## Mainboard Overview - Top (Connectors)



*Figure 10*  
**Mainboard Top Connectors**

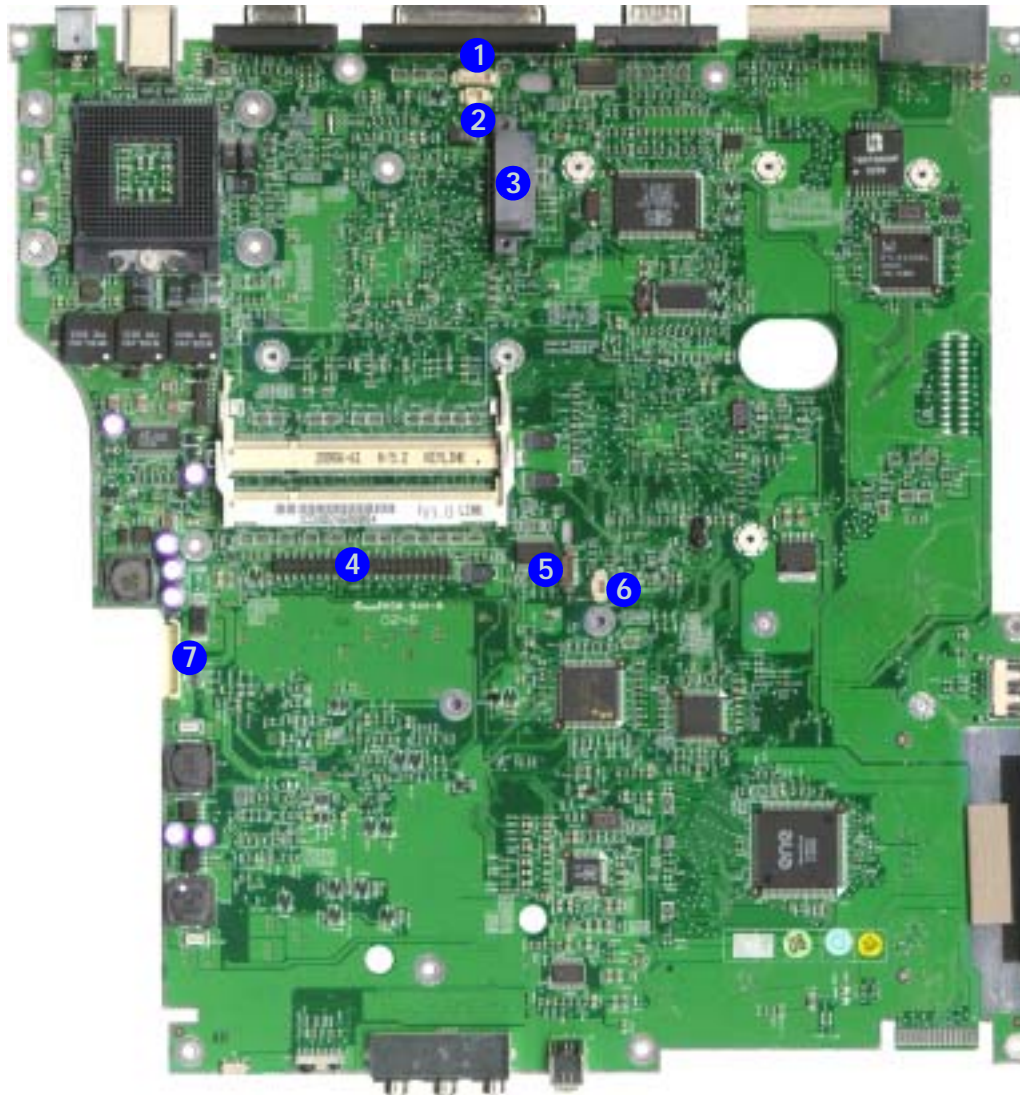
1. Modem Cable Connector (CN1)
2. LCD and Inverter Connector (JLCD1)
3. Video Camera Module Connector (JCCD1)
4. Switch Board Connector (JSW1)
5. Fan Connector (JFAN1)
6. TouchPad Connector (JTP1)
7. Keyboard Connector (JKB1)
8. Modem Connector (JMDC1)
9. Speaker Connector (JSPK1)
10. Floppy Disk Controller (JFDD1)
11. Speaker Connector (JSPK2)

## Introduction

*Figure 11*  
**Mainboard Bottom  
Connectors**

1. Wireless LAN Connector (JWL1)
2. Fan Connector (JFAN2)
3. CD Connector (JCDROM1)
4. Hard Disk Connector (JHDD1)
5. Bluetooth Connector (JBT1)
6. Battery Connector (JBAT1)
7. Battery Connector (CN5)

## Mainboard Overview - Bottom (Connectors)




# 2: Disassembly



## Overview

This chapter provides step-by-step instructions for disassembling the *D400S/D410S* series notebook's parts and sub-systems. When it comes to reassembly, reverse the procedures (unless otherwise indicated).

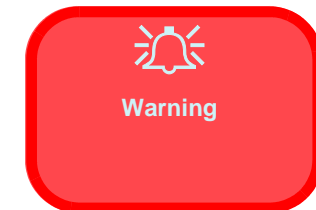
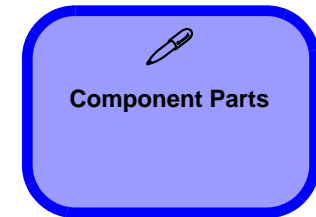
We suggest you completely review any procedure before you take the computer apart.

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.



## Disassembly

---

**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-borne 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.

## 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.



### 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.

# 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 - 8*

### To remove the HDD:

1. Remove the battery *page 2 - 8*
2. Remove the HDD *page 2 - 9*

### To remove the System Memory:

1. Remove the battery *page 2 - 8*
2. Remove the system memory *page 2 - 10*

### To remove the CD Device:

1. Remove the battery *page 2 - 8*
2. Remove the CD Device *page 2 - 12*

### To remove the Bluetooth Module:

1. Remove the battery *page 2 - 8*
2. Remove the Bluetooth module *page 2 - 14*

### To remove the Wireless LAN Module:

1. Remove the battery *page 2 - 8*
2. Remove the Wireless LAN module *page 2 - 15*

### To remove the Processor:

1. Remove the battery *page 2 - 8*
2. Remove the processor *page 2 - 16*

### To remove the Keyboard:

1. Remove the battery *page 2 - 8*
2. Remove the keyboard *page 2 - 18*

### To remove the Keyboard Shielding Plate:

1. Remove the battery *page 2 - 8*
2. Remove the keyboard *page 2 - 18*
3. Remove the keyboard shielding plate *page 2 - 19*

### To remove the LCD and Top Case:

1. Remove the battery *page 2 - 8*
2. Remove the HDD *page 2 - 9*
3. Remove the system memory *page 2 - 10*
4. Remove the CD Device *page 2 - 12*
5. Remove the Bluetooth module *page 2 - 14*
6. Remove the Wireless LAN module *page 2 - 15*
7. Remove the processor *page 2 - 16*
8. Remove the keyboard *page 2 - 18*
9. Remove the keyboard shielding plate *page 2 - 19*
10. Remove the LCD & top case *page 2 - 20*



**To remove the TouchPad and Click Board:**

1. Remove the battery *page 2 - 8*
2. Remove the HDD *page 2 - 9*
3. Remove the system memory *page 2 - 10*
4. Remove the CD Device *page 2 - 12*
5. Remove the Bluetooth module *page 2 - 14*
6. Remove the Wireless LAN module *page 2 - 15*
7. Remove the processor *page 2 - 16*
8. Remove the keyboard *page 2 - 18*
9. Remove the keyboard shielding plate *page 2 - 19*
10. Remove the LCD & top case *page 2 - 20*
11. Remove the touchpad and click board *page 2 - 22*

**To remove the Switch Board:**

1. Remove the battery *page 2 - 8*
2. Remove the HDD *page 2 - 9*
3. Remove the system memory *page 2 - 10*
4. Remove the CD Device *page 2 - 12*
5. Remove the Bluetooth module *page 2 - 14*
6. Remove the Wireless LAN module *page 2 - 15*
7. Remove the processor *page 2 - 16*
8. Remove the keyboard *page 2 - 18*
9. Remove the keyboard shielding plate *page 2 - 19*
10. Remove the LCD & top case *page 2 - 20*
11. Remove the switch board *page 2 - 23*

**To remove the Modem:**

1. Remove the battery *page 2 - 8*
2. Remove the HDD *page 2 - 9*
3. Remove the system memory *page 2 - 10*
4. Remove the CD Device *page 2 - 12*
5. Remove the Bluetooth module *page 2 - 14*
6. Remove the Wireless LAN module *page 2 - 15*
7. Remove the processor *page 2 - 16*
8. Remove the keyboard *page 2 - 18*
9. Remove the keyboard shielding plate *page 2 - 19*
10. Remove the LCD & top case *page 2 - 20*
11. Remove the modem *page 2 - 24*

**To remove the Speakers:**

1. Remove the battery *page 2 - 8*
2. Remove the HDD *page 2 - 9*
3. Remove the system memory *page 2 - 10*
4. Remove the CD Device *page 2 - 12*
5. Remove the Bluetooth module *page 2 - 14*
6. Remove the Wireless LAN module *page 2 - 15*
7. Remove the processor *page 2 - 16*
8. Remove the keyboard *page 2 - 18*
9. Remove the keyboard shielding plate *page 2 - 19*
10. Remove the LCD & top case *page 2 - 20*
11. Remove the speakers *page 2 - 25*

## Disassembly

---

### To remove the Mainboard:

1. Remove the battery *page 2 - 8*
2. Remove the HDD *page 2 - 9*
3. Remove the system memory *page 2 - 10*
4. Remove the CD Device *page 2 - 12*
5. Remove the Bluetooth module *page 2 - 14*
6. Remove the Wireless LAN module *page 2 - 15*
7. Remove the processor *page 2 - 16*
8. Remove the keyboard *page 2 - 18*
9. Remove the keyboard shielding plate *page 2 - 19*
10. Remove the LCD & top case *page 2 - 20*
11. Remove the speakers *page 2 - 25*
12. Remove the mainboard *page 2 - 26*

### To remove the Fan Unit:

1. Remove the battery *page 2 - 8*
2. Remove the HDD *page 2 - 9*
3. Remove the system memory *page 2 - 10*
4. Remove the CD Device *page 2 - 12*
5. Remove the Bluetooth module *page 2 - 14*
6. Remove the Wireless LAN module *page 2 - 15*
7. Remove the processor *page 2 - 16*
8. Remove the keyboard *page 2 - 18*
9. Remove the keyboard shielding plate *page 2 - 19*
10. Remove the LCD & top case *page 2 - 20*
11. Remove the speakers *page 2 - 25*
12. Remove the mainboard *page 2 - 26*
13. Remove the fan unit *page 2 - 27*

### To remove the Floppy Disk Drive Assembly:

1. Remove the battery *page 2 - 8*
2. Remove the HDD *page 2 - 9*
3. Remove the system memory *page 2 - 10*
4. Remove the CD Device *page 2 - 12*
5. Remove the Bluetooth module *page 2 - 14*
6. Remove the Wireless LAN module *page 2 - 15*
7. Remove the processor *page 2 - 16*
8. Remove the keyboard *page 2 - 18*
9. Remove the keyboard shielding plate *page 2 - 19*
10. Remove the LCD & top case *page 2 - 20*
11. Remove the speakers *page 2 - 25*
12. Remove the mainboard *page 2 - 26*
13. Remove the floppy disk drive *page 2 - 28*

### To remove the PC Card Assembly:

1. Remove the battery *page 2 - 8*
2. Remove the HDD *page 2 - 9*
3. Remove the system memory *page 2 - 10*
4. Remove the CD Device *page 2 - 12*
5. Remove the Bluetooth module *page 2 - 14*
6. Remove the Wireless LAN module *page 2 - 15*
7. Remove the processor *page 2 - 16*
8. Remove the keyboard *page 2 - 18*
9. Remove the keyboard shielding plate *page 2 - 19*
10. Remove the LCD & top case *page 2 - 20*
11. Remove the speakers *page 2 - 25*
12. Remove the mainboard *page 2 - 26*
13. Remove the PC Card assembly *page 2 - 29*

**To remove the LCD Front Panel Module:**

1. Remove the battery *page 2 - 8*
2. Remove the HDD *page 2 - 9*
3. Remove the system memory *page 2 - 10*
4. Remove the CD Device *page 2 - 12*
5. Remove the Bluetooth module *page 2 - 14*
6. Remove the Wireless LAN module *page 2 - 15*
7. Remove the processor *page 2 - 16*
8. Remove the keyboard *page 2 - 18*
9. Remove the keyboard shielding plate *page 2 - 19*
10. Remove the LCD & top case *page 2 - 20*
11. Remove the front panel module *page 2 - 30*

**To remove the Inverter:**

1. Remove the battery *page 2 - 8*
2. Remove the HDD *page 2 - 9*
3. Remove the system memory *page 2 - 10*
4. Remove the CD Device *page 2 - 12*
5. Remove the Bluetooth module *page 2 - 14*
6. Remove the Wireless LAN module *page 2 - 15*
7. Remove the processor *page 2 - 16*
8. Remove the keyboard *page 2 - 18*
9. Remove the keyboard shielding plate *page 2 - 19*
10. Remove the LCD & top case *page 2 - 20*
11. Remove the front panel module *page 2 - 30*
12. Remove the inverter *page 2 - 31*

**To remove the PC Video Camera Module:**

1. Remove the battery *page 2 - 8*
2. Remove the HDD *page 2 - 9*
3. Remove the system memory *page 2 - 10*
4. Remove the CD Device *page 2 - 12*
5. Remove the Bluetooth module *page 2 - 14*
6. Remove the Wireless LAN module *page 2 - 15*
7. Remove the processor *page 2 - 16*
8. Remove the keyboard *page 2 - 18*
9. Remove the keyboard shielding plate *page 2 - 19*
10. Remove the LCD & top case *page 2 - 20*
11. Remove the front panel module *page 2 - 30*
12. Remove the PC Video Camera *page 2 - 32*

**To remove the LCD Module:**

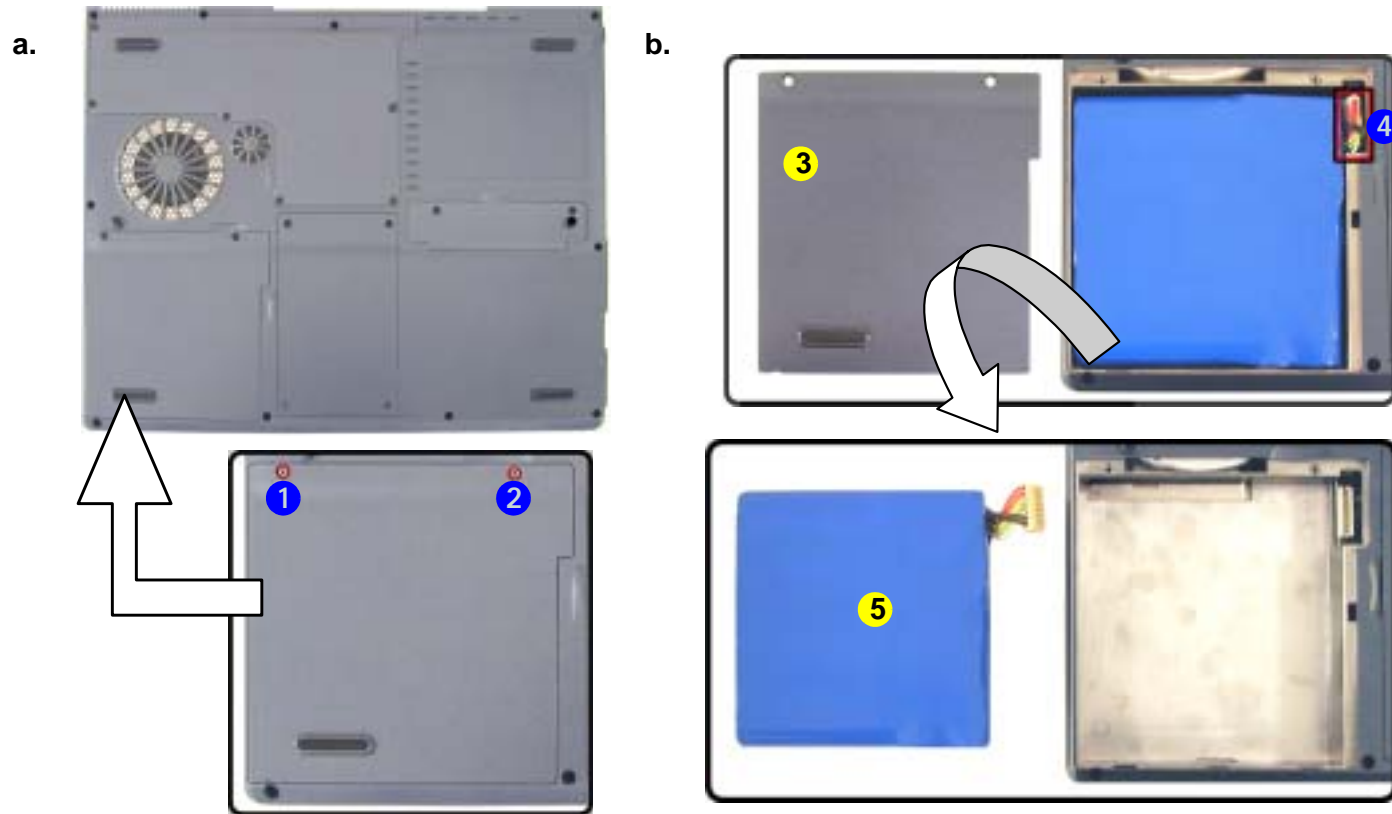
1. Remove the battery *page 2 - 8*
2. Remove the HDD *page 2 - 9*
3. Remove the system memory *page 2 - 10*
4. Remove the CD Device *page 2 - 12*
5. Remove the Bluetooth module *page 2 - 14*
6. Remove the Wireless LAN module *page 2 - 15*
7. Remove the processor *page 2 - 16*
8. Remove the keyboard *page 2 - 18*
9. Remove the keyboard shielding plate *page 2 - 19*
10. Remove the LCD & top case *page 2 - 20*
11. Remove the front panel module *page 2 - 30*
12. Remove the inverter *page 2 - 31*
13. Remove the LCD module *page 2 - 33*

### Removing the Battery

1. Turn the computer **off**, and turn it over.
2. Remove screws **1** & **2** (**Figure 1a**) from the battery cover **3**, and remove the cover.
3. Carefully (use a small screwdriver) disconnect the battery cable at point **4** (**Figure 1b**).
4. Lift the battery **5** out of the computer.
5. When replacing the battery, connect the cable first.

*Figure 1*  
**Battery Removal**

- a. Remove the 2 screws and the battery cover.
- b. Carefully disconnect the battery cable and remove the battery.




## Removing the Hard Disk Drive

The hard disk drive is 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 Disk Upgrade Process

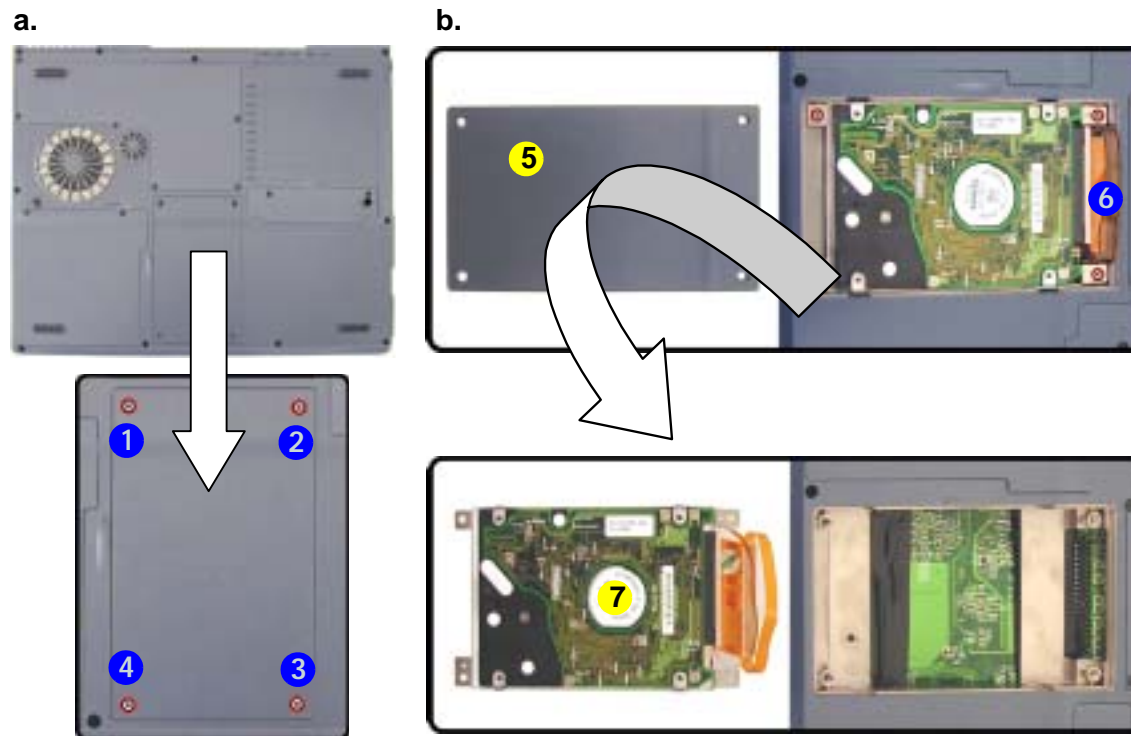
1. Turn **off** the computer, remove the battery ([page 2 - 8](#)) and turn it over.
2. Remove screws **1** & **4** (**Figure 2a**) from the hard disk cover **5**, and remove the cover.
3. Carefully (use a small screwdriver) disconnect the battery cable at point **6** (**Figure 2b**).
4. Lift the HDD assembly **7** out of the computer.
5. Reverse the process to install a new hard disk.



**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.



*Figure 2*  
**HDD Assembly  
 Assembly Removal**

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



- 5. Hard Disk Cover
- 7. Hard Disk
- 4 Screws

## Removing the System Memory (RAM)

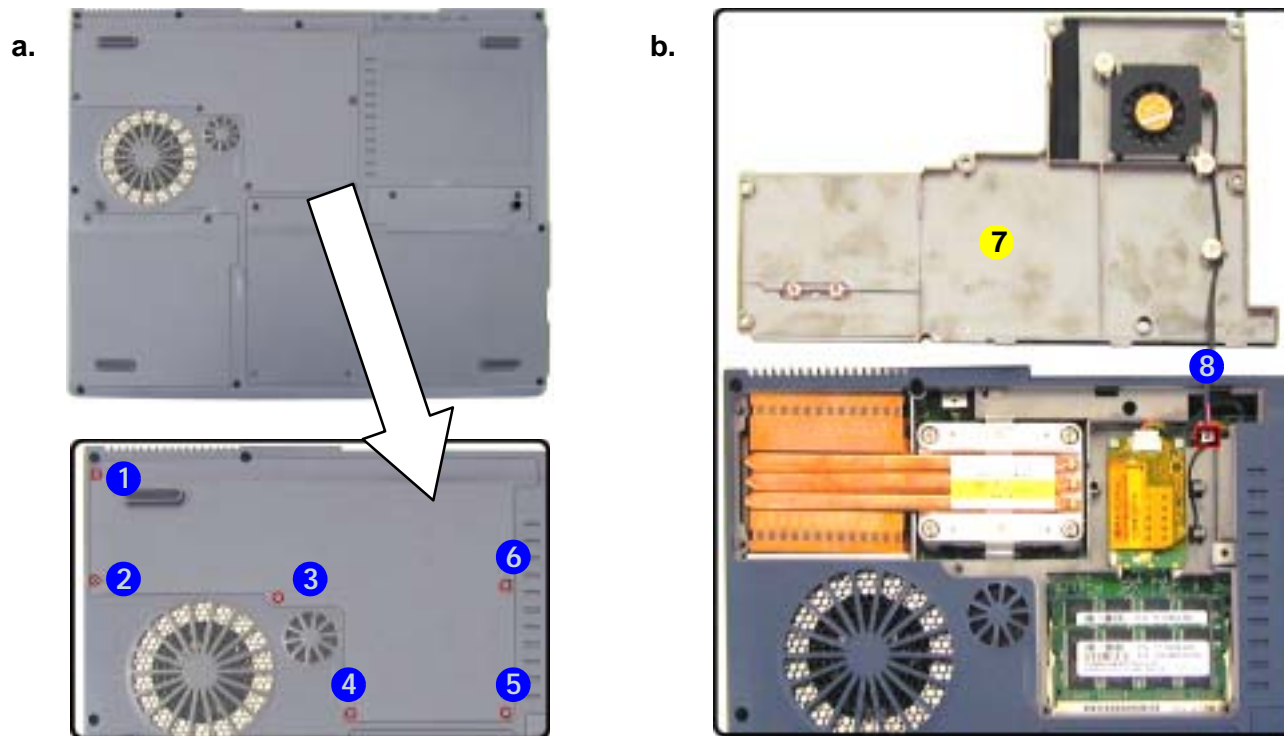
The computer has two memory sockets for 200 pin Small Outline Dual In-line Memory Modules (SO-DIMM) supporting DDR 200/266/333MHz. The main memory can be expanded up to 1024MB. The SO-DIMM modules supported are 128Mb, 256Mb, and 512Mb. The total memory size is automatically detected by the POST routine once you turn on your computer.

### Memory Upgrade Process

1. Turn **off** the computer, remove the battery ([page 2 - 8](#)) and turn it over.
2. Remove screws **1** - **6** (**Figure 3a**) from the memory socket cover.
3. Carefully lift up the memory socket cover **7** (**Figure 3b**) (a fan cable **8** is still attached to the mainboard and you can disconnect it).
4. If there is a module currently installed which needs to be upgraded/replaced then remove it.

*Figure 3*  
**Memory Socket Cover Removal**

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

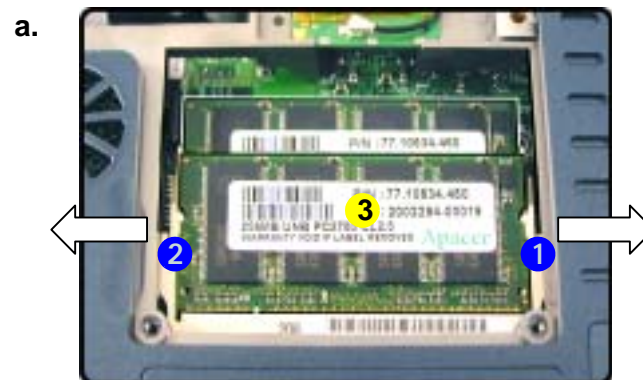




7. Socket Cover

- 6 Screws

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



6. The module 3 (Figure 4b) 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.
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.

b.



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 6 screws (see [page 2 - 10](#)).
12. Restart the computer.
13. The BIOS will register the new memory configuration as it starts up.

*Figure 4*  
**Removing/  
Installing a RAM  
Module**

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



### 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.



3. RAM Module

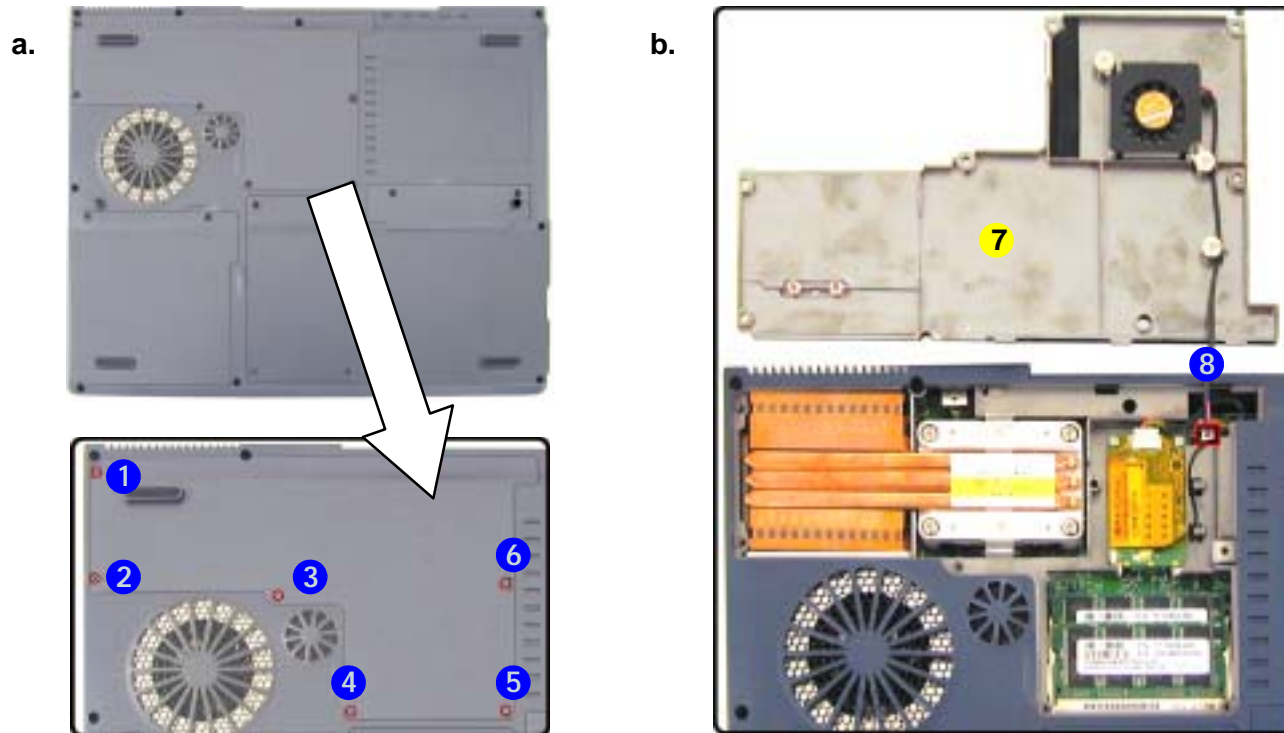
## Removing the CD Device

The easy changeable CD device may be upgraded or changed.

1. Turn **off** the computer, remove the battery ([page 2 - 8](#)) and turn it over.
2. Remove screws **1** - **6** (**Figure 5a**) from the memory socket cover.
3. Carefully lift up the memory socket cover **7** (a fan cable **8** is still attached to the mainboard and you can disconnect it).

*Figure 5*  
**Memory Socket  
Cover Removal**

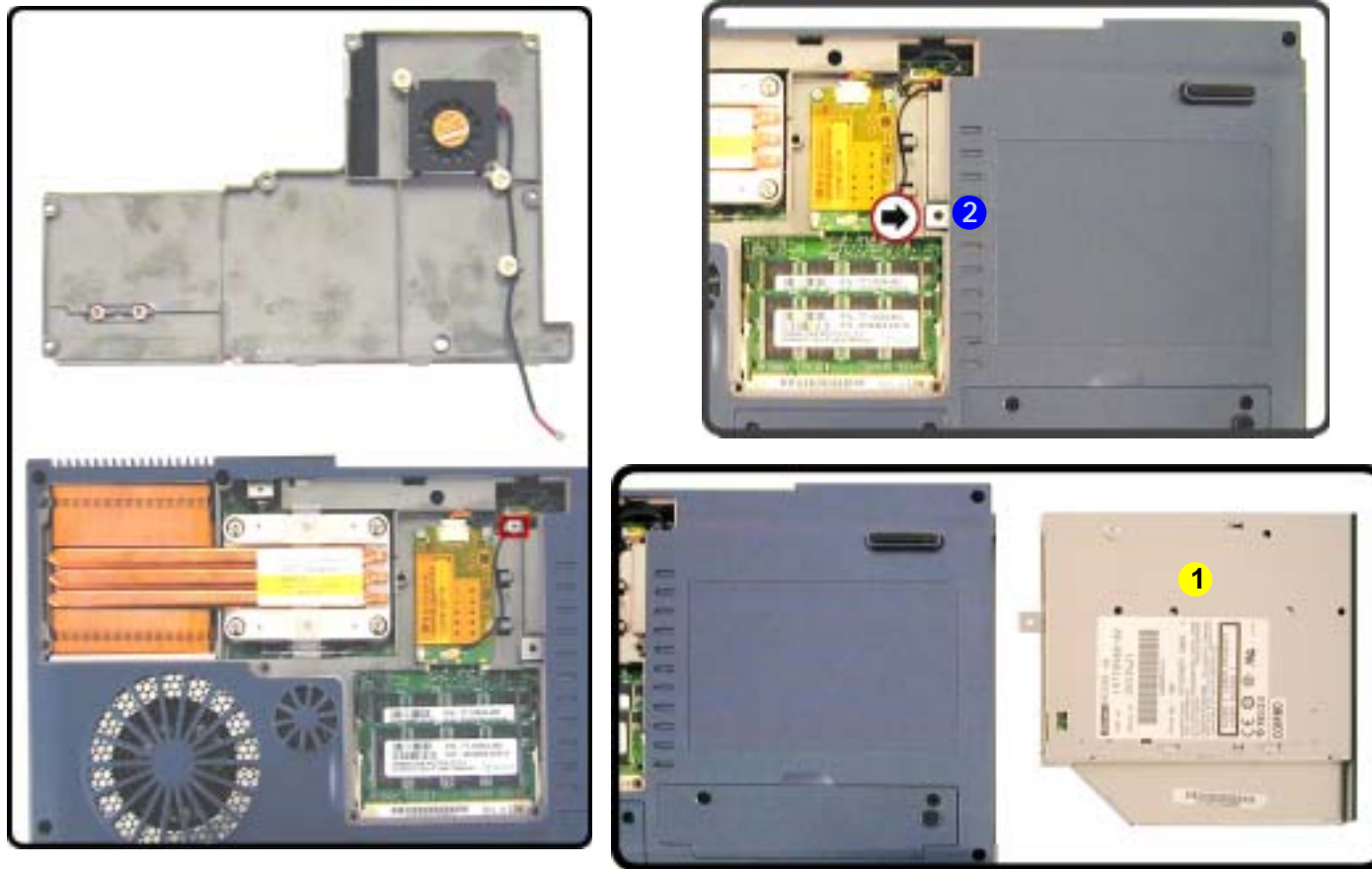
- a. Remove the screws.
- b. Carefully lift the cover off the computer.



- 7. Socket Cover
- 6 Screws



4. Use a screwdriver to carefully push the CD device assembly **1** out of the computer at point **2**.



*Figure 6*  
**CD Device Removal**

Push the CD device out off the computer at point 2.

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 **6** screws (see [page 2 - 12](#)).
7. Restart the computer to allow it to automatically detect the new device.



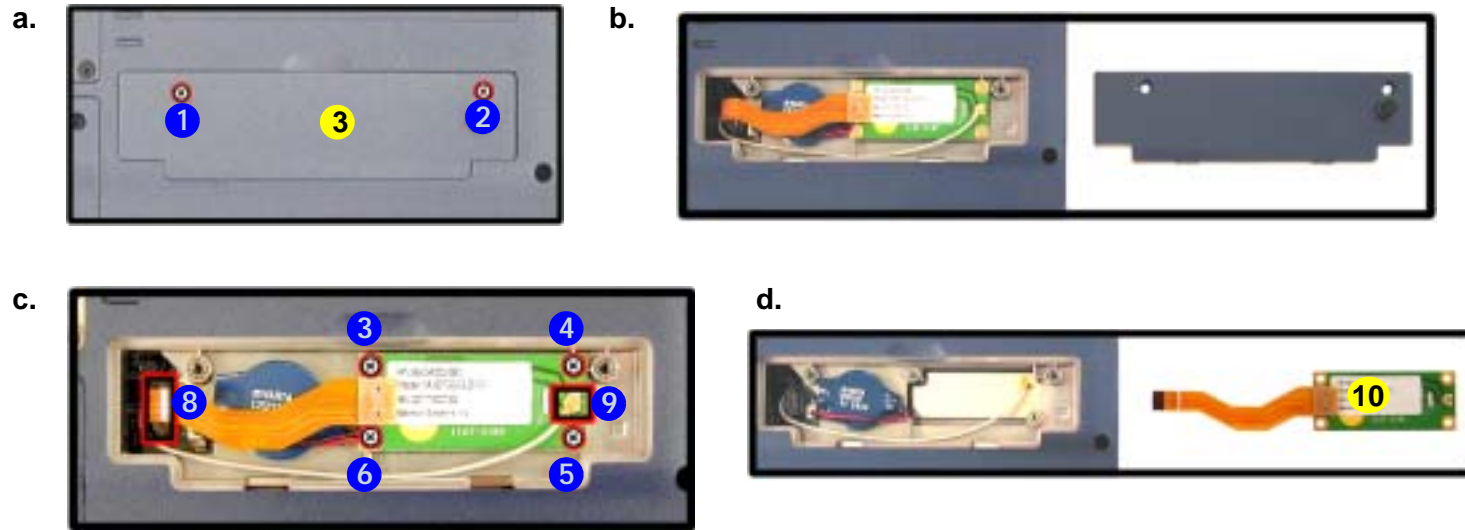
1. CD Device

## Removing the Bluetooth Module

1. Turn **off** the computer, remove the battery ([page 2 - 8](#)) and turn it over.
2. Remove screws **1** - **2** (**Figure 7a**) from the Bluetooth module cover.
3. Carefully lift up the Bluetooth module cover **3** off the computer.
4. Remove screws **3** - **6** (**Figure 7c**) and carefully disconnect cables **8** - **9**, then remove the Bluetooth module **10** (**Figure 7d**).

*Figure 7*  
**Bluetooth Module Removal**

- a. Remove the screws.
- b. Carefully lift the cover off the computer.
- c. Remove the screws and disconnect the cables.
- d. Remove the Bluetooth module.

