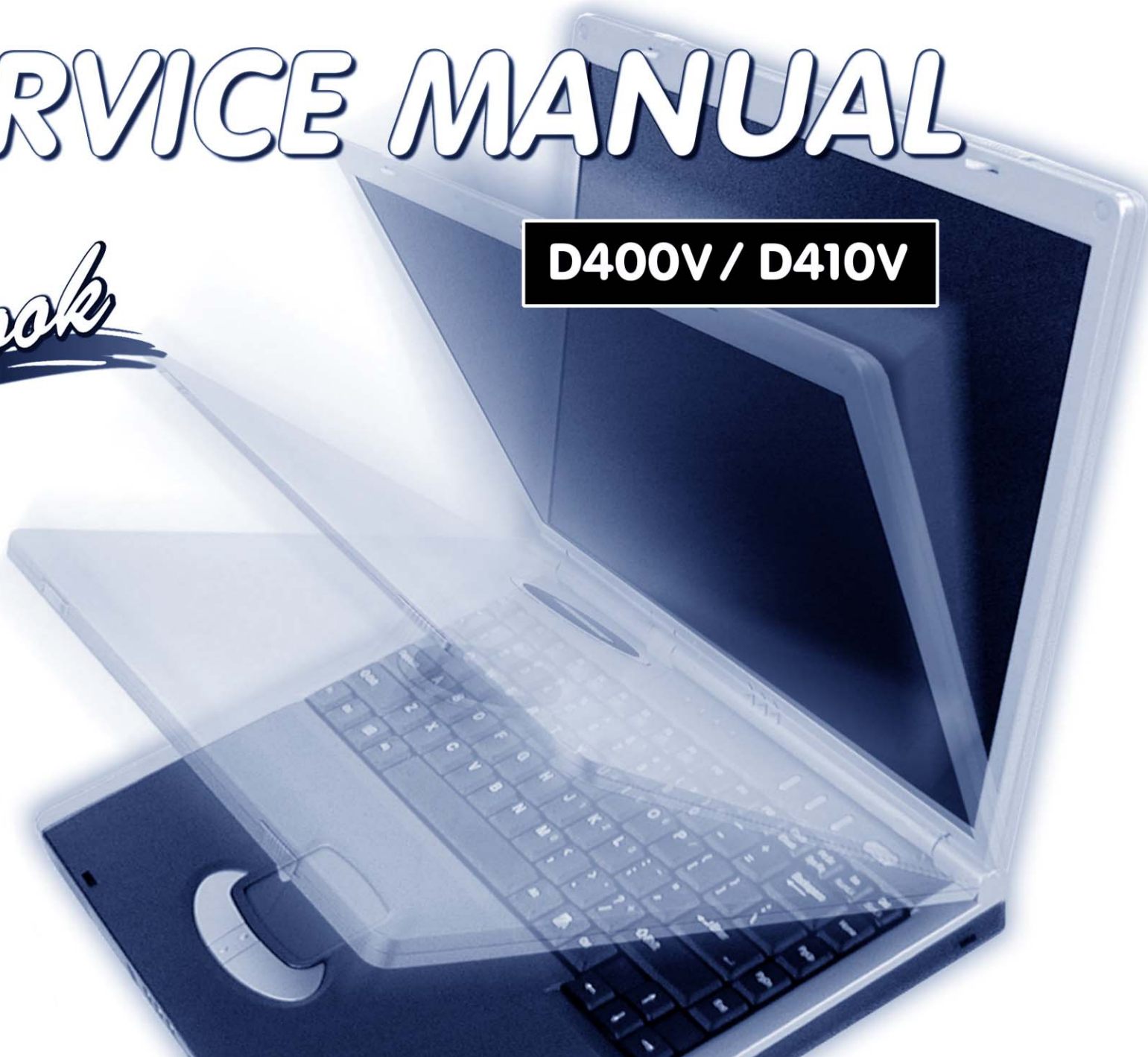


SERVICE MANUAL

notebook

D400V / D410V



Notebook Computer

D400V/D410V

Service Manual

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Version 1.0
December 2003

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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 *D400V/D410V* 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

IMPORTANT SAFETY INSTRUCTIONS

When using your telephone equipment, basic safety precautions should always be followed to reduce the risk of fire, electric shock and injury to persons, including the following:

1. Do not use this product near water, for example near a bath tub, wash bowl, kitchen sink or laundry tub, in a wet basement or near a swimming pool.
2. Avoid using a telephone (other than a cordless type) during an electrical storm. There may be a remote risk of electrical shock from lightning.
3. Do not use the telephone to report a gas leak in the vicinity of the leak.
4. Use only the power cord and batteries indicated in this manual. Do not dispose of batteries in a fire. They may explode. Check with local codes for possible special disposal instructions.
5. This product is intended to be supplied by a Listed Power Unit (DC Output 20V, 6A).

CAUTION

Always disconnect all telephone lines from the wall outlet before servicing or disassembling this equipment.

**TO REDUCE THE RISK OF FIRE, USE ONLY NO. 26 AWG OR LARGER,
TELECOMMUNICATION LINE CORD**

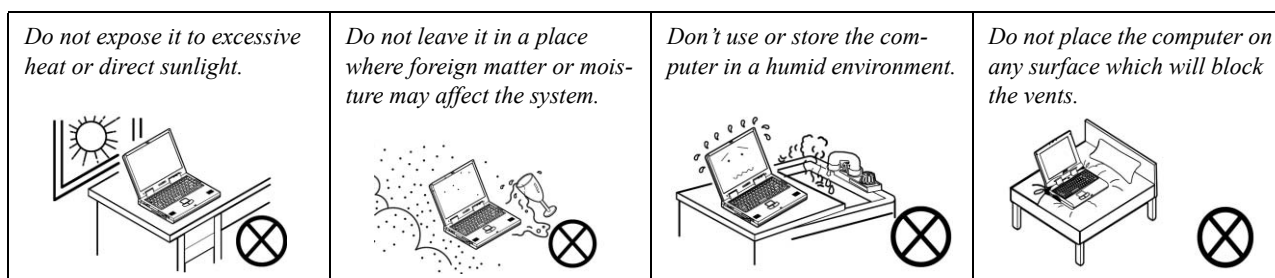
Instructions for Care and Operation

The notebook computer is quite rugged, but it can be damaged. To prevent this, follow these suggestions:

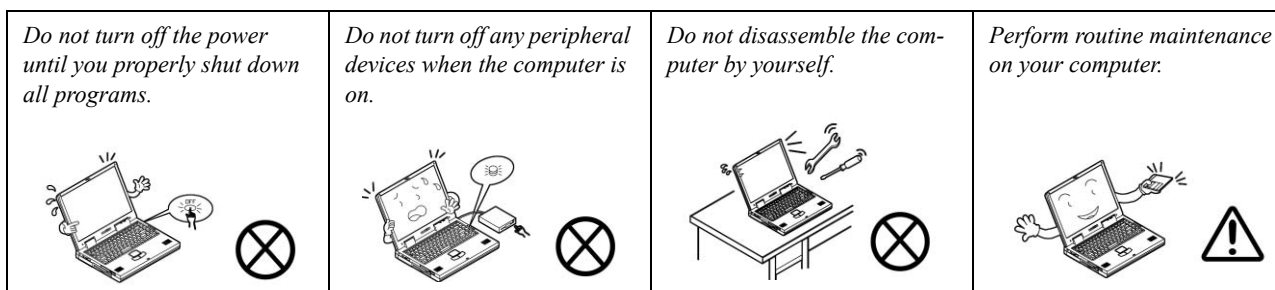
1. **Don't drop it, or expose it to shock.** If the computer falls, the case and the components could be damaged.



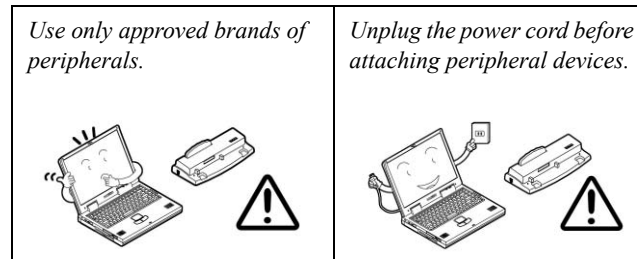
2. **Keep it dry, and don't overheat it.** Keep the computer and power supply away from any kind of heating element. This is an electrical appliance. If water or any other liquid gets into it, the computer could be badly damaged.



3. **Follow the proper working procedures for the computer.** Shut the computer down properly and don't forget to save your work. Remember to periodically save your data as data may be lost if the battery is depleted.



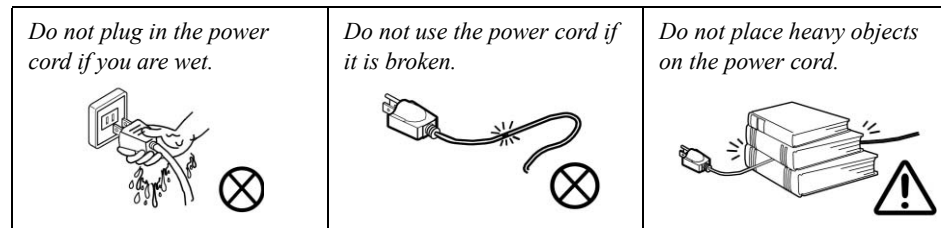
4. **Avoid interference.** Keep the computer away from high capacity transformers, electric motors, and other strong magnetic fields. These can hinder proper performance and damage your data.
5. **Take care when using peripheral devices.**



Power Safety

The computer has specific power requirements:

- Only use a power adapter approved for use with this computer.
- Your AC adapter may be designed for international travel but it still requires a steady, uninterrupted power supply. If you are unsure of your local power specifications, consult your service representative or local power company.
- The power adapter may have either a 2-prong or a 3-prong grounded plug. The third prong is an important safety feature; do not defeat its purpose. If you do not have access to a compatible outlet, have a qualified electrician install one.
- When you want to unplug the power cord, be sure to disconnect it by the plug head, not by its wire.
- Make sure the socket and any extension cord(s) you use can support the total current load of all the connected devices.
- Before cleaning the computer, make sure it is disconnected from any external power supplies.



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.

Battery Precautions

- Only use batteries designed for this computer. The wrong battery type may explode, leak or damage the computer.
- Recharge the batteries using the notebook's system. Incorrect recharging may make the battery explode.
- Do not try to repair a battery pack. Refer any battery pack repair or replacement to your service representative or qualified service personnel.
- Keep children away from, and promptly dispose of a damaged battery. Always dispose of batteries carefully. Batteries may explode or leak if exposed to fire, or improperly handled or discarded.
- Keep the battery away from metal appliances.
- Affix tape to the battery contacts before disposing of the battery.
- Do not touch the battery contacts with your hands or metal objects.



Battery Disposal

The product that you have purchased contains a rechargeable battery. The battery is recyclable. At the end of its useful life, under various state and local laws, it may be illegal to dispose of this battery into the municipal waste stream. Check with your local solid waste officials for details in your area for recycling options or proper disposal.

Caution

Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Discard used battery according to the manufacturer's instructions.

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 **D400V/D410V** 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 **D400V/D410V** series notebook is designed to be upgradeable. See ***“Disassembly” on page 2 - 1*** for a detailed description of the upgrade procedures for each specific component. Please note the warning and safety information indicated by the “” symbol.

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

System Specifications

Feature	Specification		
Processor Types	<p>Intel Pentium® 4 Processor (478-pin) FC-PGA2 Package (μ0.13) 0.13 Micron Process Technology, 512KB On-die L2 Cache & 800MHz Front Side Bus - 2.4 ~ 3.2 GHz</p> <p>Intel Pentium® 4 Processor (478-pin) FC-PGA2 Package (μ0.13) 0.13 Micron Process Technology, 512KB On-die L2 Cache & 533MHz Front Side Bus - 2.26 ~ 3.06 GHz</p> <p>Mobile Intel Pentium® 4 (Portability) Processor (478-pin) FC-PGA2 Package (μ0.13) 0.13 Micron Process Technology, 512KB On-die L2 Cache & 533MHz Front Side Bus - 2.26 ~ 3.06 GHz</p>		
Core Logic	SiS 648FX + 963		
Security	Security (Kensington® Type) Lock Slot, BIOS Password		
Memory	Two 200 Pins SODIMM Sockets, supporting DDR 333/ 400 MHz Modules Expandable up to 1024 MB (128/ 256/ 512MB DDR Modules)		
BIOS	One 512KB Flash ROM, Phoenix BIOS		
LCD Options	15.0" - XGA TFT (1024x768) 15.0" - SXGA+ TFT (1400x1050)		
Display	<table border="0"> <tr> <td>ATI Mobility Radeon 9600 PRO (M10), AGP™ 8X 2D/3D graphics engine Advanced HW accelerator for DVD playback Fully DirectX 9 compliant notebook GPU</td> <td>128-bit memory interface External memory up to 128MB DDR SGRAM On Board Dual-view display monitor</td> </tr> </table>	ATI Mobility Radeon 9600 PRO (M10), AGP™ 8X 2D/3D graphics engine Advanced HW accelerator for DVD playback Fully DirectX 9 compliant notebook GPU	128-bit memory interface External memory up to 128MB DDR SGRAM On Board Dual-view display monitor
ATI Mobility Radeon 9600 PRO (M10), AGP™ 8X 2D/3D graphics engine Advanced HW accelerator for DVD playback Fully DirectX 9 compliant notebook GPU	128-bit memory interface External memory up to 128MB DDR SGRAM On Board Dual-view display monitor		
Device Bay Options	<table border="0"> <tr> <td>Bay One: Fixed 6-in-1 Card Reader Module</td> <td>Bay Two: CD-ROM DVD-ROM Combination DVD-ROM/CD-RW CD-RW DVD-RW</td> </tr> </table>	Bay One: Fixed 6-in-1 Card Reader Module	Bay Two: CD-ROM DVD-ROM Combination DVD-ROM/CD-RW CD-RW DVD-RW
Bay One: Fixed 6-in-1 Card Reader Module	Bay Two: CD-ROM DVD-ROM Combination DVD-ROM/CD-RW CD-RW DVD-RW		

Feature	Specification	
Hard Disk	Easy changeable 2.5" 9.5/12.7 mm (h) Hard Disk Drive Supports Master mode IDE Supports PIO mode 4, ATA-33/ 66/ 100/ 133, Ultra ATA Port	
PC Card	One Type II PCMCIA 3.3V/5V socket supporting CardBus	
Keyboard	"WinKey" keyboard, Multi-Language	
Pointing Device	Built-in TouchPad (scrolling key functionality integrated)	
Audio	AC'97 compliant interface 3D stereo enhanced sound system Compatible Sound-Blaster PRO™	S/PDIF Digital output (5.1 CH) Built-in microphone 2 Built-in speakers
Interface	Two USB 2.0 ports One Mini-IEEE 1394 port One S-Video out port for TV output One serial port One parallel port (LPT1) One infrared transceiver supporting IrDA 1.1 FIR/ SIR/ASKIR One external monitor (VGA) port One PS/2 Port	One headphone-out jack One microphone-in jack One RJ-11 jack for modem One RJ-45 jack for LAN One DC-In jack One S/PDIF out port 3 Built-in hot-key buttons: WWW, E-Mail, & application
Communication	56K Plug & Play modem (V.90 & V.92 Compliant) Infrared transfer: 115.2K bps SIR/ 4M bps FIR, IrDA 1.1 compliant 802.11b wireless LAN module (option) PC Camera module (factory option) Bluetooth module (option) 1000Base-T (Gigabit) LAN on-board (10/ 100 Base-T compatible)	
Power Management	Supports ACPI v1.0b Supports Standby mode Supports Hibernate mode	Supports Battery low suspend Supports resume from modem ring
Power	Full Range AC adapter AC Input: 100~240V, 50~60Hz DC Output: 20V, 6.0A, 120W	One removable Smart Li-Ion battery

Introduction

Feature	Specification	
Indicator	LED indicators (Power On/ AC-In/ Suspend, Battery Charging/Battery Full, E-Mail, HDD, Num Lock, Caps Lock, Scroll Lock)	
Environmental Spec	Temperature Operating: 5°C ~ 35°C Non-Operating: -20°C ~ 60°C	Relative Humidity 20% ~ 80% 10% ~ 90%
Physical Dimensions	329 (w) x 275 (d) x 36.5 (h) mm	
Weight	Around 2.8 kg (depend on optional modules included) without battery	
Optional	DVD-ROM Drive module DVD-ROM & CD-RW Combo Drive module CD-RW Drive module DVD-RW Drive module Software DVD Player	Wireless LAN module Bluetooth module PC Camera module

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.



Design I



Design II

Figure 1
Design Differences

External Locator - Top View

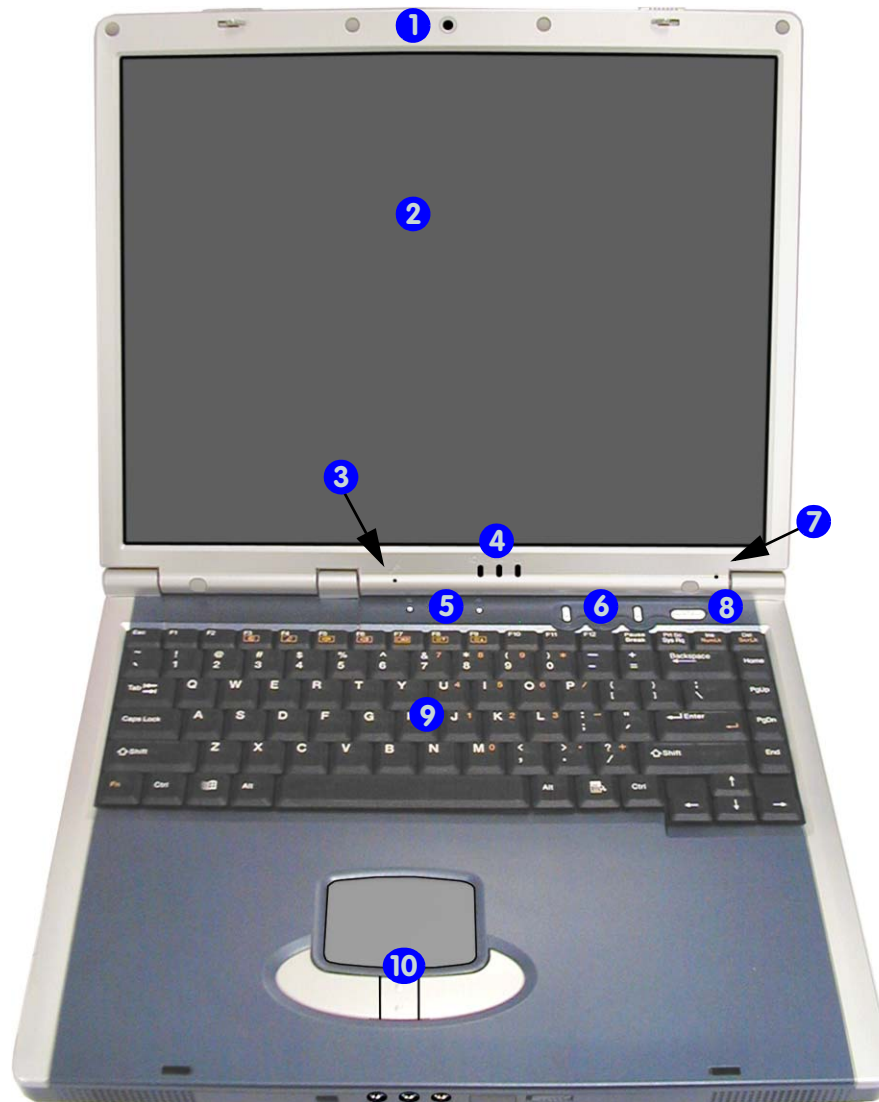


Figure 2
Top View

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

Introduction

Figure 3
Front View

1. LCD Latches
2. Mini IEEE 1394 Port
3. S/P DIF Out Port
4. Microphone Jack
5. Headphone Jack
6. Infrared Transceiver
7. Wireless Device ON/OFF Switch
8. Built-In Speakers

External Locator - Front & Left Side Views

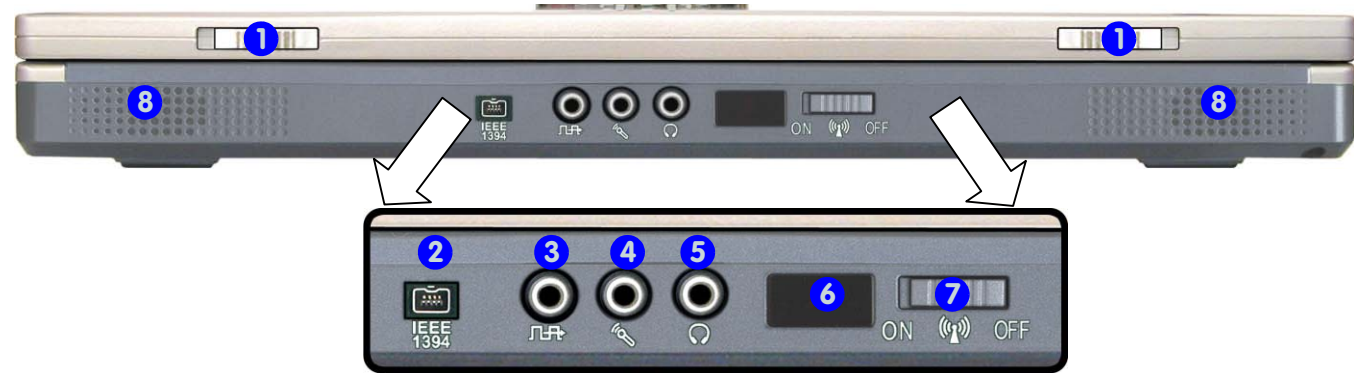


Figure 4
Left Side View

1. 6-in1 Card Reader
2. CD-ROM Bezel or CD-ROM Device
3. PC Card/PCMCIA Slot
4. PC Card/PCMCIA 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 2.0/1.1 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

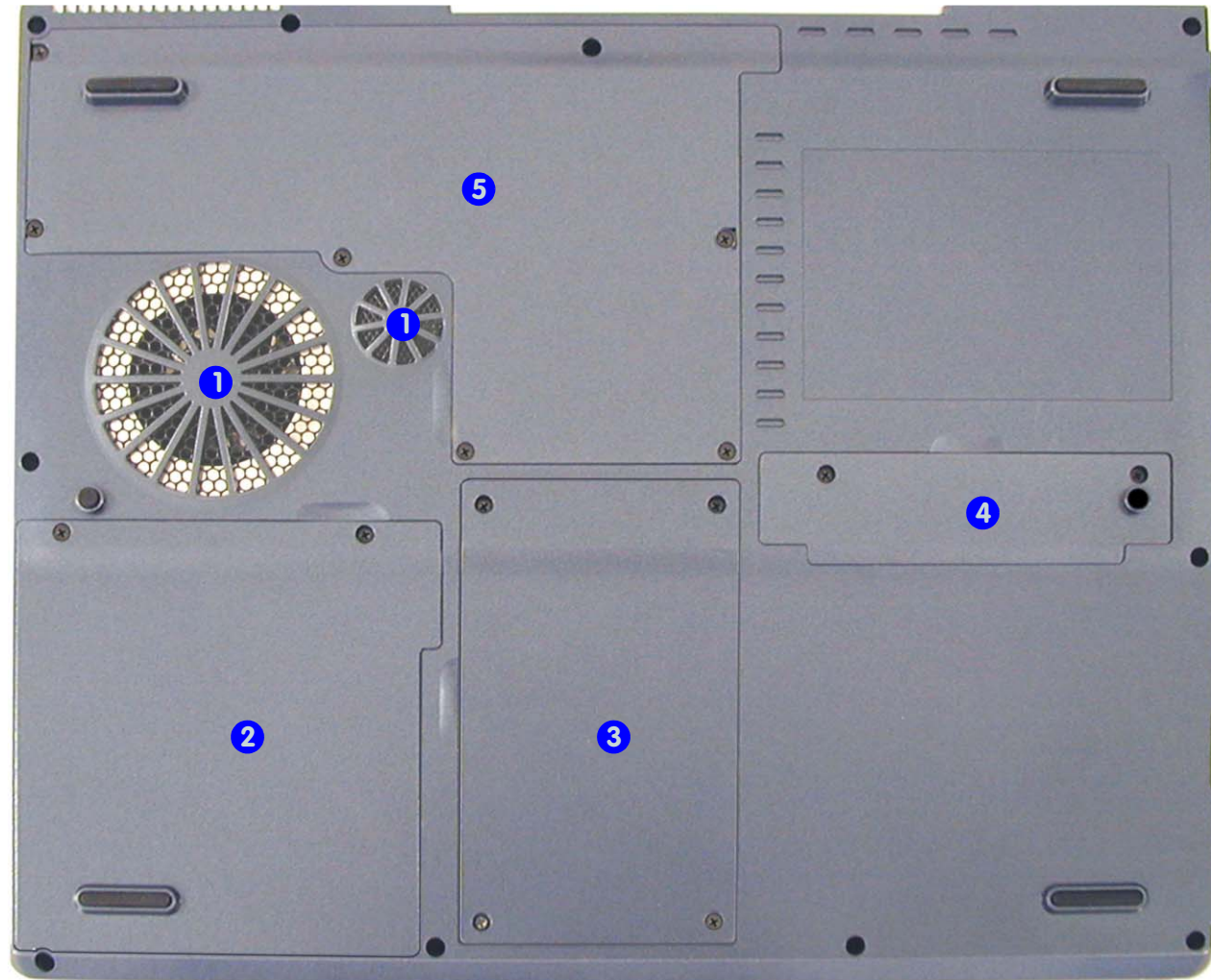


External Locator - Bottom View

Figure 7
Bottom View

1. Vent/Fan Intake
2. Battery Cover
3. Hard Disk Cover
4. Bluetooth Module Cover
5. CPU, Heatsink, DDR, Wireless LAN Cover

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



Mainboard Overview - Top (Key Parts)

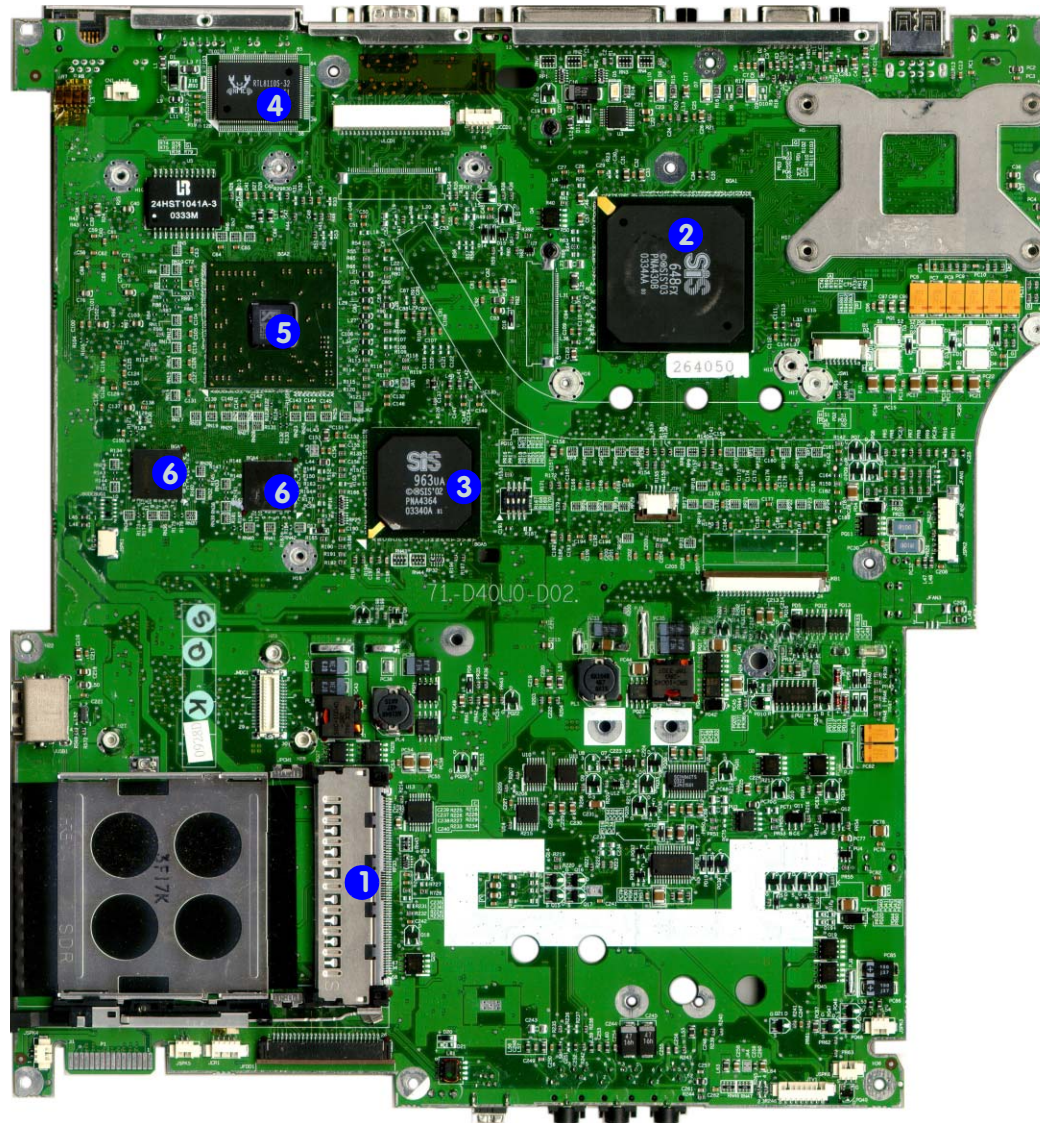


Figure 8
Mainboard Top
Key Parts

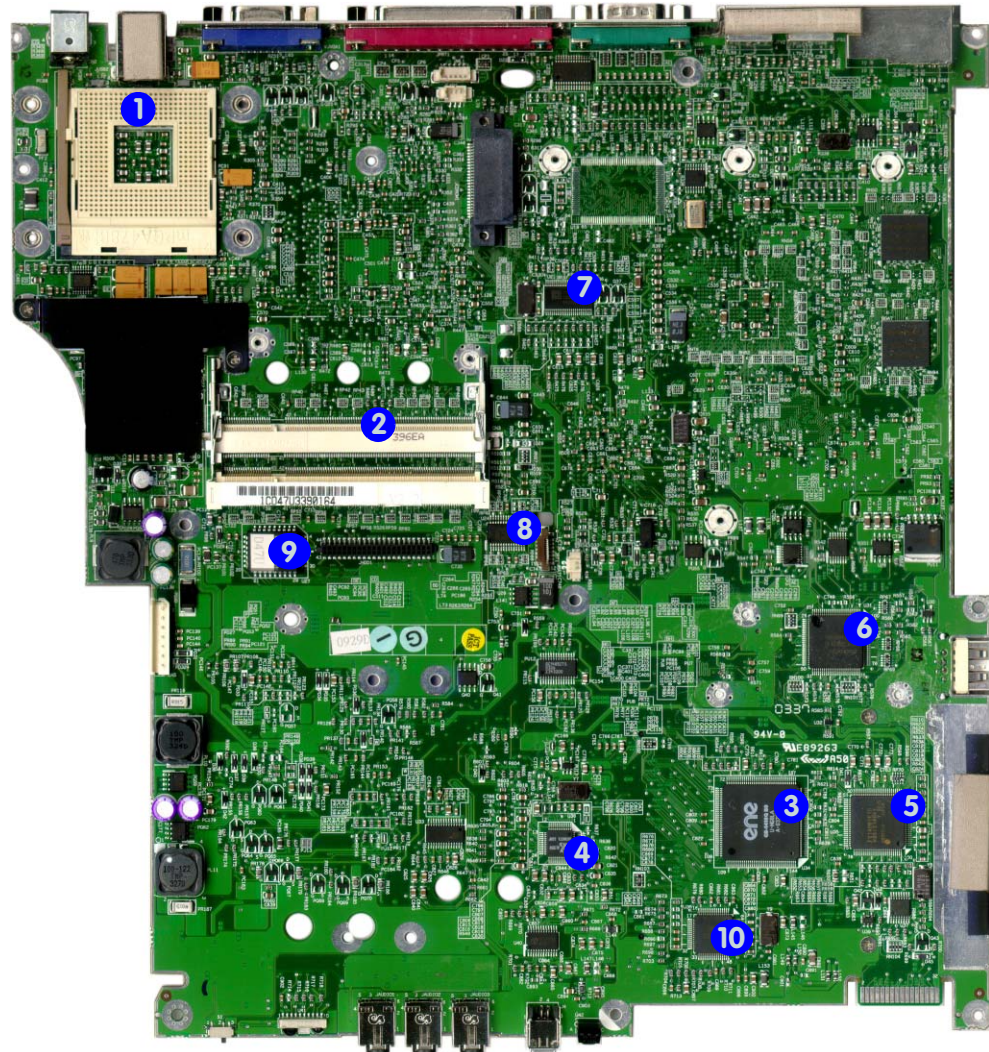
1. PC Card Assembly
2. Northbridge - SiS 648FX (839 mBGA)
3. Southbridge - SiS 963 (371 mBGA)
4. LAN Realtek RTL 8110S
5. VGA Chipset -ATI Mobility M10
6. Video RAM

Introduction

Mainboard Overview - Bottom (Key Parts)

Figure 9
**Mainboard Bottom
Key Parts**

1. CPU Socket (no CPU installed)
2. Memory Slots (no memory installed)
3. CardBus ENE 1410
4. ALC650 - Audio Codec
5. LPC - H8
6. LPC Super I/O NS PC87393
7. Clock Generator
8. Clock Buffer
9. Flash ROM
10. 1394 PHY TSB41LV01



Mainboard Overview - Top (Connectors)

