

# *SERVICE MANUAL*

W860CU / W870CU

*notebook*





**Notebook Computer**

**W860CU/W870CU**

**Service Manual**

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## About this Manual

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

It is organized to allow you to look up basic information for servicing and/or upgrading components of the *W860CU/W870CU* series notebook PC.

The following information is included:

Chapter 1, Introduction, provides general information about the location of system elements and their specifications.

Chapter 2, Disassembly, provides step-by-step instructions for disassembling parts and subsystems and how to upgrade elements of the system.

Appendix A, Part Lists

Appendix B, Schematic Diagrams

Appendix C, Updating the FLASH ROM BIOS

## IMPORTANT SAFETY INSTRUCTIONS

Follow basic safety precautions, including those listed below, to reduce the risk of fire, electric shock and injury to persons when using any electrical equipment:

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 with an AC Input of 100 - 240V, 50 - 60Hz, DC Output of 20V, 6A OR 19V, 6.3A OR 18.5V, 6.5A (**120** Watts) minimum AC/DC Adapter.

## 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**

**This Computer's Optical Device is a Laser Class 1 Product**

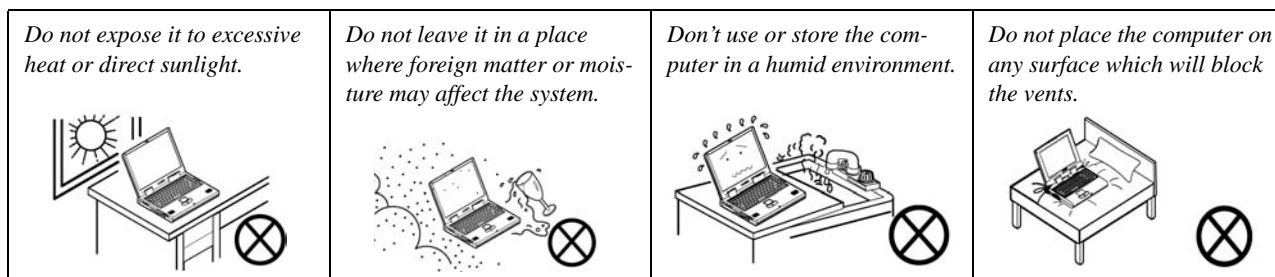
## Instructions for Care and Operation

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

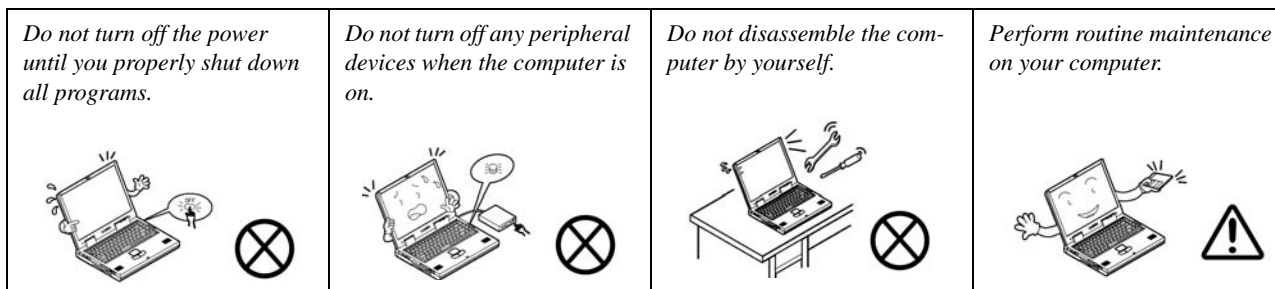
1. **Don't drop it, or expose it to shock.** If the computer falls, the case and the components could be damaged.



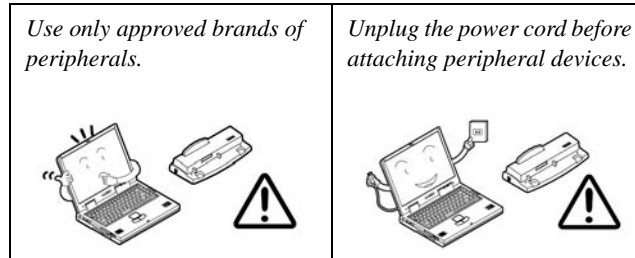
2. **Keep it dry, and don't overheat it.** Keep the computer and power supply away from any kind of heating element. This is an electrical appliance. If water or any other liquid gets into it, the computer could be badly damaged.



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.



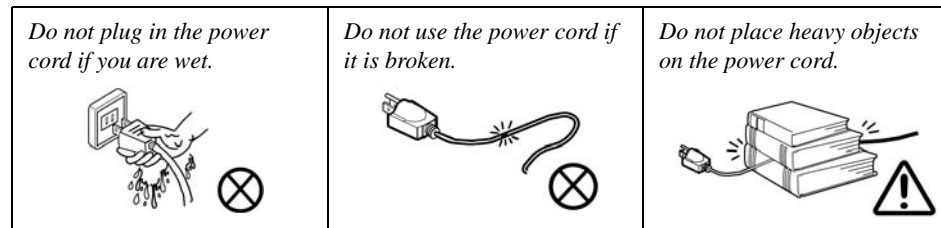
4. **Avoid interference.** Keep the computer away from high capacity transformers, electric motors, and other strong magnetic fields. These can hinder proper performance and damage your data.
5. **Take care when using peripheral devices.**



## 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.
- Do not continue to use a battery that has been dropped, or that appears damaged (e.g. bent or twisted) in any way. Even if the computer continues to work with a damaged battery in place, it may cause circuit damage, which may possibly result in fire.
- 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 Guidelines

The following can also apply to any backup batteries you may have.

- If you do not use the battery for an extended period, then remove the battery from the computer for storage.
- Before removing the battery for storage charge it to 60% - 70%.
- Check stored batteries at least every 3 months and charge them to 60% - 70%.




### 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.

### Battery Level

Click the battery icon  in the taskbar to see the current battery level and charge status. A battery that drops below a level of 10% will not allow the computer to boot up. Make sure that any battery that drops below 10% is recharged within one week.

### Related Documents

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

#### User's Manual on Disc

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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# Chapter 1: Introduction

## Overview

This manual covers the information you need to service or upgrade the **W860CU/W870CU** 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. *Windows Vista*, *Windows 7*, 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 **W860CU/W870CU** 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.

# Specifications



### Latest Specification Information

The specifications listed here are correct at the time of sending them to the press. Certain items (particularly processor types/speeds) may be changed, delayed or updated due to the manufacturer's release schedule. Check with your service center for more details.



### CPU

The CPU is not a user serviceable part. Accessing the CPU in any way may violate your warranty.

## Processor Options

### W860CU:

**Intel® Core i7 Mobile Processor**

**i7-820QM (1.73GHz)**

8MB L3 Cache & 1333MHz FSB

**i7-720QM (1.6GHz)**

6MB L3 Cache & 1333MHz FSB

**i7-620QM (1.6GHz)**

4MB L3 Cache & 1066MHz FSB

**Intel® Core i5 Mobile Processor**

**i5-540M (2.53GHz), i5-520M (2.40GHz),**

**i5-430M (2.26GHz)**

3MB L3 Cache & 1066MHz FSB

**Intel® Core i3 Mobile Processor**

**i3-350M (2.26GHz)**

3MB L3 Cache & 1066MHz FSB

### W870CU:

**Intel® Core i7 Mobile Processor**

**i7-920XM (2.0GHz), i7-820QM (1.73GHz),**

8MB L3 Cache & 1333MHz FSB

**i7-720QM (1.6GHz)**

6MB L3 Cache & 1333MHz FSB

**i7-620QM (1.6GHz)**

4MB L3 Cache & 1066MHz FSB

**Intel® Core i5 Mobile Processor**

**i5-540M (2.53GHz), i5-520M (2.40GHz),**

**i5-430M (2.26GHz)**

3MB L3 Cache & 1066MHz FSB

**Intel® Core i3 Mobile Processor**

**i3-350M (2.26GHz)**

3MB L3 Cache & 1066MHz FSB

## Video Card Options

### W860CU:

**nVIDIA® GeForce GTX 260M**

1GB GDDR3 Video RAM on board

Microsoft DirectX® 10 Compatible

**nVIDIA® GeForce GTX 280M**

1GB GDDR3 Video RAM on board

Microsoft DirectX® 10 Compatible

**nVIDIA® GeForce GTX 285M**

1GB GDDR3 Video RAM on board

Microsoft DirectX® 10 Compatible

**nVIDIA® GeForce QDFX 2800M**

1GB GDDR3 Video RAM on board

Microsoft DirectX® 10 Compatible

**nVIDIA® GeForce GTS 360M**

1GB GDDR5 Video RAM on board

Microsoft DirectX® 10 Compatible

**ATI Radeon HD 5870**

1GB GDDR5 Video RAM on board

Microsoft DirectX® 11 Compatible

### W870CU:

**nVIDIA® GeForce GTX 280M**

1GB GDDR3 Video RAM on board

Microsoft DirectX® 10 Compatible

**nVIDIA® GeForce GTX 285M**

1GB GDDR3 Video RAM on board

Microsoft DirectX® 10 Compatible

**nVIDIA® GeForce QDFX 2800M**

1GB GDDR3 Video RAM on board

Microsoft DirectX® 10 Compatible

**nVIDIA® GeForce GTS 360M**

1GB GDDR5 Video RAM on board

Microsoft DirectX® 10 Compatible

**ATI Radeon HD 5870**

1GB GDDR5 Video RAM on board

Microsoft DirectX® 11 Compatible

**Core Logic**

Intel® PM55 Chipset

**Memory**

Two 204 Pin SO-DIMM Sockets Supporting **DDR3 1333MHz** Memory

Memory Expandable up to 8GB

**LCD Options****W860CU:**

15.6" (39.62cm) HD/ HD+/ FHD LED-backlight

15.6" (39.62cm) HD 120Hz panel to support 3D solution with NV 3D VISION shutter glasses kit, and compatible with GTX 285M Video Card

**W870CU:**

17.3" (43.94cm) HD+/ FHD LED-backlight

**BIOS**

One 32Mb SPI Flash ROM

Phoenix™ BIOS

**Security**

BIOS Password

Security (Kensington® Type) Lock Slot

**(Factory Option)** Fingerprint Reader

**Keyboard**

Full-size "WinKey" keyboard (with numeric keypad)

**Pointing Device**

Built-in Touchpad (scrolling key functionality integrated)

**Card Reader**

Embedded 7-in-1 Card Reader (MS/ MS Pro/ SD/ Mini SD/ MMC/ RS MMC/ MS Duo)

**Note:** MS Duo/ Mini SD/ RS MMC Cards require a PC adapter

**Storage**

**(Factory Option)** One Changeable 12.7mm(h) Optical Device Type Drive

(Super Multi Drive Module or Blu-Ray Combo Drive Module)

**W860CU:**

One Changeable 2.5" 9.5 mm (h) SATA (Serial) HDD

**W870CU:**

Two Changeable 2.5" 9.5 mm (h) SATA (Serial) Hard Disk Drives supporting RAID level 0/1

**Audio**

High Definition Audio Compliant Interface

Built-In Microphone

**W860CU:**

2 Built-In Speakers

**W870CU:**

4 Built-In Speakers

One Sub Woofer

**Mini Card Slots**

Slot 1 for **WLAN** Module

**W860CU:**

**(Factory Option)** Slot 2 for **3.75G/HSPA** Module

**W870CU:**

**(Factory Option)** Slot 2 for **TV Tuner** Module

**Interface**

Three USB 2.0 Ports and One USB 3.0 Port

One eSATA Port

One IEEE1394 Port

One DVI Out Port

One HDMI-Out Port

One Headphone-Out Jack

One Microphone-In Jack

One S/PDIF Out Jack

One Line-In Jack

One RJ-11 Modem Jack

One RJ-45 LAN Jack

One DC-in Jack

One Consumer Infrared Port for Optional TV Tuner Remote Control - **W870CU Only**

One CATV Antenna Jack (for Optional TV Tuner) - **W870CU Only**

One ExpressCard/34(54) Slot

**For W870CU:**

Note: External 5.1CH Audio Output Supported by Headphone, Microphone and Line-In Jacks

**Communication**

Built-In Gigabit Ethernet LAN

**(Factory Option)** 56K MDC Modem, V.90 & V.92 Compliant

**Wireless LAN Module Options:**

**(Factory Option)** Intel® WiFi Link 5300 (802.11a/g/n)

Wireless LAN Half Mini-Card Module

**(Factory Option)** Third-Party 802.11b/g/n Wireless LAN Half Mini-Card Module

**(Factory Option)** 2.0M Pixel USB PC Camera Module

**(Factory Option)** Bluetooth 2.1 + EDR Module

**(Factory Option)** 3.75G/HSPA Mini-Card Module (**W860CU Only**)

**(Factory Option)** TV Tuner Mini-Card Module (**W870CU Only**)

## Introduction

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### Power

Full Range AC/DC Adapter

AC Input: 100 - 240V, 50 - 60Hz

DC Output: 20V, 6A Or 18.5V, 6.5A Or 19V, 6.3A

Removable Li-Polymer Battery Pack, 42.18WH

### Environmental Spec

#### Temperature

Operating: 5°C - 35°C

Non-Operating: -20°C - 60°C

#### Relative Humidity

Operating: 20% - 80%

Non-Operating: 10% - 90%

### Dimensions & Weight

#### W860CU:

374mm (w) \* 263.5mm (d) \* 42-50mm (h)

Around 3.3 kg With Battery and ODD

#### W870CU:

412mm (w) \* 279mm (d) \* 39-48mm (h)

Around 4 kg With Battery and ODD



## External Locator - Top View with LCD Panel Open

*Figure 1*  
**Top View**

1. Optional Built-In PC Camera
2. LCD
3. Power Button
4. Speakers
5. LED Hot Key Buttons
6. LED Status Indicators
7. Keyboard
8. Built-In Microphone
9. Touchpad & Buttons



## Introduction

*Figure 2*  
**Front Views**

1. LED Power Indicators
2. Consumer Infrared Transceiver (for Optional TV Tuner)

## External Locator - Front & Right side Views



*Figure 3*  
**Right Side Views**

1. Headphone-Out Jack
2. Microphone-In Jack
3. Line-In Jack
4. S/PDIF-Out Jack
5. USB 2.0 Port
6. ExpressCard Slot
7. e-SATA Port
8. DVI-Out Port
9. Security (Kensington) Lock Slot (**W870CU** Only)
10. Power Button (**W860CU** Only)



## External Locator - Left Side &amp; Rear View



Figure 4  
Left Side View

1. RJ-11 Modem Jack
2. USB 2.0 Port
3. Mini-IEEE 1394 Port
4. 7-in-1 Card Reader
5. Optical Device Drive Bay (for DVD Device)
6. Cable (CATV) Antenna Jack\*

\*Enabled with **Optional** TV Tuner Only



Figure 5  
Rear View

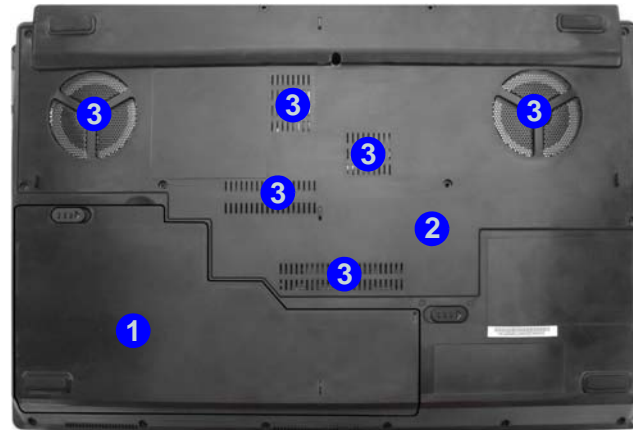
1. Vent/Fan Intake/Outlet
2. Security Lock Slot (**W860CU** Only)
3. HDMI-Out Port
4. DC-In Jack
5. 2 \* USB Ports
6. RJ-45 LAN Jack
7. Rear Cover (**W870CU** Only)

## Introduction

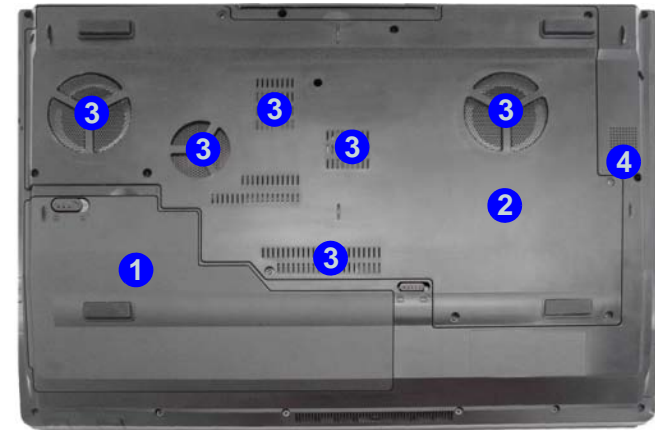
*Figure 6*  
**Bottom View**

1. Battery
2. Component Bay Cover
3. Vent/Fan Intake/Outlet
4. Speaker

## External Locator - Bottom View



W860CU



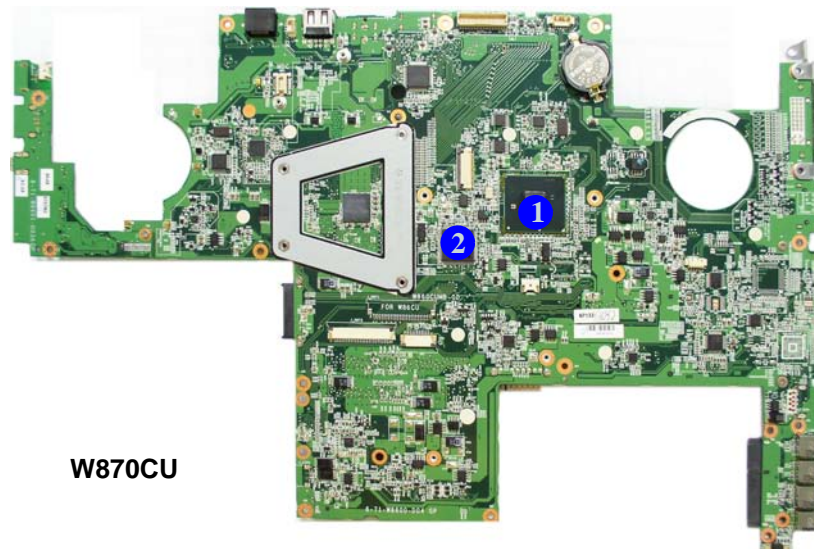
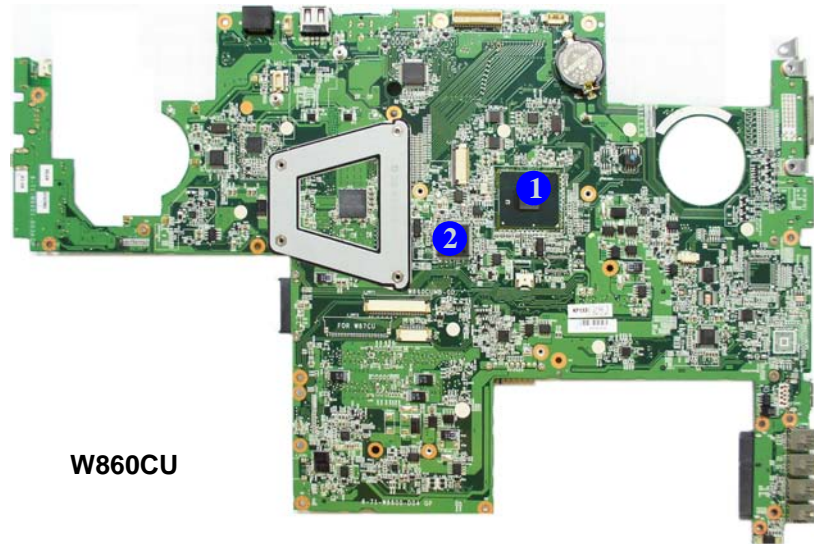
W870CU



### Overheating

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

## Mainboard Overview - Top (Key Parts)



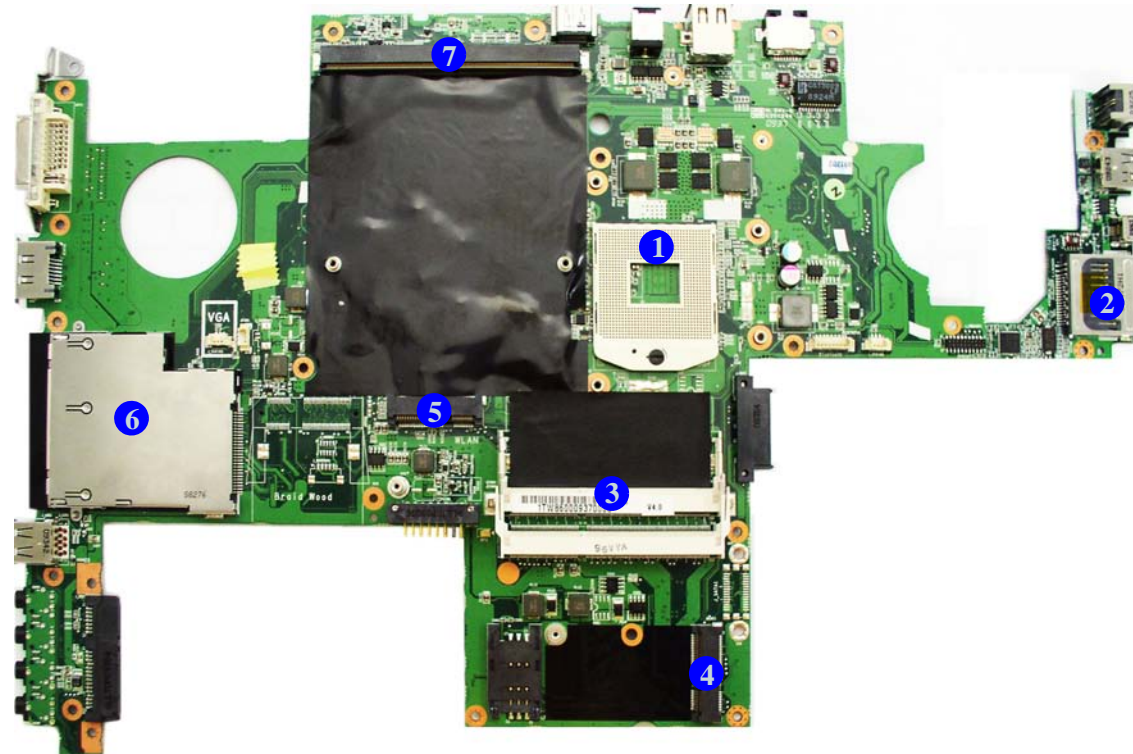
*Figure 7*  
**Mainboard Top  
Key Parts**

1. South Bridge
2. KBC ITE IT8502E

## Introduction

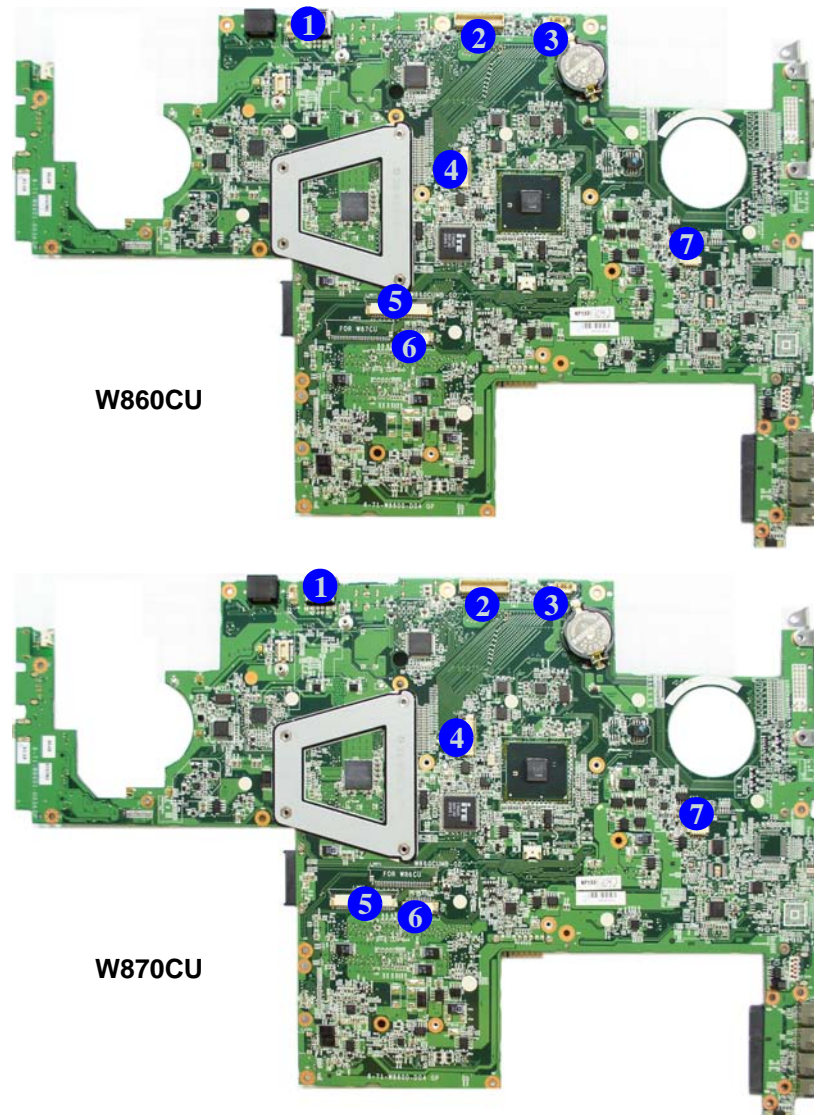
*Figure 8*  
**Mainboard Bottom  
Key Parts**

1. CPU Socket (no CPU installed)
2. Card Reader Socket
3. Memory Slots  
DDR3 SO-DIMM
4. Mini-Card  
Connector (3G  
Module for  
W860CU and TV  
Module for  
W870CU)
5. Mini-Card  
Connector (WLAN  
Module)
6. ExpressCard  
Connector
7. VGA-Card  
Connector



## Mainboard Overview - Bottom (Key Parts)

## Mainboard Overview - Top (Connectors)



*Figure 9*  
**Mainboard Top Connectors**

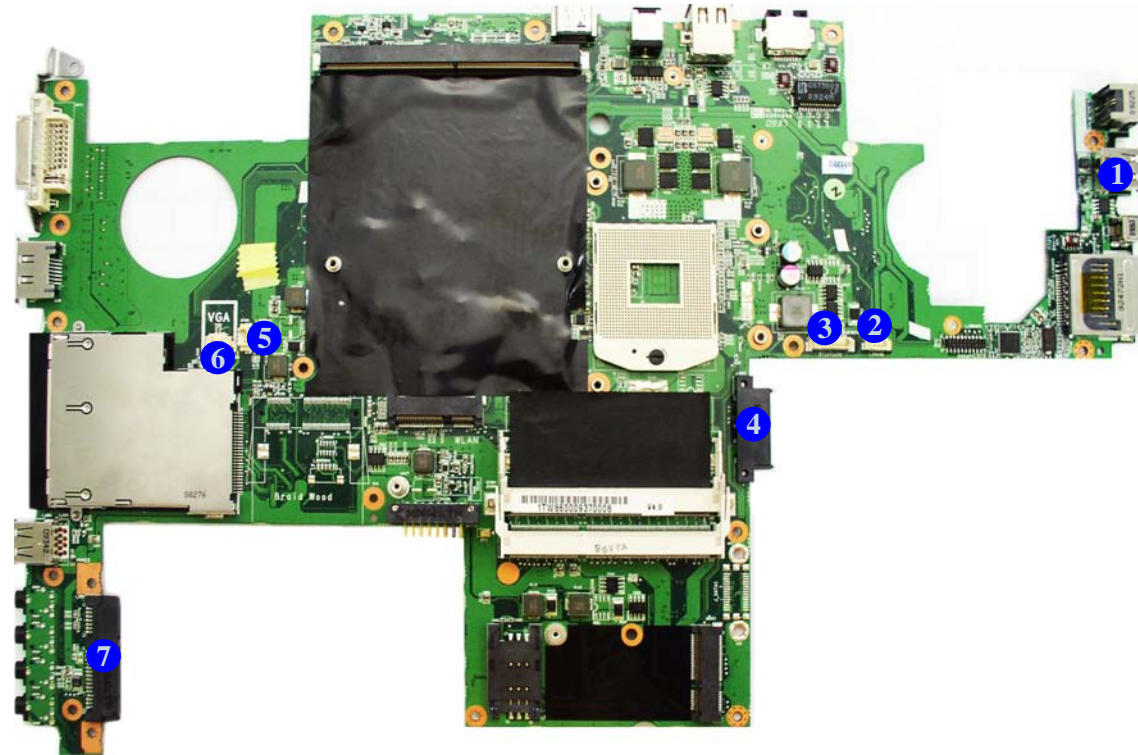
1. USB Port
2. LCD Cable Connector
3. CCD Connector
4. Hotkey & LED Connector
5. Keyboard Cable Connector
6. TouchPad Cable Connector
7. Speaker Connector

## Introduction

*Figure 10*  
**Mainboard Bottom  
Connectors**

1. USB Port
2. CPU Fan Cable Connector
3. BT Cable Connector
4. CD-ROM Connector
5. System Fan Cable Connector
6. VGA Fan Cable Connector
7. HDD Connector

## Mainboard Overview - Bottom (Connectors)






# Chapter 2: Disassembly


## Overview

This chapter provides step-by-step instructions for disassembling the *W860CU/W870CU* series notebook's parts and subsystems. When it comes to reassembly, reverse the procedures (unless otherwise indicated).

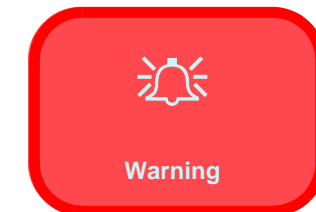
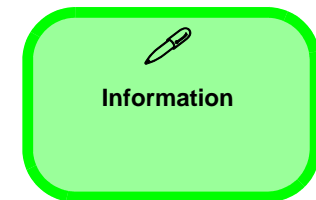
We suggest you completely review any procedure before you take the computer apart.