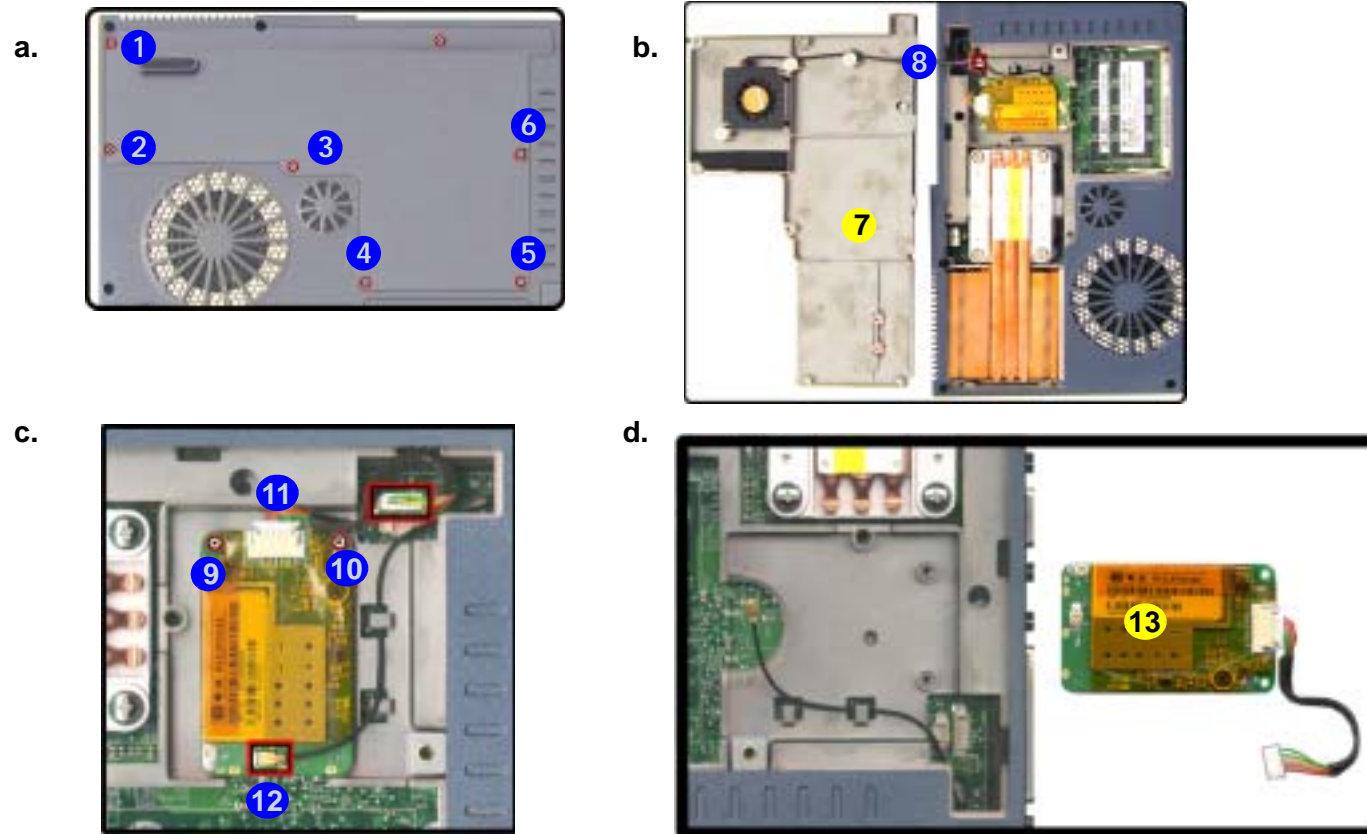


3. Bluetooth Cover  
10. Bluetooth Module

- 6 Screws

## Removing the Wireless LAN Module

1. Turn **off** the computer, remove the battery ([page 2 - 8](#)) and turn it over.
2. Remove screws **1** - **6** from the memory socket cover.
3. Carefully lift up the memory socket cover **7** (a fan cable **8** is still attached to the mainboard and you can disconnect it).
4. Remove screws **9** - **10** (**Figure 8c**), and carefully disconnect cables **11** & **12**.
5. Lift the Wireless Lan module **13** (**Figure 8d**) off the computer.



*Figure 8*  
**Wireless LAN  
Module Removal**

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



### Antenna Cable Connection

When re-inserting a Wireless LAN module, make sure the antenna cable connects to the connector **J1** which is indicated as point **12** in **Figure 8c**.



7. Socket Cover  
13. WLAN Module

- 8 Screws

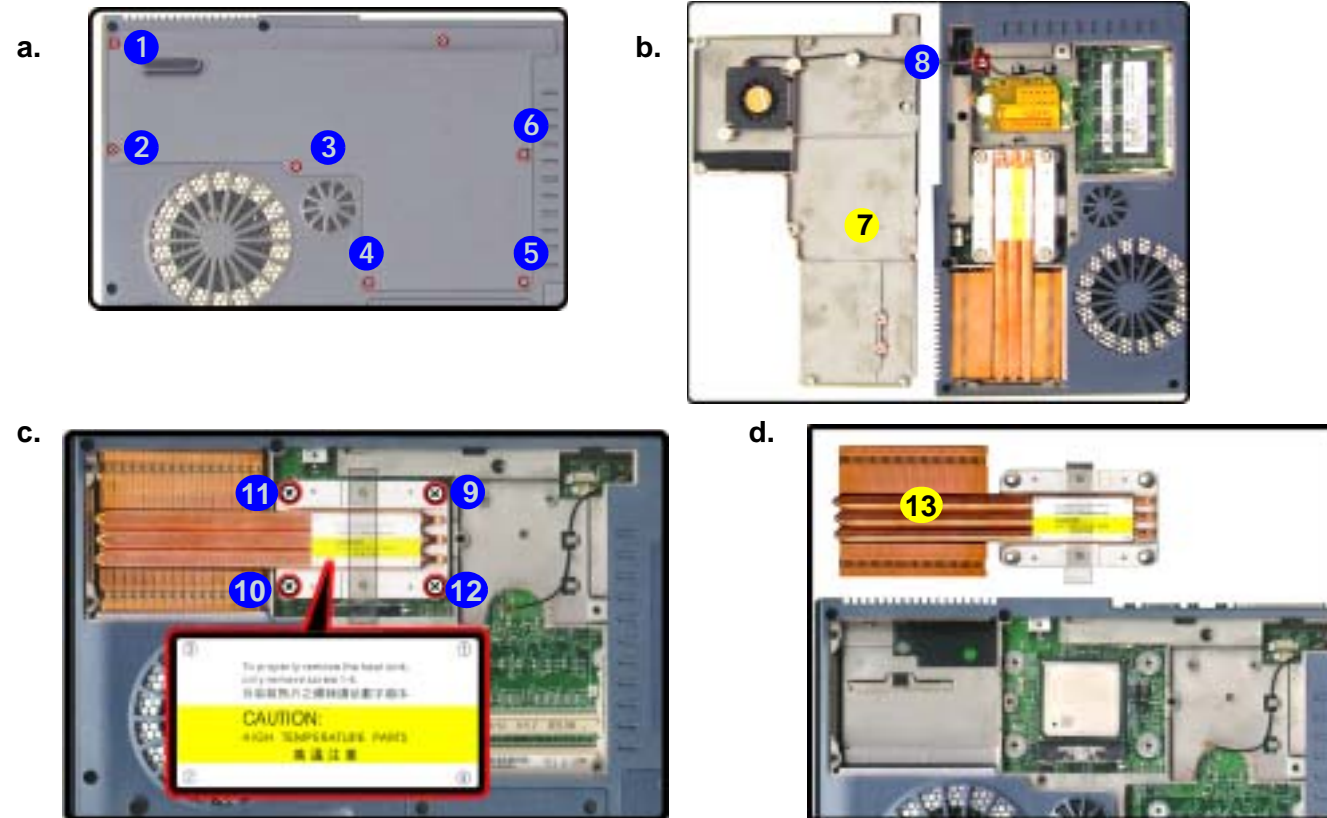
# Removing the Processor

1. Turn **off** the computer, remove the battery ([page 2 - 8](#)) and turn it over.
2. Remove screws **1** - **6** from the memory socket cover.
3. Carefully lift up the memory socket cover **7** (a fan cable **8** is still attached to the mainboard and you can disconnect it).
4. Remove screws **9** - **12** (**Figure 9c**) from the heat sink, **in the order indicated on the label**.
5. Carefully lift up the heat sink **13** (**Figure 9d**) off the computer.

Figure 9

### 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.



7. Socket Cover  
13. Heat Sink

- 10 Screws

6. Use a screwdriver to unlock the CPU by giving the lock ① (Figure 10a) a turn to the left.
7. Lift the CPU ③ (Figure 10c) off the computer (make sure the lock is fully turned to the left as the CPU will lift off with ease).

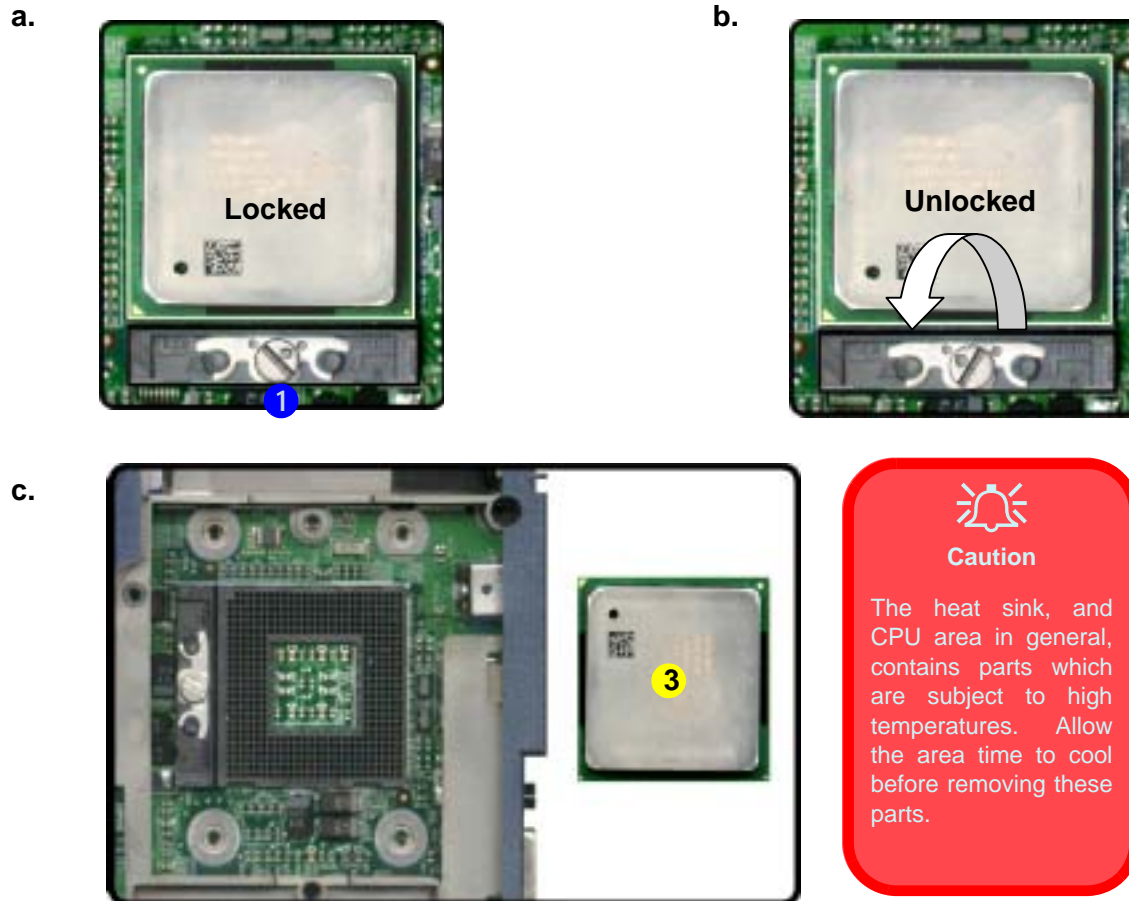
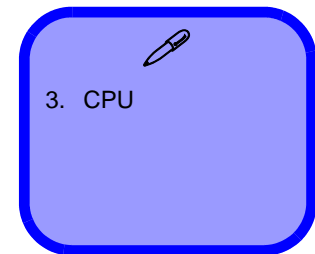


Figure 10  
Processor Removal  
(cont'd)

- a. Locate the CPU lock.
- b. Turn the lock to the left to unlock it.
- c. Remove the CPU.

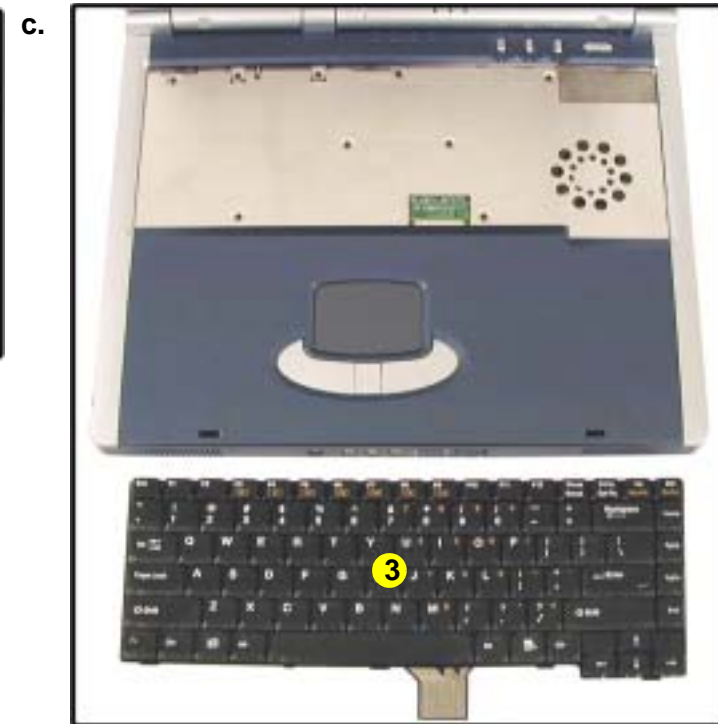
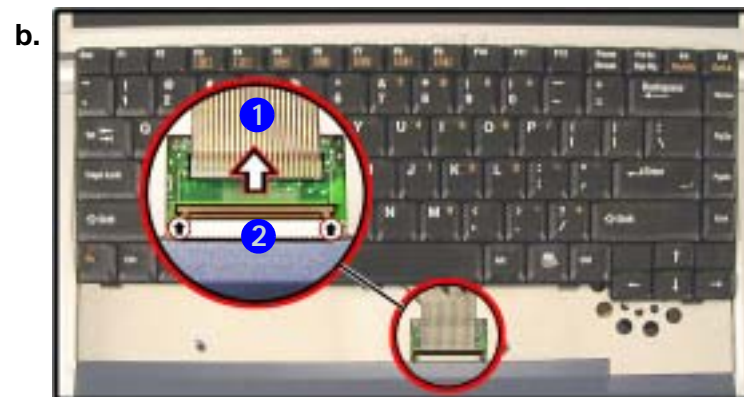


## Removing the Keyboard

1. Turn **off** the computer, remove the battery ([page 2 - 8](#)).
2. Press the **three** 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 up and out, being careful not to bend the keyboard ribbon cable **1** (**Figure 11b**).
4. Disconnect the keyboard ribbon cable from the locking collar socket **2** (**Figure 11b**) and lift the keyboard **3** up out of the computer.

*Figure 11*  
**Keyboard Removal**

- a. Press the latches to elevate the keyboard.
- b. Disconnect the keyboard cable from the locking collar.
- c. Remove the keyboard.

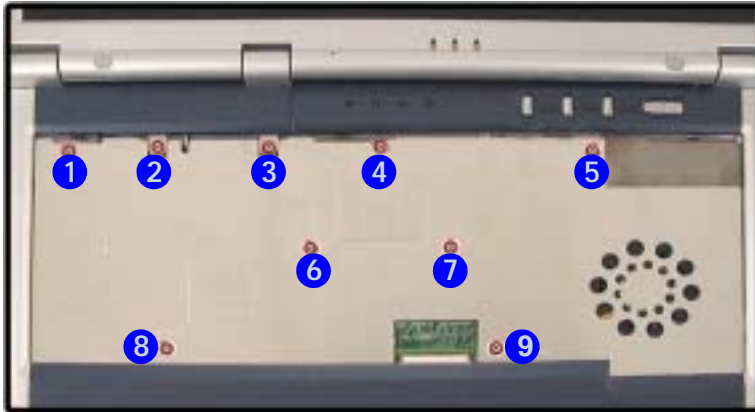


3. Keyboard

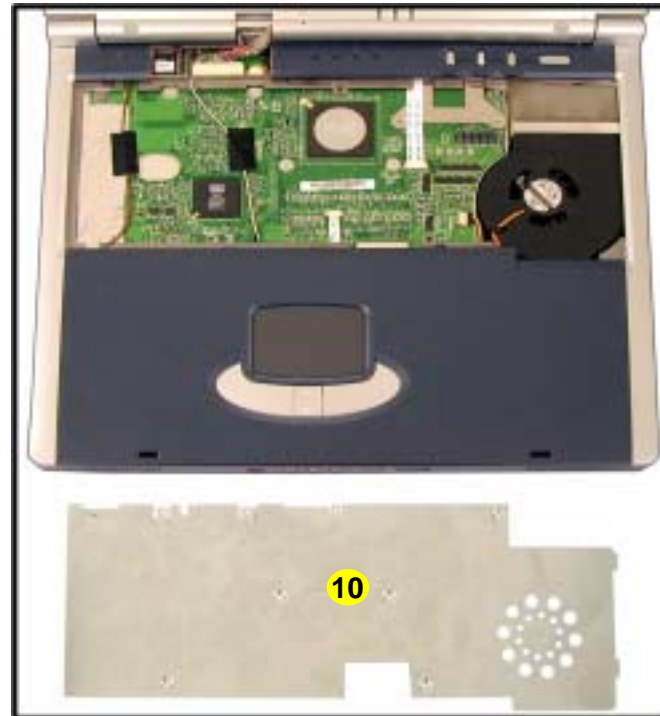
## Removing the Keyboard Shielding Plate

1. Turn **off** the computer, remove the battery ([page 2 - 8](#)) and keyboard ([page 2 - 18](#)).
2. Remove screws **1** - **9** (**Figure 12a**) from the keyboard shielding plate and lift the plate **10** off the computer.

a.



b.



*Figure 12*  
**Keyboard Shielding Plate Removal**

- a. Remove the screws from the shielding plate.
- b. Lift the plate off the computer.



10. Shielding Plate

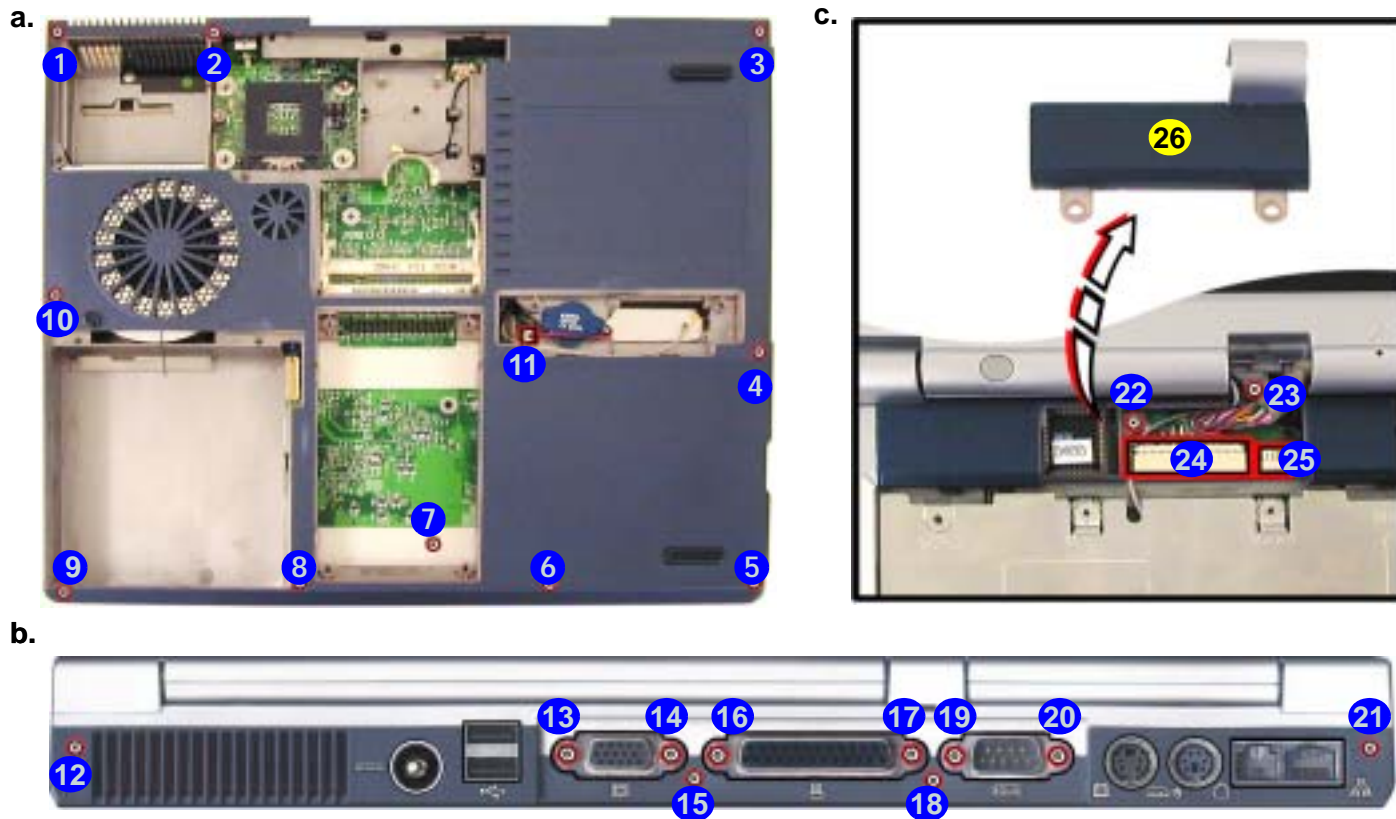
- 9 Screws

## Removing the LCD and Top Case

1. Turn **off** the computer, remove the battery ([page 2 - 8](#)), hard disk ([page 2 - 9](#)), RAM ([page 2 - 10](#)), CD Device ([page 2 - 12](#)), Bluetooth module ([page 2 - 14](#)), Wireless LAN module ([page 2 - 15](#)), CPU ([page 2 - 16](#)), keyboard ([page 2 - 18](#)) and keyboard shielding plate ([page 2 - 19](#)).
2. Remove screws **1 - 10**, and disconnect cable **11** (**Figure 13a**) from the bottom off the computer.
3. Remove screws **12 - 21** (**Figure 13b**) from the rear off the computer.
4. Remove the LCD cable shielding cover **26**, screws **22 - 23** and disconnect cables **24 - 25** (**Figure 13c**).

*Figure 13*  
**LCD & Top Case Removal**

- a. Remove the screws from the bottom of the computer.
- b. Remove the screws from the rear of the computer.
- c. Remove the LCD cable shielding cover and disconnect the cables.



26. LCD cable cover

- 20 Screws



5. Slide the LCD hinge covers **1** & **2** (Figure 14a) out of the computer.
6. Remove screws **3** & **4** (Figure 14b) then carefully (pay careful attention to the antenna cables) lift the LCD assembly **5** (Figure 14c) off the computer.
7. Remove screws **6** & **7** (Figure 14d) and disconnect cables **8** & **9**, then lift the top case assembly **10** off the computer.

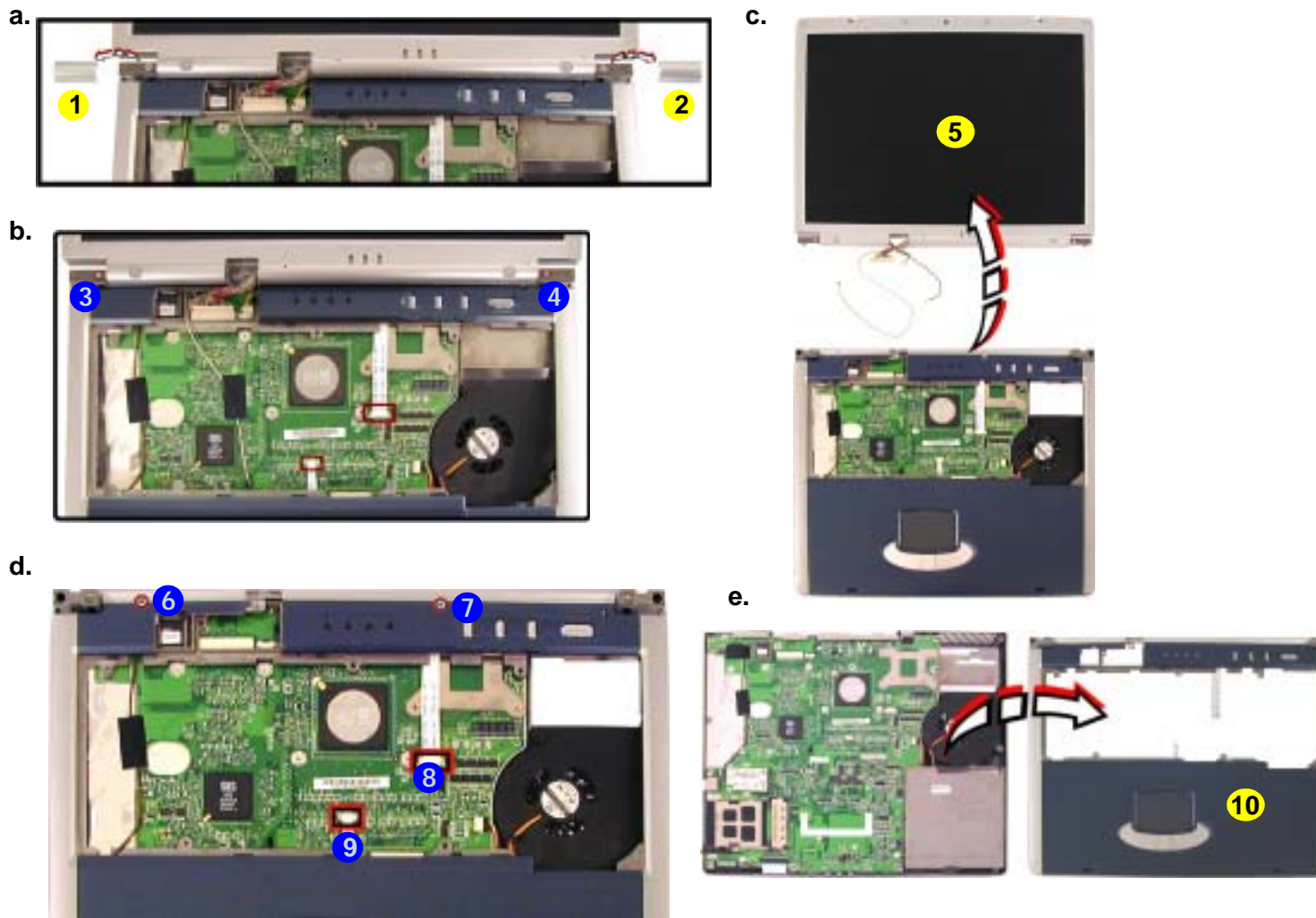



Figure 14  
LCD & Top Case  
Removal Cont'd

- a. Remove the hinge covers.
- b. Remove the screws from the LCD.
- c. Lift the LCD top case assembly.
- d. Remove the screws and disconnect the cables.
- e. Lift the top case assembly off the computer.



1&2. Hinge covers  
5. LCD Assembly  
10. Top Case

- 4 Screws

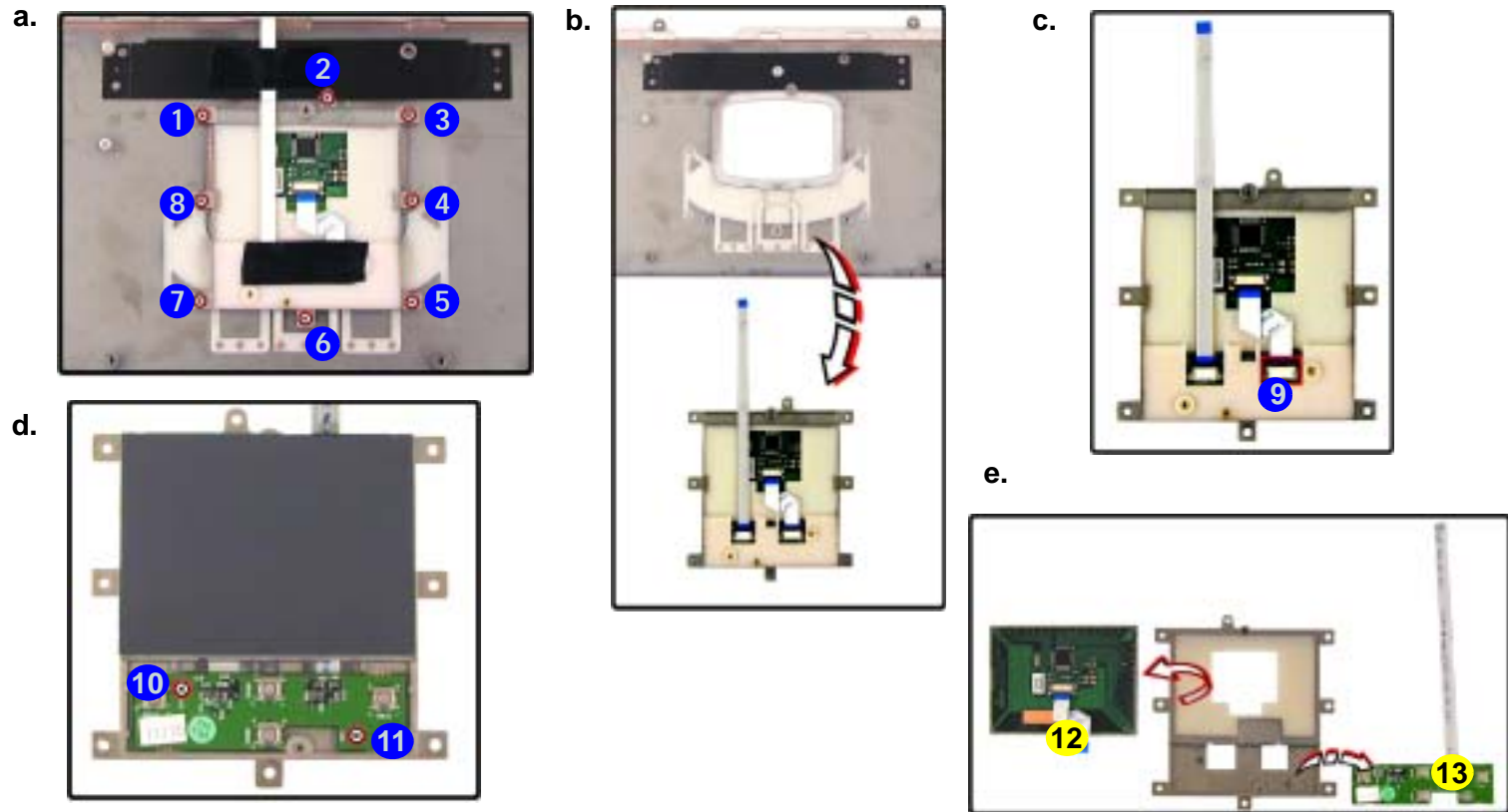
## Removing the TouchPad and Click Board

1. Turn **off** the computer, remove the battery ([page 2 - 8](#)), hard disk ([page 2 - 9](#)), RAM ([page 2 - 10](#)), CD Device ([page 2 - 12](#)), Bluetooth module ([page 2 - 14](#)), Wireless LAN module ([page 2 - 15](#)), CPU ([page 2 - 16](#)), keyboard ([page 2 - 18](#)), keyboard shielding plate ([page 2 - 19](#)) and the top case and LCD ([page 2 - 20](#)).
2. Remove screws **1** - **8** (**Figure 15a**) from the touchpad and click board assembly, and lift the assembly off the top case.
3. Disconnect cable **9** (**Figure 15c**) and remove screws **10** - **11** (**Figure 15d**).
4. Separate the touchpad **12** and click board **13** (**Figure 15e**).

Figure 15

### TouchPad and Click Board Removal

- a. Remove the screws.
- b. Separate the assembly from the top case.
- c. Disconnect the cable.
- d. Remove the screws.
- e. Separate the touchpad and click board.

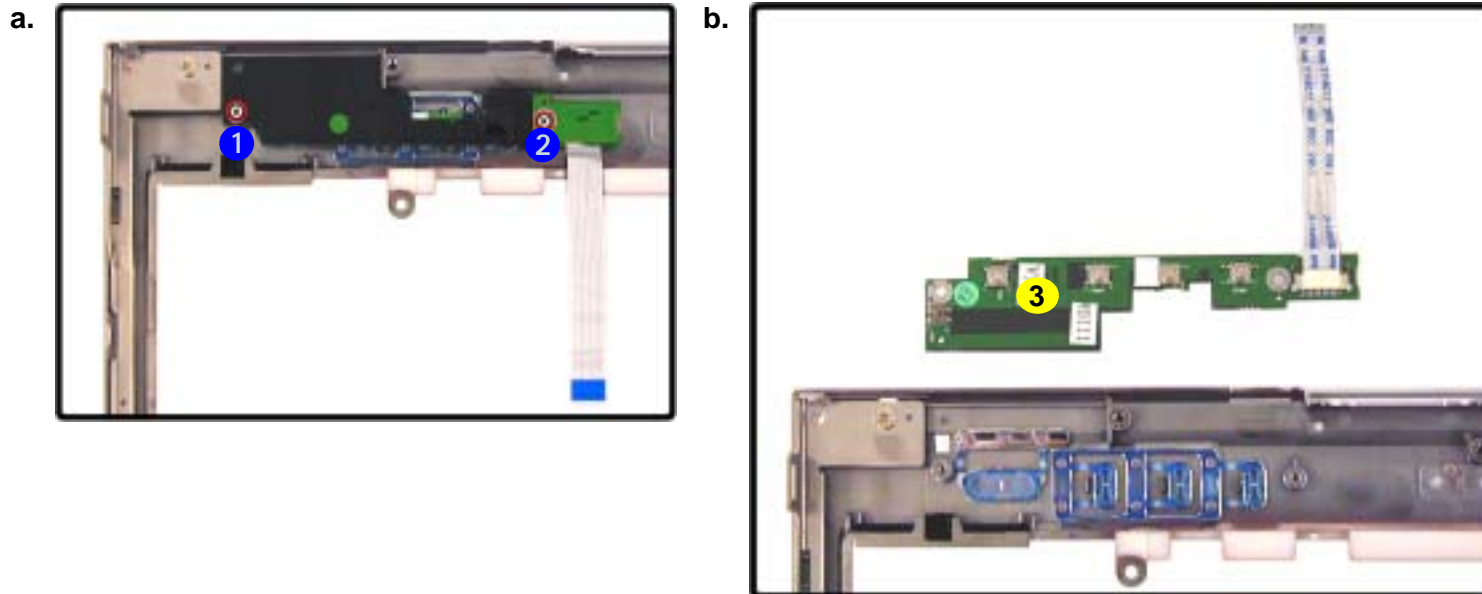


12. Touch Pad  
13. Click Board

- 10 Screws

## Removing the Switch Board

1. Turn **off** the computer, remove the battery ([page 2 - 8](#)), hard disk ([page 2 - 9](#)), RAM ([page 2 - 10](#)), CD Device ([page 2 - 12](#)), Bluetooth module ([page 2 - 14](#)), Wireless LAN module ([page 2 - 15](#)), CPU ([page 2 - 16](#)), keyboard ([page 2 - 18](#)), keyboard shielding plate ([page 2 - 19](#)) and the top case and LCD ([page 2 - 20](#)). ⑩
2. Remove screws ① & ② (**Figure 16a**) from the switch board assembly.
3. Lift the switch board assembly ③ (**Figure 16b**) off the top case.



*Figure 16*  
**Switch Board Removal**

- a. Remove the screws.
- b. Lift the switch board assembly off the top case.



3. Switch Board

- 2 Screws

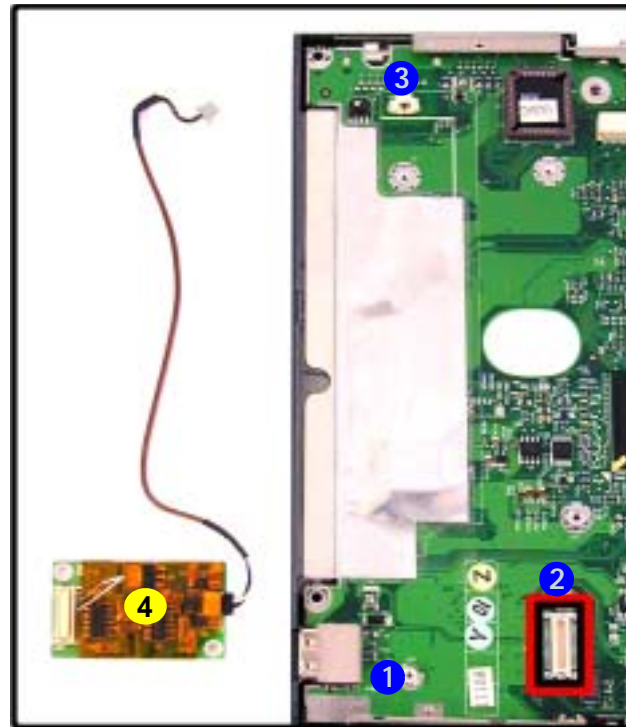
### Removing the Modem

1. Turn **off** the computer, remove the battery ([page 2 - 8](#)), hard disk ([page 2 - 9](#)), RAM ([page 2 - 10](#)), CD Device ([page 2 - 12](#)), Bluetooth module ([page 2 - 14](#)), Wireless LAN module ([page 2 - 15](#)), CPU ([page 2 - 16](#)), keyboard ([page 2 - 18](#)), keyboard shielding plate ([page 2 - 19](#)) and the top case and LCD ([page 2 - 20](#)).
2. Remove screws **1** & **2** (**Figure 17**) from the modem and disconnect cable **3**.
3. Remove the modem module **4**.

Figure 17

#### Modem Removal

Remove the screws, disconnect the cable, and remove the modem module.

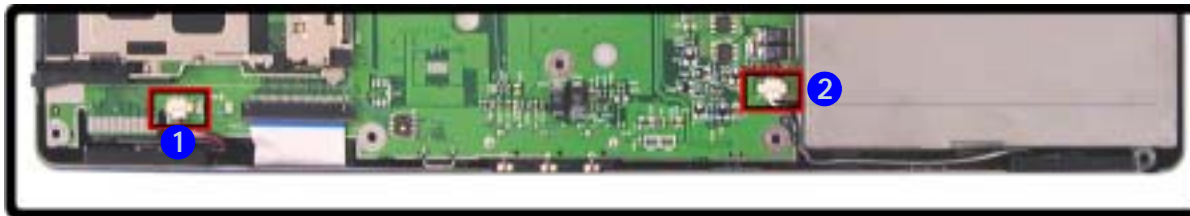


- 4. Modem
- 2 Screws

## Removing the Speakers

1. Turn **off** the computer, remove the battery ([page 2 - 8](#)), hard disk ([page 2 - 9](#)), RAM ([page 2 - 10](#)), CD Device ([page 2 - 12](#)), Bluetooth module ([page 2 - 14](#)), Wireless LAN module ([page 2 - 15](#)), CPU ([page 2 - 16](#)), keyboard ([page 2 - 18](#)), keyboard shielding plate ([page 2 - 19](#)) and the top case and LCD ([page 2 - 20](#)).
2. Disconnect cables **1** & **2** (**Figure 18a**) from the speakers to the mainboard.
3. Remove the speakers **3** (**Figure 18b**).

a.

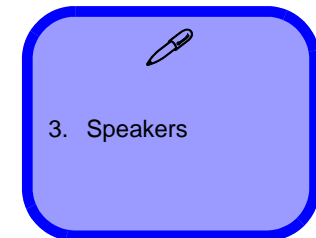


b.



*Figure 18*  
**Speakers Removal**

- a. Disconnect the cables.
- b. Remove the speakers.