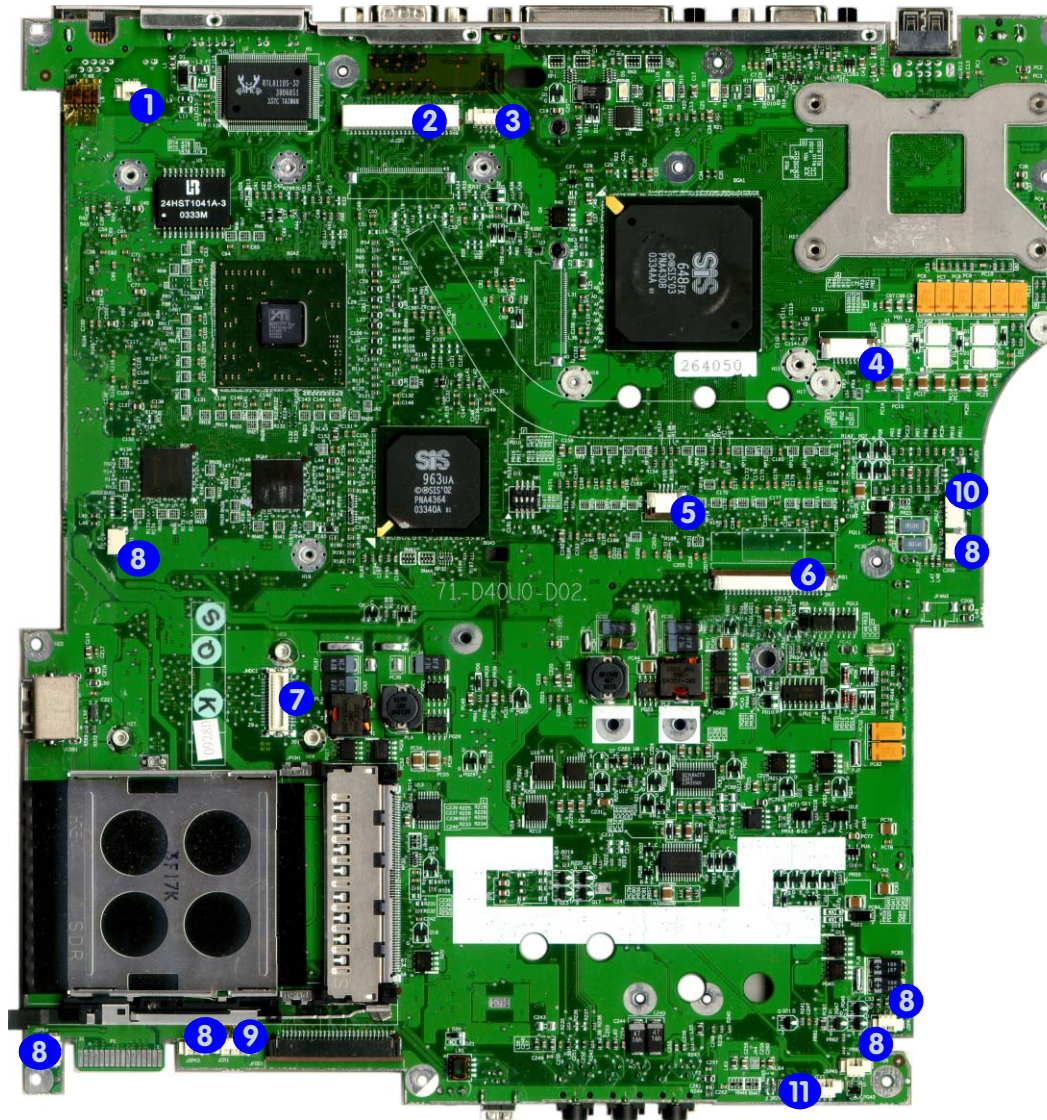


Figure 10
Mainboard Top Connectors

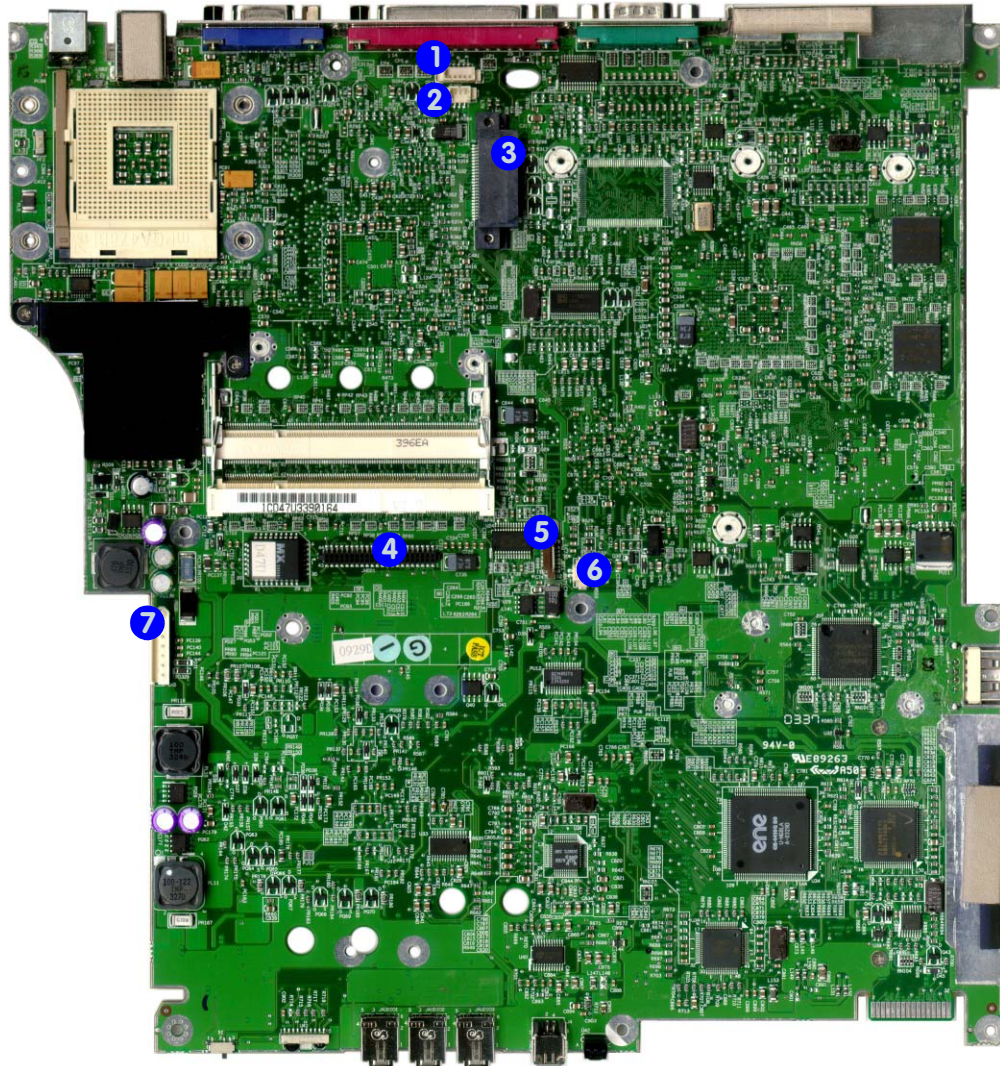
1. Modem Cable Connector (CN1)
2. LCD (and Inverter) Connector (JLCD1)
3. Video Camera Cable Connector (JCCD1)
4. Power Switch Board Cable Connector (JSW1)
5. TouchPad Cable Connector (JTP1)
6. Keyboard Cable Connector (JKB1)
7. Modem Module Connector (JMDC1)
8. Speaker Cable Connector (JSPK1-6)
9. Card Reader Connector (JCR1)
10. Fan Cable (JFAN2)
11. TV Tuner Connector (JTV1)

Introduction

Mainboard Overview - Bottom (Connectors)

Figure 11
**Mainboard Bottom
Connectors**

1. Wireless LAN Connector (JWL1)
2. DDR Fan Cable Connector (JFAN3)
3. CD-ROM Device Connector (JCDROM1)
4. Hard Disk Cable Connector (JHDD1)
5. Bluetooth Module Connector (JBT1)
6. CMOS Battery Cable Connector (JBAT1)
7. Battery Cable Connector (CN5)




2: Disassembly



Overview

This chapter provides step-by-step instructions for disassembling the *D400V/D410V* series notebook's parts and sub-systems. When it comes to reassembly, reverse the procedures (unless otherwise indicated).

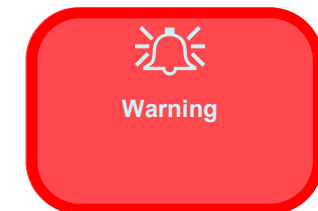
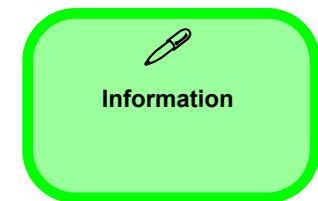
We suggest you completely review any procedure before you take the computer apart.

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 Card Reader 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 card reader *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:

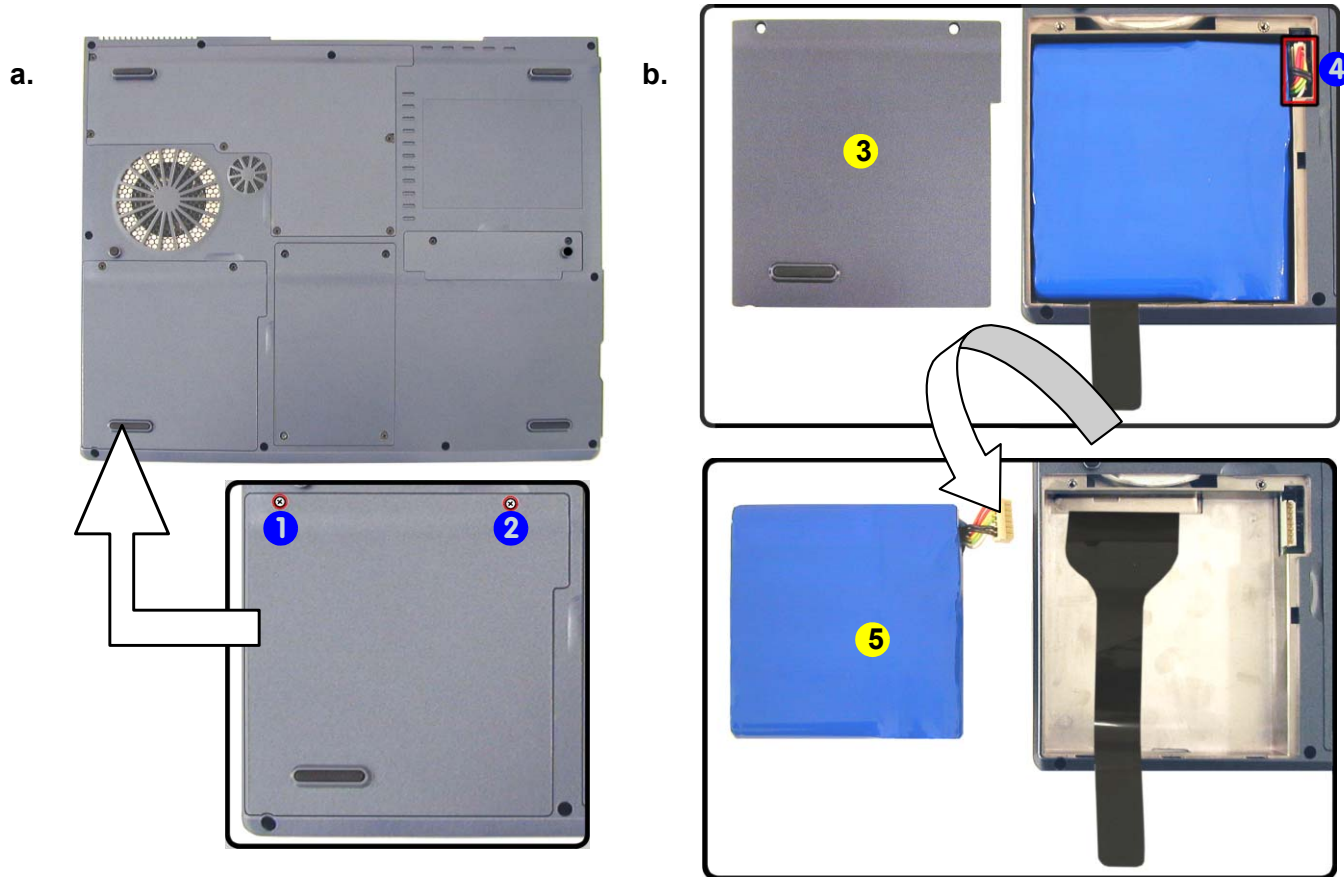
1. Remove the battery *page 2 - 8*
2. Remove the HDD *page 2 - 9*
3. Remove the system memory *page 2 - 10*
4. Remove the CD Device *page 2 - 12*
5. Remove the Bluetooth module *page 2 - 14*
6. Remove the Wireless LAN module *page 2 - 15*
7. Remove the processor *page 2 - 16*
8. Remove the keyboard *page 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's battery bay.
5. Connect the battery cable before reinserting the battery.

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, and remove the battery ([page 2 - 8](#)).
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.

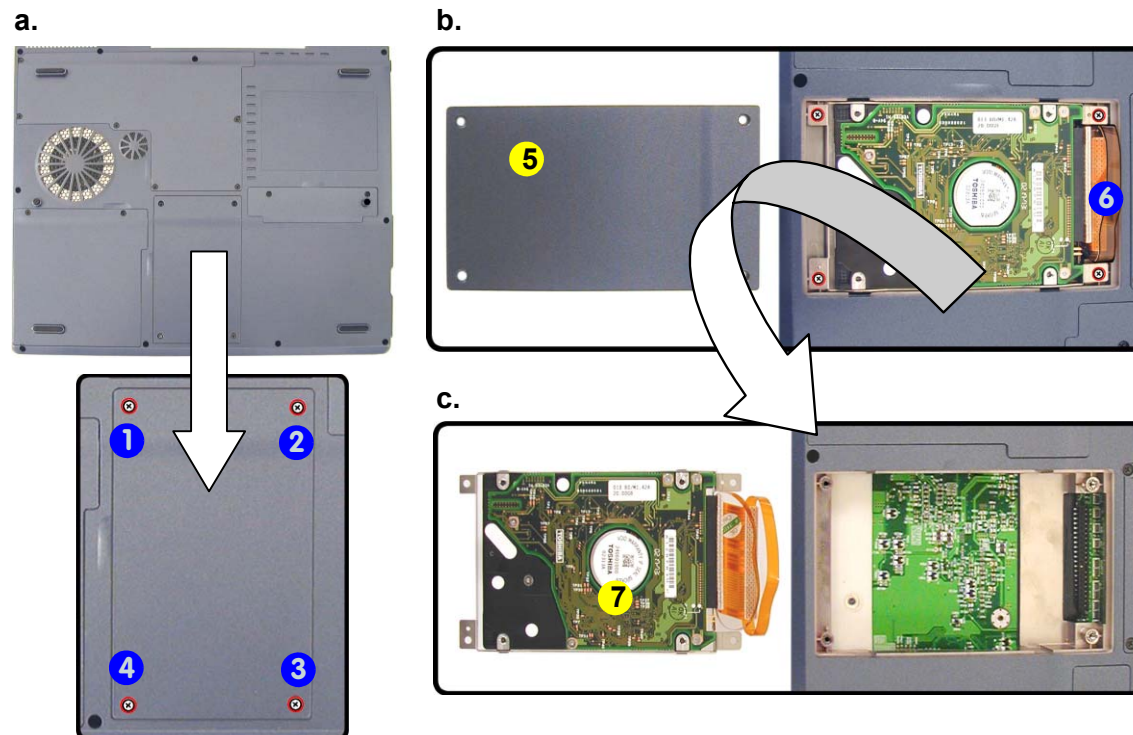



Figure 2
**HDD Assembly
Assembly Removal**

- Remove the 4 screws.
- Disconnect the HDD cable.
- 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 MHz. The main memory can be expanded up to 1024MB. The SO-DIMM modules supported are 128Mb, 256Mb, and 512Mb. The total memory size is automatically detected by the POST routine once you turn on your computer.

Memory Upgrade Process

1. Turn **off** the computer, and remove the battery ([page 2 - 8](#)).
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.



Heat Sink Unit

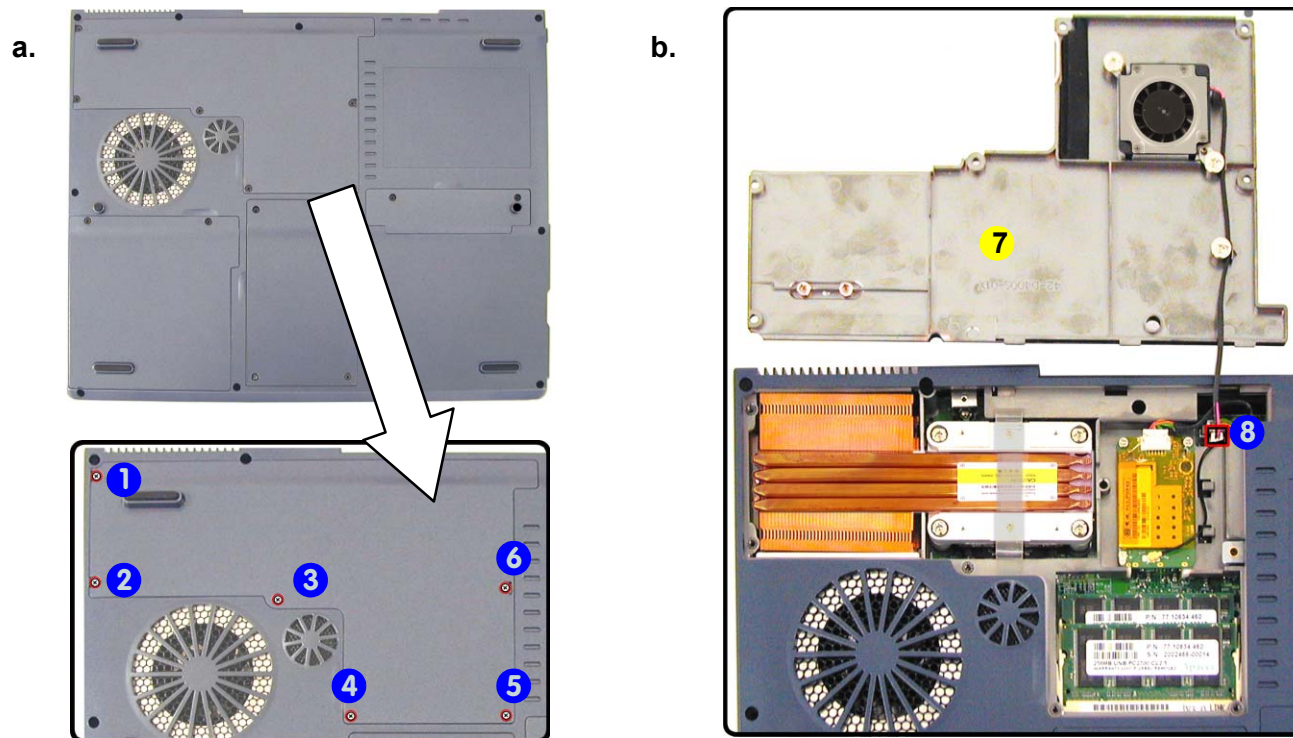
Before you undertake any upgrade procedures, make sure that you have turned off the power, and disconnected all peripherals and cables (including telephone lines). It is advisable to also remove your battery in order to prevent accidentally turning the machine on.

Figure 3
Memory Socket Cover Removal

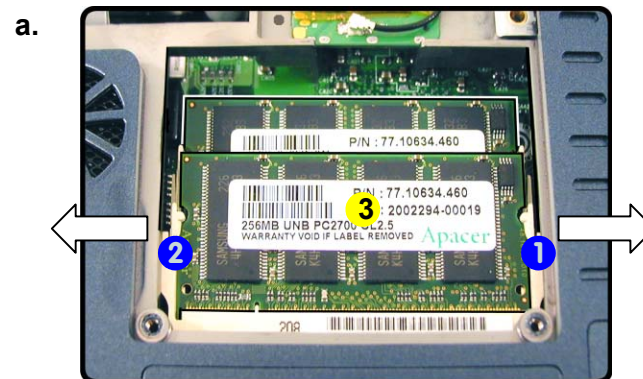
- a. Remove the screws.
- b. Carefully lift the cover off the computer.



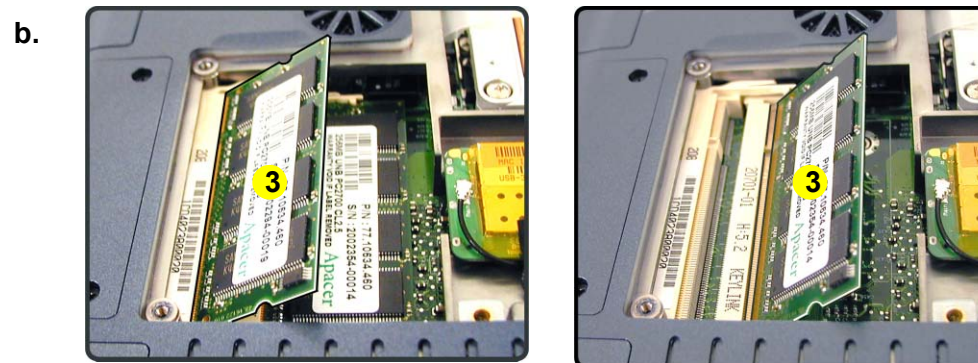
- 7. Socket Cover
- 6 Screws



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



- The module 3 (Figure 4b) will pop-up, and you can remove it.
- Repeat the process for the second module if necessary.
- Insert a new module holding it at about a 30° angle and fit the connectors firmly into the memory slot.
- 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.



- Press the module down towards the mainboard until the slot levers click into place to secure the module.
- Replace the memory socket cover (be careful with the fan cable) and the 6 screws (see [page 2 - 10](#)).
- Restart the computer.
- The BIOS will register the new memory configuration as it starts up.

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

- Pull the release latches.
- 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

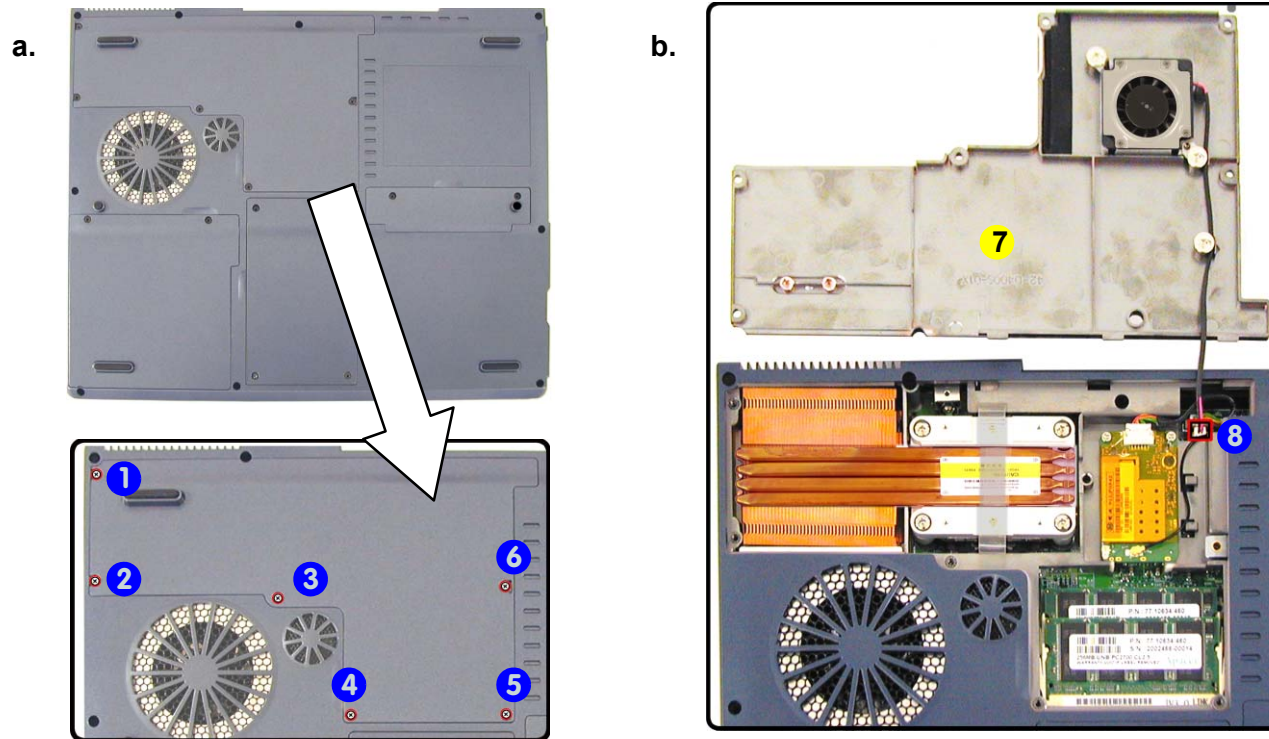
Removing the CD Device

The easy changeable CD device may be upgraded or changed.

1. Turn **off** the computer, and remove the battery ([page 2 - 8](#)).
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**.

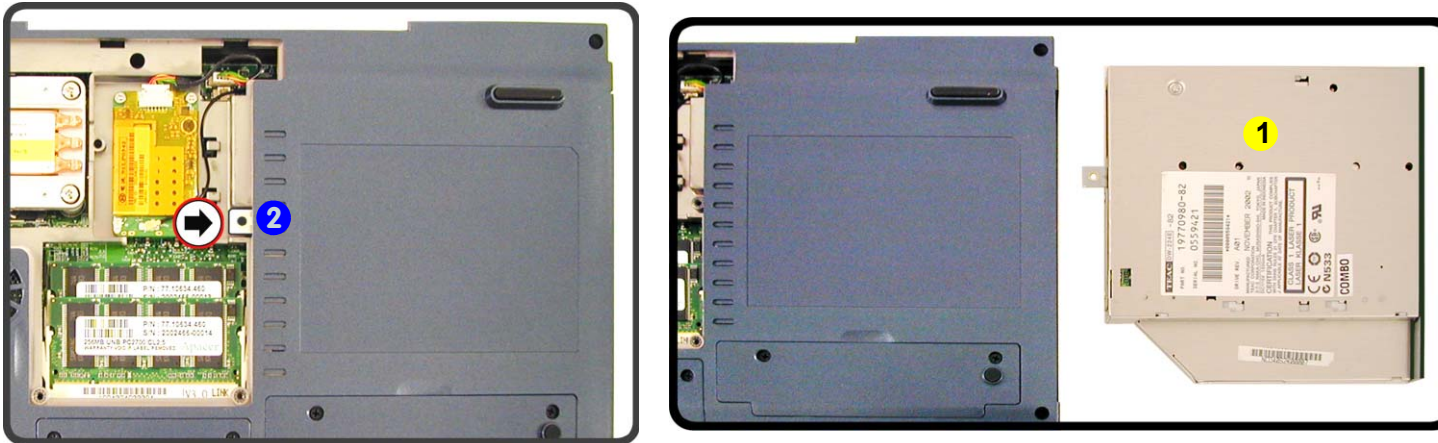


Figure 6
CD Device Removal

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.



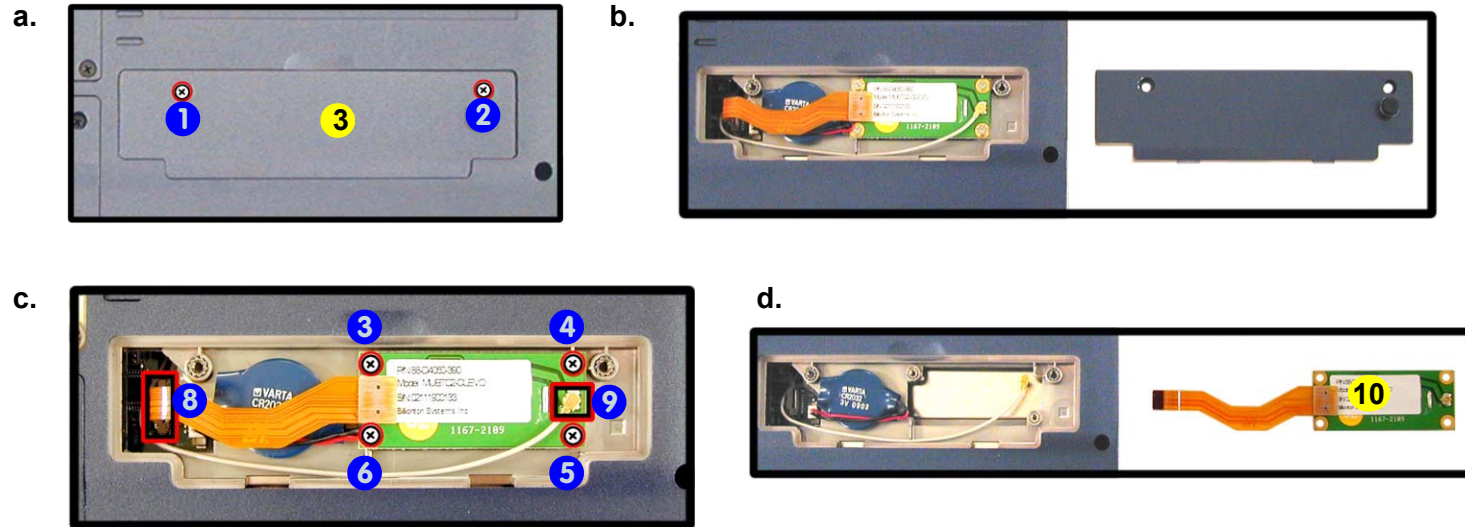
1. CD Device

Removing the Bluetooth Module

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

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, and remove the battery (*page 2 - 8*).
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**, and carefully disconnect cables **11** & **12**.
5. Lift the Wireless LAN module **13** off the computer.

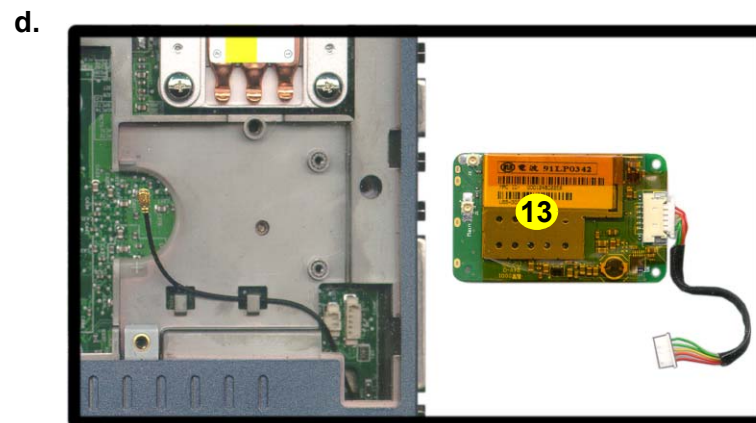
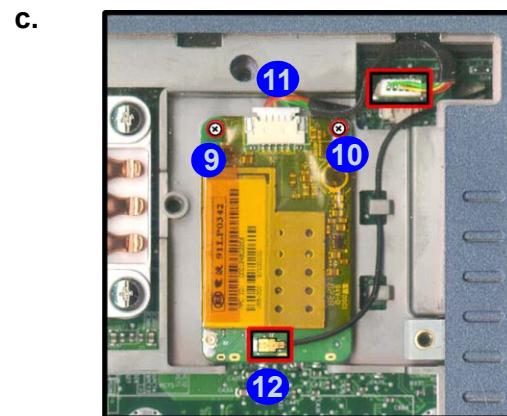
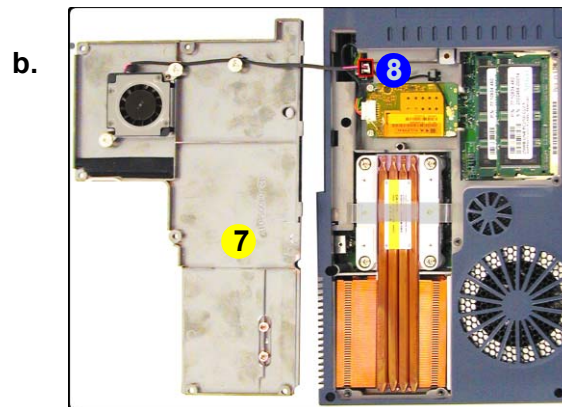
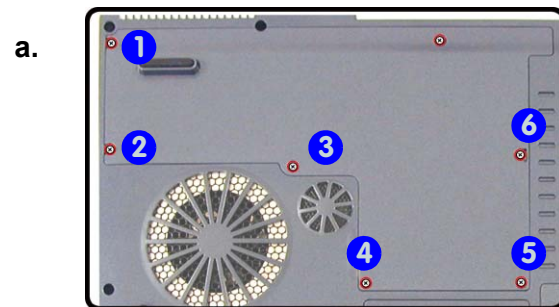


Figure 8
**Wireless LAN
Module Removal**

- Remove the screws.
- Carefully lift the cover off the computer.
- Remove the screws and disconnect the cables.
- Remove the WLAN module.



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.



7. Socket Cover
13. WLAN Module

- 8 Screws

Removing the Processor

1. Turn **off** the computer, and remove the battery ([page 2 - 8](#)).
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** from the heat sink, **in the order indicated on the label**.
5. Carefully lift up the heat sink **13** 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.



Heat Sink Unit

The elongated heat sink **13** pictured applies to models with **two** CPU fan units. Some models may have a shorter heat sink unit and a single CPU fan.



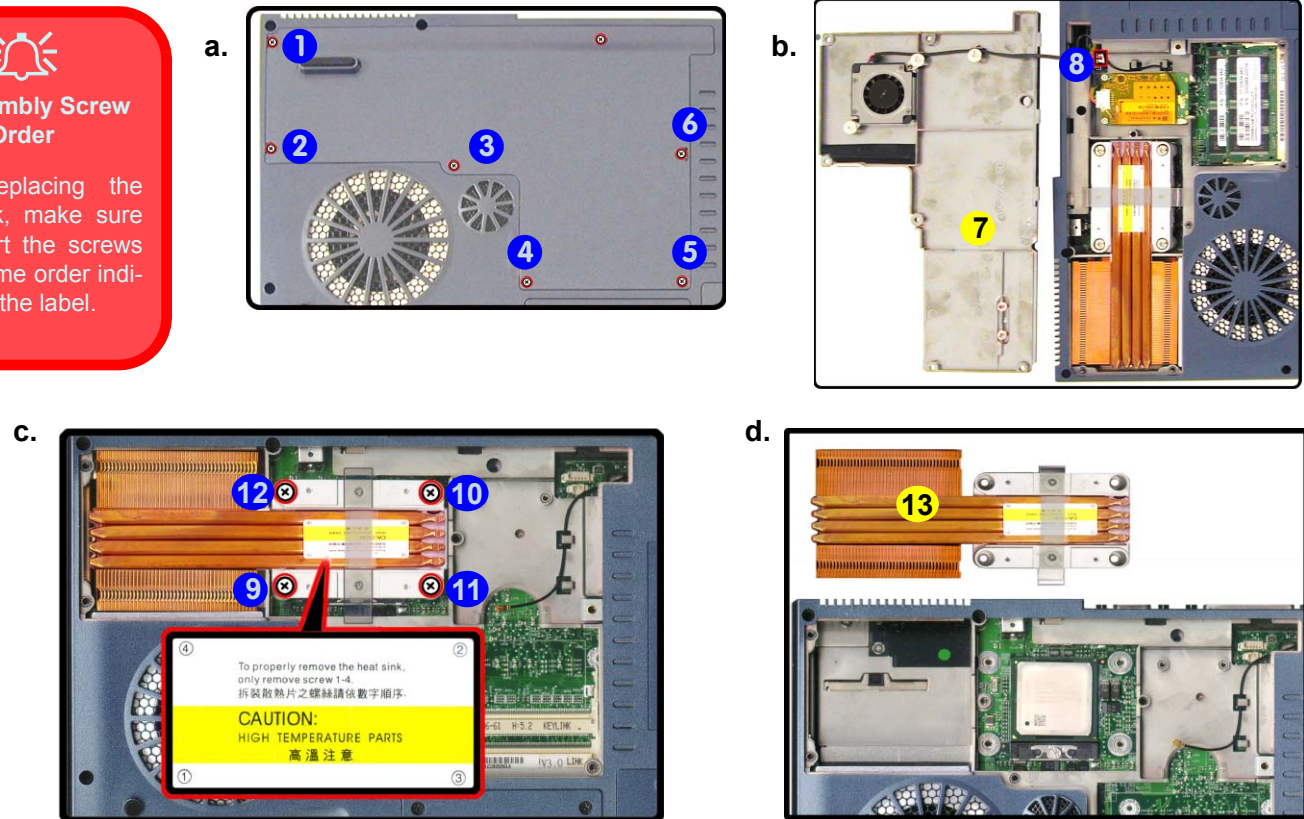
7. Socket Cover
13. Heat Sink

- 10 Screws



Reassembly Screw Order

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



6. Remove screws 1 & 2 and lift the CPU holder 3 off the computer.
7. Unlock the processor by raising lever 4.
8. Lift the CPU 5 off the computer.

