

SERVICE MANUAL

M660SRU / M665SRU

notebook



Notebook Computer
M660SRU/M665SRU
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 *M660SRU/M665SRU* 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 18.5V, 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

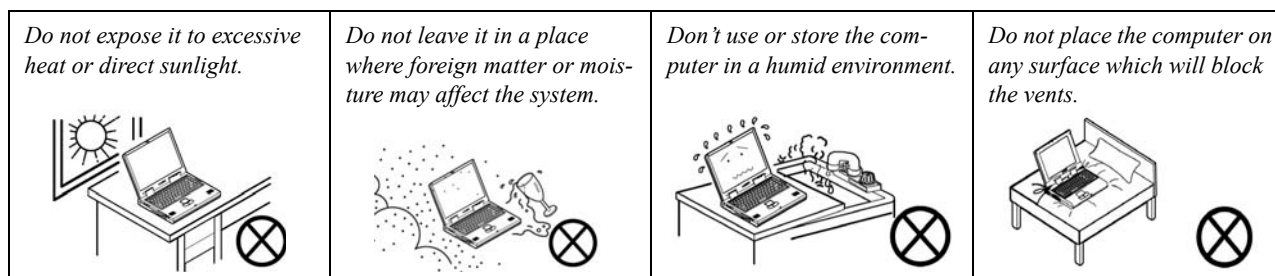
Instructions for Care and Operation

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

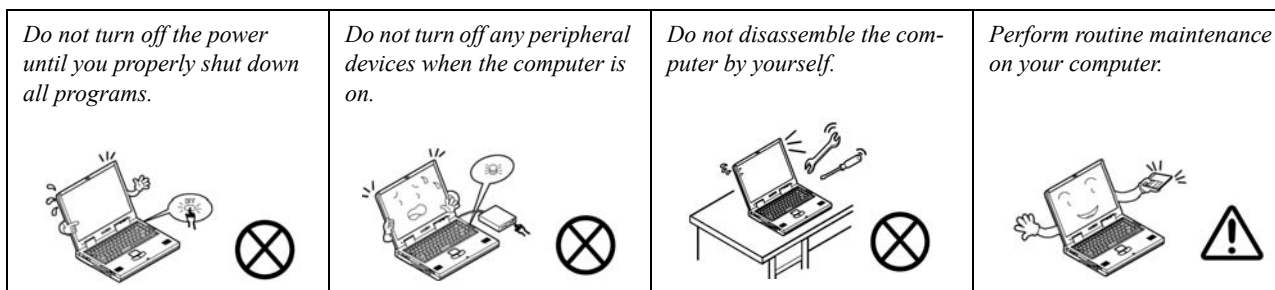
1. **Don't drop it, or expose it to shock.** If the computer falls, the case and the components could be damaged.



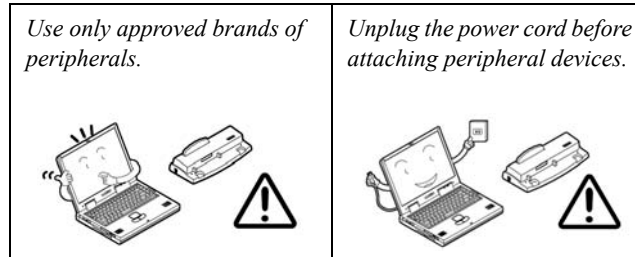
2. **Keep it dry, and don't overheat it.** Keep the computer and power supply away from any kind of heating element. This is an electrical appliance. If water or any other liquid gets into it, the computer could be badly damaged.



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.



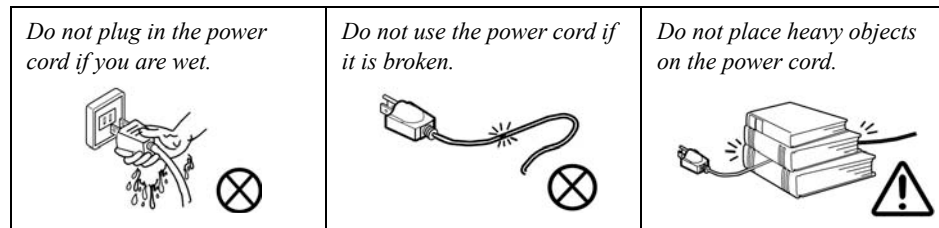
4. **Avoid interference.** Keep the computer away from high capacity transformers, electric motors, and other strong magnetic fields. These can hinder proper performance and damage your data.
5. **Take care when using peripheral devices.**



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 remove any batteries from the computer while it is powered on.
- 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.