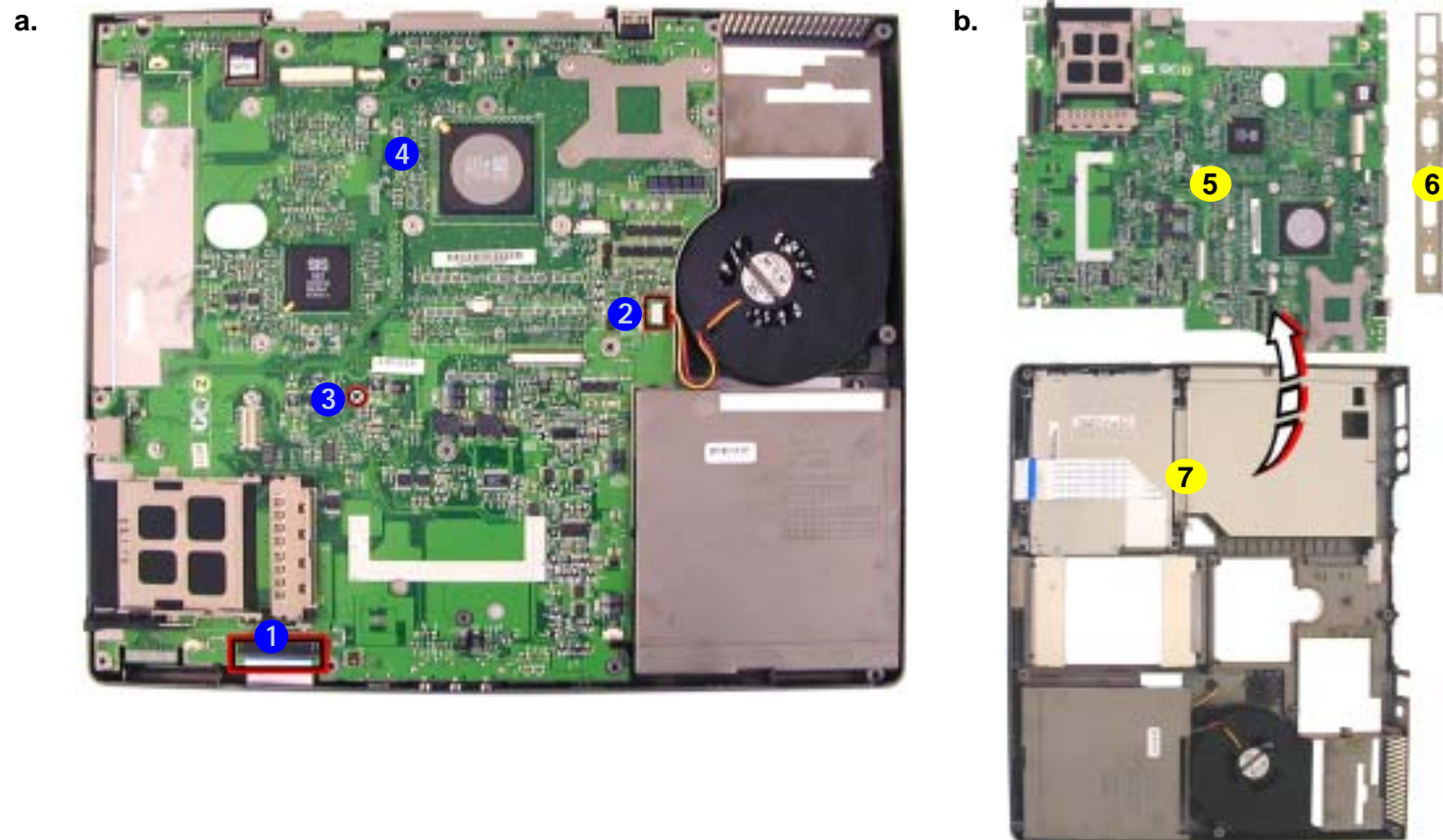
### Removing the Mainboard

1. Turn **off** the computer, remove the battery ([page 2 - 8](#)), hard disk ([page 2 - 9](#)), RAM ([page 2 - 10](#)), CD Device ([page 2 - 12](#)), Bluetooth module ([page 2 - 14](#)), Wireless LAN module ([page 2 - 15](#)), CPU ([page 2 - 16](#)), keyboard ([page 2 - 18](#)), keyboard shielding plate ([page 2 - 19](#)), the top case and LCD ([page 2 - 20](#)) and speakers ([page 2 - 25](#)).
2. Disconnect cables **1** & **2** (**Figure 19a**) and remove screws **3** & **4**.
3. Separate the mainboard **5**, rear bracket **6** and bottom case **7** (**Figure 19b**).

Figure 19

#### Mainboard Removal

- a. Disconnect the cables and remove the screws.
- b. Separate the mainboard, rear bracket and bottom case.

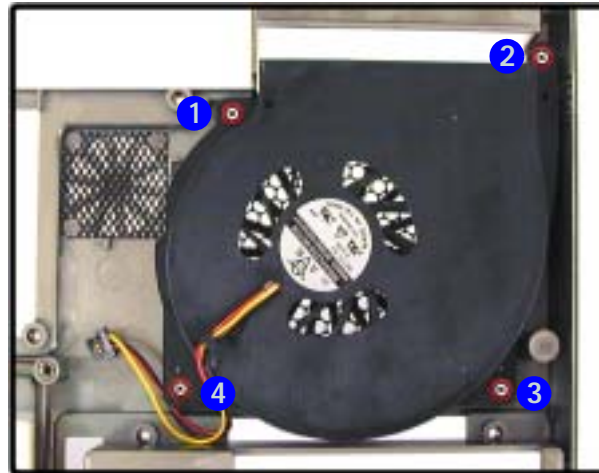


- 5. Mainboard
- 6. Rear Bracket
- 7. Bottom Case
- 2 Screws

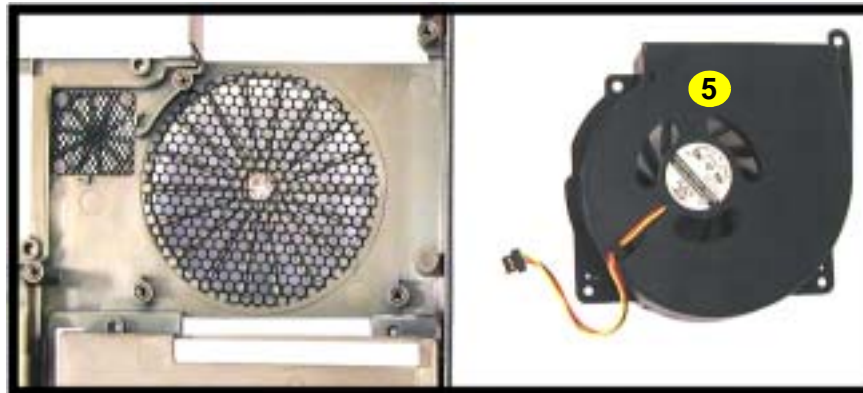
## Removing the Fan Unit

1. Turn **off** the computer, remove the battery ([page 2 - 8](#)), hard disk ([page 2 - 9](#)), RAM ([page 2 - 10](#)), CD Device ([page 2 - 12](#)), Bluetooth module ([page 2 - 14](#)), Wireless LAN module ([page 2 - 15](#)), CPU ([page 2 - 16](#)), keyboard ([page 2 - 18](#)), keyboard shielding plate ([page 2 - 19](#)), the top case and LCD ([page 2 - 20](#)), speakers ([page 2 - 25](#)) and main-board ([page 2 - 26](#)).
2. Remove screws **1** - **4** (**Figure 20a**) and lift out the fan unit **5** .

a.



b.



*Figure 20*  
**Fan Unit Removal**

- a. Remove the screws
- b. Lift out the fan unit.



5. Fan Unit

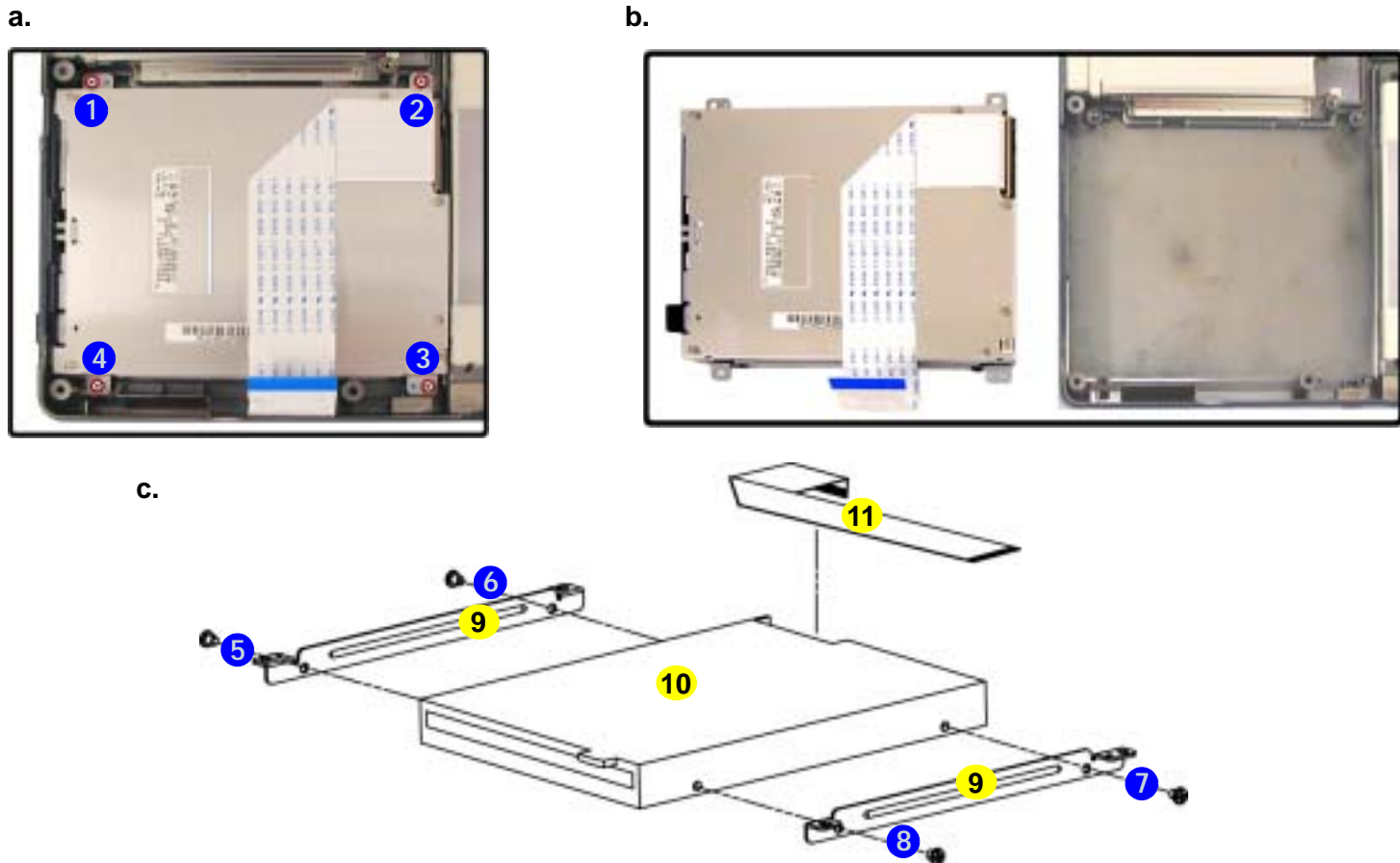
- 4 Screws

## Removing the Floppy Disk Drive Assembly

1. Turn **off** the computer, remove the battery ([page 2 - 8](#)), hard disk ([page 2 - 9](#)), RAM ([page 2 - 10](#)), CD Device ([page 2 - 12](#)), Bluetooth module ([page 2 - 14](#)), Wireless LAN module ([page 2 - 15](#)), CPU ([page 2 - 16](#)), keyboard ([page 2 - 18](#)), keyboard shielding plate ([page 2 - 19](#)), the top case and LCD ([page 2 - 20](#)), speakers ([page 2 - 25](#)) and main-board ([page 2 - 26](#)).
2. Remove screws **1** - **4** (**Figure 21a**) and lift out the floppy disk drive assembly.
3. Remove screws **5** - **8** (**Figure 21c**) and you can then separate the brackets **9** , floppy disk drive unit **10** , and cable **11** .

*Figure 21*  
**Floppy Disk Drive Assembly Removal**

- a. Remove the screws
- b. Lift out the FDD assembly
- c. Separate the brackets, FDD and cable.

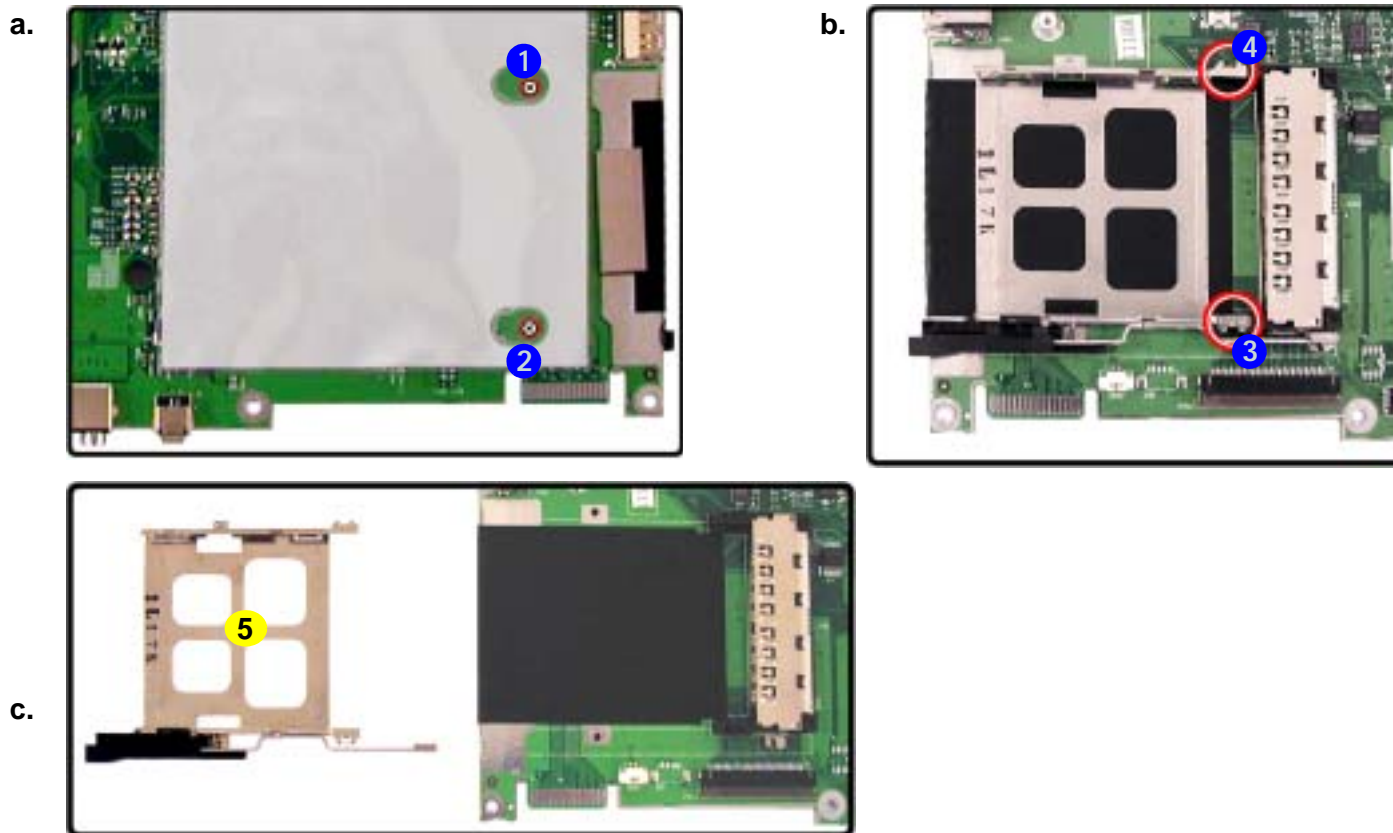


- 9. Brackets
- 10. Floppy Disk Drive
- 11. Cable
- 8 Screws



## Removing the PC Card Assembly

1. Turn **off** the computer, remove the battery ([page 2 - 8](#)), hard disk ([page 2 - 9](#)), RAM ([page 2 - 10](#)), CD Device ([page 2 - 12](#)), Bluetooth module ([page 2 - 14](#)), Wireless LAN module ([page 2 - 15](#)), CPU ([page 2 - 16](#)), keyboard ([page 2 - 18](#)), keyboard shielding plate ([page 2 - 19](#)), the top case and LCD ([page 2 - 20](#)), speakers ([page 2 - 25](#)) and mainboard ([page 2 - 26](#)).
2. Remove screws **1** & **2** (**Figure 22a**).
3. Carefully ease (use a small screwdriver) the metal pins which hold the PC Card assembly in place, at points **3** & **4** (**Figure 22b**) off the black plastic unit.
4. Lift off the PC Card assembly **5** (**Figure 22c**) off the mainboard.



*Figure 22*  
**PC Card Assembly Removal**

- a. Remove the screws.
- b. Separate the metal pins from the black plastic unit.
- c. Lift the PC Card assembly off the mainboard.

5. PC Card Assembly

- 2 Screws

## Removing the LCD Front Panel Module

1. Turn **off** the computer, remove the battery ([page 2 - 8](#)), hard disk ([page 2 - 9](#)), RAM ([page 2 - 10](#)), CD Device ([page 2 - 12](#)), Bluetooth module ([page 2 - 14](#)), Wireless LAN module ([page 2 - 15](#)), CPU ([page 2 - 16](#)), keyboard ([page 2 - 18](#)), keyboard shielding plate ([page 2 - 19](#)), and the top case and LCD ([page 2 - 20](#)).
2. Remove the rubber covers and screws at points **1** - **6** (**Figure 23a**).
3. Run your finger around the middle of the frame to carefully unsnap the LCD front panel module **7** (**Figure 23b**) from the back.

*Figure 23*  
**LCD Front Panel  
Module Removal**

- a. Remove the rubber covers and screws.
- b. Unsnap the LCD front panel from the back.

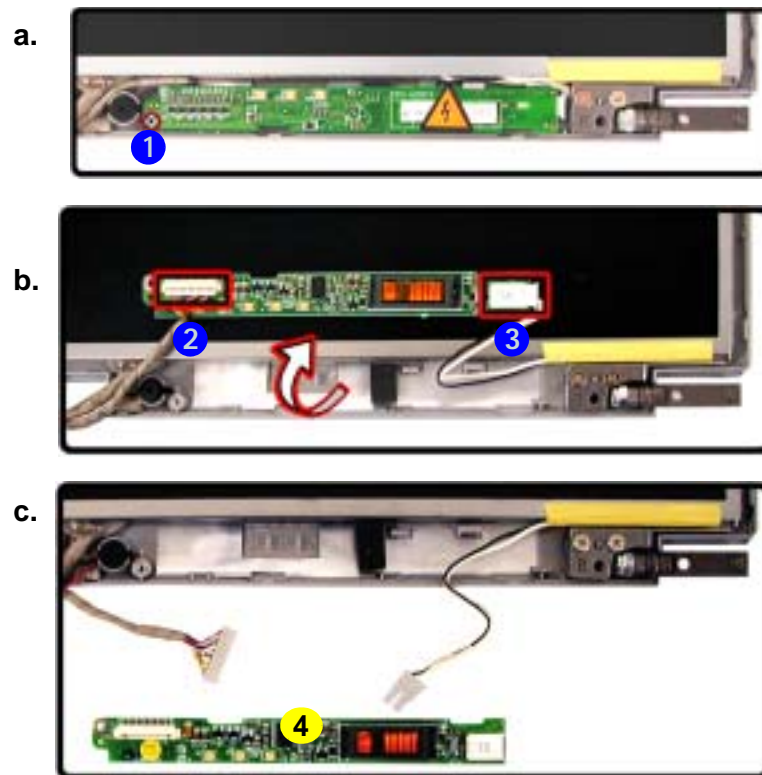


7. LCD Front Panel

- 6 Screws & Rubber Covers

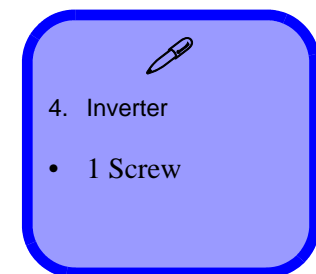
## Removing the Inverter

1. Turn **off** the computer, remove the battery ([page 2 - 8](#)), hard disk ([page 2 - 9](#)), RAM ([page 2 - 10](#)), CD Device ([page 2 - 12](#)), Bluetooth module ([page 2 - 14](#)), Wireless LAN module ([page 2 - 15](#)), CPU ([page 2 - 16](#)), keyboard ([page 2 - 18](#)), keyboard shielding plate ([page 2 - 19](#)), the top case and LCD ([page 2 - 20](#)) and LCD front panel ([page 2 - 30](#)).
2. Remove screw **1** (**Figure 24a**).
3. Turn the inverter over and disconnect the cables **2** & **3** (**Figure 24b**).
4. Lift the inverter **4** (**Figure 24c**) off the LCD assembly.



*Figure 24*  
**Inverter Removal**

- a. Remove the screw.
- b. Turn the inverter over and disconnect the cables.
- c. Lift the inverter off the LCD assembly.

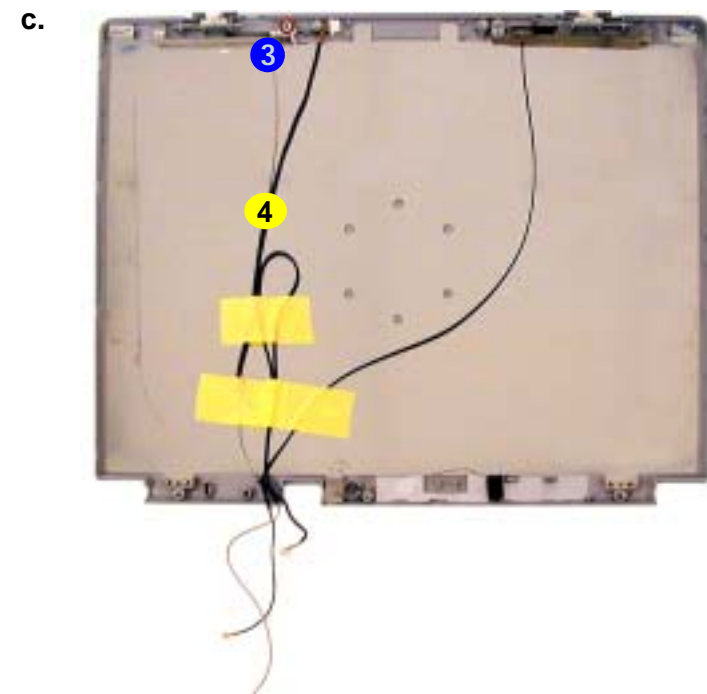
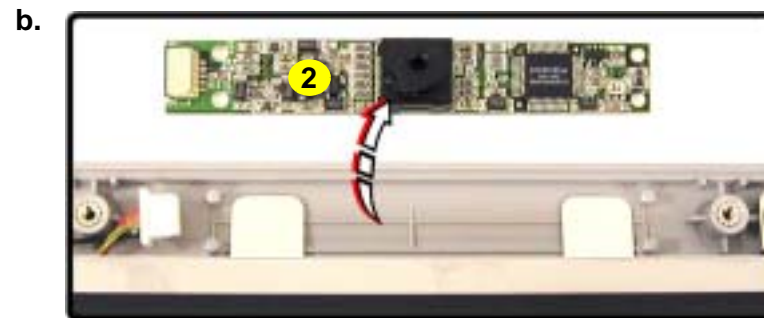
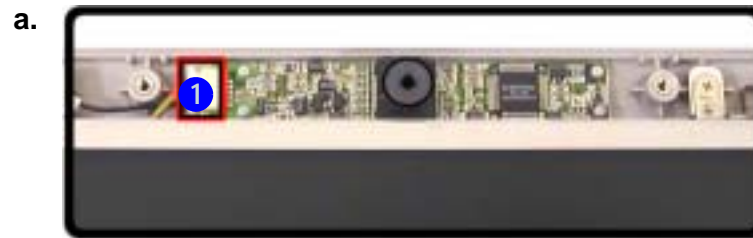


### Removing the PC Video Camera Module

1. Turn **off** the computer, remove the battery ([page 2 - 8](#)), hard disk ([page 2 - 9](#)), RAM ([page 2 - 10](#)), CD Device ([page 2 - 12](#)), Bluetooth module ([page 2 - 14](#)), Wireless LAN module ([page 2 - 15](#)), CPU ([page 2 - 16](#)), keyboard ([page 2 - 18](#)), keyboard shielding plate ([page 2 - 19](#)), the top case and LCD ([page 2 - 20](#)) and LCD front panel ([page 2 - 30](#)).
2. Disconnect cable **1** (**Figure 25a**).
3. Lift the PC camera module **2** (**Figure 25b**) off the LCD assembly.
4. If you need to remove the antenna cable, first remove the LCD module ([page 2 - 33](#)), then remove screw **3** and the antenna cable **4** (**Figure 25c**).

*Figure 25*  
**PC Camera Module Removal**

- a. Disconnect the cable.
- b. Lift the PC Camera off the LCD assembly.
- c. If you need to remove the antenna first remove the LCD module then the screw, and the antenna cable.



- 2. PC Camera
- 4. Antenna Cable

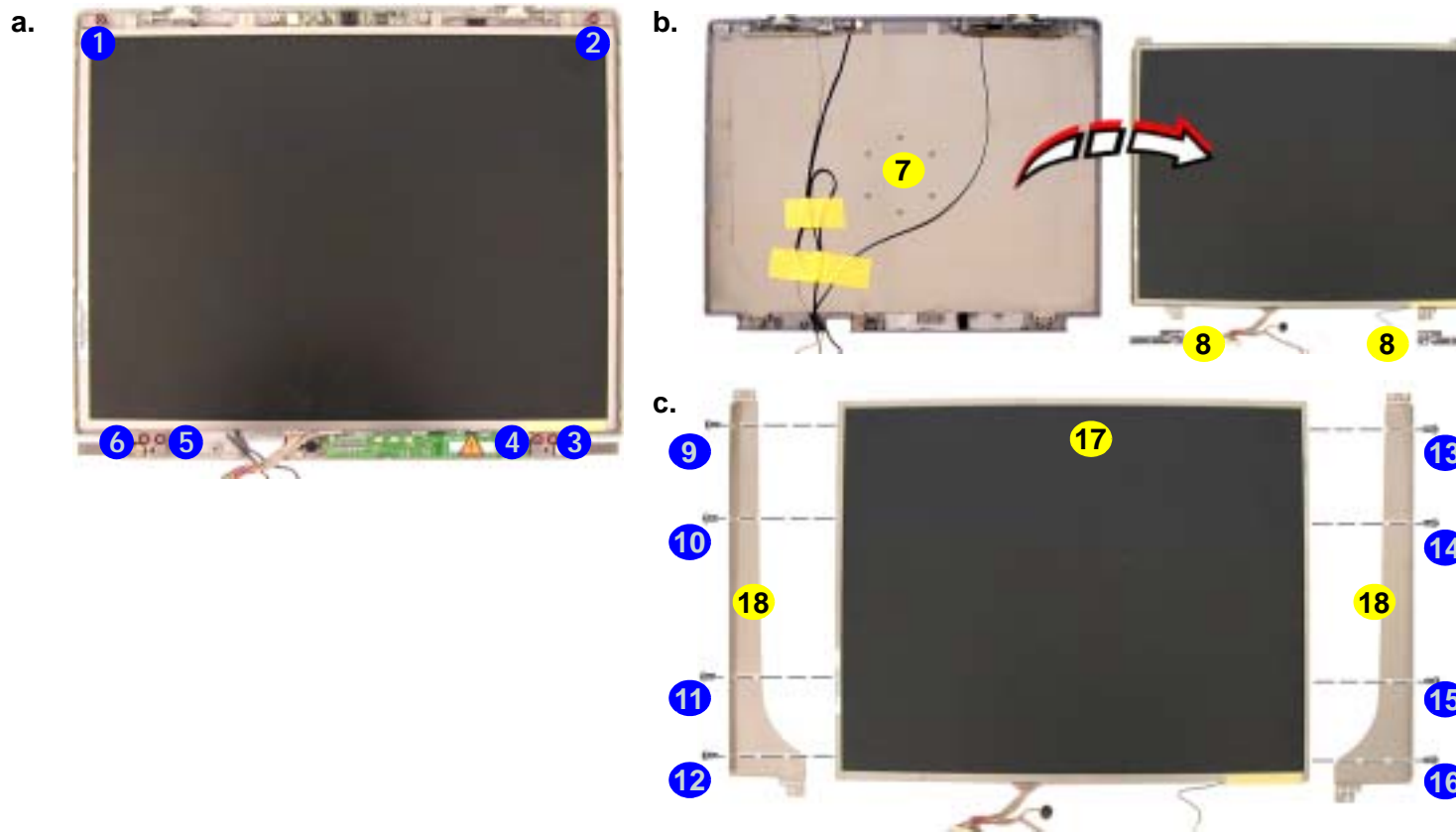
- 1 Screw


## Removing the LCD Module

1. Turn **off** the computer, remove the battery ([page 2 - 8](#)), hard disk ([page 2 - 9](#)), RAM ([page 2 - 10](#)), CD Device ([page 2 - 12](#)), Bluetooth module ([page 2 - 14](#)), Wireless LAN module ([page 2 - 15](#)), CPU ([page 2 - 16](#)), keyboard ([page 2 - 18](#)), keyboard shielding plate ([page 2 - 19](#)), the top case and LCD ([page 2 - 20](#)), LCD front panel ([page 2 - 30](#)) and inverter ([page 2 - 31](#)).
2. Remove screws **1** - **6** (**Figure 26a**).
3. Separate the display back panel **7** (**Figure 26b**), hinges **8** and LCD module assembly.
4. Remove screws **9** - **16** (**Figure 26c**) and separate the LCD module **17** and brackets **18**.

*Figure 26*  
**LCD Module Removal**

- a. Remove the screws.
- b. Separate the back panel, hinges and LCD module assembly.
- c. Remove the screws and separate the brackets and LCD module.



  
 7. Back Panel  
 8. Hinges  
 17. LCD module  
 18. Brackets  
 • 14 Screws



# Appendix A:Part Lists

This appendix breaks down the *D400S/D410S* series 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

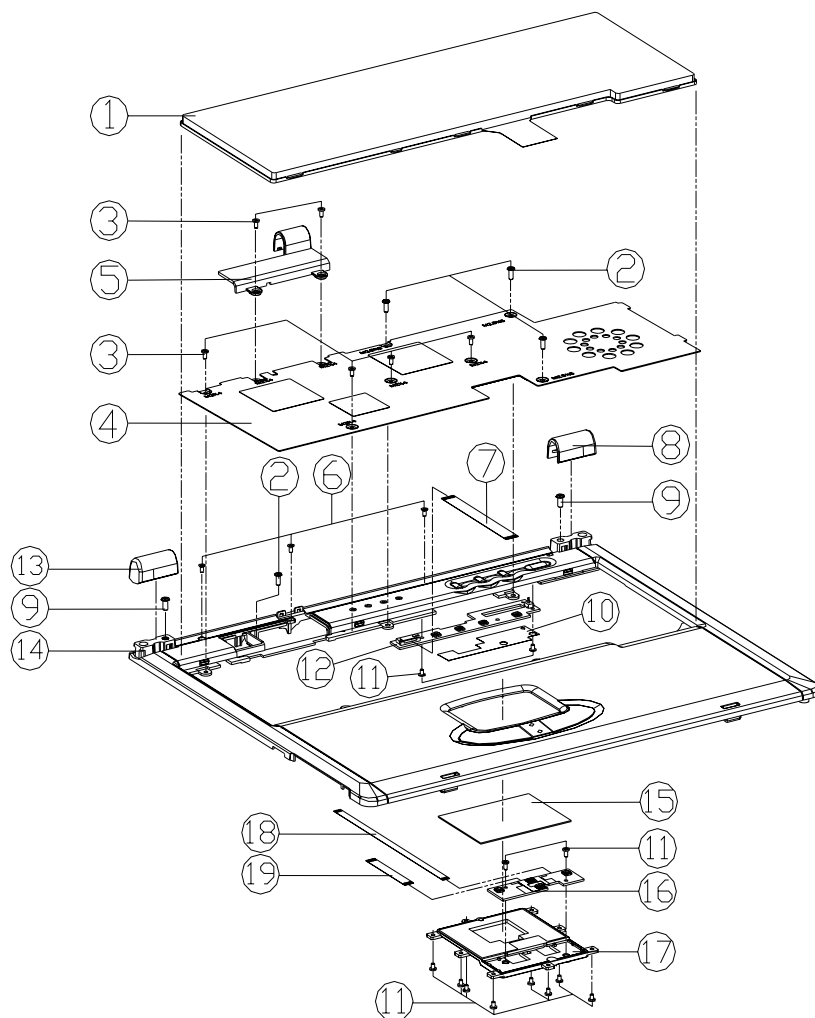
The following table indicates where to find the appropriate part list illustration.

*Table 1 - 1*  
Part List Illustration  
Location

| Part              | 400S               | 410S               |
|-------------------|--------------------|--------------------|
| Top               | <i>page A - 3</i>  | <i>page A - 13</i> |
| Bottom            | <i>page A - 4</i>  | <i>page A - 14</i> |
| LCD 14"           | <i>page A - 5</i>  | <i>page A - 15</i> |
| LCD 15"           | <i>page A - 6</i>  | <i>page A - 16</i> |
| CD-ROM Drive      | <i>page A - 7</i>  | <i>page A - 17</i> |
| CD-RW Drive       | <i>page A - 8</i>  | <i>page A - 18</i> |
| Combo Drive       | <i>page A - 9</i>  | <i>page A - 19</i> |
| DVD-ROM Drive     | <i>page A - 10</i> | <i>page A - 20</i> |
| Floppy Disk Drive | <i>page A - 11</i> | <i>page A - 21</i> |
| Hard Disk Drive   | <i>page A - 12</i> | <i>page A - 22</i> |



# Top (400S)



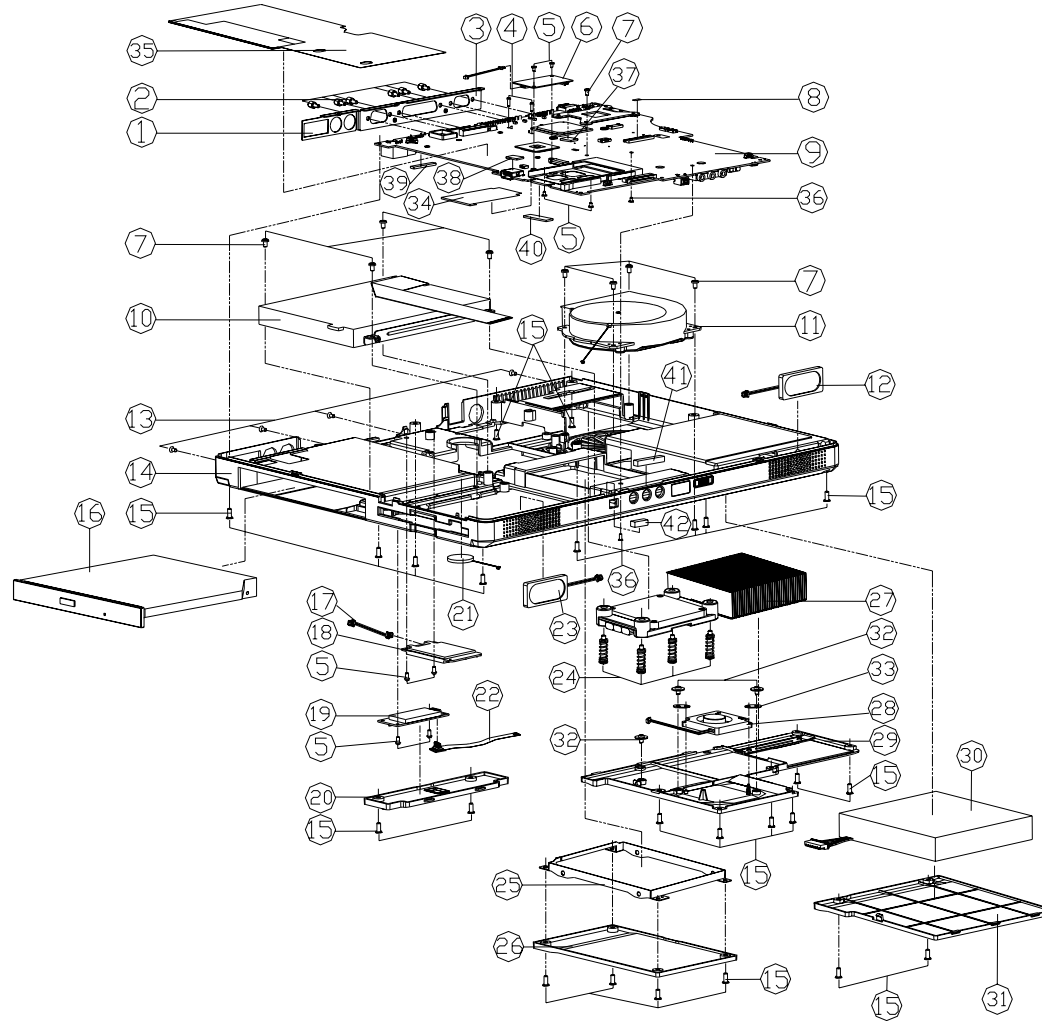
| ITEM | PART NAME                                   | PART NO      | REMARK |
|------|---|--------------|--------|
| 1    | KEYBOARD                                    | 80-88808-7G0 |        |
| 2    | SCREW M2.5*SL K1 BNI ICT NY                 | 35-B9125-5R0 |        |
| 3    | SCREW M2*4L I BZ ICT NY                     | 35-C6120-4RA |        |
| 4    | KB SHIELDING                                | 33-D4007-011 |        |
| 5    | CONNECTOR COVER                             | 42-D4008-011 |        |
| 6    | SCREW M2*4L F NI ICT NY                     | 35-21120-4RA |        |
| 7    | FTC CABLE FOR MAIN BD TO POWER SWITCH BOARD | 43-D4000-020 |        |
| 8    | HINGE COVER(R)                              | 42-D400Y-012 |        |
| 9    | SCREW M3*6L K1 NI ICT NY                    | 35-B1130-6RA |        |
| 10   | MYLAR FOR FUNCTION BOARD                    | 40-D400S-010 |        |
| 11   | SCREW M2*3L K1 NI ICT NY                    | 35-B1120-3RB |        |
| 12   | SWITCH BOARD                                | 77-D400S-D0X |        |
| 13   | HINGE COVER (L)                             | 42-D400Y-022 |        |
| 14   | TOP CASE MODULE D400S                       | 39-D4002-013 |        |
| 15   | TOUCHPAD ALPS KKG00F1956A M190S             | 49-M1902-010 |        |
| 16   | CLICK BOARD                                 | 77-D4002-D0X |        |
| 17   | G/P HOLDER                                  | 42-D4002-020 |        |
| 18   | FTC CABLE FOR MAIN BD TO CLICK BD (26MM)    | 43-D4000-030 |        |
| 19   | FTC CABLE FOR CLICK TO TOUCH PAD (35MM)     | 43-D4000-040 |        |

Figure 1  
Top (400S)