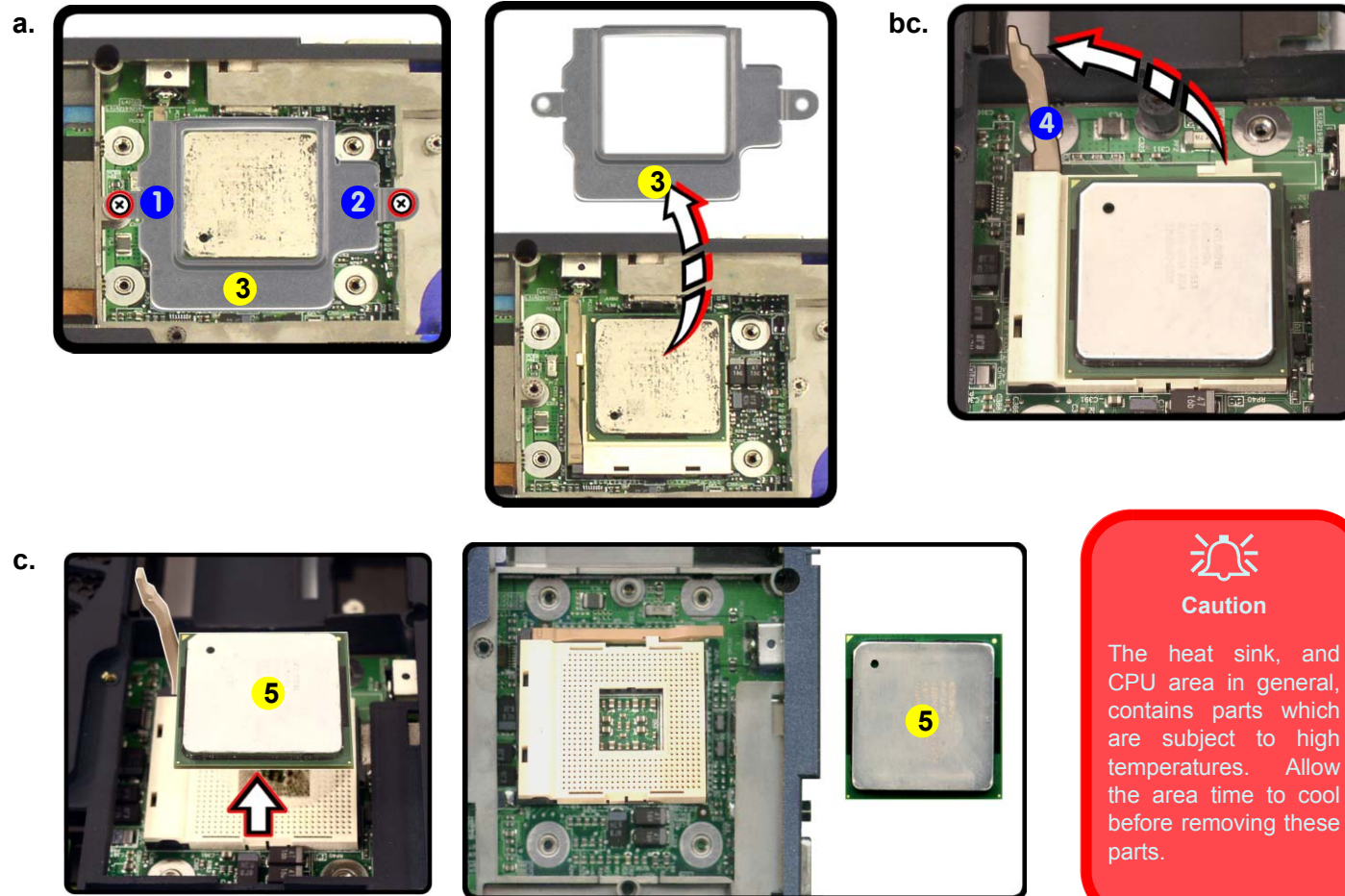


Figure 10
Processor Removal
(cont'd)

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

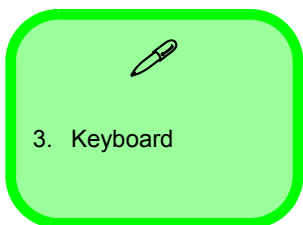
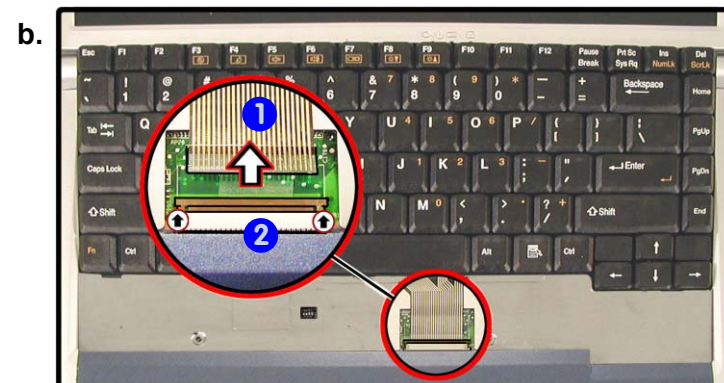
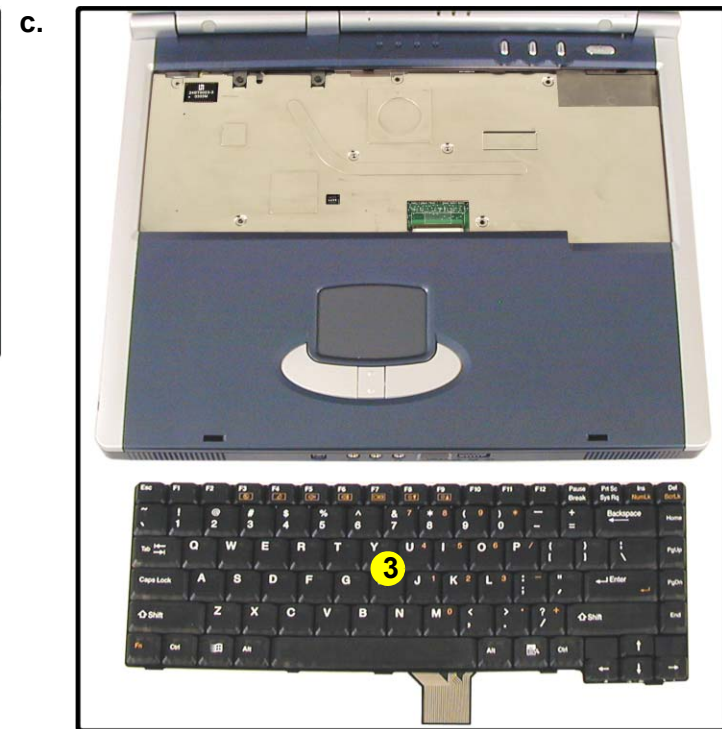
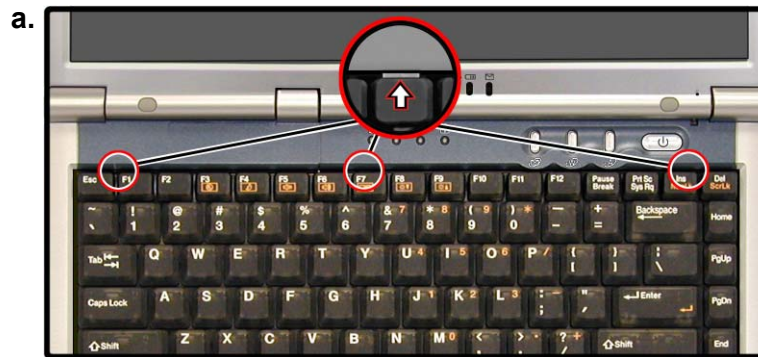
Removing the Keyboard

1. Turn **off** the computer, remove the battery ([page 2 - 8](#)) and turn it over.
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**.
4. Disconnect the keyboard ribbon cable from the locking collar socket **2** and lift the keyboard **3** up out of the computer.

Figure 11

Keyboard Removal

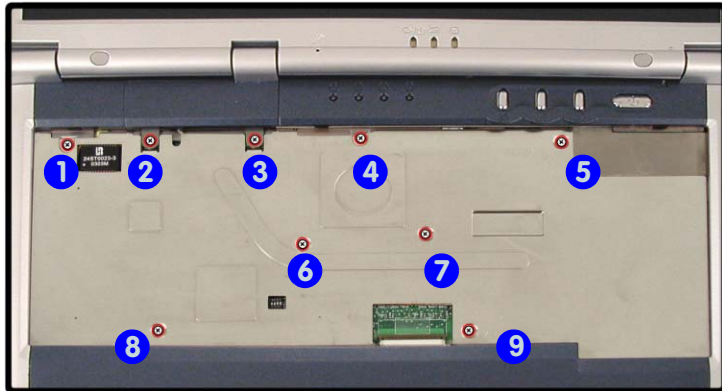
- a. Press the latches to elevate the keyboard.
- b. Disconnect the keyboard cable from the locking collar.
- c. Lift the keyboard up and out of the computer.



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** from the keyboard shielding plate and lift the plate **10** off the computer.

a.



b.

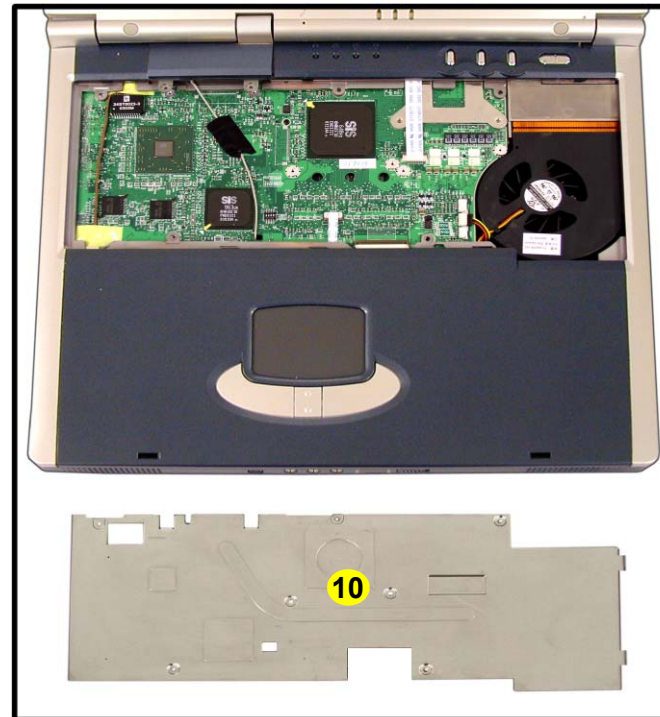


Figure 12
**Keyboard Shielding
Plate Removal**

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



10. Shielding Plate

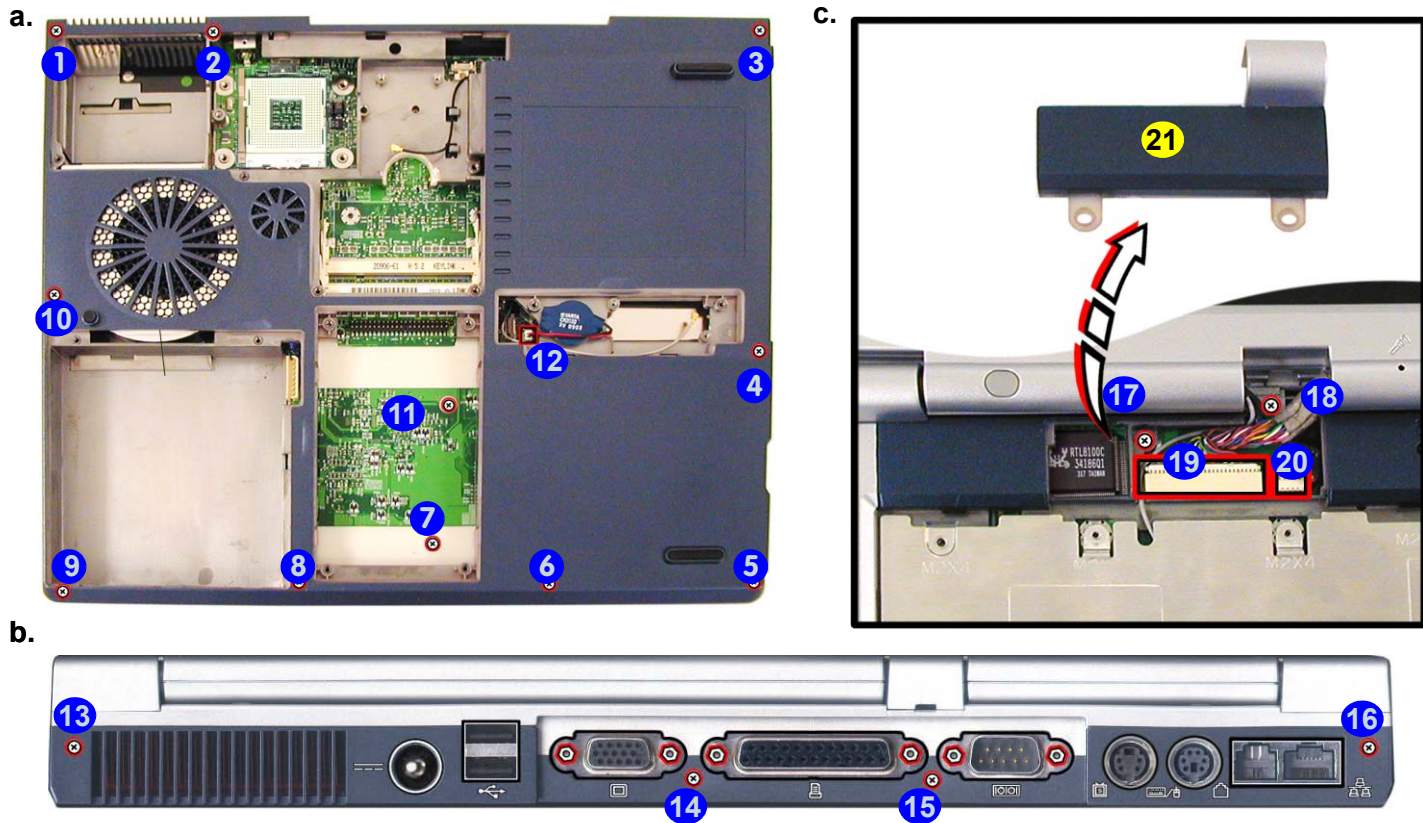
- 9 Screws

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** - **11**, and disconnect cable **12** from the bottom off the computer.
3. Remove screws **13** - **16** from the rear off the computer.
4. Remove the LCD cable shielding cover **21**, screws **17** - **18** and disconnect cables **19** - **20**.

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

- 14 Screws

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

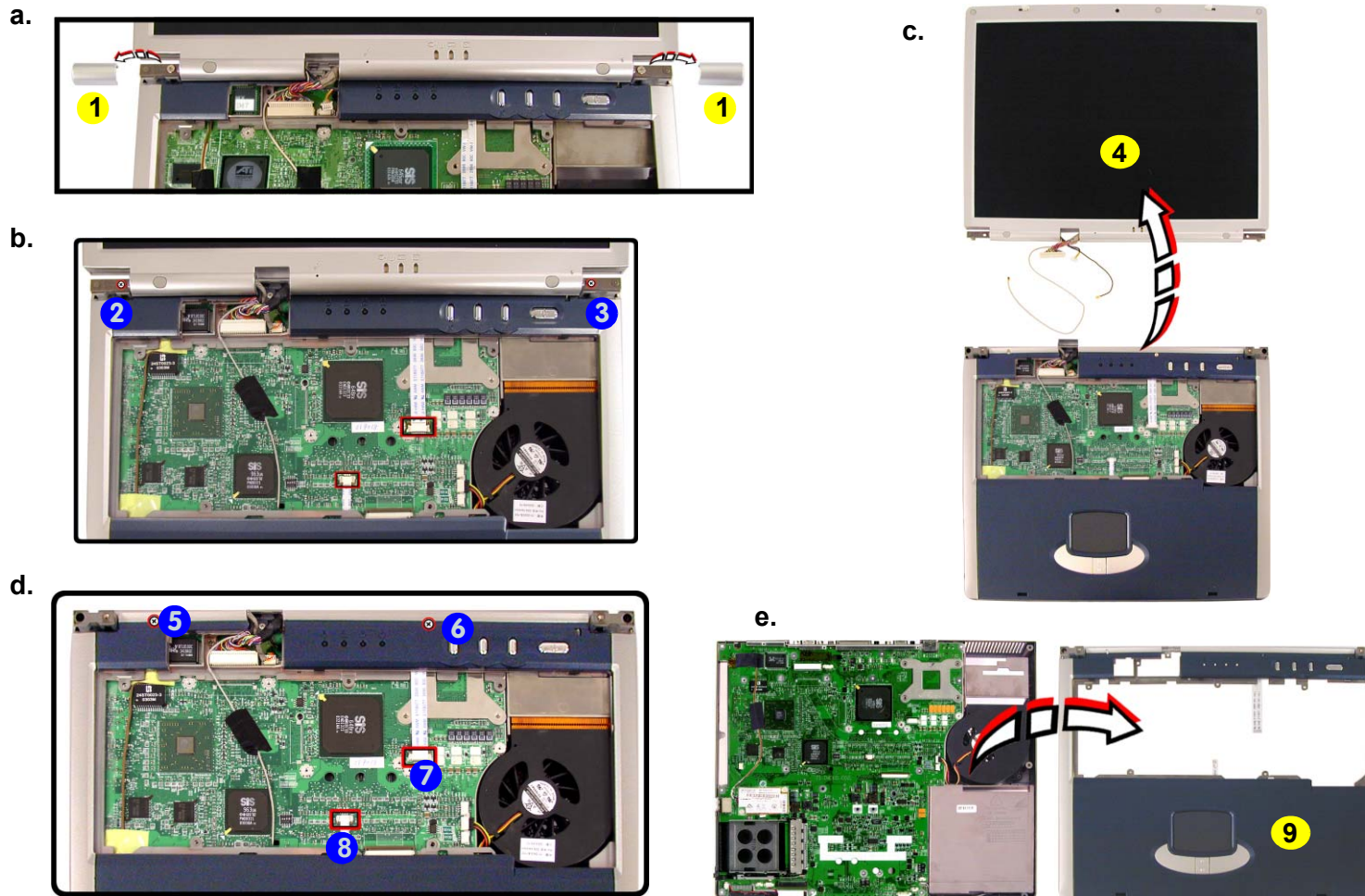


Figure 14
**LCD & Top Case
 Removal Cont'd**

- 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. Hinge covers
- 4. LCD Assembly
- 9. Top Case

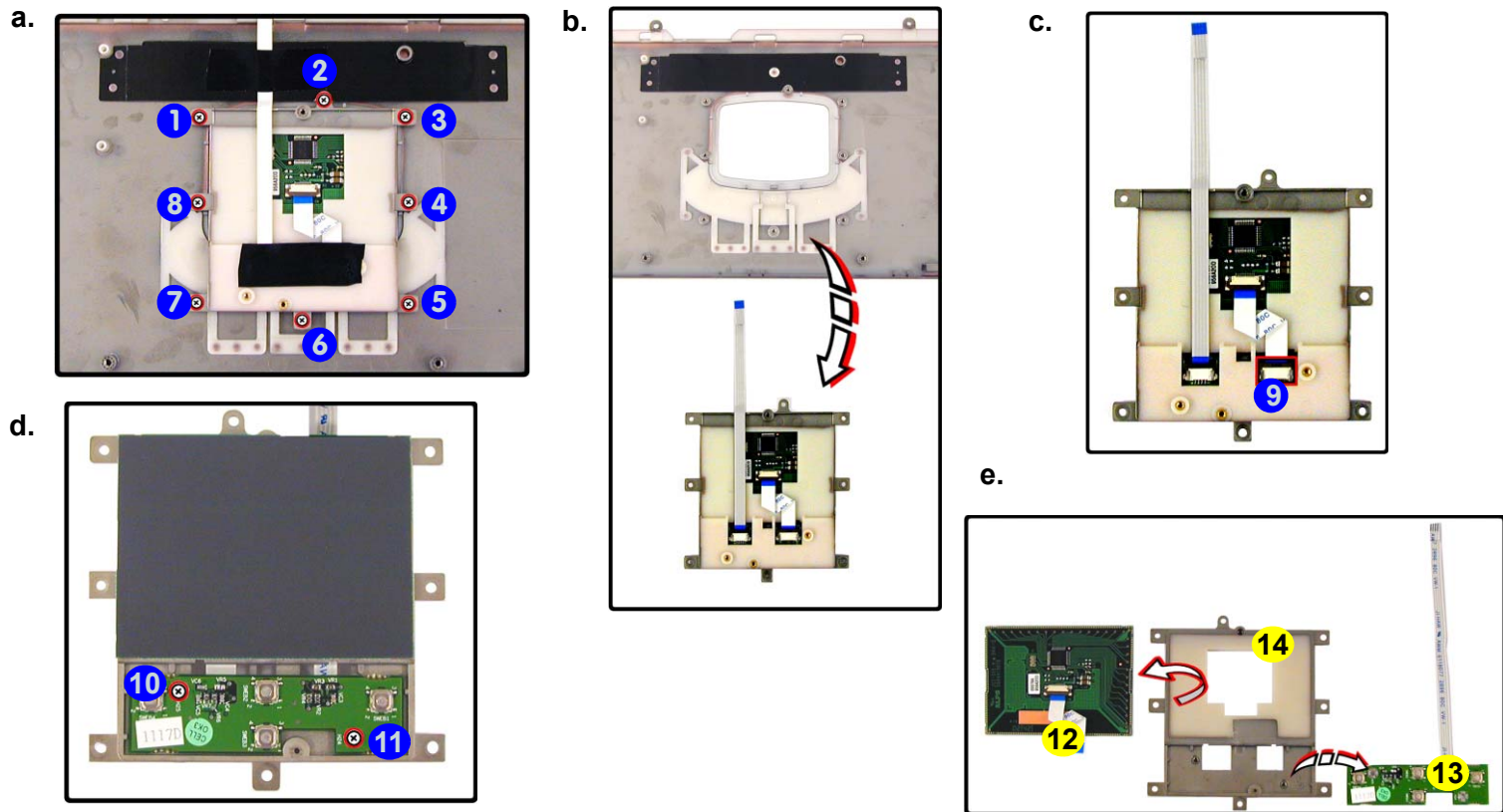
- 4 Screws

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** from the TouchPad and click board assembly, and lift the assembly off the top case.
3. Disconnect cable **9** and remove screws **10** - **11**.
4. Separate the TouchPad **12**, click board **13** and holder **14**.

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. TouchPad
13. Click Board
14. Holder

- 10 Screws

Removing the LED 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.
3. Carefully lift the LED board ③ off the top case module.

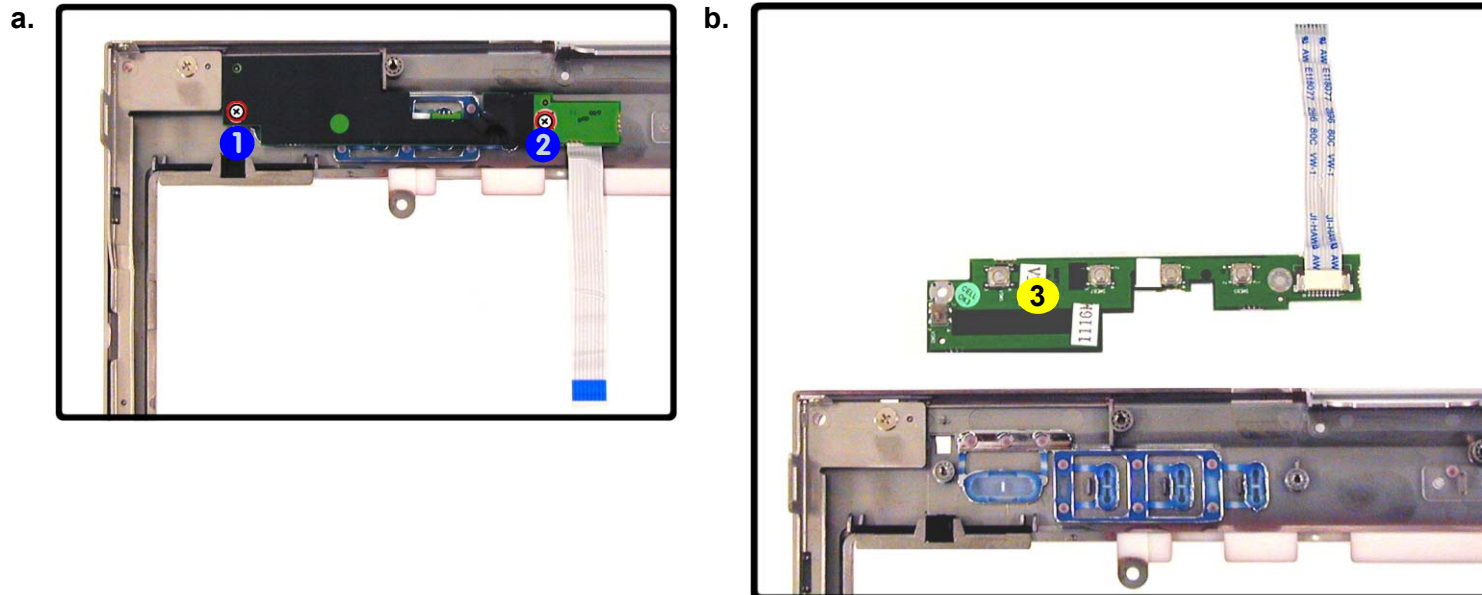


Figure 16
LED Board Removal

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



- 3. Switch Board
- 2 Screws

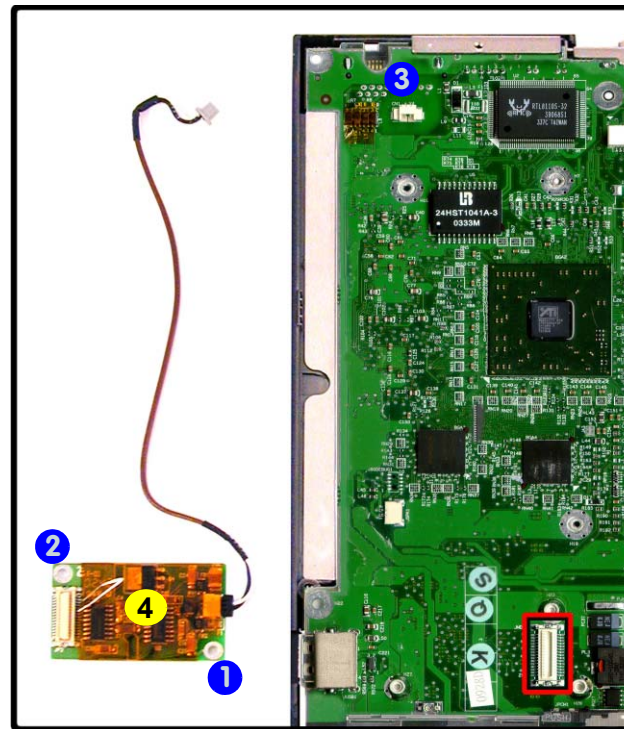
Removing the Modem

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](#)) and disconnect the modem cable at point ③.
3. Remove the modem module ④ and cable.

Figure 17

Modem Removal

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

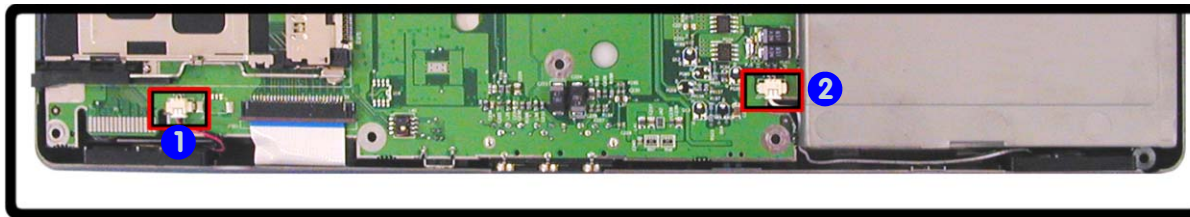


- 4. Modem
- 2 Screws

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.

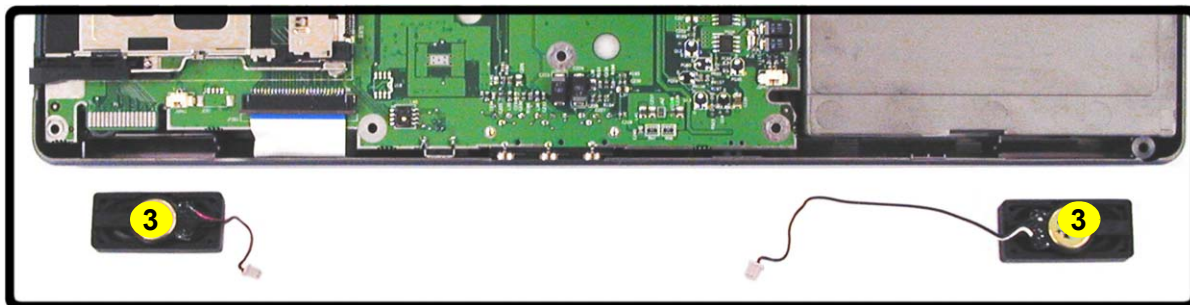


Figure 18
Speakers Removal

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



3. Speakers

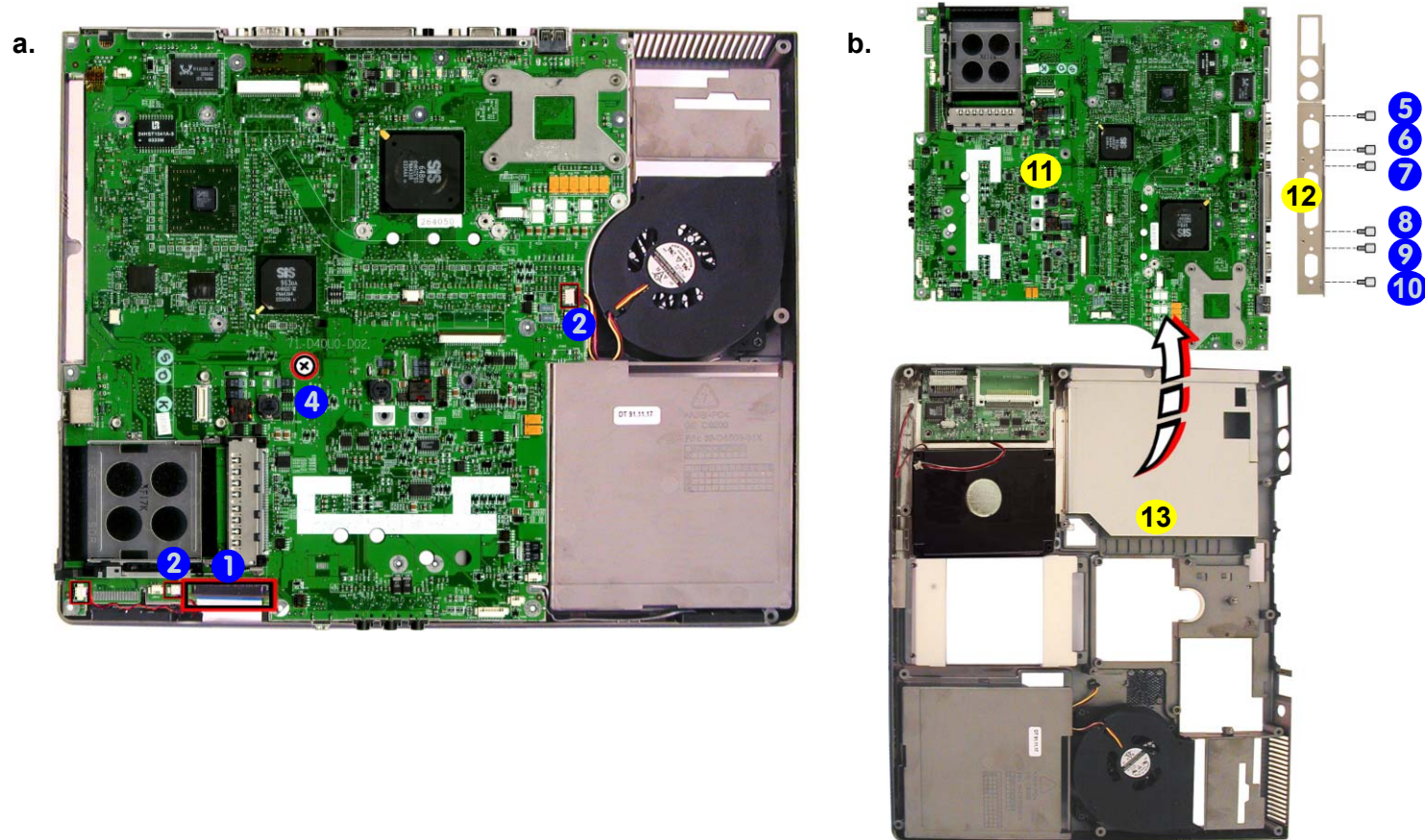
Removing the Mainboard

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** - **3** and remove screws **4**.
3. Remove screws **5** - **10**, separate the mainboard **11**, rear bracket **12** off the bottom case **13**.

Figure 19

Mainboard Removal

- a. Disconnect the cables and remove the screws.
- b. Remove screws and carefully lift the mainboard, rear bracket off the bottom case.



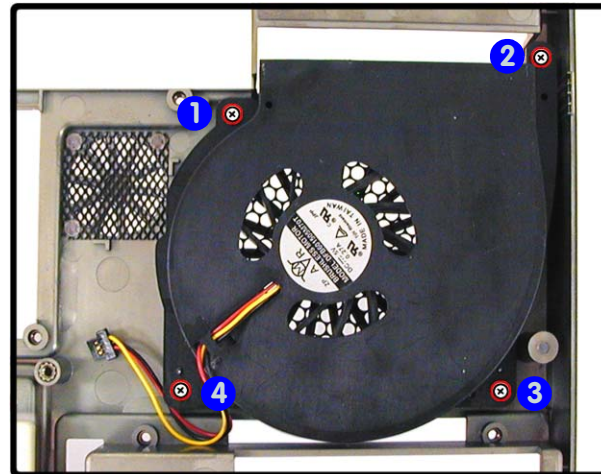
- 10. Mainboard
- 11. Rear Bracket
- 12. Bottom Case

- 8 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** and lift out the fan unit **5**.

a.



b.

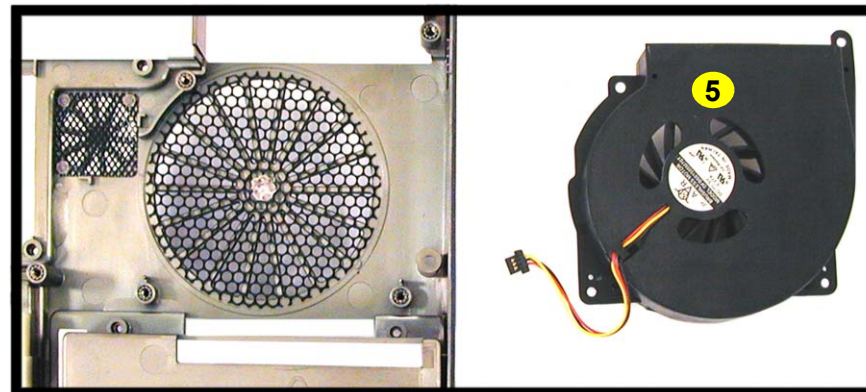
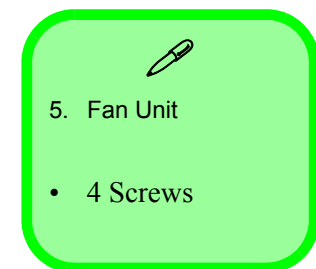


Figure 20
Fan Unit Removal

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

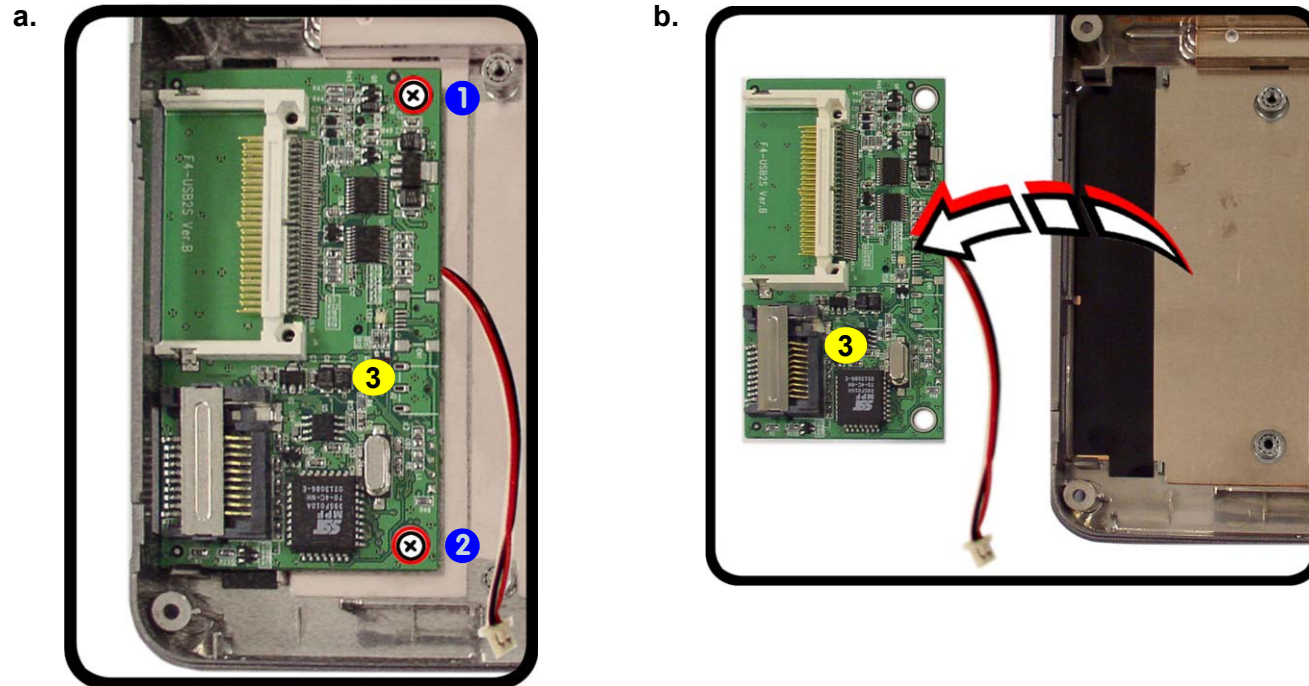


Removing the Card Reader Assembly

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** - **2** and lift out the card reader **3**.