Procedures such as upgrading/replacing the RAM, optical 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 also 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 - 5](#)

#### To remove the HDD:

1. Remove the battery [page 2 - 5](#)
2. Remove the HDD [page 2 - 6](#)

#### To remove the Optical Device:

1. Remove the battery [page 2 - 5](#)
2. Remove the Optical device [page 2 - 9](#)

#### To remove the System Memory:

1. Remove the battery [page 2 - 5](#)
2. Remove the system memory [page 2 - 10](#)

#### To remove and install a Processor:

1. Remove the battery [page 2 - 5](#)
2. Remove the system memory [page 2 - 10](#)
3. Remove the processor [page 2 - 12](#)
4. Install the processor [page 2 - 14](#)

#### To remove the WLAN Module:

1. Remove the battery [page 2 - 5](#)
2. Remove the system memory [page 2 - 10](#)
3. Remove the wireless LAN [page 2 - 15](#)

#### To remove the Bluetooth Module:

1. Remove the battery [page 2 - 5](#)
2. Remove the system memory [page 2 - 10](#)
3. Remove the Bluetooth [page 2 - 16](#)

#### To remove the 3G:

1. Remove the battery [page 2 - 5](#)
2. Remove the HDD [page 2 - 6](#)
3. Remove the 3G [page 2 - 17](#)

#### To remove the Keyboard:

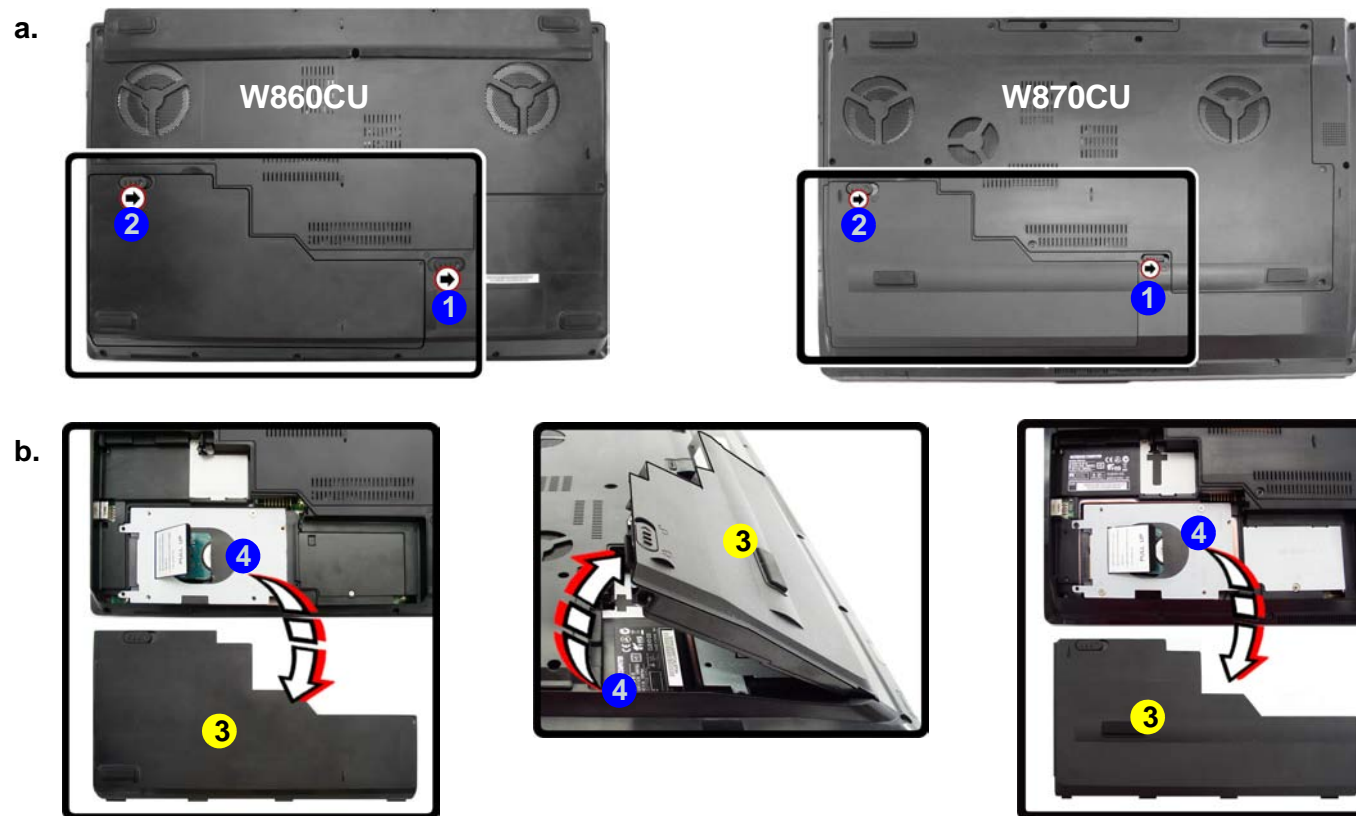
1. Remove the battery [page 2 - 5](#)
2. Remove the system memory [page 2 - 10](#)
3. Remove the keyboard [page 2 - 18](#)

#### To remove and install a Video Card:

1. Remove the battery [page 2 - 5](#)
2. Remove the video card [page 2 - 20](#)
3. Install the video card [page 2 - 22](#)

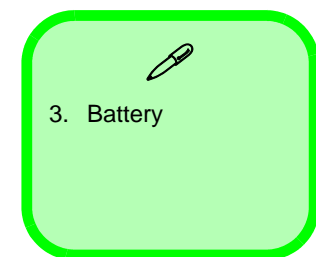
## Removing the Battery

1. Turn the computer **off**, and turn it over.
2. Slide the latch **1** in the direction of the arrow (*Figure 1a*).
3. Slide the latch **2** in the direction of the arrow, and hold it in place (*Figure 1a*).
4. Lift the battery **3** out in the direction of the arrow **4** (*Figure 1b*).



*Figure 1*  
**Battery Removal**

- a. Slide the latch and hold in place.
- b. Lift the battery out in the direction of the arrow.



## Disassembly

*Figure 2*  
**HDD Assembly  
Removal**

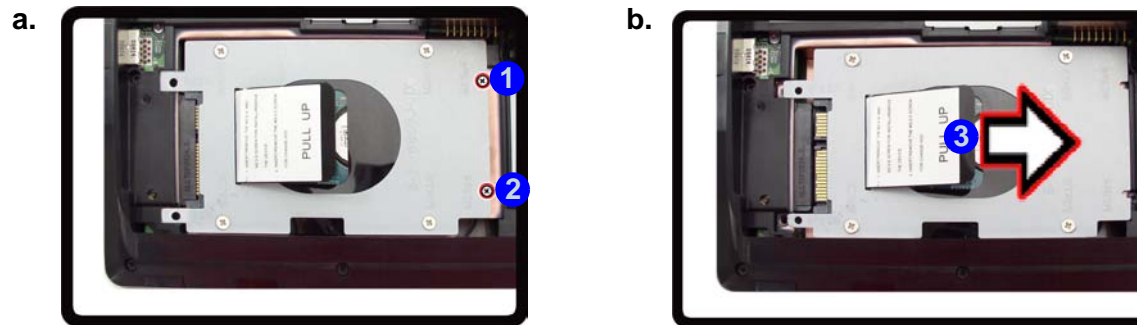
- Locate the HDD bay cover and remove the screws.
- Slide the HDD assembly in the direction of the arrow.

## Removing the Hard Disk Drive

The hard disk drive can be taken out to accommodate other 2.5" serial (SATA) 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

- Turn **off** the computer, and remove the battery ([page 2 - 5](#)).
- The first hard disk bay is located under the battery compartment.
- Remove screws **1** - **2** from the hard disk cover ([Figure 2a](#)).
- Slide the hard disk assembly in the direction of arrow **3** ([Figure 2b](#)).



#### 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.

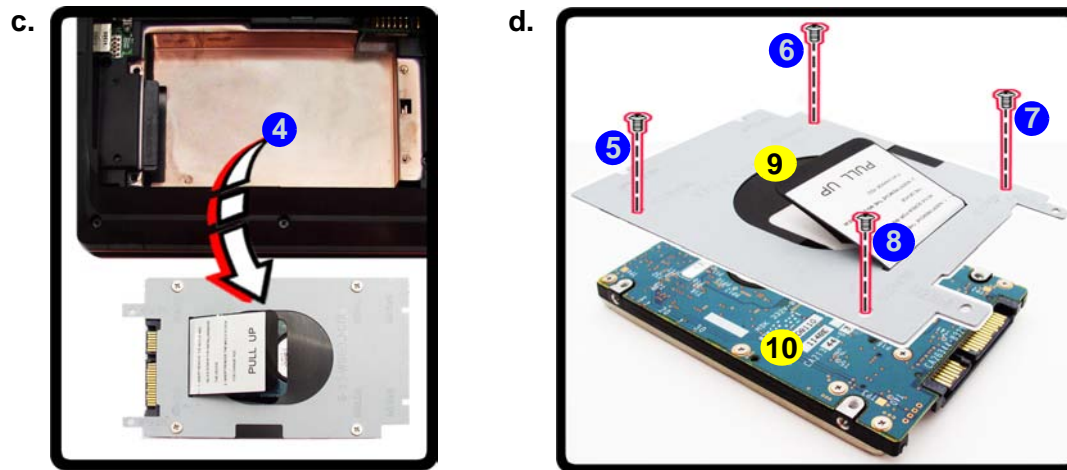
You have all the CD-ROMs and FDDs required to install your operating system and programs.

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.



- 2 Screws

5. Lift the hard disk assembly out of the computer in the direction of arrow **4** (*Figure 3c*).
6. Remove the screws **5** - **8** and the cover bracket **9** from the hard disk **10** (*Figure 3d*).
7. Reverse the process to install a new hard disk (do not forget to replace all the screws and covers).



- c. Lift the HDD assembly in the direction of the arrow.
- d. Remove the screws and cover bracket from the HDD.

### Hard Disk Screws & Cover

The hard disks and covers pictured here may appear slightly different from your model design (these designs are subject to change and upgrade without notice). Pay careful attention to the screws and cover bracket orientation.

9. HDD Cover Bracket
  10. HDD
- 4 Screws

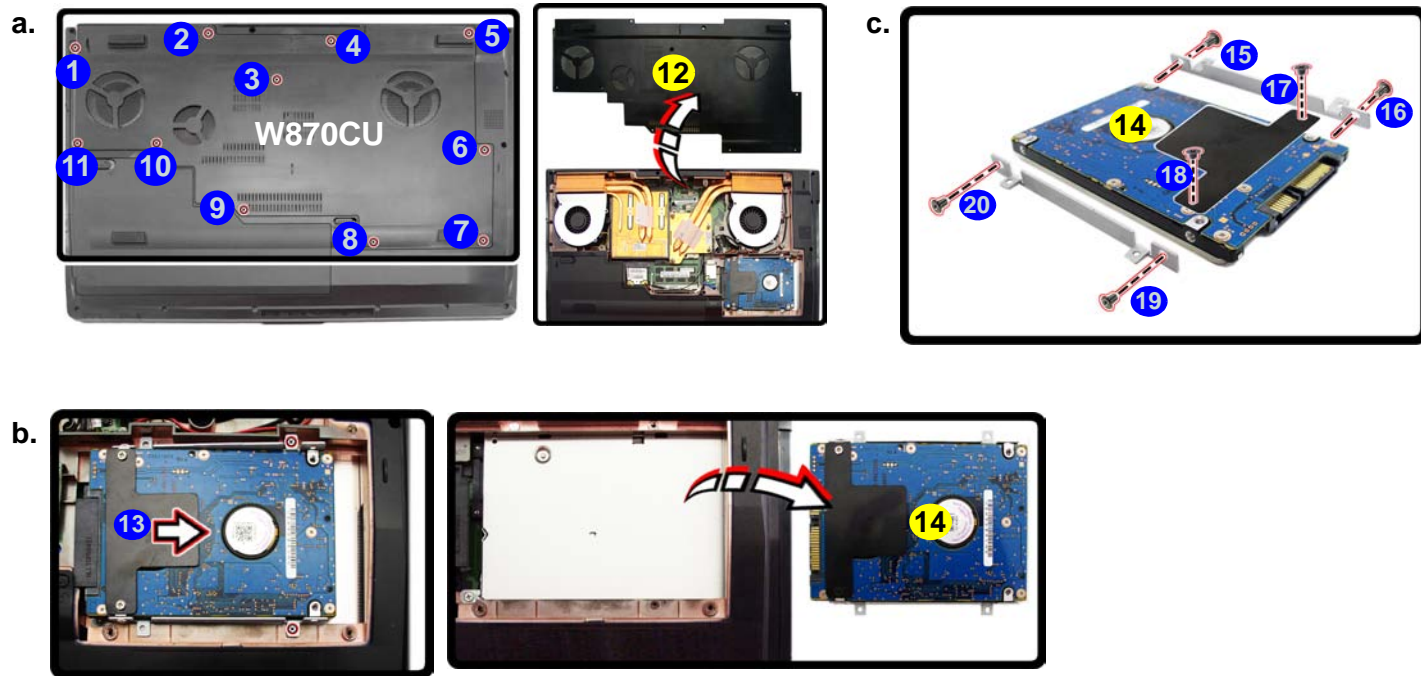
## Disassembly

Figure 4  
Secondary HDD  
Assembly Removal

- Remove the screws and cover.
- Slide the hard disk assembly out off the computer.
- Remove the screws to separate the hard disk from the brackets.

## Removing the Hard Disk(s) in the Secondary HDD Bay (W870CU only)

- Turn **off** the computer, and turn it over and remove the battery.
- Locate the component bay cover and remove screws ① - ⑪ (*Figure 6a*).
- Carefully remove the cover ⑫ (*Figure 6a*).
- Slide the hard disk assembly in the direction of the arrow ⑬ (*Figure 6b*).
- Lift the hard disk assembly ⑭ out of the compartment (*Figure 6b*).
- Remove the screws ⑮ - ⑳ to separate the hard disk ⑭ from the brackets (*Figure 4c*).
- Reverse the process to install a new hard disk drive (do not forget to replace all screws and covers).



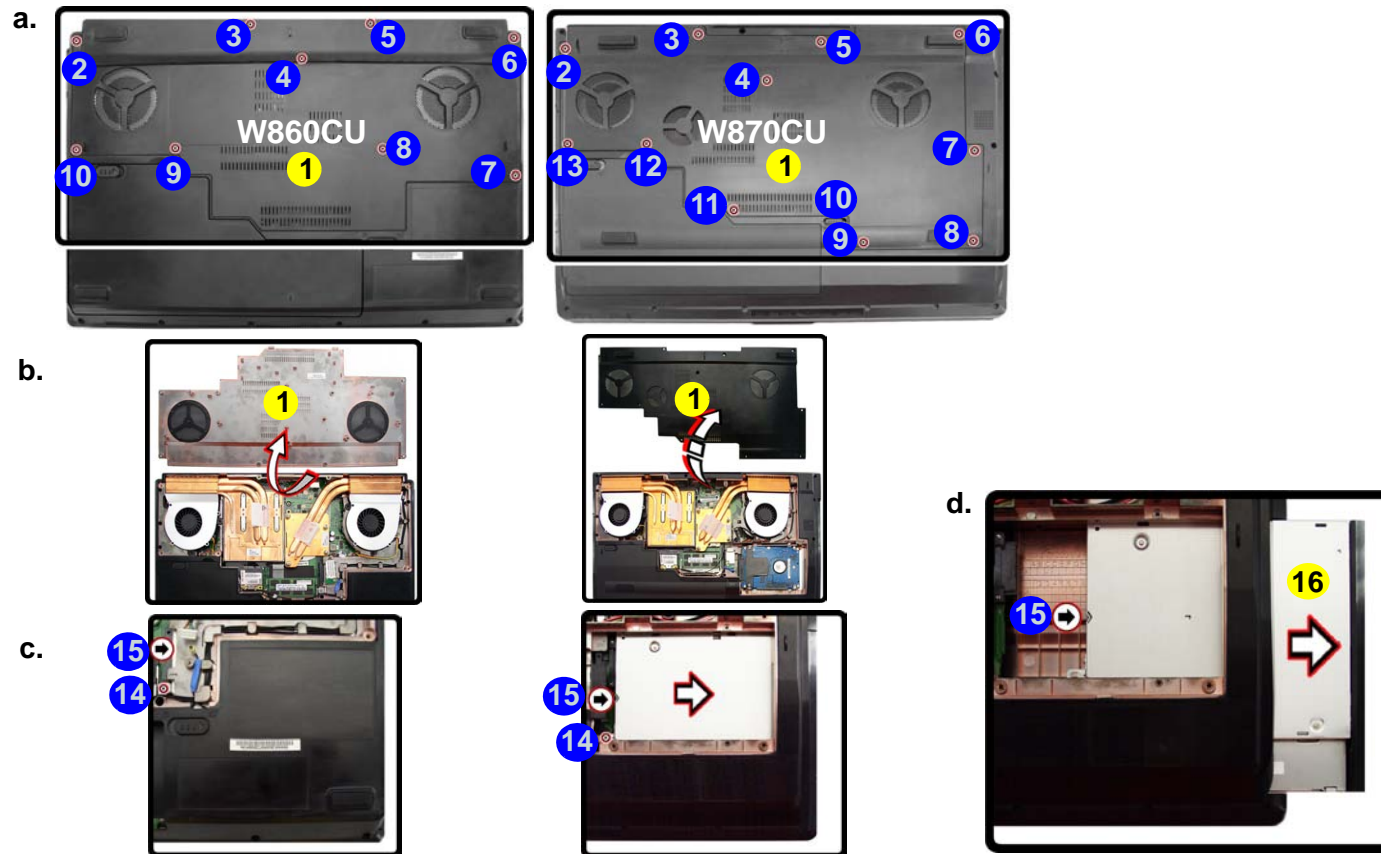



## Removing the Optical (CD/DVD) Device

1. Turn **off** the computer, and remove the battery ([page 2 - 5](#)).
2. Locate the component bay cover **1** and remove screws **2** - **10** (W860CU) or **2** - **13** (W870CU) ([Figure 5a](#)).
3. Carefully remove the component bay cover **1** ([Figure 5b](#)).
4. Remove the screw at point **14** ([Figure 5c](#)), and use a screwdriver to carefully push out the optical device **16** at point **15** ([Figure 5d](#)).
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. Restart the computer to allow it to automatically detect the new device.

*Figure 5*  
**Optical Device Removal**

- a. Remove the screws.
- b. Remove the cover.
- c. Remove the screw.
- d. Push the optical device out off the computer at point 15.





1. Component Bay Cover  
16. Optical Device

- 10 Screws (W860CU) /  
13 Screws (W870CU)

## Disassembly

*Figure 6*  
**RAM Module  
Removal**

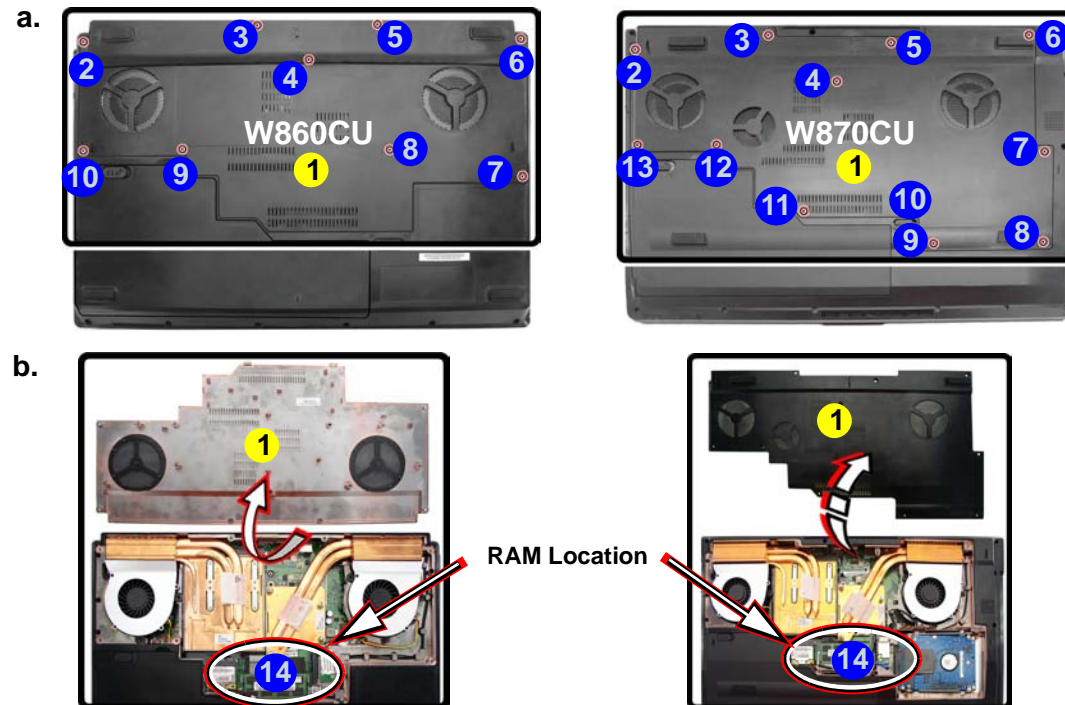
- Remove the screws.
- Remove the cover.

## Removing the System Memory (RAM)

The computer has two memory sockets for 204 pin Small Outline Dual In-line Memory Modules (SO-DIMM) supporting **DDR3** 1333MHz. The main memory can be expanded up to 4GB. The SO-DIMM modules supported are DDRIII 1GB, and 2GB Modules. The total memory size is automatically detected by the POST routine once you turn on your computer.

### Memory Upgrade Process

- Turn **off** the computer, remove the battery ([page 2 - 5](#)).
- Locate the component bay cover **1** and remove screws **2** - **10** (W860CU) or **2** - **13** (W870CU) ([Figure 5a](#)).
- Carefully remove the component bay cover **1** ([Figure 5b](#)).
- The RAM is located at point **14** ([Figure 5b](#)).



#### 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.



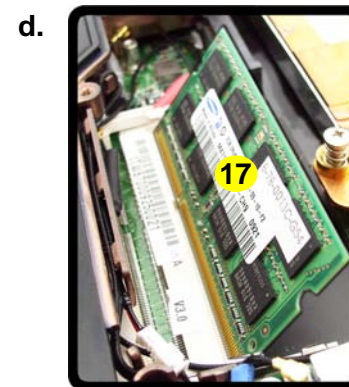
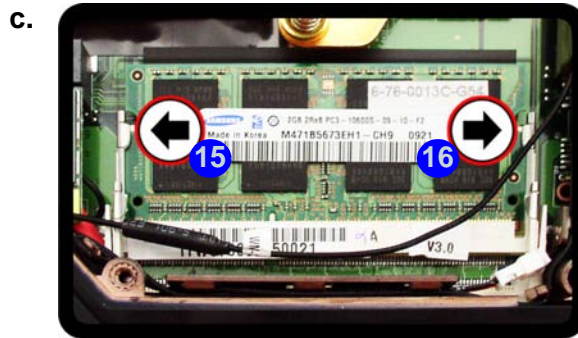
#### 1. Component Bay Cover

- 9 Screws (W860CU) / 12 Screws (W870CU)

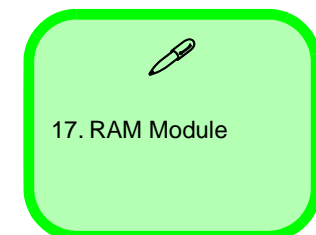
*Figure 7*  
**RAM Module Removal (cont'd.)**

- c. Pull the release latches.
- d. Remove the module.

- 5. Gently pull the two release latches (15 & 16) on the sides of the memory socket in the direction indicated by the arrows (*Figure 7c*).



- 6. The RAM module 17 will pop-up (*Figure 7d*), and you can then remove it.
- 7. Pull the latches to release the second module if necessary.
- 8. Insert a new module holding it at about a 30° angle and fit the connectors firmly into the memory slot.
- 9. The module's pin alignment will allow it to only fit one way. Make sure the module is seated as far into the slot as it will go. **DO NOT FORCE** the module; it should fit without much pressure.
- 10. Press the module in and down towards the mainboard until the slot levers click into place to secure the module.
- 11. Replace the bay cover and screws.
- 12. Restart the computer to allow the BIOS to register the new memory configuration as it starts up.



## Disassembly

*Figure 8*  
**Processor Removal Procedure**

- Remove the fan screws and fan cable.
- Remove the fan unit.
- Remove the screws in the correct order.
- Carefully remove the heat sink unit.

**CPU Warning**

In order to prevent damaging the contact pins when removing the CPU, it is necessary to first remove the WLAN module from the computer.



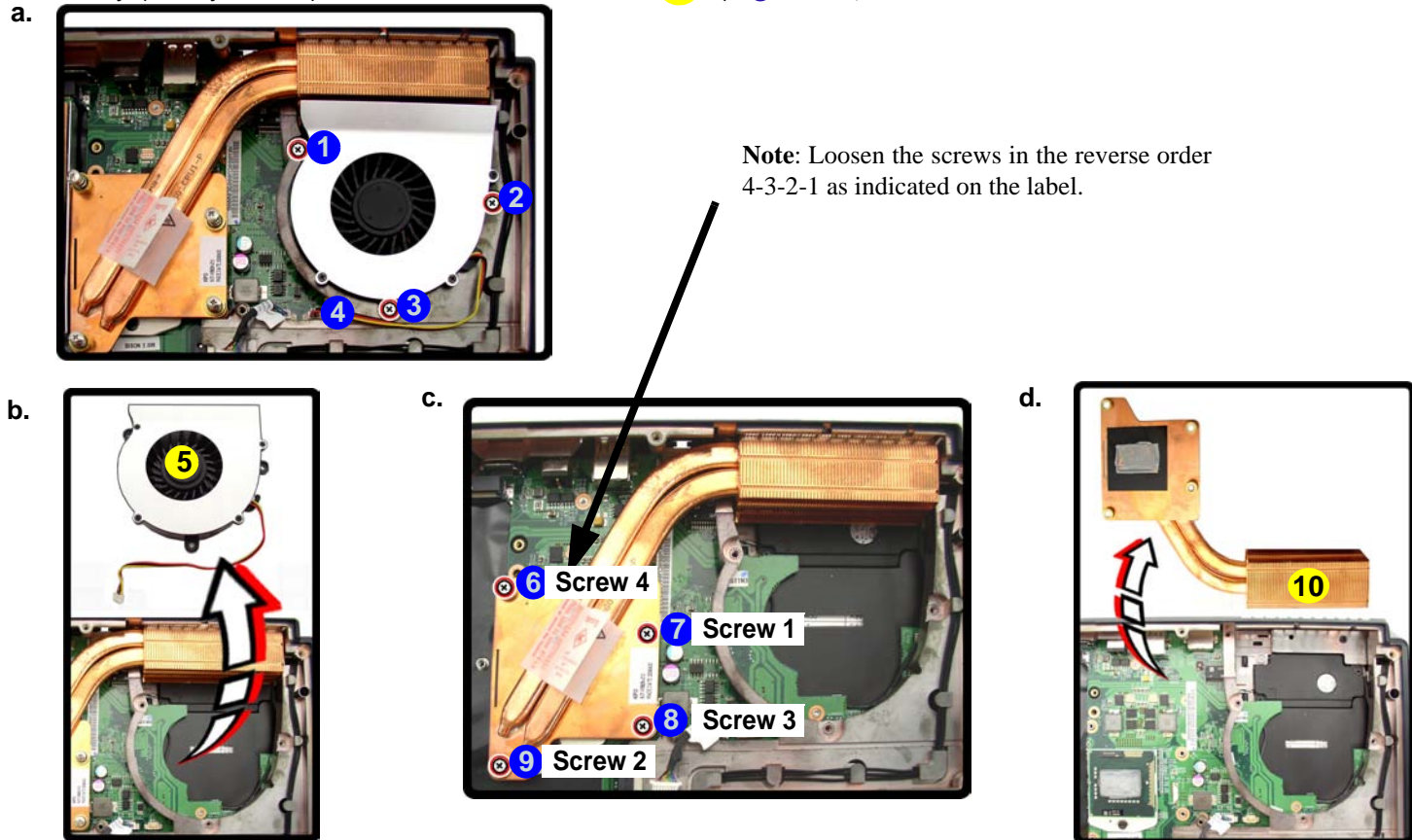
5. Fan Unit  
 10. Heat Sink Unit


- 7 Screws

## Removing and Installing the Processor

### Processor Removal Procedure

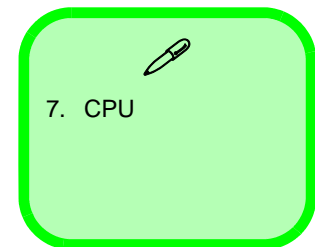
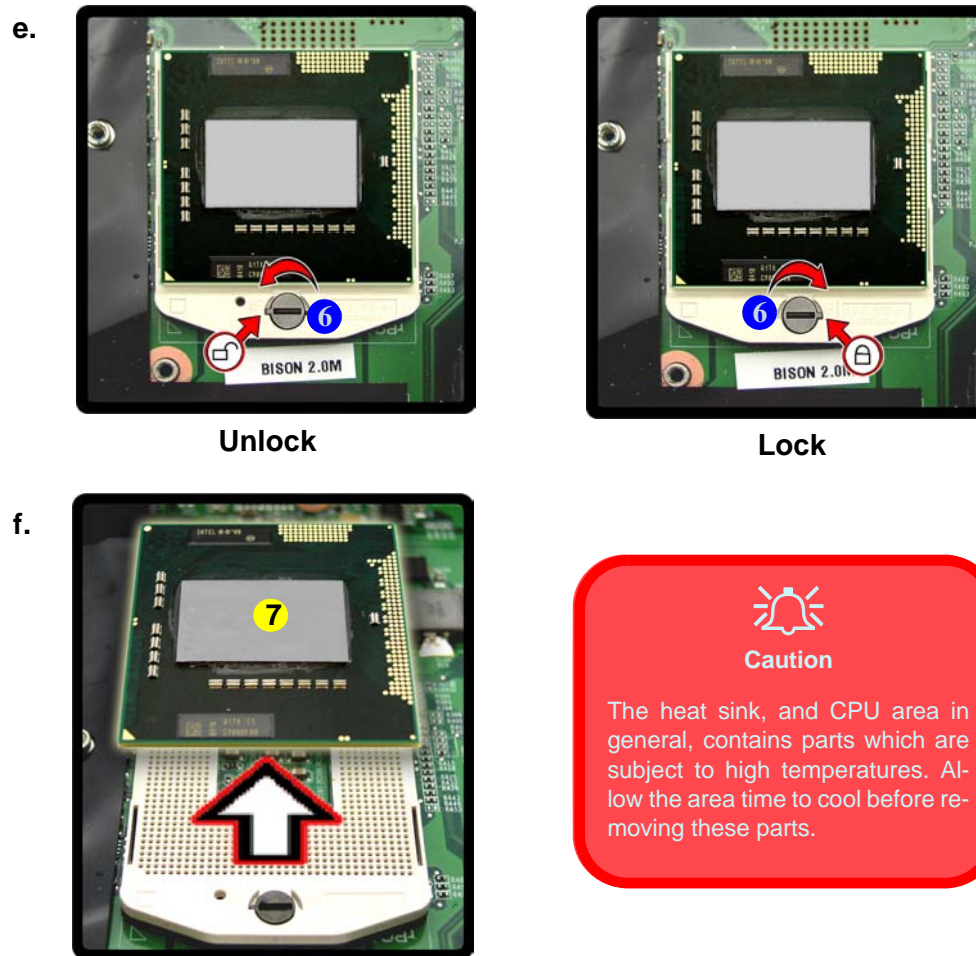
- Turn off the computer, remove the battery ([page 2 - 5](#)), and component bay cover ([page 2 - 10](#)).
- Remove fan screws ① - ③ and fan cable ④ ([Figure 8a](#)).
- Remove the fan unit ⑤ ([Figure 8b](#)).
- Remove screws ⑥ - ⑨ from the heat sink unit in the order indicated on the label (i.e screw 4 first through to screw 1 last) ([Figure 8c](#)).
- Carefully (it may be hot) remove the heat sink unit ⑩ ([Figure 8d](#)).



6. Turn the release latch **11** towards the unlock symbol , to release the CPU (*Figure 9e*).
7. Carefully (it may be hot) lift the CPU **7** up out of the socket (*Figure 9f*).
8. See [page 2 - 14](#) for information on inserting a new CPU.
9. When re-inserting the CPU, pay careful attention to the pin alignment, it will fit only one way (DO NOT FORCE IT!).

*Figure 9*  
**Processor Removal**  
**(cont'd)**

- e. Turn the release latch to unlock the CPU.
- f. Lift the CPU out of the socket.




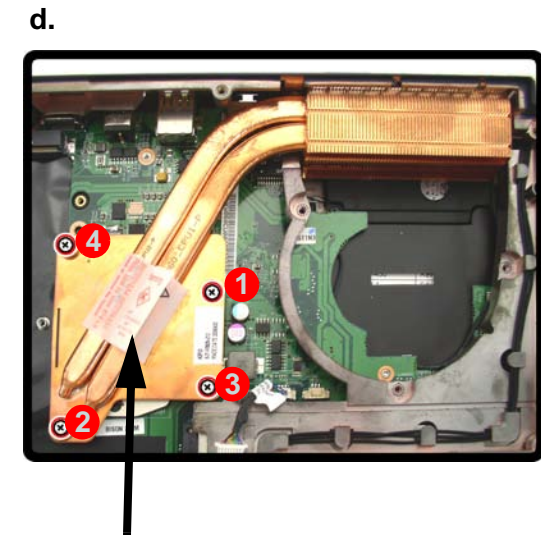
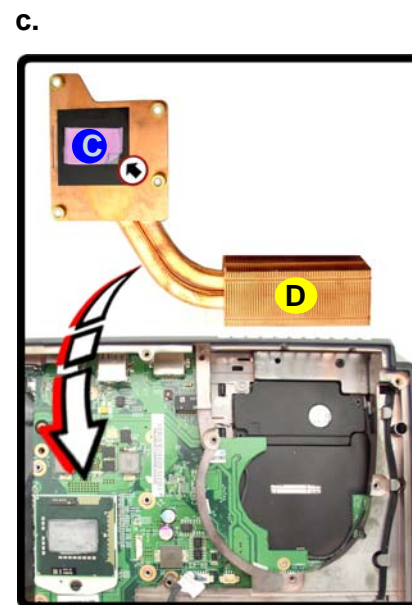
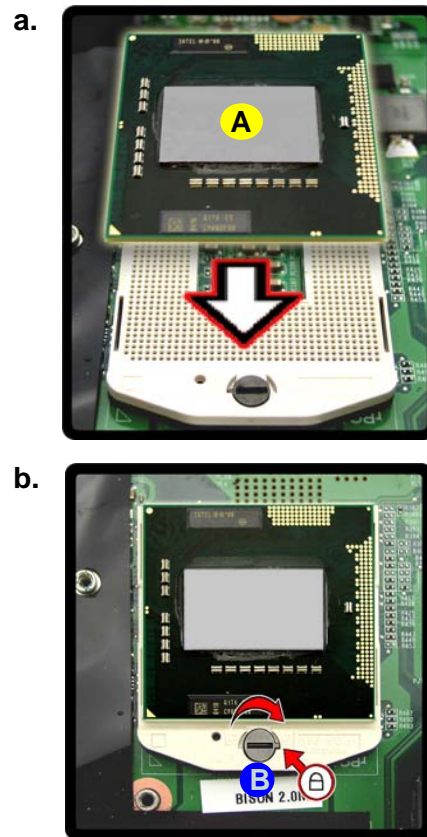
## Disassembly

*Figure 10*  
**Processor Installation**

- Insert the CPU.
- Turn the release latch towards the lock symbol.
- Remove the sticker from the heat sink unit and insert the heat sink.
- Tighten the screws.



