Notebook Computer

M660SE/ M665SE

Service Manual
Preface

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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 M660SE/M665SE series notebook PC.

The following information is included:

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

Appendix A, Part Lists
Appendix B, Schematic Diagrams
IMPORTANT SAFETY INSTRUCTIONS

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 (DC Output 19V, 3.42A or 18.5, 3.5A 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.

   - Do not expose the computer to any shock or vibration.
   - Do not place it on an unstable surface.
   - Do not place anything heavy on the computer.

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.

   - Do not expose it to excessive heat or direct sunlight.
   - Do not leave it in a place where foreign matter or moisture may affect the system.
   - Don’t use or store the computer in a humid environment.
   - Do not place the computer on any surface which will block the vents.

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.

   - Do not turn off the power until you properly shut down all programs.
   - Do not turn off any peripheral devices when the computer is on.
   - Do not disassemble the computer by yourself.
   - Perform routine maintenance on your computer.
Preface

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.**

   ![Use only approved brands of peripherals.](image1)
   ![Unplug the power cord before attaching peripheral devices.](image2)

**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.

![Do not plug in the power cord if you are wet.](image3)
![Do not use the power cord if it is broken.](image4)
![Do not place heavy objects on the power cord.](image5)
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 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.
Preface

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

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

Introduction .........................................................1-1
Overview ...............................................................1-1
System Specifications .................................................1-2
Model Differences ..................................................1-5
External Locator - Top View with LCD Panel Open ..........1-6
External Locator - Front & Rear Views ......................1-7
External Locator - Left & Right Side Views ...................1-8
External Locator - Bottom View ...................................1-9
M660SE Mainboard Overview - Top (Key Parts) .............1-10
M660SE Mainboard Overview - Bottom (Key Parts) .........1-11
M660SE Mainboard Overview - Top (Connectors) ..........1-12
M660SE Mainboard Overview - Bottom (Connectors) ......1-13
Disassembly .........................................................2-1
Overview ...............................................................2-1
Maintenance Tools .................................................2-2
Connections ..........................................................2-2
Maintenance Precautions ..........................................2-3
Removing the Battery ..............................................2-5
Removing the Hard Disk Drive ...................................2-6
Removing the System Memory (RAM) .........................2-8
Removing the Processor ..........................................2-10
Removing the Wireless LAN Module .........................2-12
Removing the Modem .............................................2-13
Removing the Bluetooth Module ...............................2-14
Removing the Optical (CD/DVD) Device .....................2-15
Removing the Keyboard .........................................2-16
Part Lists .............................................................A-1
Part List Illustration Location ..................................A-2
Top (M660SE) .......................................................A-3
Top (M665SE) .......................................................A-4
Bottom (M660SE/M665SE) ........................................A-5
LCD (M660SE/M665SE) ...........................................A-6
CDRW (M660SE/M665SE) .........................................A-7
Combo (M660SE/M665SE) ........................................A-8
DVDRW (M660SE/M665SE) .......................................A-9
Schematic Diagrams ...............................................B-1
SYSTEM BLOCK DIAGRAM .......................................B-2
CLOCK GENERATOR ...............................................B-3
CPU-1 ........................................................................B-4
CPU-2 ........................................................................B-5
VN896-1 ......................................................................B-6
VN896-2 ......................................................................B-7
VN896-3 ......................................................................B-8
VN896-4 ......................................................................B-9
DDR2-1 ........................................................................B-10
DDR2-2 .......................................................................B-11
VGA G72M-1 ............................................................B-12
VGA G72M-2 ............................................................B-13
VGA G72M-3 ............................................................B-14
VGA G72M-4 ............................................................B-15
VT8237A-1 ...............................................................B-16
VT8237A-2 ...............................................................B-17
VT8237A-3 ...............................................................B-18
HDD & CDROM .....................................................B-19
CARD READER .......................................................B-20
NEW CARD SOCKET ...............................................B-21
LAN ......................................................................B-22
USB & CCD ..........................................................B-23
HITACHI H8 ..........................................................B-24
<table>
<thead>
<tr>
<th>Preface</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>CRT &amp; LVDS</td>
<td>B-25</td>
</tr>
<tr>
<td>CPU FAN, LPC ROM</td>
<td>B-26</td>
</tr>
<tr>
<td>MINI-PCI &amp; BLUETOOTH</td>
<td>B-27</td>
</tr>
<tr>
<td>AUDIO VT1708A/ALC883</td>
<td>B-28</td>
</tr>
<tr>
<td>LED</td>
<td>B-29</td>
</tr>
<tr>
<td>CHARGER, DC IN</td>
<td>B-30</td>
</tr>
<tr>
<td>1.05VS, 1.5V, 2.5VS</td>
<td>B-31</td>
</tr>
<tr>
<td>VCORE</td>
<td>B-32</td>
</tr>
<tr>
<td>1.8V, 0.9VS</td>
<td>B-33</td>
</tr>
<tr>
<td>VDD3, VDD5</td>
<td>B-34</td>
</tr>
<tr>
<td>EXT GPU 1.0VS/1.2VS</td>
<td>B-35</td>
</tr>
<tr>
<td>HOTKEY LT BOARD</td>
<td>B-36</td>
</tr>
<tr>
<td>PWR HOT BOARD</td>
<td>B-37</td>
</tr>
<tr>
<td>AUDIO &amp; MODEM BOARD</td>
<td>B-38</td>
</tr>
<tr>
<td>CLICK BOARD</td>
<td>B-39</td>
</tr>
<tr>
<td>USB BOARD</td>
<td>B-40</td>
</tr>
<tr>
<td>FINGERPRINT BOARD</td>
<td>B-41</td>
</tr>
</tbody>
</table>
Chapter 1: Introduction