A.Part Lists

# Bottom (400S)

Figure 2  
Bottom (400S)



| ITEM | PART NAME                                     | PART NO        | REMARK                             |
|------|---|----------------|------------------------------------|
| 1    | I/O BRACKET                                   | 33-D400S-010   |                                    |
| 2    | HEX STUD(SUM22 NI-PL) 1MM                     | 34-07009-011-A |                                    |
| 3    | CABLE FOR MDC179M/JAE F1-SESACES 0506         | 43-D400J-011   |                                    |
| 4    | SCREW M2*6L P BZ ICT NY                       | 35-06120-6RA   |                                    |
| 5    | SCREW M2*3L KI NI ICT NY                      | 35-B1120-3RA   |                                    |
| 6    | MDC MODEM+TEL CABLE MODULE                    | 76-32200-100   |                                    |
| 7    | SCREW M2.5*5L KI BNI ICT NY                   | 35-B9125-5R0   |                                    |
| 8    | MYLAR(M25D) FOR BSV LCD(SAMSUNG)              | 40-00150-150   |                                    |
| 9    | MAIN BOARD                                    | 77-D4000-D0X   |                                    |
| 10   | FDD ASS'Y(OPTION)                             | 79-D400J-010   | Reference Assy. Inp (99-D400S-360) |
| 11   | D400S FAN MODULE                              | 31-D400S-101   |                                    |
| 12   | SPEAKER 85mm IW 8 FYH-35N16B RIGHT            | 23-32510-801   |                                    |
| 13   | SCREW M2*4L F NI ICT NY                       | 35-21120-4RA   |                                    |
| 14   | BOTTOM CASE MODULE                            | 39-D4003-012   |                                    |
| 15   | SCREW M2.5*6L K BZ ICT                        | 35-82125-6R0   |                                    |
| 16   | CD-ROM OS(SICR-242) ASS'Y D400S               | 79-D400Z-000   | Reference Assy. Inp (99-D400S-370) |
| 16   | DVD-ROM OS(SICR-082) ASS'Y D400S              | 79-D400V-000   | Reference Assy. Inp (99-D400S-380) |
| 16   | CD-RW TRACKCD-V22E-AB2 ASS'Y D400S            | 79-D400W-000   | Reference Assy. Inp (99-D400S-390) |
| 16   | COMBO OS(SICR-161) ASS'Y D400S                | 79-D400X-000   | Reference Assy. Inp (99-D400S-100) |
| 17   | WIRE CABLE FOR MAIN BD TO WLAN USB BD         | 43-D4000-070   |                                    |
| 18   | WLAN 802.11 b USB INTERFACE USB-300           | 88-D4020-380   |                                    |
| 19   | BLUETOOTH MODULE V11 USB INTERFACE(USD)       | 88-18250-370   |                                    |
| 20   | BLUETOOTH COVER MODULE                        | 42-D400B-101   |                                    |
| 21   | BAT 20M 2V 230MH V/CABLE 50M (2002/0730P)     | 23-22015-P2B   |                                    |
| 22   | PC CABLE FOR MAIN BD TO BLUETOOTH BD          | 43-D4000-011   |                                    |
| 23   | SPEAKER 25mm IW 8 FYH-35N16B LEFT             | 23-32510-801   |                                    |
| 24   | SCREW M2.5*4.5P155 H1-35 L155 S125            | 35-49025-155   |                                    |
| 25   | HDD BRACKET                                   | 33-D4001-010   |                                    |
| 26   | HDD COVER                                     | 42-D4001-011   |                                    |
| 27   | D400S HEAT SINK MODULE                        | 31-D400N-100   |                                    |
| 28   | FAN 35*35*6T                                  | 23-A3510-461   |                                    |
| 29   | CPU COVER MODULE                              | 42-D400S-101   |                                    |
| 30   | Smart batt. 452P 14.8V 4400MAH(SMP)           | 87-D408S-4D5   |                                    |
| 30   | Smart batt. 452P 14.8V 4400MAH(G/LD)          | 87-D408S-4E5   |                                    |
| 31   | BATTERY COVER MODULE                          | 42-D400M-101   |                                    |
| 32   | SCREW M2.5*2.5L B NI ICT V/WAS NY             | 35-41025-2R5   |                                    |
| 33   | FAN BRACKET                                   | 33-D400S-060   |                                    |
| 34   | PCMCIA MYLAR MYLAR 320                        | 40-32004-000   |                                    |
| 35   | EMI SHIELDING FOR M/B                         | 47-D400S-020   |                                    |
| 36   | SCREW M2*4L I BZ ICT NY                       | 35-C6120-4RA   |                                    |
| 37   | GASKET FOR USB(W10mm H2mm L17mm)              | 47-00190-174   |                                    |
| 38   | GASKET FOR USB CONNECTOR(W10mm H2mm L19mm)    | 47-00190-157   |                                    |
| 39   | GASKET FOR PS2 AND S-VIDEO(W5mm H3mm L19mm)   | 47-00190-353   |                                    |
| 40   | GASKET FOR LEFT SIDE OF M/B(W10mm H3mm L19mm) | 47-00190-308   |                                    |
| 41   | GASKET FOR AUDIO(W10mm H6.5mm L19mm)          | 47-00190-354   |                                    |
| 42   | GASKET FOR 1394(W5mm H5.5mm L13mm)            | 47-00190-133   |                                    |

# LCD 14" (400S)

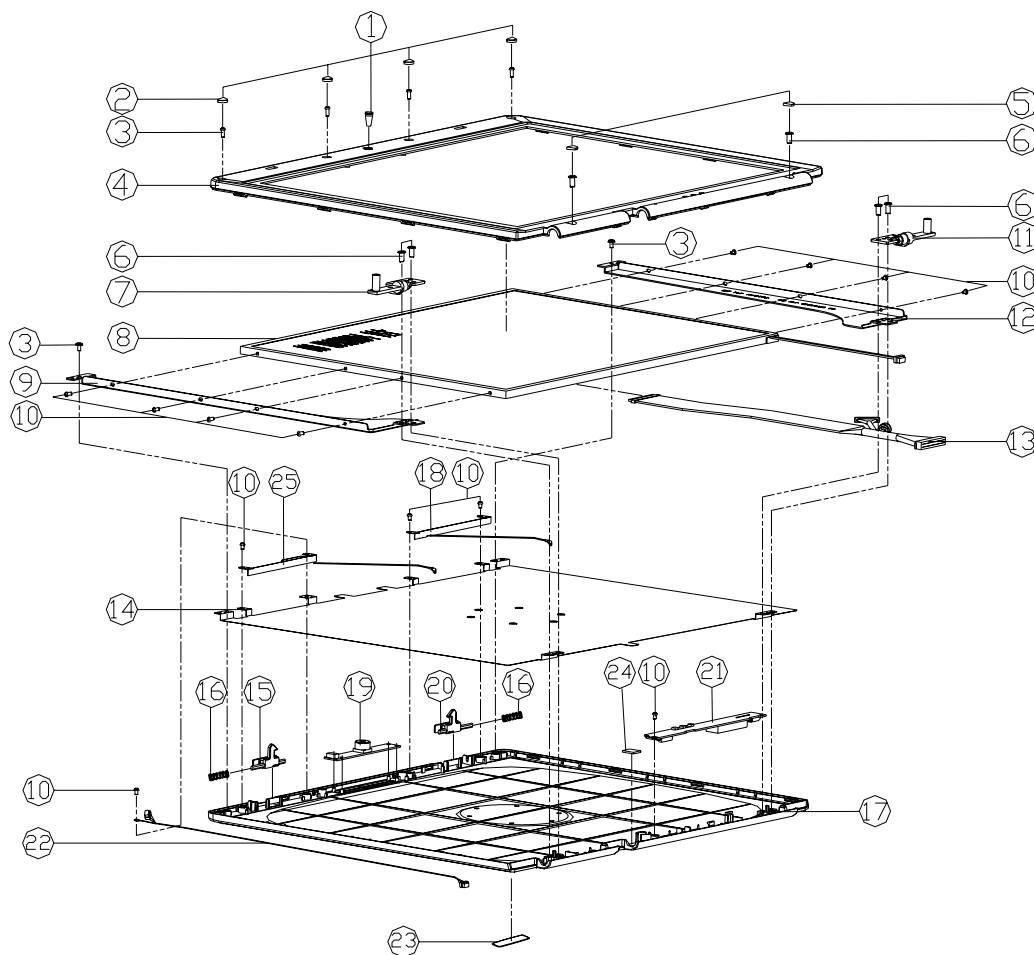


Figure 3  
LCD 14" (400S)

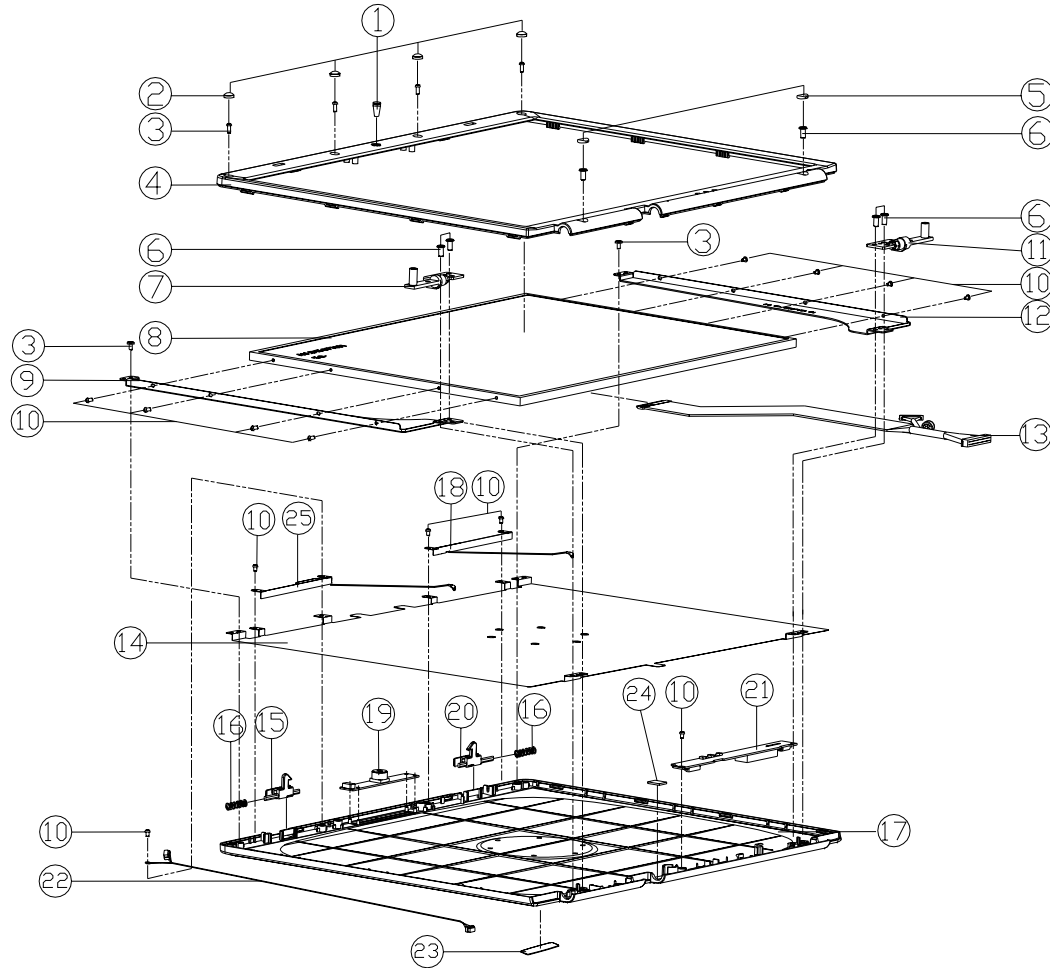
| ITEM | PART NAME                                | PART NO        | REMARK |
|------|--|----------------|--------|
| 1    | RUBBER FOR VIDEO CAMERA                  | 47-D400P-010   |        |
| 2    | RUBBER FOR LCD (TOP)                     | 47-56P32-010   |        |
| 3    | SCREW M2*4L I BZ ICT                     | 35-C6120-4R0   |        |
| 4    | DISPLAY FRONT PANEL 14.1" MODULE         | 39-D4001-100   |        |
| 5    | DISPLAY RUBBER PAD (DOWN)                | 47-D4001-020   |        |
| 6    | SCREW M3*6L K1 NI ICT NY                 | 35-B1130-6RA   |        |
| 7    | HINGE (L)                                | 33-D400Y-020   |        |
| 8    | LCD T AU B141XN04 V.1 14.1" XGA          | 50-J2287-G04   |        |
| 8    | LCD T IBM ITX77-E53-029 14.1" XGA        | 50-J2287-E01   |        |
| 9    | LCD BRACKET (L) FOR AU 14.1" LCD         | 33-D4001-120   |        |
| 9    | LCD BRACKET (L) FOR 14.1" LCD            | 33-D4001-020   |        |
| 10   | SCREW M2*3L K1 NI ICT NY                 | 35-B1120-3RB   |        |
| 11   | HINGE (R)                                | 33-D400Y-010   |        |
| 12   | LCD BRACKET (R) FOR AU 14.1" LCD         | 33-D4001-110   |        |
| 12   | LCD BRACKET (R) FOR 14.1" LCD            | 33-D4001-010   |        |
| 13   | WIRE CABLE FOR 14" LCD XGA AU            | 43-D4001-021   |        |
| 14   | LCD SHIELDING                            | 33-D4001-050   |        |
| 15   | LCD HOOK(L)                              | 42-D4001-020   |        |
| 16   | SPRING FOR HOOK(φ3.7*15*0.3φ)            | 38-21P30-011   |        |
| 17   | DISPLAY BACK PANEL MODULE D400S          | 39-D4001-200   |        |
| 17   | DISPLAY BACK PANEL MODULE M400S          | 39-M4001-200   |        |
| 18   | WIRELESS ANTENNA PIFA 2.4G L=430mm D400S | 23-742R4-004   |        |
| 19   | VIDEO CAMERA CMOS130, 300K Pixels Resolu | 88-D40C0-410   | OPTION |
| 20   | LCD HOOK(R)                              | 42-D4001-010   |        |
| 21   | INVERTER BOARD                           | 77-4200R-D02-1 |        |
| 22   | WIRE CABLE MAIN BD TO CCD MODULE         | 43-D4000-060   | OPTION |
| 23   | NAME PLATE "NOTEBOOK"                    | 45-42001-010   |        |
| 24   | GASKET FOR Y CABLE(φ10mm H20mm L150mm)   | 47-00190-158   |        |
| 25   | ANTENNA BLUETOOTH PIFA 2.4G L=540mm      | 23-742R4-005   |        |

A.Part Lists

Part Lists

LCD 15" (400S)

Figure 4  
LCD 15" (400S)



| ITEM | PART NAME                                | PART NO        | REMARK |
|------|--|----------------|--------|
| 1    | RUBBER FOR VIDEO CAMERA                  | 47-D400P-010   |        |
| 2    | RUBBER FOR LCD (TOP)                     | 47-56P32-010   |        |
| 3    | SCREW M2*4L I BZ ICT                     | 35-C6120-4R0   |        |
| 4    | DISPLAY FRONT PANEL 15" MODULE           | 39-D4001-110   |        |
| 5    | DISPLAY RUBBER PAD (DOWN)                | 47-D4001-020   |        |
| 6    | SCREW M3*6L KI NI ICT NY                 | 35-B1130-6RA   |        |
| 7    | HINGE (L)                                | 33-D400Y-020   |        |
| 8    | LCD 15.0" TFT AU B150P01 1400*1050 SXGA+ | 50-L5259-U10   |        |
| 8    | LCD 15.0" IBM TFT 0EM95C-02 SXGA+ 41mm   | 50-L3241-E00   |        |
| 9    | LCD BRACKET (L) FOR AU 15.1" LCD         | 33-D4001-140   |        |
| 9    | LCD BRACKET (L) FOR IBM 15.1" LCD        | 33-D4001-240   |        |
| 10   | SCREW M2*3L KI NI ICT NY                 | 35-B1120-3RB   |        |
| 11   | HINGE (R)                                | 33-D400Y-010   |        |
| 12   | LCD BRACKET (R) FOR AU 15.1" LCD         | 33-D4001-130   |        |
| 12   | LCD BRACKET (R) FOR IBM 15.1" LCD        | 33-D4001-230   |        |
| 13   | WIRE CABLE FOR 15" LCD SXGA+ AU          | 43-D4001-121   |        |
| 13   | WIRE CABLE FOR 15" LCD SXGA+ IDT         | 43-D4001-111   |        |
| 14   | LCD SHIELDING                            | 33-D4001-050   |        |
| 15   | LCD HOOK(L)                              | 42-D4001-020   |        |
| 16   | SPRING FOR HOOK(φ3.7*15*0.3d)            | 38-21P30-011   |        |
| 17   | DISPLAY BACK PANEL MODULE D400S          | 39-D4001-200   |        |
| 17   | DISPLAY BACK PANEL MODULE M400S          | 39-M4001-200   |        |
| 18   | WIRELESS ANTENNA PIFA 24G L=430mm M400S  | 23-742R4-004   |        |
| 19   | VIDEO CAMERA CM3130, 300K Pixels Resolu  | 88-D400C-410   | OPTION |
| 20   | LCD HOOK(R)                              | 42-D4001-010   |        |
| 21   | INVERTER BOARD                           | 77-4200R-D02-1 |        |
| 22   | WIRE CABLE MAIN BD TO CCD MODULE         | 43-D4000-060   | OPTION |
| 23   | NAME PLATE "NOTEBOOK"                    | 45-42001-010   |        |
| 24   | GASKET FOR Y CABLE(φ10mm H2mm L115mm)    | 47-00190-158   |        |
| 25   | ANTENNA BLUETOOTH PIFA 24G L=540mm       | 23-742R4-005   |        |

# CD-ROM Drive (400S)

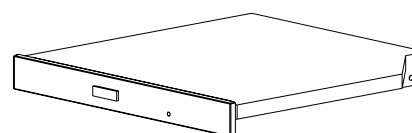
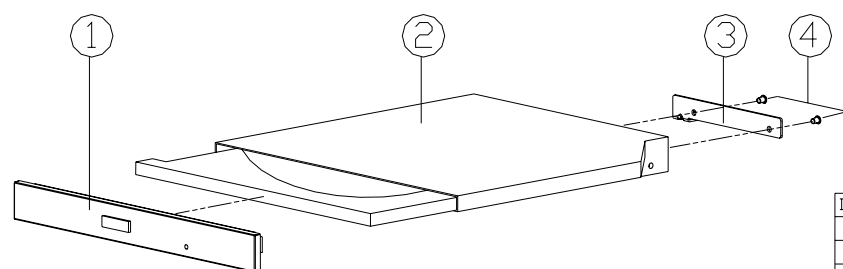
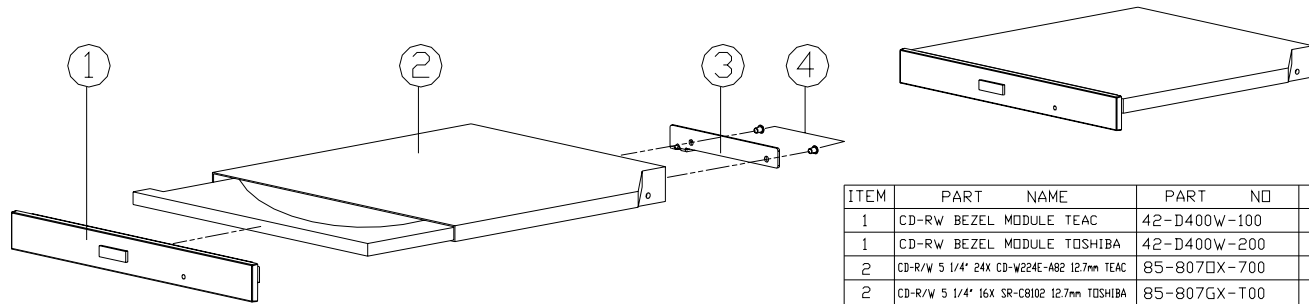


Figure 5  
CD-ROM Drive  
(400S)

| ITEM | PART NAME                                 | PART NO      | REMARK |
|------|---|--------------|--------|
| 1    | CD-ROM BEZEL MODULE QSI                   | 42-D400Z-100 |        |
| 1    | CD-ROM BEZEL MODULE TEAC                  | 42-D400Z-300 |        |
| 2    | CD-ROM 5 1/4" 24X CAB SLIM QSI(SCR-242)   | 85-607□X-C00 |        |
| 2    | CD-ROM 5 1/4" 24X CD-224E-C20 12.7mm TEAC | 85-607□X-709 |        |
| 3    | CDROM LOCK BRACKET                        | 33-D400Z-010 |        |
| 4    | SCREW M2*3L K1 NI ICT NY                  | 35-B1120-3RB |        |

## CD-RW Drive (400S)

Figure 6  
CD-RW Drive  
(400S)



| ITEM | PART NAME                                  | PART NO      | REMARK |
|------|--|--------------|--------|
| 1    | CD-RW BEZEL MODULE TEAC                    | 42-D400W-100 |        |
| 1    | CD-RW BEZEL MODULE TOSHIBA                 | 42-D400W-200 |        |
| 2    | CD-R/W 5 1/4" 24X CD-W224E-A82 12.7mm TEAC | 85-807DX-700 |        |
| 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 |        |

# Combo Drive (400S)

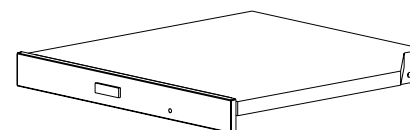
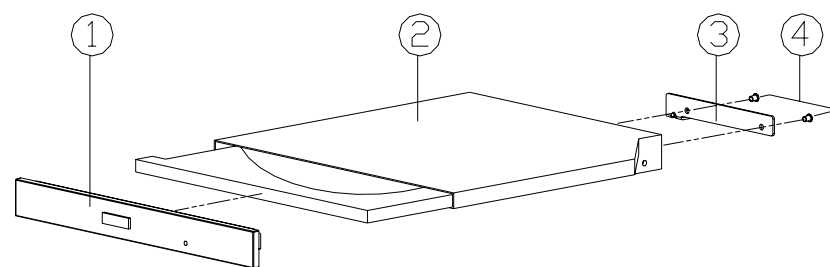
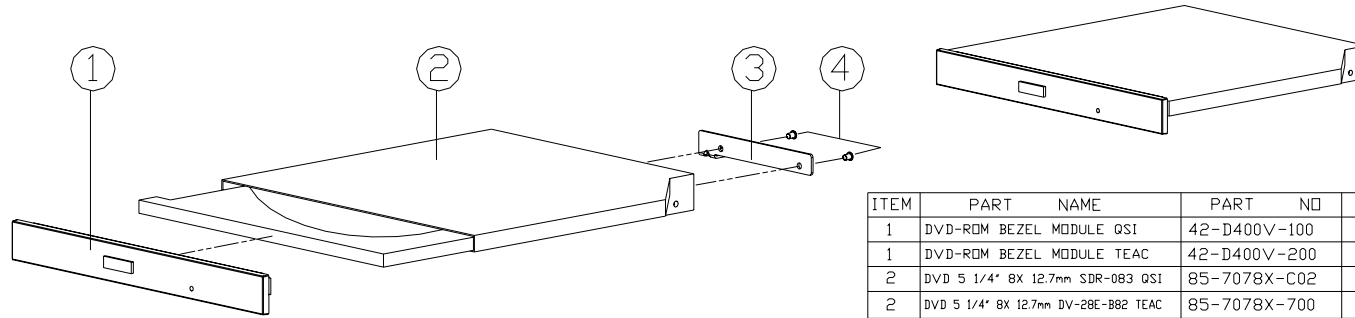


Figure 7  
Combo Drive  
(400S)

| ITEM | PART NAME                                  | PART NO      | REMARK |
|------|--|--------------|--------|
| 1    | COMBO BEZEL MODULE QSI D400S               | 42-D400X-100 |        |
| 1    | COMBO BEZEL MODULE SAMSUNG                 | 42-D400X-200 |        |
| 2    | CD-RW/DVD 5 1/4" 24X 12.7mm SBW-241 QSI    | 85-907□X-C00 |        |
| 2    | CD-RW/DVD 5 1/4" 24X 12.7mm SN-324 SAMSUNG | 85-907□X-S00 |        |
| 3    | CDROM LOCK BRACKET                         | 33-D400Z-010 |        |
| 4    | SCREW M2*3L K1 NI ICT NY                   | 35-B1120-3RB |        |

## DVD-ROM Drive (400S)

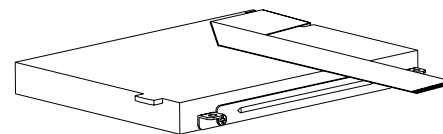
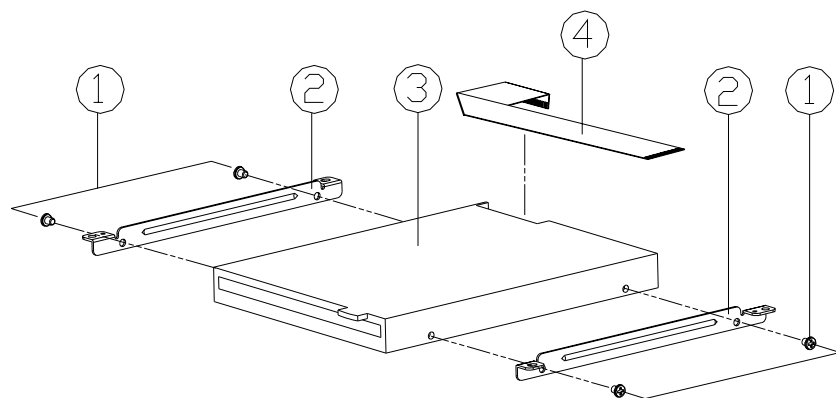
Figure 8  
DVD-ROM Drive  
(400S)



| ITEM | PART NAME                            | PART NO      | REMARK |
|------|--------------------------------------|--------------|--------|
| 1    | DVD-ROM BEZEL MODULE QSI             | 42-D400V-100 |        |
| 1    | DVD-ROM BEZEL MODULE TEAC            | 42-D400V-200 |        |
| 2    | DVD 5 1/4" 8X 12.7mm SDR-083 QSI     | 85-7078X-C02 |        |
| 2    | DVD 5 1/4" 8X 12.7mm DV-28E-BB2 TEAC | 85-7078X-700 |        |
| 3    | CDROM LOCK BRACKET                   | 33-D400Z-010 |        |
| 4    | SCREW M2*3L KI NI ICT NY             | 35-B1120-3RB |        |



# Floppy Disk Drive (400S)

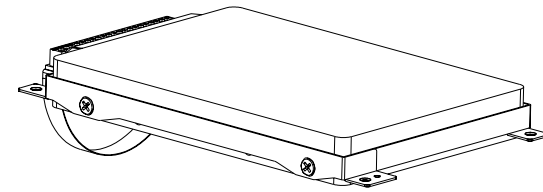
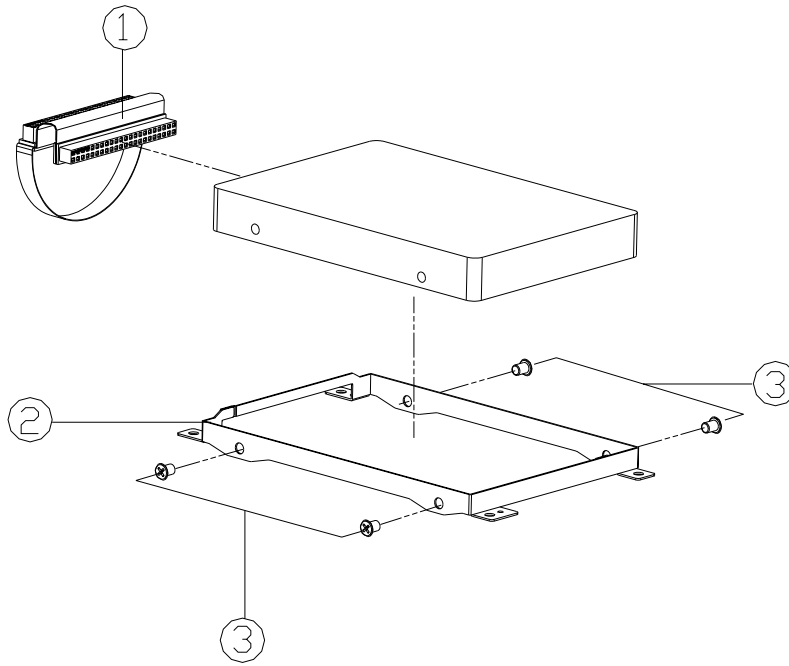


| ITEM | PART NAME                              | PART NO         | REMARK |
|------|--|-----------------|--------|
| 1    | SCREW M2.5*3L KI BK/D.NY               | 35-B4125-3RA    |        |
| 2    | FDD BRACKET                            | 33-D400J-010    |        |
| 3    | FDD 3.5" 1.44MB 12.7mm (YD-702J-6637J) | 85-11700-Y01-01 |        |
| 4    | FFC CABLE FOR MAIN BD TO FDD 180MM     | 43-D4000-050    |        |

Figure 9  
Floppy Disk Drive  
(400S)

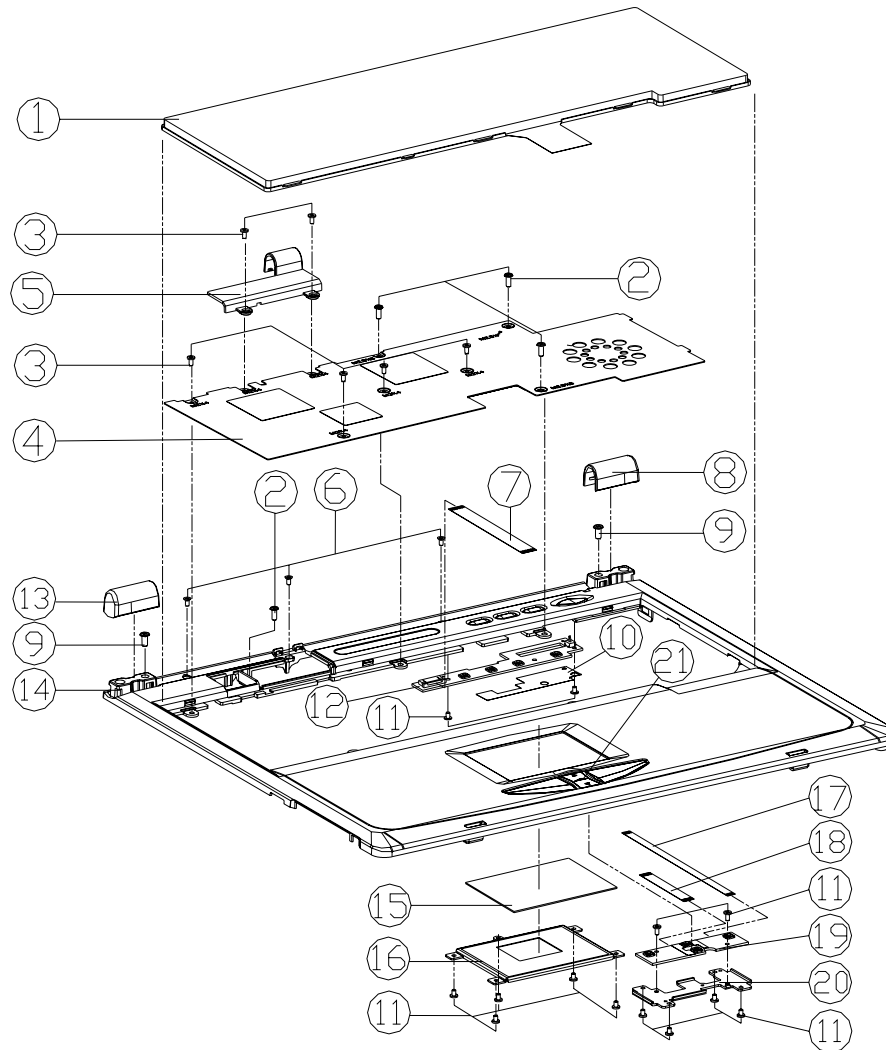
## Hard Disk Drive (400S)

Figure 10  
HDD Drive (400S)



| ITEM | PART NAME                              | PART NO       | REMARK |
|------|--|---------------|--------|
| 1    | FPC CABLE FOR HD TO MAIN BD, 30MM,8880 | 43-88800-010  |        |
| 2    | HDD BRACKET                            | 77-22004-D03A |        |
| 3    | SCREW M3*4L KI BZ ICT NY               | 35-B6130-4RB  |        |

# Top (410S)



| ITEM | PART NAME                                   | PART NO      | REMARK |
|------|---|--------------|--------|
| 1    | KEYBOARD                                    | 80-88808-7G0 |        |
| 2    | SCREW M2.5*5L KI BNI ICT NY                 | 35-B9125-5R0 |        |
| 3    | SCREW M2*4L I BZ ICT NY                     | 35-C6120-4RA |        |
| 4    | KB SHIELDING                                | 33-D4007-011 |        |
| 5    | CONNECTOR COVER FOR D410S                   | 42-D4108-011 |        |
| 6    | SCREW M2*4L F NI ICT NY                     | 35-21120-4RA |        |
| 7    | FFC CABLE FOR MAIN BO TO POWER SWITCH BOARD | 43-D4000-020 |        |
| 8    | HINGE COVER(R)                              | 42-D400Y-012 |        |
| 9    | SCREW M3*5L KI NI ICT NY                    | 35-B1130-5RA |        |
| 10   | MYLAR FOR FUNCTION BOARD                    | 40-D400S-011 |        |
| 11   | SCREW M2*3L KI NI ICT NY                    | 35-B1120-3RB |        |
| 12   | SWITCH BOARD                                | 77-D400S-DOX |        |
| 13   | HINGE COVER (L)                             | 42-D400Y-022 |        |
| 14   | TOP CASE MODULE D410S                       | 39-D4102-011 |        |
| 15   | TOUCHPAD ALPS KKGDDT956A M190S              | 49-M1902-010 |        |
| 16   | TOUCH PAD BRACKET                           | 33-D4102-011 |        |
| 17   | FFC CABLE FOR MAIN BO TO CLICK 80 126MM     | 43-D4000-030 |        |
| 18   | FFC CABLE FOR CLICK TO TOUCH PAD 43MM       | 43-D4000-040 |        |
| 19   | CLICK BOARD                                 | 77-D4002-DOX |        |
| 20   | CLICK PCB BRACKET                           | 33-D410S-010 |        |
| 21   | SCROLL KNOB                                 | 42-D4102-021 |        |

Figure 11  
Top (410S)

# Bottom (410S)

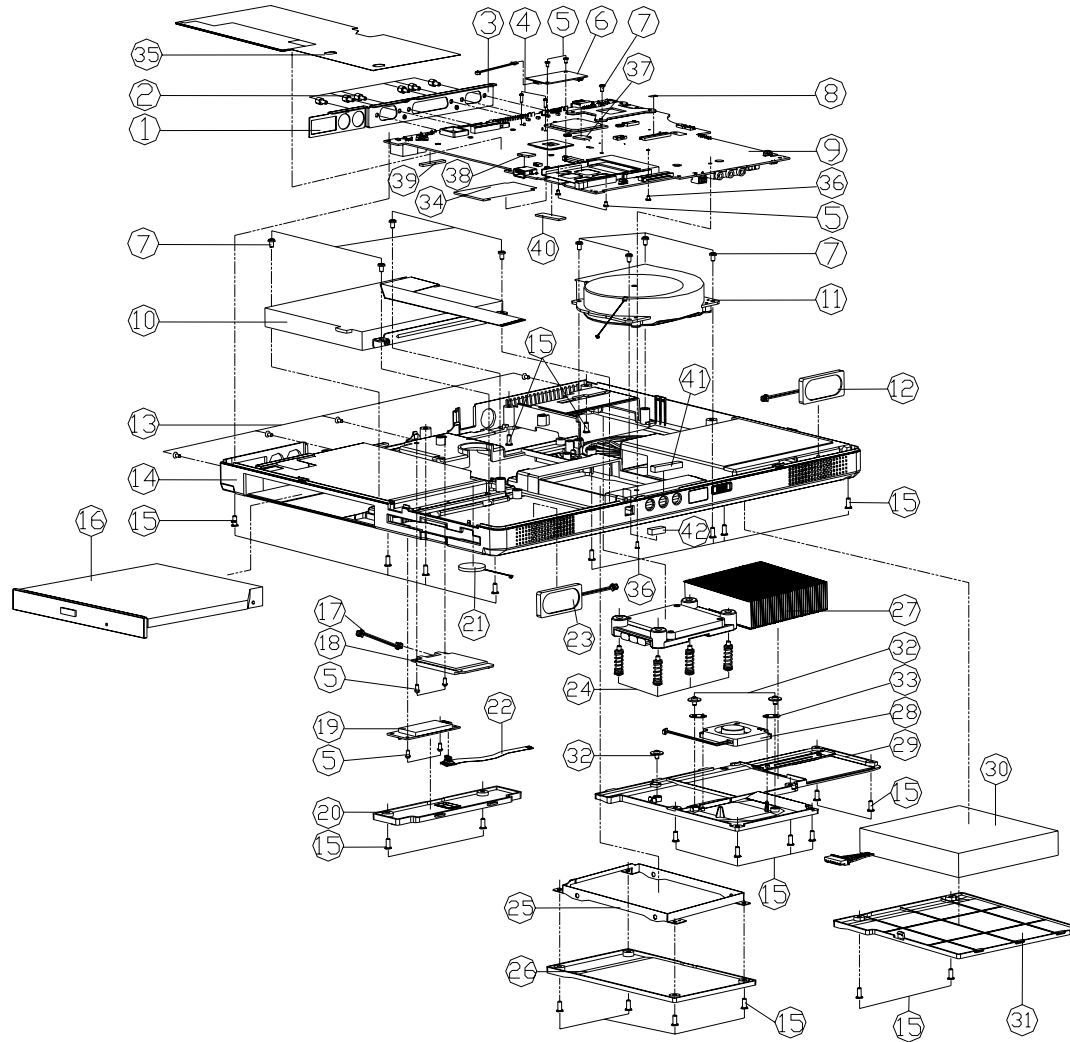


Figure 12  
Bottom (410S)

| ITEM | PART NAME  | PART NO        | REMARK                            |
|------|--|----------------|-----------------------------------|
| 1    | I/O BRACKET                                      | 33-D400S-010   |                                   |
| 2    | HEX STUD(SUM22 NI-PL) 11MM                       | 34-07009-011-A |                                   |
| 3    | CABLE FOR MDC175MM, IAC FI-SESACES B5206         | 43-D400U-011   |                                   |
| 4    | SCREW M2*6L P BZ ICT NY                          | 35-06120-6RA   |                                   |
| 5    | SCREW M2*3L KI NI ICT NY                         | 35-B1120-3RA   |                                   |
| 6    | MDC MODEM+TEL.CABLE MODULE                       | 76-32200-100   |                                   |
| 7    | SCREW M2.5*5L KI BNI ICT NY                      | 35-B9125-5R0   |                                   |
| 8    | MYLAR15*8*0.25(FDR BSV LCDSANSUNG)               | 40-00150-150   |                                   |
| 9    | MAIN BOARD                                       | 77-D4000-DOX   |                                   |
| 10   | FDD ASS'Y(OPTION)                                | 79-D400J-010   | Reference Ass'y No (99-D400S-160) |
| 11   | D400S FAN MODULE                                 | 31-D400S-101   |                                   |
| 12   | SPEAKER 85mm IW 8 FYN-35N16B RIGHT               | 23-32510-801   |                                   |
| 13   | SCREW M2*4L F NI ICT NY                          | 35-21120-4RA   |                                   |
| 14   | BOTTOM CASE MODULE FOR D410S                     | 39-D4103-011   |                                   |
| 15   | SCREW M2.5*6L K BZ ICT                           | 35-82125-6R0   |                                   |
| 16   | CD-ROM DS1(SCR-242) ASS'Y D410S                  | 79-D410Z-000   | Reference Ass'y No (99-D410S-170) |
| 16   | DVD-ROM DS1(SDR-083) ASS'Y D410S                 | 79-D410V-000   | Reference Ass'y No (99-D410S-180) |
| 16   | CD-RW TEAC(CD-V224E-AB2) ASS'Y D410S             | 79-D410W-000   | Reference Ass'y No (99-D410S-190) |
| 16   | COMBO DS1(SBW-161) ASS'Y D410S                   | 79-D410X-000   | Reference Ass'y No (99-D410S-100) |
| 17   | WIRE CABLE FOR MAIN BD TO WLAN USB BD            | 43-D4000-070   |                                   |
| 18   | WLAN 802.11 b USB INTERFACE USB-300              | 88-D4020-380   |                                   |
| 19   | BLUETOOTH MODULE VII USB INTERFACE(SD)           | 88-18250-370   |                                   |
| 20   | BLUETOOTH COVER MODULE D410S                     | 42-D410B-101   |                                   |
| 21   | BAT 2000 mAh 230mAh V/CABLE 500M CR2032/0730HP   | 23-22015-P2B   |                                   |
| 22   | IPC CABLE FOR MAIN BD TO BLUETOOTH BD 0400       | 43-D4000-011   |                                   |
| 23   | SPEAKER 25mm IW 8 FYN-32N16B LEFT                | 23-32510-801   |                                   |
| 24   | SCREW M2.5*4.5P*15.5 dl=35 L-155 S-25            | 35-49025-155   |                                   |
| 25   | HDD BRACKET                                      | 33-D4001-010   |                                   |
| 26   | HDD COVER FOR D410S                              | 42-D4101-011   |                                   |
| 27   | D400S HEAT SINK MODULE                           | 31-D400N-100   |                                   |
| 28   | FAN 35*35*6T                                     | 23-A3510-461   |                                   |
| 29   | CPU COVER MODULE D410S                           | 42-D410S-101   |                                   |
| 30   | Smart batt 4SRP 14.8V 4400MAH(SMP)               | 87-D408S-4D5   |                                   |
| 30   | Smart batt 4SRP 14.8V 4400MAH(LGD)               | 87-D408S-4E5   |                                   |
| 31   | BATTERY COVER MODULE D410S                       | 42-D410M-101   |                                   |
| 32   | SCREW M2.5*2.5L B NI ICT W/WAS NY                | 35-41025-2R5   |                                   |
| 33   | FAN BRACKET                                      | 33-D400S-060   |                                   |
| 34   | PCMCIA MYLAR MYLAR 320                           | 40-32004-000   |                                   |
| 35   | EMI SHIELDING FOR M/B                            | 47-D400S-020   |                                   |
| 36   | SCREW M2*4L I BZ ICT NY                          | 35-C6120-4RA   |                                   |
| 37   | GASKET FOR USB(W:10mm H:2mm L:17mm)              | 47-00190-174   |                                   |
| 38   | GASKET FOR USB CONNECTOR(W:10mm H:4mm L:15mm)    | 47-00190-157   |                                   |
| 39   | GASKET FOR PSE AND S-VIDEO(W:5mm H:3mm L:35mm)   | 47-00190-353   |                                   |
| 40   | GASKET FOR LEFT SIDE OF M/B(W:10mm H:3mm L:30mm) | 47-00190-30B   |                                   |
| 41   | GASKET FOR AUDIO(W:10mm H:6.5mm L:35mm)          | 47-00190-354   |                                   |
| 42   | GASKET FOR 1394(W:5mm H:5.5mm L:13mm)            | 47-00190-133   |                                   |