### Processor Installation Procedure

- Insert the CPU **A**, pay careful attention to the pin alignment (*Figure 10a*), it will fit only one way (DO NOT FORCE IT!), and turn the release latch **B** towards the lock symbol  (*Figure 10b*).
- Remove the sticker **C**** (*Figure 10c*) from the heat sink unit.
- Insert the heat sink unit **D** as indicated in *Figure 10c*.
- Tighten the CPU heat sink screws in the order **1**, **2**, **3** & **4** (the order as indicated on the label and *Figure 10d*).
- Replace the CPU fan, component bay cover and tighten the screws (*page 2 - 12*).



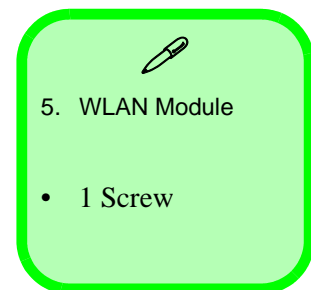
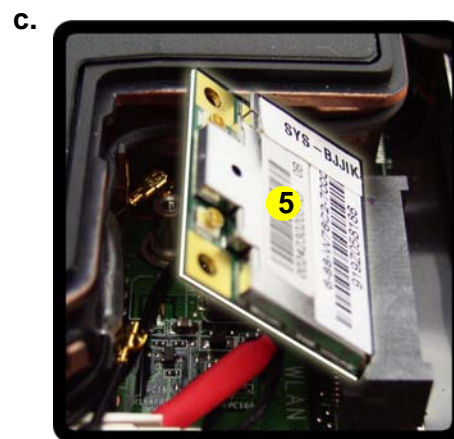
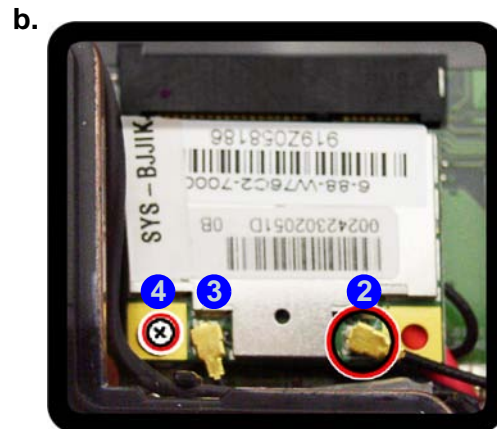
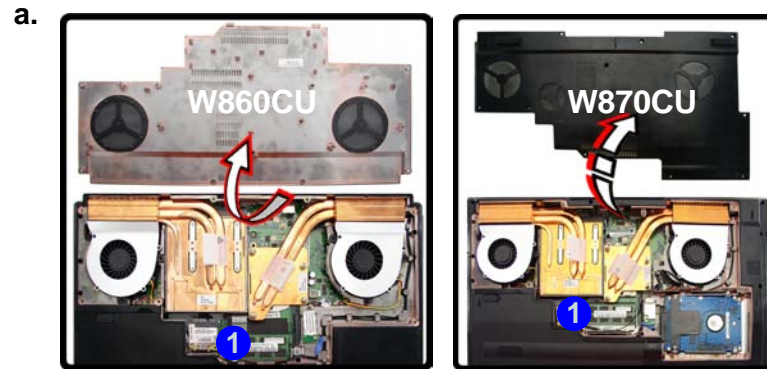
**Note:**

Tighten the screws in the order 1-2-3-4 as indicated on the label.

-  A. CPU
-  D. Heat Sink
- 4 Screws

## Removing the Wireless LAN Module

1. Turn **off** the computer, remove the battery ([page 2 - 5](#)) and the component bay cover ([page 2 - 10](#)).
2. The Wireless LAN module will be visible at point **1** on the mainboard ([Figure 11a](#)).
3. Carefully disconnect cables **2** - **3**, then remove screw **4** from the module socket ([Figure 11b](#)).
4. The Wireless LAN module **5** will pop-up ([Figure 11c](#)).
5. Lift the Wireless LAN module ([Figure 11d](#)) up and off the computer.



*Figure 11*  
**Wireless LAN  
 Module Removal**

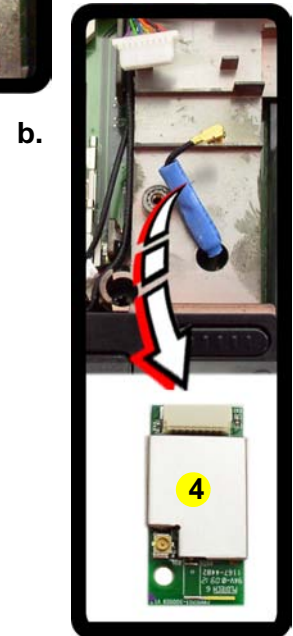
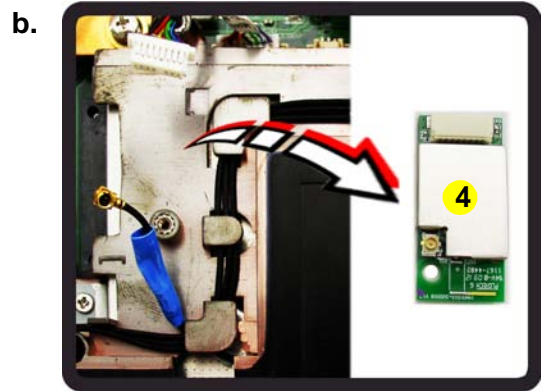
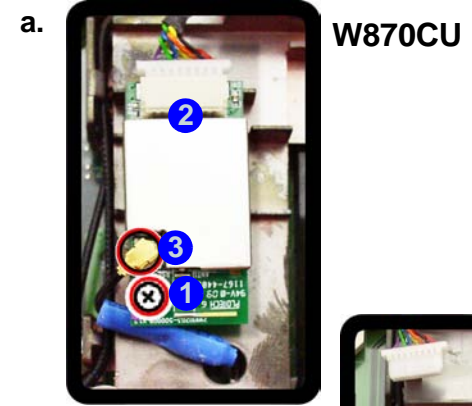
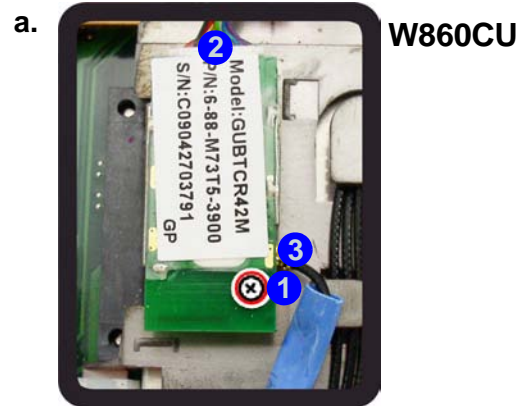
- a. Remove the cover.
- b. Disconnect the cables and remove the screw.
- c. The WLAN module will pop up.
- d. Lift the WLAN module out.

Disassembly

Figure 12  
Bluetooth Module  
Removal

Removing the Bluetooth Module

1. Turn off the computer, remove the battery (page 2 - 5), and component bay cover (page 2 - 10).
  2. Locate the Bluetooth module, and remove the screw 1 (Figure 12a).
  3. Carefully separate the Bluetooth module from the connector 2 and disconnect the cable 3 (Figure 12a).
  4. Lift the Bluetooth module 4 up and off the computer (Figure 12b).
- a. Remove the screw and disconnect the cable and the connector.
  - b. Lift the Bluetooth module up off the socket.



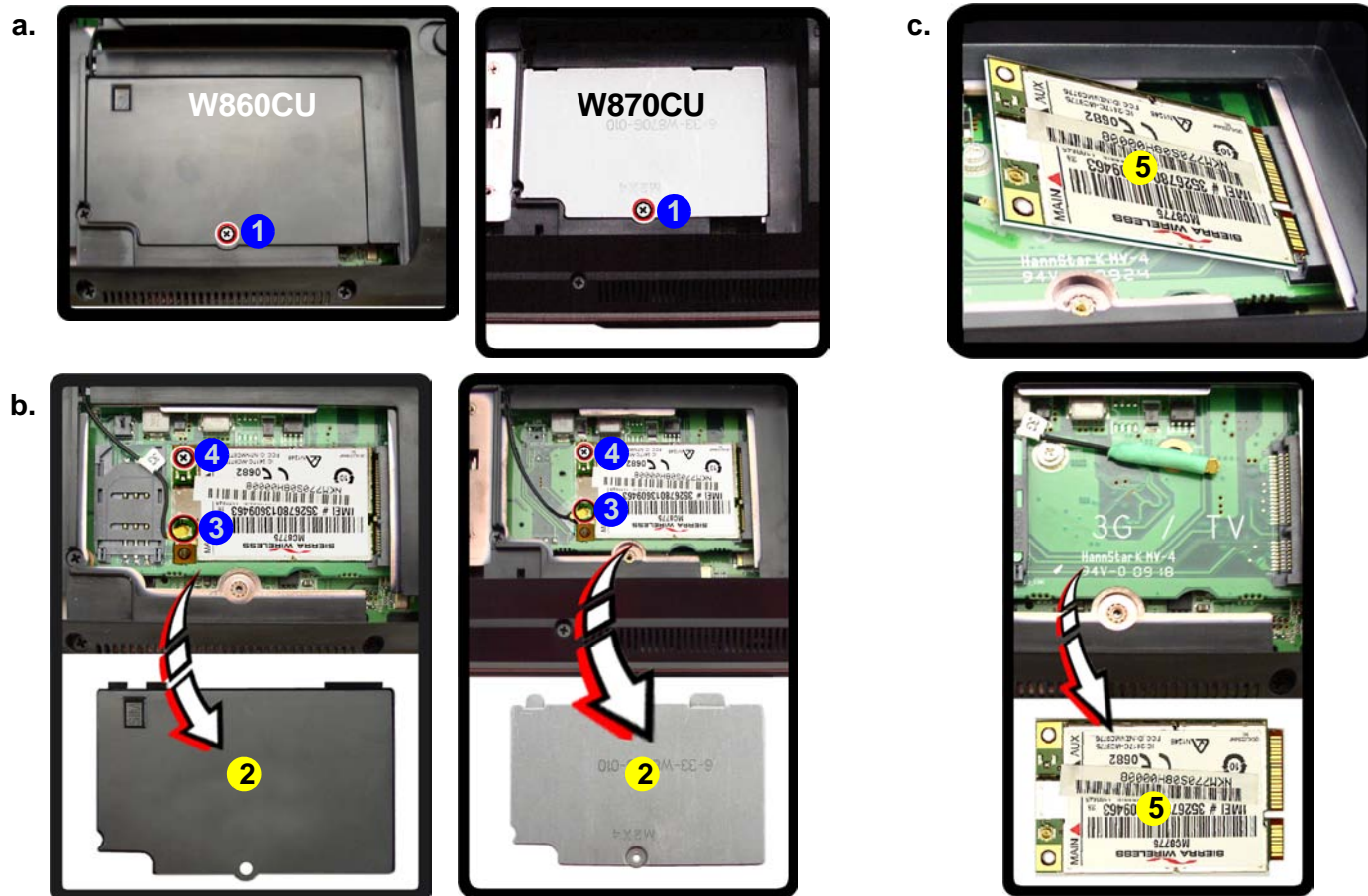
4. Bluetooth Module

- 1 Screw



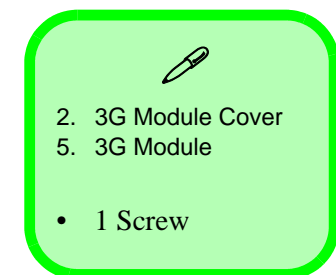
## Removing the 3G Module

1. Turn **off** the computer, remove the battery ([page 2 - 5](#)).
2. Locate the 3G module cover, and remove the screw **1** ([Figure 13a](#)).
3. Remove the 3G module cover **2** and carefully disconnect the cable **3** and remove the screw **4** from the 3G module ([Figure 13b](#)).
4. Lift the 3G module **5** up and off the computer ([Figure 13b](#)).



*Figure 13*  
**3G Module Removal**

- a. Remove the screw.
- b. Remove the 3G module cover. Disconnect the cable and remove the screw.
- c. Lift the 3G module up off the socket.

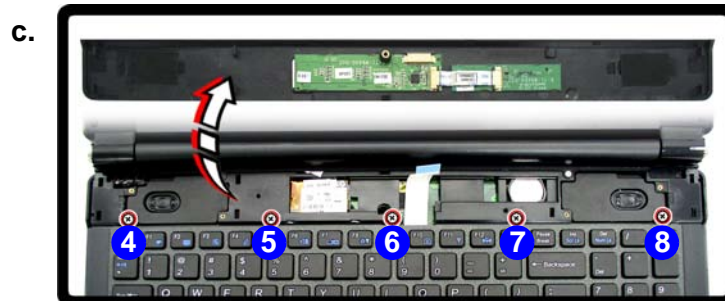
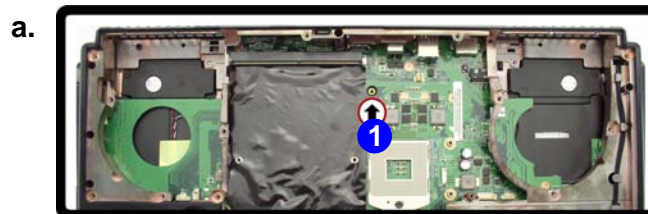


### Removing the Keyboard

Figure 14  
Keyboard Removal

- Press at point 1 to un-snap the LED cover module.
- Lift the LED cover module and disconnect the cable.
- Remove the screws.
- Disconnect the cable from the locking collar.
- Remove the keyboard.

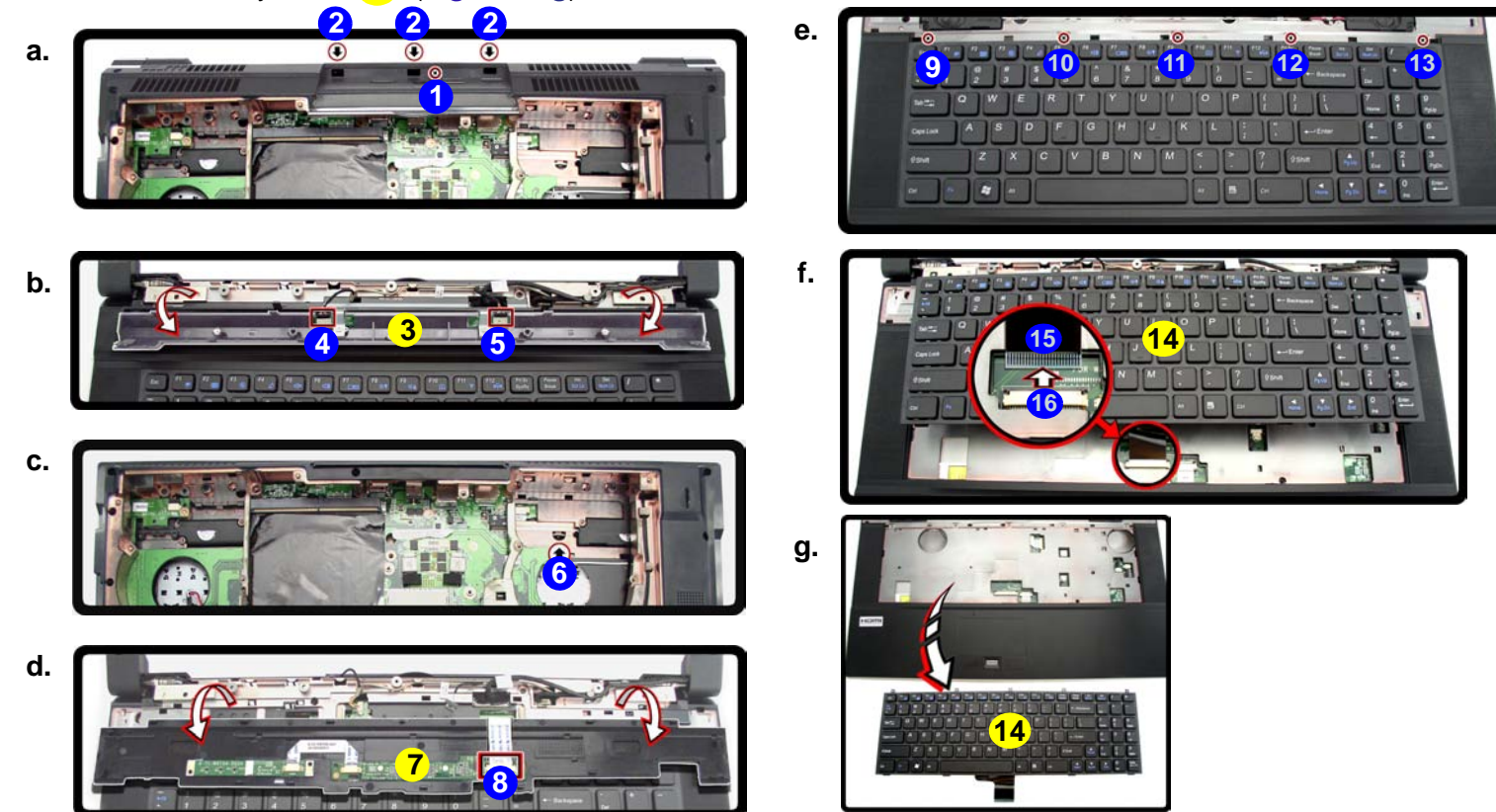
- Turn off the computer, and remove the battery ([page 2 - 5](#)), component bay cover ([page 2 - 10](#)), and processor ([page 2 - 12](#)).
- W860CU(scroll to the next page for W870CU):** Press at point 1 to un-snap the LED cover module 2 ([Figure 14a](#)). \*You may need to use a small screwdriver to do this.
- Turn the computer over, open the Lid/LCD and carefully lift the LED cover module 2 and disconnect the cable 3 ([Figure 14b](#)).
- Remove screws 4 - 8 from the keyboard ([Figure 14c](#)).
- Carefully lift the keyboard 9 up, being careful not to bend the keyboard ribbon cable ([Figure 14d](#)).
- Disconnect the keyboard ribbon cable 10 from the locking collar socket 11 ([Figure 14d](#)).
- Remove the keyboard 9 ([Figure 14e](#)).



- 2. LED Cover Module
- 9. Keyboard

- 5 Screws

8. **W870CU:** Remove the screw ① and press at point ② to unsnap the the hinge cover module (*Figure 15a*).
9. Turn the computer over, open the Lid/LCD and lift the hinge cover module ③ and disconnect the cables ④ & ⑤ (*Figure 15b*).
10. Turn the computer over again, press at point ⑥ (*Figure 15c*) to unsnap the LED cover module ⑦ (you may need to use a small screwdriver to do this).
11. Turn the computer over, open the Lid/LCD and carefully lift the LED cover module ⑦ and disconnect the cable ⑧ (*Figure 15d*).
12. Remove screws ⑨ - ⑬ from the keyboard (*Figure 15e*).
13. Carefully lift the keyboard ⑭ up, being careful not to bend the keyboard ribbon cable (*Figure 15f*).
14. Disconnect the keyboard ribbon cable ⑮ from the locking collar socket ⑯ (*Figure 15f*).
15. Remove the keyboard ⑭ (*Figure 15g*).



*Figure 15*  
**Keyboard Removal**  
**(cont'd.)**

- a. Remove the screw and press at point 2 to un-snap the hinge cover module.
- b. Lift the hinge cover module and disconnect the cables.
- c. Press at point 6 to un-snap the LED cover module.
- d. Lift the LED cover module and disconnect the cable.
- e. Remove the screws.
- f. Disconnect the cable from the locking collar.
- g. Remove the keyboard.



3. Hinge Cover Module  
7. LED Cover Module  
14. Keyboard

- 6 Screws

Figure 16

Video Card

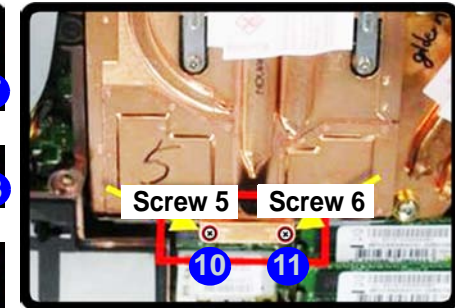
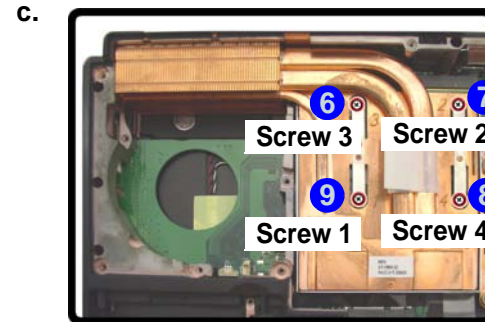
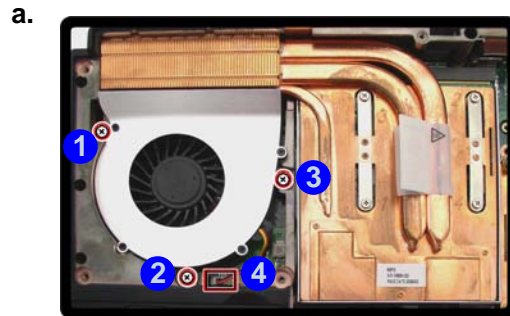
Removal Procedure

- Remove the fan screws and fan cable.
- Remove the fan unit.
- Remove the screws in the correct order.
- Carefully remove the heat sink unit. Remove the video card screws.

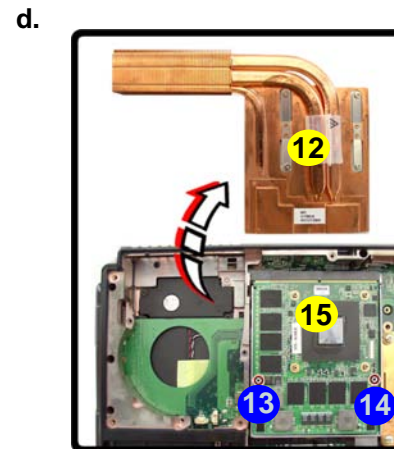
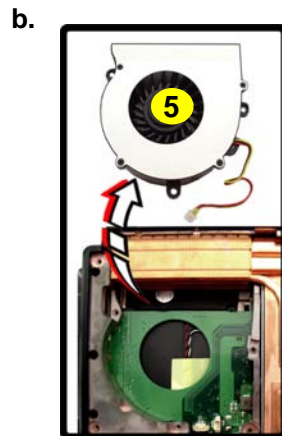
## Removing and Installing the Video Card

### Video Card Removal Procedure

- Turn **off** the computer, turn it over and remove the battery ([page 2 - 5](#)) and component cover ([page 2 - 10](#)).
- Remove screws **1** - **3** and fan cable **4** ([Figure 16a](#)).
- Remove the fan unit **5** ([Figure 16b](#)).
- Remove screws **6** - **9** & screws **6** - **11** (for W860CU N11E-GS & GTS) from the heat sink unit in the order indicated on the label (i.e screw **4** first through to screw **1** last) ([Figure 16c](#)).
- Carefully (**it may be hot**) remove the heat sink unit **12** ([Figure 16d](#)).
- Remove screws **13** & **14** from the video card **15** ([Figure 16d](#)).



W860CU N11E-GS & GTS have two additional screws on the heatsink.



**Caution**

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

5. Fan Unit  
12. Heat Sink Unit  
15. Video Card

- 9 Screws / 11 Screws for W860CU N11E-GS & GTS

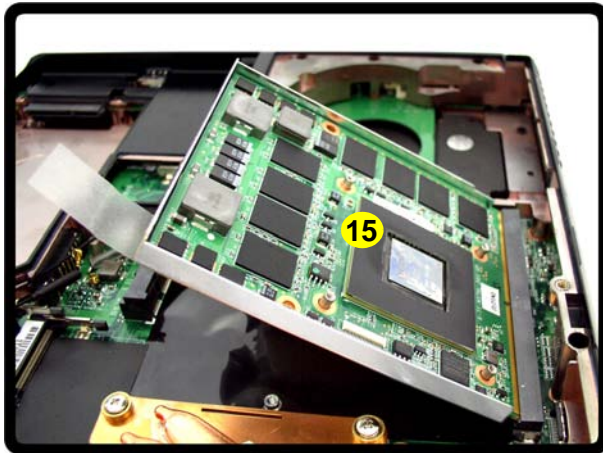
**Heat Sink Screw Removal and Insertion**

Remove the screws from the heat sink in the order indicated here: 4-3-2-1 & 6-5-4-3-2-1 for W860CU N11E-GS & GTS (the numbers 1 - 6 are imprinted on the heat sink itself).

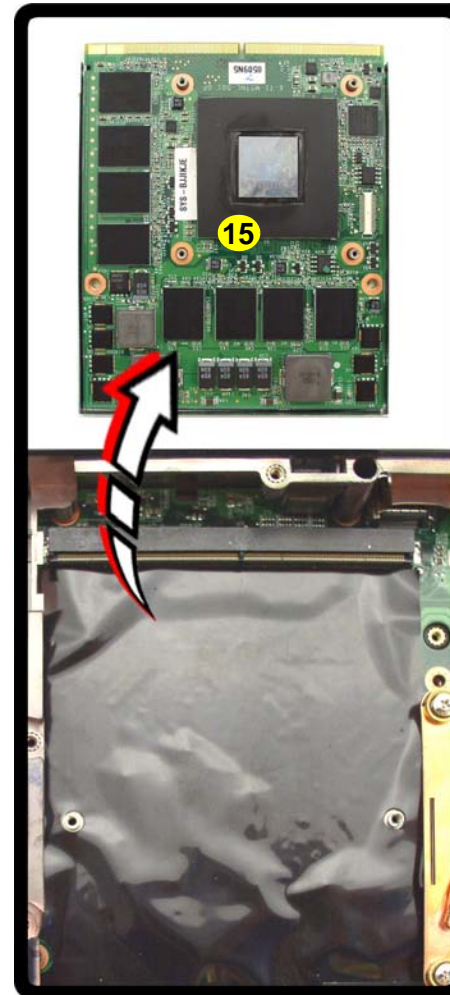
When tightening the screws, make sure that they are tightened in the order: 1-2-3-4 or 1-2-3-4-5-6.

- 7. The video card **15** will pop up (*Figure 17e*).
- 8. Remove the video card **15** (*Figure 17f*).

e.



f.



*Figure 17*  
**Video Card  
Removal (cont'd)**

- e. The video card will pop up.
- f. Remove the video card.



**Caution**

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



15. Video Card

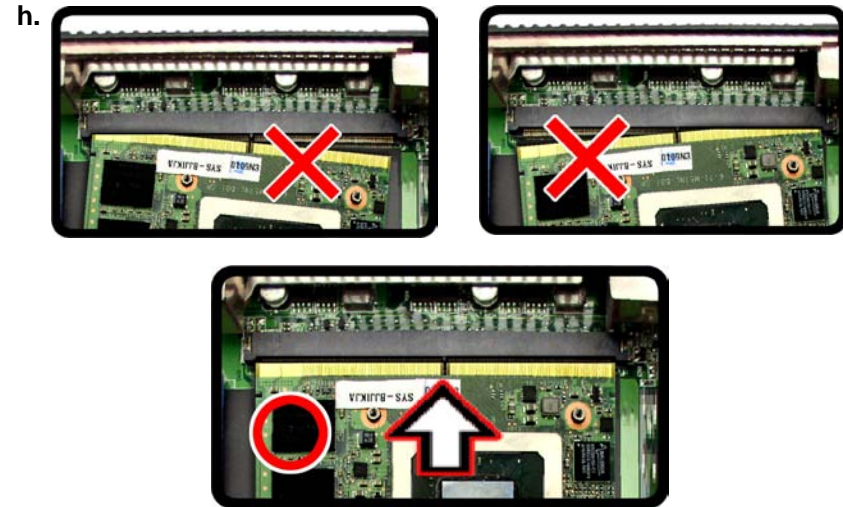
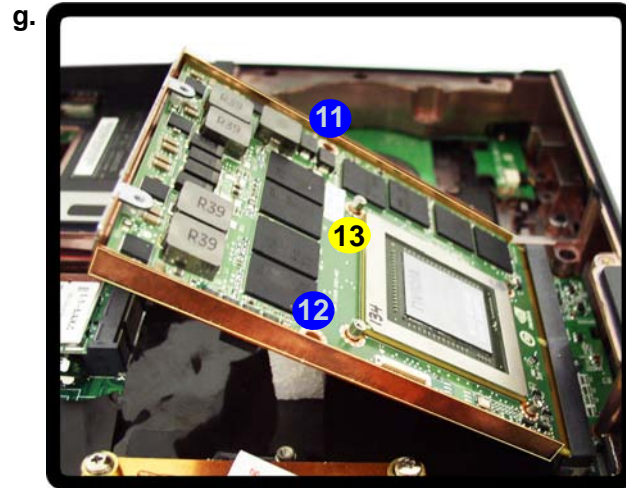
## Disassembly

*Figure 18*  
**Installing a New Video Card**

- g. Insert the video card at a 30 degree angle.
- h. Fit the connectors straight and even.

### Installing a New Video Card

1. Prepare to fit the video card **13** into the slot by holding it at about a 30° angle (*Figure 18g*).
2. The card needs to be fully into the slot, and the video card and socket have a guide-key and pin which align to allow the card to fit securely (*Figure 18h*).
3. Fit the connectors firmly into the socket, straight and evenly.



4. DO NOT attempt to push one end of the card in ahead of the other.
5. The card's pin alignment will allow it to only fit one way. **Make sure the module is seated as far into the socket as it will go** (none of the gold colored contact should be showing). DO NOT FORCE the card; it should fit without much pressure.
6. Secure the card with screws **11** & **12** (*Figure 16 on page 2 - 20*).
7. Place the heat sink back on the card, and secure the screws in the order indicated in *Figure 16 on page 2 - 20*.
8. Attach the video card fan and secure with the screws as indicated in *Figure 16 on page 2 - 20*.
9. Reinsert the component bay cover, and secure with the screws as indicated in *Figure 6 on page 2 - 10*.



#### Caution

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



13. Video Card

- 2 Screws

# Appendix A: Part Lists

This appendix breaks down the *W860CU/W870CU* 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

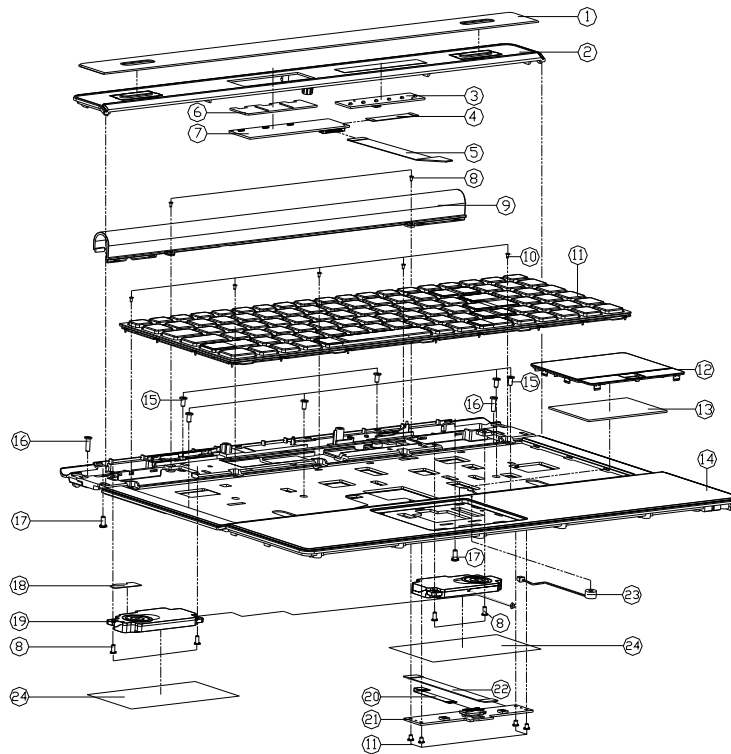
The following table indicates where to find the appropriate part list illustration.