Overview
This manual covers the information you need to service or upgrade the M660SE/M665SE 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 XP, Windows Vista, 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 M660SE/M665SE 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 “重点关注” symbol.

The balance of this chapter reviews the computer’s technical specifications and features.
# System Specifications

## Processor

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intel® Core™2 Duo Processor (478-pin) Micro-FC-PGA Package T7200/ T7400/ T7600</td>
<td>65nm (65 Nanometer) Process Technology, 4MB On-die L2 Cache &amp; 667MHz FSB, 2.0/ 2.16/ 2.33 GHz</td>
</tr>
<tr>
<td>Intel® Core™2 Duo Processor (478-pin) Micro-FC-PGA Package T5500/ T5600</td>
<td>65nm (65 Nanometer) Process Technology, 2MB On-die L2 Cache &amp; 667MHz FSB, 1.66/ 1.83 GHz</td>
</tr>
<tr>
<td>Intel® Core™ Duo Processor (478-pin) Micro-FC-PGA Package T2300/ T2400/ T2500/ T2600/ T2700</td>
<td>65nm (65 Nanometer) Process Technology, 2MB On-die L2 Cache &amp; 667MHz FSB, 1.66/ 1.83/ 2.0/ 2.16/ 2.33 GHz</td>
</tr>
<tr>
<td>Intel® Core™ Solo Processor (478-pin) Micro-FC-PGA Package T1300/ T1400</td>
<td>65nm (65 Nanometer) Process Technology, 2MB On-die L2 Cache &amp; 667MHz FSB, 1.66/ 1.83 GHz</td>
</tr>
<tr>
<td>Intel® Celeron® M Processor (478-pin) Micro-FCPGA Package 410/ 420/ 430/ 440/ 450</td>
<td>65nm (65 Nanometer) Process Technology, 1MB On-die L2 Cache &amp; 533MHz FSB, 1.46/ 1.60/ 1.73/ 1.86/ 2.0 GHz</td>
</tr>
</tbody>
</table>