Figure 21
Card Reader
Assembly Removal

- a. Remove the screws.
- b. Lift out the card reader.



3. Card Reader

- 2 Screws

Removing the PCMCIA 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.

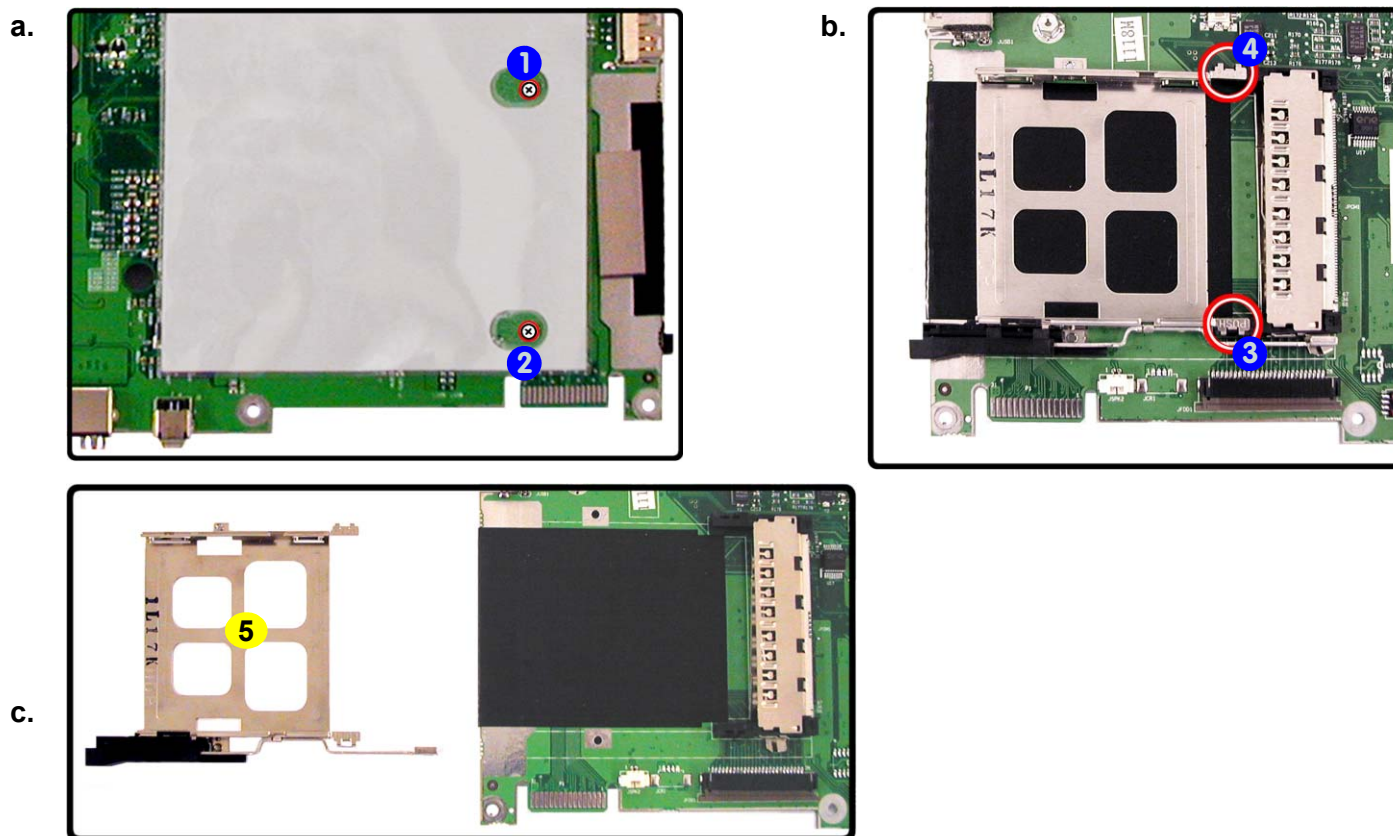
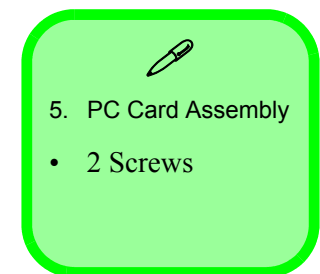


Figure 22
PCMCIA Assembly Removal

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

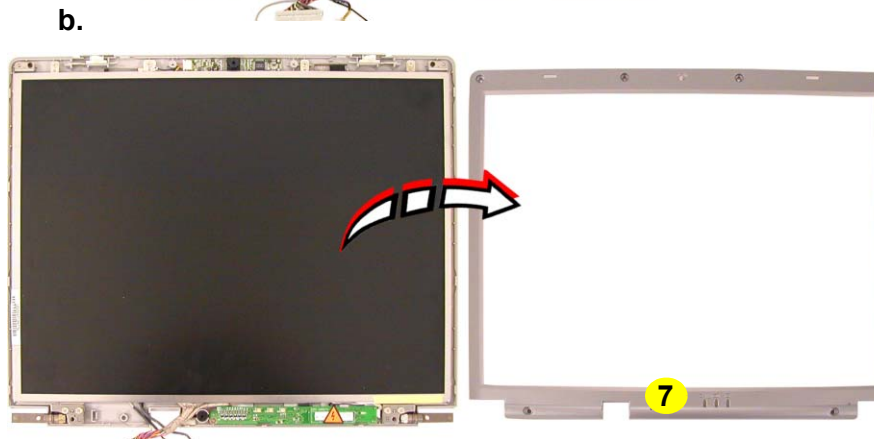
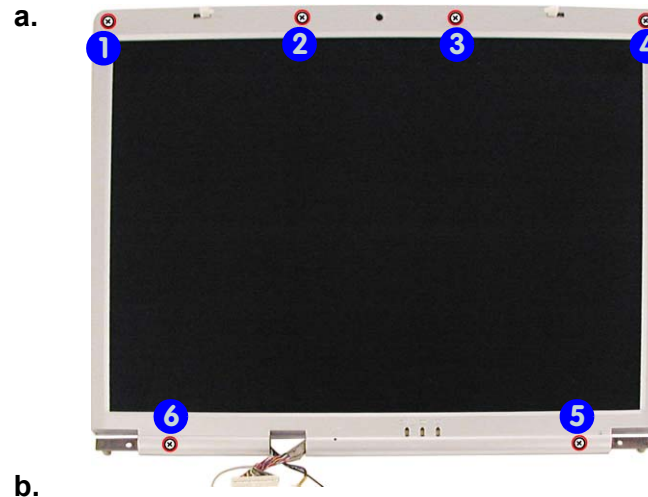


Removing the LCD Front Panel Module

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.

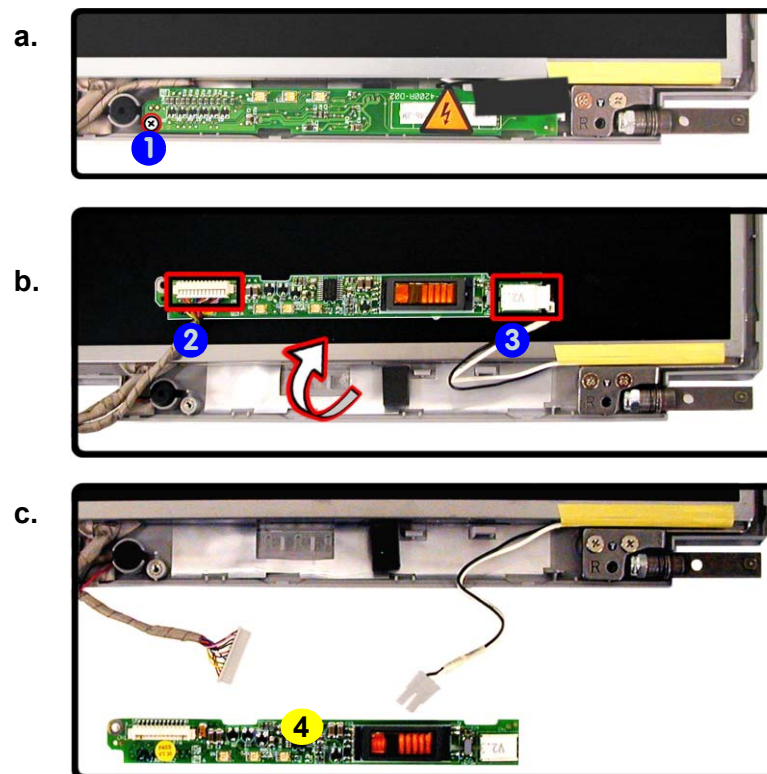
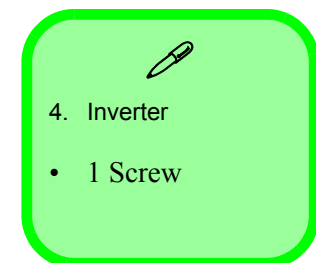


Figure 24
Inverter Removal

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



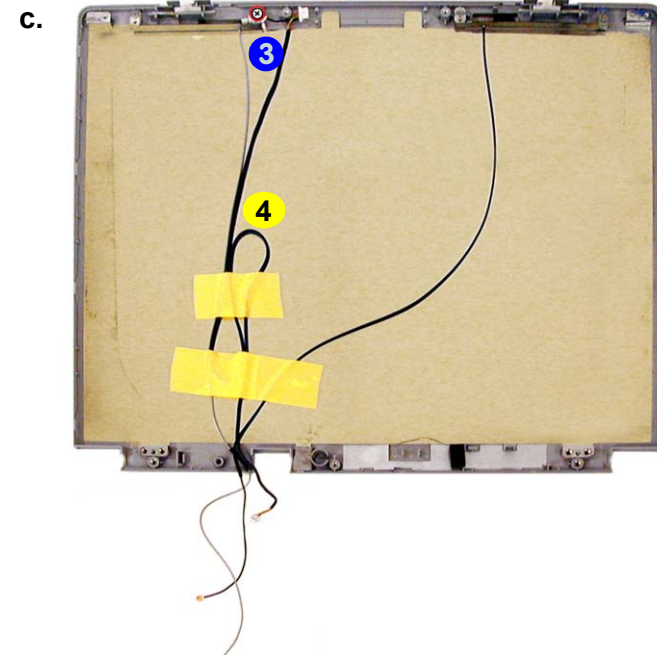
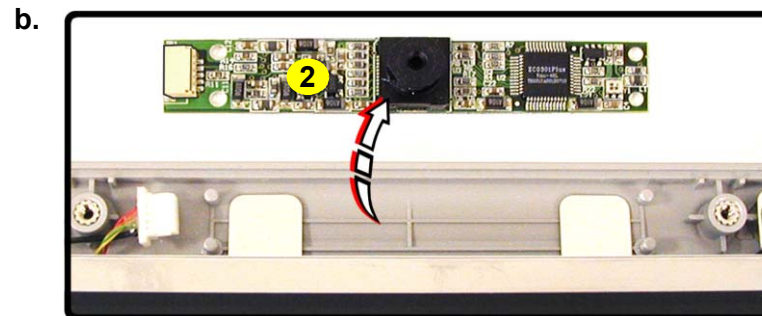
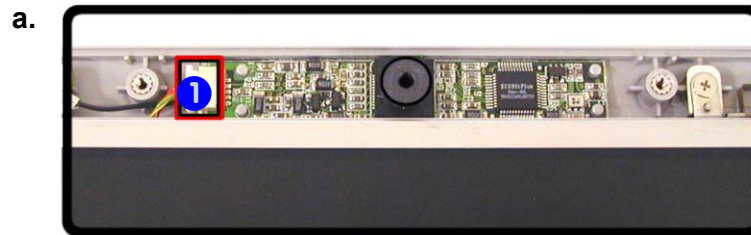
Removing the PC Video Camera Module

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 ❶ ([Figure 25a](#)).
3. Lift the PC camera module ❷ ([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 ❸ and the antenna cable ❹ ([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 Panel

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**.

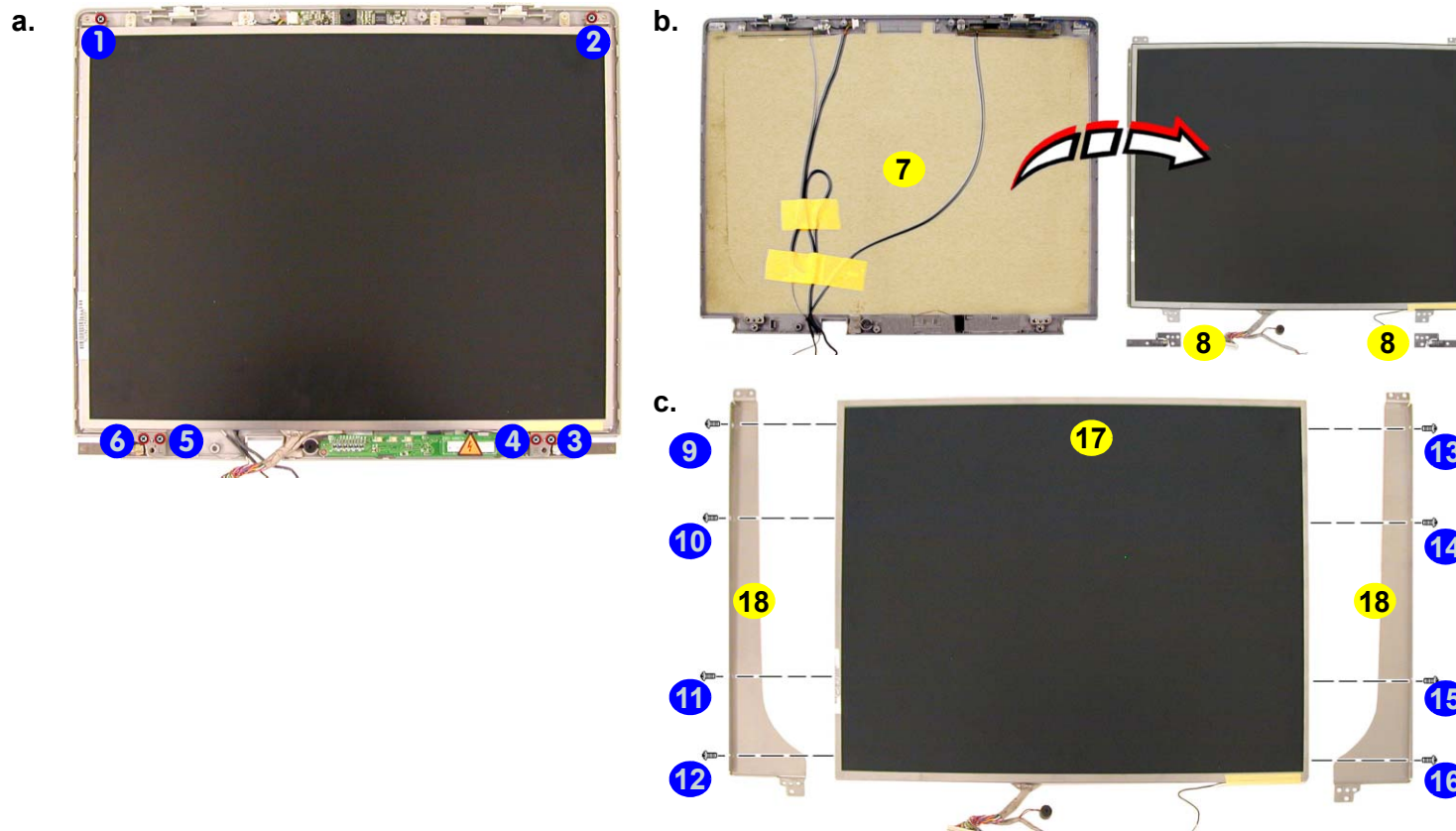



Figure 26
LCD Panel Removal

- 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 *D400V/D410V* 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	D400V	D410V
Top	<i>page A - 3</i>	<i>page A - 12</i>
Bottom	<i>page A - 4</i>	<i>page A - 13</i>
LCD 14"	<i>page A - 5</i>	<i>page A - 14</i>
LCD 15"	<i>page A - 6</i>	<i>page A - 15</i>
CD-ROM Drive	<i>page A - 7</i>	<i>page A - 16</i>
CD-RW Drive	<i>page A - 8</i>	<i>page A - 17</i>
Combo Drive	<i>page A - 9</i>	<i>page A - 18</i>
DVD-ROM Drive	<i>page A - 10</i>	<i>page A - 19</i>
Hard Disk Drive	<i>page A - 11</i>	<i>page A - 20</i>

Top (D400V)

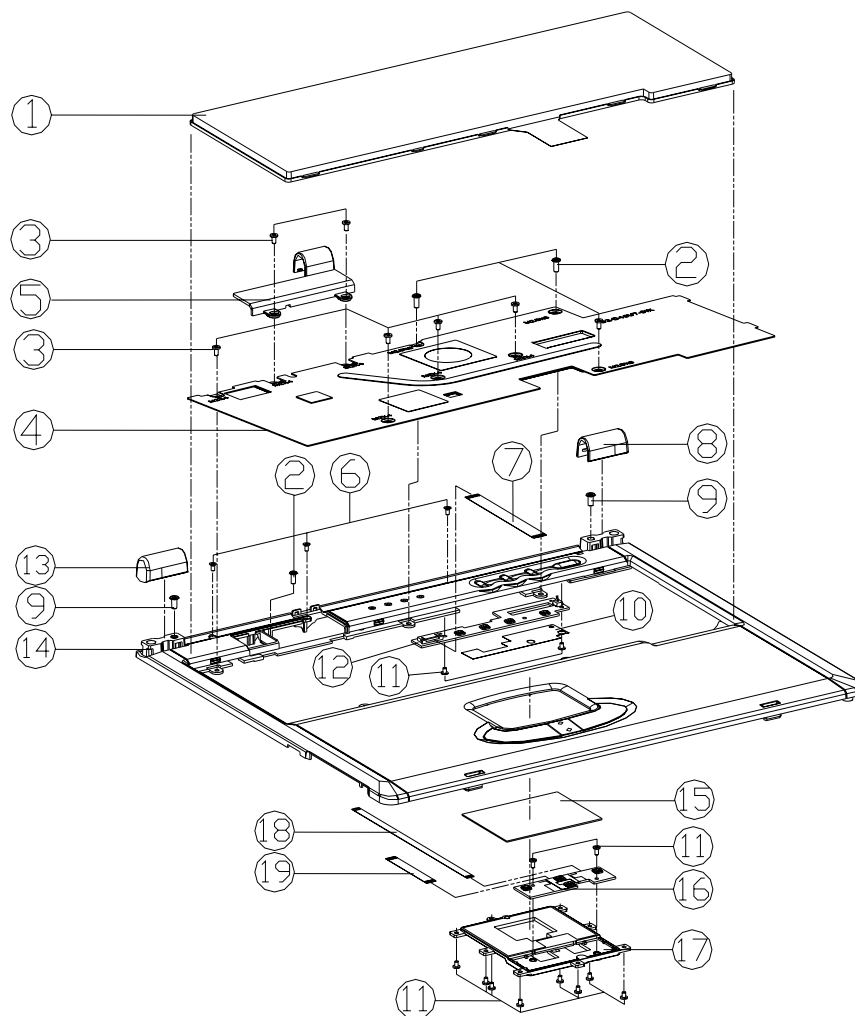


Figure 1
Top (D400V)

ITEM	PART NAME	PART NO	REMARK
1	KEYBOARD	80-88808-7G0	
2	SCREW M2.5*5L K1 BNI ICT NY	35-B9125-5R0	
3	SCREW M2*4L 1 BZ ICT NY	35-C6120-4RA	
4	KB SHIELDING D400U	33-D40U7-011	
5	CONNECTOR COVER	42-D40E8-010	
6	SCREW M2*4L F NI ICT NY	35-21120-4RA	
7	FFC CABLE FOR MAIN BD TO POWER SWITCH BOARD	43-D4000-021	
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	TDP CASE MODULE D400S	39-D40E2-011	
15	TOUCHPAD ALPS KKGDDFT956A M190S	49-M1902-010	
16	CLICK BOARD	77-D4002-D0X	
17	G/P HOLDER	42-D4002-021	
18	FFC CABLE FOR MAIN BD TO CLICK BD 126MM	43-D4000-030	
19	FFC CABLE FOR CLICK TO TOUCH PAD 45MM	43-D4000-040	

A.Part Lists

Bottom (D400V)

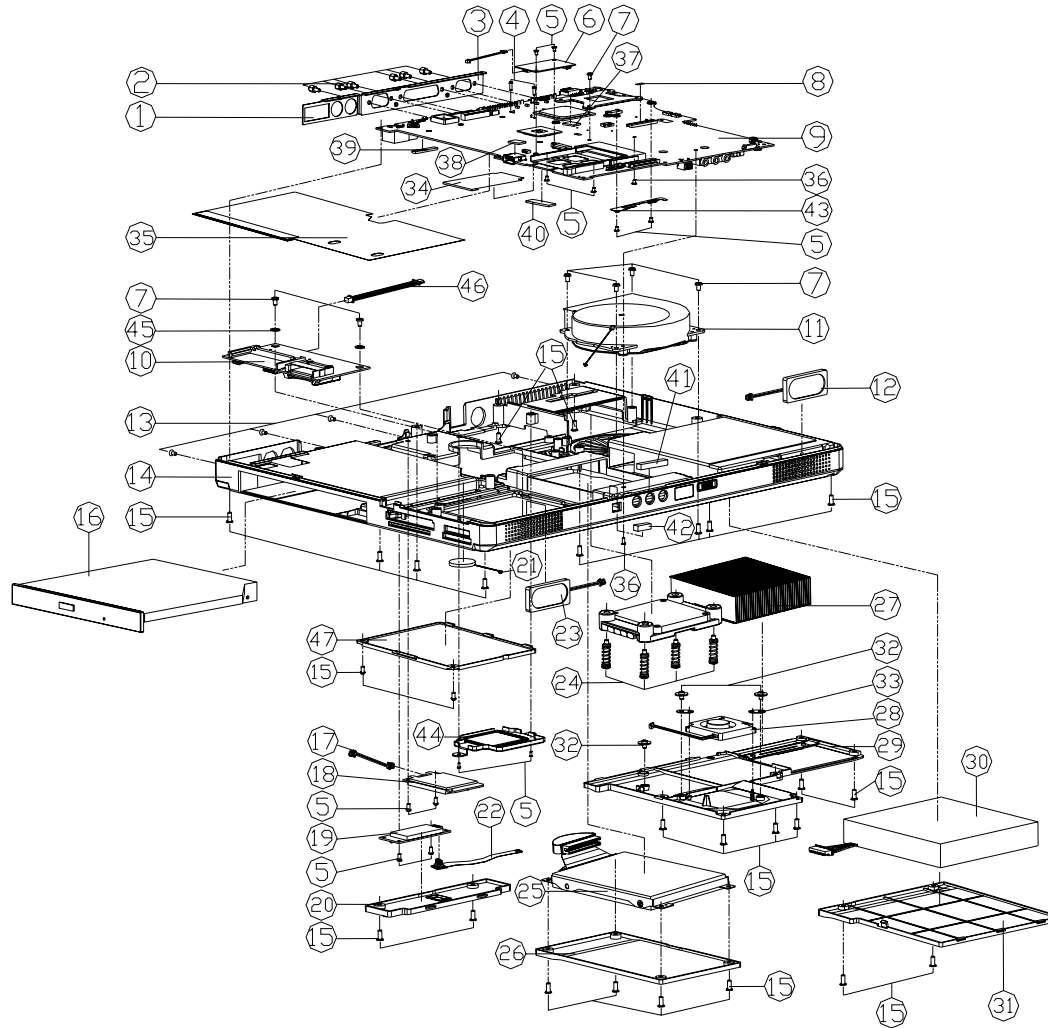


Figure 2
Bottom (D400V)

ITEM	PART NAME	PART NO	REMARK
1	I/O BRACKET	33-D400S-010	
2	HEX STUDCSUM2P NI-PL) 11MM	34-07009-011-A	
3	CABLE FOR MIC,85MM,AE FI-32SALES 8526-0200	43-D400U-012	
4	SCREW M2*3L P BZ ICT NY	35-06120-6RA	
5	SCREW M2*3L KI NI ICT NY	35-B1120-3RB	
6	MDC MODEM+TEL.CABLE MODULE	76-32200-101	
7	SCREW M2.5*5L KI BNI ICT NY	35-B9125-5R0	
8	MYLAR(M4025) FOR 85V LCD(SAMSUNG)	40-00150-150	
9	MAIN BOARD	77-D400U-D0X	
10	CARD READER MODULE V1.0 FOR D470W	88-D47E0-430	
11	D400S FAN MODULE	31-D400S-102	
12	SPEAKER 85mm Iw 8 FTH-35N68 RIGHT	23-38510-801A	
13	SCREW M2*4L F NI ICT NY	35-21120-4RA	
14	BOTTOM CASE MODULE WITH CARD READER (88)	39-D40U3-110	
15	SCREW M2.5*6L K BZ ICT	35-82125-6R0	
16	CD-ROM DS16SR-242) ASSY D400S	79-D40E-000	Reference Assy No (39-D40E-070)
16	DVD-ROM DS16SR-083) ASSY D400S	79-D40E-V-000	Reference Assy No (39-D40E-080)
16	CD-RW TEALCP-W24E-A82) ASSY D400S	79-D40E-W-000	Reference Assy No (39-D40E-090)
16	COMBO DS16SW-161) ASSY D400S	79-D40EX-000	Reference Assy No (39-D40EX-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(S)	88-18250-370	
20	BLUETOOTH COVER MODULE	42-D40E-100	
21	WI. 2M X 23MM V(CABLE 5MM CR232/07HP)	23-22015-P2B	
22	FRY CABLE FOR MAIN BD TO BLUETOOTH BD (40)	43-D4000-011	
23	SPEAKER 25mm Iw 8 FTH-35N68 LEFT	23-32510-801A	
24	SCREW M2.5*4.5P*15.5 W/35 L-H35 S-25	35-49025-155	
25	W/D HDD ASSY D400U	79-D40U1-010	
26	HDD COVER	42-D40E1-010	
27	HEAT SINK MODULE D400E	31-D40EN-101-1	
28	FAN 40*40*7T D400E	23-A4011-462	
29	CPU COVER MODULE(AXIAL FAN)	42-D40US-101	
30	Smart batt 45P 148V 4400MAH(SMP)	87-D408S-4D5	
30	Smart batt 45P 148V 4400MAH(G/LD)	87-D408S-4E5	
31	BATTERY COVER MODULE	42-D400M-102	
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	D400U MYLAR FOR MB	40-D40US-030	
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 L15mm)	47-00190-157	
39	GASKET FOR P2P AND S-VIDEO(W10mm H5mm L35mm)	47-00190-353	
40	GASKET FOR LEFT SIDE OF M/B(W10mm H3mm L30mm)	47-00190-30B	
41	GASKET FOR AUDIO(W10mm H6.5mm L35mm)	47-00190-354	
42	GASKET FOR I394(W5mm H5.5mm L13mm)	47-00190-133	
43	CHOCK SINK (BOTTOM)	33-D40ES-020	
44	CPU HOLDER	33-D40ES-030	
45	PLASTIC WASHER D7 od2.65 t2	42-D470E-A10	
46	WIRE CABLE FOR M/B TO CARD READER	43-M47CE-010	
47	VGA COVER D400U (88)	42-D40U3-010	

LCD 14" (D400V)

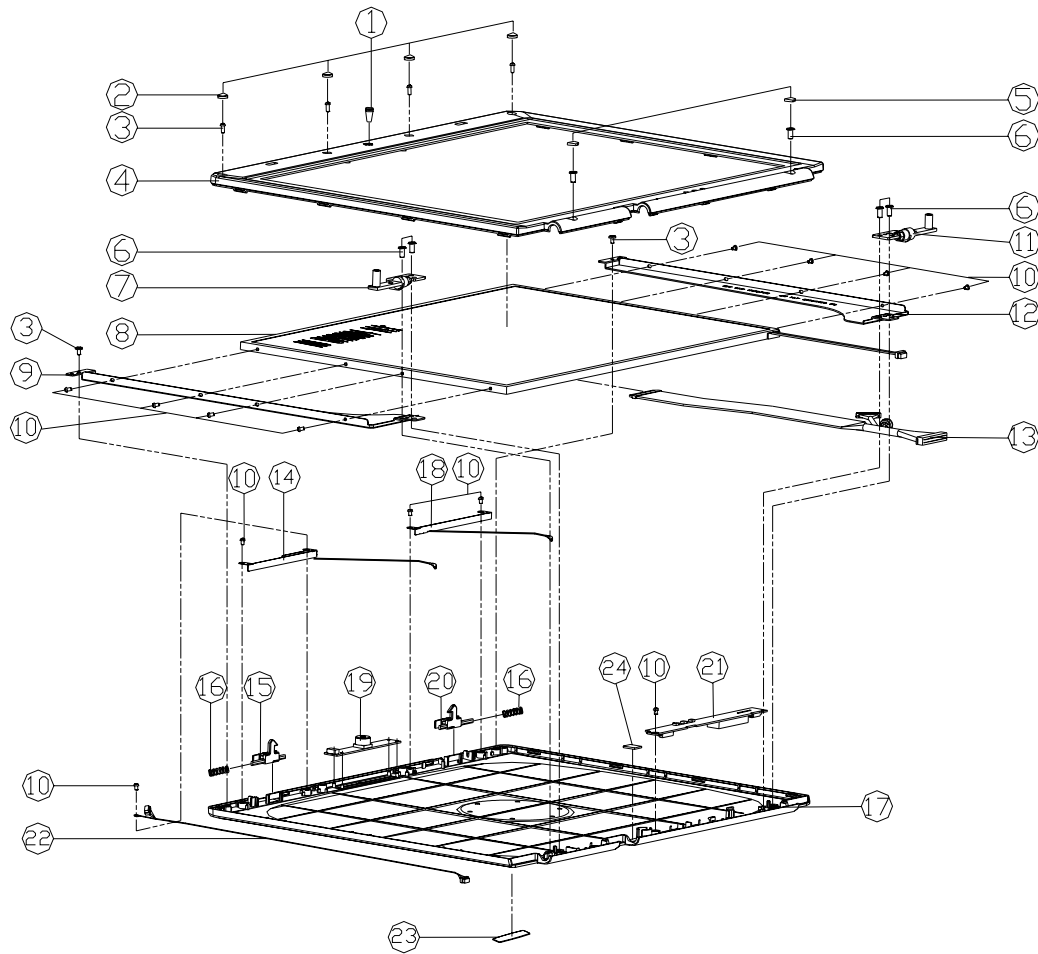


Figure 3
LCD 14" (D400V)

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 T BZ ICT	35-C6120-4R0	
4	DISPLAY FRONT PANEL 14.1" MODULE	39-D4001-101	
5	DISPLAY RUBBER PAD (DOWN)	47-D4001-020	
6	SCREW M3*6L KI NI ICT NY	35-B1130-6RA	
7	HINGE (L)	33-D400Y-021	
8	LCD T AU B141XN04 V1 14.1" XGA	50-J2287-G04	
8	LCD T IBM 17X77-E53-029 14.1" XGA	50-J2287-E01	
8	LCD 14.1" OPT TFT CLAM41XFOI XGA 52mm	50-J2252-C00	
9	LCD BRACKET (L) FOR AU 14.1" LCD	33-D4001-120	FDR AU
9	LCD BRACKET (L) FOR 14.1" LCD	33-D4001-020	FDR CPT/IDT
10	SCREW M2*3L KI NI ICT NY	35-B1120-3RB	
11	HINGE (R)	33-D400Y-011	
12	LCD BRACKET (R) FOR AU 14.1" LCD	33-D4001-110	FDR AU
12	LCD BRACKET (R) FOR 14.1" LCD	33-D4001-010	FDR CPT/IDT
13	WIRE CABLE FOR 14" LCD XGA AU	43-D4001-021	FDR AU/IDT
13	WIRE CABLE FOR 14" LCD XGA OPT CLAM41XFOI	43-M4001-010	FDR CPT
14	ANTENNA BLUETOOTH PIFA 24G L=540mm	23-742R4-005	
15	LCD HOOK(L)	42-D4001-021	
16	SPRING FOR HOOK(φ3.7*15*0.3φ)	38-21P30-011	
17	DISPLAY BACK PANEL MODULE	39-D40E1-200	
18	WIRELESS ANTENNA PIFA 24G L=430mm M005	23-742R4-004	
19	VIDEO CAMERA CM3130, 300K Pixels Resolu	88-D40C0-410	OPTION
20	LCD HOOK(R)	42-D4001-011	
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 L15mm)	47-00190-158	

A.Part Lists

Part Lists

LCD 15" (D400V)

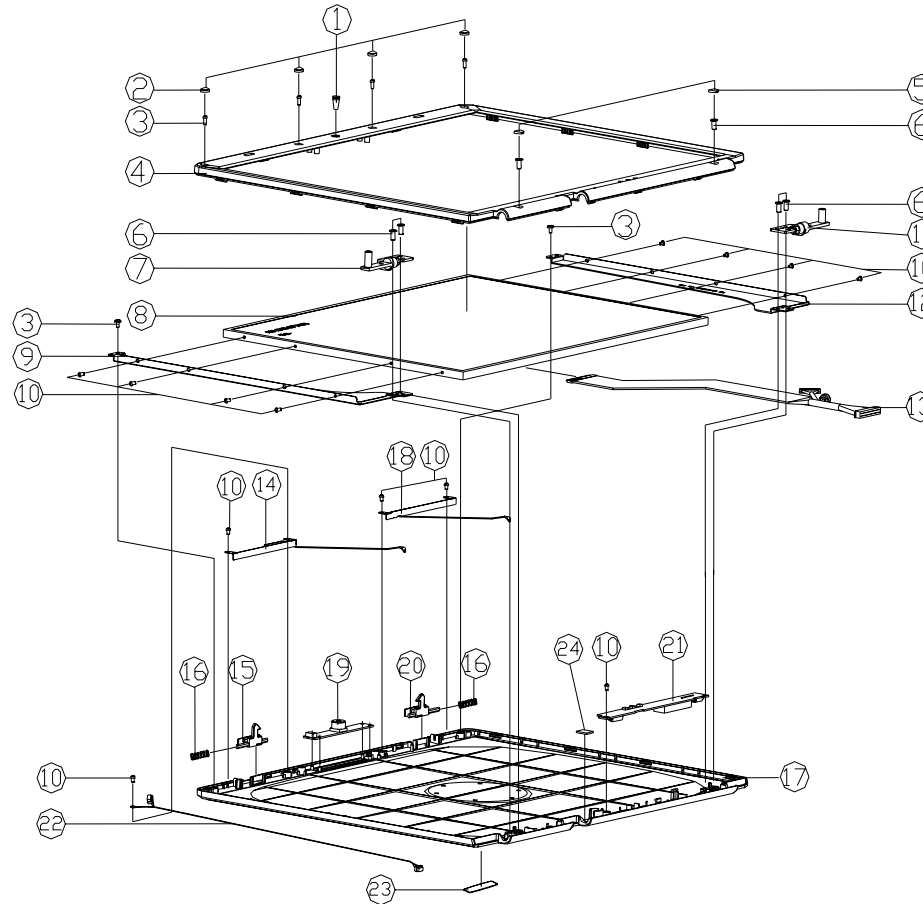


Figure 4
LCD 15" (D400V)