*Table A- 1*  
**Part List Illustration  
Location**

Parts	W860CU	W870CU
Top with Fingerprint	<i>page A - 3</i>	<i>page A - 9</i>
Top without Fingerprint	<i>page A - 4</i>	<i>page A - 10</i>
Bottom	<i>page A - 5</i>	<i>page A - 11</i>
LCD	<i>page A - 6</i>	<i>page A - 12</i>
2nd HDD		<i>page A - 13</i>
COMBO	<i>page A - 7</i>	<i>page A - 14</i>
DVD-Dual Drive	<i>page A - 8</i>	<i>page A - 15</i>



# Top with Fingerprint (W860CU)

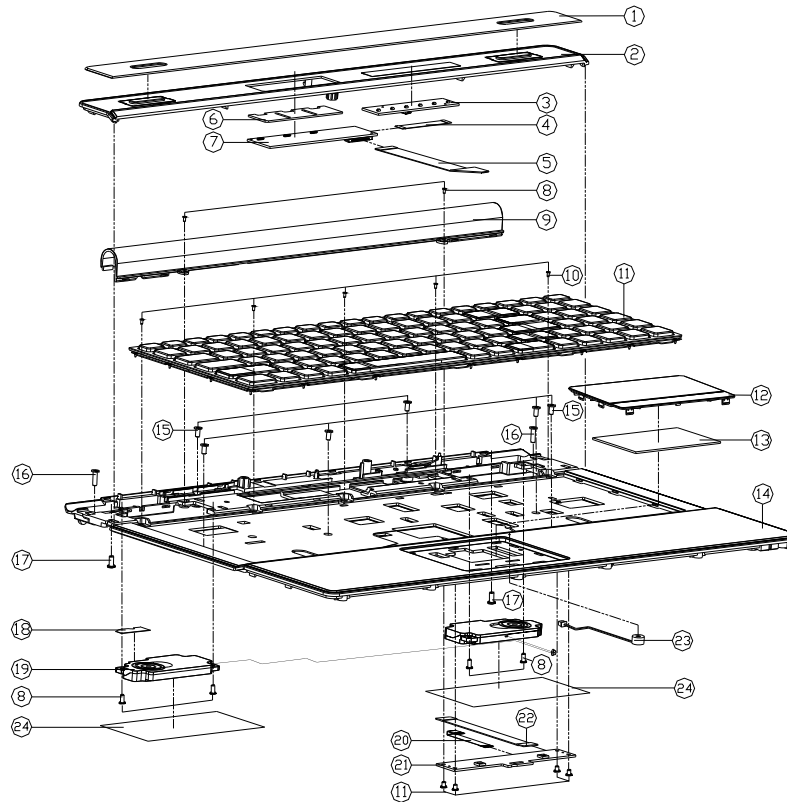


ITEM	PART NAME	PART NO	REMARK
1	PLATE FOR HOTKEY DP1 W860CU	6-42-W8602-042	
2	HOTKEY COVER MODULE DP1 W860CU	6-42-W8602-102	
3	LED BOARD V3.0 W860CU	6-77-W8604-003	
4	PC CASE FOR LED BOARD V3.0 W860CU	6-43-W8600-030	
5	PC CASE FOR LED BOARD V3.0 W860CU	6-43-W8600-041	
6	LED LENS FOR HOT KEY W860CU	6-42-W8602-021	
7	TOUCH SENSOR BOARD V3.0 W860CU	6-77-W8600-003	
8	SCREW M4X1.1 NI ICT NY 13MM PH000 E-10	6-35-C1120-4RB	
9	HINGE COVER PC-HIS CM140 PVT W860CU	6-42-W8602-031	
10	SCREW M2X3.0 KI NI ICT NY	6-35-B1120-3RA	
11	KEY ISLAND FRAME FOR MODULE W860CU	6-79-W86000-013	
12	TOP COVER KEYBOARD COVER DP1 W860CU	6-42-W8602-062	
13	TOUCH PAD TRACKPAD W860CU	6-49-W8412-010	
14	TOP CASE MODULE PVT W860CU	6-39-W8602-011	
15	SCREW M2.5X4.0 KI BRZ ICT NY	6-35-B6125-5R0	
16	SCREW M2.5X4.0 KI BK/Z NY ICT	6-35-B6125-6R0	
17	SCREW M2.5X4.0 KI BK/Z ICT NY	6-35-B4125-4RA	
18	MYLAR 22*9 W860CU	6-40-W8602-050	
19	SPEAKER L/R W860CU	6-23-5W860-012	
20	PC CASE FOR LED BOARD V3.0 W860CU	6-43-W8600-030	
21	PC CASE FOR LED BOARD V3.0 W860CU	6-43-W8600-021	
22	PC CASE FOR LED BOARD V3.0 W860CU	6-43-W8600-021	
23	PC CASE FOR LED BOARD V3.0 W860CU	6-23-EM860-011	
24	AL TBL INNER SPEAKER W860CU	6-40-W8605-031	

Figure A - 1  
Top with  
Fingerprint  
(W860CU)

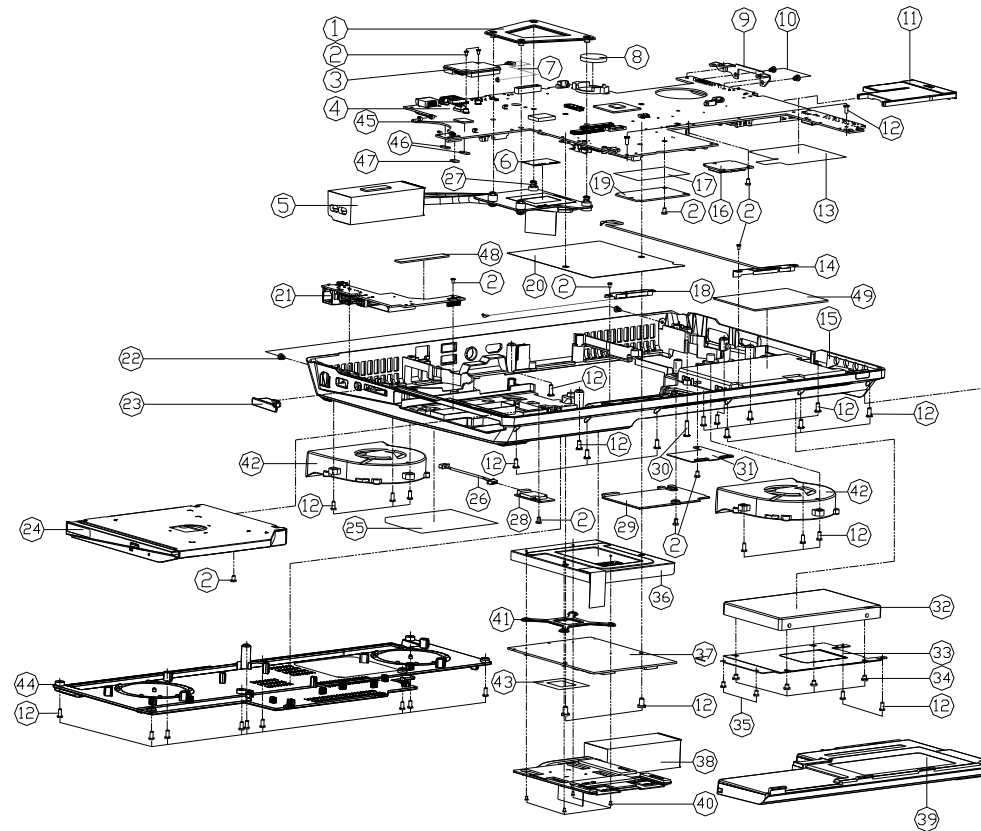
# Top without Fingerprint (W860CU)

Figure A - 2  
Top without Fingerprint (W860CU)



ITEM	PART NAME	PART NO	REMARK
1	PLATE FOR HOTKEY (MP) W860CU	6-42-W8602-042	
2	HOTKEY COVER MIDDLE (MP) W860CU	6-42-W8602-102	
3	LED BOARD V3.0 W860CU	6-77-W8604-003	
4	ITICLET TOP CLIC BOARD V3.0 W860CU	6-43-W8600-030	
5	ITICLET TOP CLIC BOARD V3.0 W860CU	6-43-W8600-041	
6	LED LENS FOR HOT KEY W860CU	6-42-W8602-021	
7	TOUCH SENSOR BOARD V3.0 W860CU	6-77-W8600-003	
8	SCREW M2.5X1.6 Lx CT NY	6-35-C1120-4R8	
9	HINGE COVER PCHAS CHINA W860CU	6-42-W8602-031	
10	SCREW M2.5X1.6 Lx CT NY	6-35-B1120-3RA	
11	1/2 USA W/SLA FRAME GSD MIDDLE W860CU	6-79-W8600K-012	
12	TOP COVER W/O FINGER PLATE CHINA W860CU	6-42-W8602-052	
13	TOUCH PAD TPABLEV999R2 W8401	6-49-W8472-010	
14	TOP CASE MODULE PVT W860CU	6-39-W8602-011	
15	SCREW M2.5X1.6 Lx CT NY	6-35-B6125-5R0	
16	SCREW M2.5X1.6 Lx CT NY	6-35-B6125-8R0	
17	SCREW M2.5X1.6 Lx CT NY	6-35-B4125-4RA	
18	MYLAR 22*9 W860CU	6-40-W8602-050	
19	SPACER L/R W82X1.0 28X5MM W/AM. PRICE	6-23-5W8600-012	
20	ITICLET TOP CLIC BOARD V3.0 W860CU	6-43-W8600-030	
21	CLICK BOARD V3.0 W860CU	6-77-W8602-003	
22	ITICLET TOP CLIC BOARD V3.0 W860CU	6-43-W8600-021	
23	ITICLET TOP CLIC BOARD V3.0 W860CU	6-23-EM860-011	
24	ITICLET TOP CLIC BOARD V3.0 W860CU	6-40-W860S-031	

# Bottom (W860CU)



ITEM	PART NAME	PART NO	REMARK
1	SCREW M2.5X6.0 KI NI ICT NY	6-33-W860S-101	
2	SCREW M2.5X3.0 KI NI ICT NY	6-35-B1120-3RA	
3	SCREW M2.5X3.0 KI NI ICT NY	6-88-L3911-5301	(OPTION)
3	SCREW M2.5X3.0 KI NI ICT NY	6-88-M7651-8111	(OPTION)
4	MAIN BOARD V40 (V15) 3X1700 W860CU	6-77-W8600-104	(OPTION)
4	MAIN BOARD V40 (V15) 3X1700 W860CU	6-77-W8600-104-2	
5	PH. KITCHEN COVER CHD W860CU	6-31-W860N-011	
6	SCREW M2.5X3.0 KI NI ICT NY	6-48-W76C3-010	
7	MOD. CABLE L2P5 MM W860CU	6-43-W860U-011	
8	BATTERY 2V 250MA CREEK (MITSUBISHI)	6-23-62015-607	
9	RVI PORT BRACKET (M/B) SUS 430 W860CU	6-33-W860S-021	
10	SCREW 4-40X5.0 KI NI ACT NY	6-35-B1304-5R0	
11	DUMMY NEW CARD PC-ABS TNSOR	6-42-T12R3-011	
12	SCREW M2.5X6.0 KI NZ ICT NY	6-35-B6125-6RA	
13	NEW CARD HOLDER FOR M/B TNSOR	6-40-T12R3-010	
14	ALUM. PH. TACKLER KIT W860CU	6-23-W860-060	
15	MOTION CASE METAL W860CU	6-39-W8603-012	
16	W/AV. HOUSING W/AV. SHIELD PEAR QTY1	6-88-M7352-4200	(OPTION)
16	W/AV. HOUSING FIBERGLASS (W/AV. SHIELD) HALF M/B	6-88-W76C2-7000	(OPTION)
16	W/AV. HOUSING FIBERGLASS (W/AV. SHIELD) HALF M/B	6-88-W76C2-8700	(OPTION)
17	W/AV. HOUSING FIBERGLASS SOCKET POSITION	6-40-M66NS-040	
18	ALUM. BLU. COV. 2X50 XH 1 3/8 W860CU	6-23-W860-040	
19	W/AV. HOUSING FIBERGLASS (W/AV. SHIELD) HALF M/B	6-88-M610V-8800	(OPTION)
20	W/AV. HOUSING FIBERGLASS (W/AV. SHIELD) HALF M/B	6-40-W860S-011	
21	MULTI I/O BOARD V30A W860CU	6-77-W8601-003A	(OPTION)
22	SCREW M2.5X3.0 KI NI ICT NY	6-35-B6120-6RB	
23	SHOCKING RESISTOR (W/AV. SHIELD) HALF M/B	6-47-M7658-010	
24	SATA DVD SUPER MULTI ASSY OPTICAL W860CU	6-79-W860CU0-000	(OPTION)
24	SATA BLU-RAY COMBO ASSY OPTICAL W860CU	6-79-W860CU0-000	(OPTION)
25	PRODUCT LABEL FOR W860CU	6-45-W8603-010	
25	PRODUCT LABEL FOR W860CU	6-45-W8603-010	
26	ELECTRIC CABLE SP. M/B W860CU	6-43-M65AN-010	
27	SCREW M2.5X3.0 KI NI ICT NY	6-35-41125-9R5	
28	W/AV. HOUSING FIBERGLASS (W/AV. SHIELD) HALF M/B	6-88-M7315-3900	
28	W/AV. HOUSING FIBERGLASS (W/AV. SHIELD) HALF M/B	6-88-M77C5-5300	
29	COVER 3/8" PH. HOUSING W860CU	6-42-W860G-011	
30	SCREW M2.5X6.0 KI NI ICT NY	6-35-B6125-6R0	
31	W/AV. HOUSING FIBERGLASS (W/AV. SHIELD) HALF M/B	6-33-W8601-031	
32	W/AV. HOUSING FIBERGLASS (W/AV. SHIELD) HALF M/B	6-79-W860CU-800	
33	HOOD BRACKET SEC. W/AV. W860CU	6-33-W860J-011	
34	SCREW M2.5X3.0 KI NI ICT NY	6-35-B6130-4RB	
35	SCREW M2.5X3.0 KI NI ICT NY	6-35-C2125-3R0	
36	VIA BOTTOM SHIELDING MIDDLE W860CU	6-33-W8602-102	
37	VIA HOOD SHIELDING MIDDLE W860CU	6-77-M57NL-001-E	
37	VIA HOOD SHIELDING MIDDLE W860CU	6-77-M57NL-001-D	
38	VIA HOOD SHIELDING MIDDLE W860CU	6-31-W860N-023	
39	MULTI I/O BOARD V30A W860CU	6-87-W860S-421	
39	MULTI I/O BOARD V30A W860CU	6-87-W860S-421A	
40	SCREW M2.5X6.0 KI NI ICT NY	6-35-B2116-2R0	
41	VIA SUPPORTER SUS304 W860CU	6-33-W860S-030	
42	FAN MIDDLE W860CU	6-31-W860S-102	
43	VIA HOOD SHIELDING MIDDLE W860CU	6-40-M650S-030	
43	CPU COVER MIDDLE W860CU	6-42-W860S-102	
45	RUBBER O-RING FOR M/B W860CU	6-47-W860S-040	
46	PERSON COVER (M/B) FOR M/B W860CU	6-47-W860S-060	
47	RUBBER (7X21) FOR M/B W860CU	6-47-W860S-030	
48	RUBBER (40X10X3) FOR M/B W860CU	6-47-W860S-050	
49	PERSON COVER (M/B) FOR M/B W860CU	6-47-W8603-020	

Figure A - 3  
Bottom  
(W860CU)

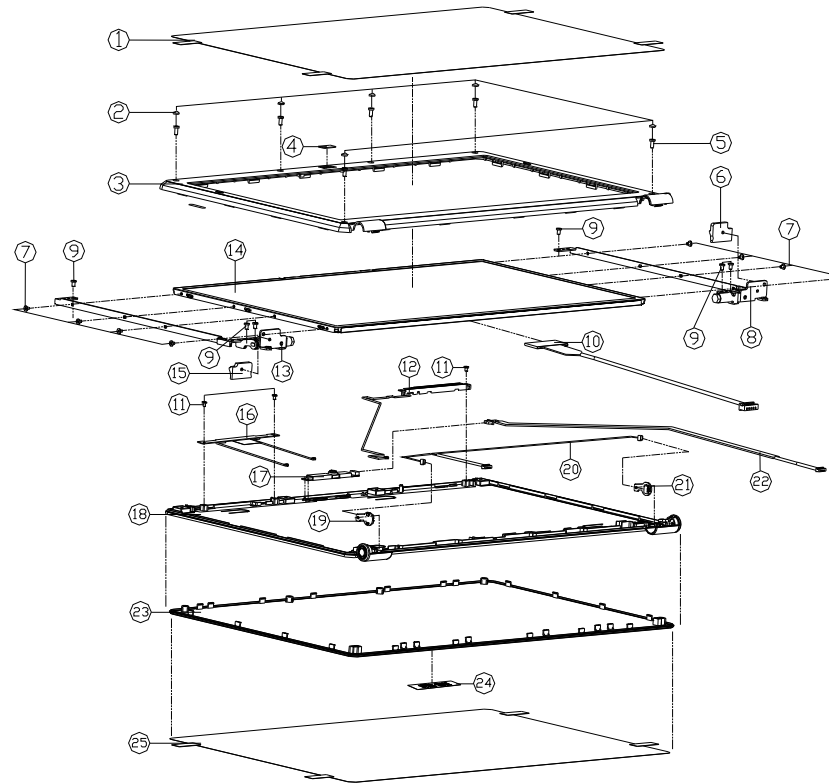
A.Part Lists

Part Lists

# LCD (W860CU)

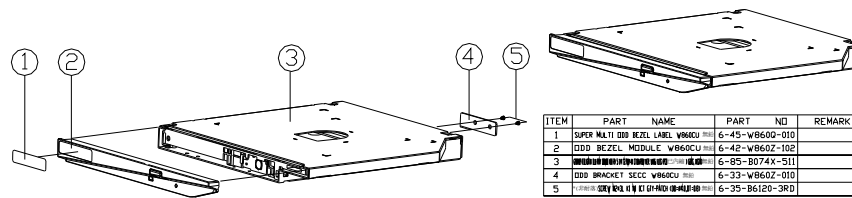
A.Part Lists

Figure A - 4  
LCD  
(W860CU)



ITEM	PART NAME	PART NO	REMARK
1	LED FRAME CASE PROTECT W/ RUBBER FOOT	6-40-W8601-050	
2	FRONT COVER TOP RUBBER SILICONE	6-47-W8601-011	
3	LCD FRONT COVER MODULE	6-39-W8601-011	
4	LCD BEZEL PMMA METAL	6-42-M8101-010	W/ CCD
4	W/D CCD COSMETIC PC METAL	6-42-M8101-020	W/D CCD
5	SCREW M2.5x4.5 K BZ ICT NY	6-35-B8125-6RA	
6	HINGE RUBBER SILICONE 30	6-47-W8601-051	
7	SCREW M2.5x4.5 K BZ ICT NY	6-35-B8120-3RD	
8	LCD HINGE W/ COIL SPRING	6-33-W8601-011	
9	SCREW M2.5x4.5 K BZ ICT NY	6-35-B4125-4RA	
10	LCD CABLE LYSIS FOR HORIZONTAL	6-43-W8601-011	
11	W/ D HINGE W/ COIL SPRING	6-35-B1120-3RD	
12	ANTENNA PCB PIFA 3X	6-23-W860-010	OPTIONAL
13	LCD HINGE L SILICONE 30	6-47-W8601-041	
14	LED BEZEL MOUNTING PLATE THE LED SIDE	6-50-L8157-G00	
14	LED BEZEL MOUNTING PLATE THE LED SIDE	6-50-L8155-G00	
14	LED BEZEL MOUNTING PLATE THE LED SIDE	6-50-L8152-D01	
14	LED BEZEL MOUNTING PLATE THE LED SIDE	6-50-L8155-V01	
15	HINGE RUBBER L SILICONE 30	6-47-W8601-041	
16	W/ D HINGE W/ COIL SPRING	6-35-B1120-3RD	
17	LCD CABLE BEZEL FOR HORIZONTAL	6-88-M740C-4913	
18	LCD FRAME MODULE	6-42-W8601-101	
19	LEFT-LED BOARD	6-77-W8605-D02	
20	BUTTON BOARD CABLE 3P	6-43-W8600-011	
21	POWER BUTTON BOARD	6-77-W8605-D03	
22	CABLE CCD TOP	6-43-W8601-011	
23	LCD BACK COVER MODULE	6-39-W8601-021	
23	LCD BACK COVER CABLE M2.5	A6-39-W8601-01A	
24	SPRING	6-45-M7415-020	
25	LCD BACK CASE PROTECT W/ RUBBER FOOT	6-40-W8601-031	

# COMBO (W860CU)

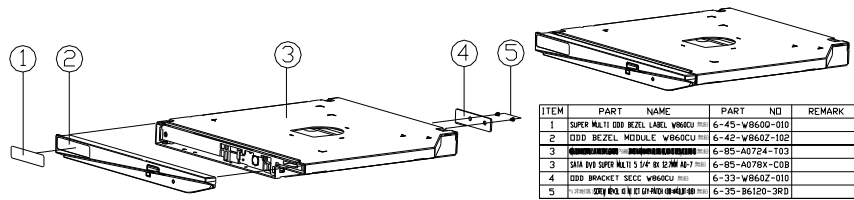


ITEM	PART NAME	PART NO	REMARK
1	SUPER MULTI DVD BEZEL LABEL W860CU	6-45-W8600-010	
2	DVD BEZEL MODULE W860CU	6-42-W8602-102	
3	COMBO DRIVE MODULE W860CU	6-35-B0741-511	
4	DVD BRACKET SECC W860CU	6-33-W8602-010	
5	SCREW TORX T8 X 1.5 (PH) W860CU	6-35-B6120-3RD	

Figure A - 5  
COMBO  
(W860CU)

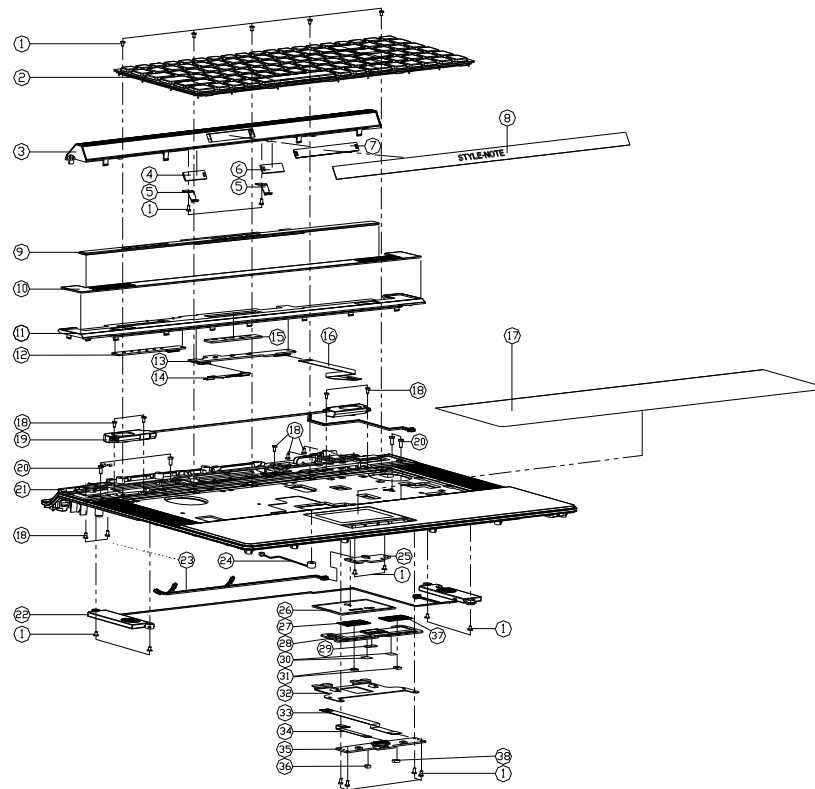
## DVD-Dual Drive (W860CU)

Figure A - 6  
DVD-Dual Drive  
(W860CU)



ITEM	PART NAME	PART NO	REMARK
1	SUPER MULTI DVD BEZEL LABEL W860CU	6-45-W8600-010	
2	DVD BEZEL MODULE W860CU	6-42-W8602-102	
3	SUPER MULTI DVD TRAY W860CU	6-95-AD724-103	
4	DVD BRACKET SECC W860CU	6-85-AD78X-C08	
5	DVD BRACKET SECC W860CU	6-33-W8602-010	

# Top with Fingerprint (W870CU)



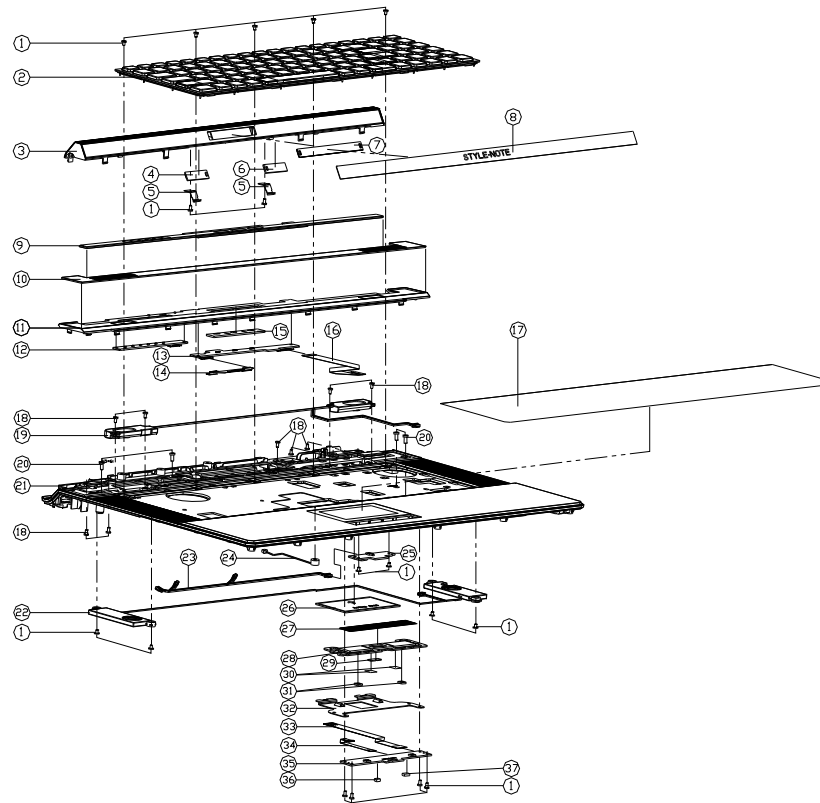
ITEM	PART NAME	PART NO	REMARK
1	SCREW M2*3L KI NI ICT NY	6-35-B1120-3RA	
2	K/F UCR/SLA FRAME GRD MIDDLE W870CU	6-79-M90NUOK-190	
3	HINGE COVER MODULE W870CU	6-42-W8702-301	
4	RIGHT-LOGO BOARD V3.0 W870CU	6-77-W8703-D03	
5	LOGO BOARD BRACKET SECC W870CU	6-33-W8705-010	
6	LEFT-LOGO BOARD V3.0 W870CU	6-77-W8705-D03	
7	LOGO LIGHT GATE PLATE W870CU	6-42-W8702-0C1	
8	LOGO PLATE STYLE-NOTE K01L03088 W870CU	6-40-W8702-0B0	
9	LOGO PLATE W/LAR-14688 W870CU	6-40-W8702-080-W	
9	TOP COVER ACRYLIC W870CU	6-42-W8702-011	
10	TOP COVER SUS430 W870CU	6-33-W8702-041	
11	TOP COVER MODULE W870CU	6-42-W8702-101	
12	LED BOARD V2.0A W870CU	6-77-W8704-B02A	
13	TOUCH SENSOR BOARD V3.0 W870CU	6-77-W8703-D03	
14	FTC CABLE FOR LENS BOARD W870CU	6-43-W8702-041	
15	HOT KEY LENS ACRYLIC W870CU	6-42-W8702-070	
16	FTC CABLE ZUPIN FOR HOTKEY W870CU	6-43-W8702-011	
17	TOP CASE PROTECT M/LAR/ET-38953 W870CU	6-40-W8702-061	
18	SCREW M2*4L KI BZ ICT NY	6-35-B6120-4RA	
19	SPR CABLE 20x 41 1908084-3 VCC W870CU	6-23-5W870-021	
20	SCREW M2.5*6L K BZ ICT NY	6-35-B2125-6RA	
21	TOP CASE MIDDLE W870CU	6-39-W8702-011	
22	SPR CABLE 18 2x 41 1908084-4 VCC W870CU	6-23-5W870-011	
23	CABLE FOR POWER BUTTON W870CU	6-43-W8700-011	
24	MIC CABLE L-1799M W870CU	6-43-W8705-011	
25	POWER BUTTON BOARD V2.0A W870CU	6-77-W8703-D02A	
26	TOUCH PAD TPABUCV4999M W8401	6-49-W84T2-010	
27	FINGER BUTTON SUS304 L W870CU	6-33-W8702-031	
28	CLICK BUTTON FINGERPRINT ORIGIN TYPE W870CU	6-42-W8702-081	
29	RUBBER GASKET W/SAL/BRN/SHY ORNG W870CU	6-47-W8702-040	
30	CLICK BUTTON W/LAR W870CU	6-40-W8702-090	
31	PRONG FOR CLICK BUTTON W8705	6-47-W7652-010	
32	TP BRACKET SECC W870CU	6-33-W8702-011	
33	FTC CABLE FOR CLICK BOARD W870CU	6-43-W8700-021	
34	FTC CABLE FOR LED BOARD W870CU	6-43-M8600-030	
35	CLICK BUTTON FINGERPRINT BRN/SHY ORNG W870CU	6-77-W860A-N02	
36	RUBBER GASKET W/SAL/BRN/SHY ORNG W870CU	6-47-W8702-030	
37	FINGER BUTTON SUS304 R W870CU	6-33-W8702-021	
38	RUBBER 85*45*15 *SHY 6900 W870CU	6-47-W8702-020	

Figure A - 7  
Top with Fingerprint (W870CU)

A.Part Lists

# Top without Fingerprint (W870CU)

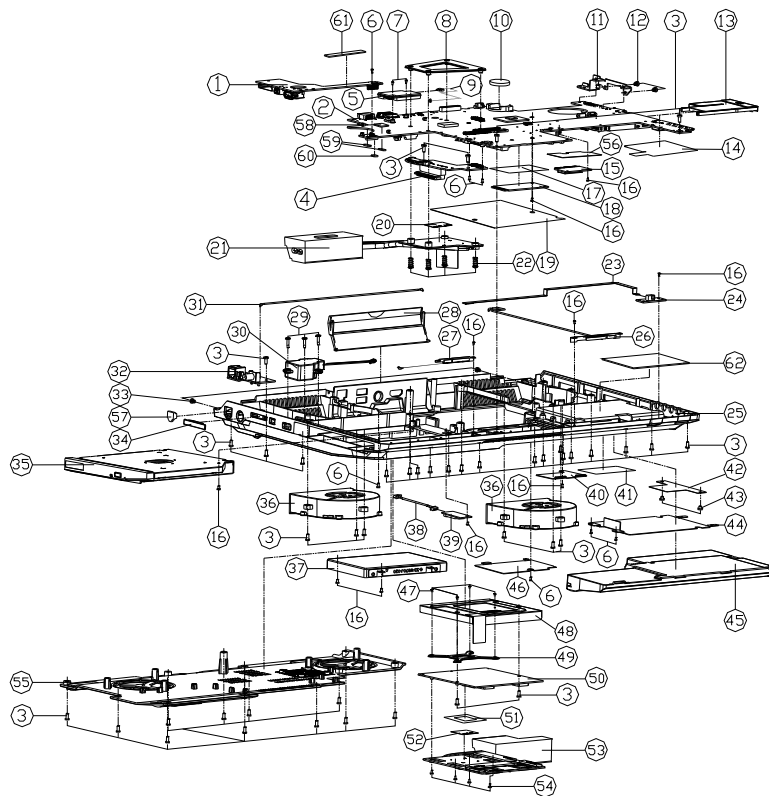
Figure A - 8  
Top without Fingerprint (W870CU)