## Core Logic

VIA VN896 + VT8237A Chipset

## Memory

Two 200 Pin SO-DIMM Sockets Supporting DDRII (DDR2) 533/667 MHz, 64-bit Wide DDRII (DDR2) Data Per Channel, Memory Expandable up to 2GB (256/ 512/ 1024 MB DDRII Modules)
<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Security</strong></td>
<td>Security (Kensington® Type) Lock Slot</td>
</tr>
<tr>
<td></td>
<td>BIOS Password</td>
</tr>
<tr>
<td><strong>BIOS</strong></td>
<td>One 4Mb Flash ROM</td>
</tr>
<tr>
<td></td>
<td>Phoenix™ BIOS</td>
</tr>
<tr>
<td><strong>LCD</strong></td>
<td>15.4” WXGA (1280 * 800) TFT LCD</td>
</tr>
<tr>
<td><strong>Video Adapter</strong></td>
<td>VIA VN896 Integrated Video System (Internal On Chip)</td>
</tr>
<tr>
<td></td>
<td>Chrome 9HC™</td>
</tr>
<tr>
<td></td>
<td>Integrated 128bit 2D/3D Graphic Engine and Clock up to 250MHz</td>
</tr>
<tr>
<td></td>
<td>Supports CRT Resolutions up to 2048 * 1536 at 75Hz</td>
</tr>
<tr>
<td></td>
<td>Supports Microsoft DirectX 9.0</td>
</tr>
<tr>
<td><strong>Storage</strong></td>
<td>One Changeable 12.7mm(h) Optical Device (CD/DVD) Type Drive</td>
</tr>
<tr>
<td></td>
<td>One Easy Changeable 2.5” 9.5 mm (h) SATA (Serial) HDD</td>
</tr>
<tr>
<td><strong>Audio</strong></td>
<td>Integrated AZALIA Compliant Interface (HDA)</td>
</tr>
<tr>
<td></td>
<td>3D Stereo Enhanced Sound System</td>
</tr>
<tr>
<td></td>
<td>Sound-Blaster PRO™ Compatible</td>
</tr>
<tr>
<td></td>
<td>2 * Built-In Speakers</td>
</tr>
<tr>
<td></td>
<td>Built-In Microphone</td>
</tr>
<tr>
<td><strong>Keyboard &amp; Pointing Device</strong></td>
<td>Winkey Keyboard</td>
</tr>
<tr>
<td></td>
<td>Built-In TouchPad with Scrolling Function</td>
</tr>
<tr>
<td><strong>Interface</strong></td>
<td>Three USB 2.0 Ports</td>
</tr>
<tr>
<td></td>
<td>One External Monitor Port</td>
</tr>
<tr>
<td></td>
<td>One Headphone-Out Jack</td>
</tr>
<tr>
<td></td>
<td>One Microphone-In Jack</td>
</tr>
<tr>
<td></td>
<td>One Line-In Jack</td>
</tr>
<tr>
<td></td>
<td>One S/PDIF Out Jack</td>
</tr>
<tr>
<td></td>
<td>One RJ-11 Modem Jack</td>
</tr>
<tr>
<td></td>
<td>One RJ-4S LAN Jack</td>
</tr>
<tr>
<td></td>
<td>One DC-in Jack</td>
</tr>
<tr>
<td><strong>Card Reader</strong></td>
<td>Embedded 7-in-1 Card Reader (MS/ MS Pro/ SD/ Mini SD/ MMC/ RS MMC/ MS Duo)</td>
</tr>
<tr>
<td><strong>ExpressCard Slot</strong></td>
<td>One ExpressCard/34(54) Slot</td>
</tr>
<tr>
<td><strong>Communication</strong></td>
<td>AZALIA 56K Plug &amp; Play Fax/Modem V.90/92 Compliant</td>
</tr>
<tr>
<td></td>
<td>10M/100Mb Base-T Ethernet LAN</td>
</tr>
<tr>
<td></td>
<td>802.11 b/g USB Wireless LAN Module (Option)</td>
</tr>
<tr>
<td></td>
<td>USB (2.0) Bluetooth Module - Version 2.0 (Factory Option)</td>
</tr>
<tr>
<td></td>
<td>300K or 1.3M Pixel USB PC Camera Module (Factory Option)</td>
</tr>
</tbody>
</table>
## Introduction

### Power Management
- Supports ACPI 2.0 and PCI Bus Power Management 1.1 Compliant
- Battery Low Suspend
- Supports Wake on LAN

### Power
- Full Range AC/DC Adapter 19V, 3.42A or 18.5V, 3.5A (65W), 100~240V, 50~60Hz

### Battery
- 6 Cell Smart Lithium-Ion Battery Pack, 4000mAh

### 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
- 360mm (w) * 267mm (d) * 25.4-34mm (h)
- 2.6 kg With 6 Cell Battery

### Optional
- **Optical Drive Module Options**:
  - DVD/CD-RW Combo Drive Module
  - DVD-Dual Drive Module
- 802.11 b/g USB Wireless LAN Module
- 300K or 1.3M Pixel USB PC Camera Module (Factory Option)
- USB (2.0) Bluetooth Module - Version 2.0 (Factory Option)
Model Differences
The models vary slightly in external cover design and color.