ITEM	PART NAME	PART NO	REMARK
1	RUBBER FOR VIDEO CAMERA	47-D400P-010	
2	RUBBER FOR LCD (TOP)	47-56P32-010	
3	SCREW M2x4L 1 BZ ICT	35-C6120-4R0	
4	DISPLAY FRONT PANEL 15" MODULE	39-D4001-111	
5	DISPLAY RUBBER PAD (DDW/D)	47-D4001-020	
6	SCREW M3x6L K1 NI ICT NY	35-B1130-6RA	
7	HINGE (L)	33-D400Y-021	
8	LCD 15.1" TFT AU B15P061 1400x1050 SXGA+	50-L5259-U10	FDR AU
8	LCD 15.0 1BM TFT BEM95C-R2 SXGA+ 43mm	50-L3241-E00	FDR IDT
9	LCD BRACKET (L) FOR AU 15.1" LCD	33-D4001-140	FDR AU
9	LCD BRACKET (L) FOR 1BM 15.1" LCD	33-D4001-240	FDR IDT
10	SCREW M2x3L K1 NI ICT NY	35-B1120-3R8	
11	HINGE (R)	33-D400Y-011	
12	LCD BRACKET (R) FOR AU 15.1" LCD	33-D4001-130	FDR AU
12	LCD BRACKET (R) FOR 1BM 15.1" LCD	33-D4001-230	FDR IDT
13	WIRE CABLE FOR 15" LCD SXGA+ AU	43-D4001-121	FDR AU
13	WIRE CABLE FOR 15" LCD SXGA+ IDT	43-D4001-111	FDR IDT
14	ANTENNA BLUETOOTH PIFA 24G Lx540mm	23-742R4-005	
15	LCD HOOK(L)	42-D4001-021	
16	SPRING FOR HOOK(ø3.7x15x0.3x2)	38-21P30-011	
17	DISPLAY BACK PANEL MODULE	39-D40E1-200	
18	WIRELESS ANTENNA PIFA 24G Lx430mm 1800S	23-742R4-004	
19	VIDEO CAMERA CMV320, 300K Pixels Resolu	88-D40C0-410	OPTION
20	LCD HOOK(R)	42-D4001-011	
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(ø10mm H22mm L155mm)	47-00190-158	

CD-ROM Drive (D400V)

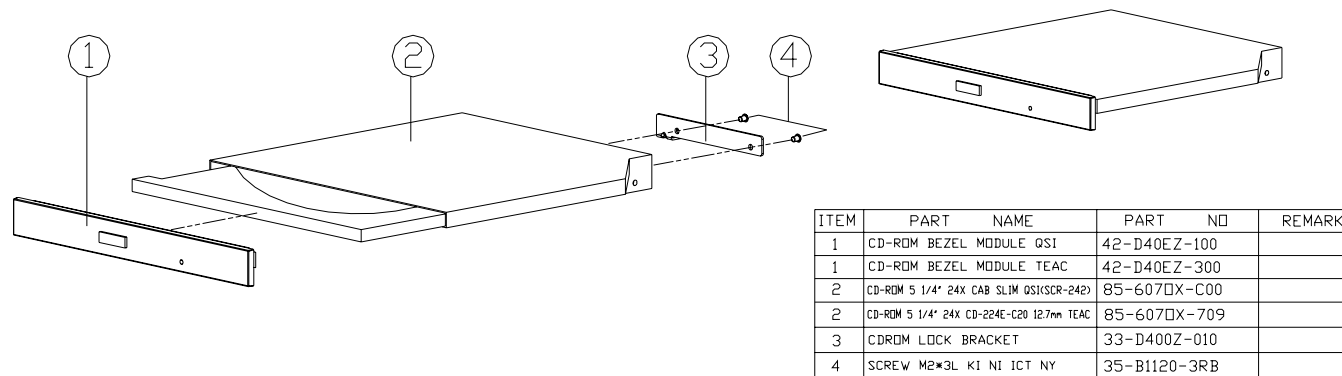
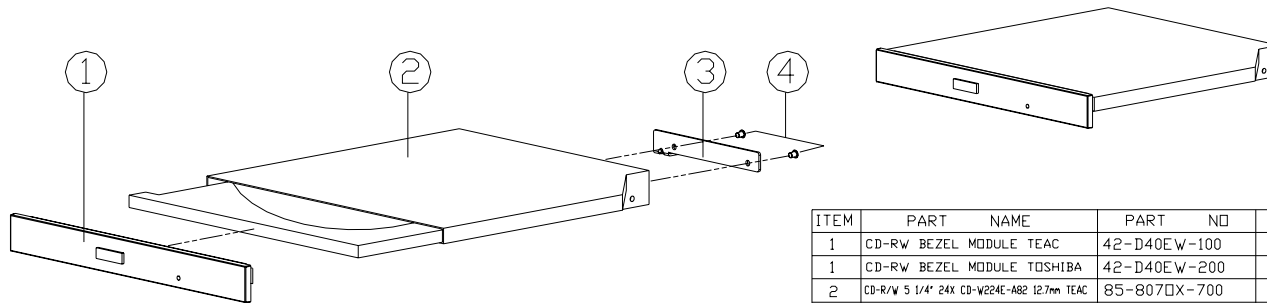


Figure 5
CD-ROM Drive
(D400V)

CD-RW Drive (D400V)

Figure 6
CD-RW Drive
(D400V)



ITEM	PART NAME	PART NO	REMARK
1	CD-RW BEZEL MODULE TEAC	42-D40EW-100	
1	CD-RW BEZEL MODULE TOSHIBA	42-D40EW-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 K1 NI ICT NY	35-B1120-3RB	

Combo Drive (D400V)

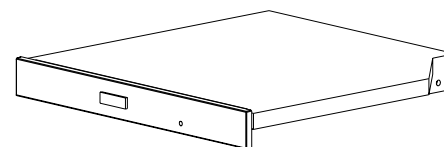
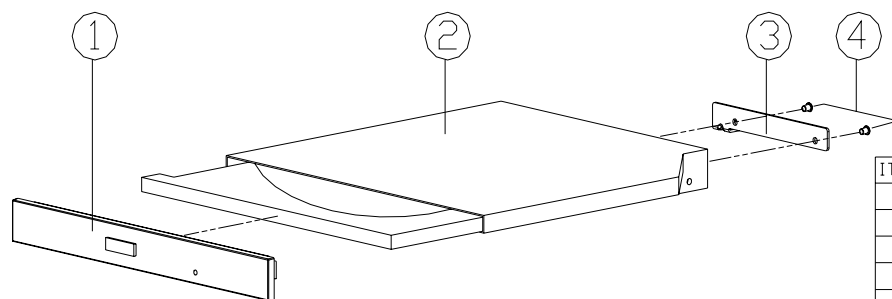


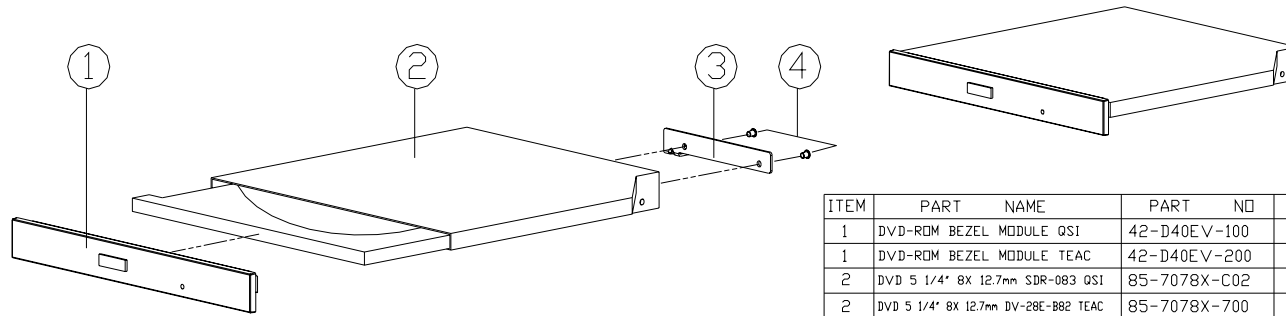
Figure 7
Combo Drive
(D400V)

ITEM	PART NAME	PART NO	REMARK
1	COMBO BEZEL MODULE QSI D400S	42-D40EX-100	
1	COMBO BEZEL MODULE SAMSUNG	42-D40EX-200	
1	COMBO BEZEL MODULE TEAC	42-D40EX-300	
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	
2	CD-RW/DVD 5 1/4" 24X 12.7mm DW-224E-82 TEAC	85-907□X-700	
3	CDROM LOCK BRACKET	33-D400Z-010	
4	SCREW M2*3L K1 NI ICT NY	35-B1120-3RB	

A.Part Lists

DVD-ROM Drive (D400V)

Figure 8
DVD-ROM Drive
(D400V)



ITEM	PART NAME	PART NO	REMARK
1	DVD-ROM BEZEL MODULE QSI	42-D40EV-100	
1	DVD-ROM BEZEL MODULE TEAC	42-D40EV-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 K1 NI ICT NY	35-B1120-3RB	

Hard Disk Drive (D400V)

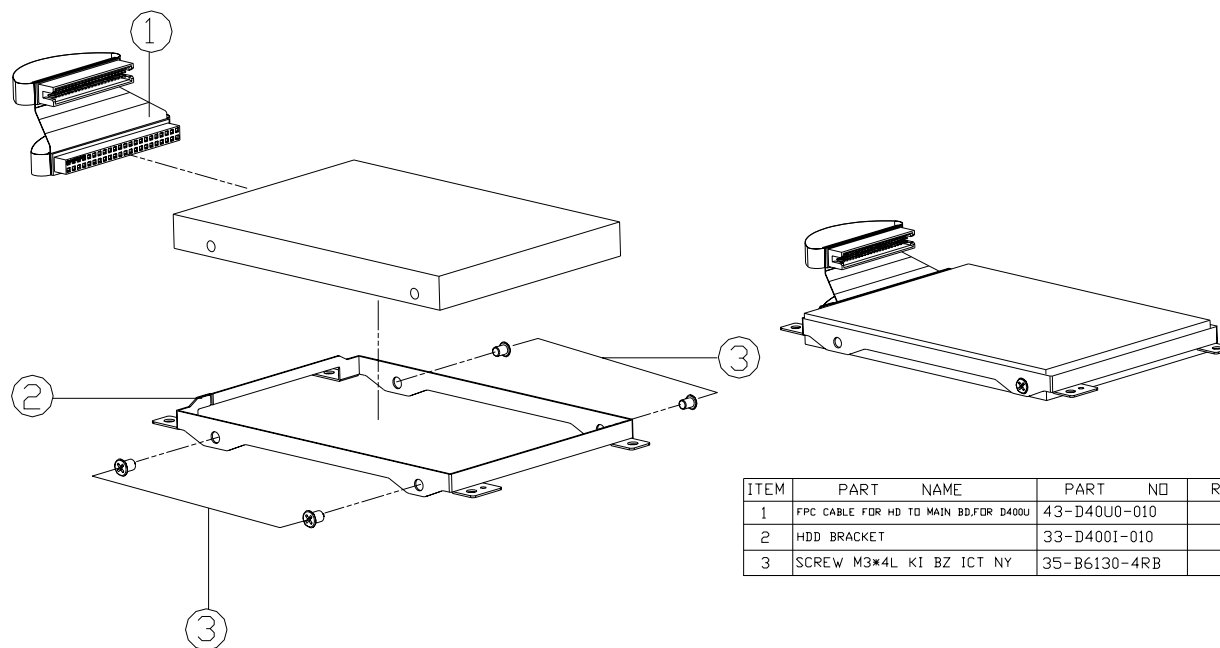


Figure 9
HDD Drive (D400V)

ITEM	PART NAME	PART NO	REMARK
1	FPC CABLE FOR HD TO MAIN BD.FOR D400U	43-D40U0-010	
2	HDD BRACKET	33-D400I-010	
3	SCREW M3*4L K1 BZ ICT NY	35-B6130-4RB	

A.Part Lists

Top (D410V)

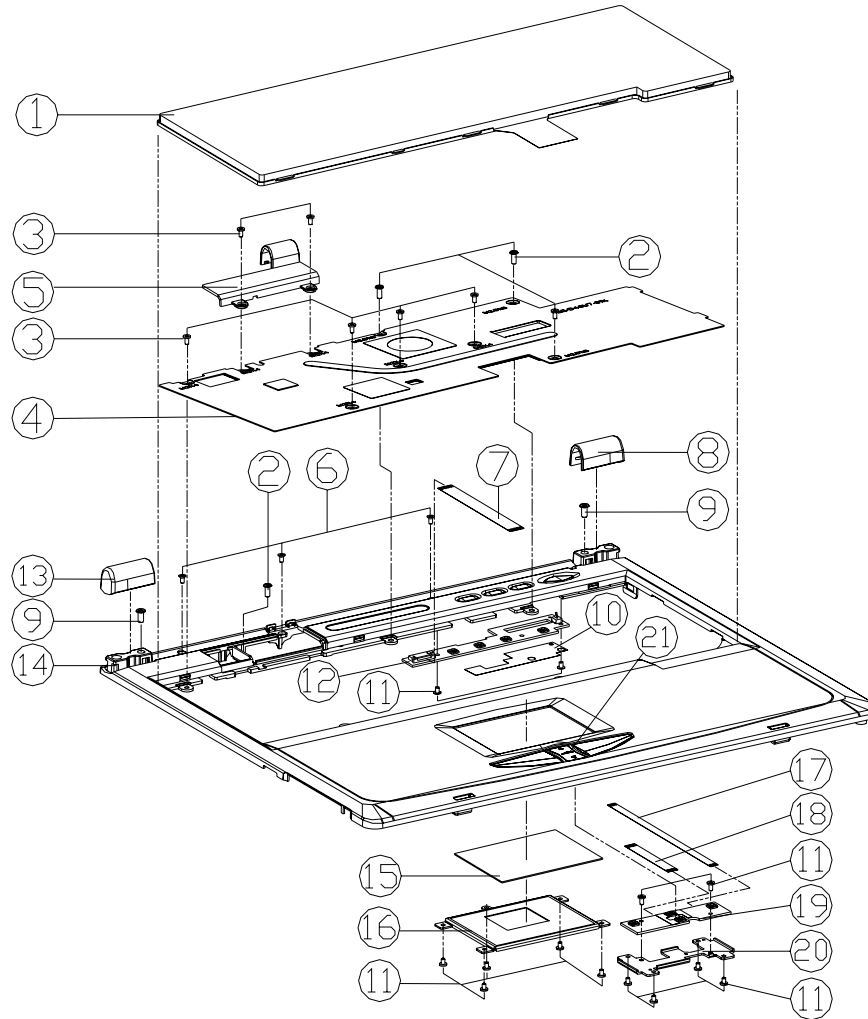
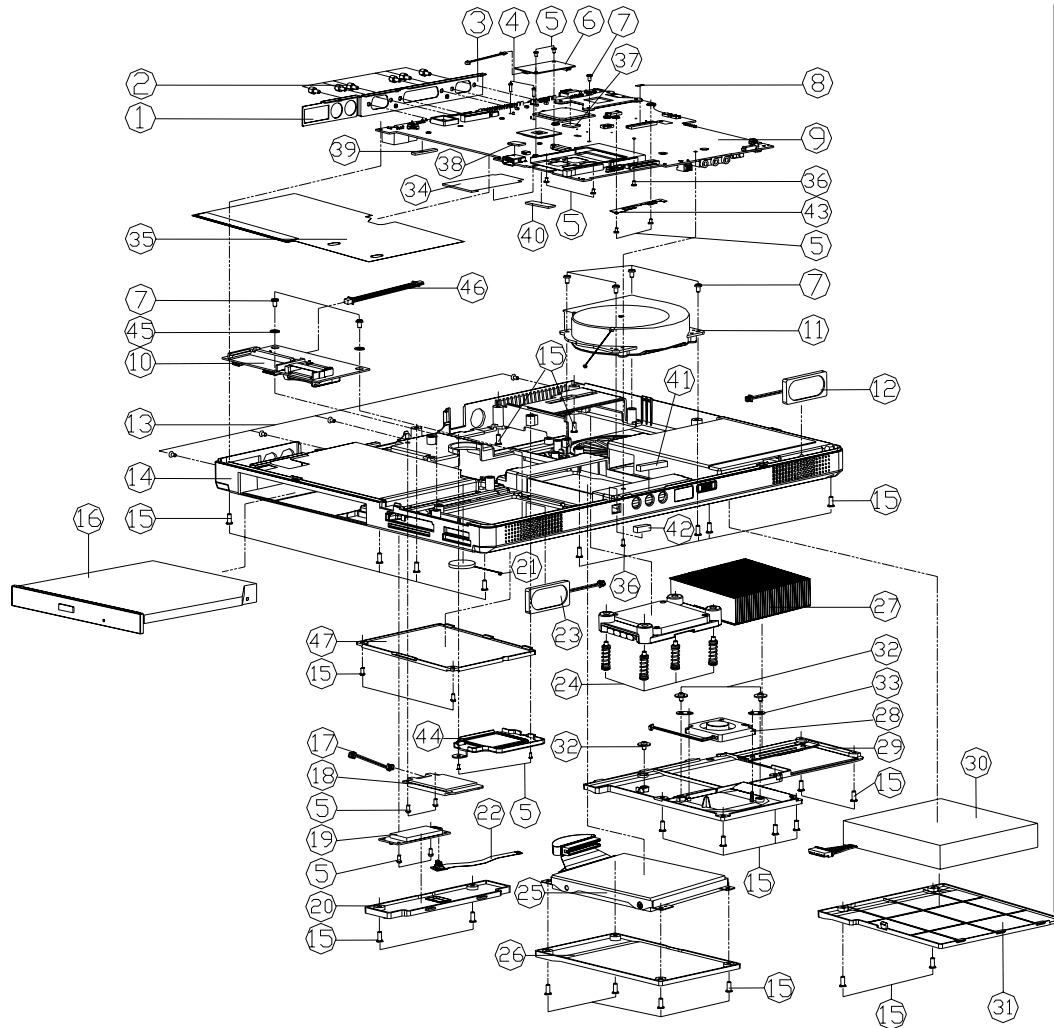


Figure 10
Top (D410V)

A.Part Lists

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 D400U	33-D40U7-011	
5	CONNECTOR COVER FOR D410S	42-D41E8-011	
6	SCREW M2*4L F NI ICT NY	35-21120-4RA	
7	FFC CABLE FOR MAIN BB TO POWER SWITCH BOARD	43-D4000-021	
8	HINGE COVER(R) D410E	42-D41EY-011	
9	SCREW M3*SL K1 NI ICT NY	35-B1130-5RA	
10	MYLAR FOR FUNCTION BOARD	40-D400S-011	
11	SCREW M2*SL K1 NI ICT NY	35-B1120-3RB	
12	SWITCH BOARD	77-D400S-D0X	
13	HINGE COVER (L) D410E	42-D41EY-021	
14	TOP CASE MODULE D410E	39-D41E2-011	
15	TOUCHPAD ALPS KKGDF1956A M190S	49-M1902-010	
16	TOUCH PAD BRACKET	33-D4102-011	
17	FFC CABLE FOR MAIN BB TO CLICK BB 126MM	43-D4000-030	
18	FFC CABLE FOR CLICK TO TOUCH PAD 45MM	43-D4000-040	
19	CLICK BOARD	77-D4002-D0X	
20	CLICK PCB BRACKET	33-D410S-010	
21	SCROLL KNOB	42-D4102-020	

Bottom (D410V)

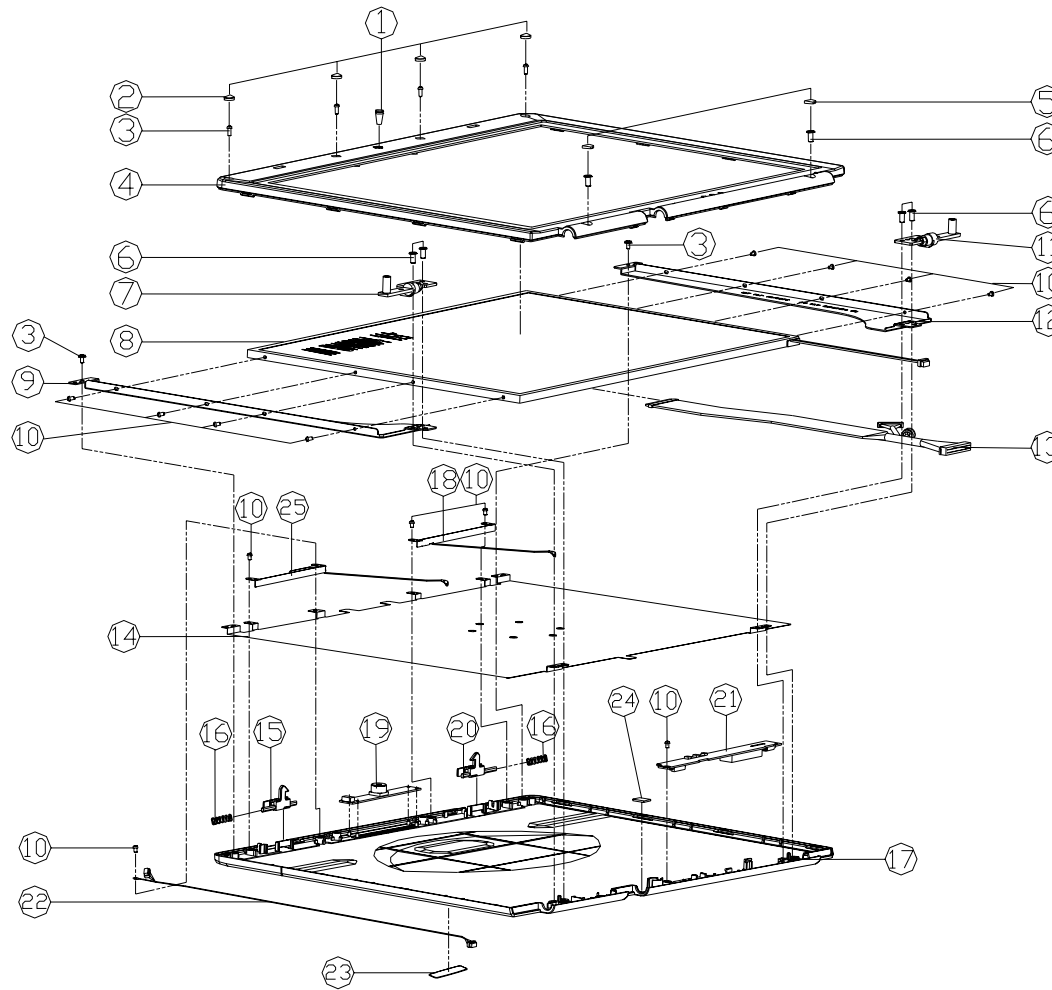


ITEM	PART NAME	PART NO	REMARK
1	I/O BRACKET	33-D400S-010	
2	HEX STUD(SUM22 NI-PL) 11MM	34-07009-011-A	
3	CABLE FOR MDC39MM_UE FI-S25AES 8236-828	43-D400U-012	
4	SCREW M2*6L P BZ ICT NY	35-06120-6RA	
5	SCREW M2*3L KI NI ICT NY	35-B1120-3RB	
6	MDC MODEM+TEL.CABLE MODULE	76-32200-101	
7	SCREW M2.5*5L KI BNI ICT NY	35-B9125-5R0	
8	MYLAR(5*40.25) FOR BSV LOCK(SANSUNG)	40-00150-150	
9	MAIN BOARD	77-D400U-DOX	
10	CARD READER MODULE V1.0 FOR D470W	88-D47E0-430	
11	D400S FAN MODULE	31-D400S-102	
12	SPEAKER 85mm IW 8 F7H-35N68 RIGHT	23-38510-801A	
13	SCREW M2*4L F NI ICT NY	35-21120-4RA	
14	BOTTOM CASE MODULE WITH CARD READER (88)	39-D41U3-110	
15	SCREW M2.5*6L K BZ ICT	35-82125-6R0	
16	CD-RM OS(KSCR-242) ASS'Y D400S	79-D41EZ-000	Reference Ass'y No C99-D41E5-070
16	DVD-RM OS(KSDR-083) ASS'Y D400S	79-D41EV-000	Reference Ass'y No C99-D41E5-080
16	CD-RW TRACK(V22E-AB2) ASS'Y D400S	79-D41EW-000	Reference Ass'y No C99-D41E5-090
16	COMBO OS(KSBW-161) ASS'Y D400S	79-D41EX-000	Reference Ass'y No C99-D41E5-100
17	WIRE CABLE FOR MAIN BB TO WLAN USB BD	43-D4000-070	
18	WLAN 802.11 b USB INTERFACE USB-300	88-D4020-380	
19	BLUETOOTH MODULE V1.0 USB INTERACT(US)	88-18250-370	
20	BLUETOOTH COVER MODULE	42-D40EB-100	
21	BAT. 2000 3V 230MH W/CABLE 50M DR022/0734P	23-22015-P2B	
22	FPC CABLE FOR MAIN BB TO BLUETOOTH BD 040	43-D4000-011	
23	SPEAKER 25mm IW 8 F7H-35N68 LEFT	23-32510-801A	
24	SCREW M2.5*4.5P*155 dl=35 L=155 S=25	35-49025-155	
25	W/O HDD ASS'Y D400U	79-D40UI-010	
26	HDD COVER	42-D40EI-010	
27	HEAT SINK MODULE D400E	31-D40EN-101-1	
28	FAN 40*40*7T D400E	23-A4011-462	
29	CPU COVER MODULE(GXIAL FAN) (88)	42-D41US-101	
30	Smart batt. 452P 14.8V 4400MAH(SMP)	87-D40BS-4D5	
30	Smart batt. 452P 14.8V 4400MAH(GLD)	87-D40BS-4E5	
31	BATTERY COVER MODULE	42-D410M-102	
32	SCREW M2.5*2.5L 8 NI ICT W/WAS NY	35-41025-2R5	
33	FAN BRACKET	33-D400S-060	
34	PCMCIA MYLAR MYLAR 320	40-32004-000	
35	D400U MYLAR FOR MB	40-D40US-030	
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 H4mm L19mm)	47-00190-157	
39	GASKET FOR P&S 5-VIBED(W5mm H5mm L35mm)	47-00190-353	
40	GASKET FOR LEFT SIDE OF W/B(W10mm H3mm L30mm)	47-00190-30B	
41	GASKET FOR AUDIO(W10mm H6.5mm L35mm)	47-00190-354	
42	GASKET FOR I394(W5mm H5.5mm L13mm)	47-00190-133	
43	CHOCK SINK (BOT TOM)	33-D40US-020	
44	CPU HOLDER	33-D40ES-030	
45	PLASTIC WASHER D7 H2.65 t2	42-D470E-A10	
46	WIRE CABLE FOR W/B TO CARD READER	43-M47CE-010	
47	VGA COVER D410U (88)	42-D41U3-010	

Figure 11
Bottom (D410V)

LCD 14" (D410V)

Figure 12
LCD 14" (D410V)



ITEM	PART NAME	PART NO	REMARK
1	RUBBER FOR VIDEO CAMERA	47-D400P-010	
2	RUBBER FOR LCD (TOP)	47-D41E1-010	
3	SCREW M2*4L I BZ ICT	35-C6120-4R0	
4	DISPLAY FRONT PANEL 14.1" MODULE	39-D4001-100	
5	DISPLAY RUBBER PAD (DDWN)	47-D41E1-020	
6	SCREW M3*6L K1 NI ICT NY	35-B1130-6RA	
7	HINGE (L)	33-D400Y-021	
8	LCD T AU B141XN04 V1 14.1" XGA	50-J2287-G04	
8	LCD T 1B1 TX77-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-011	
12	LCD BRACKET (R) FOR AU 14.1" LCD	33-D400Y-110	
12	LCD BRACKET (R) FOR 14.1" LCD	33-D400Y-010	
13	WIRE CABLE FOR 14" LCD XGA AU	43-D4001-021	
14	LCD SHIELDING	33-D4001-050	
15	LCD HOOK(L)	42-D4001-021	
16	SPRING FOR HOOK(ø3.7*15*0.3d)	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 24G L-430mm B40S	23-742R4-004	
19	VIDEO CAMERA CM0130, 300k Pixels Resolu	88-D40C0-410	OPTION
20	LCD HOOK(R)	42-D4001-011	
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(ø10mm H20mm L150mm)	47-00190-15B	
25	ANTENNA BLUETOOTH PIFA 24G L-540mm	23-742R4-005	

LCD 15" (D410V)

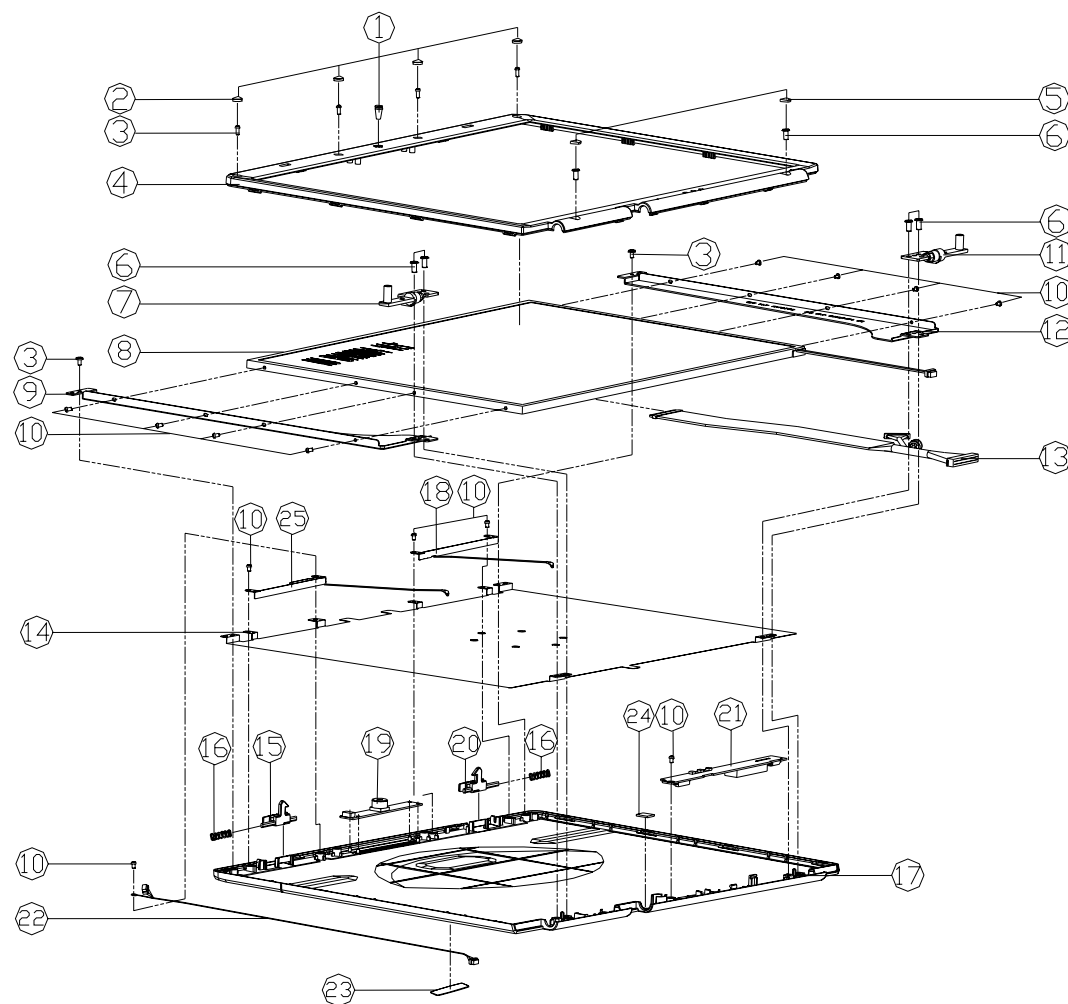


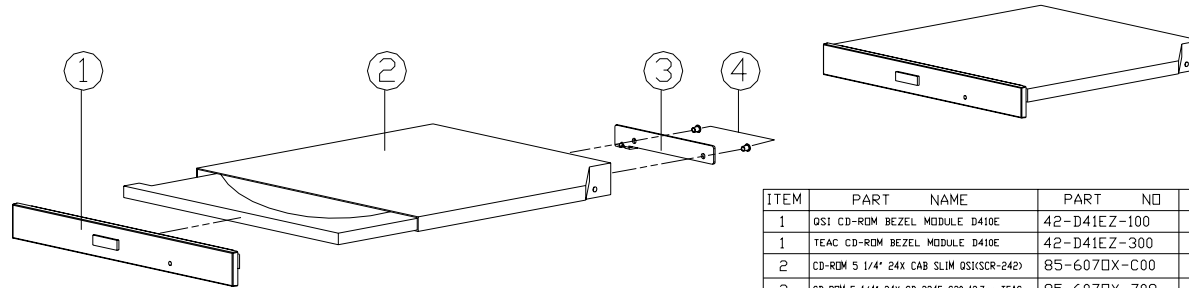
Figure 13
LCD 15" (D410V)

ITEM	PART NAME	PART NO	REMARK
1	RUBBER FOR VIDEO CAMERA	47-D400P-010	
2	RUBBER FOR LCD (TOP)	47-D41E1-010	
3	SCREW M2*4L 1 BZ ICT	35-C6120-4R0	
4	DISPLAY FRONT PANEL 15" MODULE	39-D41E1-110	
5	DISPLAY RUBBER PAD (DOWN)	47-D41E1-020	
6	SCREW M3*6L KI NI ICT NY	35-B1130-6RA	
7	HINGE (L)	33-D400Y-021	
8	LCD 15.0" TFT AU B15P901 1400*1050 SXGA+	50-L5259-U10	
8	LCD 15.0" TFT BEM95C-02 SXGA+ 41mm	50-L3241-E00	
9	LCD BRACKET (L) FOR AU 15.1" LCD	33-D4001-140	
9	LCD BRACKET (L) FOR 15.1" LCD	33-D4001-240	
10	SCREW M2*3L KI NI ICT NY	35-B1120-3RB	
11	HINGE (R)	33-D400Y-011	
12	LCD BRACKET (R) FOR AU 15.1" LCD	33-D4001-130	
12	LCD BRACKET (R) FOR 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-D4001-021	
16	SPRING FOR HOOK(ø3.7*15*0.3d)	38-21P30-011	
16	DISPLAY BACK PANEL MODULE D410E	39-D41E1-200	
18	WIRELESS ANTENNA PIFA 24G L=430mm D400S	23-742R4-004	
19	VIDEO CAMERA CM3130, 300K Pixels Resolu	88-D40C0-410	OPTION
20	LCD HOOK(R)	42-D4001-011	
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(ø16mm H20mm L150mm)	47-00190-15B	
25	ANTENNA BLUETOOTH PIFA 24G L=540mm	23-742R4-005	

A.Part Lists

CD-ROM Drive (D410V)

Figure 14
CD-ROM Drive
(D410V)



ITEM	PART NAME	PART NO	REMARK
1	OSI CD-ROM BEZEL MODULE D410E	42-D41EZ-100	
1	TEAC CD-ROM BEZEL MODULE D410E	42-D41EZ-300	
2	CD-ROM 5 1/4" 24X CAB SLIM OSK(SCR-242)	85-607DX-C00	
2	CD-ROM 5 1/4" 24X CD-224E-C20 12.7mm TEAC	85-607DX-709	
3	CDROM LOCK BRACKET	33-D400Z-010	
4	SCREW M2*3L KI NI ICT NY	35-B1120-3RB	

CD-RW Drive (D410V)