# LCD 14" (410S)

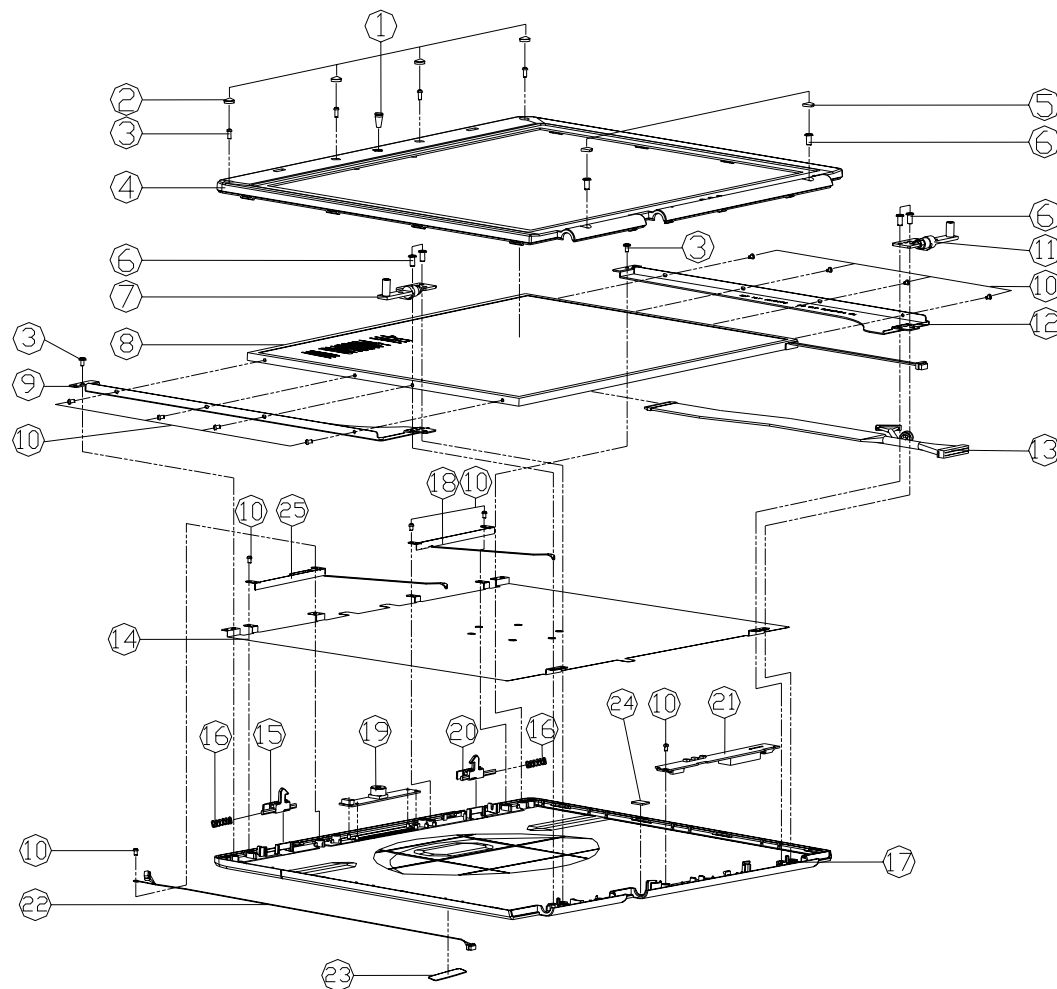


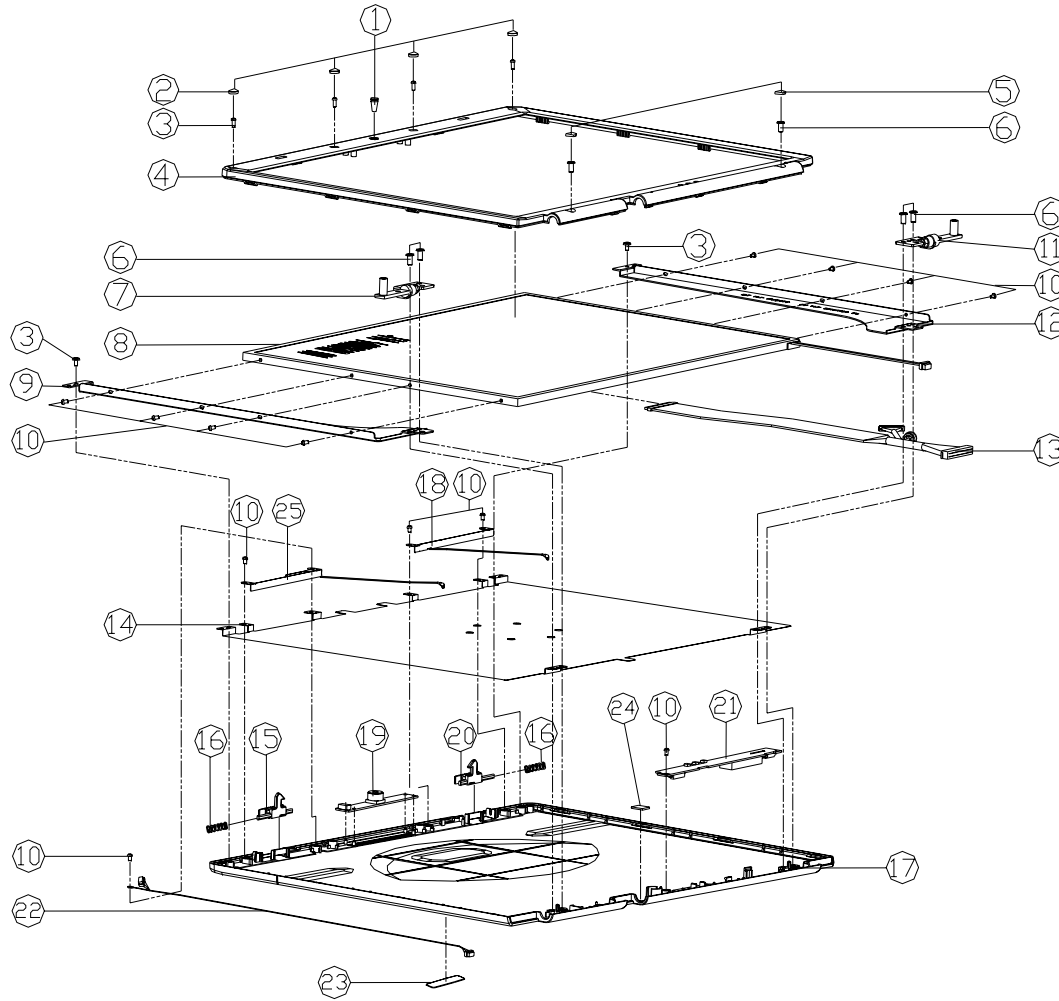
Figure 13  
LCD 14" (410S)

| ITEM | PART NAME                                | PART NO        | REMARK |
|------|--|----------------|--------|
| 1    | RUBBER FOR VIDEO CAMERA                  | 47-D400P-010   |        |
| 2    | RUBBER FOR LCD (TOP)                     | 47-56P32-010   |        |
| 3    | SCREW M2*4L I BZ ICT                     | 35-C6120-4R0   |        |
| 4    | DISPLAY FRONT PANEL 14.1" MODULE         | 39-D4001-100   |        |
| 5    | DISPLAY RUBBER PAD (DOWN)                | 47-D4001-020   |        |
| 6    | SCREW M3*6L KI NI ICT NY                 | 35-B1130-6RA   |        |
| 7    | HINGE (L)                                | 33-D400Y-020   |        |
| 8    | LCD T AU B141W04 V.1 14.1" XGA           | 50-J2287-G04   |        |
| 8    | LCD T BM ITX77-E53-029 14.1" XGA         | 50-J2287-E01   |        |
| 9    | LCD BRACKET (L) FOR AU 14.1" LCD         | 33-D4001-120   |        |
| 9    | LCD BRACKET (L) FOR 14.1" LCD            | 33-D4001-020   |        |
| 10   | SCREW M2*3L KI NI ICT NY                 | 35-B1120-3RB   |        |
| 11   | HINGE (R)                                | 33-D400Y-010   |        |
| 12   | LCD BRACKET (R) FOR AU 14.1" LCD         | 33-D4001-110   |        |
| 12   | LCD BRACKET (R) FOR 14.1" LCD            | 33-D4001-010   |        |
| 13   | WIRE CABLE FOR 14" LCD XGA AU            | 43-D4001-021   |        |
| 14   | LCD SHIELDING                            | 33-D4001-050   |        |
| 15   | LCD HOOK(L)                              | 42-D4001-020   |        |
| 16   | SPRING FOR HOOK(#3.7*15*0.3a)            | 38-21P30-011   |        |
| 17   | DISPLAY BACK PANEL, MODULE D410S         | 39-D4101-200   |        |
| 17   | DISPLAY BACK PANEL, MODULE M410S         | 39-M4101-200   |        |
| 18   | WIRELESS ANTENNA PIFA 2.4G L:430mm D400S | 23-742R4-004   |        |
| 19   | VIDEO CAMERA CM0130, 300K Pixels Resolu  | 88-D40C0-410   | OPTION |
| 20   | LCD HOOK(R)                              | 42-D4001-010   |        |
| 21   | INVERTER BOARD                           | 77-4200R-002-1 |        |
| 22   | WIRE CABLE MAIN BD TO CCD MODULE         | 43-D4000-060   | OPTION |
| 23   | NAME PLATE "NOTEBOOK"                    | 45-42001-010   |        |
| 24   | GASKET FOR Y CABLE(L:10mm H:2mm L:15mm)  | 47-00190-15B   |        |
| 25   | ANTENNA BLUETOOTH PIFA 2.4G L:540mm      | 23-742R4-005   |        |

A.Part Lists

# LCD 15" (410S)

Figure 14  
LCD 15" (410S)



| ITEM | PART NAME                               | PART NO        | REMARK |
|------|---|----------------|--------|
| 1    | RUBBER FOR VIDEO CAMERA                 | 47-D400P-010   |        |
| 2    | RUBBER FOR LCD (TOP)                    | 47-56P32-010   |        |
| 3    | SCREW M2*4L I BZ ICT                    | 35-C6120-4R0   |        |
| 4    | DISPLAY FRONT PANEL 15" MODULE          | 39-D4001-110   |        |
| 5    | DISPLAY RUBBER PAD (DOWN)               | 47-D4001-020   |        |
| 6    | SCREW M3*6L KI NI ICT NY                | 35-B1130-6RA   |        |
| 7    | HINGE (L)                               | 33-D400Y-020   |        |
| 8    | LCD IS0 1FT AU B15PMD1 1400*1050 SXGA+  | 50-L5259-U10   |        |
| 8    | LCD IS0 1BM 1FT BEM9SC-02 SXGA+ 41mm    | 50-L3241-E00   |        |
| 9    | LCD BRACKET (L) FOR AU 15.1" LCD        | 33-D4001-140   |        |
| 9    | LCD BRACKET (L) FOR 1BM 15.1" LCD       | 33-D4001-240   |        |
| 10   | SCREW M2*3L KI NI ICT NY                | 35-B1120-3RB   |        |
| 11   | HINGE (R)                               | 33-D400Y-010   |        |
| 12   | LCD BRACKET (R) FOR AU 15.1" LCD        | 33-D4001-130   |        |
| 12   | LCD BRACKET (R) FOR 1BM 15.1" LCD       | 33-D4001-230   |        |
| 13   | WIRE CABLE FOR 15" LCD SXGA+ AU         | 43-D4001-120   |        |
| 13   | WIRE CABLE FOR 15" LCD SXGA+ IDT        | 43-D4001-110   |        |
| 14   | LCD SHIELDING                           | 33-D4001-050   |        |
| 15   | LCD HOOK(L)                             | 42-D4001-020   |        |
| 16   | SPRING FOR HOOK(φ3.7*15*0.3φ)           | 38-21P30-011   |        |
| 17   | DISPLAY BACK PANEL MODULE D410S         | 39-D4101-201   |        |
| 17   | DISPLAY BACK PANEL MODULE M410S         | 39-M4101-200   |        |
| 18   | WIRELESS ANTENNA PIFA 2.4G L=430mm D40S | 23-742R4-004   |        |
| 19   | VIDEO CAMERA CM3130, 300K Pixels Resolu | 88-D400C-410   | OPTION |
| 20   | LCD HOOK(R)                             | 42-D4001-010   |        |
| 21   | INVERTER BOARD                          | 77-4200R-D02-1 |        |
| 22   | WIRE CABLE MAIN BD TO CCD MODULE        | 43-D4000-060   | OPTION |
| 23   | NAME PLATE "NOTEBOOK"                   | 45-42001-010   |        |
| 24   | GASKET FOR V CABLE(φ10mm H2mm L15mm)    | 47-00190-15B   |        |
| 25   | ANTENNA BLUETOOTH PIFA 2.4G L=540mm     | 23-742R4-005   |        |

# CD-ROM Drive (410S)

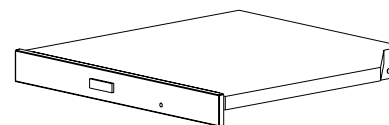
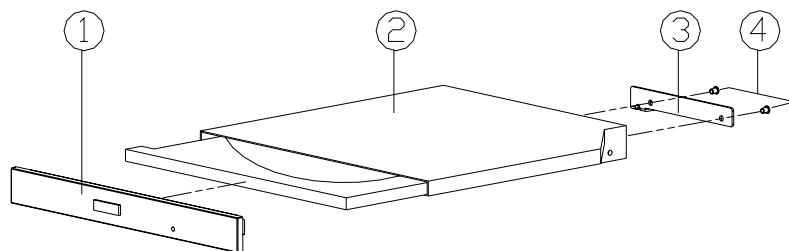
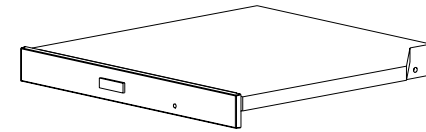
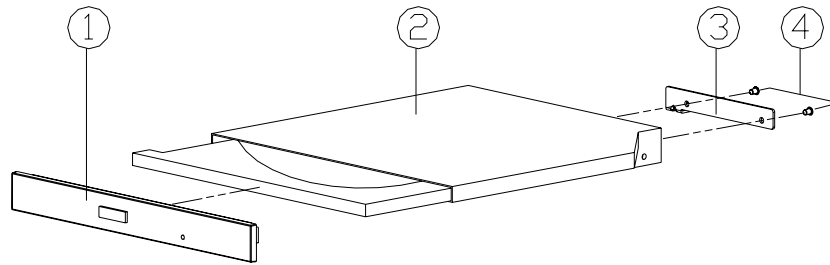


Figure 15  
CD-ROM Drive  
(410S)

| ITEM | PART NAME                                 | PART NO      | REMARK |
|------|---|--------------|--------|
| 1    | OSI CD-ROM BEZEL MODULE D410S             | 42-D410Z-101 |        |
| 1    | TEAC CD-ROM BEZEL MODULE D410S            | 42-D410Z-301 |        |
| 2    | CD-ROM 5 1/4" 24X CAB SLIM OSI(SCR-242)   | 85-607□X-C00 |        |
| 2    | CD-ROM 5 1/4" 24X CD-224E-C20 12.7mm TEAC | 85-607□X-709 |        |
| 3    | CDROM LOCK BRACKET                        | 33-D400Z-010 |        |
| 4    | SCREW M2*3L KI NI ICT NY                  | 35-B1120-3RB |        |

# CD-RW Drive (410S)

Figure 16  
CD-RW Drive  
(410S)



| ITEM | PART NAME                                  | PART NO      | REMARK |
|------|--|--------------|--------|
| 1    | TEAC CD-RW BEZEL MODULE D410S              | 42-D410W-101 |        |
| 1    | TOSHIBA CD-RW BEZEL MODULE D410S           | 42-D410W-201 |        |
| 2    | CD-R/W 5 1/4" 24X CD-W224E-A82 12.7mm TEAC | 85-807DX-700 |        |
| 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 K1 NI ICT NY                   | 35-B1120-3RB |        |



# Combo Drive (410S)

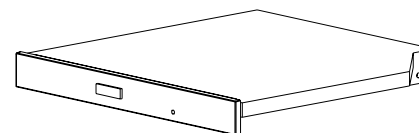
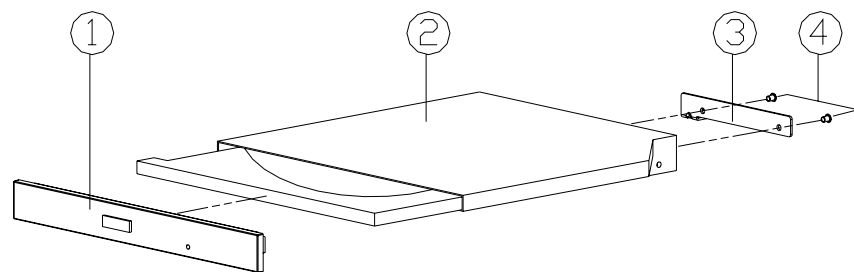


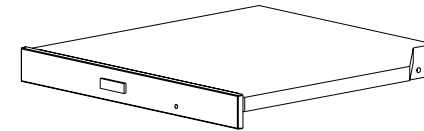
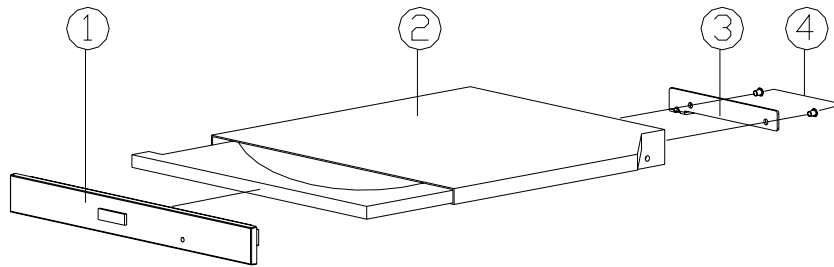
Figure 17  
Combo Drive  
(410S)

| ITEM | PART NAME                                  | PART NO      | REMARK |
|------|--|--------------|--------|
| 1    | OSI COMBO BEZEL MODULE D410S               | 42-D410X-101 |        |
| 1    | SAMSUNG COMBO BEZEL MODULE D410S           | 42-D410X-201 |        |
| 1    | TEAC COMBO BEZEL MODULE D410S              | 42-D410X-300 |        |
| 2    | CD-RW/DVD 5 1/4" 24X 12.7mm SBW-241 OSI    | 85-907□X-C00 |        |
| 2    | CD-RW/DVD 5 1/4" 24X 12.7mm SN-324 SAMSUNG | 85-907□X-S00 |        |
| 2    | CD-RW/DVD 5 1/4" 24X 12.7mm DW-224E TEAC   | 85-907□X-700 |        |
| 3    | CDROM LOCK BRACKET                         | 33-D400Z-010 |        |
| 4    | SCREW M2*3L KI NI ICT NY                   | 35-B1120-3RB |        |

A.Part Lists

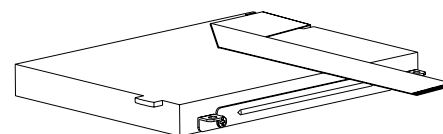
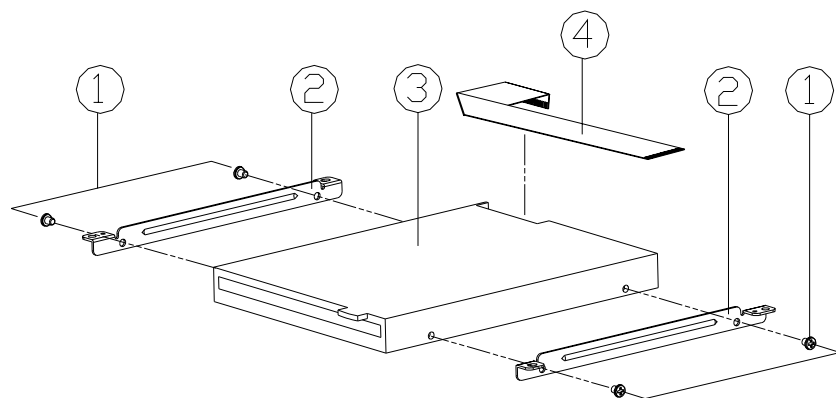
## DVD-ROM Drive (410S)

Figure 18  
DVD-ROM Drive  
(410S)



| ITEM | PART NAME                            | PART NO      | REMARK |
|------|--------------------------------------|--------------|--------|
| 1    | OSI DVD-ROM BEZEL MODULE D410S       | 42-D410V-101 |        |
| 1    | TEAC DVD-ROM BEZEL MODULE D410S      | 42-D410V-201 |        |
| 2    | DVD 5 1/4" 8X 12.7mm SDR-083 OSI     | 85-7078X-C02 |        |
| 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 |        |

# Floppy Disk Drive (410S)

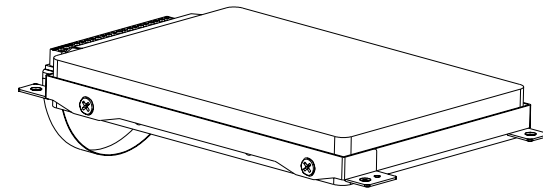
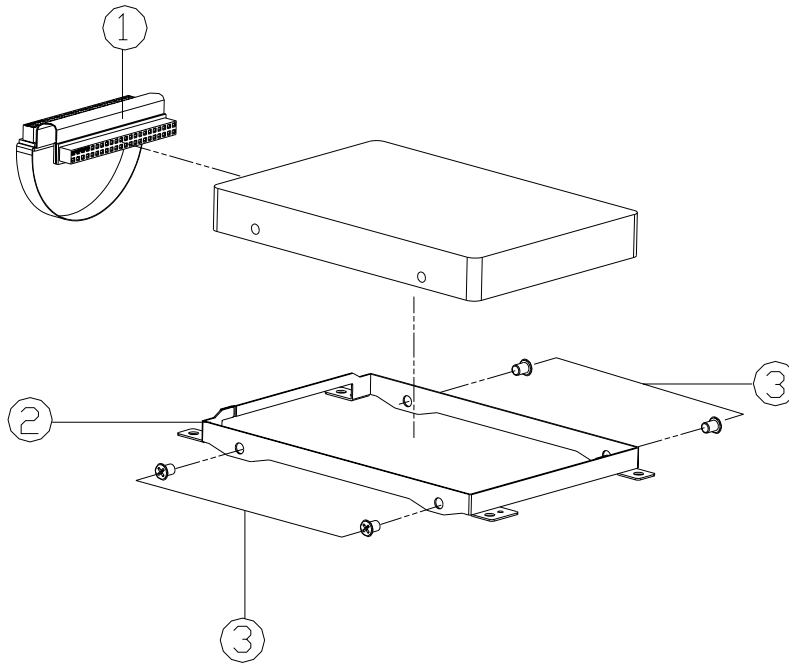


| ITEM | PART NAME                              | PART NO         | REMARK |
|------|--|-----------------|--------|
| 1    | SCREW M2.5*3L KI BK/D.NY               | 35-B4125-3RA    |        |
| 2    | FDD BRACKET                            | 33-D400J-010    |        |
| 3    | FDD 3.5" 1.44MB 12.7mm (YD-702J-6637J) | 85-11700-Y01-01 |        |
| 4    | FFC CABLE FOR MAIN BD TO FDD 180MM     | 43-D4000-050    |        |

Figure 19  
Floppy Disk Drive  
(410S)

## Hard Disk Drive (410S)

Figure 20  
HDD Drive (410S)



| ITEM | PART NAME                              | PART NO       | REMARK |
|------|--|---------------|--------|
| 1    | FPC CABLE FOR HD TO MAIN BD, 30MM,8880 | 43-88800-010  |        |
| 2    | HDD BRACKET                            | 77-22004-D03A |        |
| 3    | SCREW M3*4L KI BZ ICT NY               | 35-B6130-4RB  |        |

# Appendix B:Schematic Diagrams

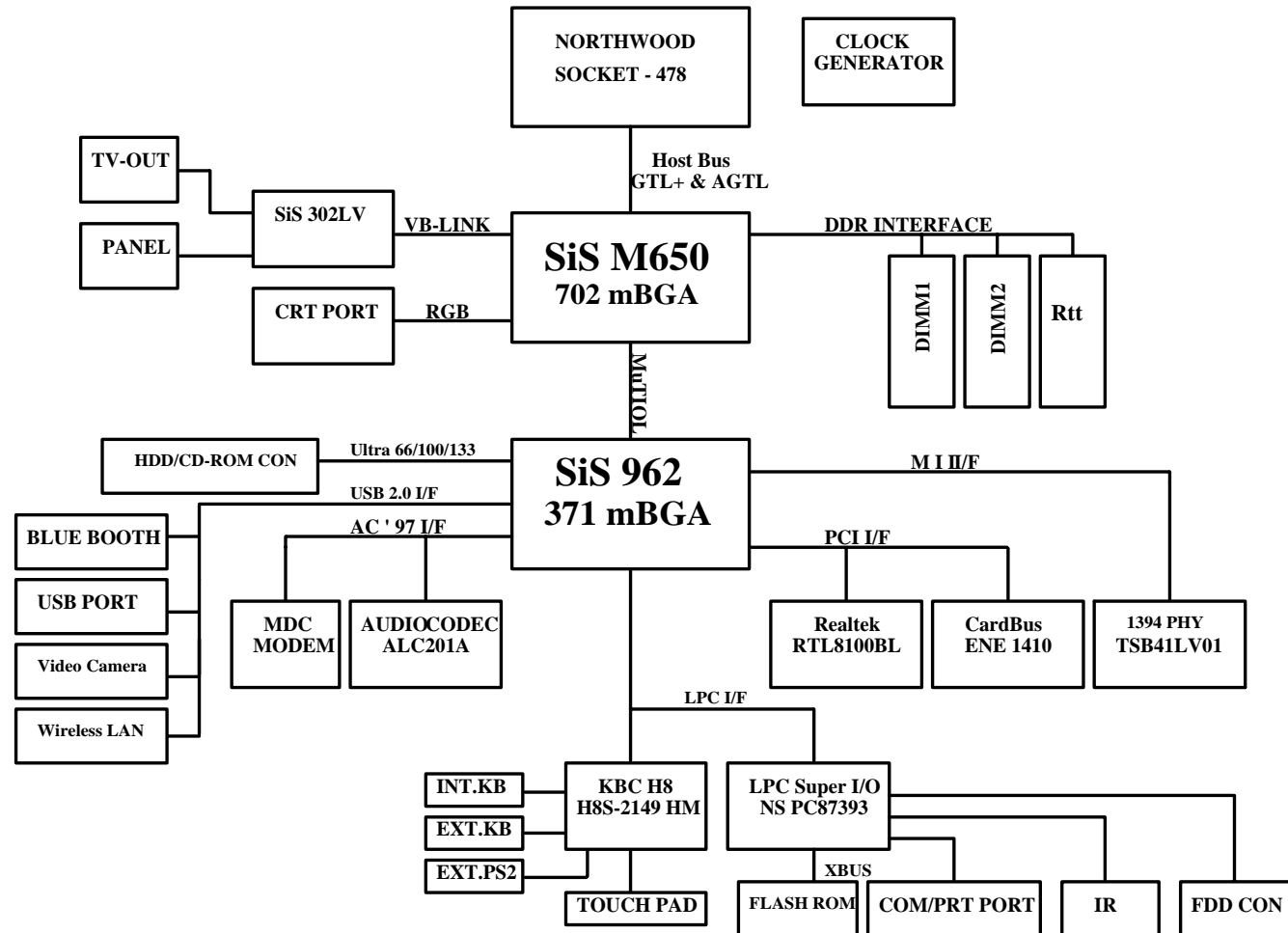
This appendix has circuit diagrams of the *D400S/D410S* notebook's PCB's. The following table indicates where to find the appropriate schematic diagram.

| Diagram - Page                                     | Diagram - Page  |
|--|---|
| <i>System Block Diagram - Page B - 2</i>           | <i>USB Port - Page B - 19</i>                             |
| <i>Socket 478 1 of 2 - Page B - 3</i>              | <i>PCMCIA TII410 - Page B - 20</i>                        |
| <i>Socket 478 &amp; ITP 2 of 2 - Page B - 4</i>    | <i>PCMCIA Power - Page B - 21</i>                         |
| <i>Clock Generator - Page B - 5</i>                | <i>1394 PHY TSB41LV01 - Page B - 22</i>                   |
| <i>M650 (Host/AGP) 1 of 4 - Page B - 6</i>         | <i>LPC SI/O - Page B - 23</i>                             |
| <i>M650 (Memory for DDR) 2 of 4 - Page B - 7</i>   | <i>LPT/COM Port - Page B - 24</i>                         |
| <i>M650 (&amp; CRT Out) 3 of 4 - Page B - 8</i>    | <i>LPC H8 - Page B - 25</i>                               |
| <i>M650 (Power) 4 of 4 - Page B - 9</i>            | <i>LAN RTL8100BL - Page B - 26</i>                        |
| <i>DDR Memory DIMM - Page B - 10</i>               | <i>Audio Codec ALC201A - Page B - 27</i>                  |
| <i>DDR SSTL-2 Termination - Page B - 11</i>        | <i>Audio Out &amp; Off Board Connectors - Page B - 28</i> |
| <i>LVDS Interface (SiS302LV) - Page B - 12</i>     | <i>System Power Control - Page B - 29</i>                 |
| <i>Panel Con &amp; LED Indicator - Page B - 13</i> | <i>Fan Control and SpeedStep - Page B - 30</i>            |
| <i>962 (PCI/IDE/HyperZip) 1 of 4 - Page B - 14</i> | <i>VCORE - Page B - 31</i>                                |
| <i>962 (Misc Signals) 2 of 4 - Page B - 15</i>     | <i>DDR Power - Page B - 32</i>                            |
| <i>962 (USB I/F) 3 of 4 - Page B - 16</i>          | <i>System - Page B - 33</i>                               |
| <i>962 (Power &amp; RTC) 4 of 4 - Page B - 17</i>  | <i>Charger - Page B - 34</i>                              |
| <i>HDD/Combo Connector - Page B - 18</i>           | <i>SW Board and HotKey - Page B - 35</i>                  |

*Table 1*  
Schematic  
Diagrams

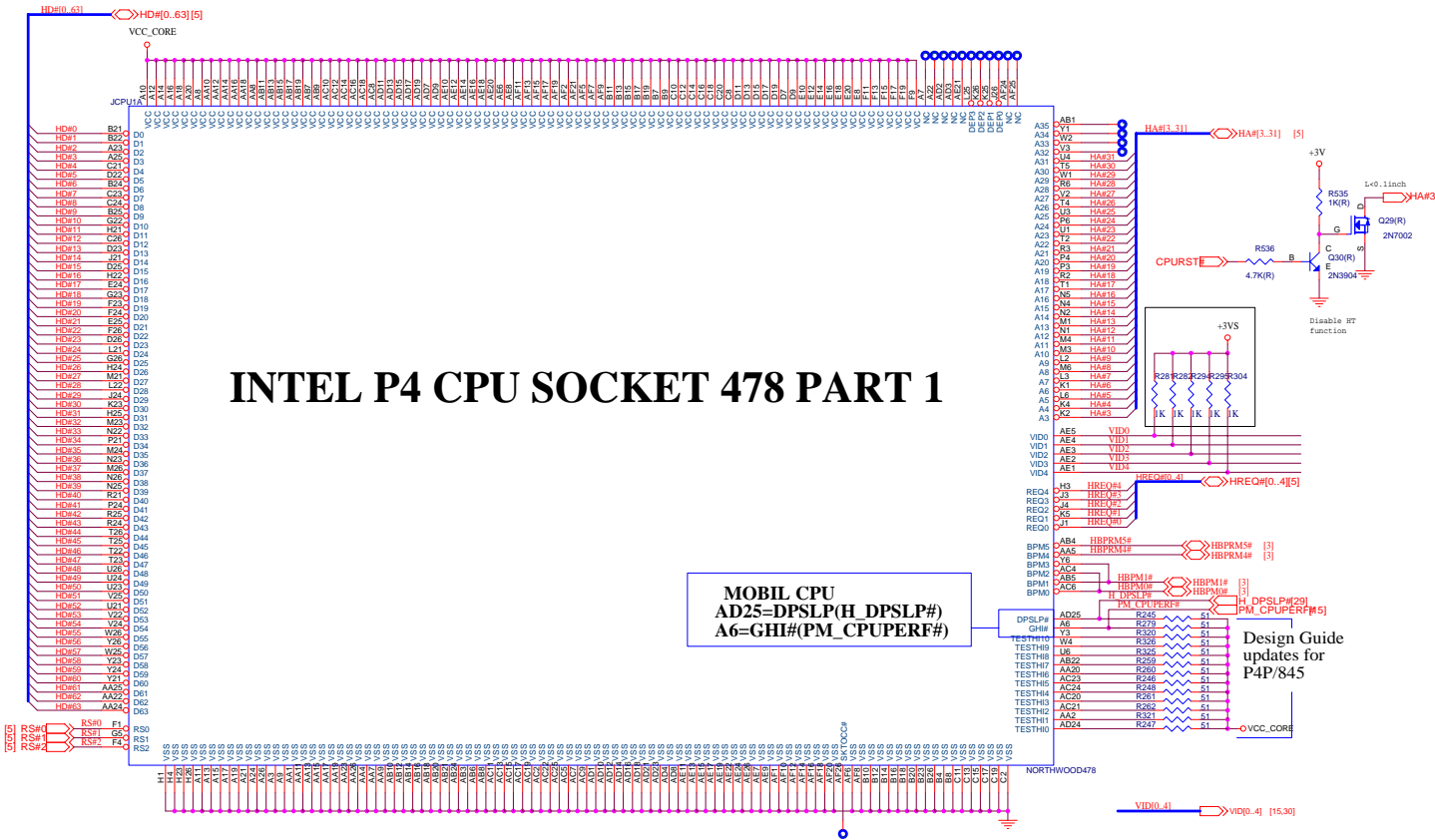
System Block Diagram

# D400 System Block Diagram



Sheet 1 of 35  
System Block  
Diagram

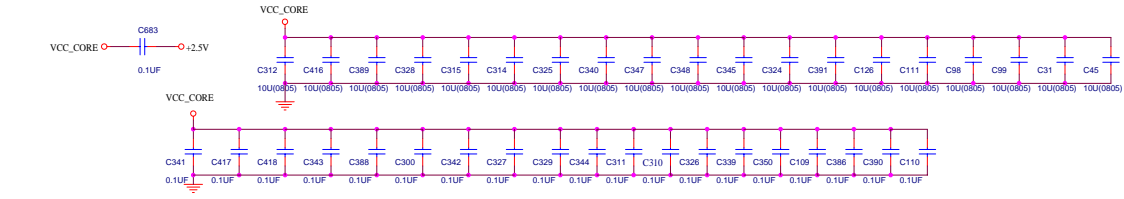
# Socket 478 1 of 2



## INTEL P4 CPU SOCKET 478 PART 1

MOBIL CPU  
AD25=DPSLP(H\_DPSLP#)  
A6=GHI#(PM\_CUPERF#)