Figure 1
Model Differences
### Introduction

**Figure 2**

**Top View**

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

---

### External Locator - Top View with LCD Panel Open
External Locator - Front & Rear Views

**Figure 3**
Front Views
1. LED Indicators

**Figure 4**
Rear Views
1. 1 * USB Port
2. DC-In Jack
3. Battery
Introduction

Figure 5
Left Side View
1. Security Lock Slot
2. Optical Device Drive Bay
3. RJ-11 Modem Jack
4. S/PDIF-Out Jack
5. Microphone-In Jack
6. Headphone-Out Jack
7. Line-In Jack

Figure 6
Right Side View
1. ExpressCard Slot
2. 7-in-1 Card Reader
3. 2 * USB 2.0 Ports
4. RJ-45 LAN Jack
5. External Monitor Port
Introduction

External Locator - Bottom View

---

**Figure 7**
Bottom View

1. Vent/Fan Intake
2. Battery
3. Hard Disk Bay
   Cover
4. CPU/RAM Bay
   Cover

---

**Overheating**

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

M660SE Mainboard Overview - Top (Key Parts)

1. Audio Codec
   VT1613
2. Audio Amp
3. Hitachi H8
4. Card Reader Control
5. PC Card Assembly
M660SE Mainboard Overview - Bottom (Key Parts)

1. CPU Socket (no CPU installed)
2. Memory Slots DDRII So-DIMM
3. Northbridge VN896
4. ICS Clock Generator
5. Southbridge VT8237A
6. Flash BIOS ROM

Figure 9
Mainboard Bottom Key Parts
Introduction

M660SE Mainboard Overview - Top (Connectors)

1. External Monitor Port
2. RJ-45 LAN Jack
3. USB Port
4. HDD Connector
5. Hotkey Cable Connector
6. Power Hotkey Cable Connector
7. Touch Pad Cable Connector
8. Keyboard Cable Connector
9. Speaker Cable Connector
10. Inverter Cable Connector
11. CCD Cable Connector
1. Introduction

M660SE Mainboard Overview - Bottom (Connectors)

Figure 11
Mainboard Bottom Connectors

1. DC-In Jack
2. Fan Cable Connector
3. LCD Cable Connector
4. Battery Connector
5. Optical Device Drive Connector
6. Bluetooth Cable Connector
7. Card Reader
Chapter 2: Disassembly

Overview

This chapter provides step-by-step instructions for disassembling the M660SE/M665SE series notebook’s parts and sub-systems. When it comes to reassembly, reverse the procedures (unless otherwise indicated).

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

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

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

A box with a will 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-born particulate matter is often attracted to charged surfaces, reducing performance.
10. **Keep track of the components.** When removing or replacing any part, be careful not to leave small parts, such as screws, loose inside the computer.

Cleaning

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

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

<table>
<thead>
<tr>
<th>Component</th>
<th>Remove Battery</th>
<th>Remove HDD</th>
<th>Remove System Memory</th>
<th>Remove Processor</th>
<th>Remove Wireless LAN Module</th>
<th>Remove Modem</th>
<th>Remove Bluetooth</th>
<th>Remove Optical Device</th>
<th>Remove Keyboard</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>page 2 - 5</td>
<td>page 2 - 6</td>
<td>page 2 - 8</td>
<td>page 2 - 10</td>
<td>page 2 - 5</td>
<td>page 2 - 12</td>
<td>page 2 - 14</td>
<td>page 2 - 15</td>
<td>page 2 - 16</td>
</tr>
</tbody>
</table>
Removing the Battery

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

---

Figure 1
Battery Removal

a. Slide the 2 latches and hold latch 2 in place.
b. Slide the battery in the direction of the arrow.
c. Lift the battery out.
Disassembly

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:
1. Turn off the computer, and remove the battery (page 2 - 5).
2. Locate the hard disk bay cover and remove the screws (1 - 3).
3. Remove the bay cover 4.

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 - 6 Removing the Hard Disk Drive
4. Carefully grip the mylar tab 5 and slide the hard disk in the direction of arrow.
5. Lift the hard disk up (Figure d) in the direction of arrow.
6. Remove the screws 6 - 7 and separate the mylar cover 8 from the hard disk 9.
7. Reverse the process to install any new hard disk.

---

**Figure 3**
HDD Assembly
Removal Sequence

c. Slide the HDD in the direction of the arrow.
d. Lift the HDD out of the bay.
e. Remove the screws and separate the mylar cover from the HDD.

---

8. Mylar Cover
9. HDD
Removing the System Memory (RAM)

The computer has two memory sockets for 200 pin Small Outline Dual In-line Memory Modules (SO-DIMM) supporting DDRII 533/667MHz. The main memory can be expanded up to 2GB. The SO-DIMM modules supported are 256MB, 512MB and 1024MB DDRII Modules. The total memory size is automatically detected by the POST routine once you turn on your computer.