Related Documents

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

User's Manual on CD

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

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Chapter 1: Introduction

Overview

This manual covers the information you need to service or upgrade the *M660SRU/M665SRU* 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 *M660SRU/M665SRU* series notebook is designed to be upgradeable. See *“Disassembly” on page 2 - 1* for a detailed description of the upgrade procedures for each specific component. Please note the warning and safety information indicated by the “” symbol.

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

System Specifications



Latest Specification Information

The specifications listed in this Appendix are correct at the time of going to press. Certain items (particularly processor types/speeds and CD/DVD device types) may be changed, delayed or updated due to the manufacturer's release schedule. Check with your service center for details.

Feature	Specification
Processor	Intel® Core™2 Duo Processor (478-pin) Micro-FC-PGA Package, Socket P T7300/ T7500/ T7700/ T7800 65nm (65 Nanometer) Process Technology 4MB On-die L2 Cache & 800MHz FSB 2.0/ 2.2/ 2.4/ 2.6 GHz
	Intel® Core™2 Duo Processor (478-pin) Micro-FC-PGA Package, Socket P T7100 65nm (65 Nanometer) Process Technology 2MB On-die L2 Cache & 800MHz FSB 1.8 GHz
	Intel® Celeron® M Processor (478-pin) Micro-FCPGA Package 530/ 540/ 550 65nm (65 Nanometer) Process Technology 1MB On-die L2 Cache & 533MHz FSB 1.73/ 1.86/ 2.0 GHz
Core Logic	VIA VN896CE + 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)
LCD	15.4" WXGA (1280 * 800) TFT LCD OR 15.4" WXGA+ (1440 * 900) TFT LCD

Feature	Specification	
Video Adapter	NVIDIA GeForce Go 8400M G (NB8M-SE) Discrete Video System (External On Board) TurboCache™ Total Graphics Memory up to 895MB (with System Memory) Supports Dual Display and Ergonomic Refresh Rates up to 2048 * 1536 at 85Hz Supports Microsoft DirectX 10.0 Applications and Shader Model 4.0 128MB DDRIII (DDR3) Video Memory On Board	
Security	Security (Kensington® Type) Lock Slot	BIOS Password
BIOS	One 8Mb SPI Flash ROM	Phoenix™ BIOS
Storage	One Changeable 12.7mm(h) Optical Device (CD/DVD) Type Drive (see "Optional" on page 1 - 4 for drive options) Easy Changeable 2.5" 9.5 mm (h) SATA (Serial) HDD	
Audio	Integrated AZALIA Compliant Interface (HDA) 3D Stereo Enhanced Sound System Sound-Blaster PRO™ Compatible 2 * Built-In Speakers Built-In Microphone	
Keyboard & Pointing Device	Winkey Keyboard	Built-In TouchPad with Scrolling Function
Interface	Three USB 2.0 Ports One RJ-11 Modem Jack One RJ-45 LAN Jack One DC-in Jack	One External Monitor Port One Headphone-Out Jack One Microphone-In Jack One Recording Line-In Jack One S/PDIF Out Jack
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	
ExpressCard Slot	One ExpressCard/34(54) Slot	
Communication	AZALIA 56K Plug & Play Fax/Modem V.90/92 Compliant 10M/100Mb Base-TX Ethernet LAN 802.11 b/g USB Wireless LAN Module (Option) Bluetooth 2.0 + EDR (Enhanced Data Rate) Module (Factory Option) 1.3M or 2.0M Pixel USB PC Camera Module (Factory Option)	

Introduction

Feature	Specification	
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 AC input 100 - 240V, 50 - 60Hz, DC Output 19V, 3.42A (65 Watts) OR 18.5V, 3.5A (65 Watts)	
Battery	6 Cell Smart Lithium-Ion Battery Pack, 4000mAh / 4400mAh	
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	<u>Optical Drive Module Options:</u> DVD/CD-RW Combo Drive Module DVD-Dual Drive Module (Super Multi) Fingerprint Reader Module (Factory Option)	802.11 b/g USB Wireless LAN Module 1.3M or 2.0M Pixel USB PC Camera Module (Factory Option) Bluetooth 2.0 + EDR (Enhanced Data Rate) Module (Factory Option)