Design Guide  
updates for  
P4P/845

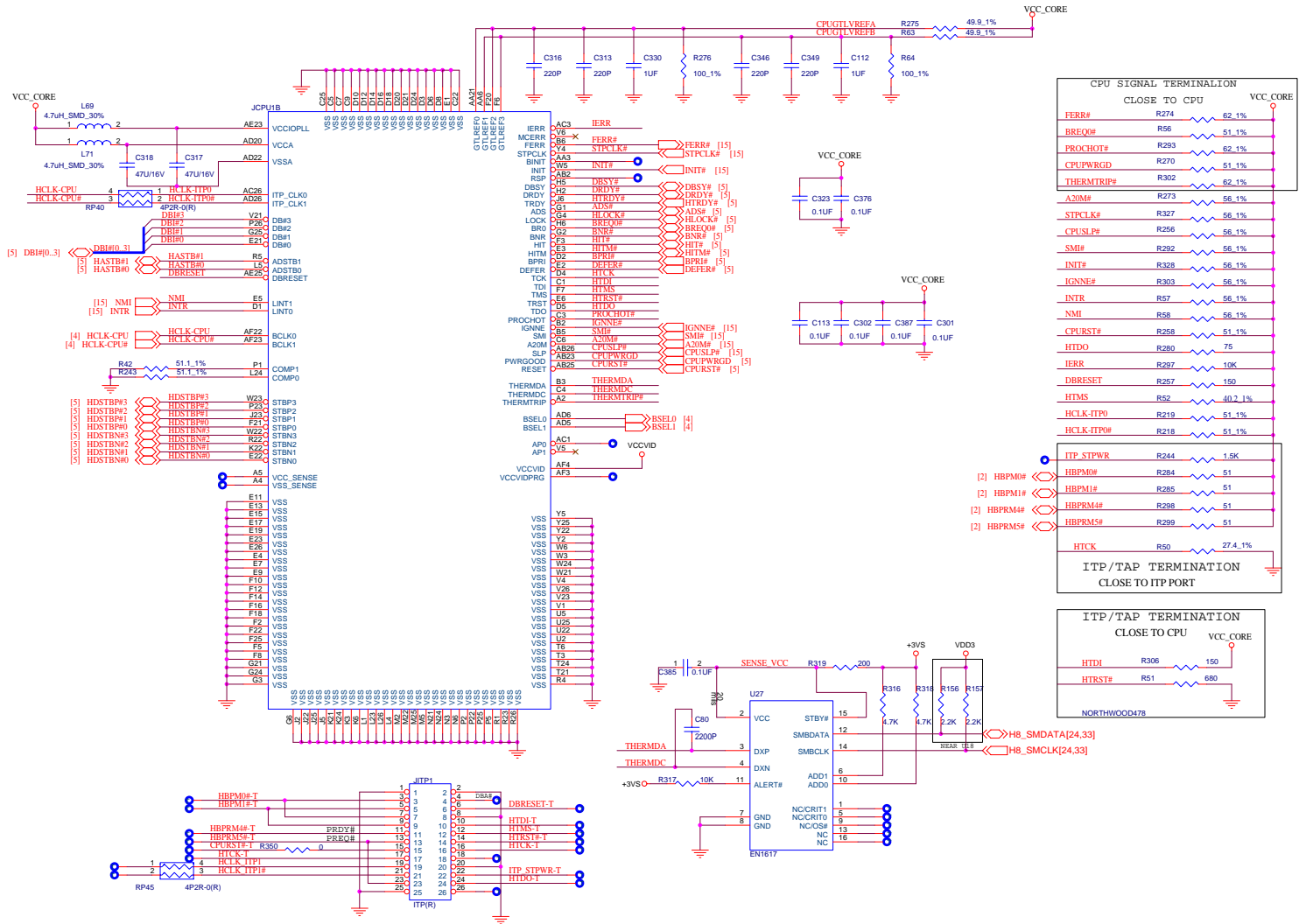


Sheet 2 of 35  
Socket 478 1 of 2

B. Schematic Diagrams

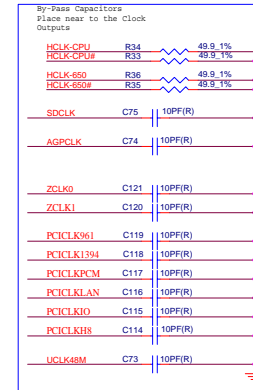
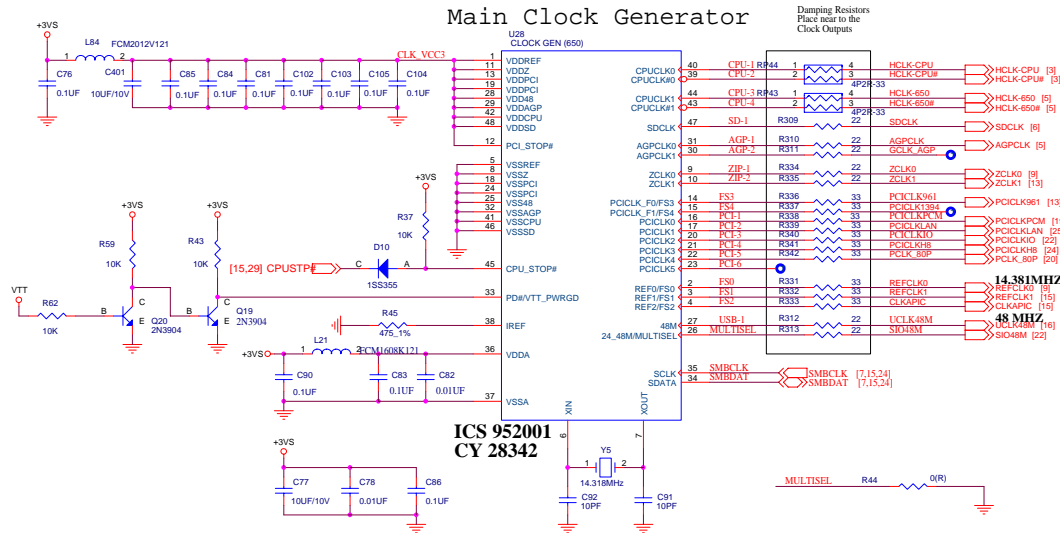
# Socket 478 & ITP 2 of 2

Sheet 3 of 35  
Socket 478 & ITP  
2 of 2

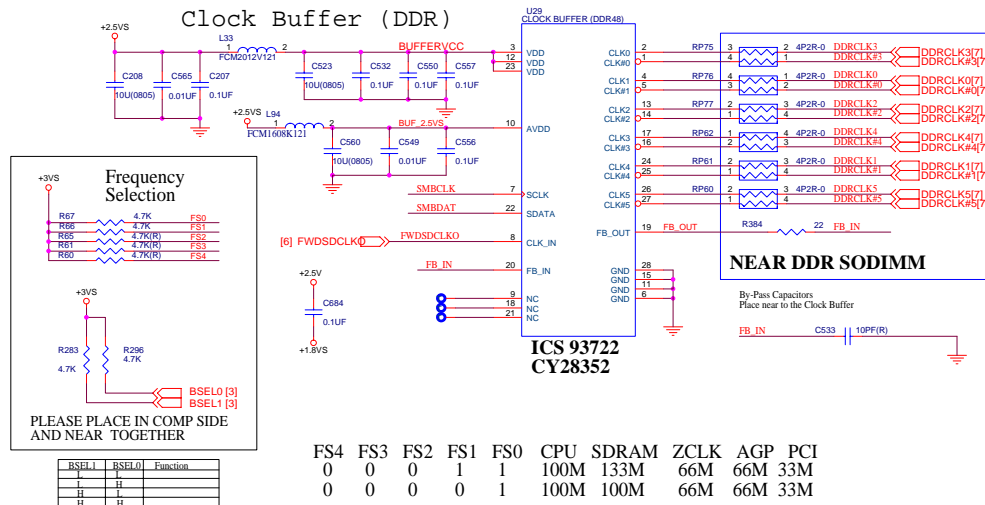




# Clock Generator



Sheet 4 of 35  
Clock Generator

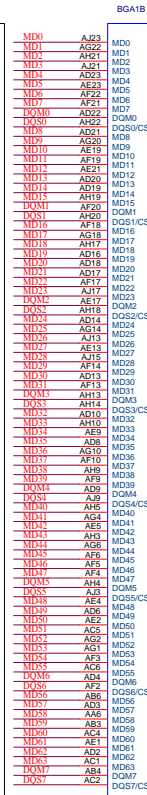
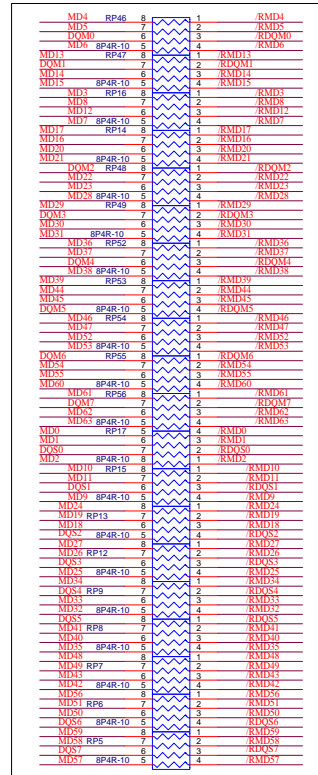




# M650 (Memory for DDR) 2 of 4



Rs place close to DIMM1

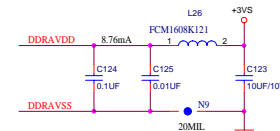
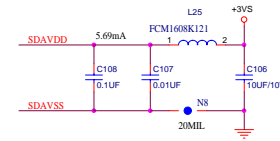
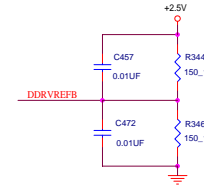
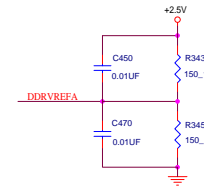
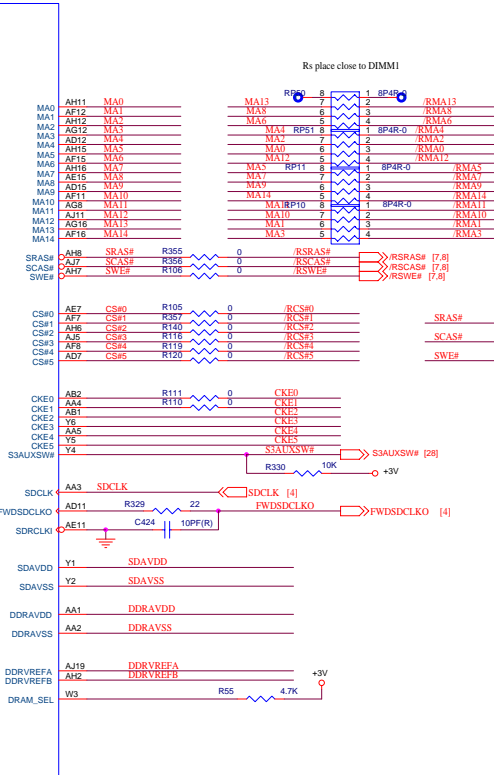


M650-2

BGA1B

SIS M650

Rs place close to DIMM1

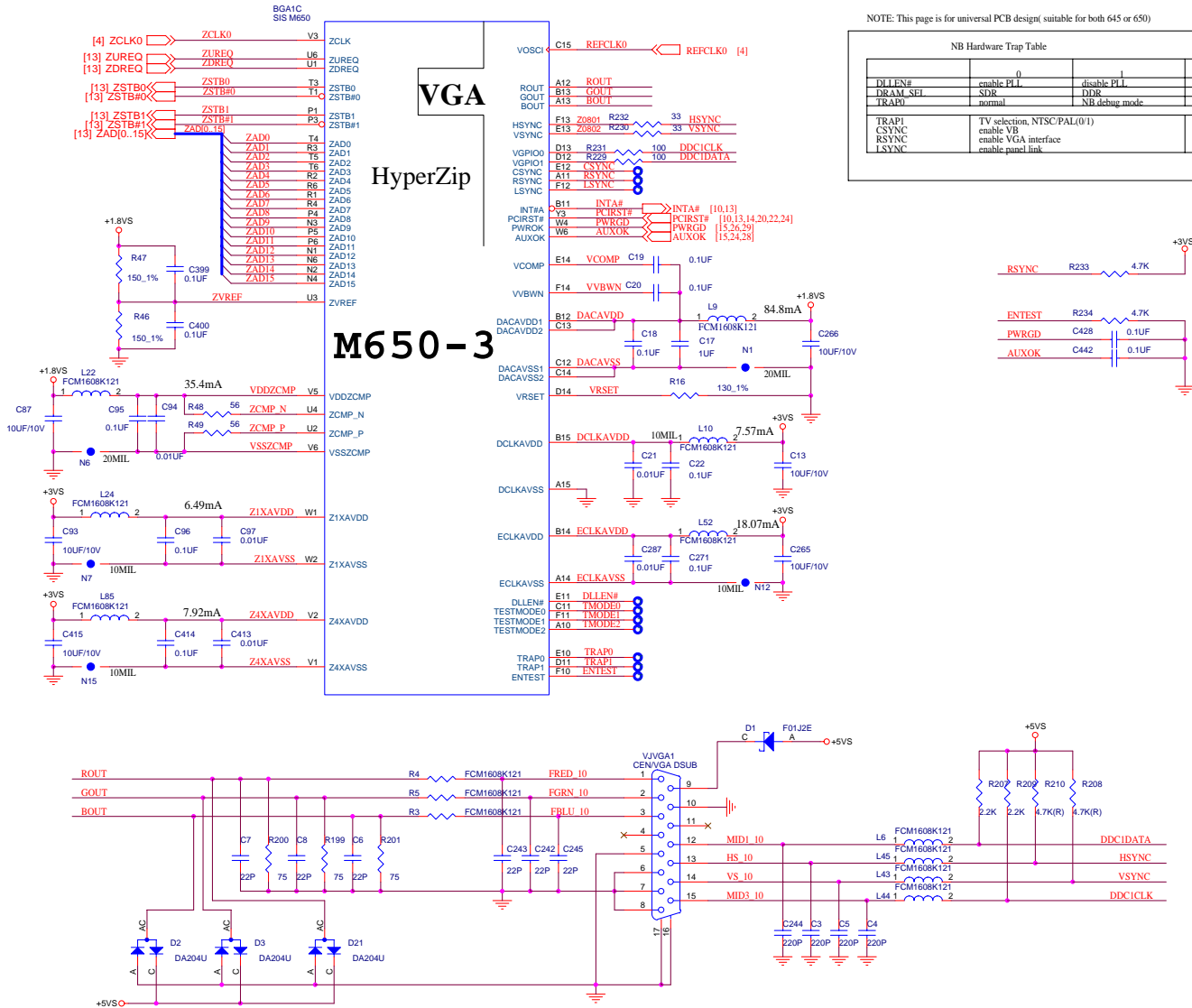


Sheet 6 of 35  
M650  
(Memory for DDR)  
2 of 4

Schematic Diagrams

# M650 (& CRT Out) 3 of 4

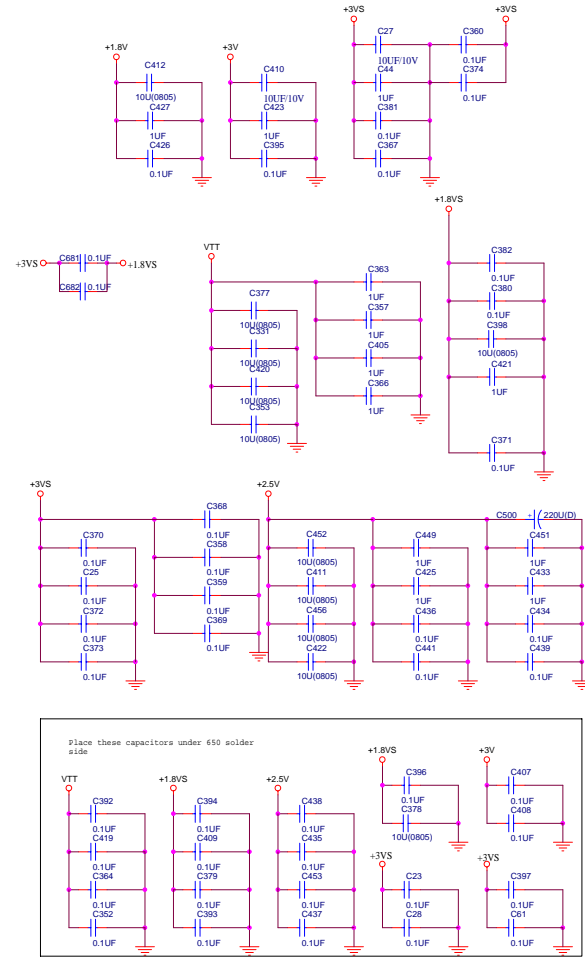
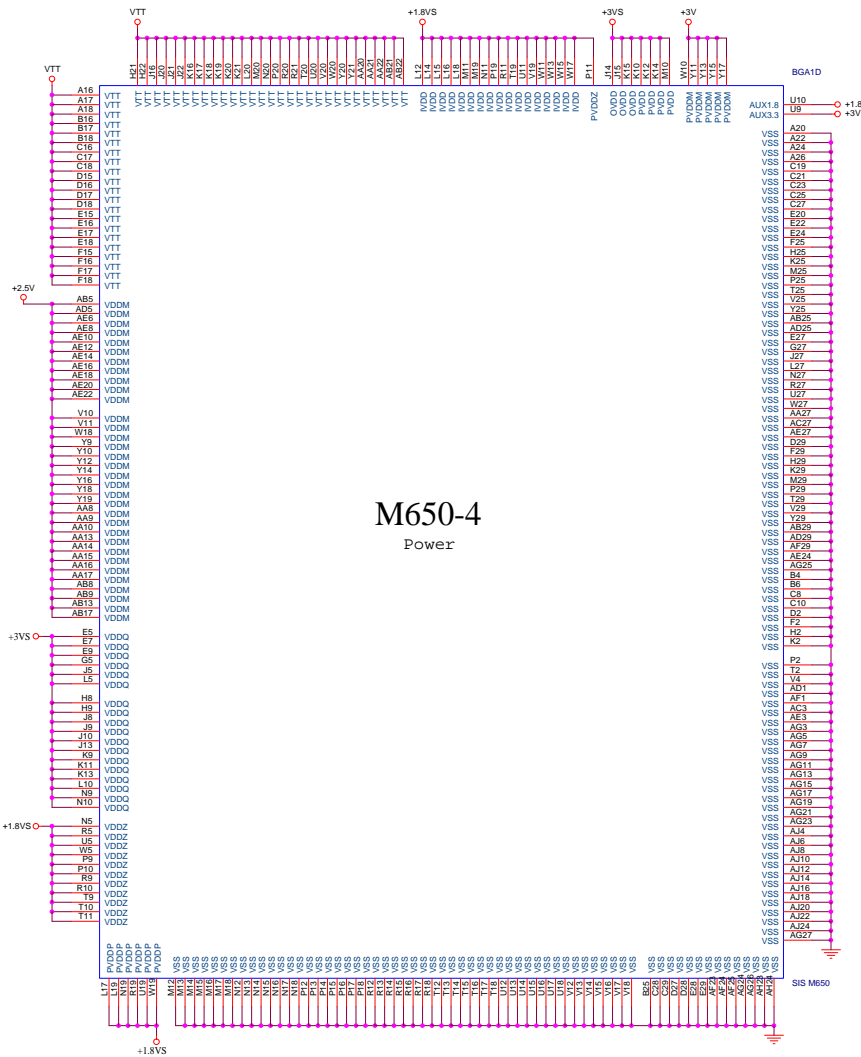
Sheet 7 of 35  
M650 & CRT Out  
3 of 4



NOTE: This page is for universal PCB design (suitable for both 645 or 650)

| NB Hardware Trap Table |                             |               |         | embedded null-low<br>(30-50K Ohm) |
|------------------------|-----------------------------|---------------|---------|-----------------------------------|
|                        | 0                           | 1             | Default |                                   |
| DLLEN#                 | enable PLL                  | disable PLL   | 0       | yes                               |
| DRAM_SEI               | SDR                         | DDR           | 1(DDR)  | yes                               |
| TRAP0                  | normal                      | NB debug mode | 0       | yes                               |
| TRAP1                  | TV selection, NTSC/PAL(0/1) |               | 0       |                                   |
| CSYNC                  | enable VB                   |               | 0       |                                   |
| RSYNC                  | enable VGA interface        |               | 1       |                                   |
| LSYNC                  | enable panel link           |               | 0       |                                   |

# M650 (Power) 4 of 4

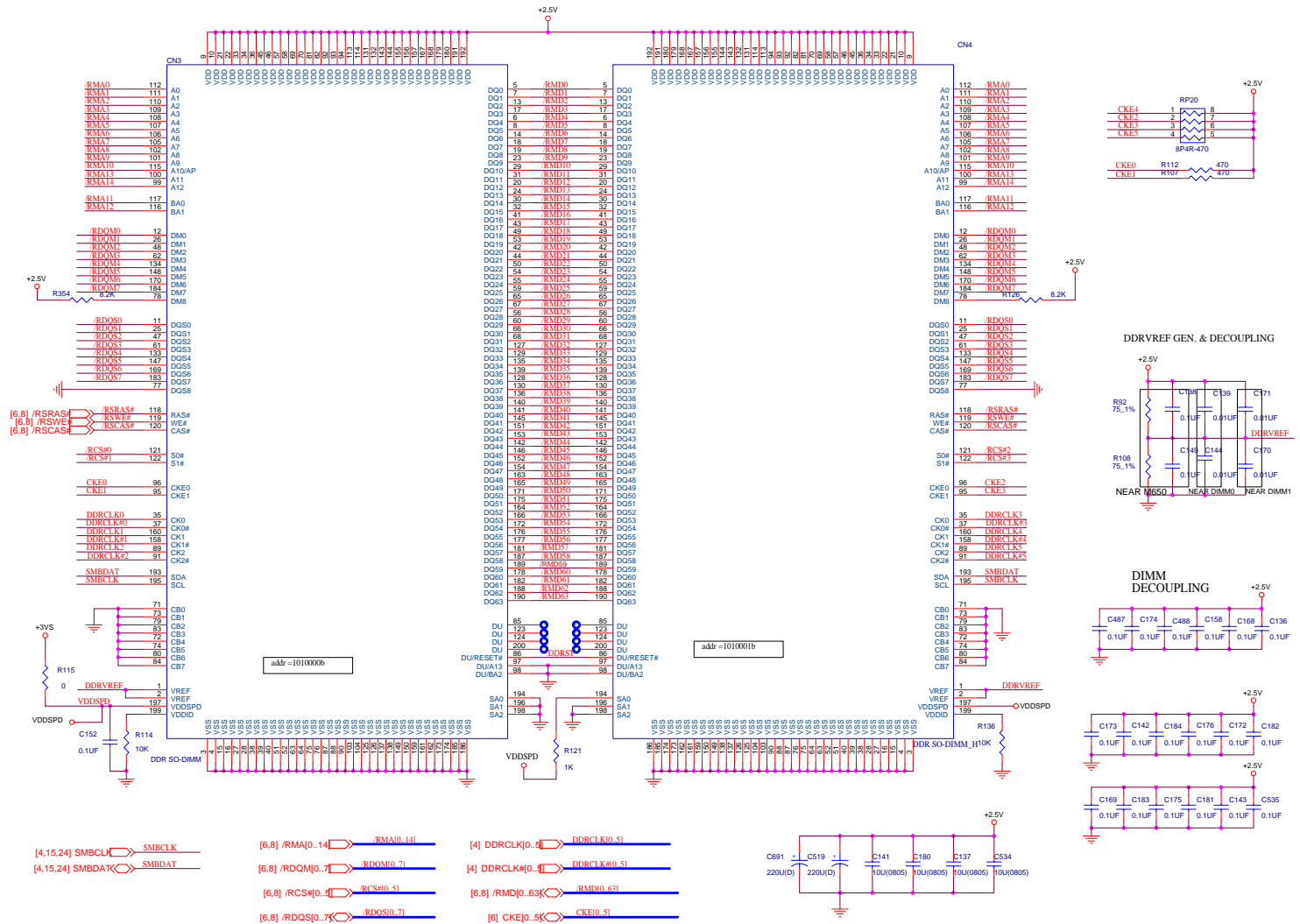


Sheet 8 of 35  
M650 (Power)  
4 of 4

B. Schematic Diagrams

# DDR Memory DIMM

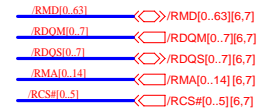
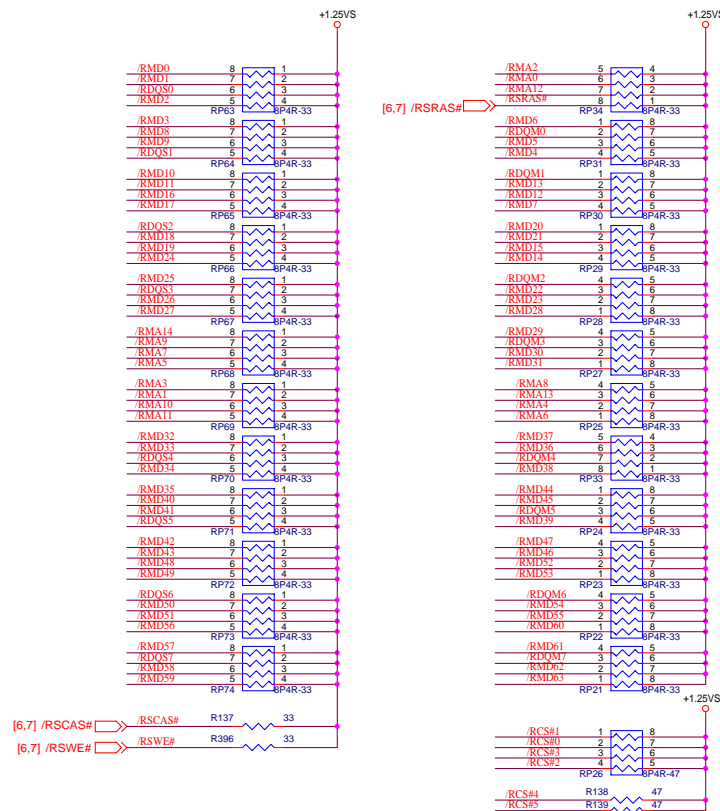
Sheet 9 of 35  
DDR Memory DIMM



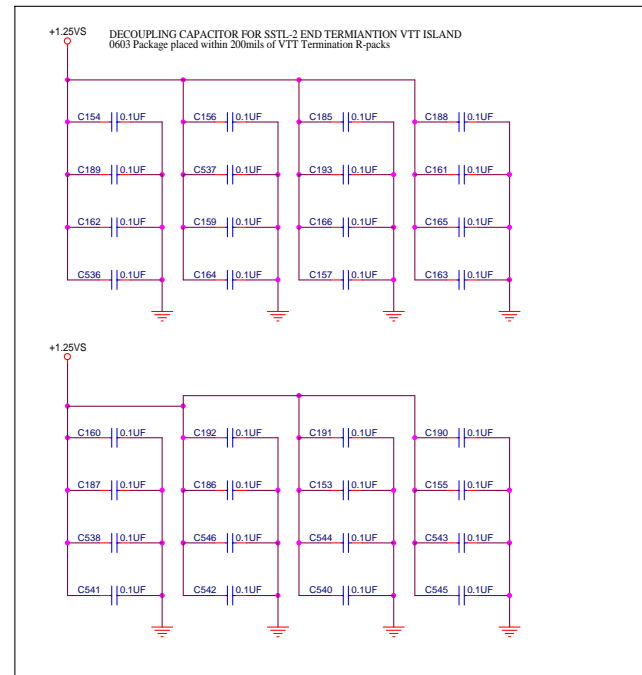
# DDR SSTL-2 Termination

SSTL-2 Termination Resistors

| MD/DQM/(DQS)<br>MA/Control<br>CS | DDR<br>SSTL-2<br>SSTL-2<br>OD 2.5V | Rs<br>10<br>0<br>0 | R <sub>tt</sub><br>33<br>33<br>47 |
|----------------------------------|------------------------------------|--------------------|-----------------------------------|
|                                  |                                    |                    |                                   |



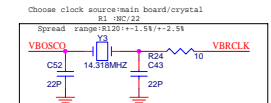
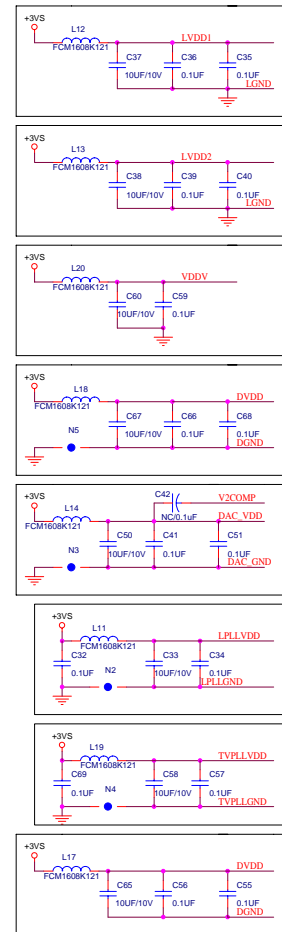
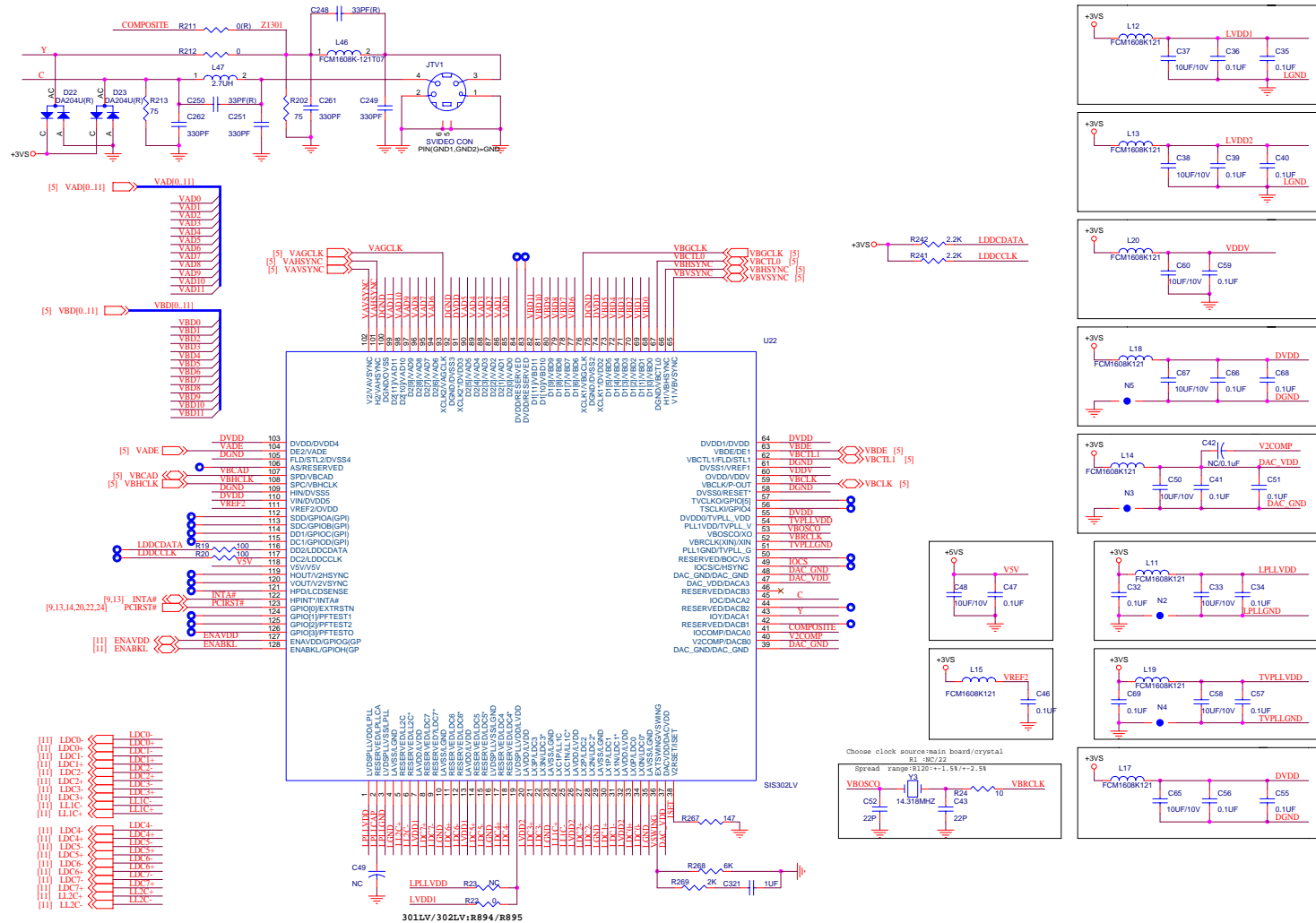
Sheet 10 of 35  
DDR SSTL-2  
Termination



B. Schematic Diagrams

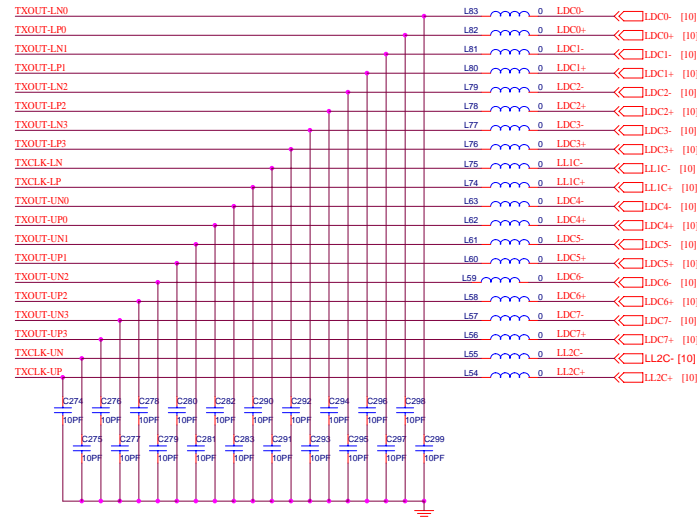
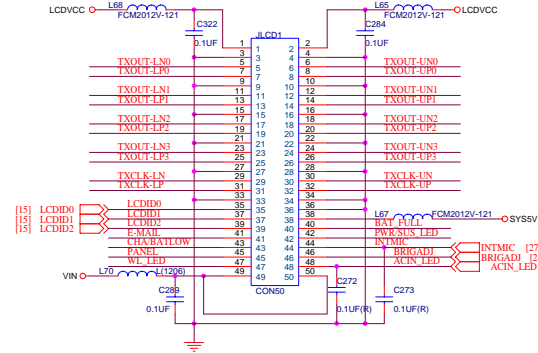
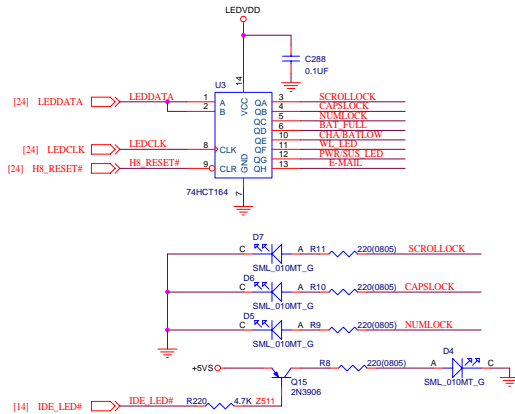
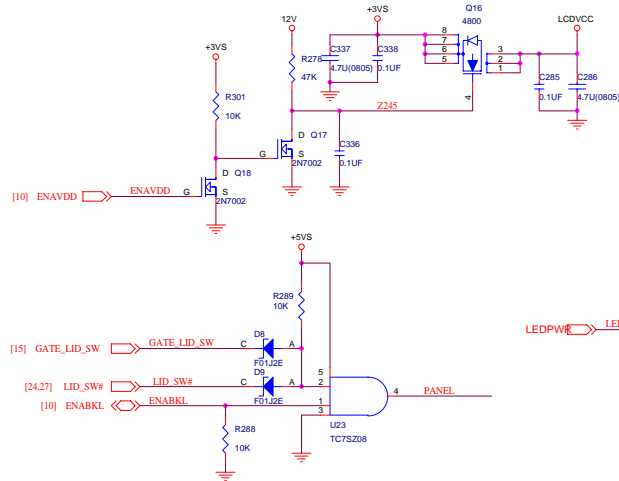
# LVDS Interface (SiS302LV)

Sheet 11 of 35  
LVDS interface  
(Sis302LV)





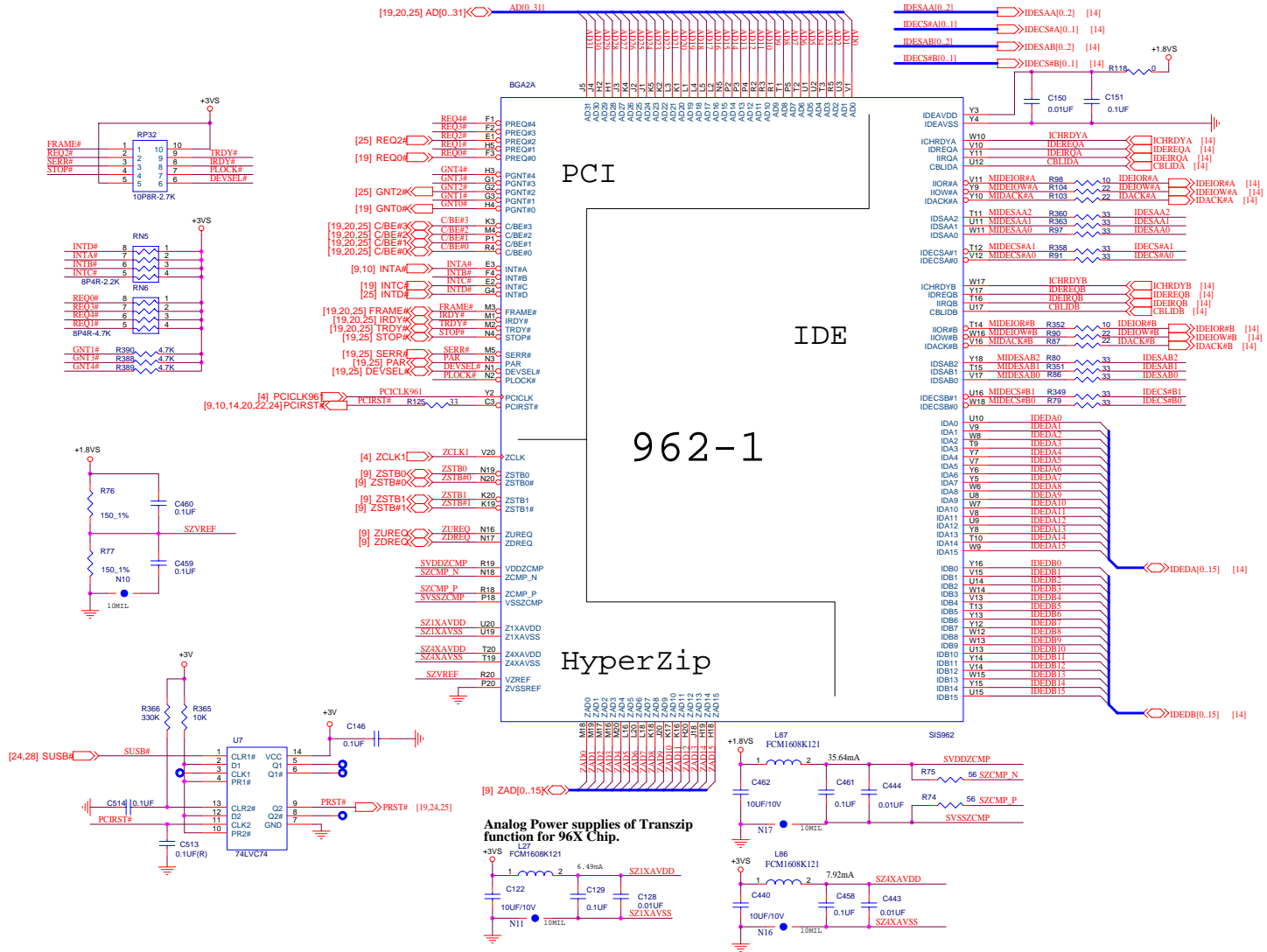
# Panel Con & LED Indicator



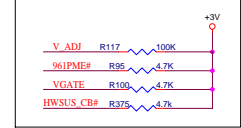
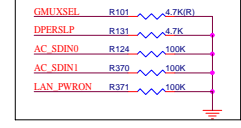
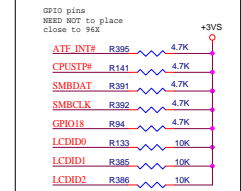
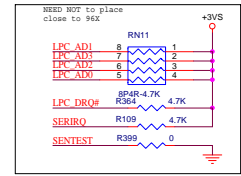
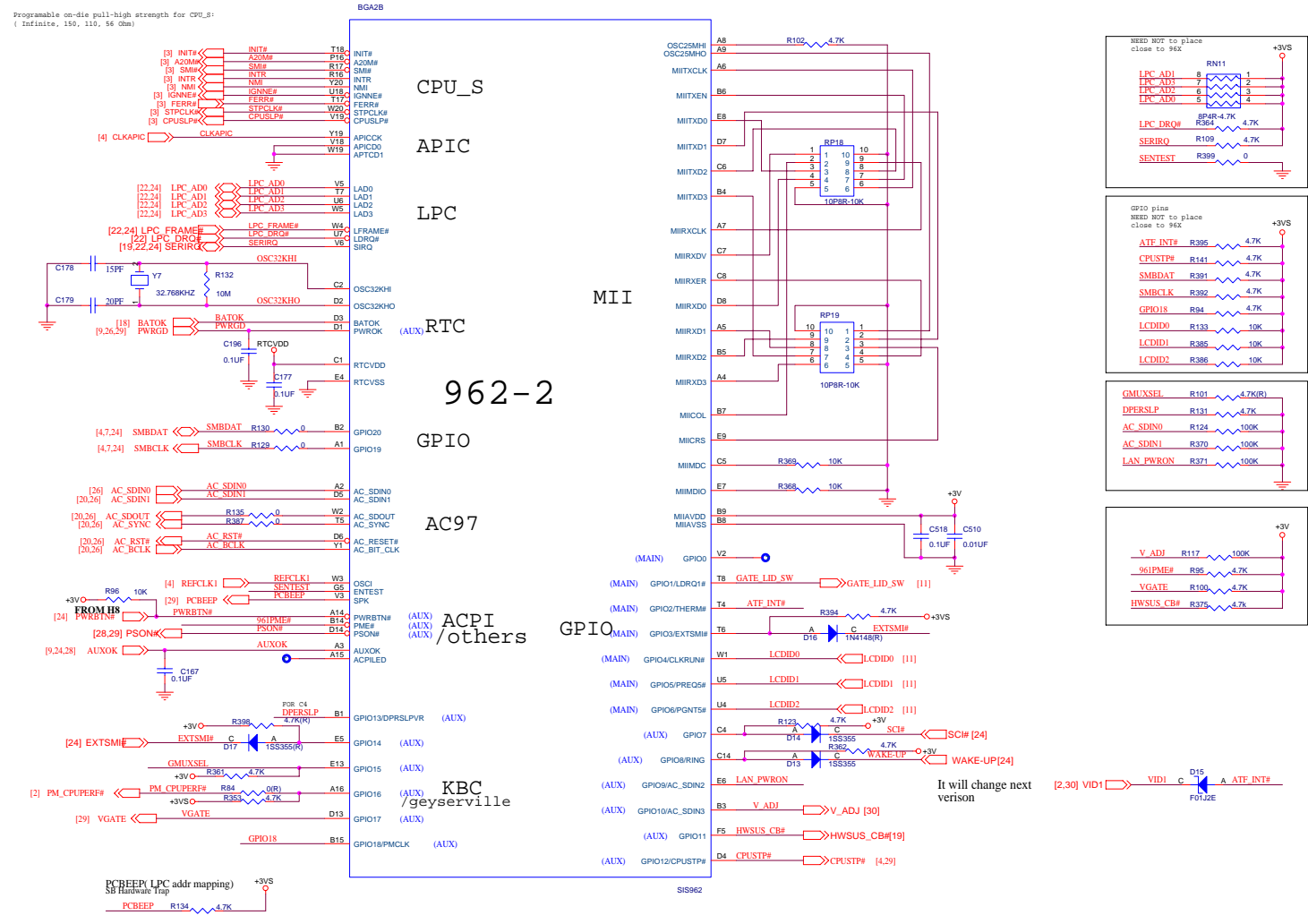
Sheet 12 of 35  
Panel Con & LED  
Indicator