Memory Upgrade Process
1. Turn off the computer, remove the battery (page 2 - 5).
2. Locate the CPU/RAM bay cover, and remove screws 1 - 6.
3. Remove the bay cover 7.
4. The RAM will be visible at point 9 on the mainboard.

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.

8. CPU/RAM Bay Cover
   • 7 Screws

2 - 8 Removing the System Memory (RAM)
5. Gently push the two release latches (10 & 11) on the sides of the memory socket in the direction indicated by the arrows (Figure c).
6. The RAM module(s) 12 will pop-up (Figure d), and you can then remove it.

7. Push 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 will only fit one way as defined by its pin alignment. Make sure the module is seated as far into the slot as it will go. DO NOT FORCE IT; it should fit without much pressure.
10. Press the module down towards the mainboard until the slot levers click into place to secure the module.
11. Replace the bay cover and the screws (see page 2 - 8).
12. Restart the computer to allow the BIOS to register the new memory configuration as it starts up.
Disassembly

Removing the Processor

1. Turn off the computer, and remove the battery (page 2 - 5) and the CPU/RAM bay cover (page 2 - 8).
2. The CPU heat sink will be visible at point 1 on the mainboard.
3. Remove screws 2 - 5 from the heat sink in the order indicated.
4. Carefully lift up the heat sink 6 (Figure c) off the computer.

**Figure 6**
Processor Removal

- a. Remove the cover and locate the heat sink.
- b. Remove the 4 screws in the order indicated.
- c. Remove the heat sink.

- Heat Sink
  - 4 Screws
5. Turn the release latch towards the unlock symbol, to release the CPU (Figure d).
6. Carefully (it may be hot) lift the CPU up out of the socket (Figure e).
7. Reverse the process to install a new CPU.
8. When re-inserting the CPU, pay careful attention to the pin alignment, it will fit only one way (DO NOT FORCE IT!).

Figure 7
Processor Removal (cont’d)

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

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

Removing the Processor 2 - 11
Disassembly

Removing the Wireless LAN Module

1. Turn off the computer, remove the battery (page 2 - 5) and the module bay cover (page 2 - 8).
2. The Wireless LAN module will be visible at point 1 on the mainboard.
3. Carefully disconnect cable 2, then remove the screws 3 - 4 from the module socket.
4. The wireless LAN module 5 will pop-up.
5. Lift the wireless LAN module (Figure d) up and off the computer.

Note: Make sure you reconnect the antenna cable to the “Main” socket (Figure b).

2. Removing the Wireless LAN Module

- 2 Screws
Removing the Modem

1. Turn off the computer, remove the battery (page 2 - 5), and remove the hard disk bay cover (page 2 - 6).
2. The modem will be visible at point 1 on the mainboard.
3. Remove screws 2 - 3 from the modem module.
4. Lift the modem up off the socket 4 and separate the modem from the connector 5.
5. Lift the modem 6 up and off the computer.

Figure 9
Modem Removal

a. Remove the cover and locate the modem.
b. Remove the screws.
c. Lift the modem up off the socket and disconnect the connector.
d. Lift the modem out.
Disassembly

Removing the Bluetooth Module

1. Turn off the computer, remove the battery (page 2 - 5) and remove the hard disk bay cover (page 2 - 6).
2. The Bluetooth module will be visible at point 1 on the mainboard.
3. Carefully separate the module from the connector 2 and disconnect the cable 3.
4. Lift the Bluetooth module 4 (Figure c) up and off the computer.

Figure 10
Bluetooth Removal

a. Remove the cover and locate the Bluetooth module.
b. Separate the module from connector and disconnect the cable.
c. Remove Bluetooth module.
Removing the Optical (CD/DVD) Device

1. Turn off the computer, remove the battery (page 2 - 5).
2. Locate the hard disk bay cover and remove screws (1 - 3).
3. Remove the bay cover 4.
4. Remove the screw at point 5, and use a screwdriver to carefully push out the optical device at point 6.
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.