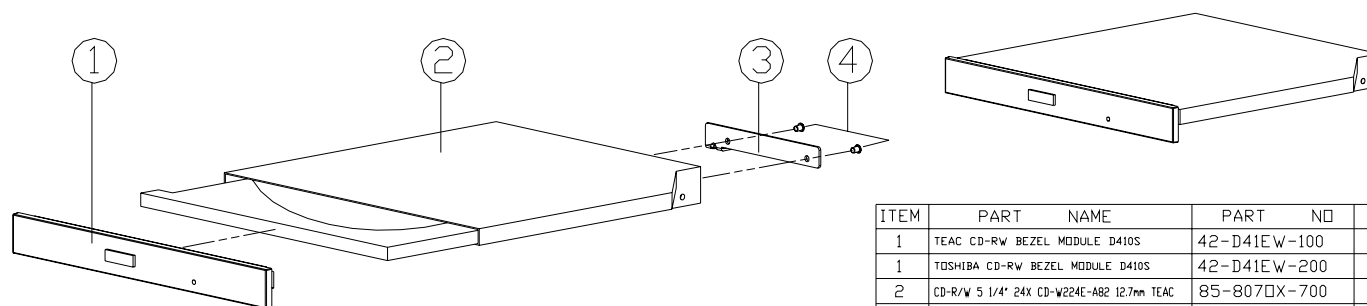


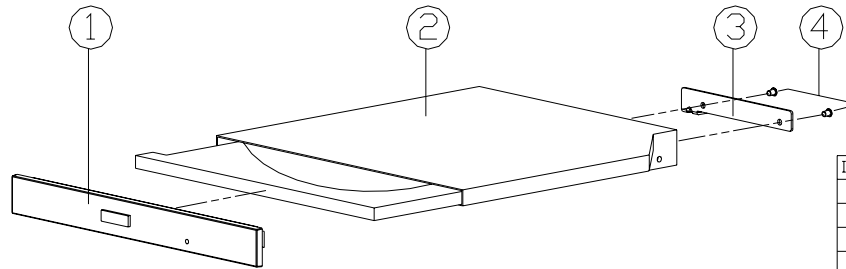
Figure 15
CD-RW Drive
(D410V)

ITEM	PART NAME	PART NO	REMARK
1	TEAC CD-RW BEZEL MODULE D410S	42-D41EW-100	
1	TOSHIBA CD-RW BEZEL MODULE D410S	42-D41EW-200	
2	CD-R/W 5 1/4" 24X CD-W224E-AB2 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	

A.Part Lists

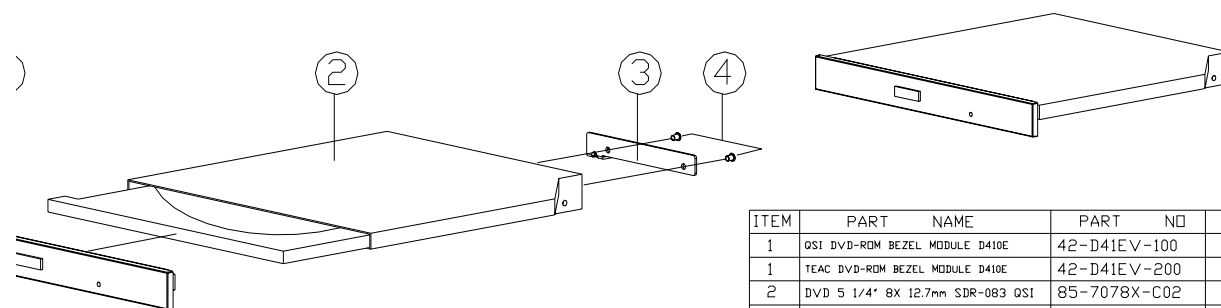
Combo Drive (D410V)

Figure 16
Combo Drive
(D410V)



ITEM	PART NAME	PART NO	REMARK
1	OSI COMBO BEZEL MODULE D410E	42-D41EX-100	
1	SAMSUNG COMBO BEZEL MODULE D410E	42-D41EX-200	
1	TEAC COMBO BEZEL MODULE D410E	42-D41EX-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	

DVD-ROM Drive (D410V)



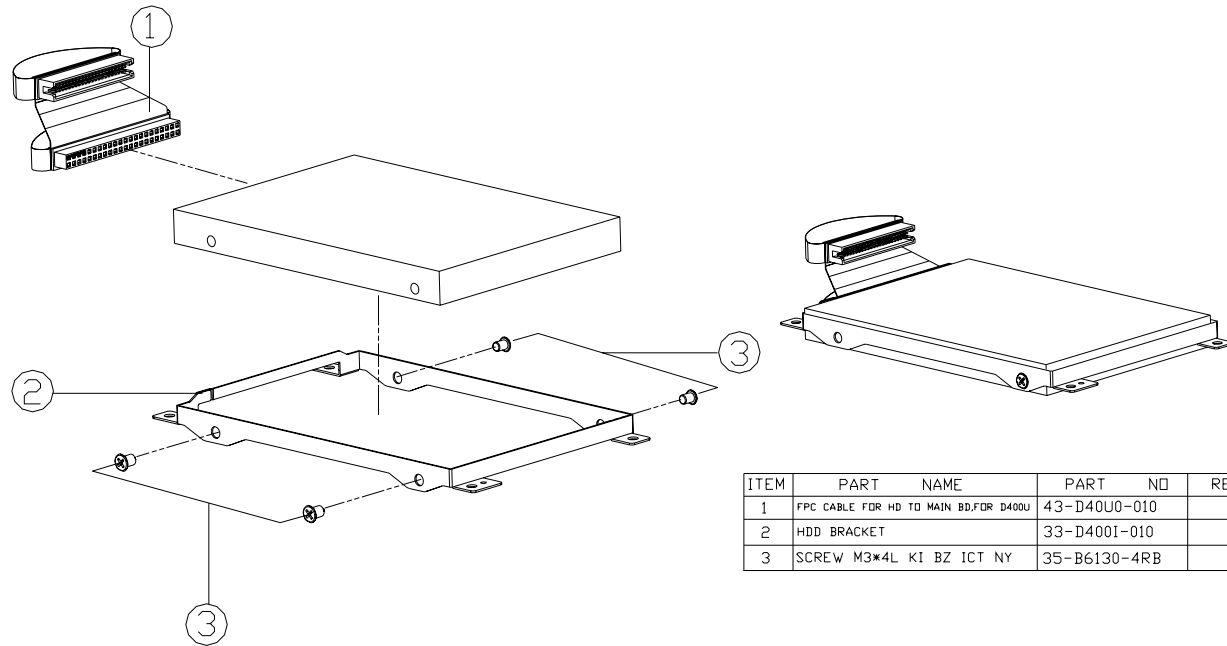
ITEM	PART NAME	PART NO	REMARK
1	QSI DVD-ROM BEZEL MODULE D410E	42-D41EV-100	
1	TEAC DVD-ROM BEZEL MODULE D410E	42-D41EV-200	
2	DVD 5 1/4" 8X 12.7mm SDR-083 QSI	85-7078X-C02	
2	DVD 5 1/4" 8X 12.7mm DV-28E-B82 TEAC	85-7078X-700	
3	CDROM LOCK BRACKET	33-D400Z-010	
4	SCREW M2*3L K1 NI ICT NY	35-B1120-3RB	

Figure 17
DVD-ROM Drive
(D410V)

A.Part Lists

Hard Disk Drive (D410V)

Figure 18
HDD Drive (D410V)



ITEM	PART NAME	PART NO	REMARK
1	FPC CABLE FOR HD TO MAIN BD.FOR D400u	43-D40U0-010	
2	HDD BRACKET	33-D400I-010	
3	SCREW M3*4L KI BZ ICT NY	35-B6130-4RB	

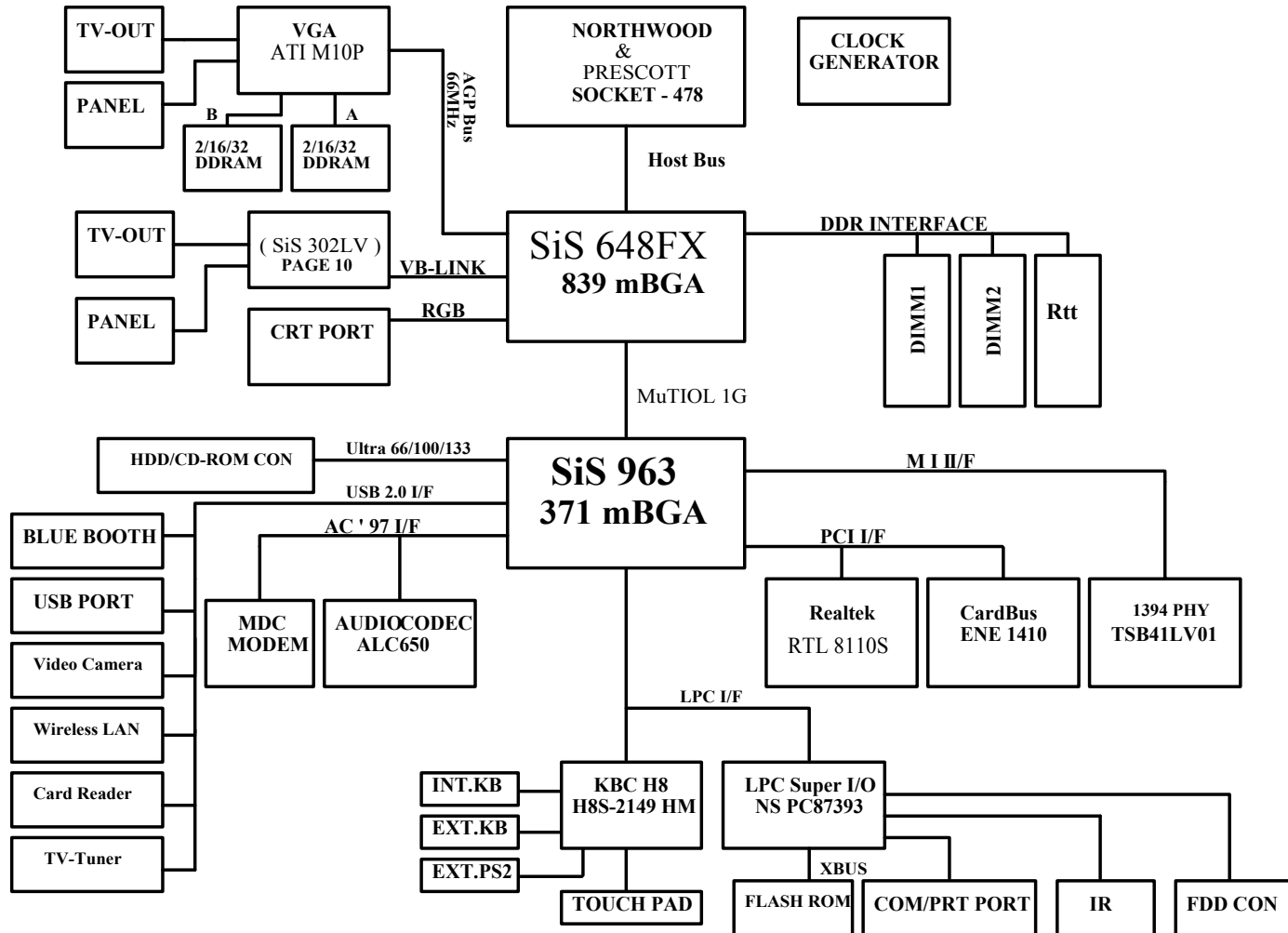
Appendix B:Schematic Diagrams

This appendix has circuit diagrams of the *D400V/D410V* notebook's PCB's. The following table indicates where to find the appropriate schematic diagram.

Diagram - Page	Diagram - Page	Diagram - Page
<i>System Block Diagram - Page B - 2</i>	<i>963-3 (USB I/F) 3 of 4 - Page B - 16</i>	<i>Fan Control and SpeedStep - Page B - 30</i>
<i>Socket 478 1 of 2 - Page B - 3</i>	<i>963-4 (Power & RTC) 4 of 4 - Page B - 17</i>	<i>Mobility M10-P - Page B - 31</i>
<i>Socket 478 & ITP 2 of 2 - Page B - 4</i>	<i>HDD/Combo Connector - Page B - 18</i>	<i>Mobility M10-P MEM A/B - Page B - 32</i>
<i>Clock Generator - Page B - 5</i>	<i>USB Port - Page B - 19</i>	<i>VGA DDR DRAM Channel A - Page B - 33</i>
<i>M648FX-1 (Host/AGP) 1 of 4 - Page B - 6</i>	<i>PCMCIA ENE1410 - Page B - 20</i>	<i>VGA DDR DRAM Channel B - Page B - 34</i>
<i>M648FX-2 (Memory for DDR) 2 of 4 - Page B - 7</i>	<i>PCMCIA Power & MDC Interface - Page B - 21</i>	<i>VGA DDR DRAM Termination - Page B - 35</i>
<i>M648FX-3 & CRT Out 3 of 4 - Page B - 8</i>	<i>1394 PHY TSB41LV01 - Page B - 22</i>	<i>Mobility M10-P POW - Page B - 36</i>
<i>M648FX-4 (Power) 4 of 4 - Page B - 9</i>	<i>LPC Super I/O - Page B - 23</i>	<i>VCORE - Page B - 37</i>
<i>DDR Memory DIMM - Page B - 10</i>	<i>LPT/COM Port - Page B - 24</i>	<i>+1.2V, +1.5V - Page B - 38</i>
<i>DDR SSTL-2 Termination - Page B - 11</i>	<i>LPC H8 - Page B - 25</i>	<i>+2.5V, +1.25V, +1.8V - Page B - 39</i>
<i>LVDS Interface (SiS302LV) - Page B - 12</i>	<i>LAN RTL8110S(B)-32/RTL8100C - Page B - 26</i>	<i>+3V, +5V, +12V - Page B - 40</i>
<i>Panel Con & LED Indicator - Page B - 13</i>	<i>Audio Codec ALC650 - Page B - 27</i>	<i>Charger - Page B - 41</i>
<i>963-1 (PCI/IDE/HyperZip) 1 of 4 - Page B - 14</i>	<i>Audio Out & Off Board Connectors - Page B - 28</i>	<i>SW Board and HotKey - Page B - 42</i>
<i>963-2 (Misc Signals) 2 of 4 - Page B - 15</i>	<i>System Power Control - Page B - 29</i>	<i>TouchPad and Switch Board - Page B - 43</i>

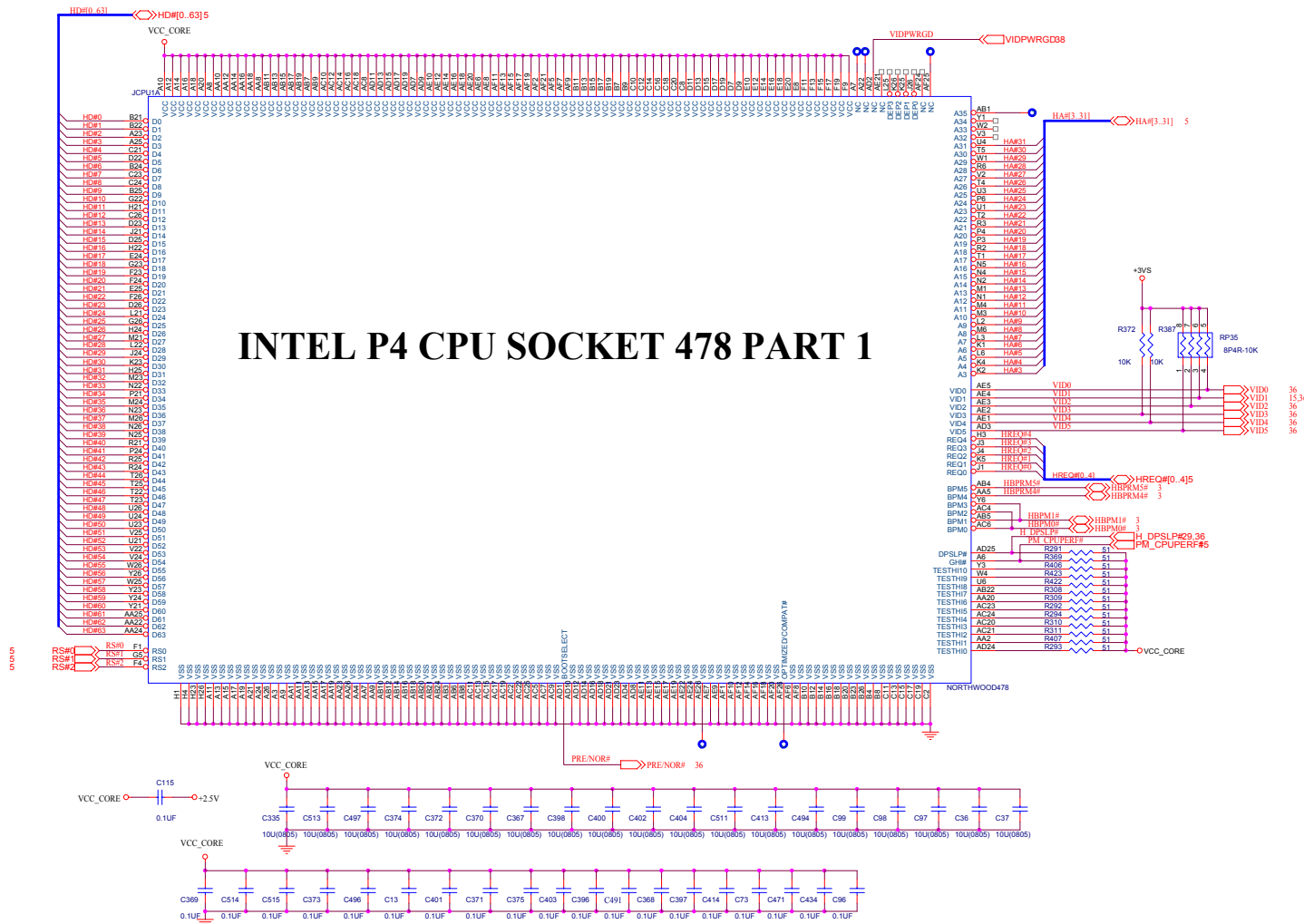
Table 1
Schematic
Diagrams

System Block Diagram



Sheet 1 of 42
System Block
Diagram

Socket 478 1 of 2



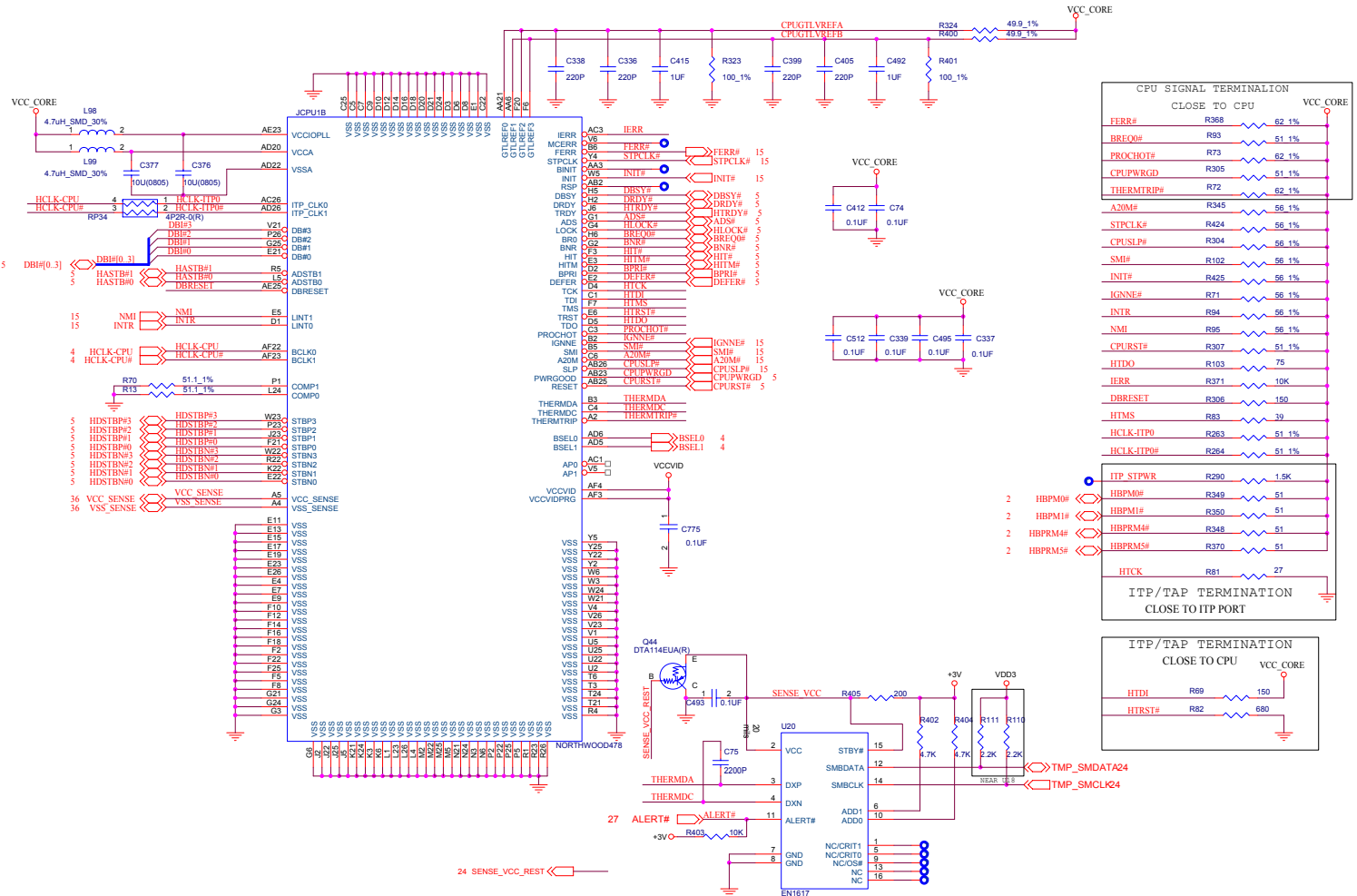
INTEL P4 CPU SOCKET 478 PART 1

Sheet 2 of 42
Socket 478 1 of 2

B. Schematic Diagrams

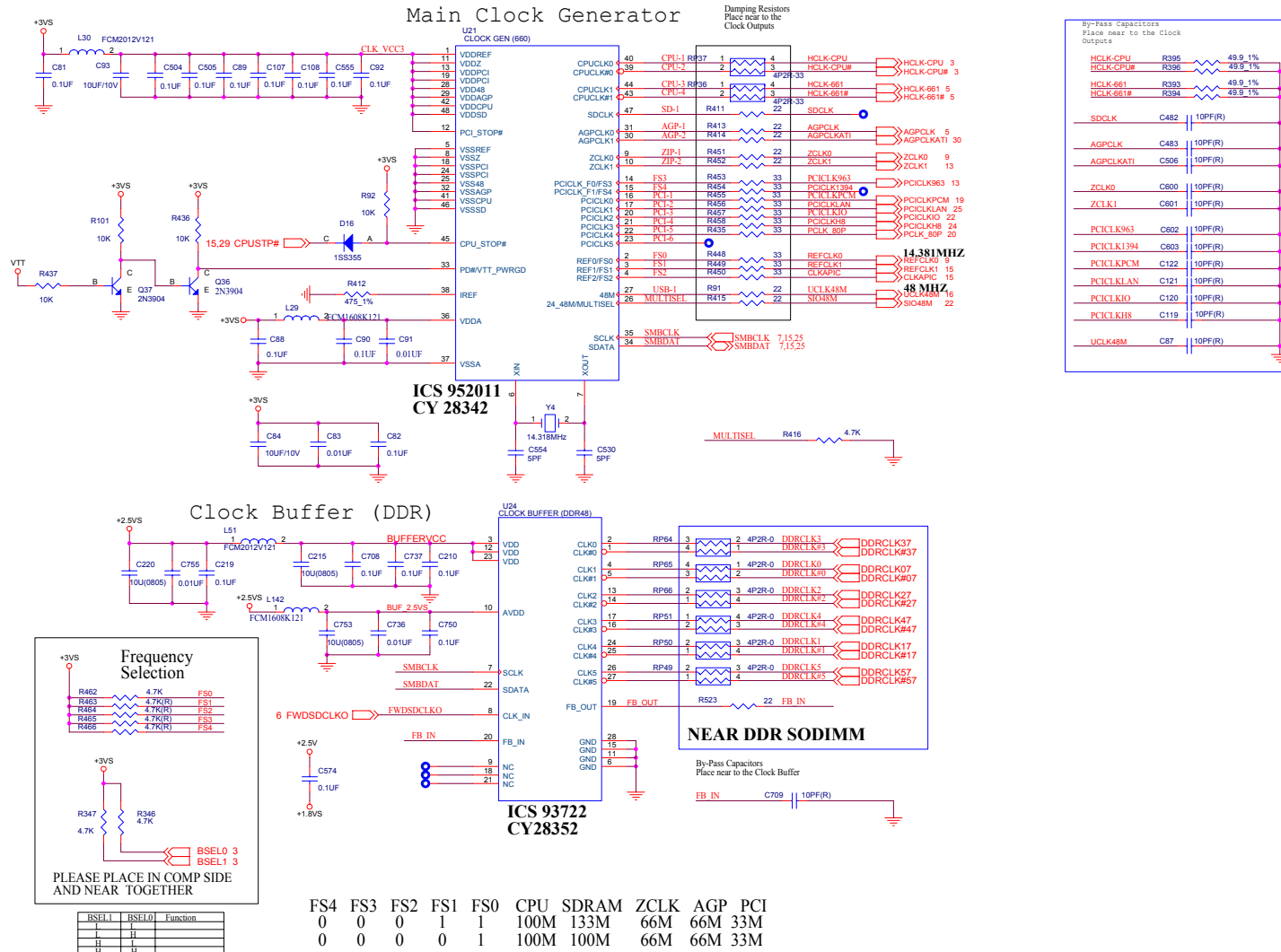
Socket 478 & ITP 2 of 2

Sheet 3 of 42
Socket 478 & ITP
2 of 2



Clock Generator

B. Schematic Diagrams

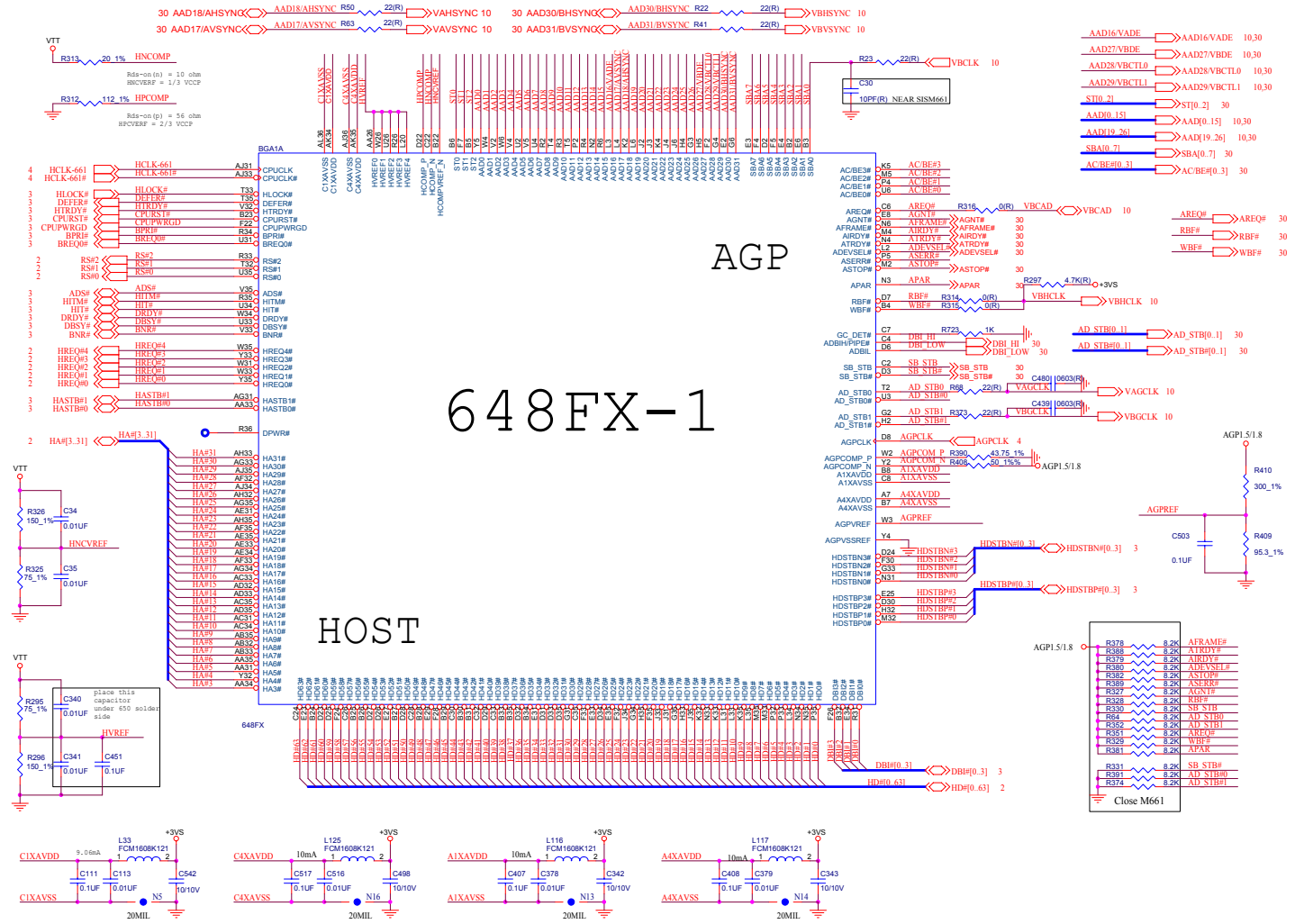


Sheet 4 of 42
Clock Generator

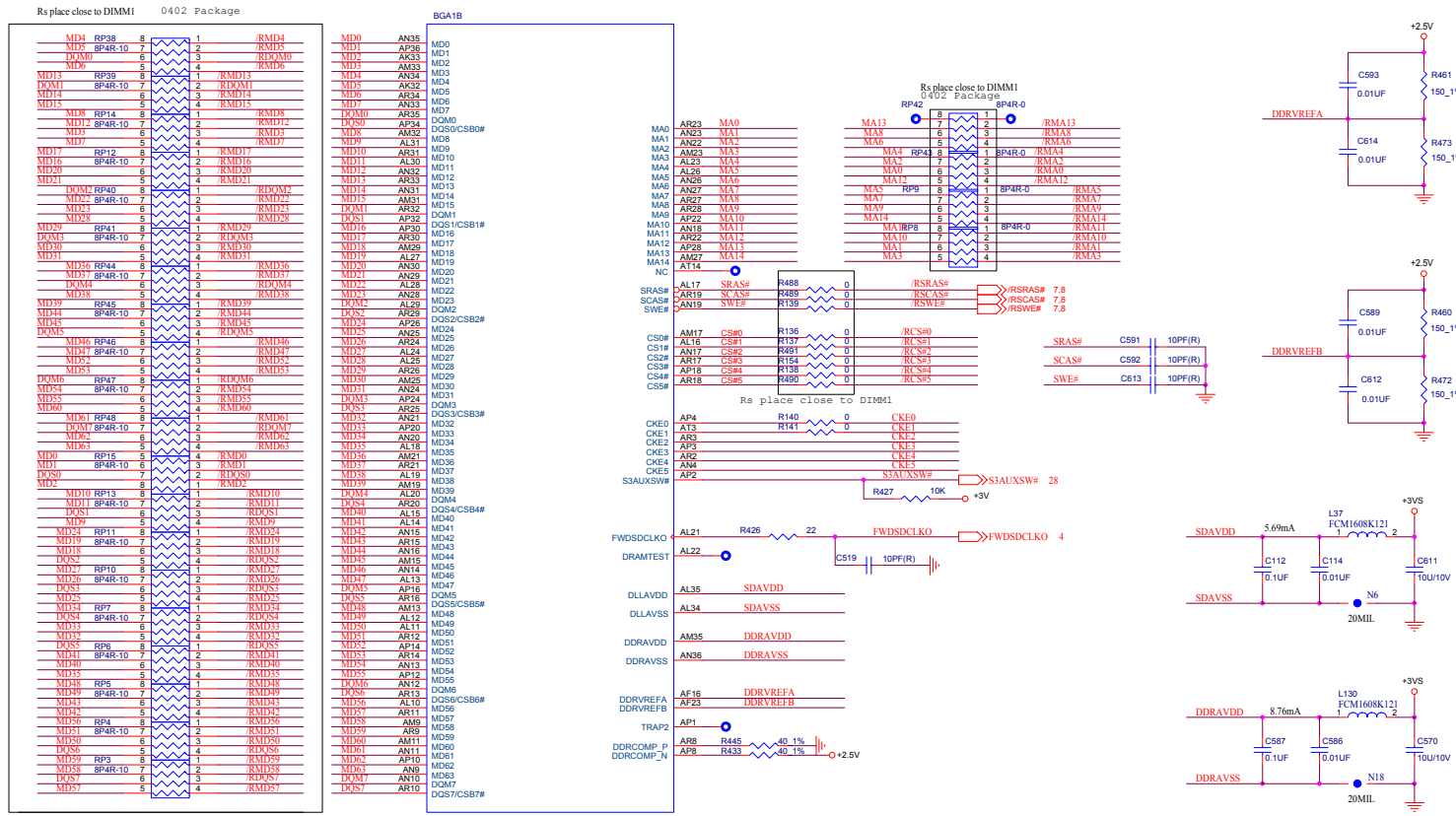
M648FX-1 (Host/AGP) 1 of 4

B.Schematic Diagrams

Sheet 5 of 42
M648FX-1
(Host/AGP)
1 of 4



M648FX-2 (Memory for DDR) 2 of 4

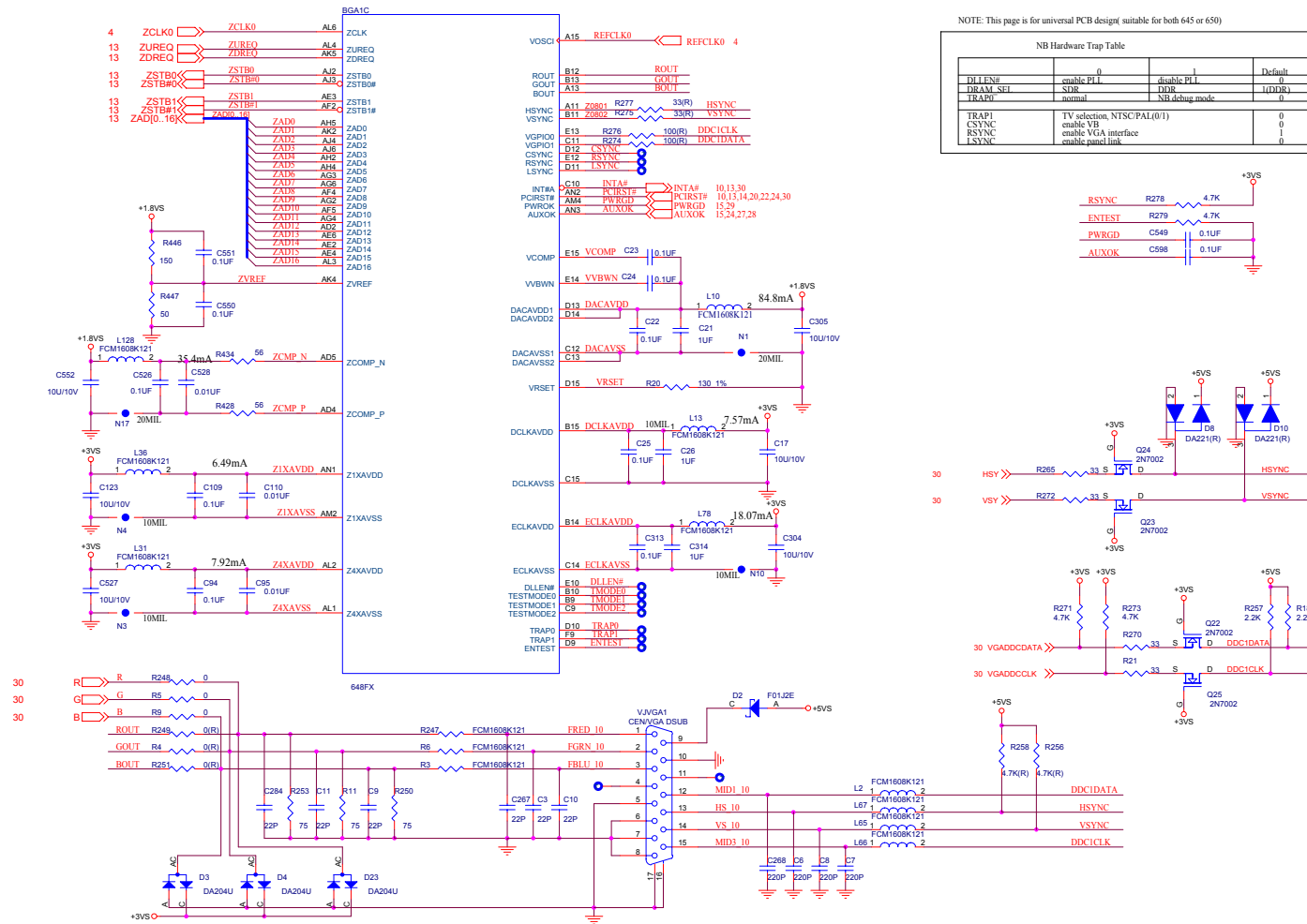


Sheet 6 of 42
M648FX-2
(Memory for DDR)
2 of 4

B. Schematic Diagrams

M648FX-3 & CRT Out 3 of 4

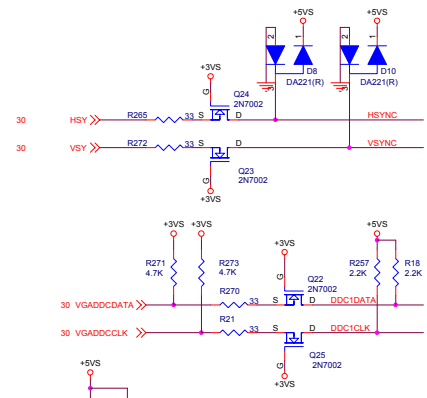
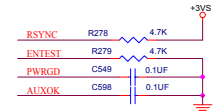
Sheet 7 of 42
M648FX-3
& CRT Out
3 of 4