# 962 (PCI/IDE/HyperZip) 1 of 4

Sheet 13 of 35  
962 (PCI/IDE/  
HyperZip)  
1 of 4



# 962 (Misc Signals) 2 of 4

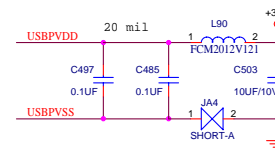
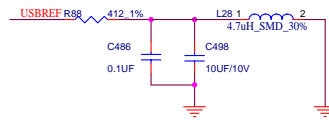
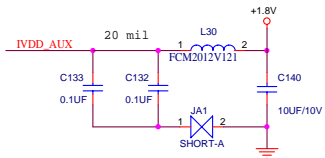
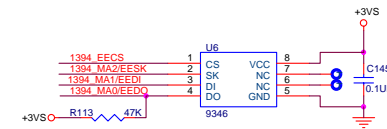
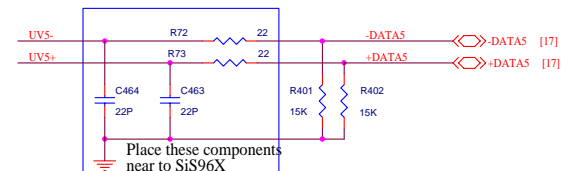
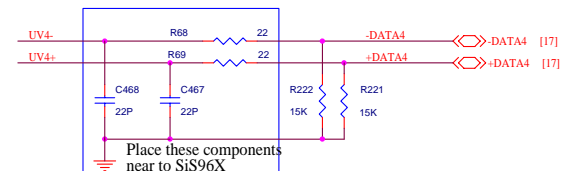
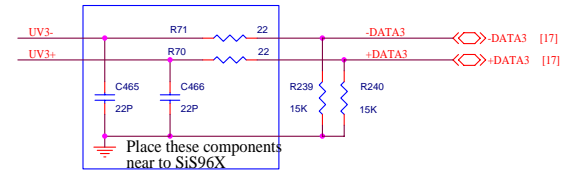
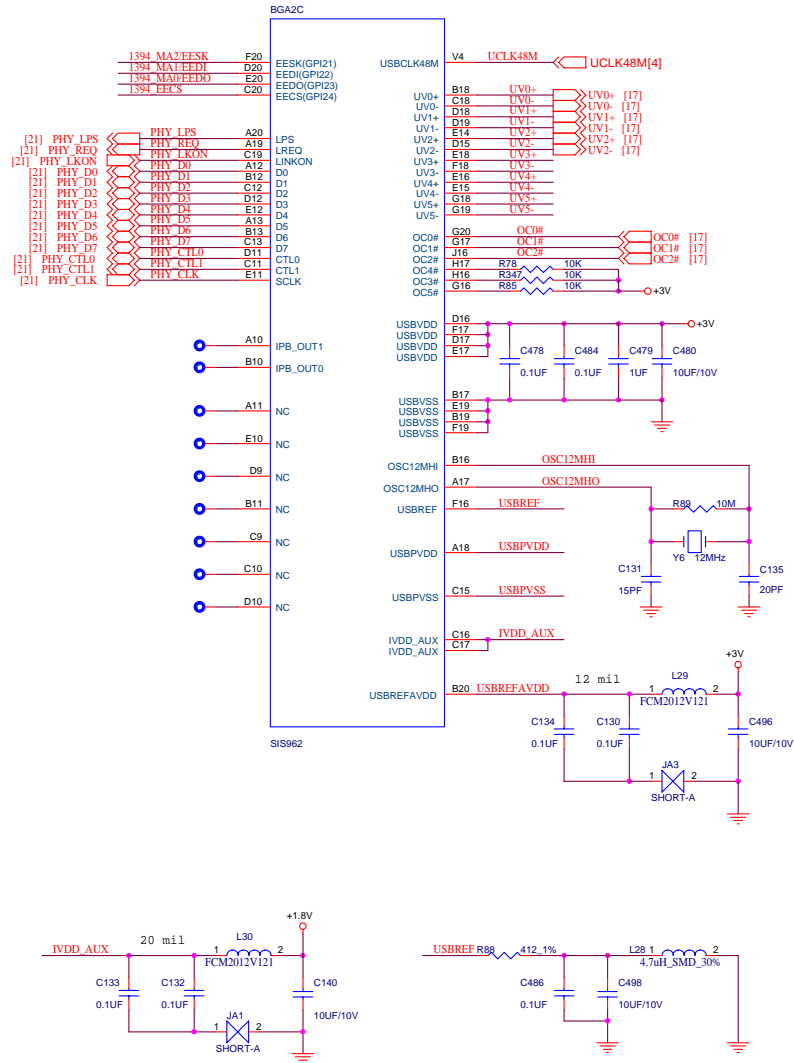


Sheet 14 of 35  
962 (Misc Signals)  
2 of 4

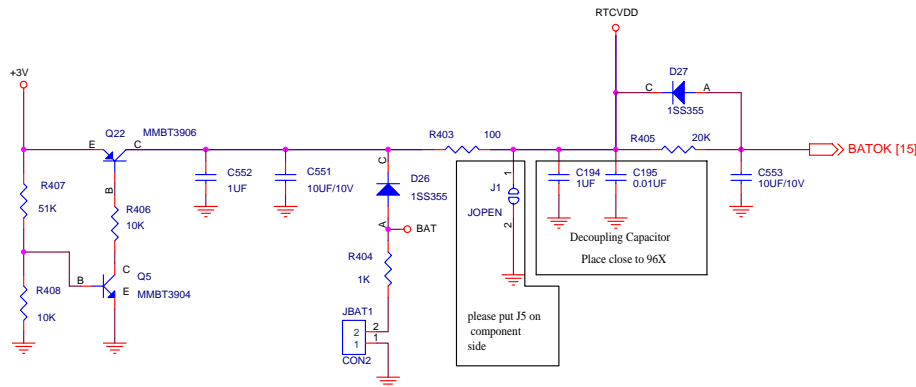
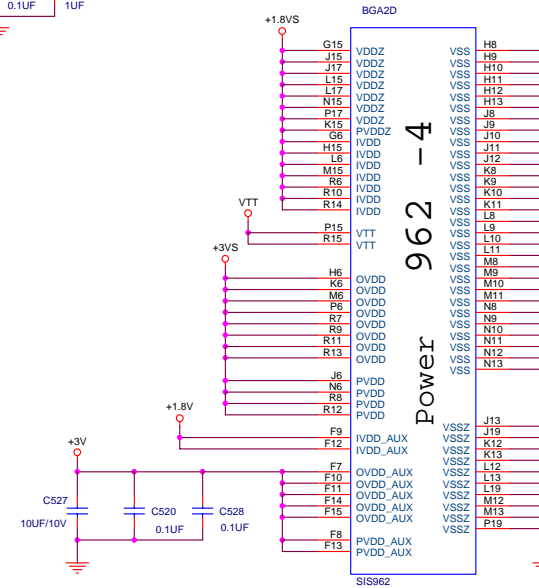
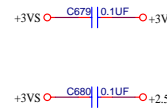
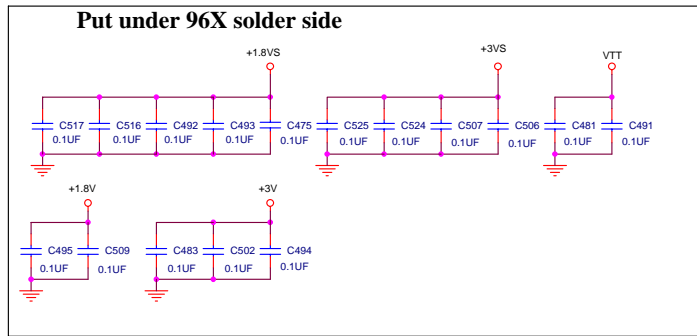
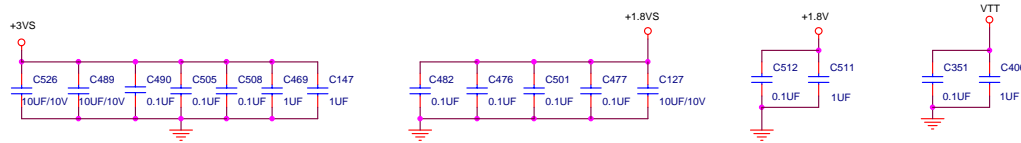
B. Schematic Diagrams

# 962 (USB I/F) 3 of 4

Sheet 15 of 35  
962 (USB I/F)  
3 of 4



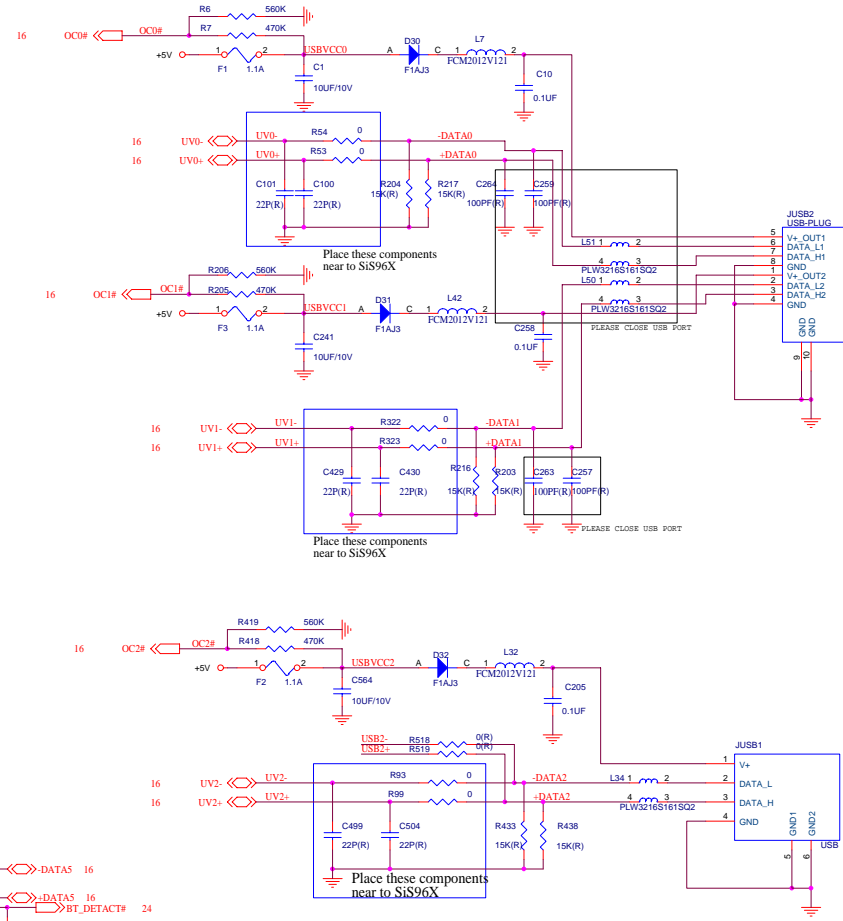
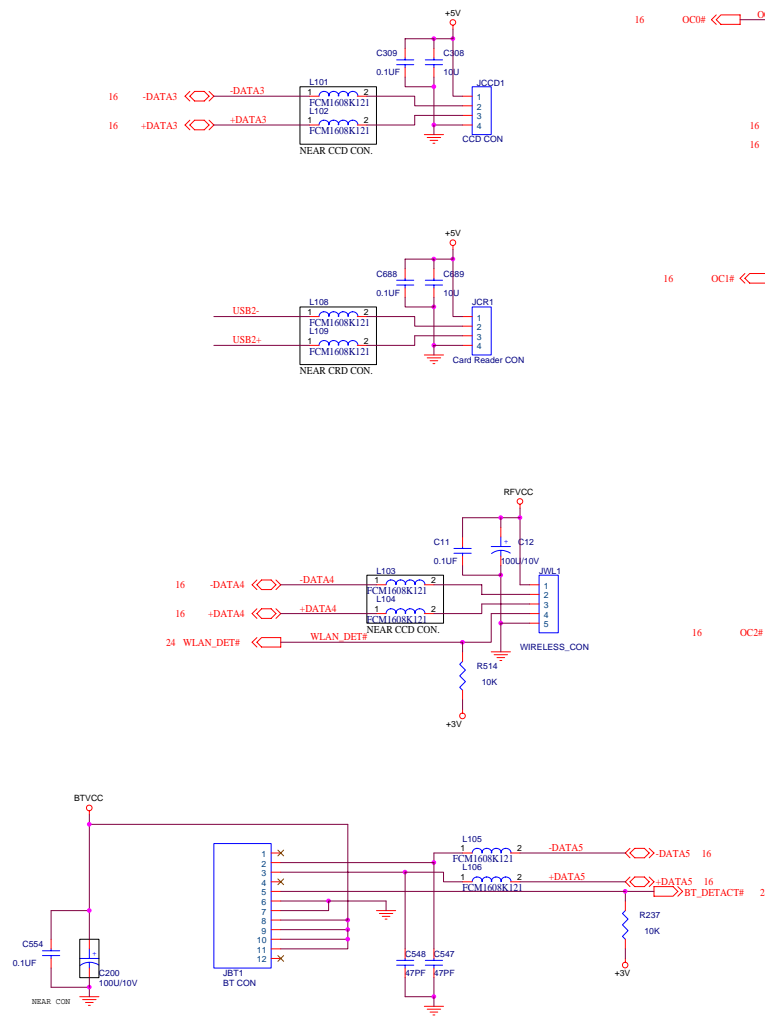
# 962 (Power & RTC) 4 of 4



Sheet 16 of 35  
962 (Power & RTC)  
4 of 4



# USB Port

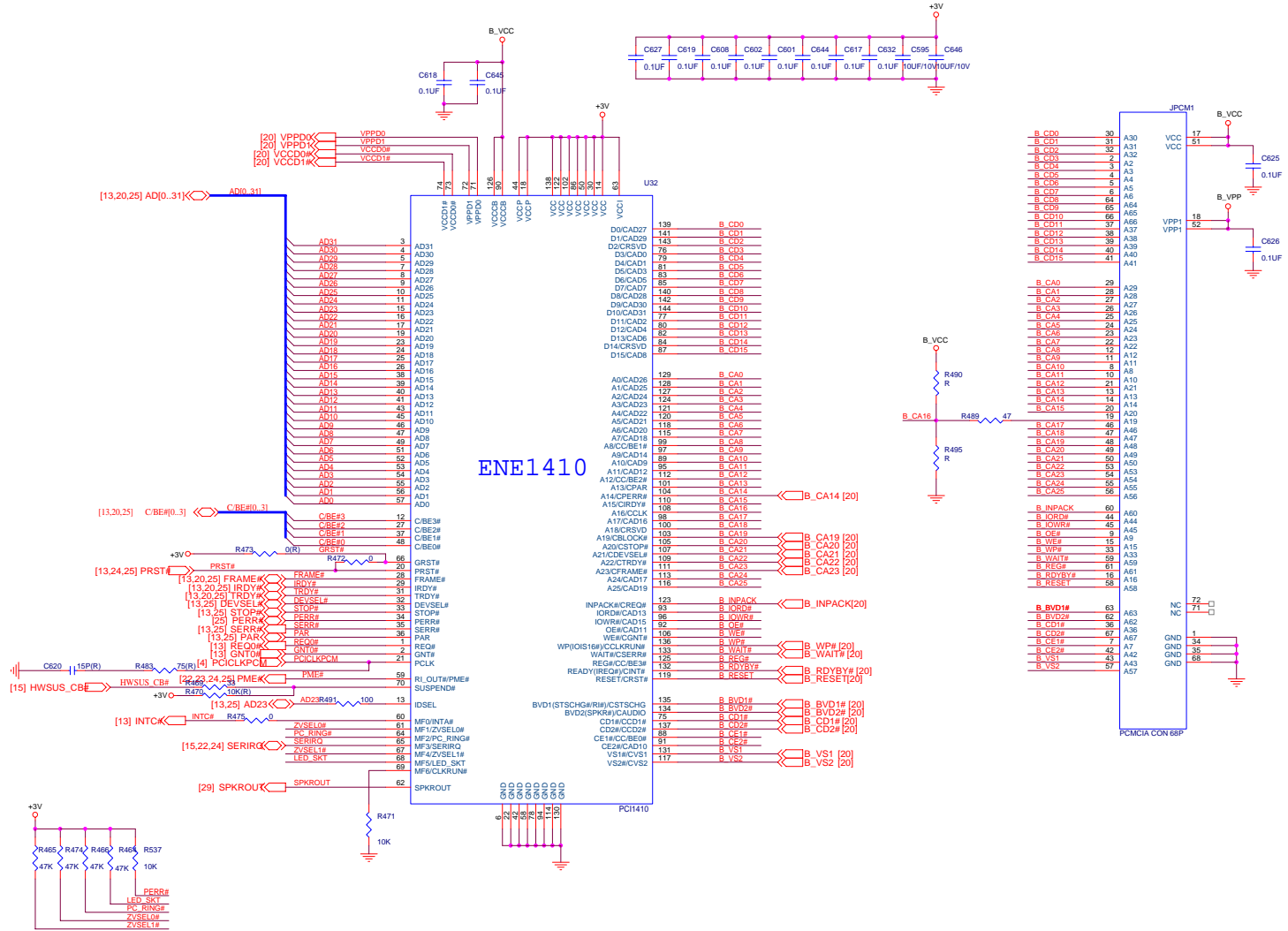


Sheet 18 of 35  
USB Port

B.Schematic Diagrams

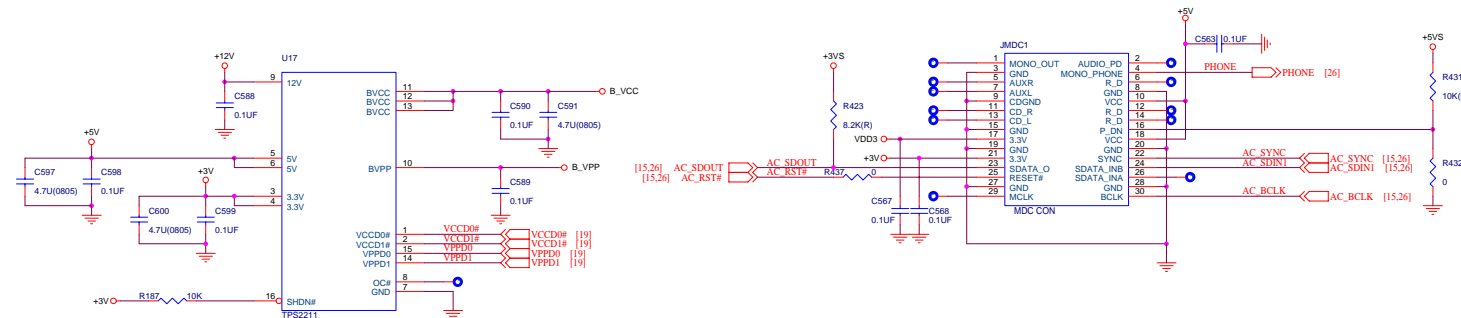
# PCMCIA TI1410

Sheet 19 of 35  
PCMCIA TI1410



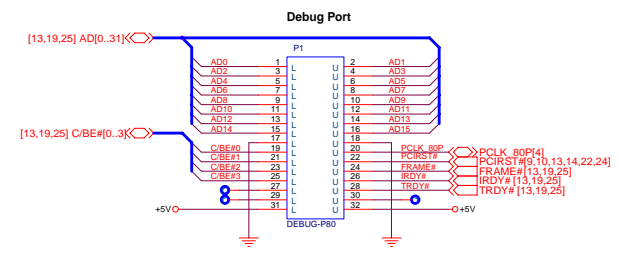
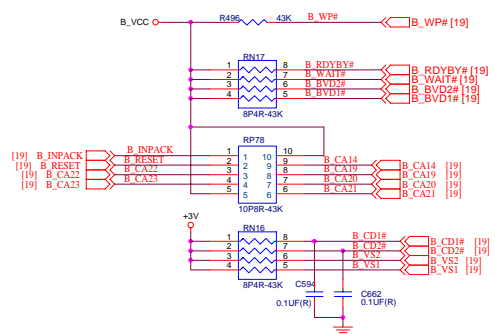


# PCMCIA Power



Sheet 20 of 35  
PCMCIA Power

B. Schematic Diagrams

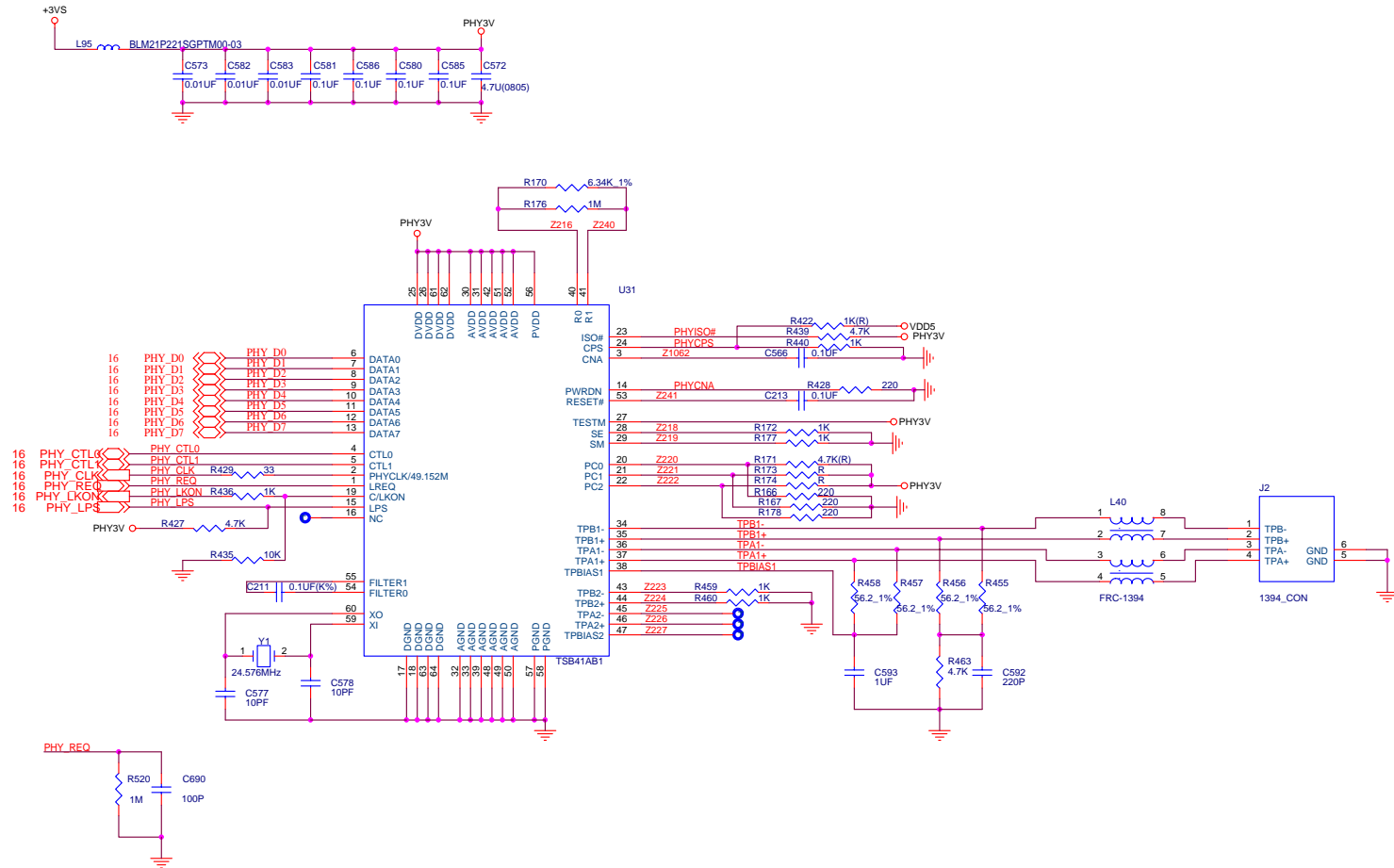


# Schematic Diagrams

## 1394 PHY TSB41LV01

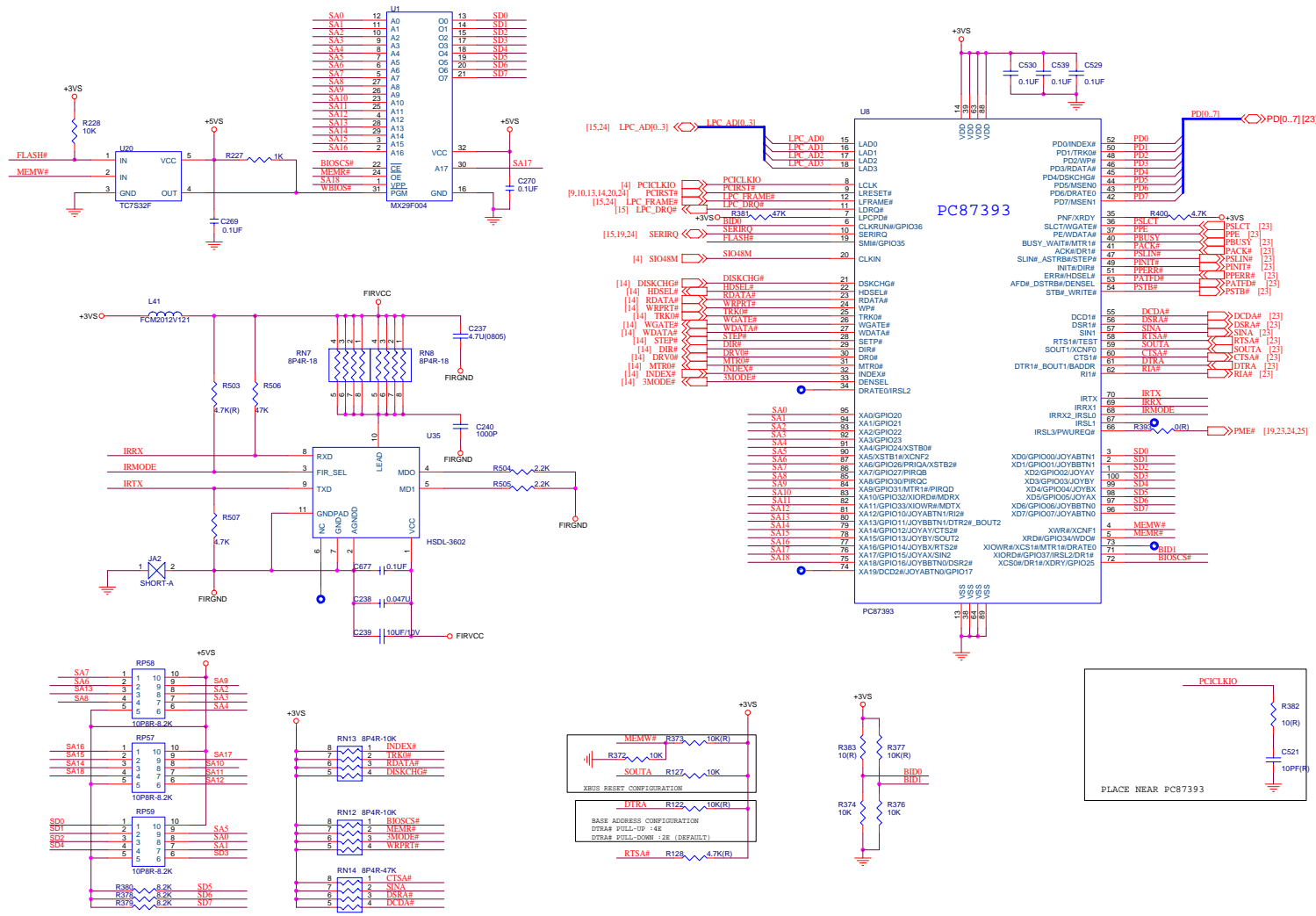
B.Schematic Diagrams

Sheet 21 of 35  
1394 PHY  
TSB41LV01



# LPC S/I/O

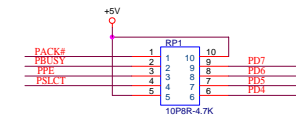
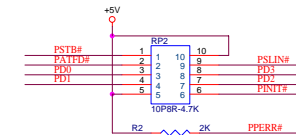
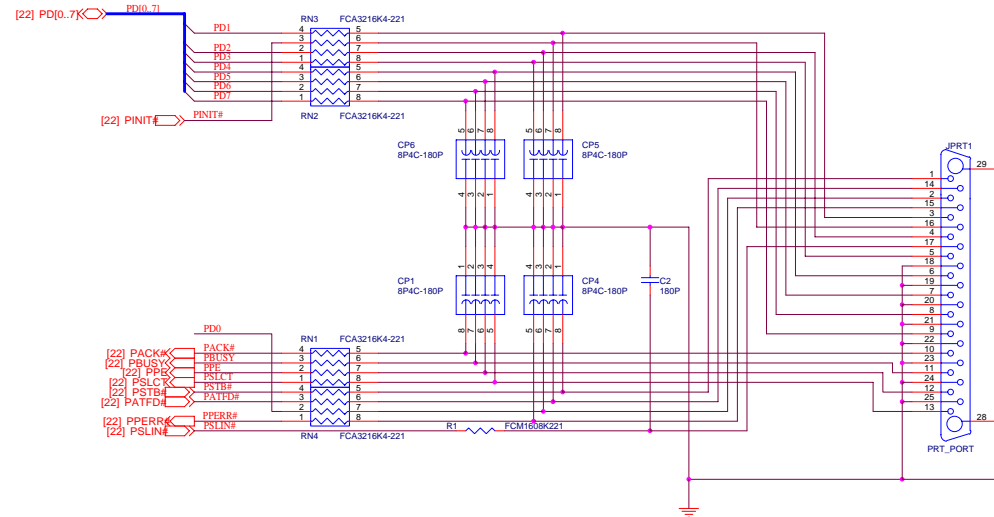
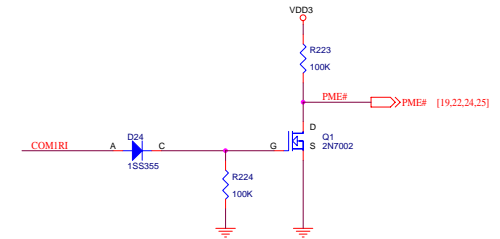
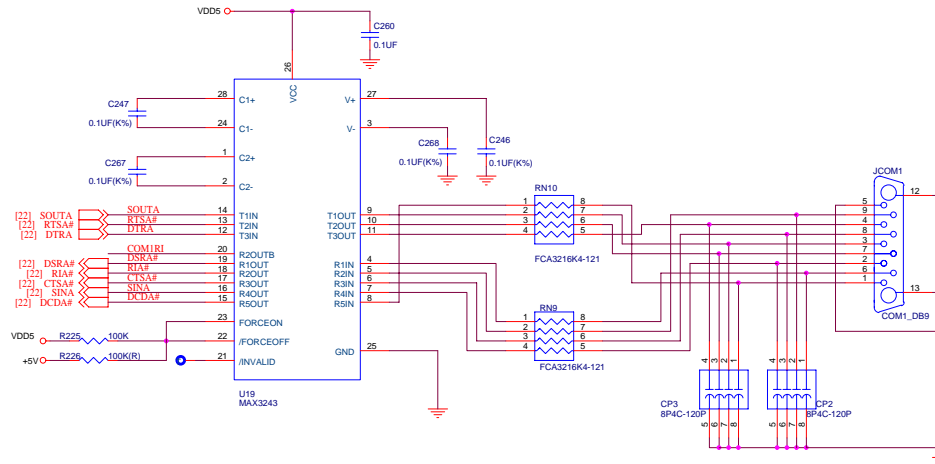
Sheet 22 of 35  
LPC S/I/O



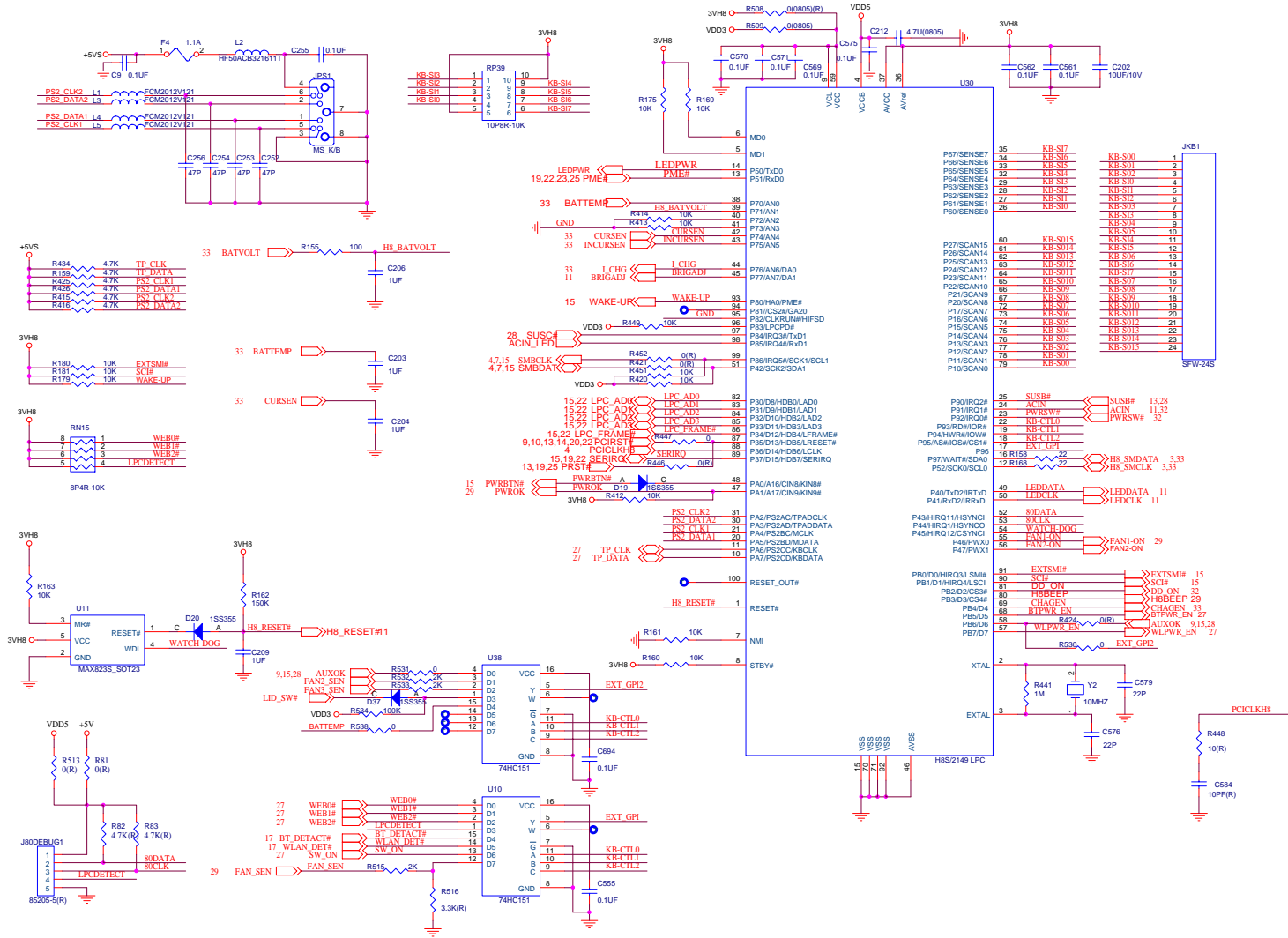
# Schematic Diagrams

## LPT/COM Port

Sheet 23 of 35  
LPT/COM Port



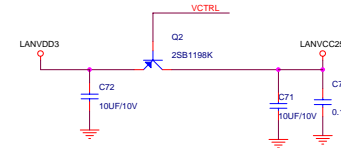
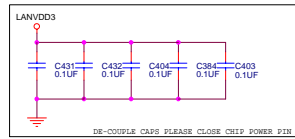
# LPC H8