Disassembly

Figure 11
Optical Device Removal

a. Remove the screws.
b. Remove the cover.
c. Remove the screw and push the optical device out off the computer at point 6.
d. Remove the optical device.
Disassembly

Removing the Keyboard

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

Re-Inserting the Keyboard

When re-inserting the keyboard firstly align the five keyboard tabs at the bottom of the keyboard with the slots in the case.
Appendix A: Part Lists

This appendix breaks down the M660SE/M665SE 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>
<thead>
<tr>
<th>Part</th>
<th>Pages#</th>
</tr>
</thead>
<tbody>
<tr>
<td>Top - (M660SE)</td>
<td>page A - 3</td>
</tr>
<tr>
<td>Top - (M665SE)</td>
<td>page A - 4</td>
</tr>
<tr>
<td>Bottom - (M660SE/M665SE)</td>
<td>page A - 5</td>
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<td>Combo - (M660SE/M665SE)</td>
<td>page A - 8</td>
</tr>
<tr>
<td>DVDRW - (M660SE/M665SE)</td>
<td>page A - 9</td>
</tr>
</tbody>
</table>
Part Lists

Top (M665SE)

Figure A - 2
Top (M665SE)
Figure A - 5
CDRW (M660SE/M665SE)
Part Lists

Combo (M660SE/M665SE)

<table>
<thead>
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<td>6-339-M665SE-000</td>
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<td>3</td>
<td>SCREW M6X1.0</td>
<td>6-339-61101-000</td>
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<td>BEZEL MODLE FOR DVD COMBO</td>
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Figure A - 6
Combo (M660SE/M665SE)
Part Lists

DVDRW (M660SE/M665SE)

---

Figure A - 7
DVDRW (M660SE/M665SE)

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Part Lists
Appendix B: Schematic Diagrams

This appendix has circuit diagrams of the M660SE/M665SE notebook’s PCB’s. The following table indicates where to find the appropriate schematic diagram.

<table>
<thead>
<tr>
<th>Diagram - Page</th>
<th>Diagram - Page</th>
<th>Diagram - Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>SYSTEM BLOCK DIAGRAM</td>
<td>Page B - 2</td>
<td>VT8237A-1</td>
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<tr>
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<td>- Page B - 16</td>
</tr>
<tr>
<td>CLOCK GENERATOR</td>
<td>Page B - 3</td>
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<tr>
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<td>- Page B - 17</td>
</tr>
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<td>Page B - 4</td>
<td>VT8237A-3</td>
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<tr>
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<td></td>
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<td>Page B - 5</td>
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</tr>
<tr>
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<td></td>
<td>- Page B - 19</td>
</tr>
<tr>
<td>VN896-1</td>
<td>Page B - 6</td>
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</tr>
<tr>
<td></td>
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</tr>
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</tr>
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</tr>
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</tr>
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<tr>
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</tr>
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</tr>
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</tr>
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</tr>
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<td></td>
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</tr>
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<td></td>
<td>- Page B - 28</td>
</tr>
<tr>
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<tr>
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</tr>
<tr>
<td>HOTKEY LT BOARD</td>
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<td>PWR HOT BOARD</td>
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<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AUDIO &amp; MODEM BOARD</td>
<td>Page B - 38</td>
<td></td>
</tr>
<tr>
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</tr>
<tr>
<td>CLICK BOARD</td>
<td>Page B - 39</td>
<td></td>
</tr>
<tr>
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<td></td>
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<tr>
<td>USB BOARD</td>
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<td></td>
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<tr>
<td>FINGERPRINT BOARD</td>
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**Version Note**

The schematic diagrams in this chapter are based upon version 6-7P-M66U7-001. If your mainboard (or other boards) are a later version, please check with the Service Center for updated diagrams (if required).
Yonah Ball-out

Route VCCSENSE and VSSSENSE trace at 27.4 ohms with 50mil spacing.

Please near CPU...
Schematic Diagrams

VGA G72M-3

Sheet 13 of 40
VGA G72M-3
Schematic Diagrams

VT8237A-3

Sheet 17 of 40
VT8237A-3
CPU FAN, LPC ROM

Schematic Diagrams

FAN CONTROL

FW ROM

Sheet 25 of 40
CPU FAN, LPC ROM

Normal Low

Protected

Block 0~7

Block 0

Block 1~7

HighLow

High

Low
1.05VS, 1.5V, 2.5VS

Schematic Diagrams

Sheet 30 of 40
1.05VS, 1.5V, 2.5VX
1.8V, 0.9VS

Schematic Diagrams

Sheet 32 of 40
1.8V, 0.9VS
Schematic Diagrams

VDD3, VDD5

Sheet 33 of 40
VDD3, VDD5

B - 34  VDD3, VDD5
FINGERPRINT BOARD

Sheet 40 of 40
FINGERPRINT BOARD

B.Schematic Diagrams