ITEM	PART NAME	PART NO	REMARK
1	SCREW M2X3L KI NI ICT NY	6-35-B1120-38A	
2	K/E BRACKET FRAME ORK MODLE W870CU	6-79-M980L0K-190	
3	HINGE COVER MODULE W870CU	6-42-W8702-301	
4	RIGHT-LOGO BOARD V3.0 W870CU	6-77-W8703-D03	
5	LOGO BOARD BRACKET SECC W870CU	6-33-W8705-010	
6	LEFT-LOGO BOARD V2.0A W870CU	6-77-W8705-D02A	
7	LOGO LIGHT GUIDE PLATE PC W870CU	6-42-W8702-0C1	
8	LOGO PLATE (STYLE-NEW) ACRYLIC W870CU	6-40-W8702-0B0	
9	TOP COVER ACRYLIC W870CU	6-42-W8702-011	
10	TOP COVER SUS430 W870CU	6-33-W8702-041	
11	TOP COVER MODULE W870CU	6-42-W8702-101	
12	LED BOARD V2.0A W870CU	6-77-W8704-D02A	
13	TOUCH SENSOR BOARD V3.0 W870CU	6-77-W870C-D03	
14	FTT CABLE FOR LENS BOARD (SPIN) W870CU	6-43-W8700-041	
15	HOT KEY LENS ACRYLIC W870CU	6-42-W8702-070	
16	FTT CABLE (SPIN) FOR HOTKEY W870CU	6-43-W8707-011	
17	TOP CASE PROJECT INLAY (NEW) W870CU	6-40-W8702-061	
18	SCREW M2X4L KI BZ ICT NY	6-35-B6120-48A	
19	SPR CABLE (NEW) 4P (PROXIMITY) (NEW) W870CU	6-23-5W870-02A	
20	SCREW M2.5X4L X BZ ICT NY	6-35-62125-68A	
21	TOP CASE MODULE W870CU	6-39-W8702-011	
22	SPR CABLE (NEW) 4P (PROXIMITY) (NEW) W870CU	6-23-5W870-011	
23	CABLE FOR FINGER PRINT (NEW) (NEW) W870CU	6-43-W8700-011	
24	MIC CABLE L=179MM W870CU	6-43-W8705-011	
25	POWER BUTTON BOARD V2.0A W870CU	6-77-W870C-D02A	
26	TOUCH PAD (PARALLEL) W840T	6-49-W8412-010	
27	CLICK BUTTON SUS304 W870CU	6-33-W8702-051	
28	CLICK BUTTON (W/ FINGERPRINT) COLOR (NEW) W870CU	6-42-W8702-001	
29	RUBBER (H450) (NEW) (NEW) (NEW) W870CU	6-47-W8702-040	
30	CLICK BUTTON MYLAR W870CU	6-40-W8702-090	
31	PORON FOR CLICK BUTTON W7655	6-47-W7652-010	
32	TP BRACKET SECC W870CU	6-33-W8702-011	
33	FTT CABLE FOR CLICK BOARD (SPIN) W870CU	6-43-W8700-021	
34	FTT CABLE FOR CLICK BOARD (NEW) (NEW) W870CU	6-43-M6600-030	
35	CLICK BOARD V3.0 W860CU	6-77-W8602-D03	
36	RUBBER (H510) (NEW) (NEW) (NEW) W870CU	6-47-W8702-030	
37	RUBBER (H545) (NEW) (NEW) W870CU	6-47-W8702-020	



# Bottom (W870CU)



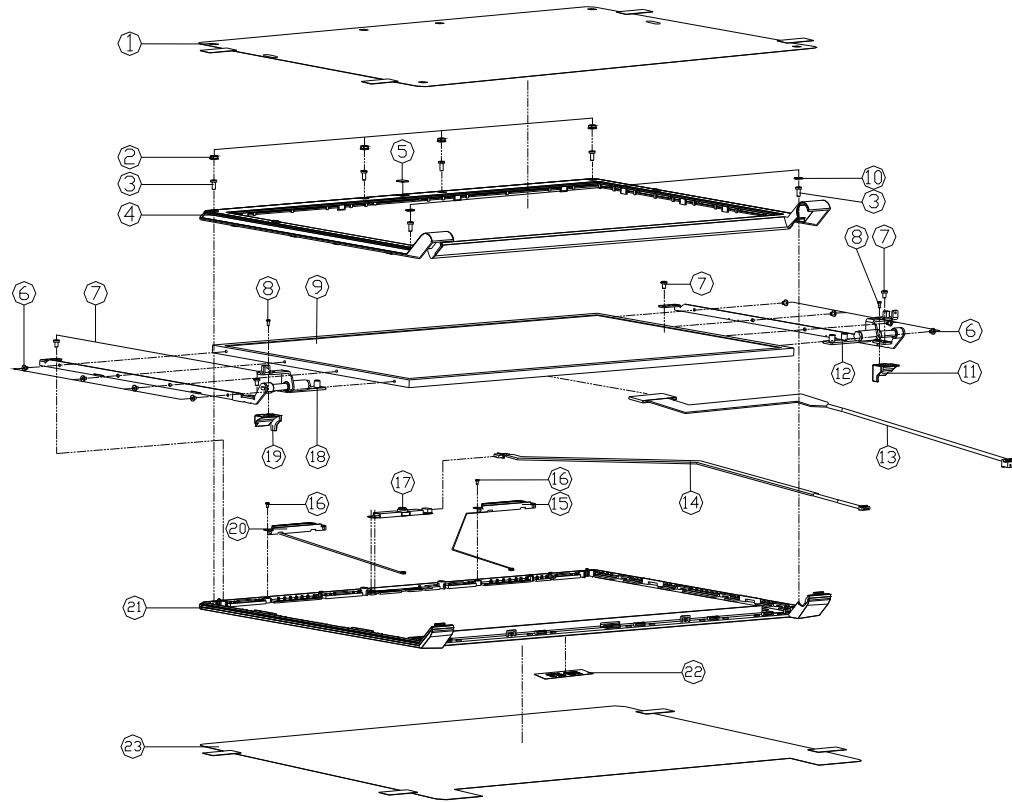
ITEM	PART NAME	PART NO.	REMARK
1	MULTI I/O BOARD V2.0A W870CU	6-77-W8701-000A	
2	MAIN BOARD V1.0A W870CU	6-77-W8700-00A	
3	SCREW M3X4.5 RZ ICT NY	6-35-B2125-00A	
4	SATA HD & DVD BOARD V2.0 W870CU	6-77-W8704-002	(OPT ION)
5	REAR I/O BOARD V1.0 W870CU	6-88-L3911-5301	(OPT ION)
6	SCREW M3X4.5 RZ ICT NY	6-88-W7651-8111	(OPT ION)
7	SCREW M3X4.5 RZ ICT NY	6-35-B9120-00A	
8	GPU SUPPORTER MODULE V1.0 W870CU	6-33-W8605-101	
9	MOUSE CABLE L=320MM W870CU	6-43-W8700-010	
10	BATTERY 2V 200mAh DISC (REVERSE)	6-23-62015-607	
11	DVI BRACKET FOR DVI W870CU	6-33-W8705-021	
12	SCREW M4X4.5 RZ ICT NY	6-35-B1204-000	
13	DUMMY NEW CARD PCB ASSY TRAY	6-42-T12R3-011	
14	NEW CARD HOLDER FOR NEW BOARD	6-40-T12R3-010	
15	NEW BOARD SHIELD SHEET FOR OPT	6-88-W7352-4200	(OPT ION)
16	NEW BOARD SHIELD SHEET FOR OPT	6-88-W7622-7000	(OPT ION)
17	SCREW M3X4.5 RZ ICT NY	6-35-B1120-00A	
18	NEW BOARD SHIELD SHEET FOR OPT	6-40-M66N5-040	
19	SCREW M3X4.5 RZ ICT NY	6-88-D90F7-6501	(OPT ION)
20	NEW BOARD SHIELD SHEET FOR OPT	6-40-W8605-011	
21	NEW BOARD SHIELD SHEET FOR OPT	6-48-W76C3-010	
22	NEW BOARD SHIELD SHEET FOR OPT	6-31-W870N-101	(OPT ION)
23	NEW BOARD SHIELD SHEET FOR OPT	6-35-4125-3825	
24	NEW BOARD SHIELD SHEET FOR OPT	6-43-W8700-030	
25	NEW BOARD SHIELD SHEET FOR OPT	6-77-W870H-002	
26	NEW BOARD SHIELD SHEET FOR OPT	6-39-W8703-011	
27	NEW BOARD SHIELD SHEET FOR OPT	6-23-W870-060	
28	NEW BOARD SHIELD SHEET FOR OPT	6-23-W870-040	
29	NEW BOARD SHIELD SHEET FOR OPT	6-42-W8703-011	
30	NEW BOARD SHIELD SHEET FOR OPT	6-35-Z0220-000	
31	NEW BOARD SHIELD SHEET FOR OPT	6-23-W870-030	
32	NEW BOARD SHIELD SHEET FOR OPT	6-43-W8703-010	
33	NEW BOARD SHIELD SHEET FOR OPT	6-77-W8700-003	
34	NEW BOARD SHIELD SHEET FOR OPT	6-35-B6120-60B	
35	NEW BOARD SHIELD SHEET FOR OPT	6-47-W7658-010	
36	NEW BOARD SHIELD SHEET FOR OPT	6-79-W8700-000	(OPT ION)
37	NEW BOARD SHIELD SHEET FOR OPT	6-79-W8700-000	(OPT ION)
38	NEW BOARD SHIELD SHEET FOR OPT	6-31-W8705-101	
39	NEW BOARD SHIELD SHEET FOR OPT	6-79-W8700-000	
40	NEW BOARD SHIELD SHEET FOR OPT	6-88-W7352-4200	(OPT ION)
41	NEW BOARD SHIELD SHEET FOR OPT	6-88-W7375-3900	(OPT ION)
42	NEW BOARD SHIELD SHEET FOR OPT	6-33-W8601-031	
43	NEW BOARD SHIELD SHEET FOR OPT	6-45-W8703-010	
44	NEW BOARD SHIELD SHEET FOR OPT	6-40-W870J-010	
45	NEW BOARD SHIELD SHEET FOR OPT	6-33-W870J-101	
46	NEW BOARD SHIELD SHEET FOR OPT	6-87-W8705-421	
47	NEW BOARD SHIELD SHEET FOR OPT	6-87-W8705-421A	
48	NEW BOARD SHIELD SHEET FOR OPT	6-35-B2116-000	
49	NEW BOARD SHIELD SHEET FOR OPT	6-35-B2116-000	
50	NEW BOARD SHIELD SHEET FOR OPT	6-33-W8602-102	
51	NEW BOARD SHIELD SHEET FOR OPT	6-33-W8605-030	
52	NEW BOARD SHIELD SHEET FOR OPT	6-37-W870-101-4	
53	NEW BOARD SHIELD SHEET FOR OPT	6-40-M66N5-080	
54	NEW BOARD SHIELD SHEET FOR OPT	6-47-W8608-020	
55	NEW BOARD SHIELD SHEET FOR OPT	6-31-W870N-201	
56	NEW BOARD SHIELD SHEET FOR OPT	6-35-B2116-000	
57	NEW BOARD SHIELD SHEET FOR OPT	6-42-W8705-101	
58	NEW BOARD SHIELD SHEET FOR OPT	6-40-W8605-050	
59	NEW BOARD SHIELD SHEET FOR OPT	6-47-W725U-010	
60	NEW BOARD SHIELD SHEET FOR OPT	6-47-W8605-040	
61	NEW BOARD SHIELD SHEET FOR OPT	6-47-W8605-060	
62	NEW BOARD SHIELD SHEET FOR OPT	6-47-W8605-020	

Figure A - 9  
Bottom  
(W870CU)

A.Part Lists

# LCD (W870CU)

Figure A - 10  
LCD  
(W870CU)



ITEM	PART NAME	PART NO	REMARK
1	FRONT CASE NYLAR FOR W870CU	6-40-W8701-020	
2	RUBBER CHAMFER SILICON FRONT W870CU	6-47-W8701-010	
3	SCREW M2.5x4L KI BZ ICT NY	6-35-B0125-6RA	
4	LCD FRONT COVER MODULE W870CU	6-39-W8701-011	
5	CCD-LENS FOR W870CU	6-42-W8701-011	W/ CCD
5	W/D CCD LENS FOR W870CU	6-42-W8701-021	W/D CCD
6	SCREW M2.5x4L KI BZ ICT NY	6-35-B0125-6RA	
7	SCREW M2.5x4L KI BK/D ICT NY	6-35-B4125-4RA	
8	SCREW M2.5x4L KI BZ ICT NY	6-35-B6125-4RA	
9	LCD I/F FIBER OPTIC W/ GLARE TPO	6-50-NA160-C00	
9	LCD I/F FIBER OPTIC W/ GLARE TPO	6-50-NB258-N00	
9	LCD I/F FIBER OPTIC W/ GLARE TPO	6-50-NA158-D00	
10	RUBBER CHAMFER SILICON FRONT W870CU	6-47-W8701-041	
11	COVER FOR HOLE & SINK CHAMFER W870CU	6-42-W8701-051	
12	LCD HINGE R (SECC-SKT) FOR W870CU	6-33-W8701-011	
13	CABLE CCD LVDS L-260MM W870CU	6-43-W8701-011	
14	CABLE CCD SP L-520MM W870CU	6-43-W8701-021	
15	ARMOR PLA 24X25X3.5 PPA 90 50MM W870CU	6-23-7W870-020	
16	COVER FOR HOLE & SINK CHAMFER W870CU	6-35-B1120-3RD	
17	AVC CAMERA MOUNT FOR 808047-00 ON W870CU	6-88-M740C-4913	(OPTION)
18	LCD HINGE L (SECC-SKT) FOR W870CU	6-33-W8701-021	
19	COVER FOR HOLE & SINK CHAMFER W870CU	6-42-W8701-041	
20	ARMOR PLA 24X25X3.5 PPA 90 50MM W870CU	6-23-7W870-030	
21	LCD BACK COVER MODULE W870CU	6-39-W8701-021	
22	PLA W870CU	6-43-M7413-020	
23	BACK CASE NYLAR FOR W870CU	6-40-W8701-010	

## 2nd HDD (W870CU)

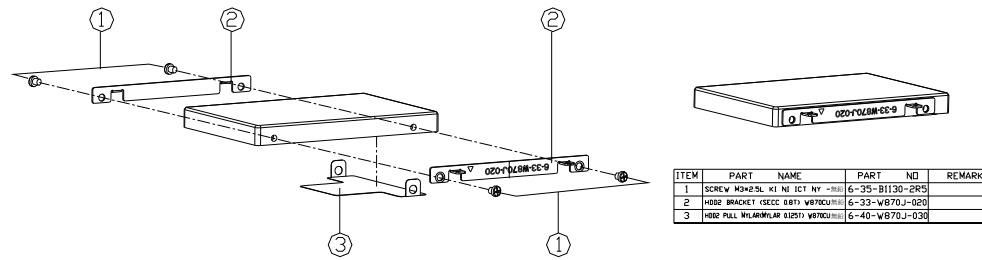
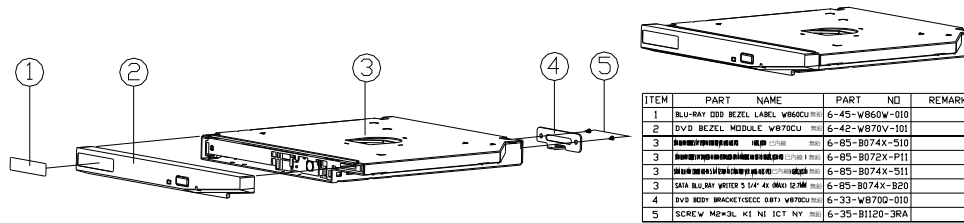


Figure A - 11  
2nd HDD  
(W870CU)

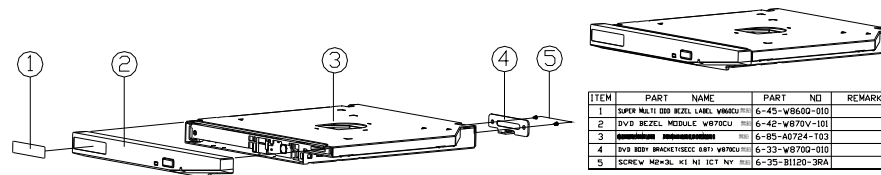
# COMBO (W870CU)

Figure A - 12  
COMBO  
(W870CU)



ITEM	PART	NAME	PART	NO	REMARK
1	BLU-RAY DVD BEZEL LABEL	W860CU	6-45-W860W-010		
2	DVD BEZEL MODULE	W870CU	6-42-W870V-101		
3	SATA BLU-RAY WRITER	5 1/4" 4X 0.6MM 12.5MM	6-85-B074X-S10		
3	DVD BODY BRACKET	0.8MM 0.8MM 12.5MM	6-85-B072X-P11		
3	BLU-RAY DVD BEZEL LABEL	W860CU	6-45-W860W-010		
3	SATA BLU-RAY WRITER	5 1/4" 4X 0.6MM 12.5MM	6-85-B074X-S11		
3	SATA BLU-RAY WRITER	5 1/4" 4X 0.6MM 12.5MM	6-85-B074X-B20		
4	DVD BODY BRACKET	0.8MM 0.8MM 12.5MM	6-33-W870Q-010		
5	SCREW	M2*3L K1 NI 1CT NY	6-35-B1120-3RA		

# DVD-Dual Drive (W870CU)



ITEM	PART NAME	PART NO	REMARK
1	SPINER NUT, DVD BEZEL, LARG. V8600	6-45-W8600-010	
2	DVD BEZEL, MODULE, W870CU	6-42-W870V-101	
3	DVD BEZEL, W870CU	6-85-A0724-103	
4	DVD BEZEL BRACKET, SEC. BRKT, W870CU	6-33-W8700-010	
5	SCREW, M4X3L, KI, NI, 1CT, NY	6-25-B1120-3RA	

Figure A - 13  
DVD-Dual Drive  
(W870CU)

A.Part Lists



# Appendix B: Schematic Diagrams

This appendix has circuit diagrams of the *W860CU/W870CU* 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>Clock Generator - Page B - 21</i>	<i>Power VCore - Page B - 40</i>
<i>Processor 1/7 - Page B - 3</i>	<i>Panel, Inverter - Page B - 22</i>	<i>AC_In, Charger - Page B - 41</i>
<i>Processor 2/7 - Page B - 4</i>	<i>DVI - Page B - 23</i>	<i>USB 3.0 - Page B - 42</i>
<i>Processor 3/7 - Page B - 5</i>	<i>HDMI - Page B - 24</i>	<i>Power Button Board - Page B - 43</i>
<i>Processor 4/7 - Page B - 6</i>	<i>MXM PCI-E - Page B - 25</i>	<i>LED Board - Page B - 44</i>
<i>Processor 5/7 - Page B - 7</i>	<i>EC-IT8502E - Page B - 26</i>	<i>Multi I/O Board - Page B - 45</i>
<i>Processor 6/7 - Page B - 8</i>	<i>USB, eSATA, New Card - Page B - 27</i>	<i>Touch Sensor Board - Page B - 46</i>
<i>Processor 7/7 - Page B - 9</i>	<i>Mini Card - Page B - 28</i>	<i>Left-LED Board - Page B - 47</i>
<i>DDRIII SO-DIMM_0 - Page B - 10</i>	<i>BT, TPM, MDC, LID - Page B - 29</i>	<i>Fingerprint Board - Page B - 48</i>
<i>DDRIII SO-DIMM_1 - Page B - 11</i>	<i>LAN, RTL8111L, RJ45 - Page B - 30</i>	<i>Click Board - Page B - 49</i>
<i>IBEXPEAK - M 1/9 - Page B - 12</i>	<i>Fan, CCD, LED, Screw Hole - Page B - 31</i>	<i>W870CU Second HDD Board - Page B - 50</i>
<i>IBEXPEAK - M 2/9 - Page B - 13</i>	<i>Azalia Codec ALC888 - Page B - 32</i>	<i>W870CU Multi I/O Board - Page B - 51</i>
<i>IBEXPEAK - M 3/9 - Page B - 14</i>	<i>SRS-AP8202, SATA ODD &amp; HDD - Page B - 33</i>	<i>W870CU CIR Board - Page B - 52</i>
<i>IBEXPEAK - M 4/9 - Page B - 15</i>	<i>AMP-TPA6017, Subwoofer - Page B - 34</i>	<i>W870CU LED Board - Page B - 53</i>
<i>IBEXPEAK - M 5/9 - Page B - 16</i>	<i>5V, 3.3V, 3.3VS, 5VS, 1.5VS - Page B - 35</i>	<i>W870CU RJ11 &amp; TV Board - Page B - 54</i>
<i>IBEXPEAK - M 6/9 - Page B - 17</i>	<i>VDD3, VDD5 - Page B - 36</i>	<i>W870CU Power Button Board - Page B - 55</i>
<i>IBEXPEAK - M 7/9 - Page B - 18</i>	<i>Power 1.8VS, 1.IVS - Page B - 37</i>	<i>W870CU Right-Logo Board - Page B - 56</i>
<i>IBEXPEAK - M 8/9 - Page B - 19</i>	<i>Power 1.5V/0.75V - Page B - 38</i>	<i>W870CU Left-Logo Board - Page B - 57</i>
<i>IBEXPEAK - M 9/9 - Page B - 20</i>	<i>Power 1.IVS_VTT - Page B - 39</i>	<i>W870CU Touch Sensor Board - Page B - 58</i>

*Table B - 1*  
**Schematic  
Diagrams**

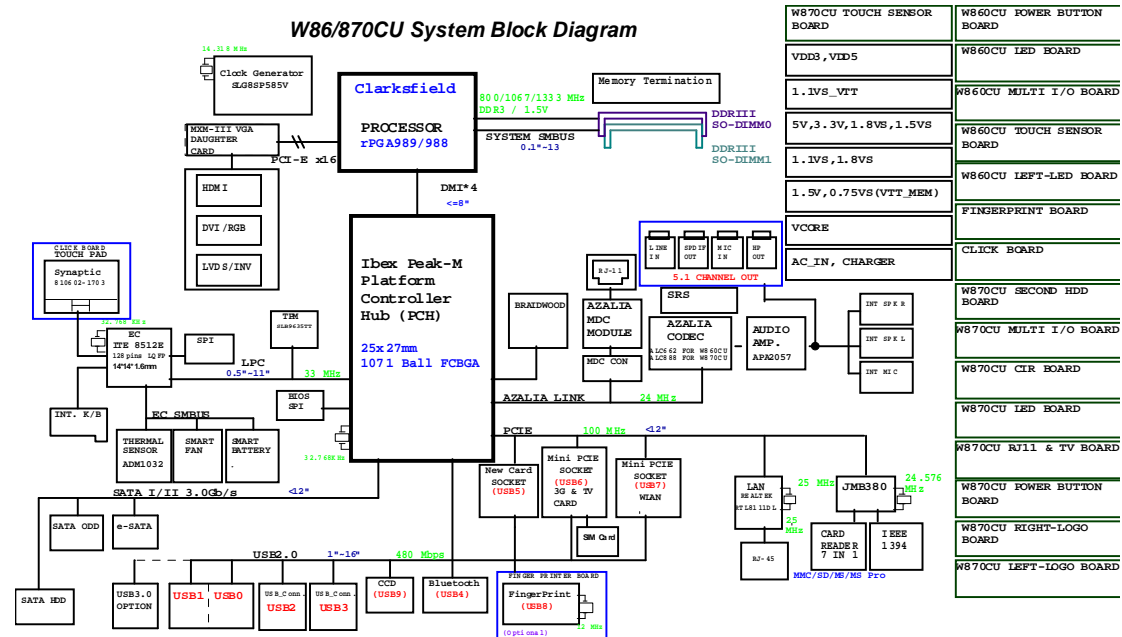


### Version Note

The schematic diagrams in this chapter are based upon version 6-7P-W860H-007. If your mainboard (or other boards) are a later version, please check with the Service Center for updated diagrams (if required).