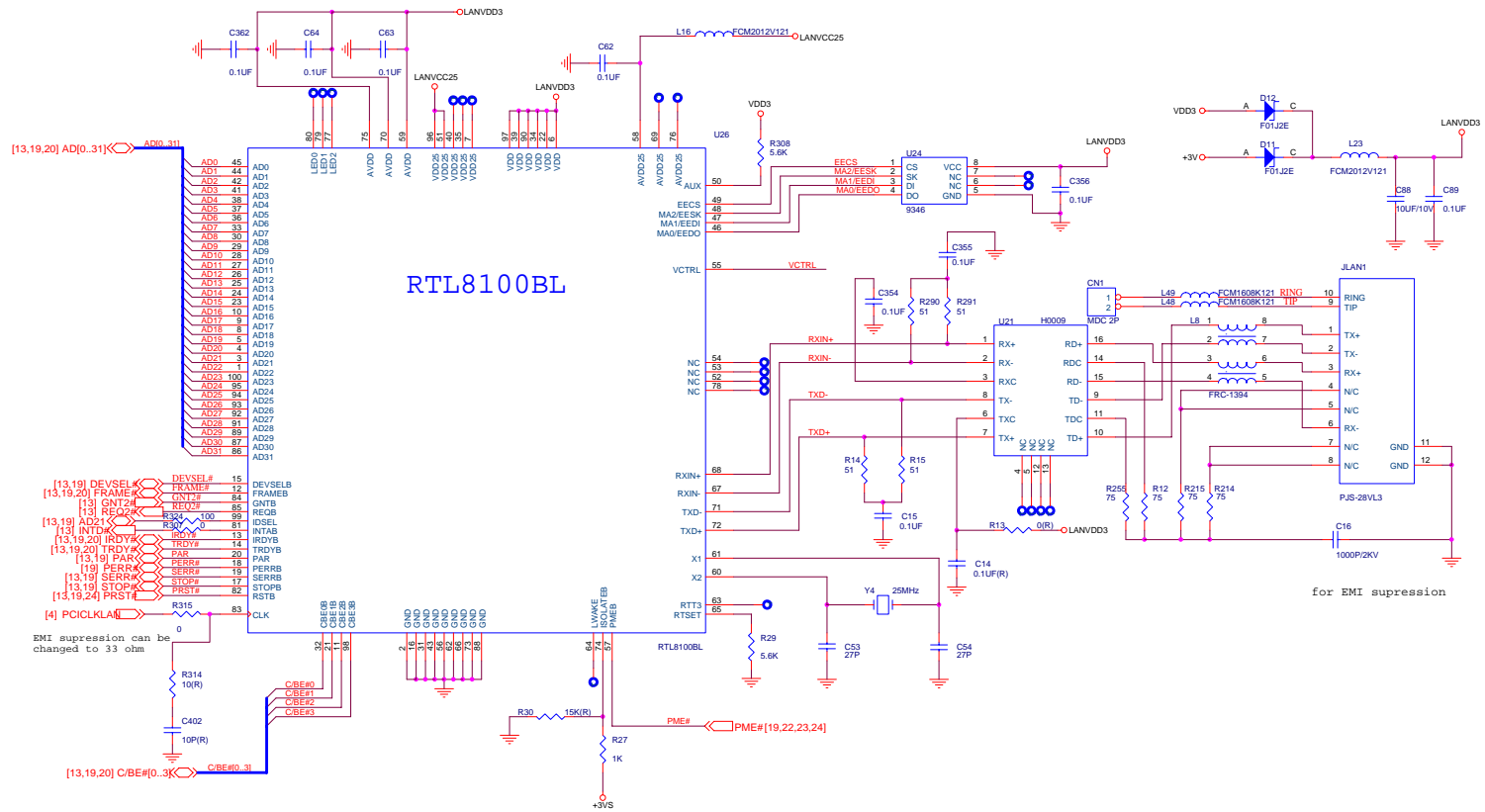
Sheet 24 of 35  
LPC H8

# Schematic Diagrams

## LAN RTL8100BL



\*For RTL8100C application, all bead must be rated 300mA/100ohm@100kHz  
The maximum voltage drop when on should be less than 0.3V

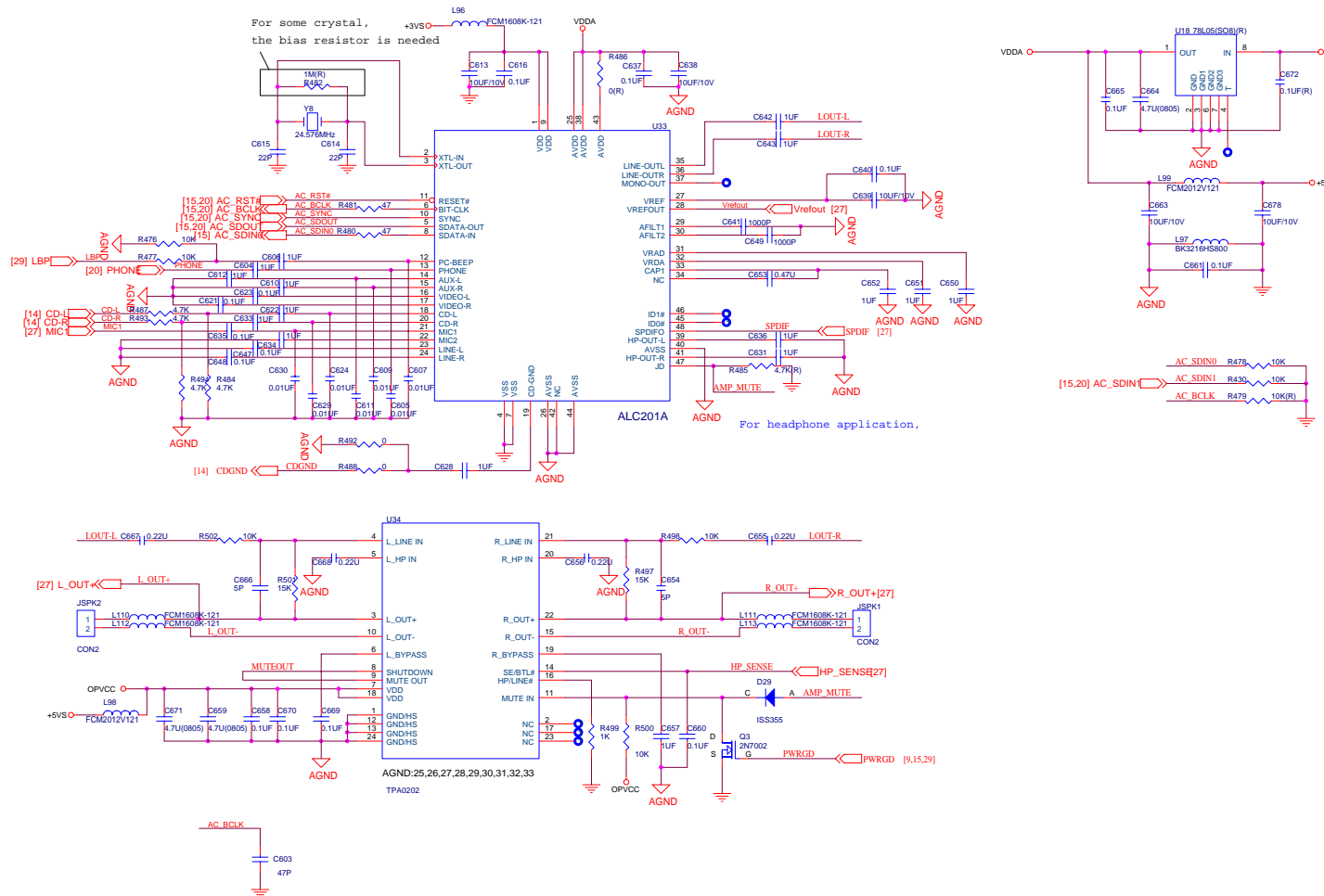


for EMI suppresion

B.Schematic Diagrams

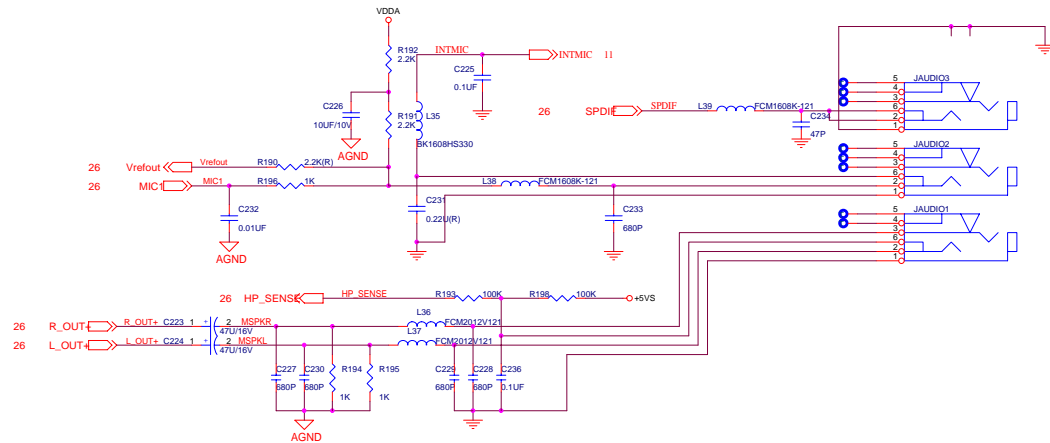
Sheet 25 of 35  
LAN RTL8100BL

# Audio Codec ALC201A



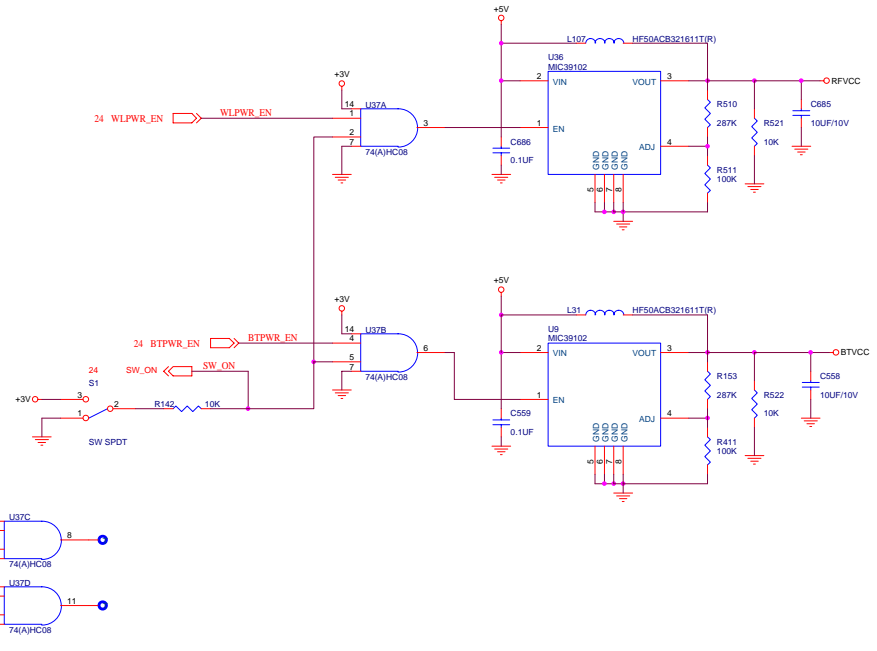
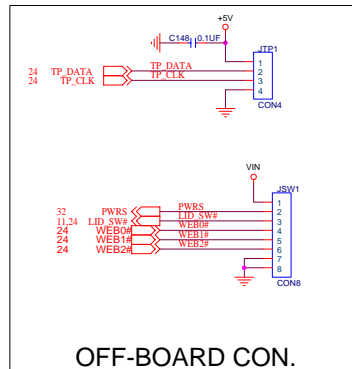
Sheet 26 of 35  
Audio Codec  
ALC201A

# Audio Out & Off Board Connectors



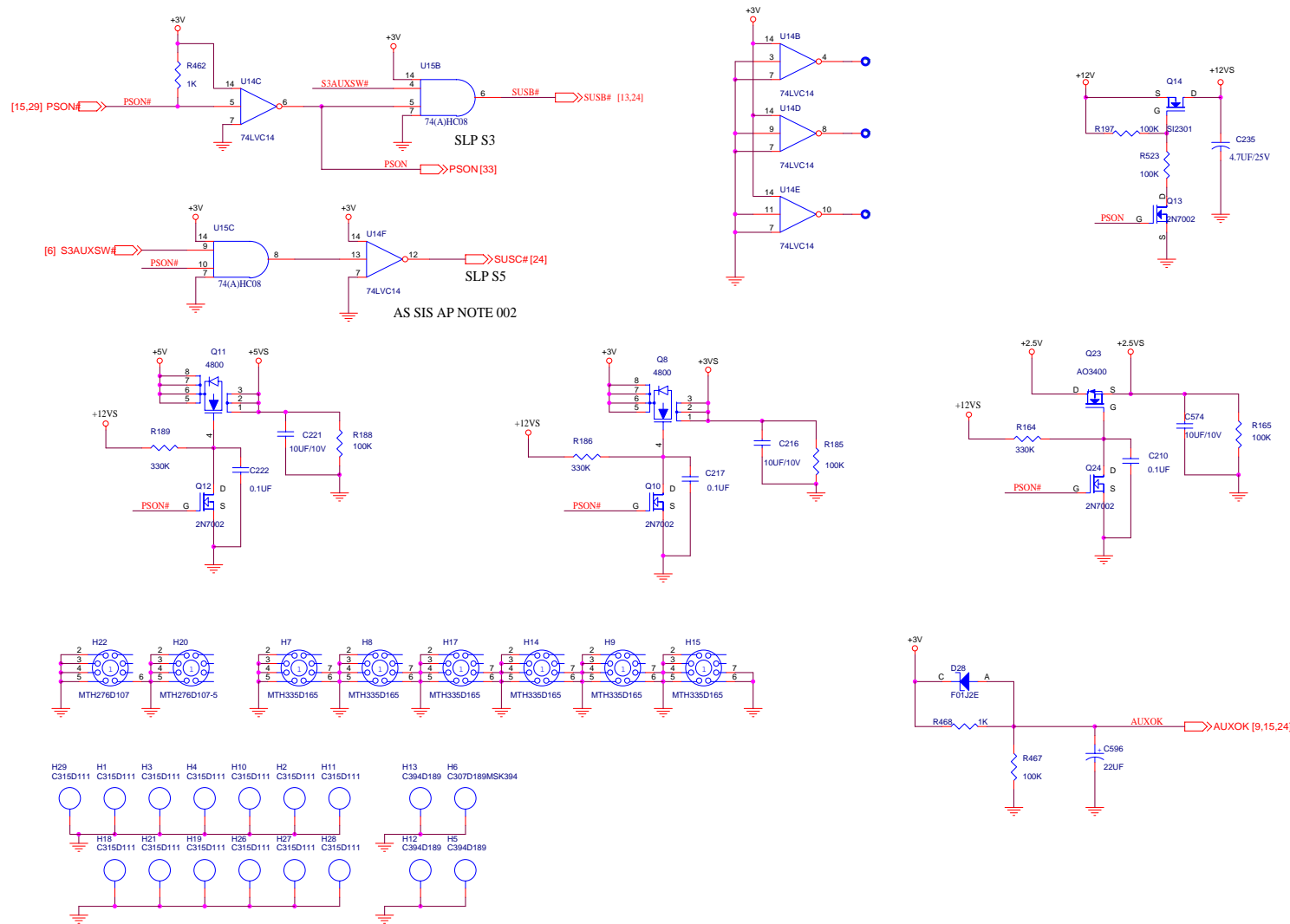
SPDIF OUT  
MIC IN  
SPEAKER OUT

Sheet 27 of 35  
Audio Out & Off  
Board Connectors





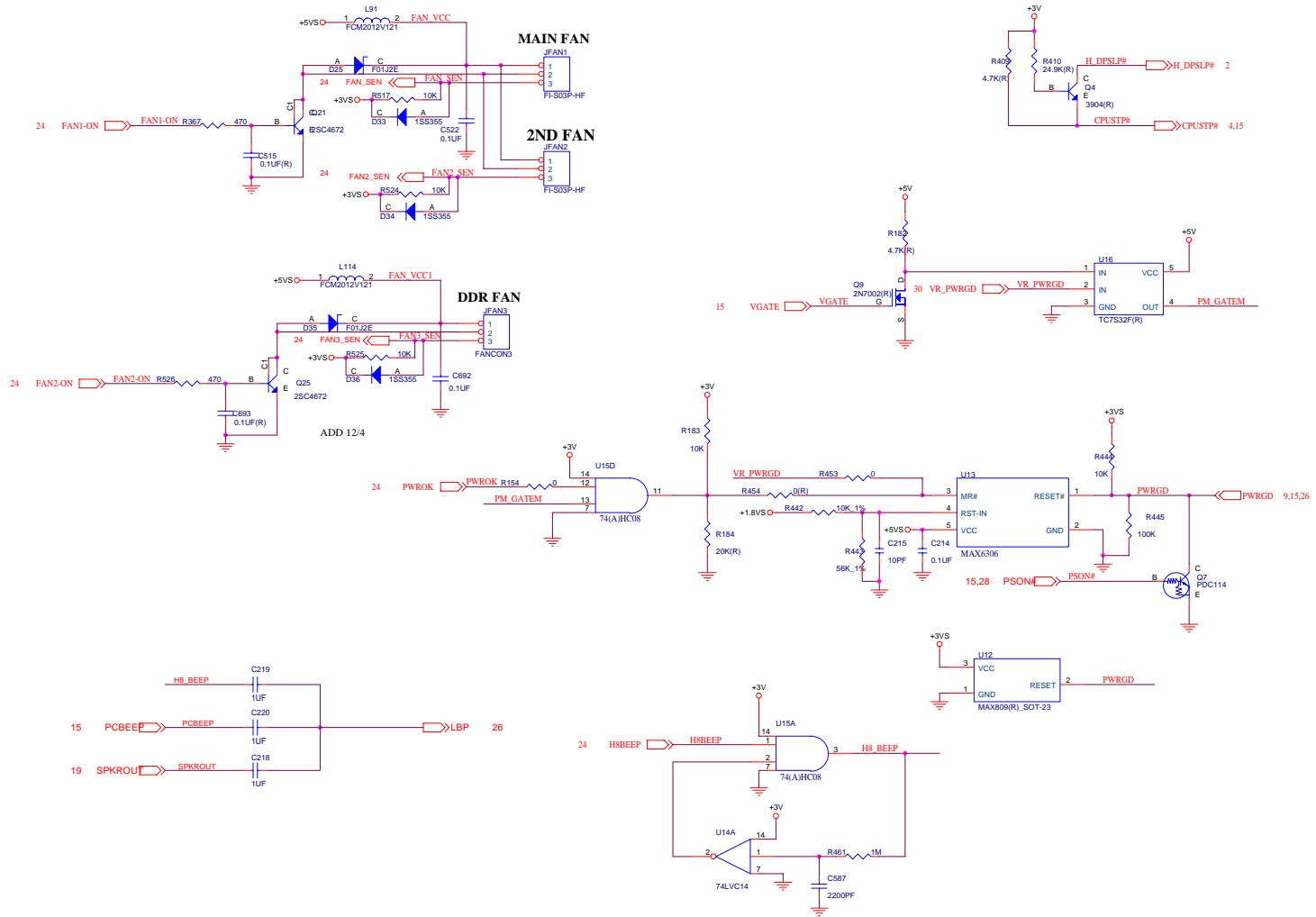
# System Power Control



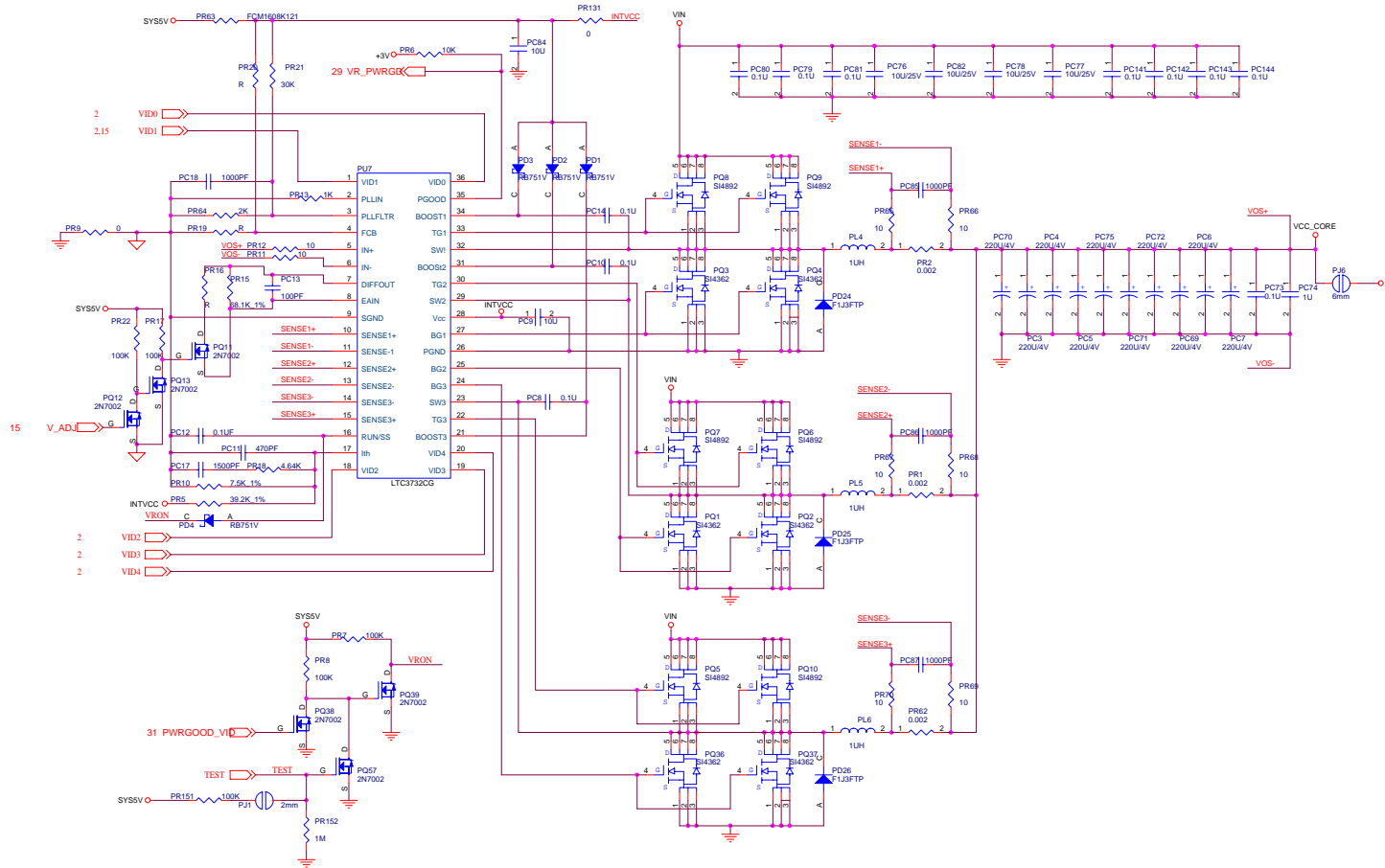
Sheet 28 of 35  
System Power  
Control

# Fan Control and SpeedStep

Sheet 29 of 35  
Fan Control &  
SpeedStep



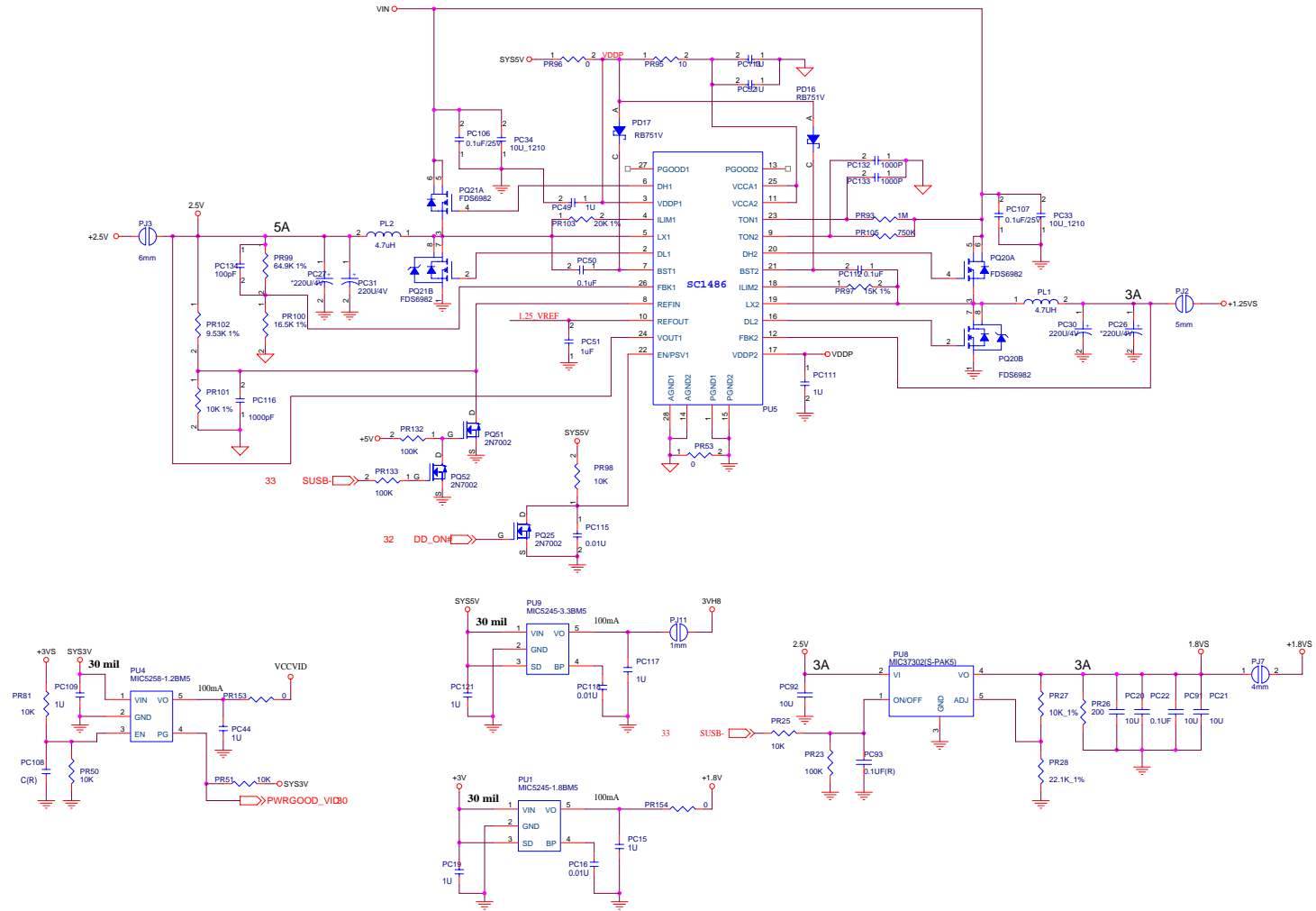
# VCORE



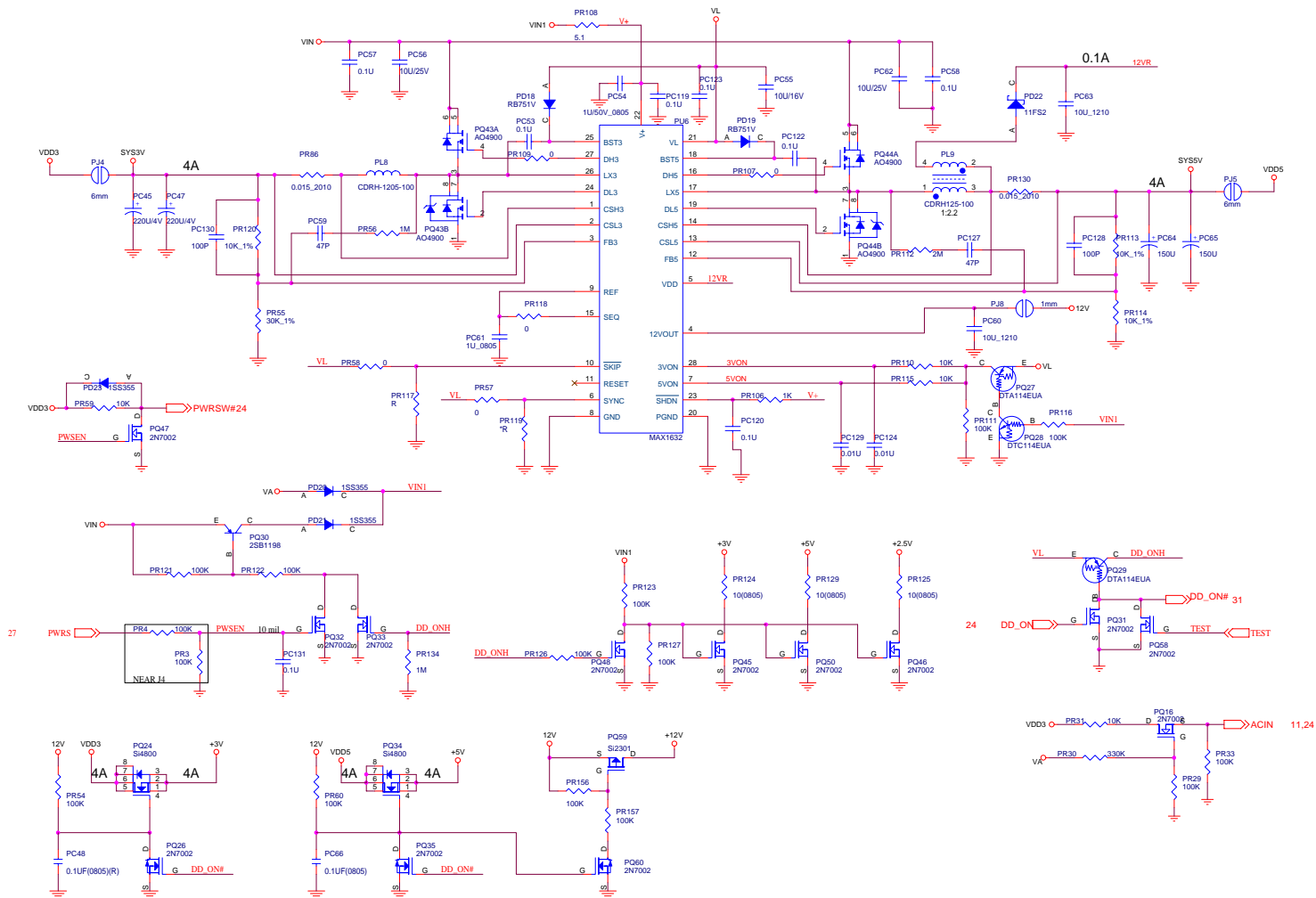
Sheet 30 of 35  
VCORE

# DDR Power

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DDR Power



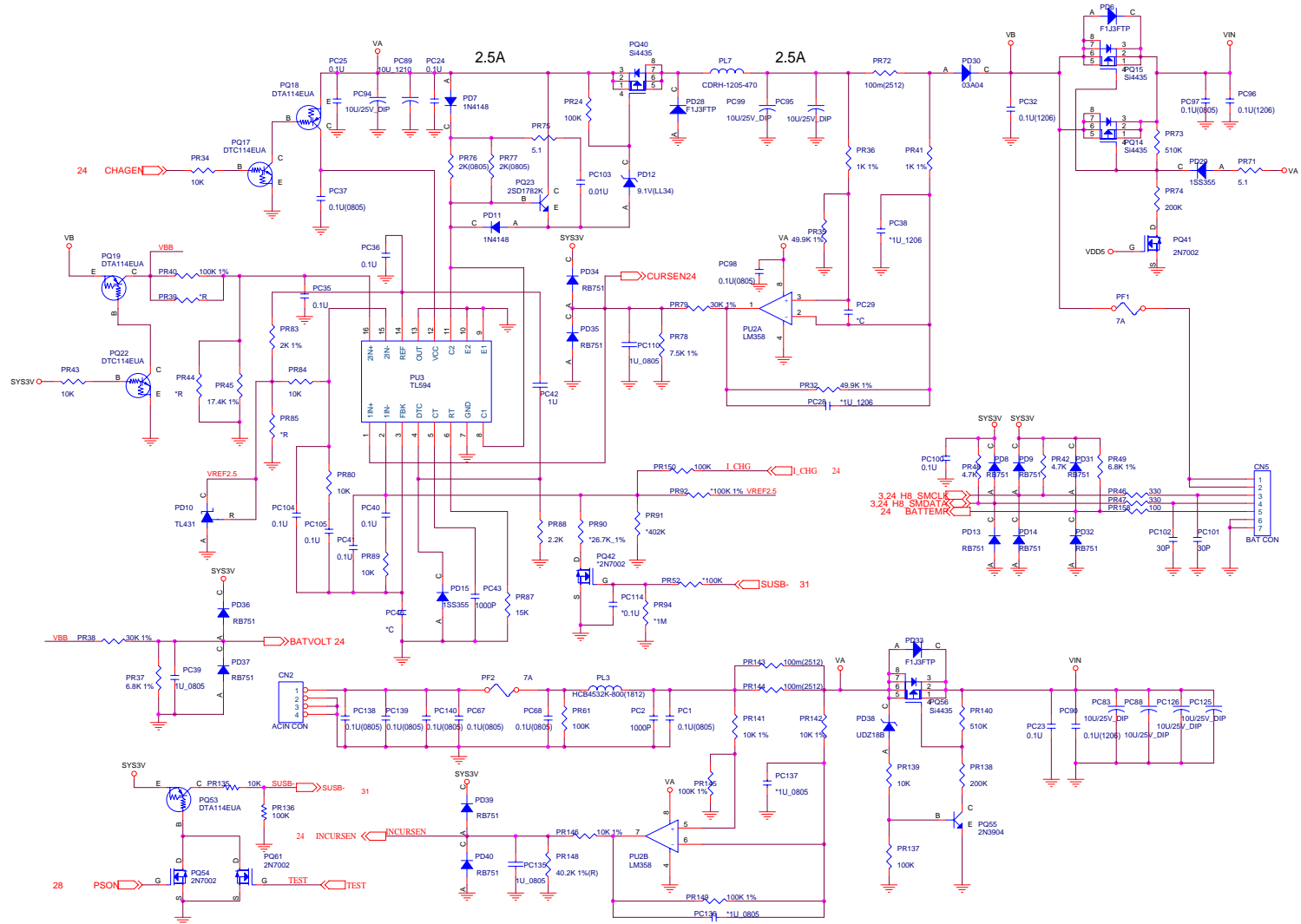
## System

Sheet 32 of 35  
System

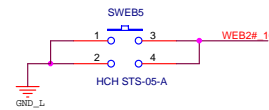
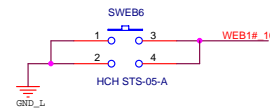
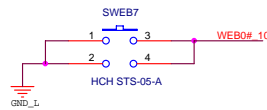
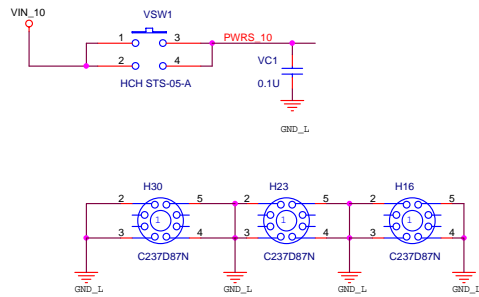
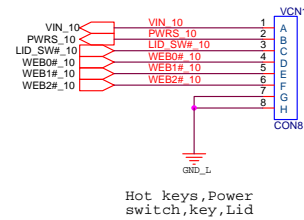
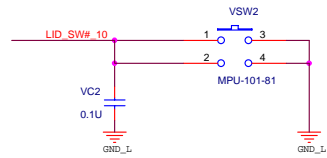
B.Schematic Diagrams

# Charger

Sheet 33 of 35  
Charger



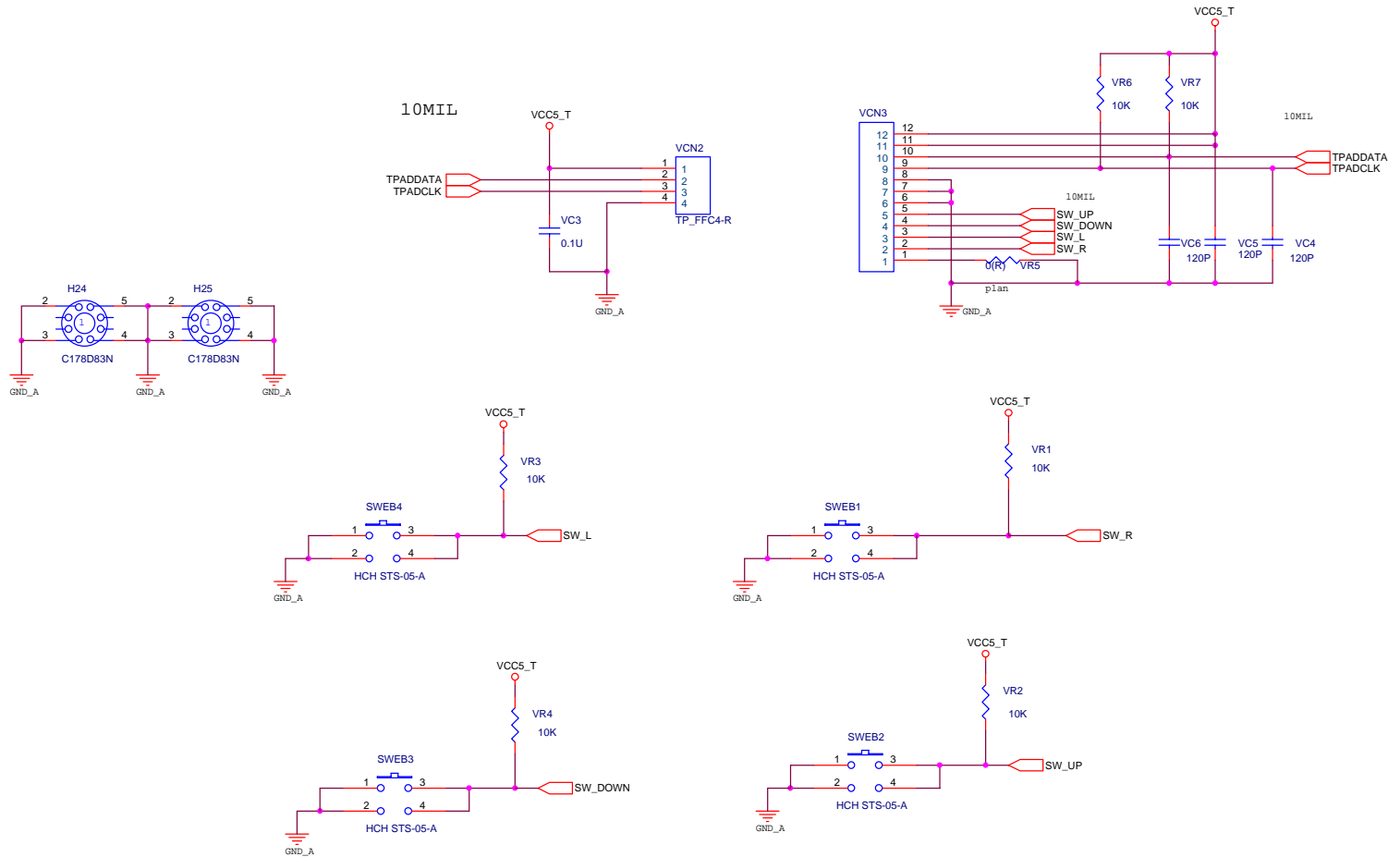
# SW Board and HotKey



Sheet 34 of 35  
SW Board and  
HotKey

# TouchPad and Switch Board

Sheet 35 of 35  
TouchPad and  
Switch Board





# Appendix C:Updating the FLASH ROM BIOS

## To update the FLASH ROM BIOS you must:

- Download the BIOS update from the web site.
  - Unzip the files onto a bootable Floppy Disk.
  - Reboot your computer from the FDD.
  - Use the flash tools to update the flash BIOS.
  - Restart the computer booting from the HDD.
1. Using your web browser go to [www.clevo.com.tw](http://www.clevo.com.tw)
  2. Choose **Download** from the menu bar at the top of the page.
  3. In the **Driver** section select the model of your computer (**D400S/D410S Series**) and the driver type (**BIOS**).
  4. Select **GO**.
  5. Click on **D4x0Sxxx.zip** to download the BIOS files (including BIOS refresh tools).

## Unzip the file you have just downloaded on to a bootable floppy disk.

*(The files you should see on this disk are: Phlash.exe, autoexec.bat, Platform.bin, D4x0Sxxx.ROM & Readme.txt)*

1. With the bootable floppy disk containing the BIOS files in your floppy drive, restart the computer.
2. The BIOS refresh process will execute automatically.
3. Reboot the computer and enter the BIOS setup.
4. Exit the BIOS and restore the default settings by choosing “Save and Exit”.