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

NB Hardware Trap Table			
	0	1	Default
DLLENE	enable P/L	disable P/L	0
DRAM_SEI	normal	NB debug mode	1 (DDR)
TRAP1	TV selection, NTSC/PAL(0/1)		0
CSYNC	enable VB		0
RSYNC	enable VGA interface		1
LSYNC	enable panel link		1

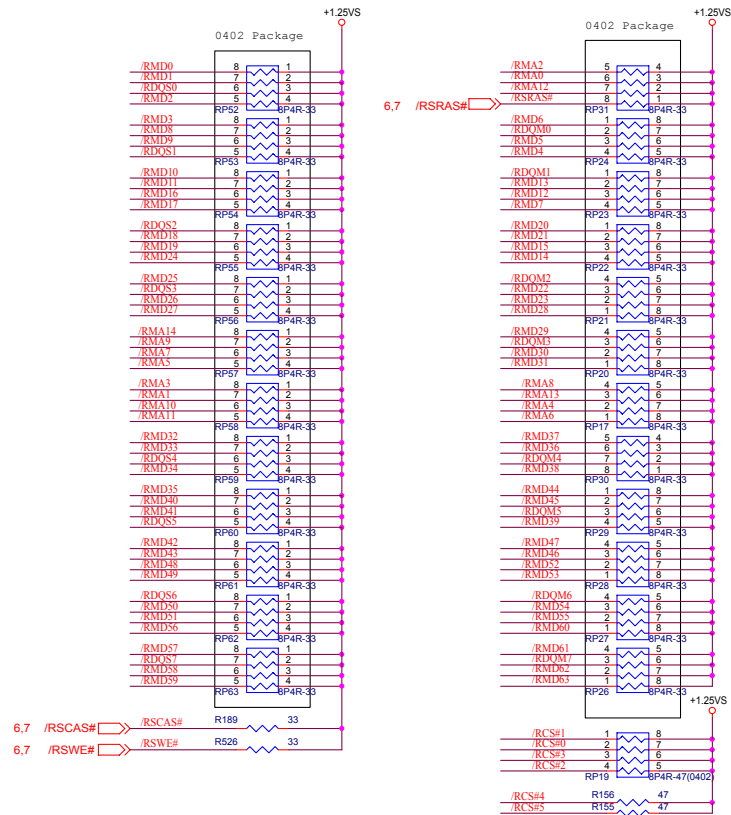
embedded pull-low
(30-50K Ohm)
yes
yes
yes



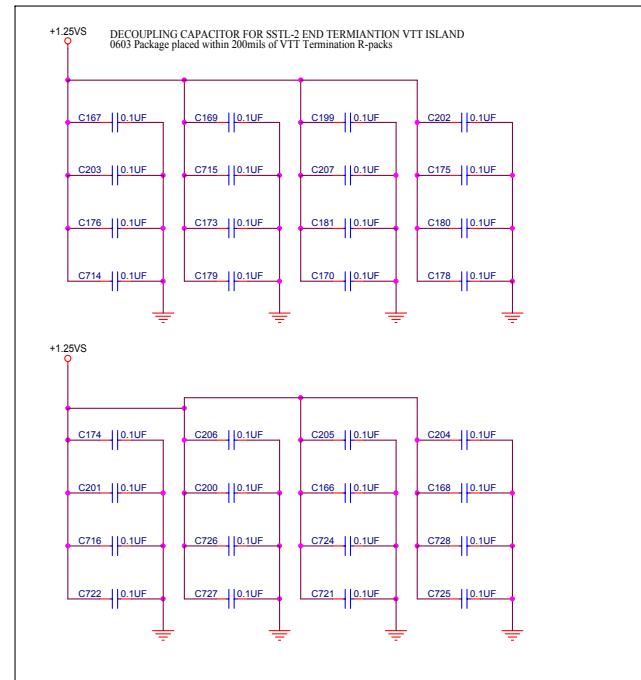
DDR SSTL-2 Termination

SSTL-2 Termination Resistors

	DDR	Rs	Rtt							
MD/DQM(DQS)	SSTL-2	10	33							
MA/Control	SSTL-2	0	CS	SSTL-2	0	47	CKE	OD 2.5V	0	47
CS	SSTL-2	0	47							
CKE	OD 2.5V	0	47							

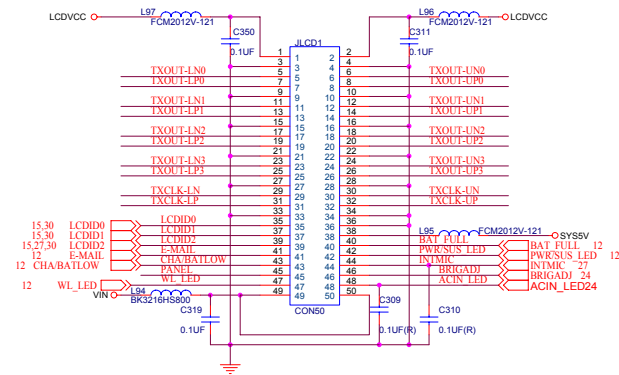
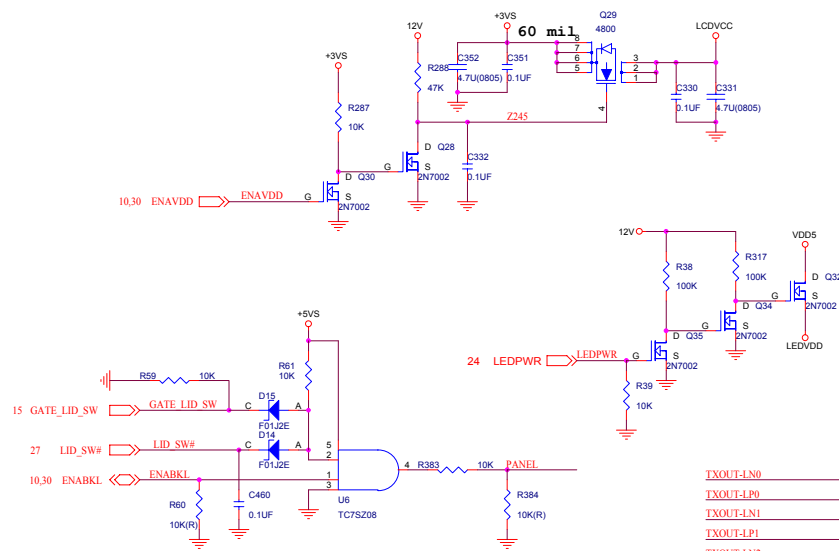


- <> /RMD[0..63] 6.7
- <> /RDM[0..7] 6.7
- <> /RDQS[0..7] 6.7
- <> /RMA[0..14] 6.7
- <> /RCS#[0..5] 6.7

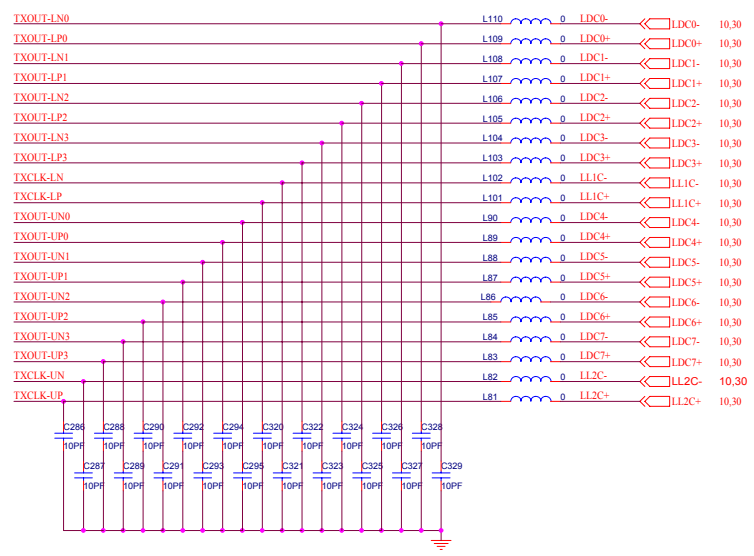


Sheet 10 of 42
DDR SSTL-2
Termination

Panel Con & LED Indicator



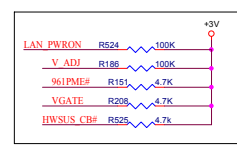
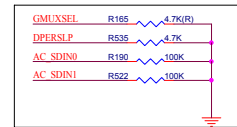
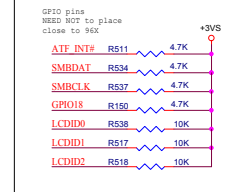
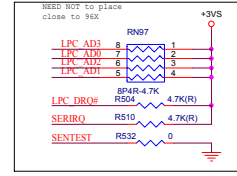
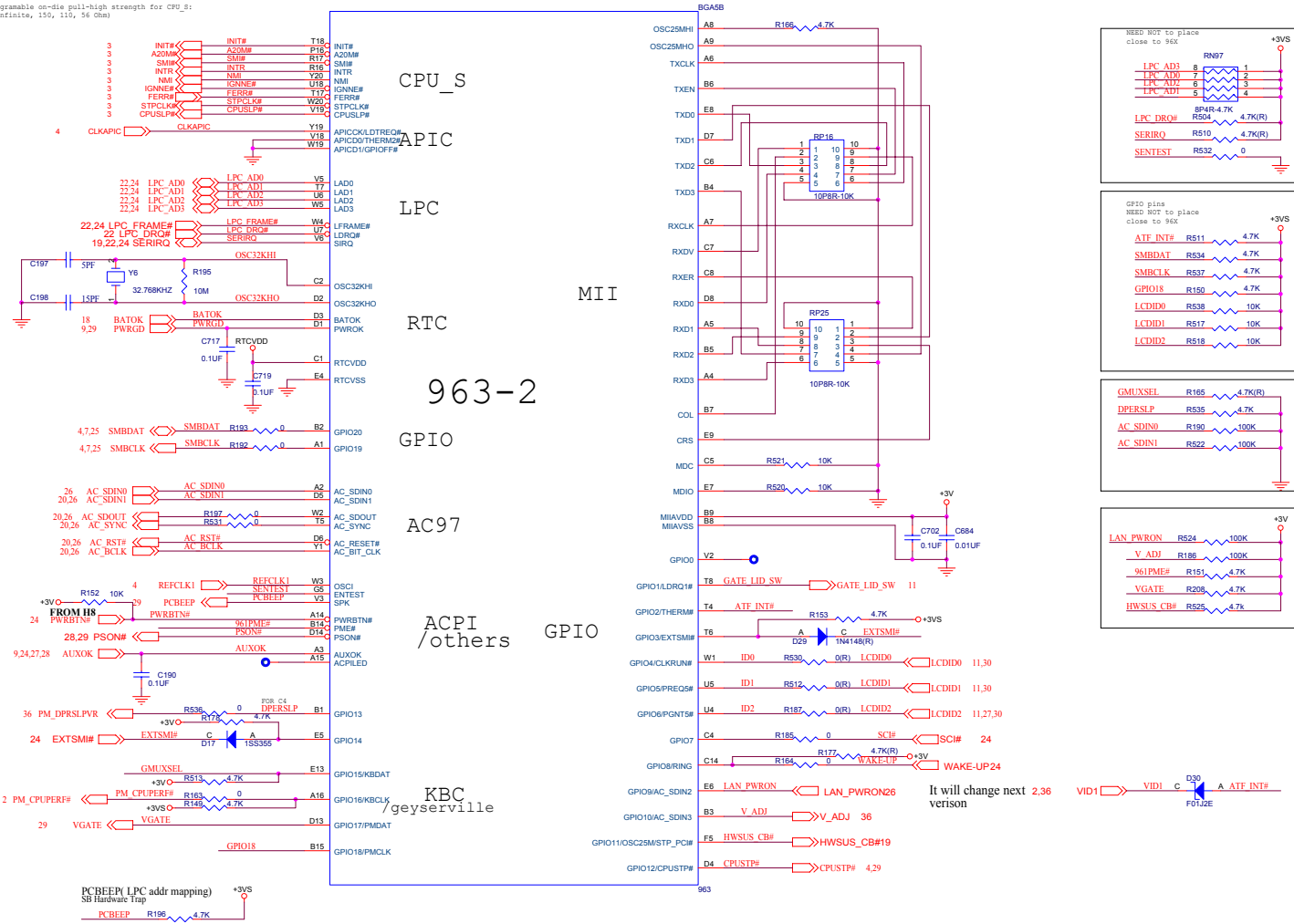
Sheet 12 of 42
Panel Con & LED
Indicator



B.Schematic Diagrams

963-2 (Misc Signals) 2 of 4

Programmable on-die pull-high strength for CPU_S:
(Infinite, 150, 110, 56 Ohm)

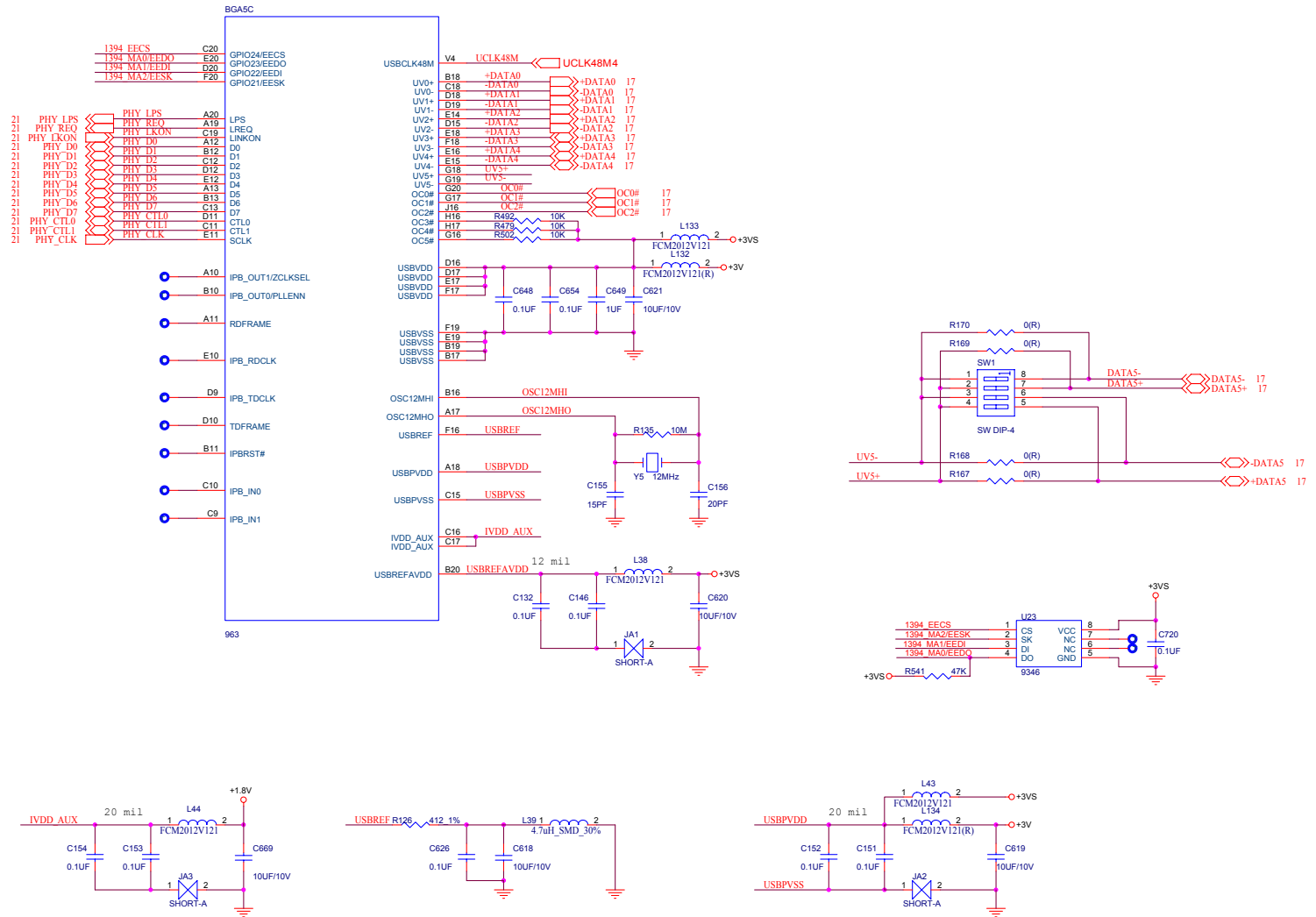


Sheet 14 of 42
963-2
(Misc Signals)
2 of 4

It will change next 2.36 version

963-3 (USB I/F) 3 of 4

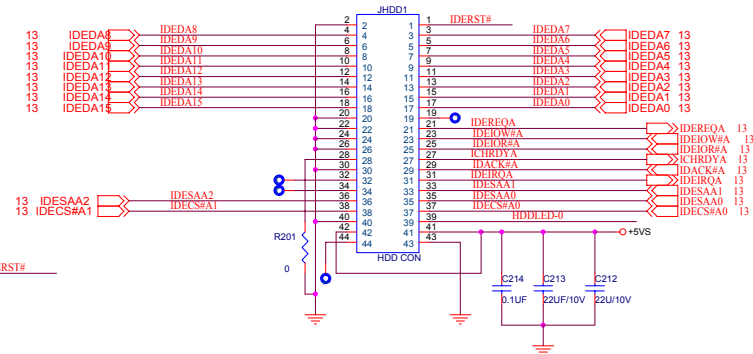
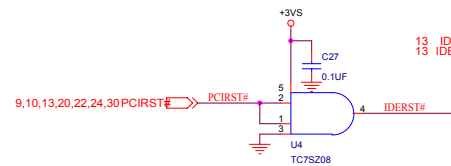
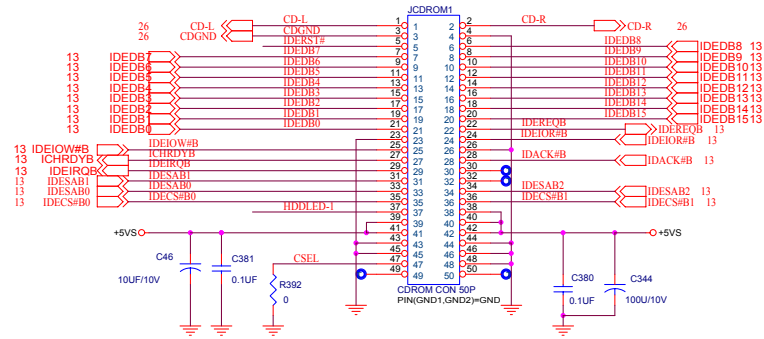
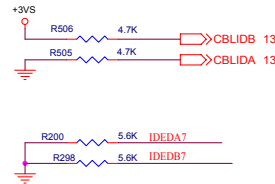
Sheet 15 of 42
963-3 (USB I/F)
3 of 4



Schematic Diagrams

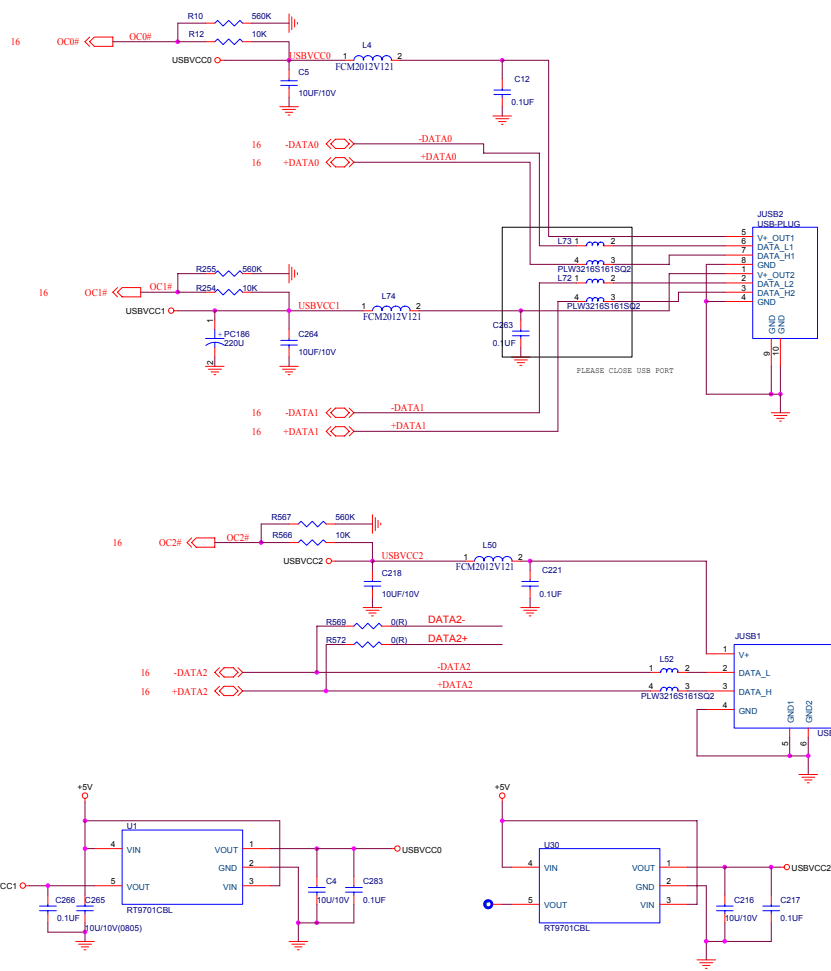
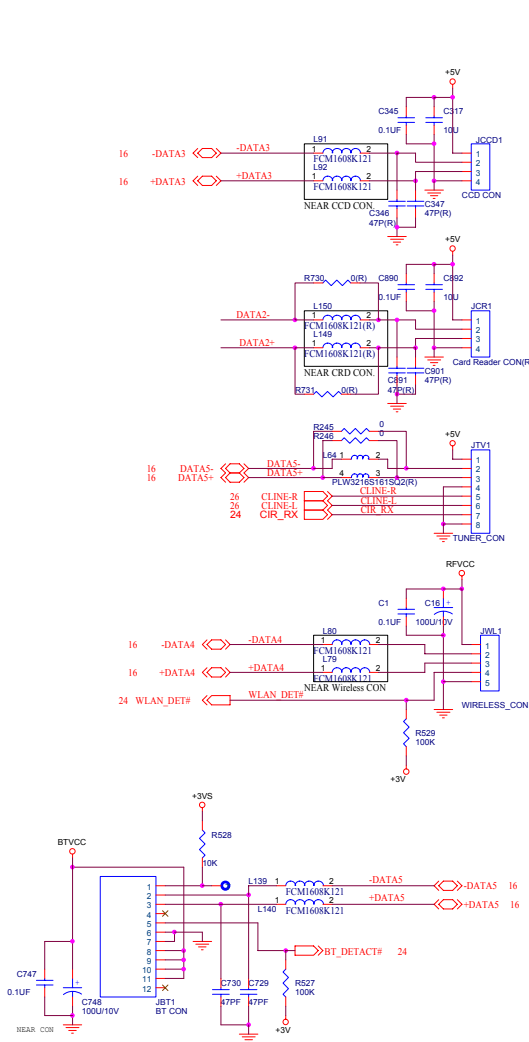
HDD/Combo Connector

Sheet 17 of 42
HDD/Combo
Connector



USB Port

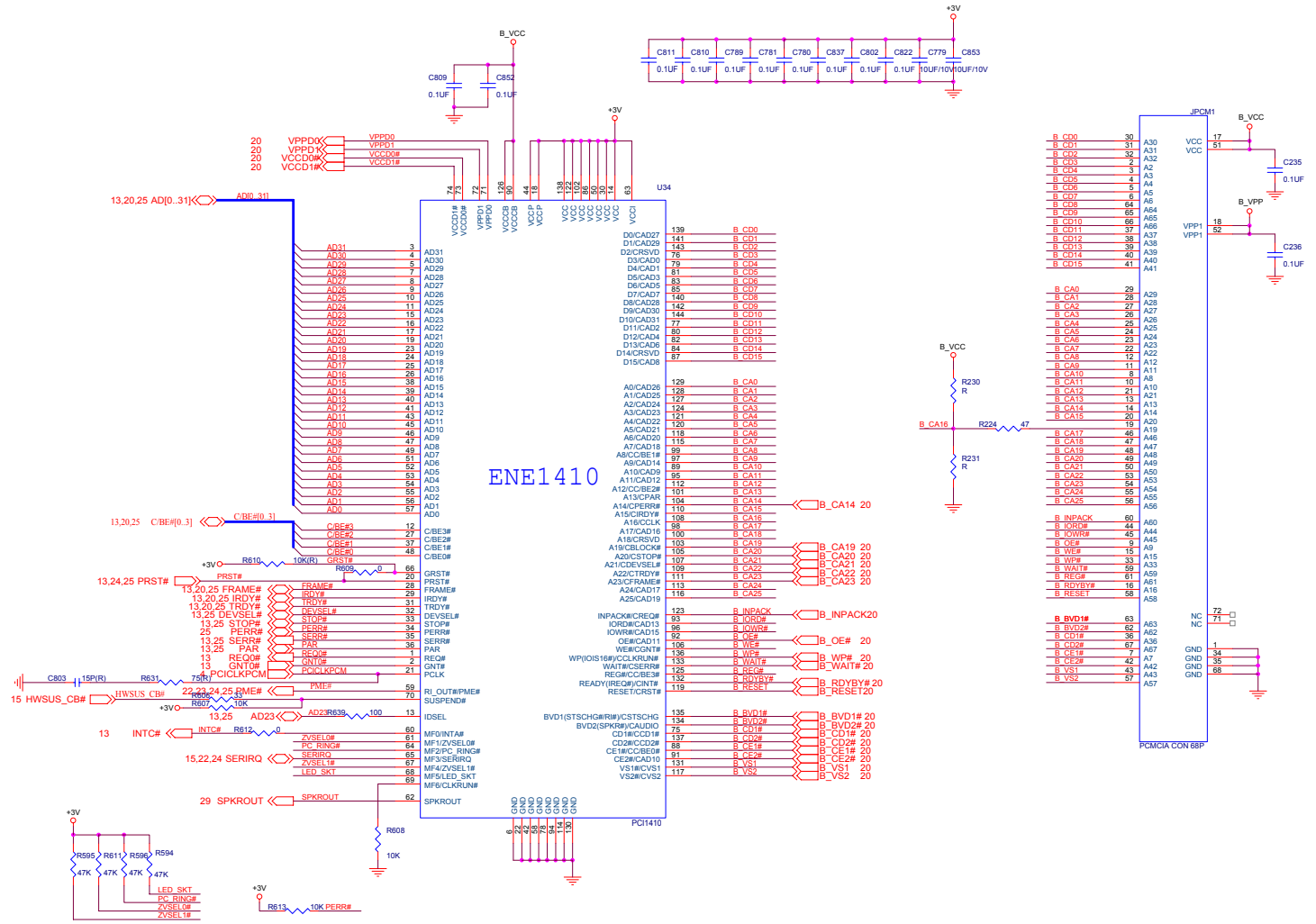
Sheet 18 of 42
USB Port



PCMCIA ENE1410

B.Schematic Diagrams

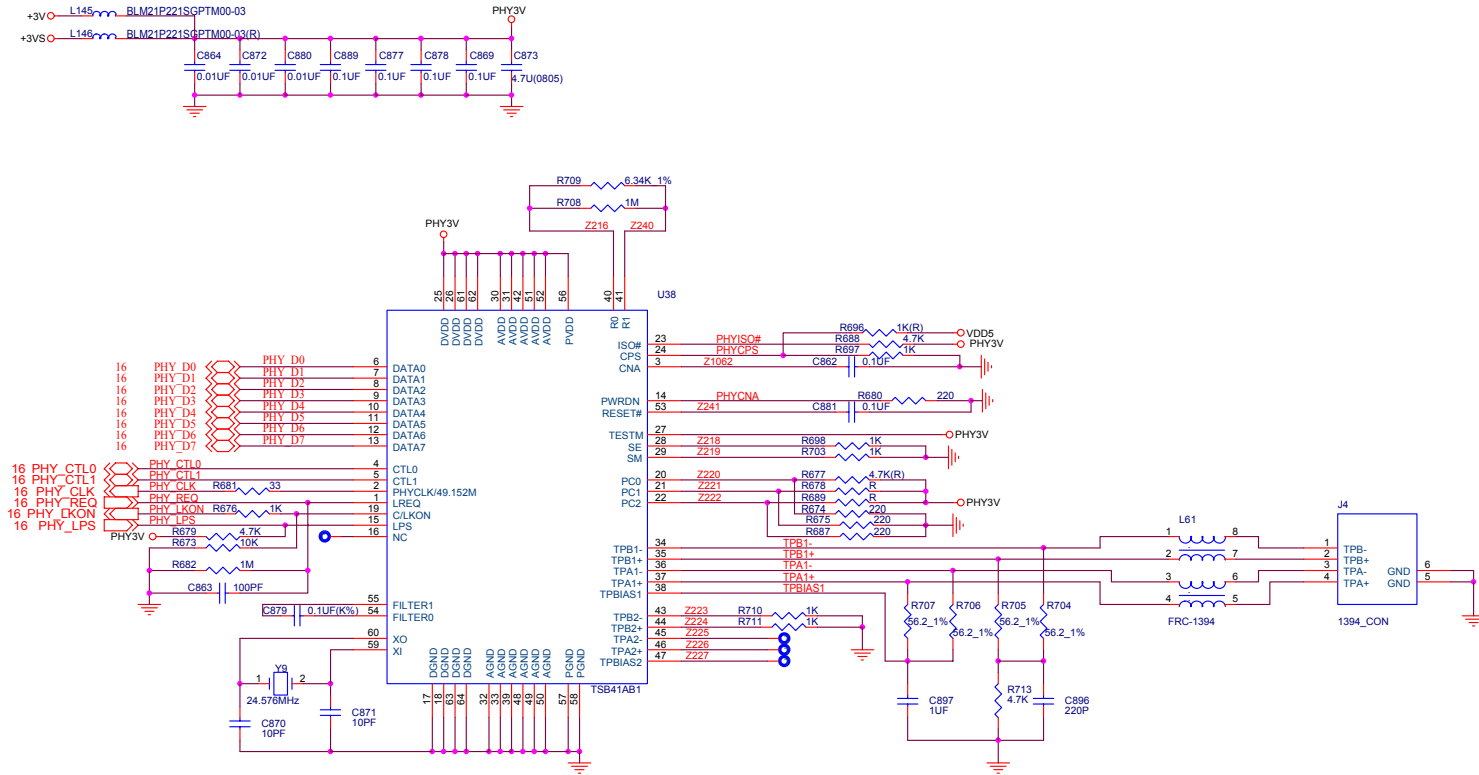
Sheet 19 of 42
PCMCIA ENE1410



Schematic Diagrams

1394 PHY TSB41LV01

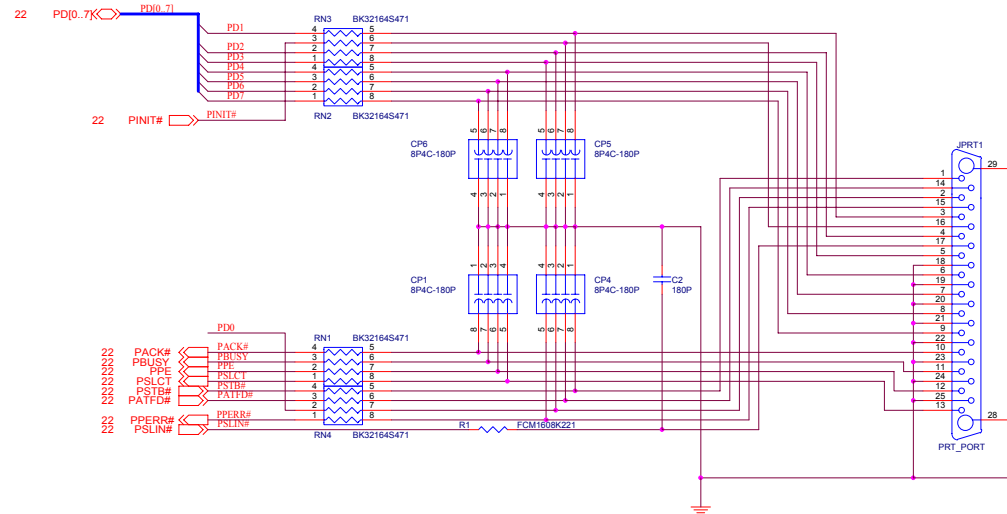
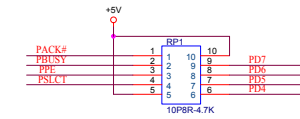
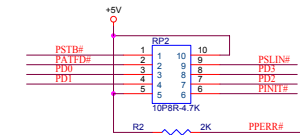
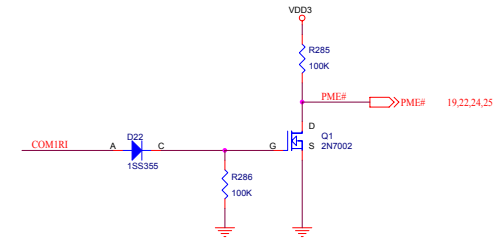
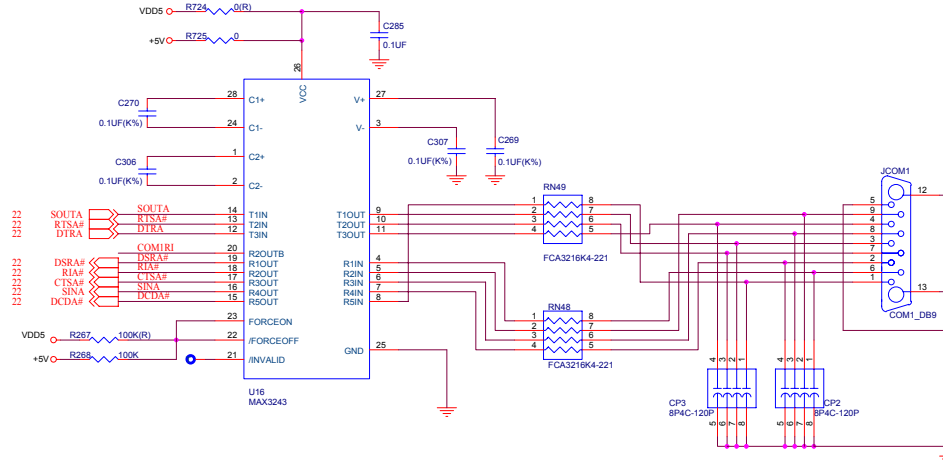
Sheet 21 of 42
1394 PHY
TSB41LV01