# System Block Diagram

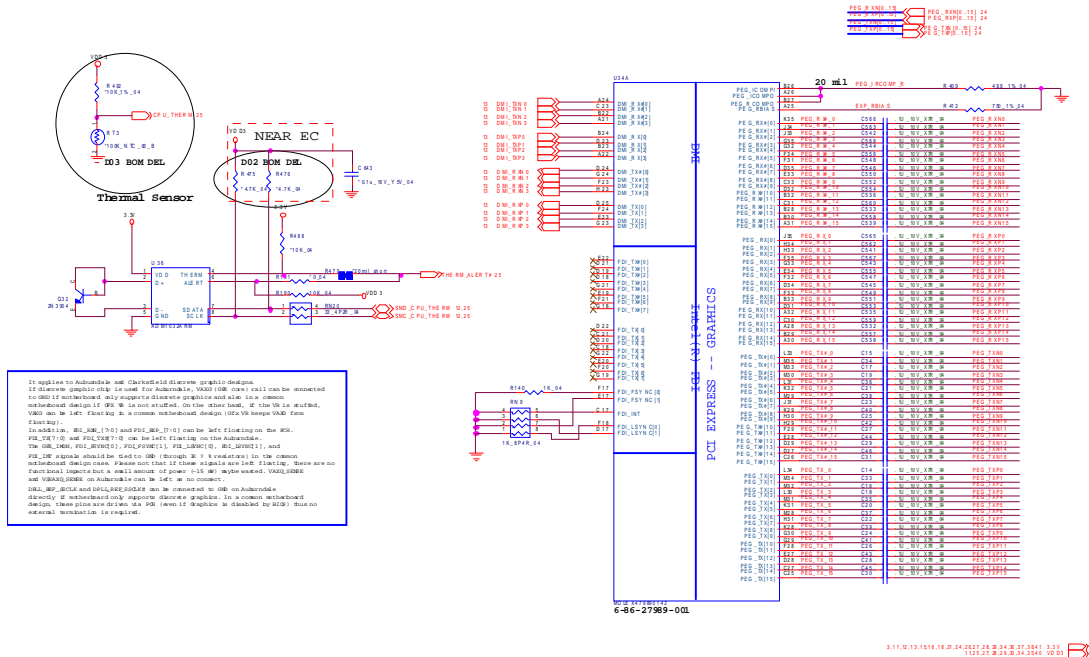
Sheet 1 of 57  
System Block  
Diagram





# Processor 1/7

## PROCESSOR 1/7 (DMI, PEG, FDI)

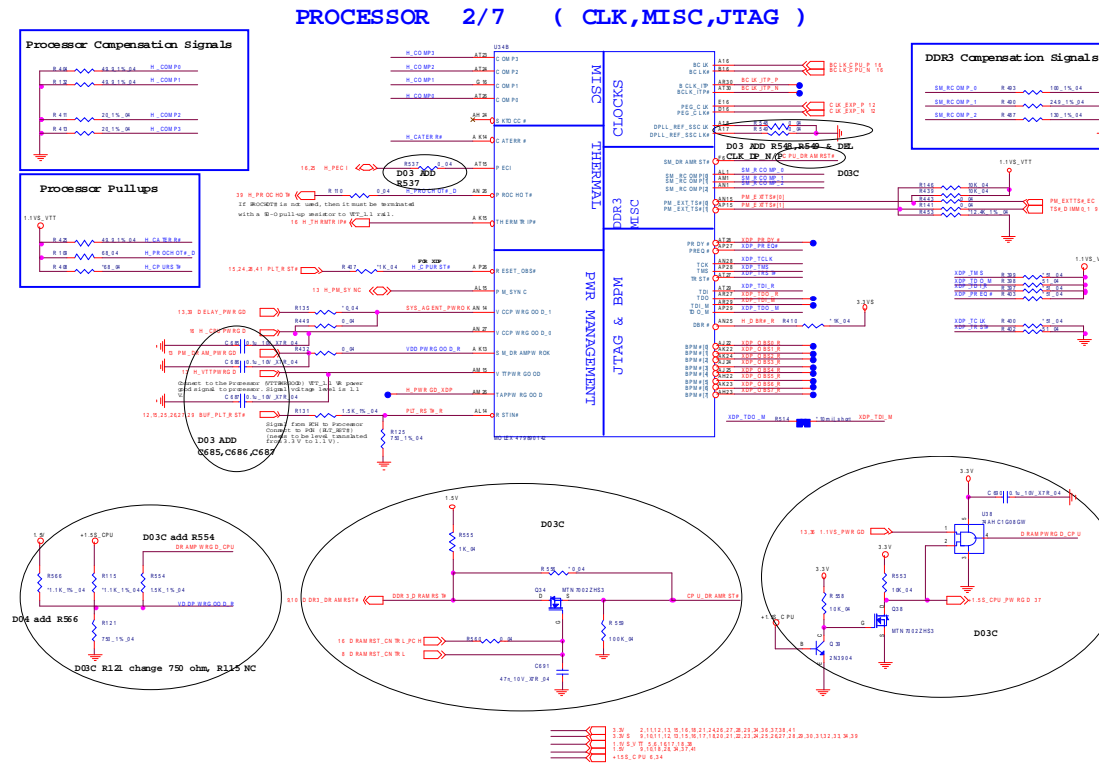


Sheet 2 of 57  
Processor 1/7

B. Schematic Diagrams

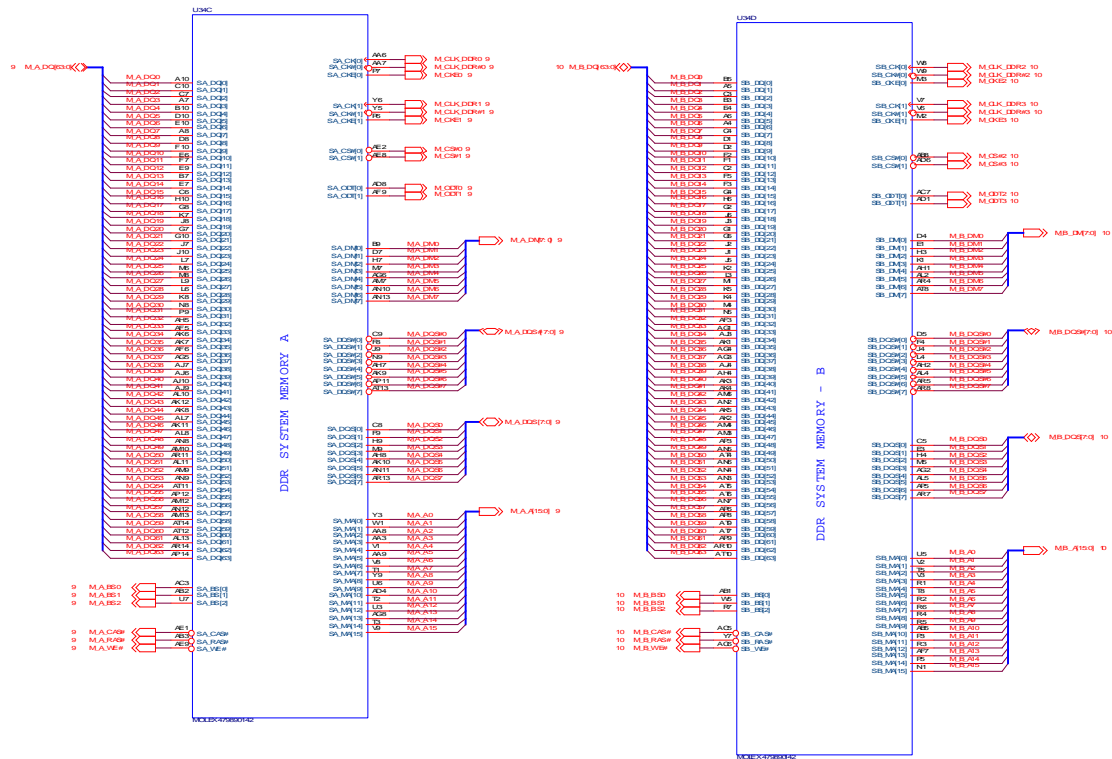
# Processor 2/7

Sheet 3 of 57  
Processor 2/7



# Processor 3/7

## PROCESSOR 3/7 (DDR3)



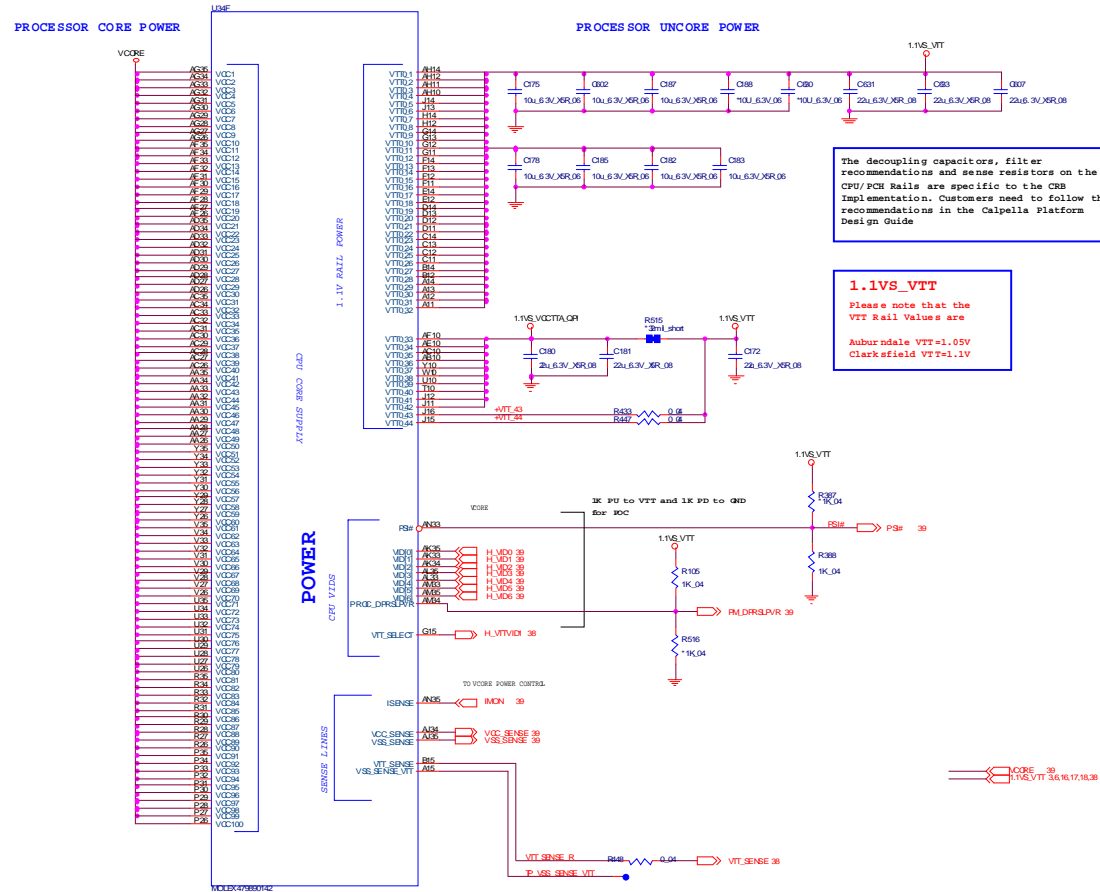
Sheet 4 of 57  
Processor 3/7

B. Schematic Diagrams

# Processor 4/7

Sheet 5 of 57  
Processor 4/7

## PROCESSOR 4/7 ( POWER )

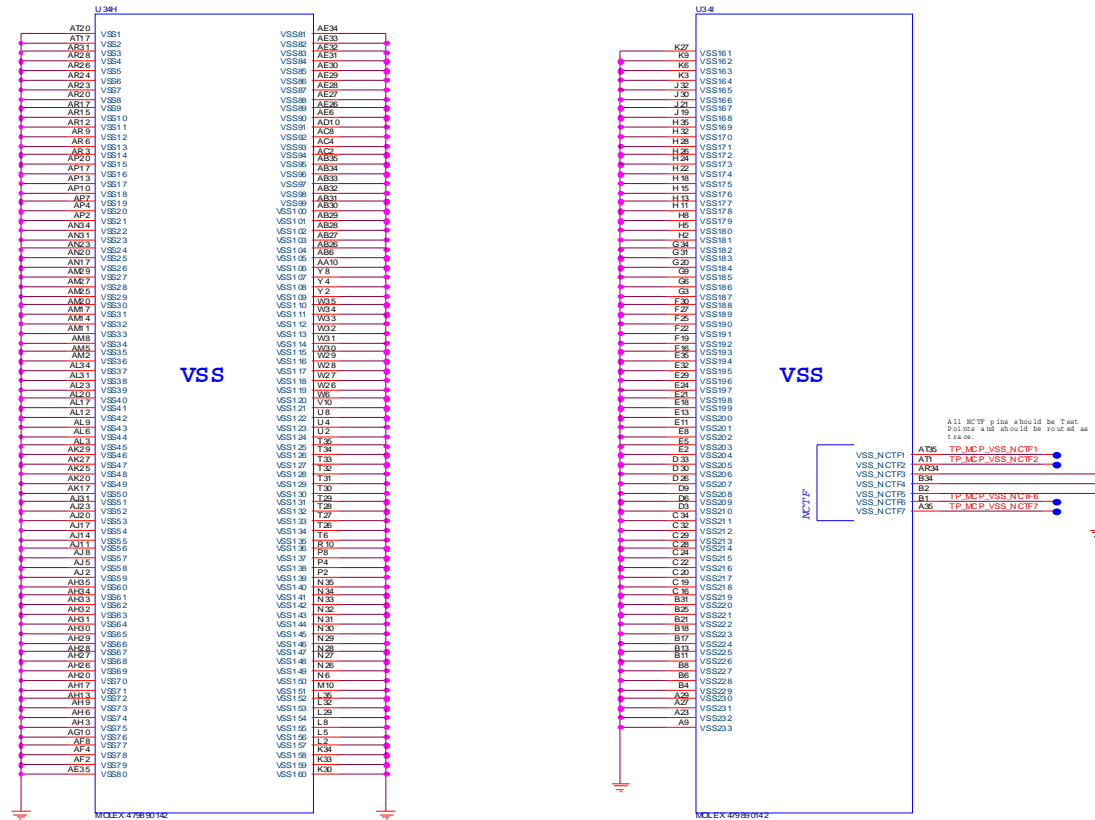




# Processor 6/7

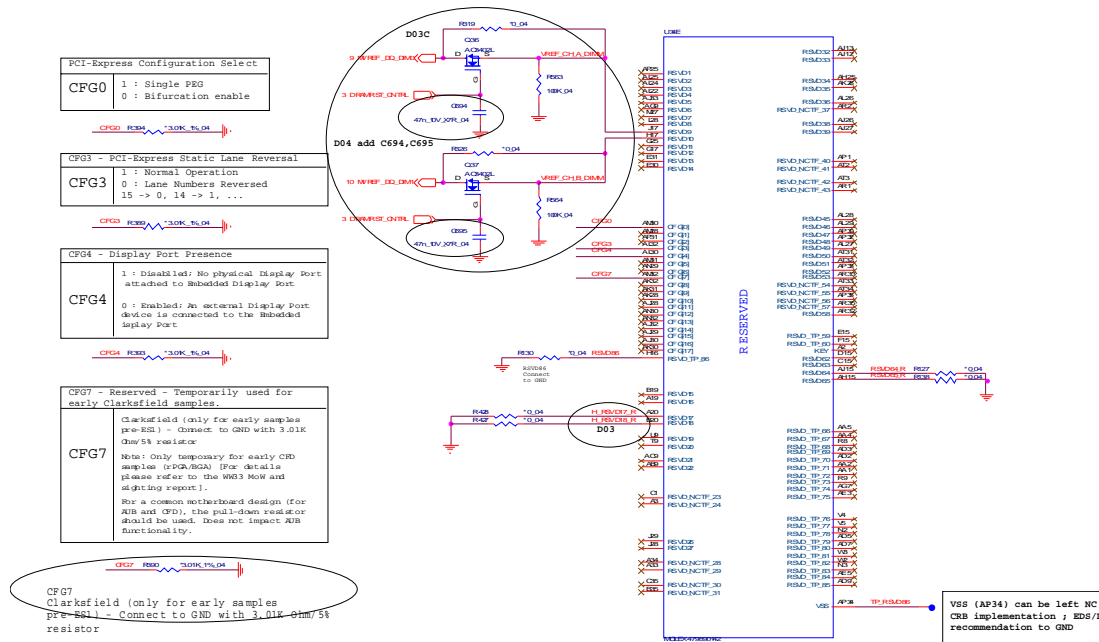
Sheet 7 of 57  
Processor 6/7

## PROCESSOR 6/7 ( GND )



# Processor 7/7

## PROCESSOR 7/7 (RESERVED)



Sheet 8 of 57  
Processor 7/7

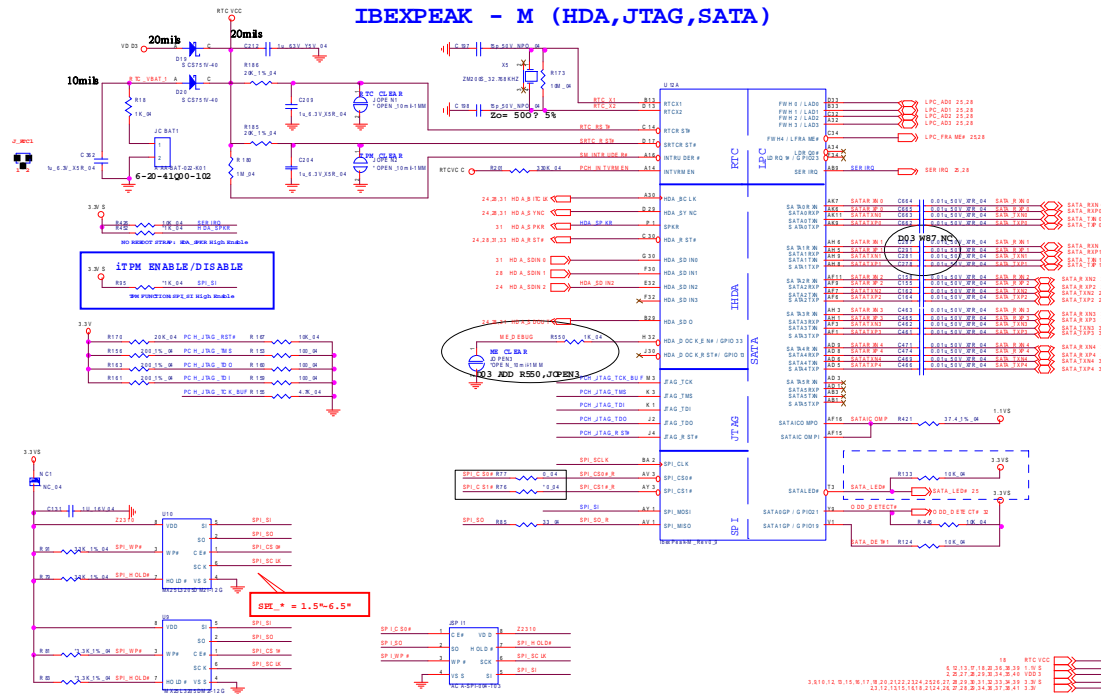




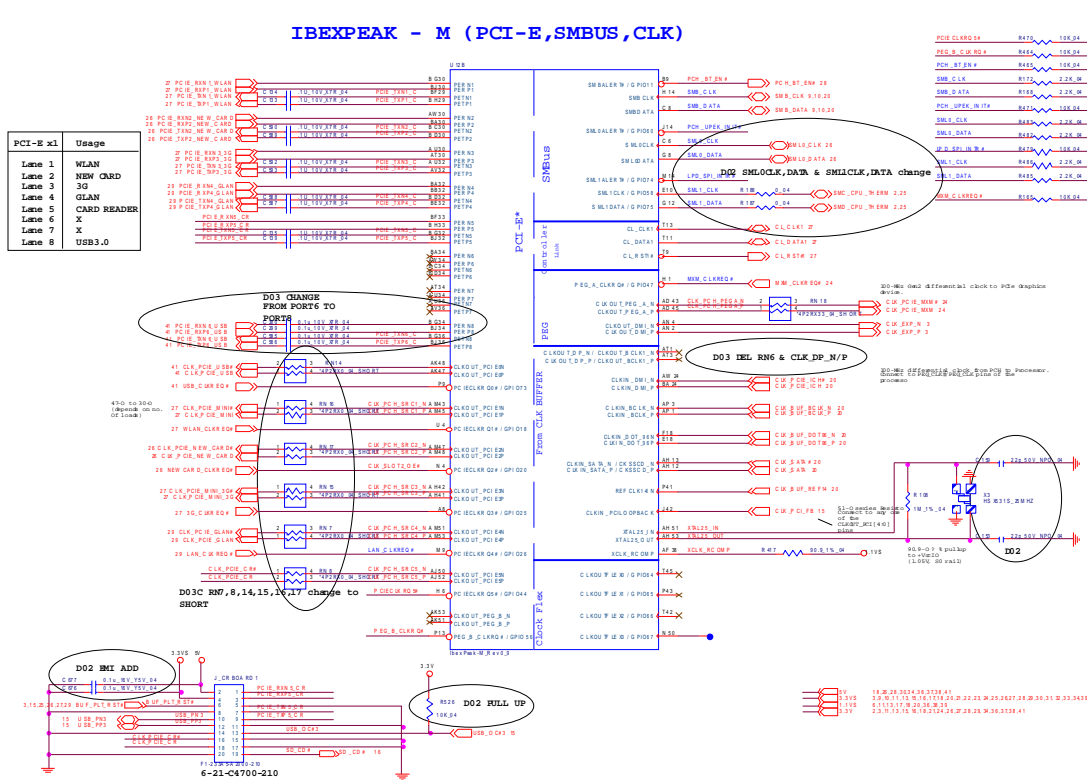


# IBEXPEAK - M 1/9

Sheet 11 of 57  
IBEXPEAK - M 1/9



# IBEXPEAK - M 2/9

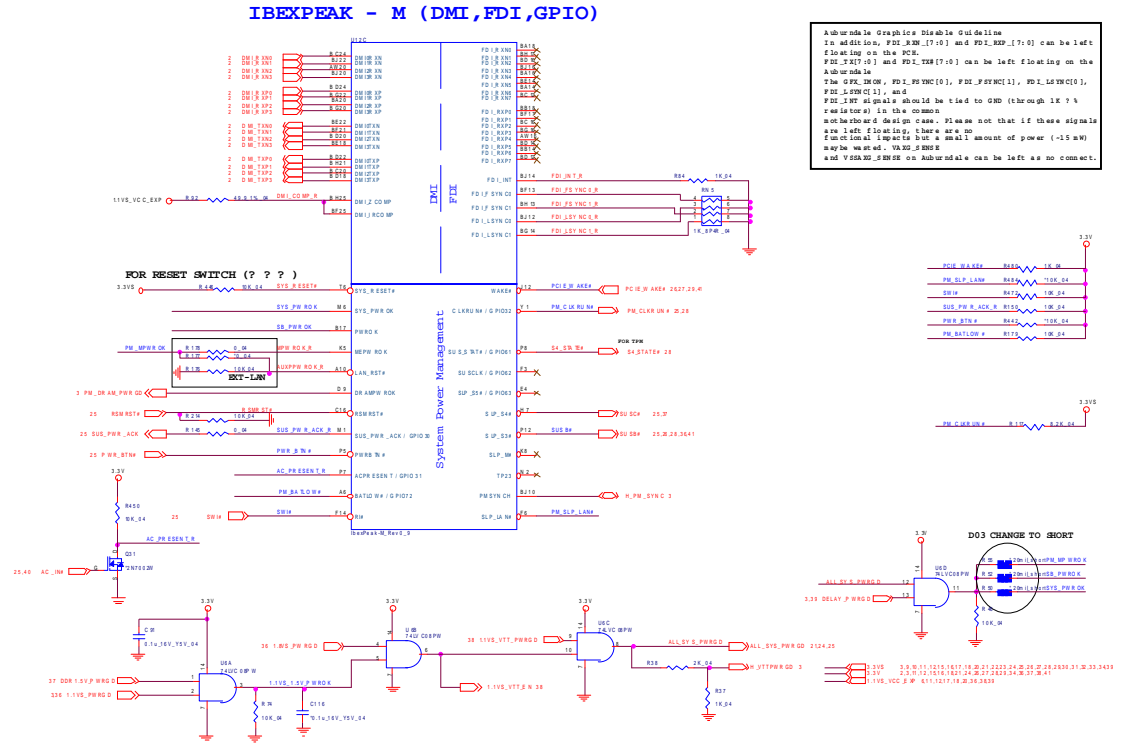


Sheet 12 of 57  
IBEXPEAK - M 2/9

B. Schematic Diagrams

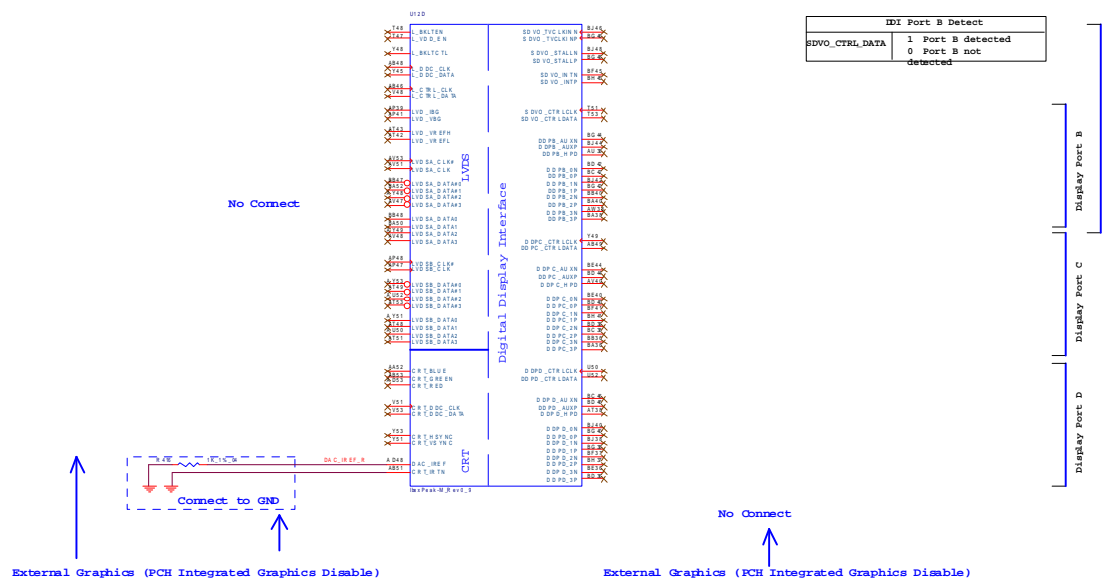
# IBEXPEAK - M 3/9

Sheet 13 of 57  
IBEXPEAK - M 3/9



# IBEXPEAK - M 4/9

IBEXPEAK - M (LVDS, DDI)



Sheet 14 of 57  
IBEXPEAK - M 4/9

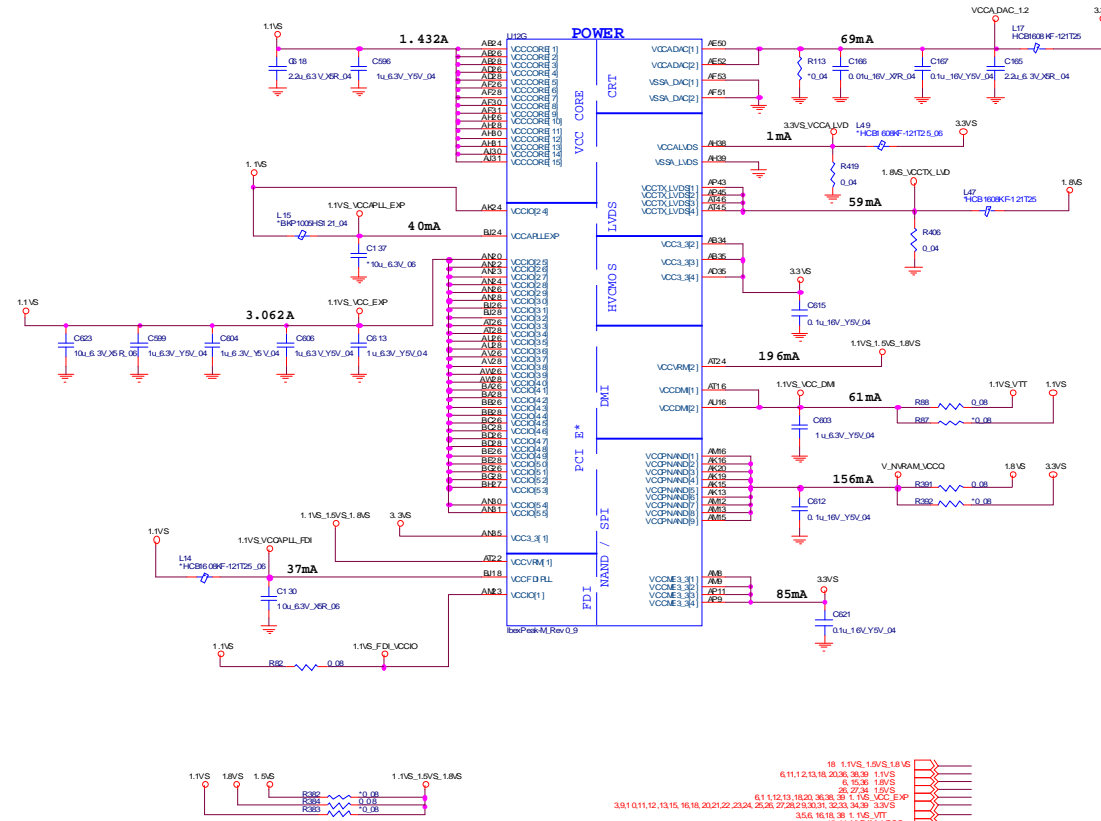




# IBEXPEAK - M 7/9

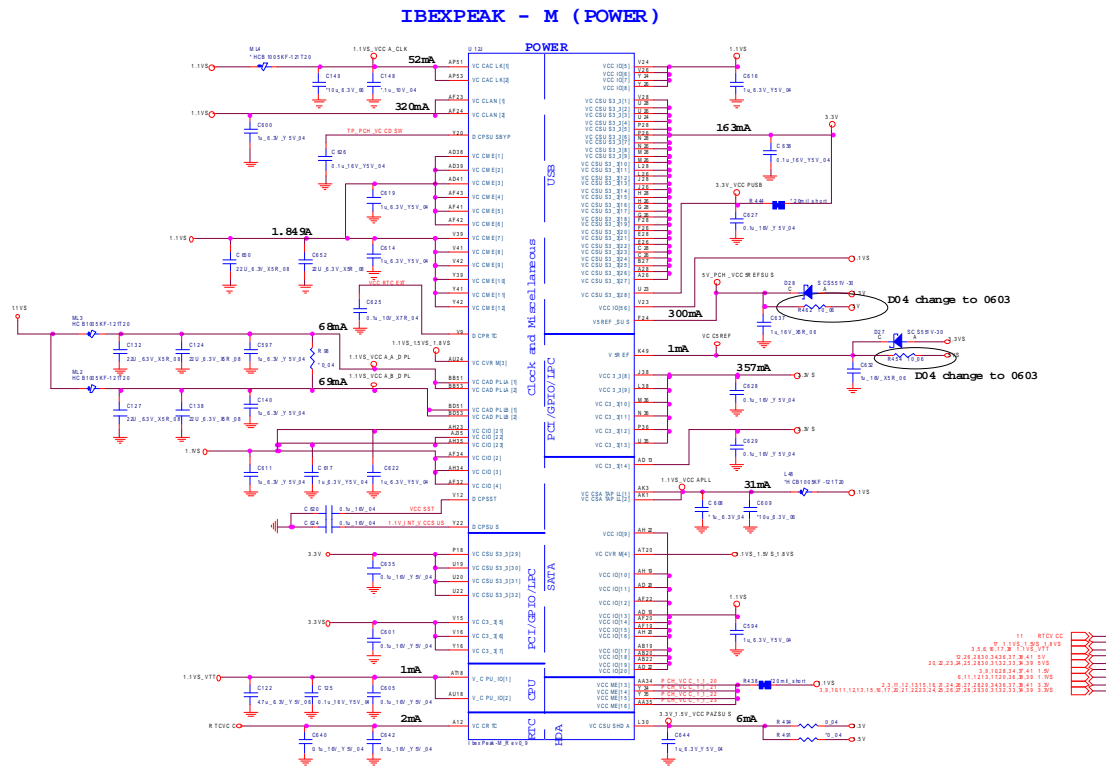
Sheet 17 of 57  
IBEXPEAK - M 7/9

IBEXPEAK - M (POWER)





# IBEXPEAK - M 8/9

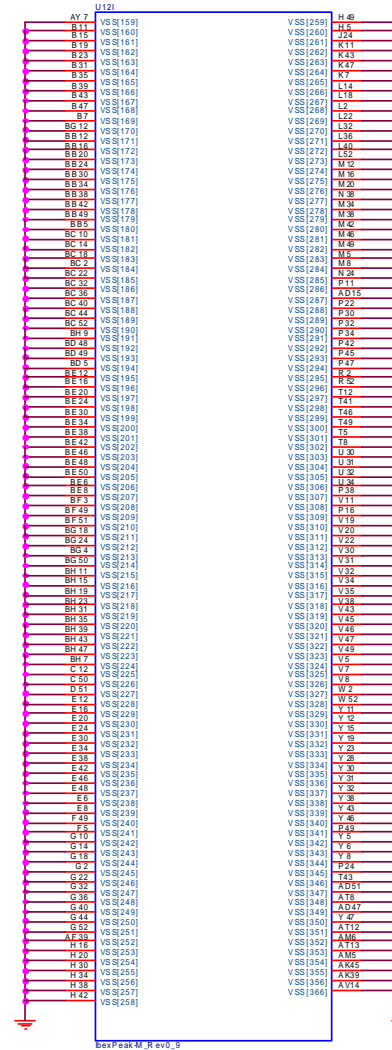
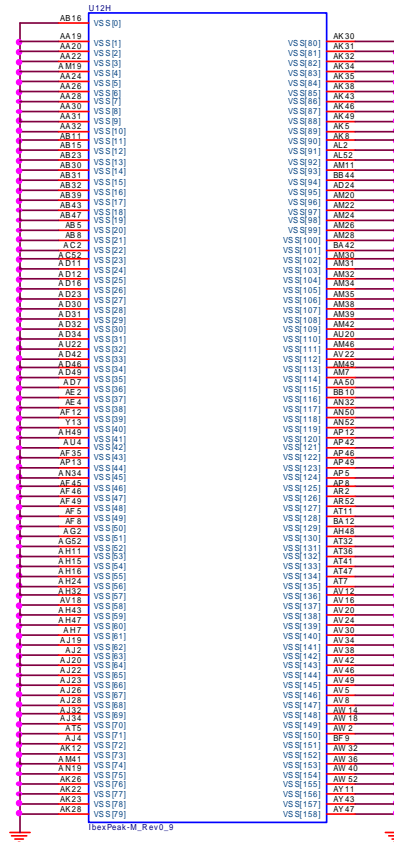


Sheet 18 of 57  
IBEXPEAK - M 8/9

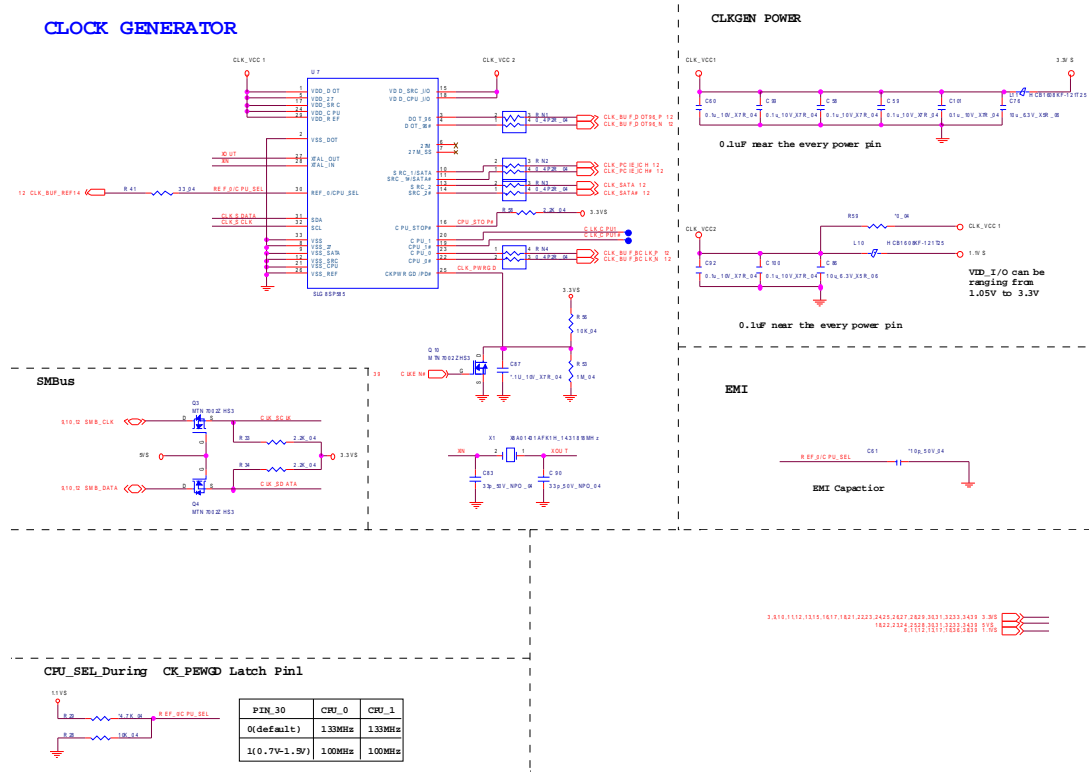
# IBEXPEAK - M 9/9

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IBEXPEAK - M 9/9

## IBEXPEAK - M (GND)



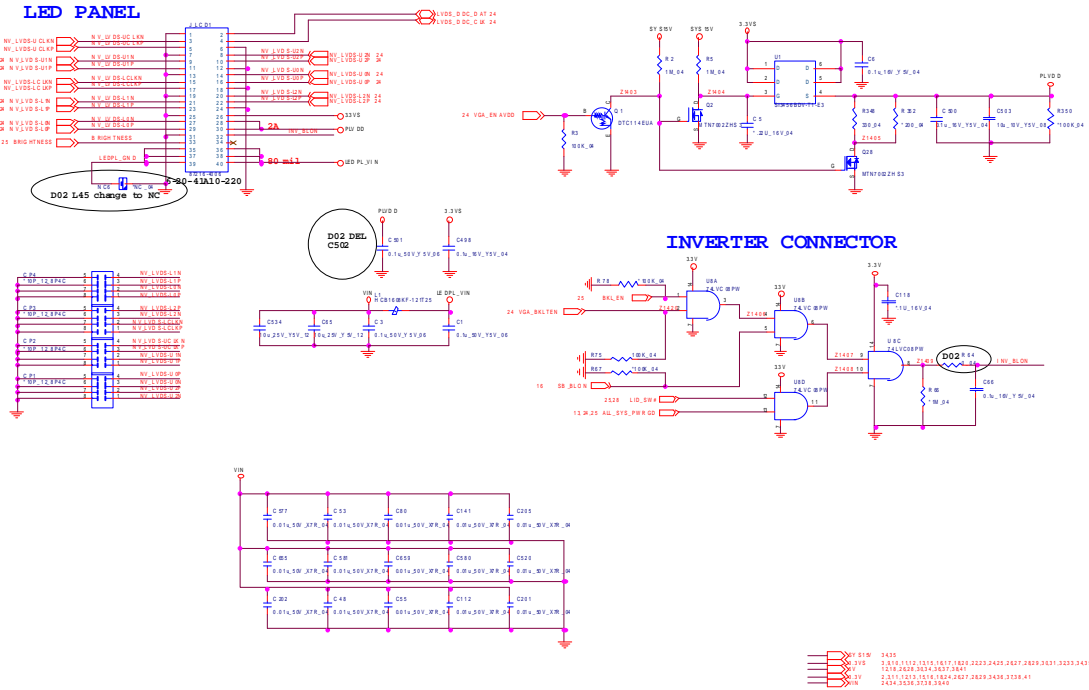
# Clock Generator



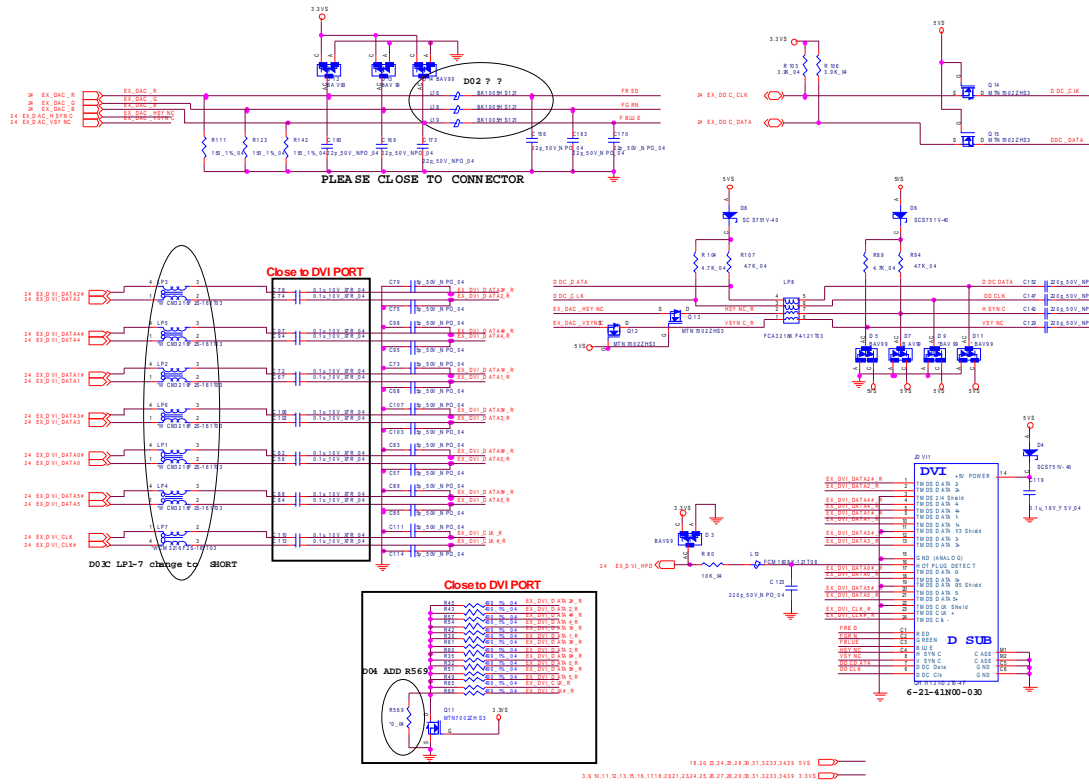
Sheet 20 of 57  
Clock Generator

# Panel, Inverter

Sheet 21 of 57  
Panel, Inverter



DVI

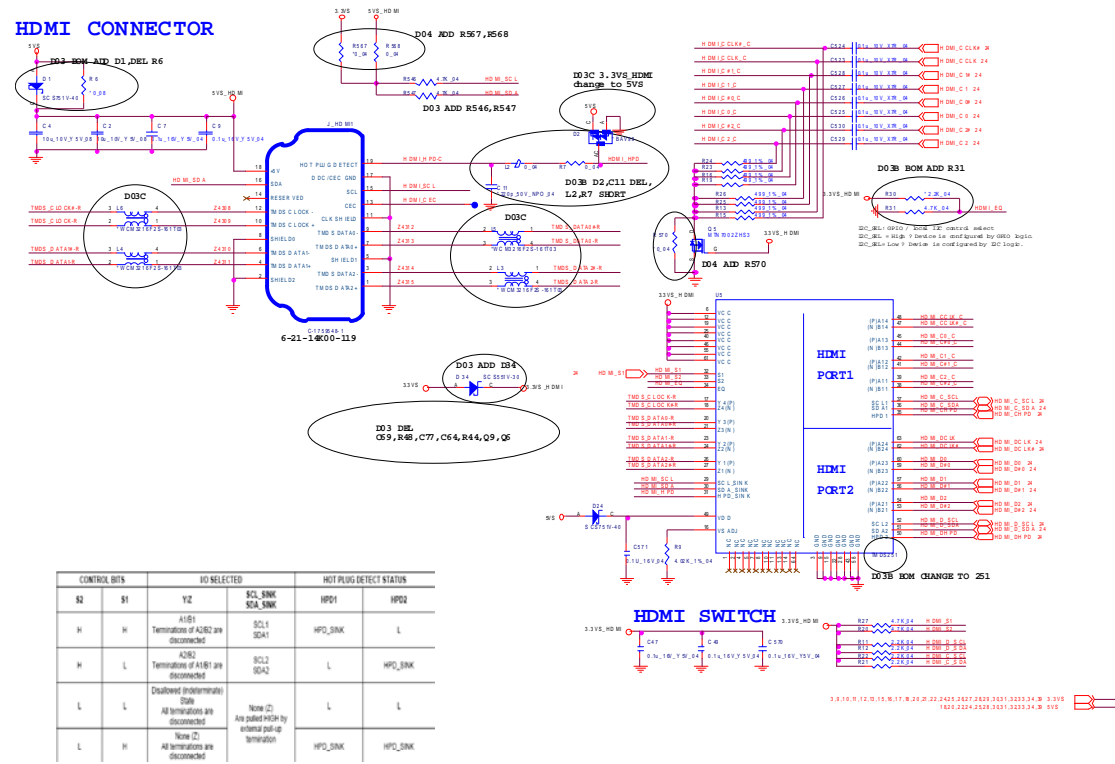


Sheet 22 of 57  
DVI

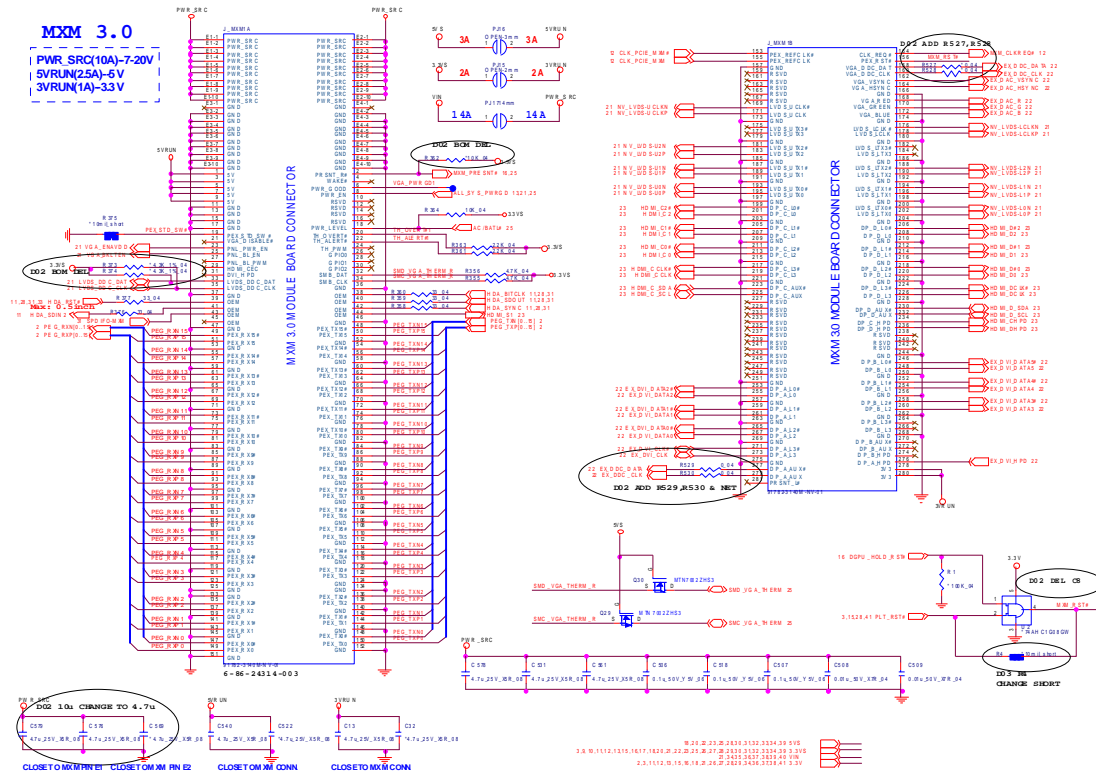
# Schematic Diagrams

## HDMI

Sheet 23 of 57  
HDMI



# MXM PCI-E



Sheet 24 of 57  
MXM PCI-E

B.Schematic Diagrams

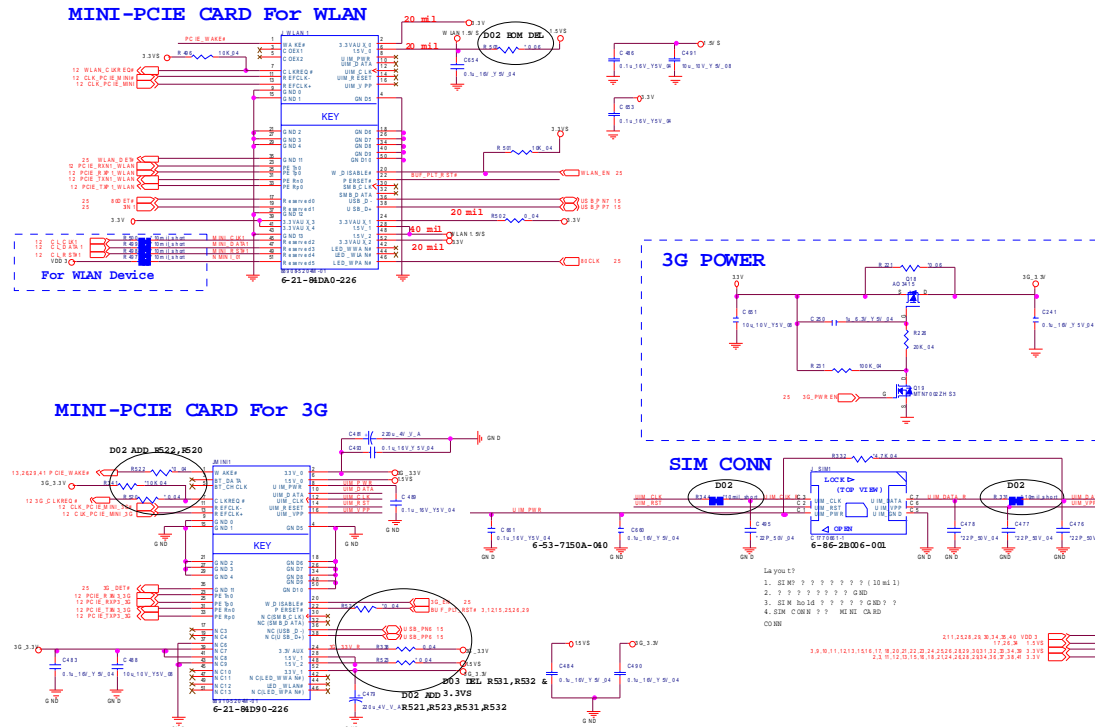




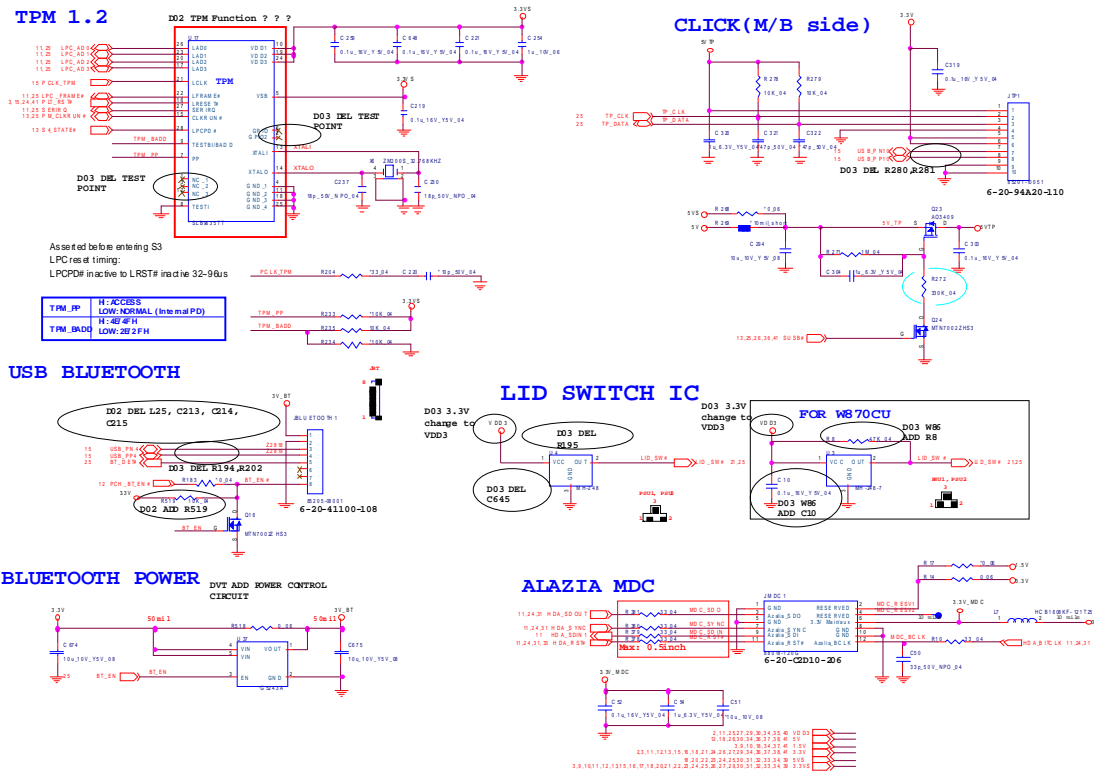


# Mini Card

Sheet 27 of 57  
Mini Card



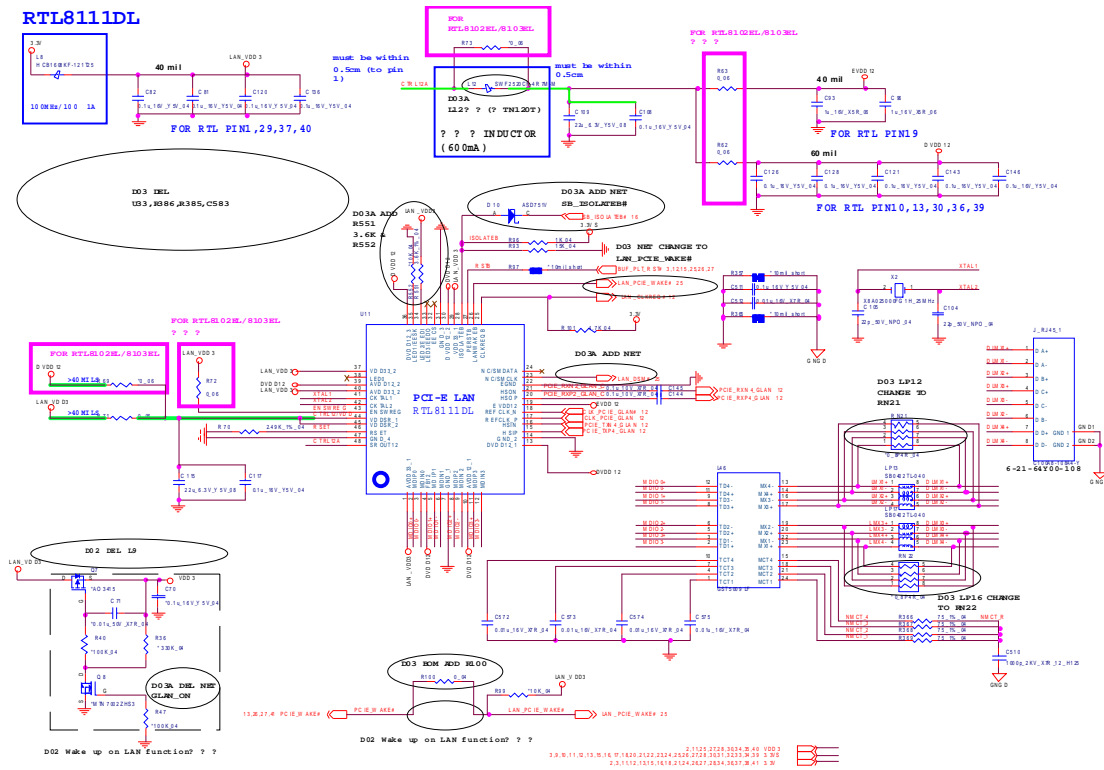
# BT, TPM, MDC, LID



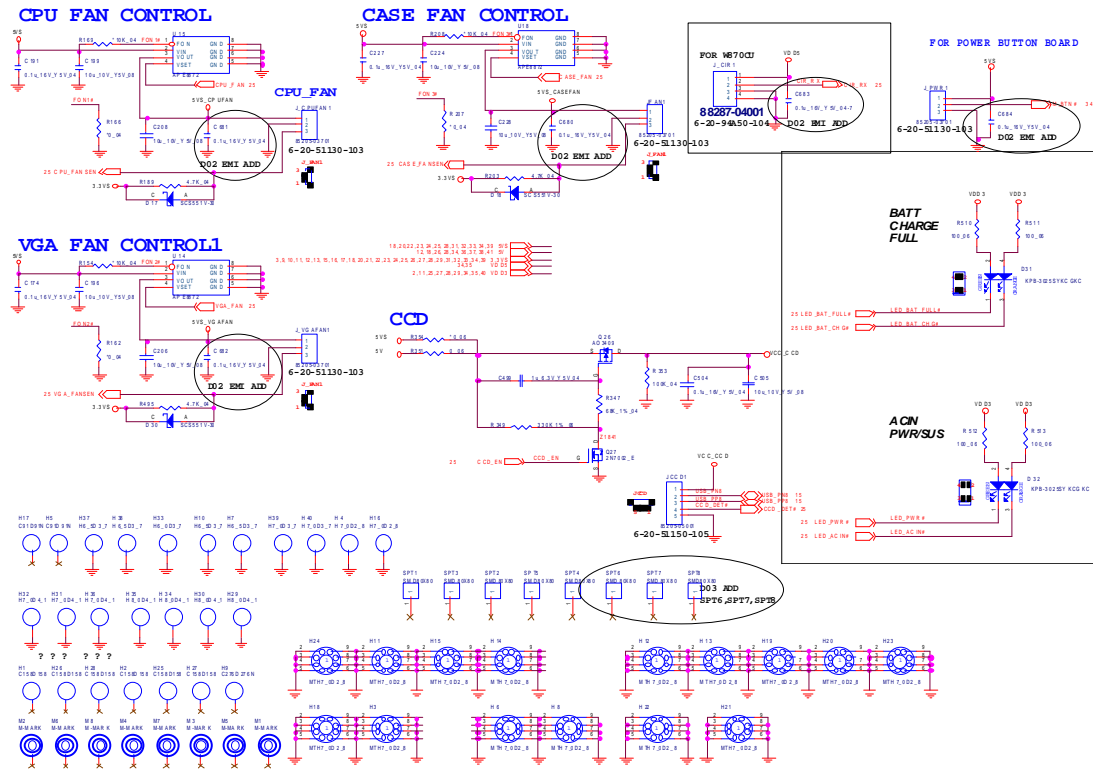
Sheet 28 of 57  
 BT, TPM, MDC, LID

# LAN, RTL8111L, RJ45

Sheet 29 of 57  
LAN-RTL8111DL,  
RJ45



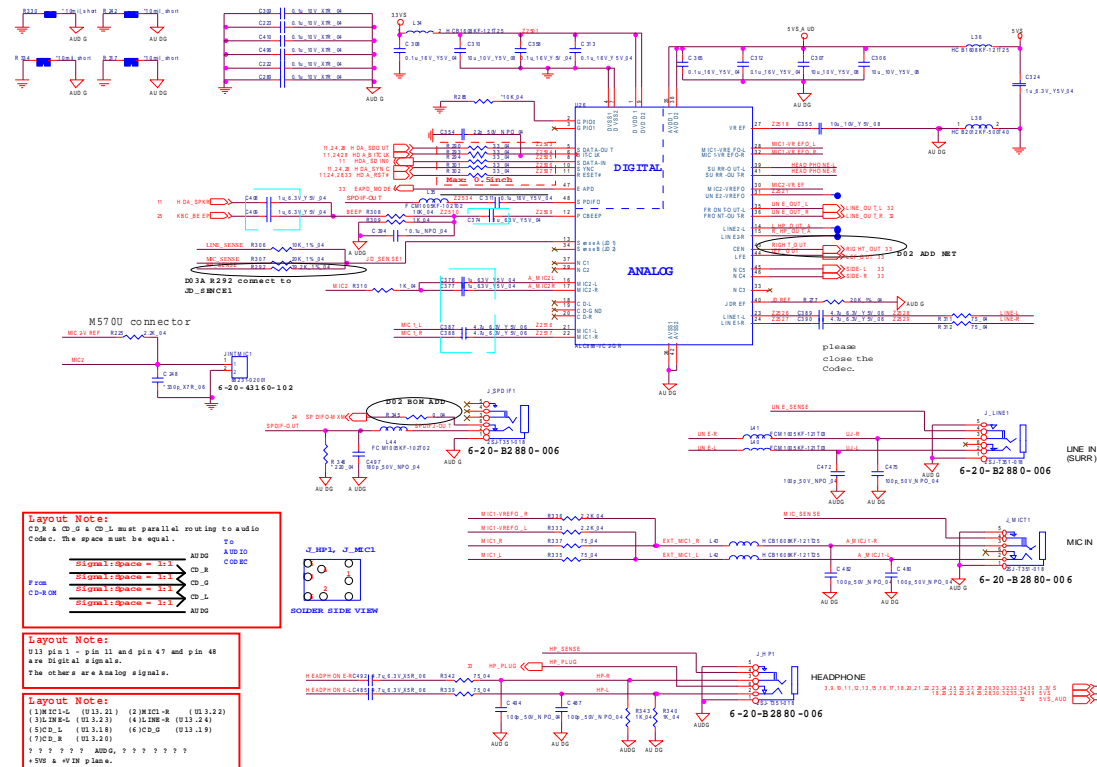
# Fan, CCD, LED, Screw Hole



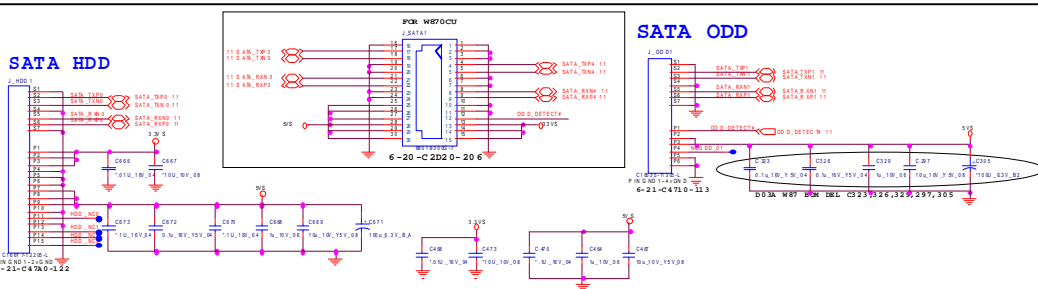
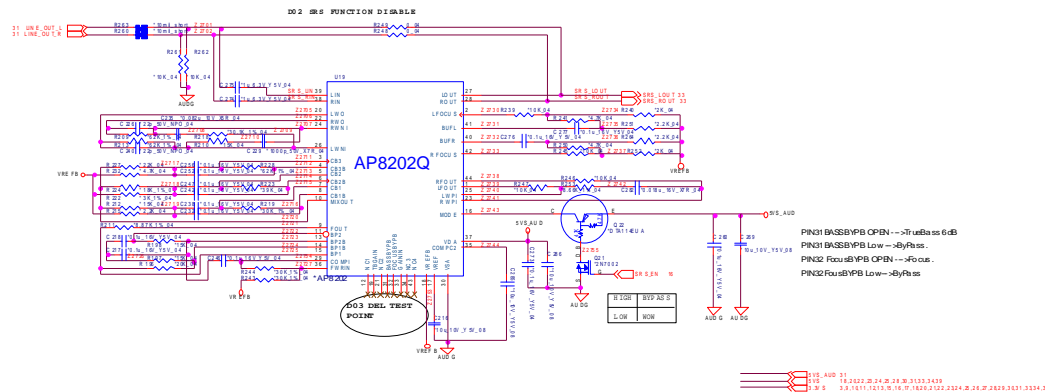
Sheet 30 of 57  
Fan, CCD, LED,  
Screw Hole

# Azalia Codec ALC888

Sheet 31 of 57  
Azalia Codec  
ALC888



# SRS-AP8202, SATA ODD & HDD

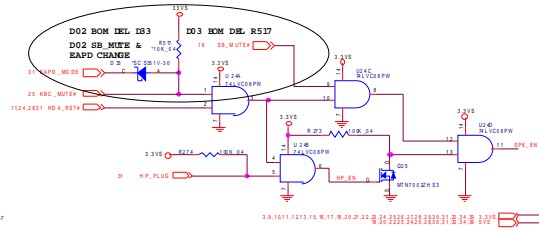
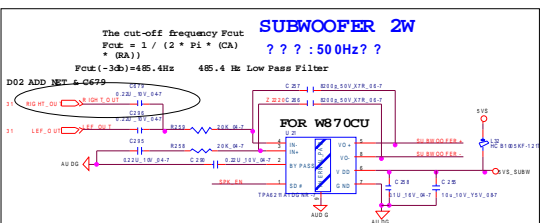
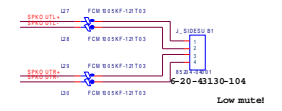
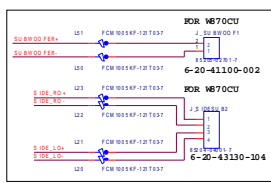
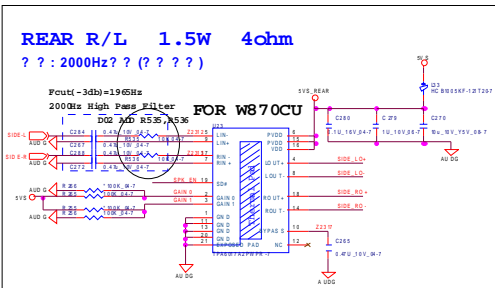
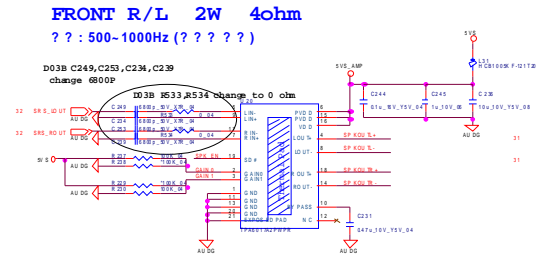


Sheet 32 of 57  
SRS-AP8202,  
SATA ODD & HDD

B.Schematic Diagrams

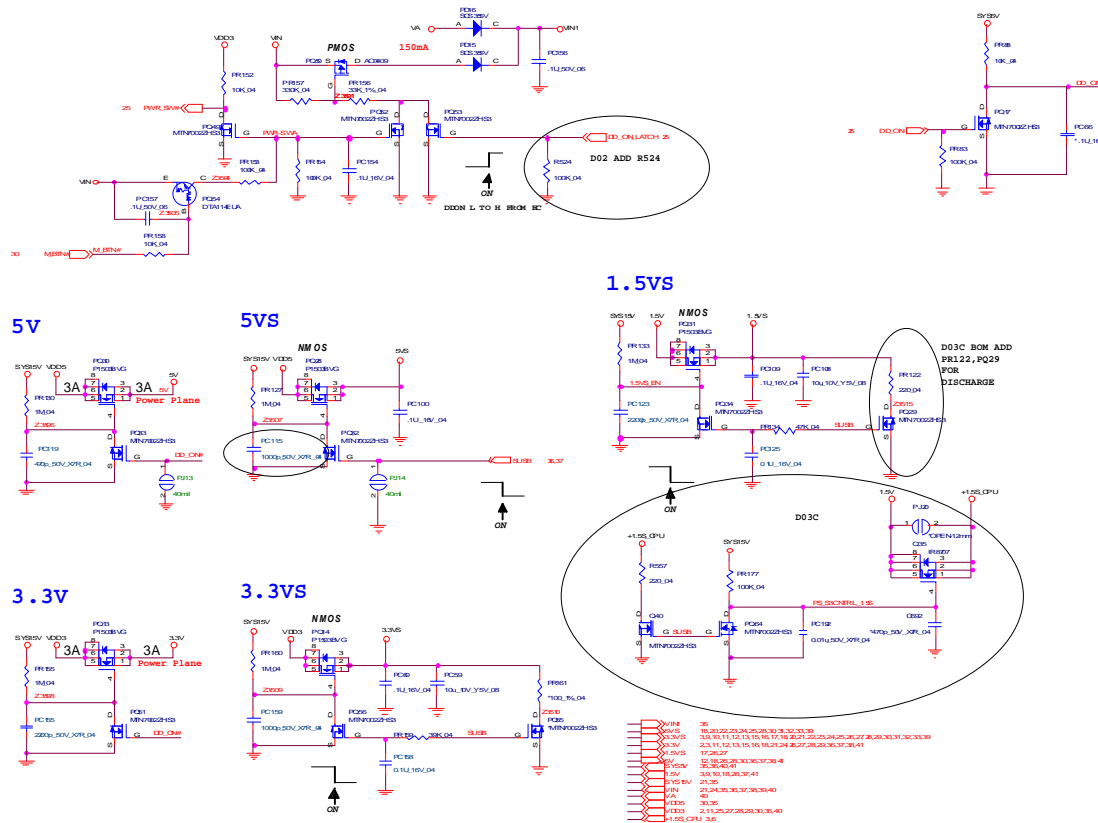
# AMP-TPA6017, Subwoofer

Sheet 33 of 57  
AMP-TPA6017,  
Subwoofer





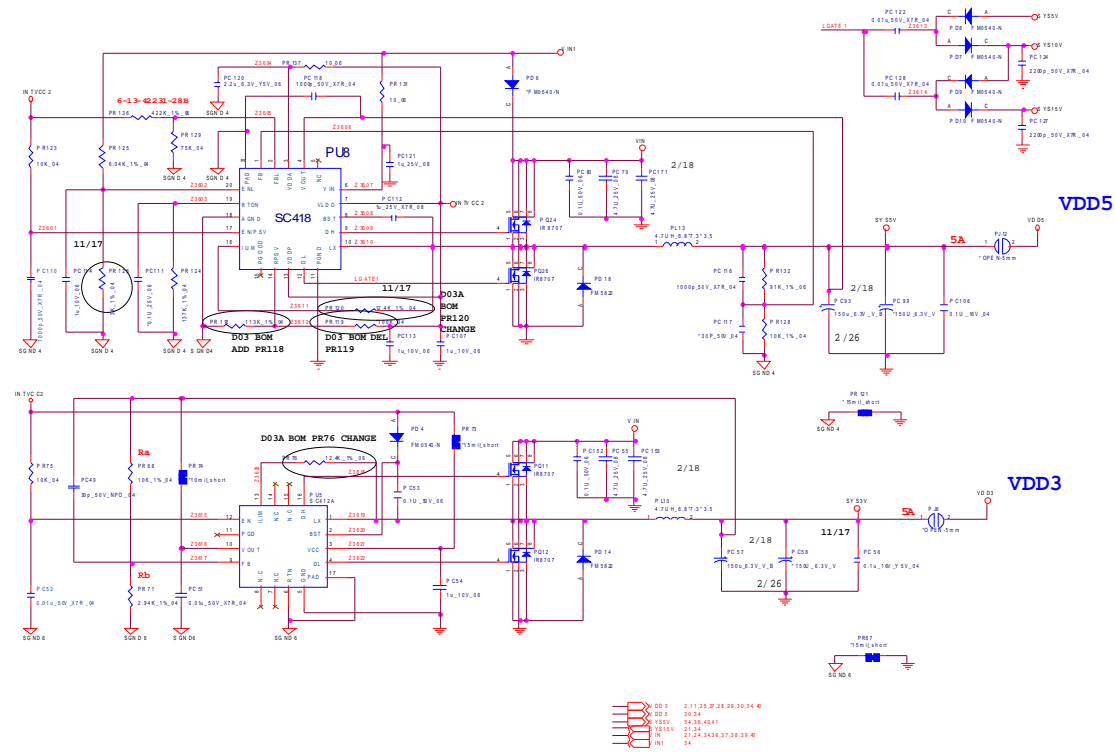
# 5V, 3.3V, 3.3VS, 5VS, 1.5VS



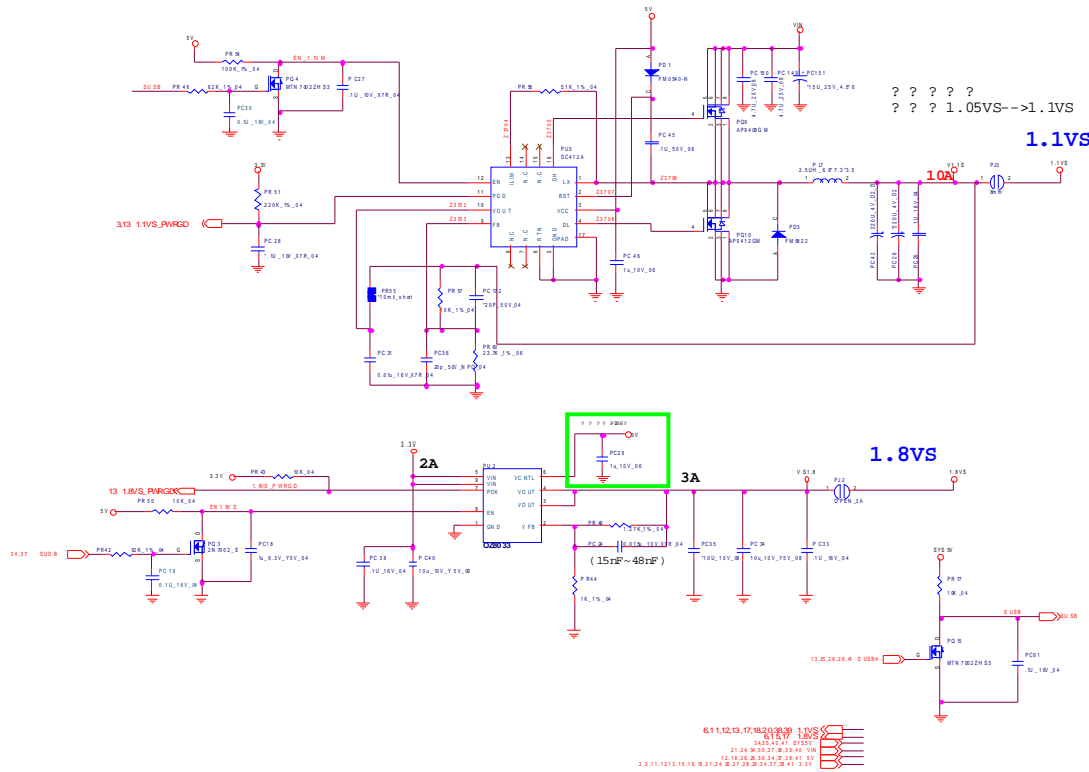
Sheet 34 of 57  
5V, 3.3V, 3.3VS,  
5VS, 1.5VS