Schematic Diagrams

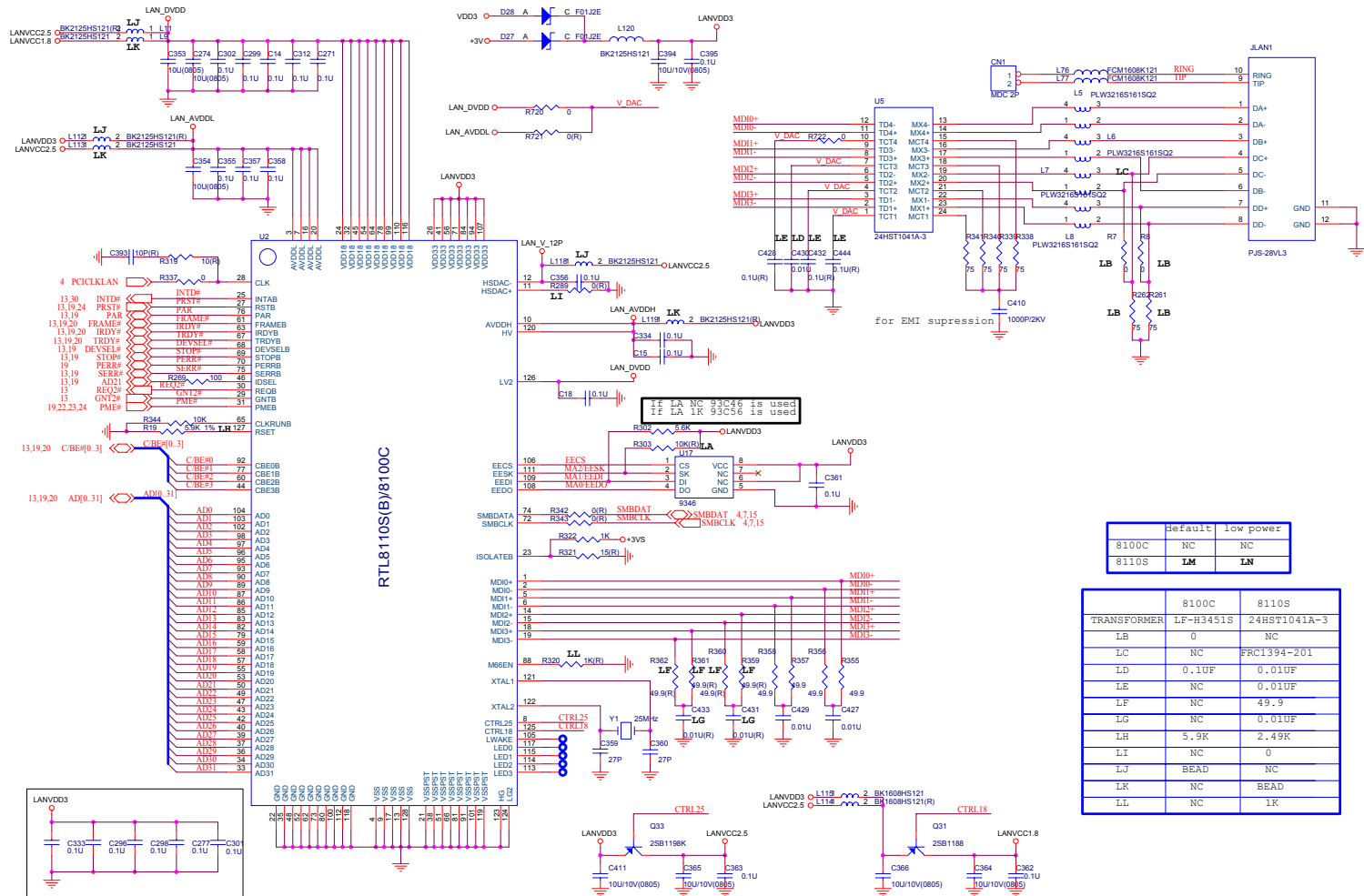
LPT/COM Port

Sheet 23 of 42
LPT/COM Port



LAN RTL8110S(B)-32/RTL8100C

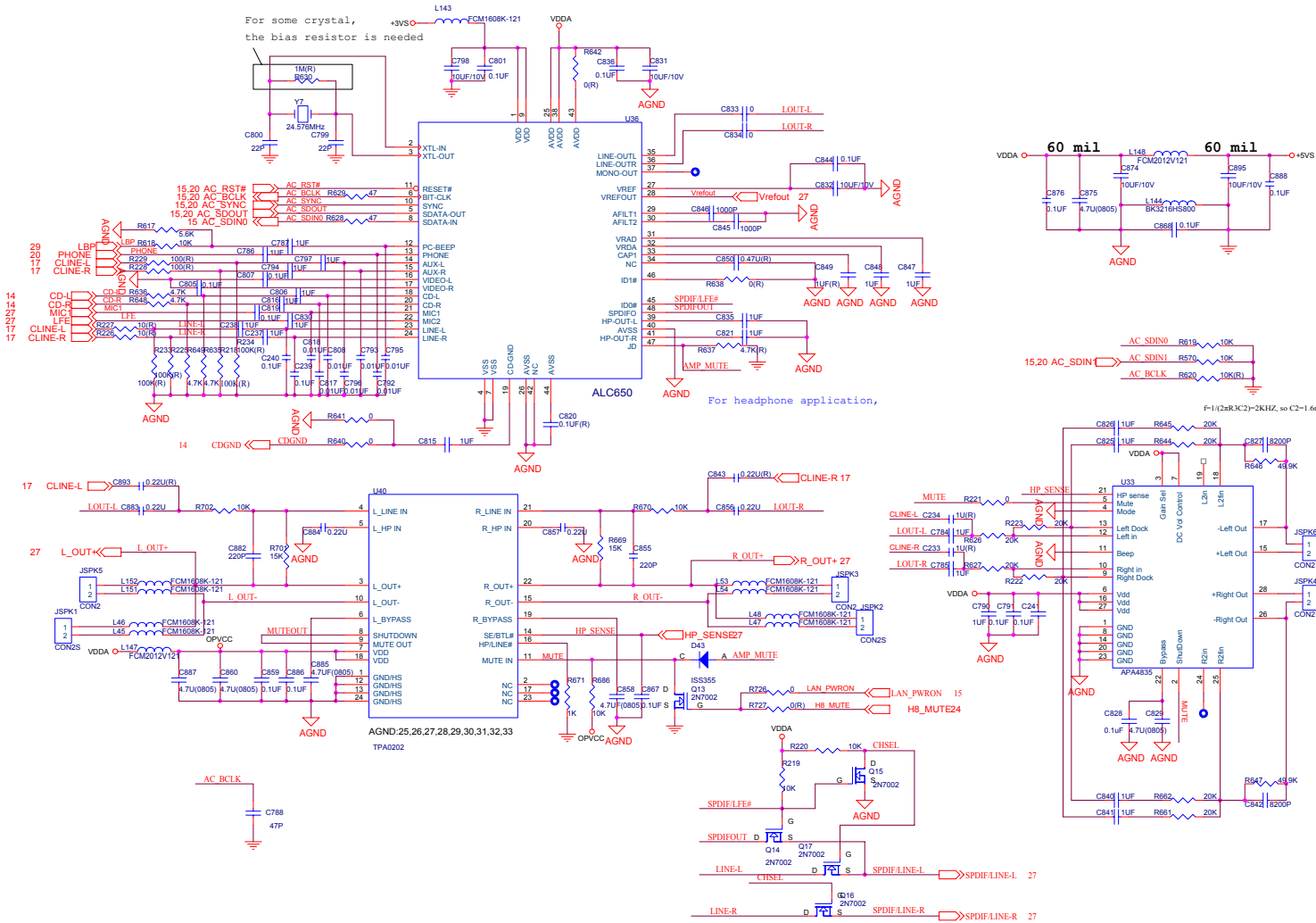
Sheet 25 of 42
LAN RTL8110S(B)-
32/RTL8100C



	Default	low power
8100C	NC	NC
8110S	LM	LN

	8100C	8110S
TRANSFORMER	LF-R3451S	24HST1041A-3
LB	0	NC
LC	NC	FRC1394-201
LD	0.1UF	0.01UF
LE	NC	0.01UF
LF	NC	49.9
LG	NC	0.01UF
LH	5.9K	2.49K
LI	NC	0
LJ	BEAD	NC
LK	NC	BEAD
LL	NC	1K

Audio Codec ALC650

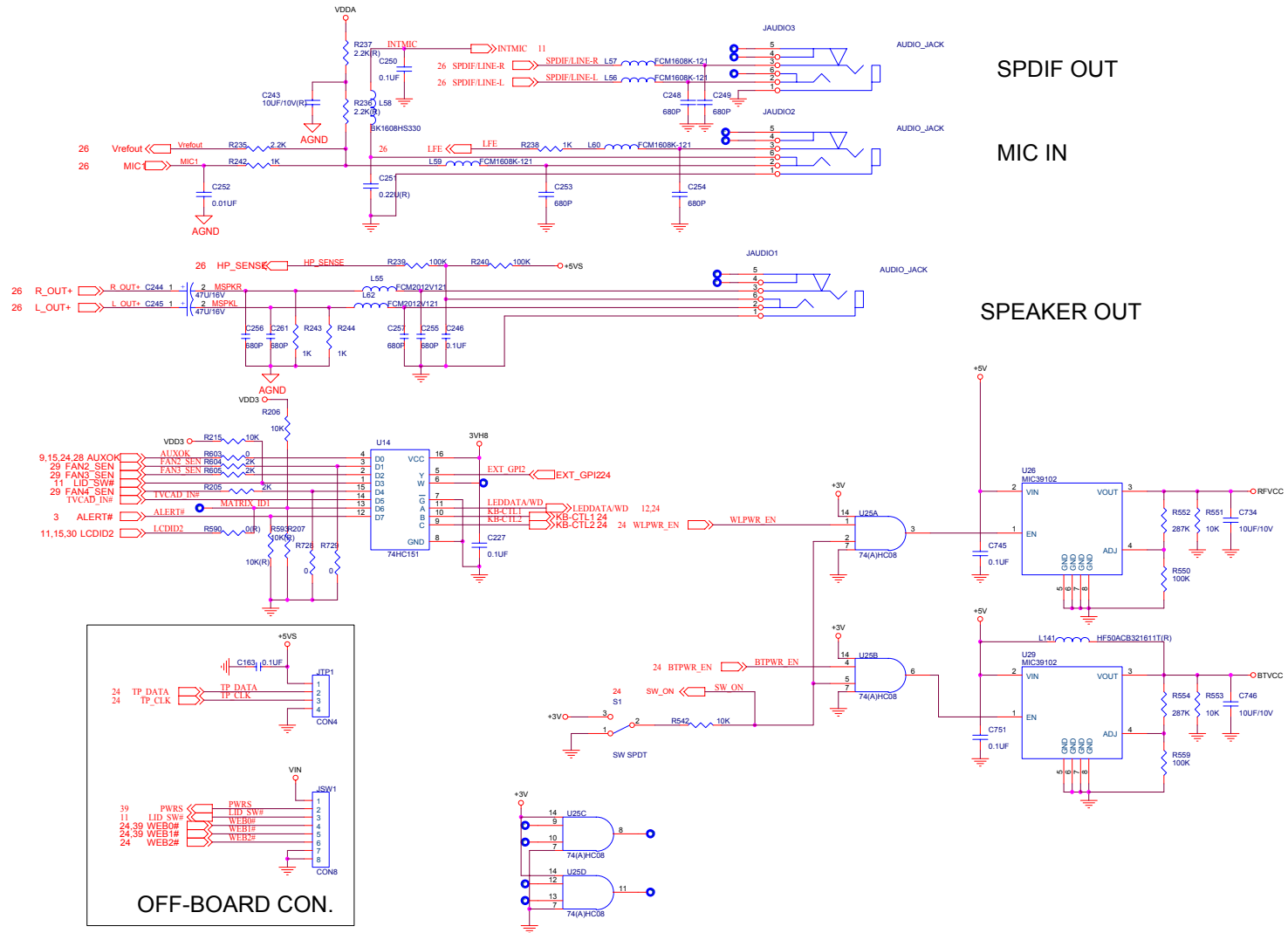


Sheet 26 of 42
Audio Codec
ALC650

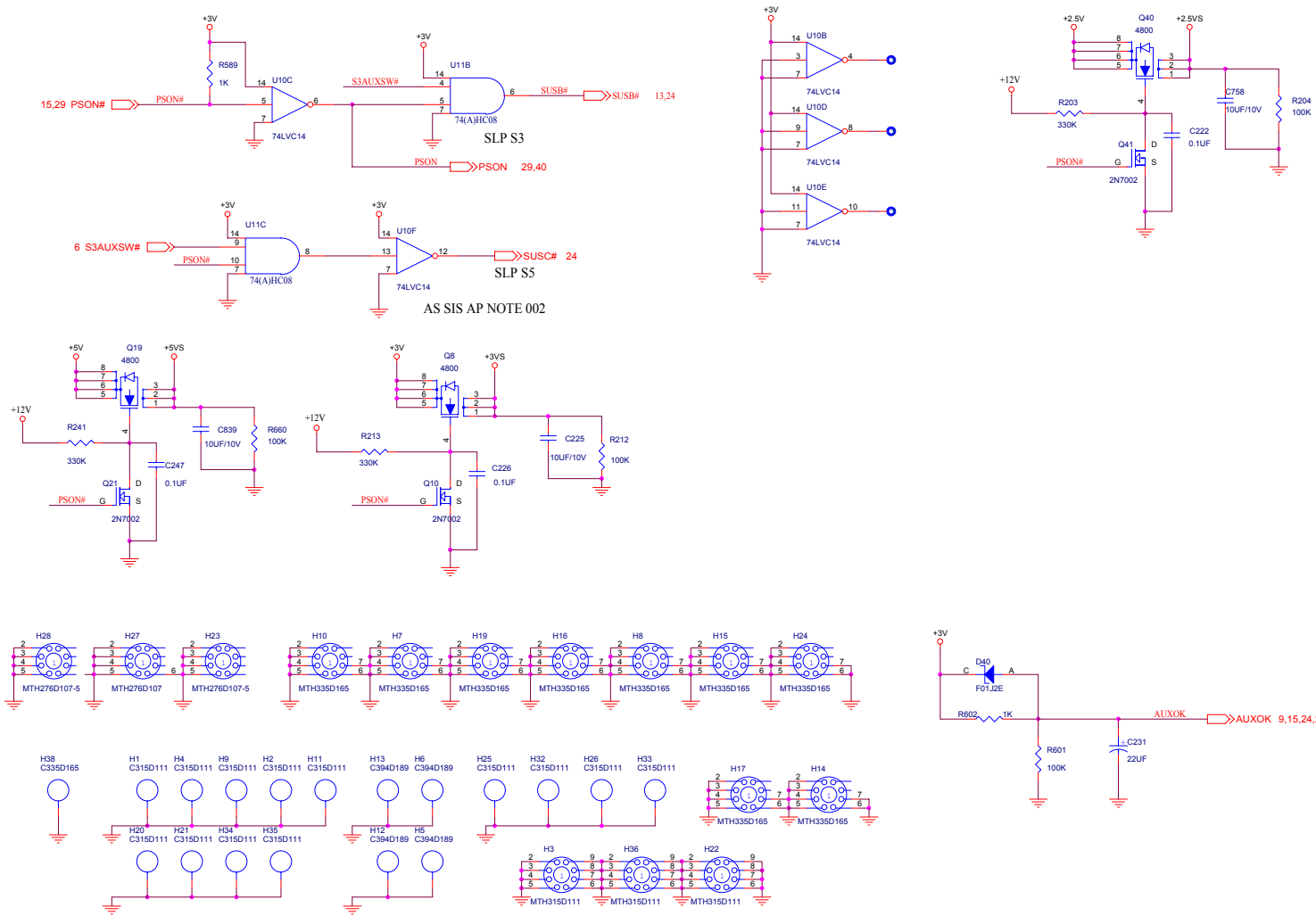
B.Schematic Diagrams

Audio Out & Off Board Connectors

Sheet 27 of 42
Audio Out & Off Board Connectors



System Power Control

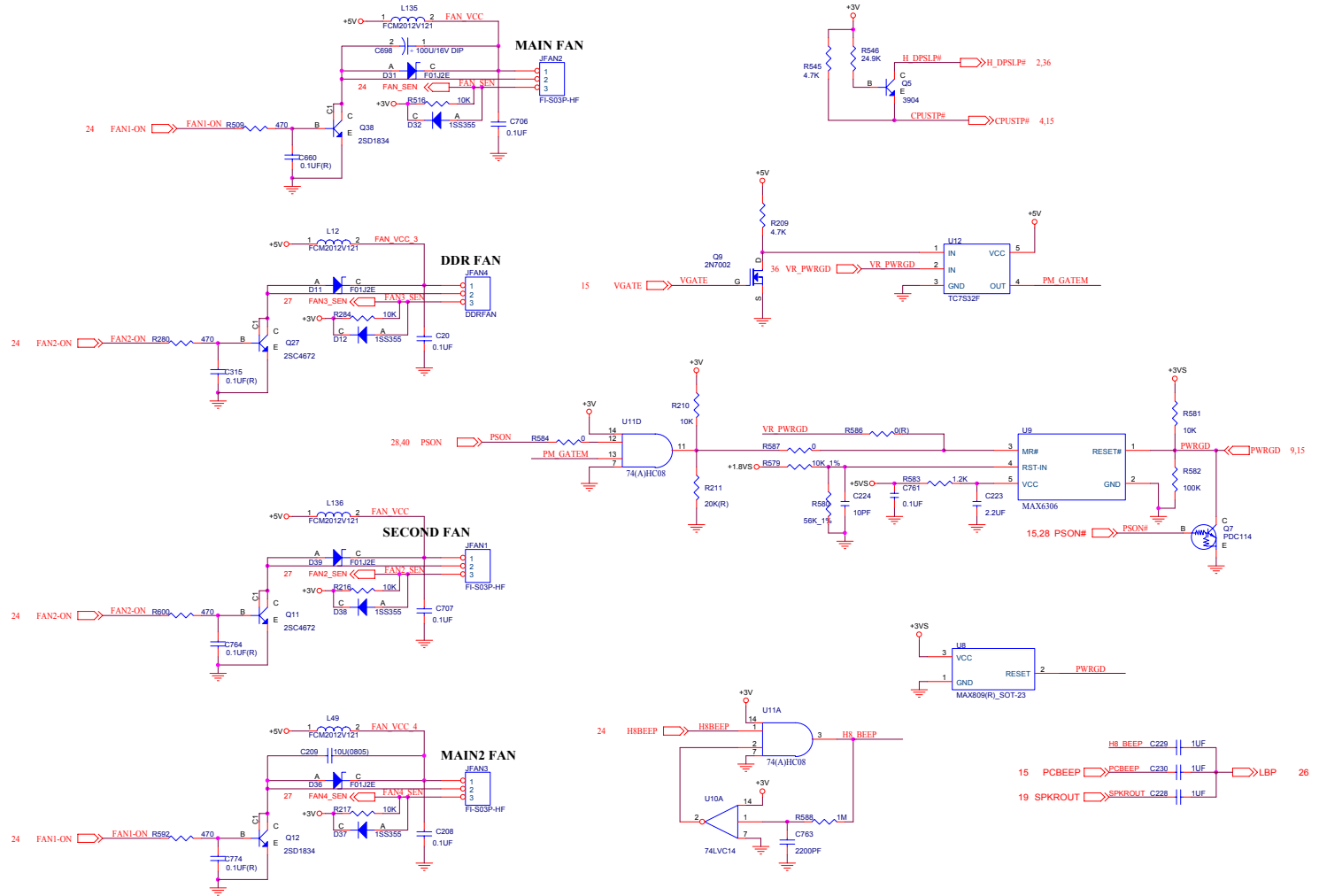


Sheet 28 of 42
System Power Control

B. Schematic Diagrams

Fan Control and SpeedStep

Sheet 29 of 42
Fan Control &
SpeedStep



VGA DDR DRAM Termination



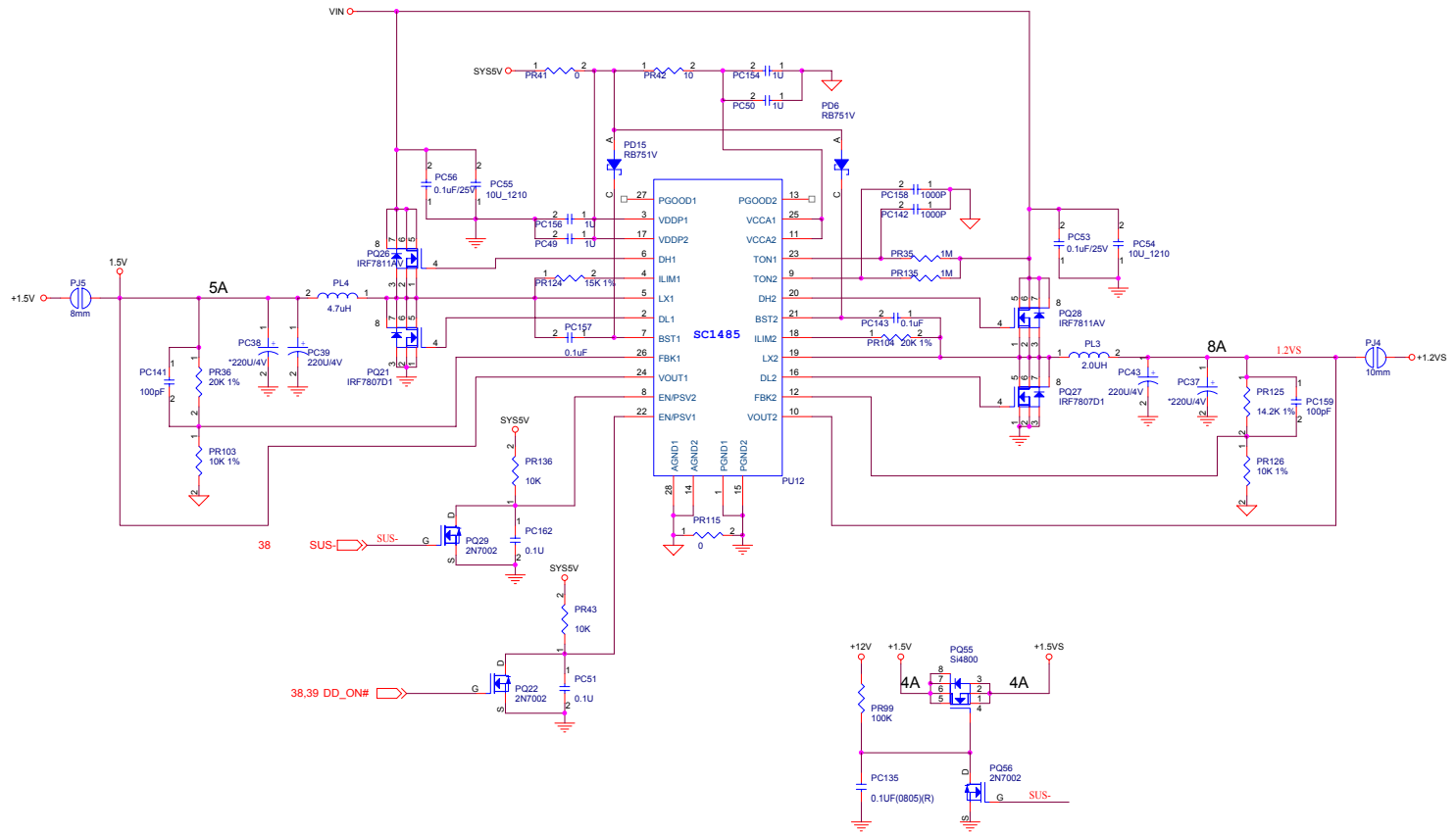
Sheet 34 of 42
VGA DDR DRAM
Termination

B. Schematic Diagrams

Schematic Diagrams

+1.2V, +1.5V

Sheet 37 of 42
+1.2V, +1.5V



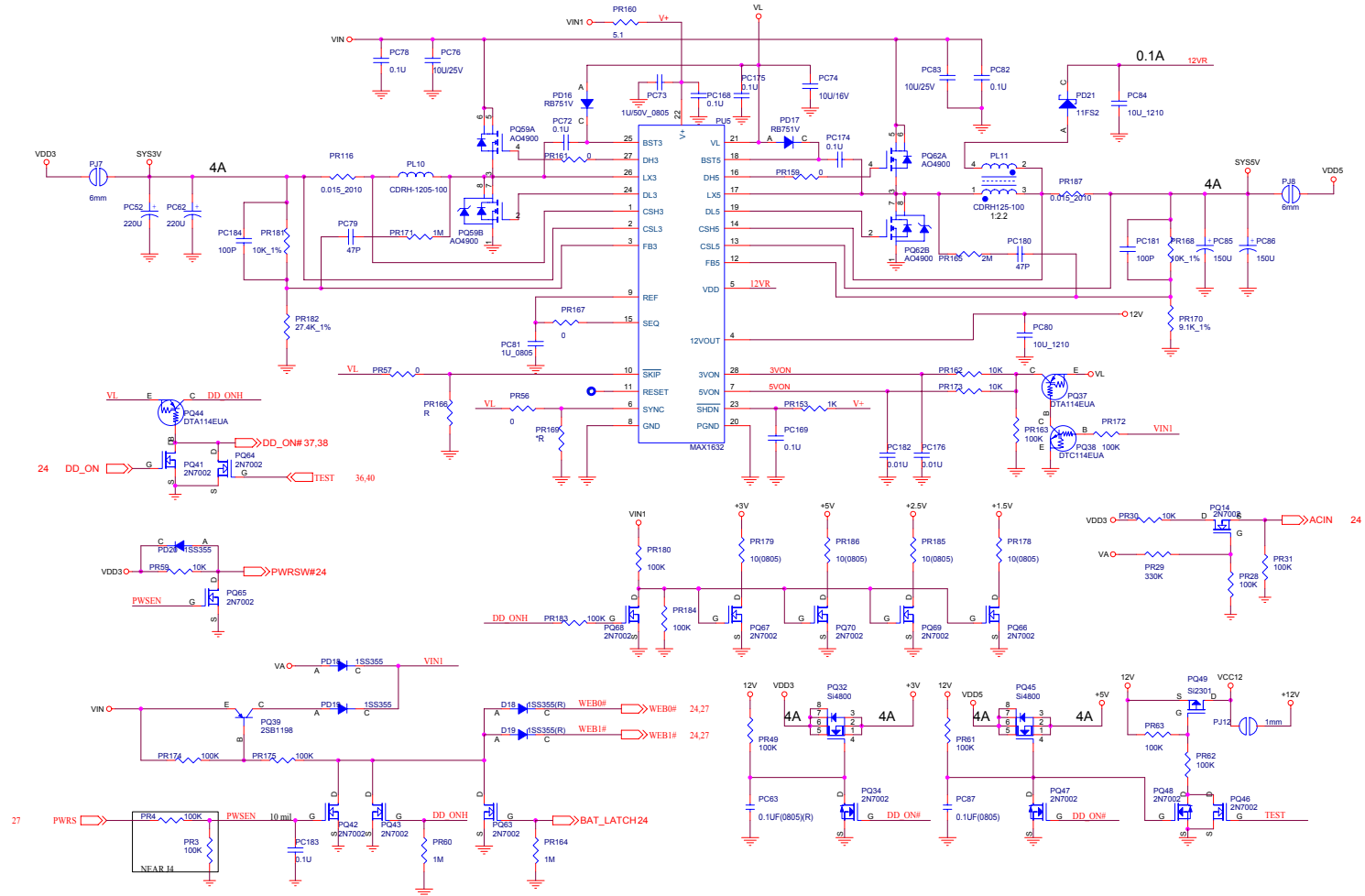
B.Schematic Diagrams

Schematic Diagrams

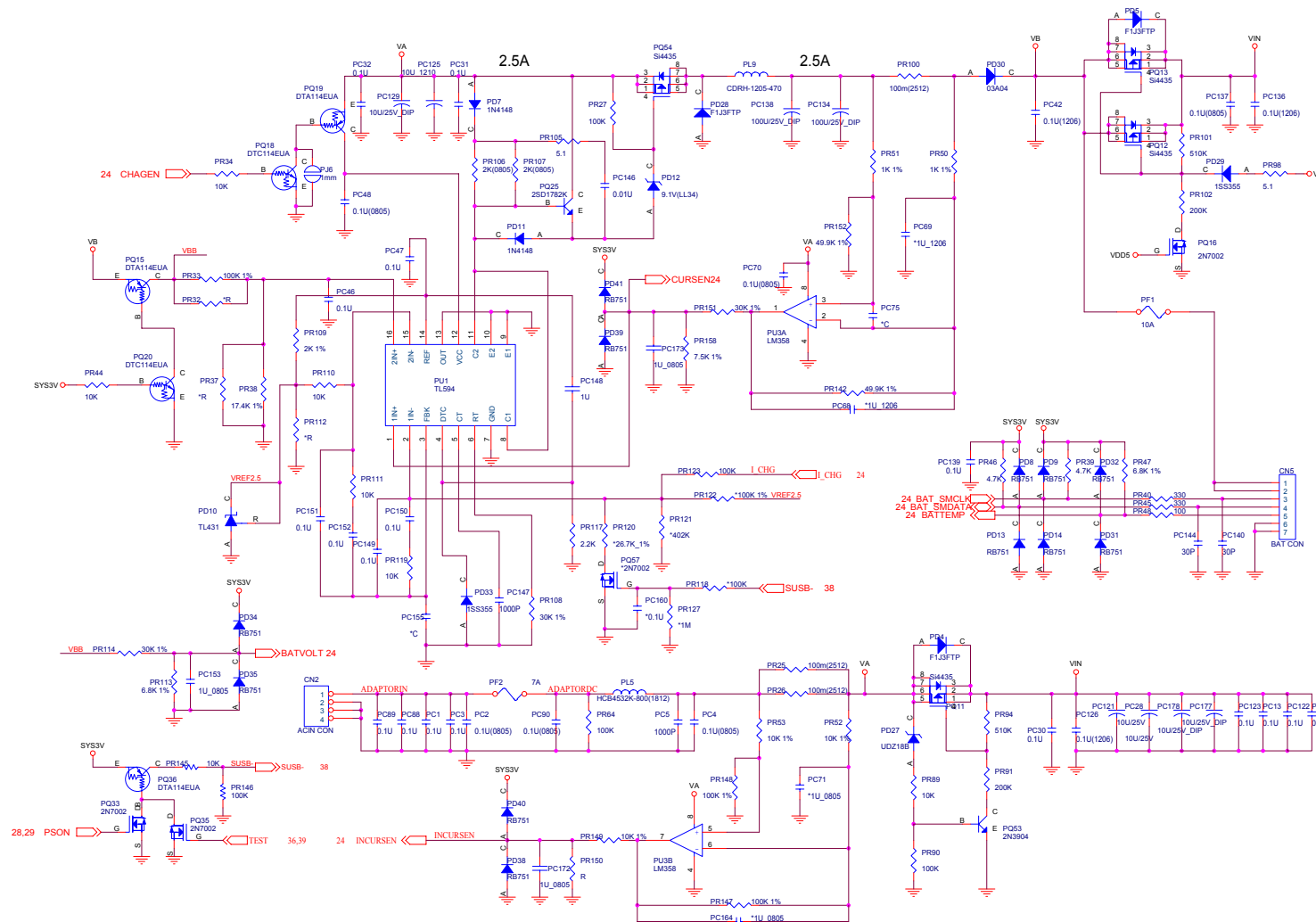
+3V, +5V, +12V

B.Schematic Diagrams

Sheet 39 of 42
+3V, +5V, +12V



Charger

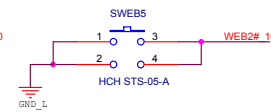
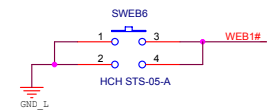
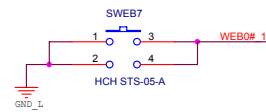
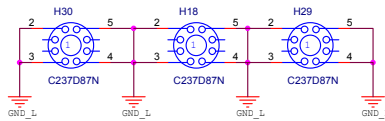
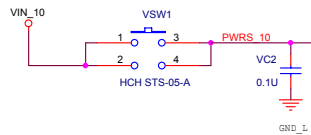
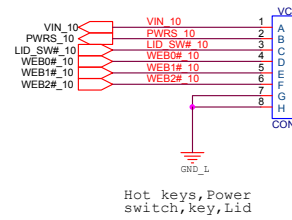
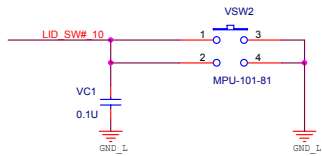


Sheet 40 of 42
Charger

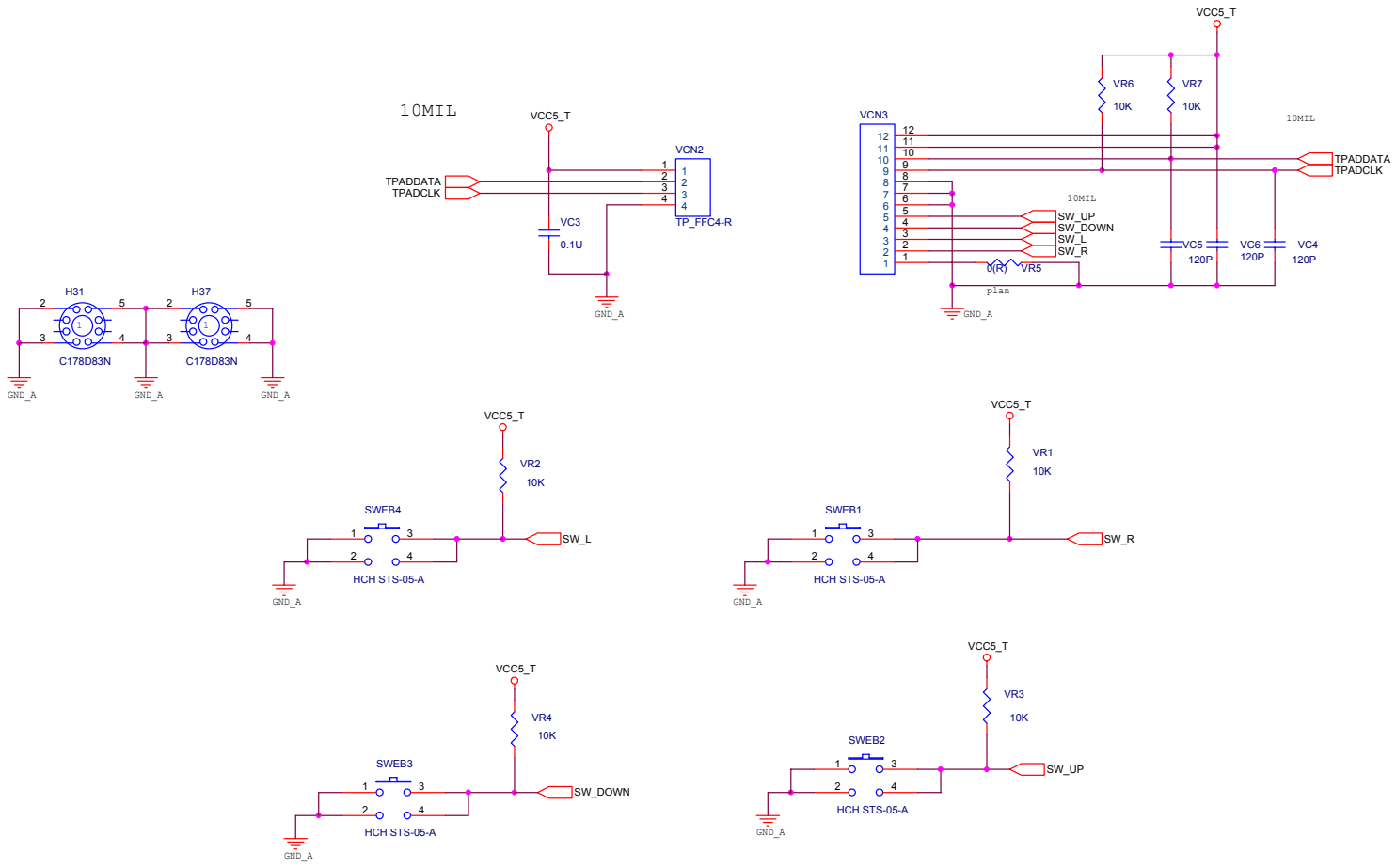
B. Schematic Diagrams

SW Board and HotKey

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SW Board and
HotKey



TouchPad and Switch Board



Sheet 42 of 42
TouchPad and
Switch Board

Schematic Diagrams