# VDD3, VDD5

Sheet 35 of 57  
VDD3, VDD5



# Power 1.8VS, 1.1VS

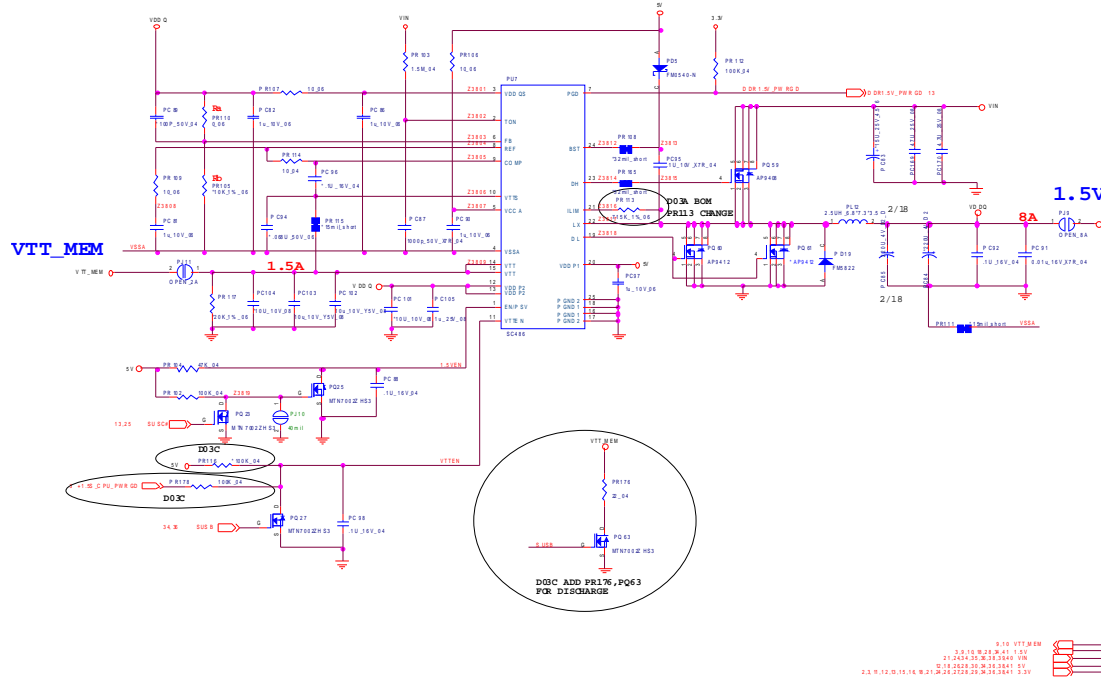


Sheet 36 of 57  
Power 1.8VS, 1.1VS

# Schematic Diagrams

## Power 1.5V/0.75V

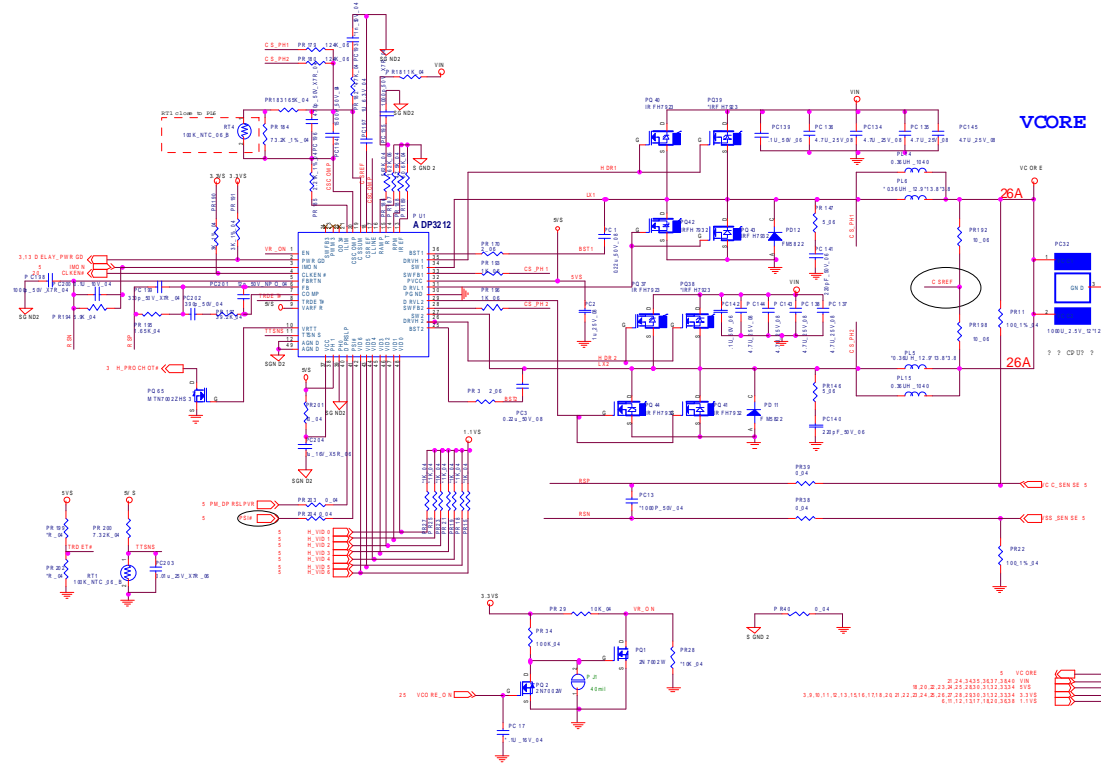
Sheet 37 of 57  
Power 1.5V/0.75V





# Power VCore

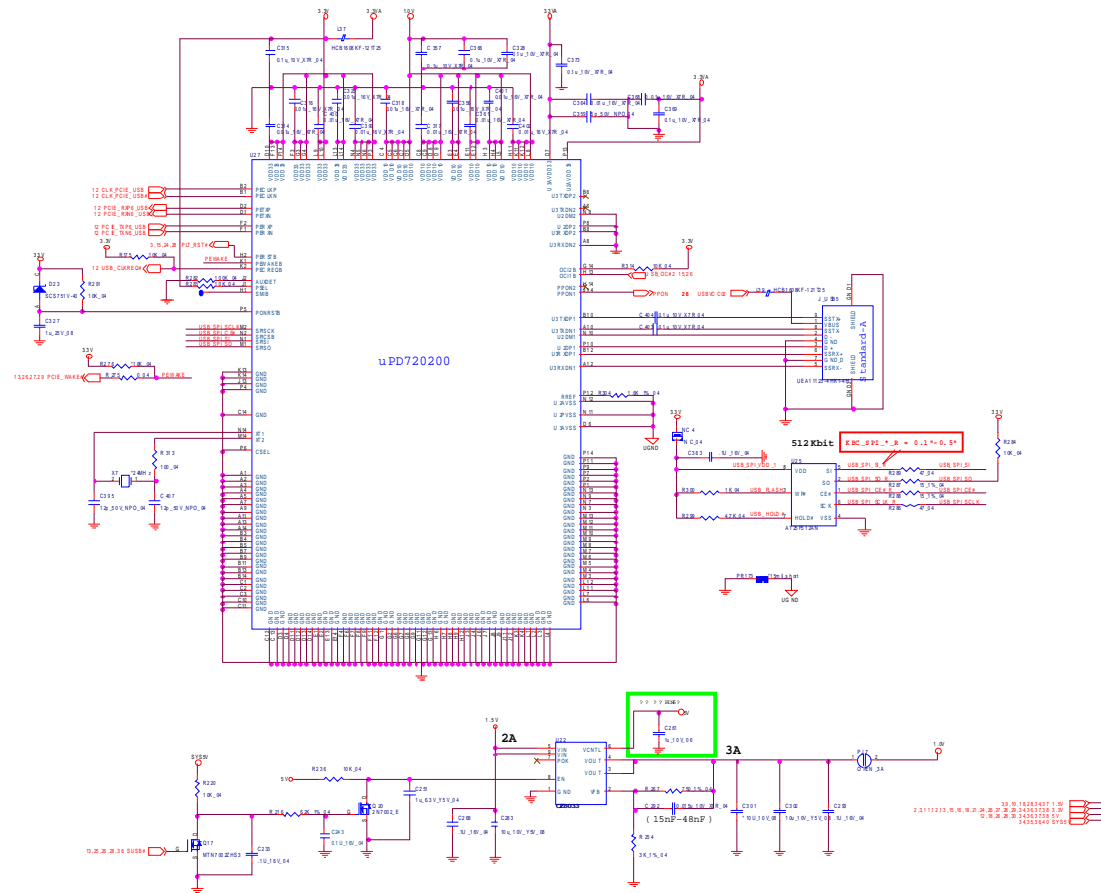
Sheet 39 of 57  
Power VCore





# USB 3.0

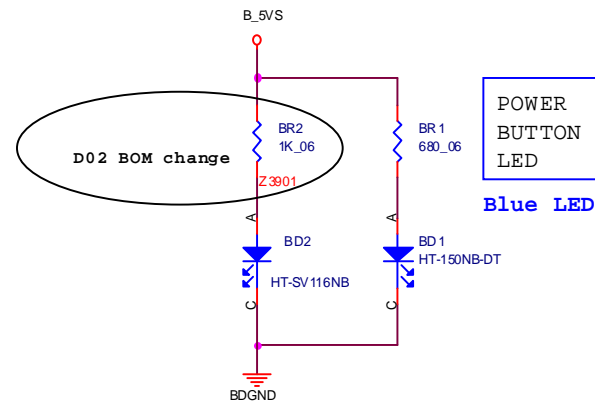
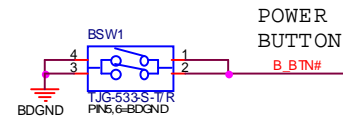
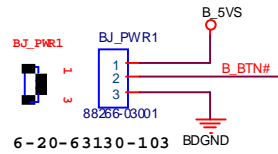
Sheet 41 of 57  
USB 3.0





# Power Button Board

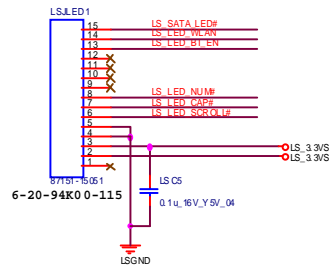
FOR POWER SWITCH BOARD



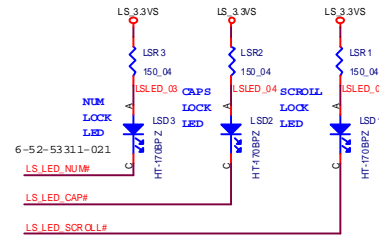
Sheet 42 of 57  
Power Button  
Board

# LED Board

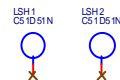
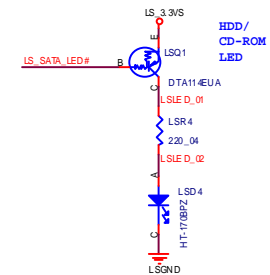
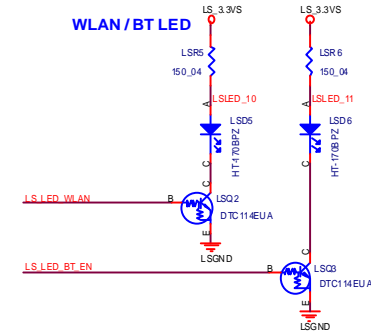
Sheet 43 of 57  
LED Board



## LED



## WLAN / BT LED

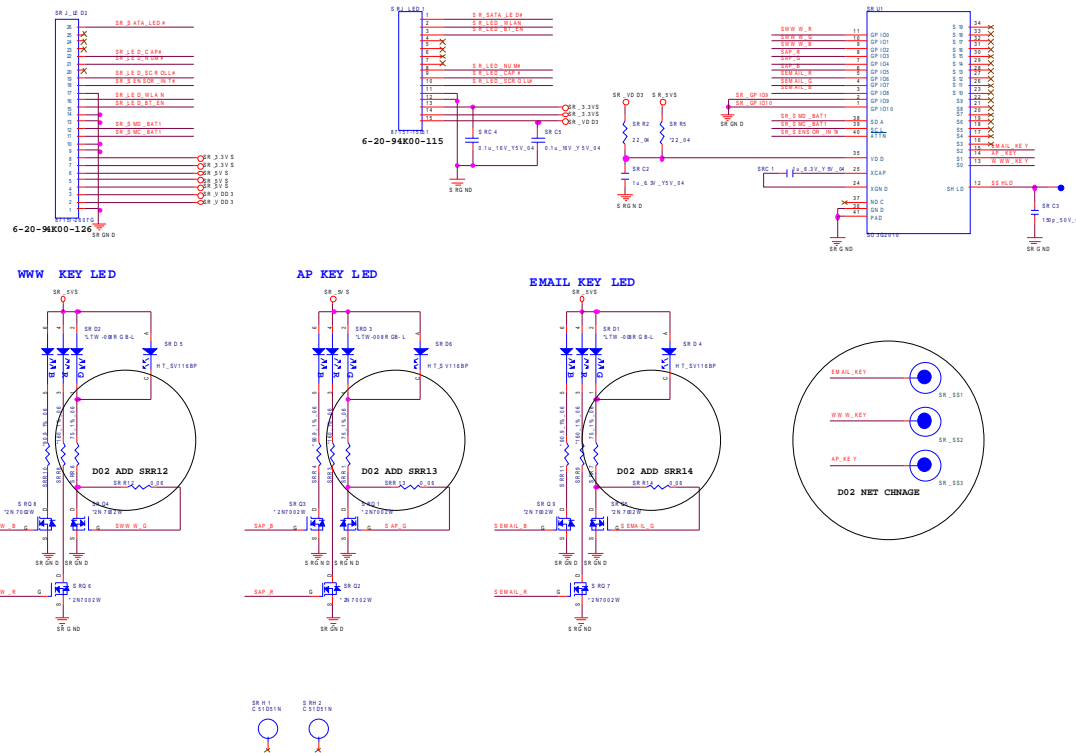




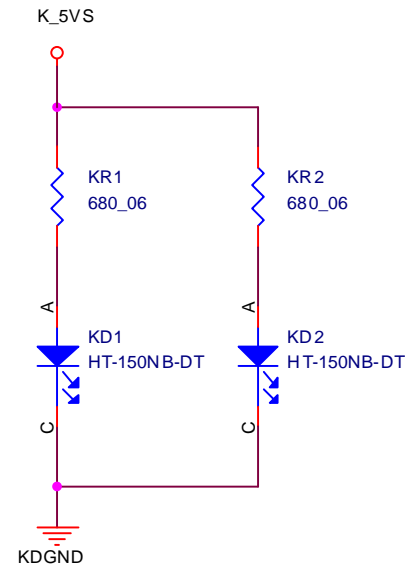
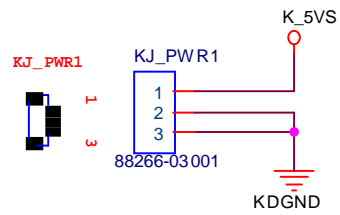
# Schematic Diagrams

## Touch Sensor Board

Sheet 45 of 57  
Touch Sensor  
Board



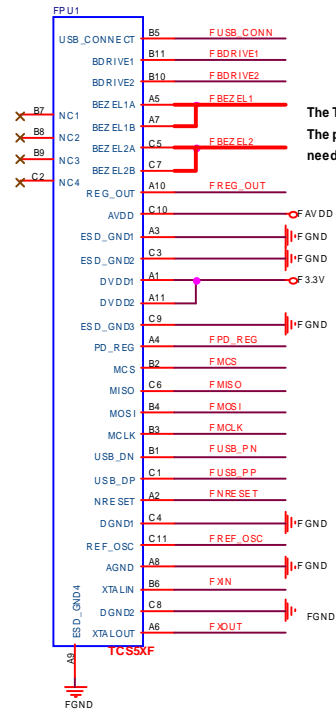
# Left-LED Board



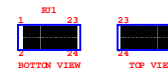
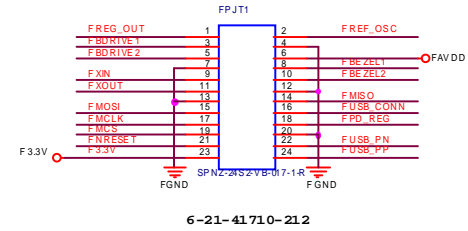
Sheet 46 of 57  
Left- LED Board

# Fingerprint Board

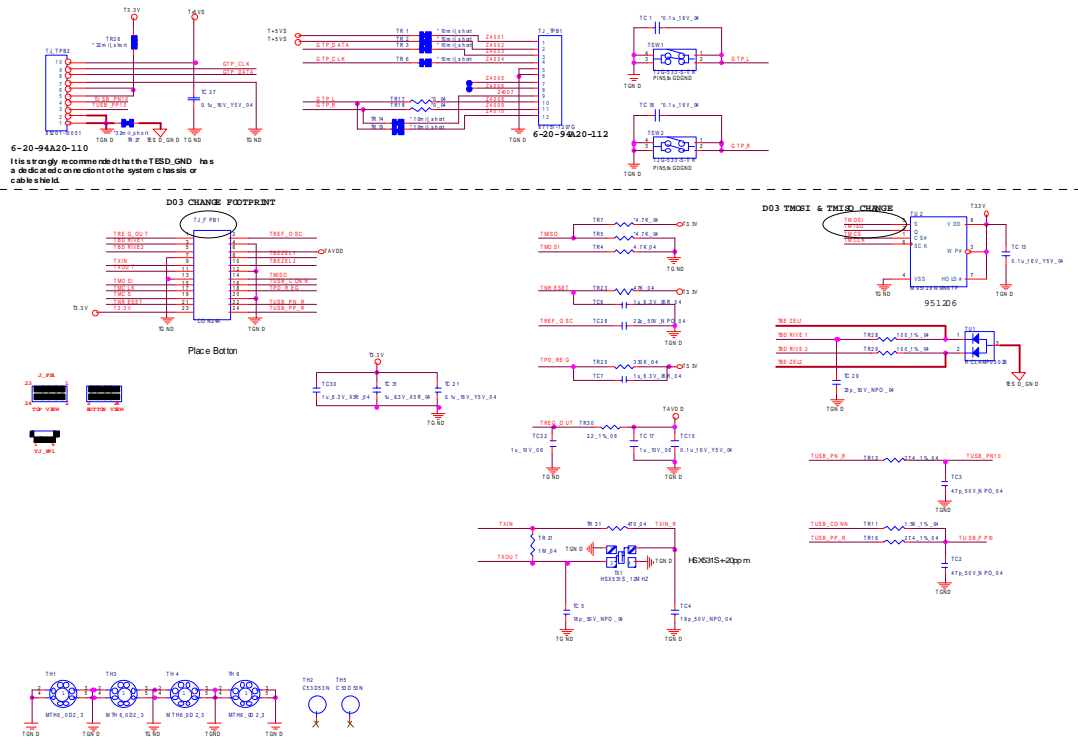
Sheet 47 of 57  
Fingerprint Board



The TESD\_GND trace has to be wide (>20mil)  
The path be marked in RED  
needs to design to be short and at low impedance.



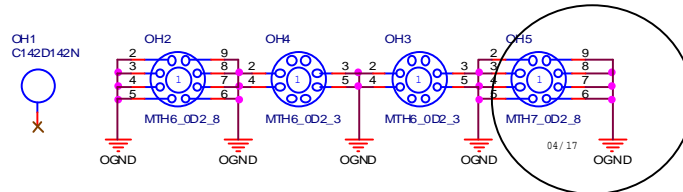
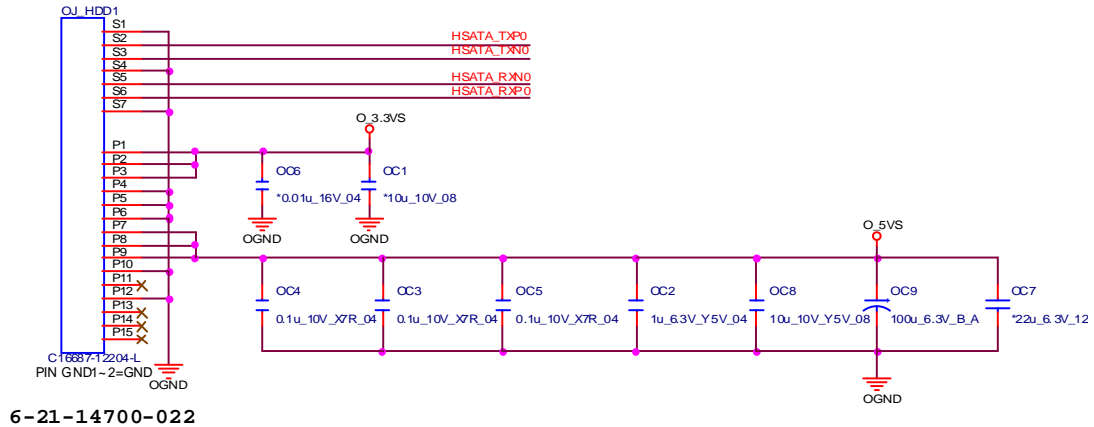
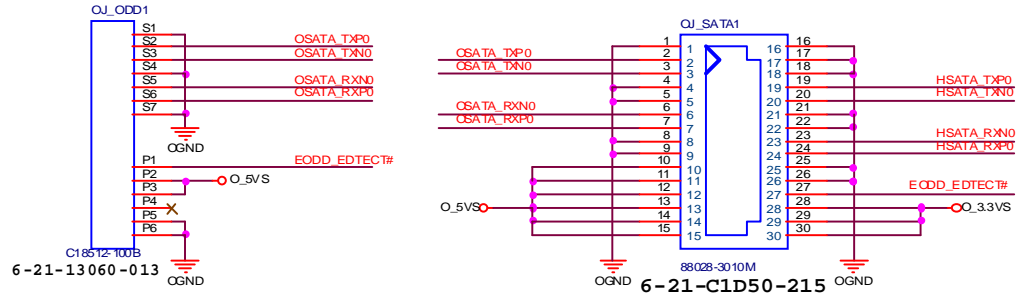
# Click Board



Sheet 48 of 57  
Click Board

# W870CU Second HDD Board

Sheet 49 of 57  
W870CU Second  
HDD Board

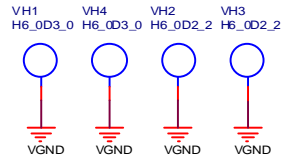
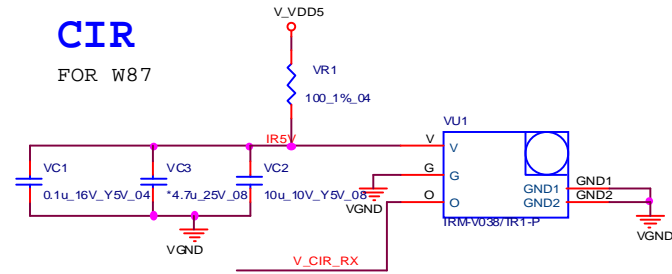
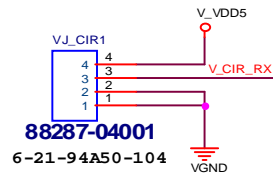




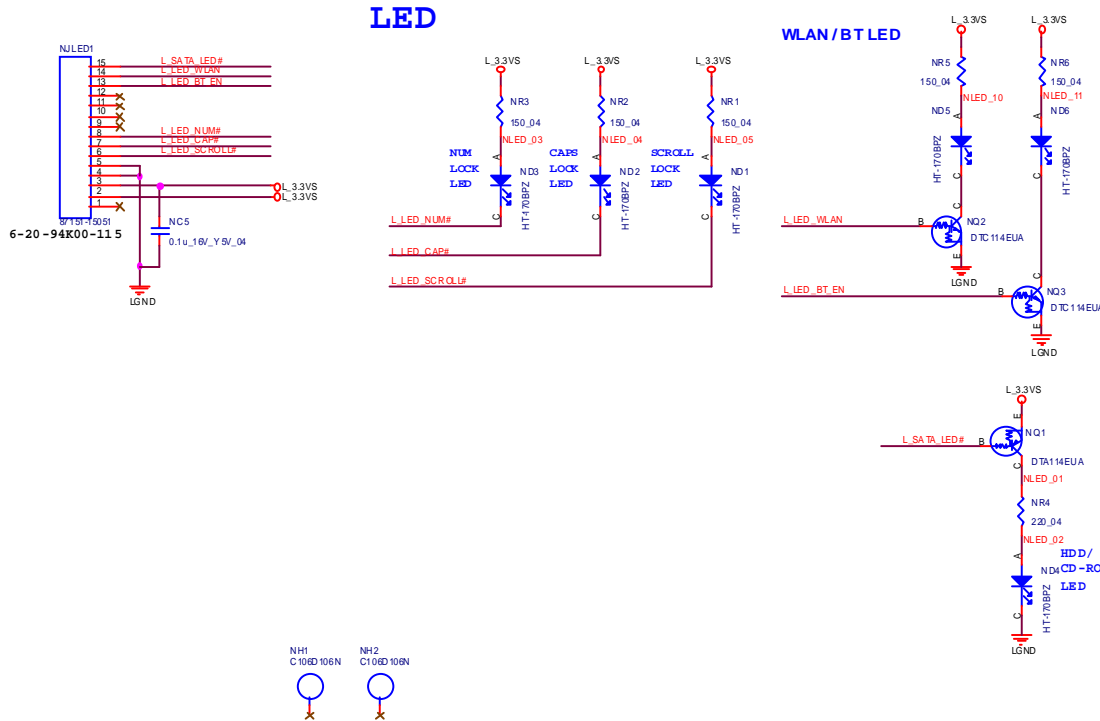


# W870CU CIR Board

Sheet 51 of 57  
W870CU CIR Board



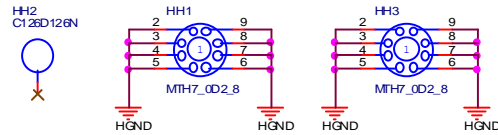
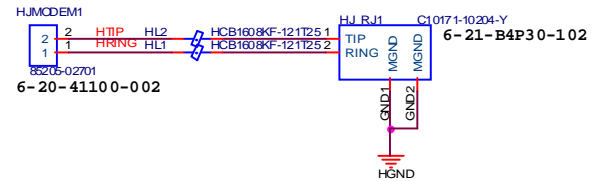
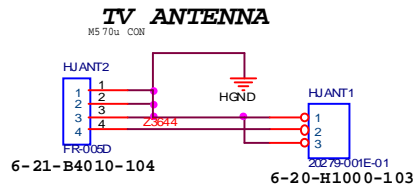
# W870CU LED Board



Sheet 52 of 57  
W870CU LED  
Board

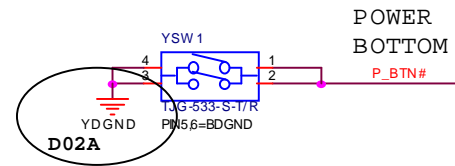
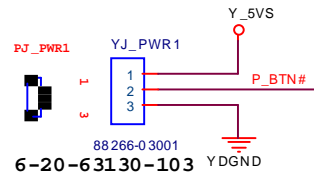
# W870CU RJ11 & TV Board

Sheet 53 of 57  
W870CU RJ11 & TV Board

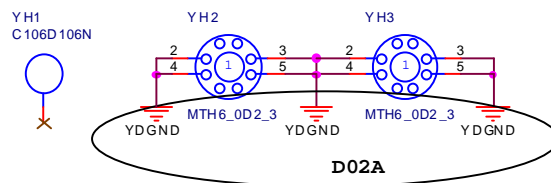
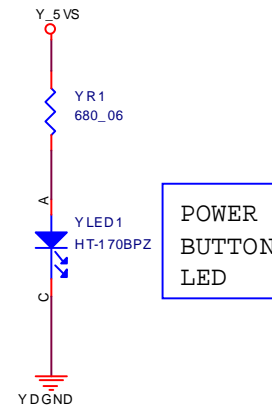


# W870CU Power Button Board

FOR POWER SWITCH BOARD

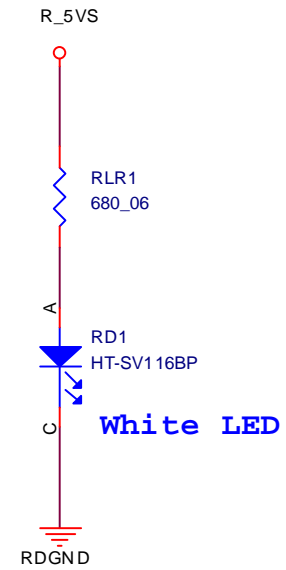
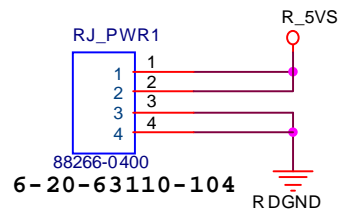


Sheet 54 of 57  
W870CU Power  
Button Board

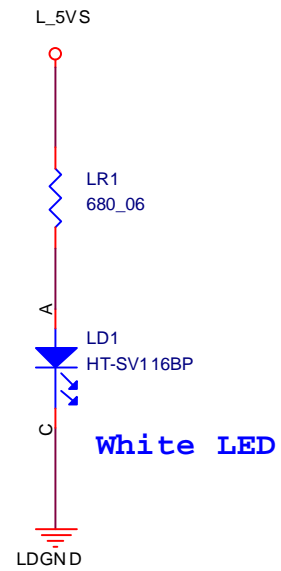
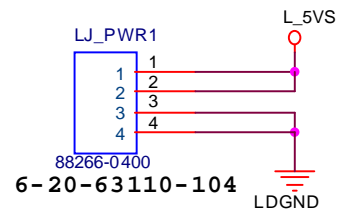


# W870CU Right-Logo Board

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W870CU Right-  
Logo Board



# W870CU Left-Logo Board



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W870CU Left-Logo  
Board





# Appendix C: Updating the FLASH ROM BIOS

## To update the FLASH ROM BIOS you must:

- Download the BIOS update from the web site.
- Unzip the files onto a bootable CD/DVD/USB Flash Drive.
- Reboot your computer from an external CD/DVD/USB Flash Drive.
- Use the flash tools to update the flash BIOS using the commands indicated below.
- Restart the computer booting from the HDD and press **F2** at startup enter the BIOS.
- Load setup defaults from the BIOS and save the default settings and exit the BIOS to restart the computer.
- After rebooting the computer you may restart the computer again and make any required changes to the default BIOS settings.

## Download the BIOS

1. Go to [www.clevo.com.tw](http://www.clevo.com.tw) and point to **E-Services** and click **E-Channel**.
2. Use your user ID and password to access the appropriate download area (BIOS), and download the latest BIOS files (the BIOS file will be contained in a batch file that may be run directly once unzipped) for your computer model (see sidebar for important information on BIOS versions).

## Unzip the downloaded files to a bootable CD/DVD/ or USB Flash drive

1. Insert a bootable CD/DVD/USB flash drive into the CD/DVD drive/USB port of the computer containing the downloaded files.
2. Use a tool such as Winzip or Winrar to unzip all the BIOS files and refresh tools to your bootable CD/DVD/USB flash drive (you may need to create a bootable CD/DVD with the files using a 3rd party software).

## Set the computer to boot from the external drive

1. With the bootable CD/DVD/USB flash drive containing the BIOS files in your CD/DVD drive/USB port, restart the computer and press **F2** (in most cases) to enter the BIOS.
2. Use the arrow keys to highlight the **Boot** menu.
3. Use the “+” and “-” keys to move boot devices up and down the priority order.
4. Make sure that the CD/DVD drive/USB flash drive is set first in the boot priority of the BIOS.
5. Press **F10** to save any changes you have made and exit the BIOS to restart the computer.



### BIOS Version

Make sure you download the latest correct version of the BIOS appropriate for the computer model you are working on.

**You should only download BIOS versions that are V1.01.XX or higher** as appropriate for your computer model.

Note that BIOS versions are not backward compatible and therefore **you may not downgrade your BIOS to an older version** after upgrading to a later version (e.g if you upgrade a BIOS to ver 1.01.05, you **MAY NOT** then go back and flash the BIOS to ver 1.01.04).

## BIOS Update

---

### Use the flash tools to update the BIOS

1. Make sure you are not loading any memory management programs such as HIMEM by holding the **F8** key as you see the message “**Starting MS-DOS**”. You will then be prompted to give “**Y**” or “**N**” responses to the programs being loaded by DOS. Choose “**N**” for any memory management programs.
2. You should now be at the DOS prompt e.g: DISK C:\> (C is the designated drive letter for the CD/DVD drive/USB flash drive).
3. **Type the following command** at the DOS prompt:

**C:\> Flash.bat**

4. The utility will then proceed to flash the BIOS.
5. You should then be prompted to press any key to restart the system or turn the power off, and then on again but make sure you remove the CD/DVD/USB flash drive from the CD/DVD drive/USB port before the computer restarts.

### Restart the computer (booting from the HDD)

1. With the CD/DVD/USB flash drive removed from the CD/DVD drive/USB port the computer should restart from the HDD.
2. Press **F2** as the computer restarts to enter the BIOS.
3. Use the arrow keys to highlight the **Exit** menu.
4. Select **Load Setup Defaults** (or press **F9**) and select “**Yes**” to confirm the selection.
5. Press **F10** to save any changes you have made and exit the BIOS to restart the computer.

### Your computer is now running normally with the updated BIOS

You may now enter the BIOS and make any changes you require to the default settings.