External Locator - Top View with LCD Panel Open



Figure 1
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
10. Fingerprint Reader (Factory Option)

Introduction

External Locator - Front & Rear Views

Figure 2
Front Views

- 1. LED Indicators



Figure 3
Rear Views

- 1. 1 * USB Port
- 2. DC-In Jack
- 3. Battery



External Locator - Left & Right Side Views



Figure 4
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



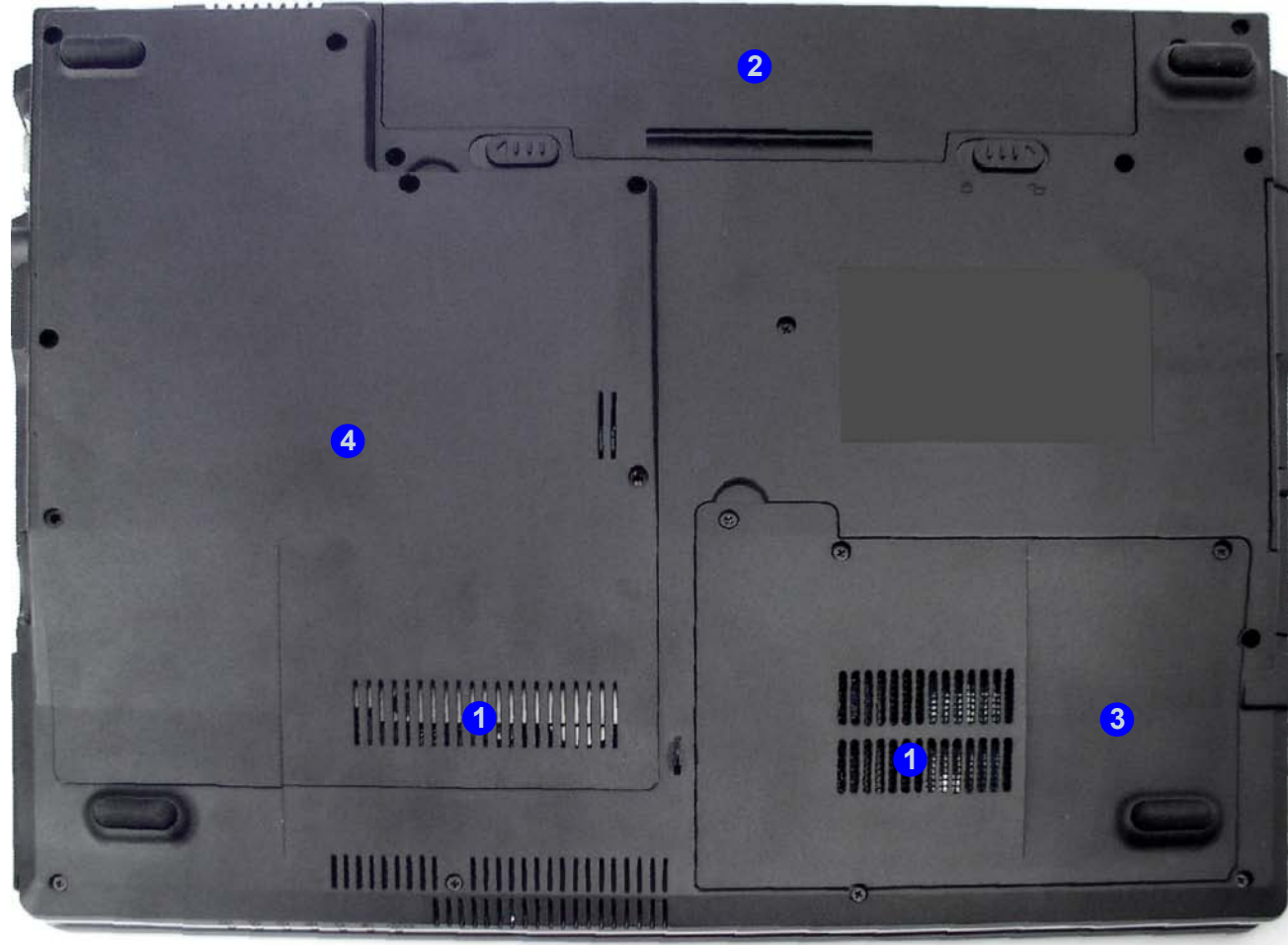
Figure 5
Right Side View

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

External Locator - Bottom View

Figure 6
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.

Mainboard Overview - Top (Key Parts)

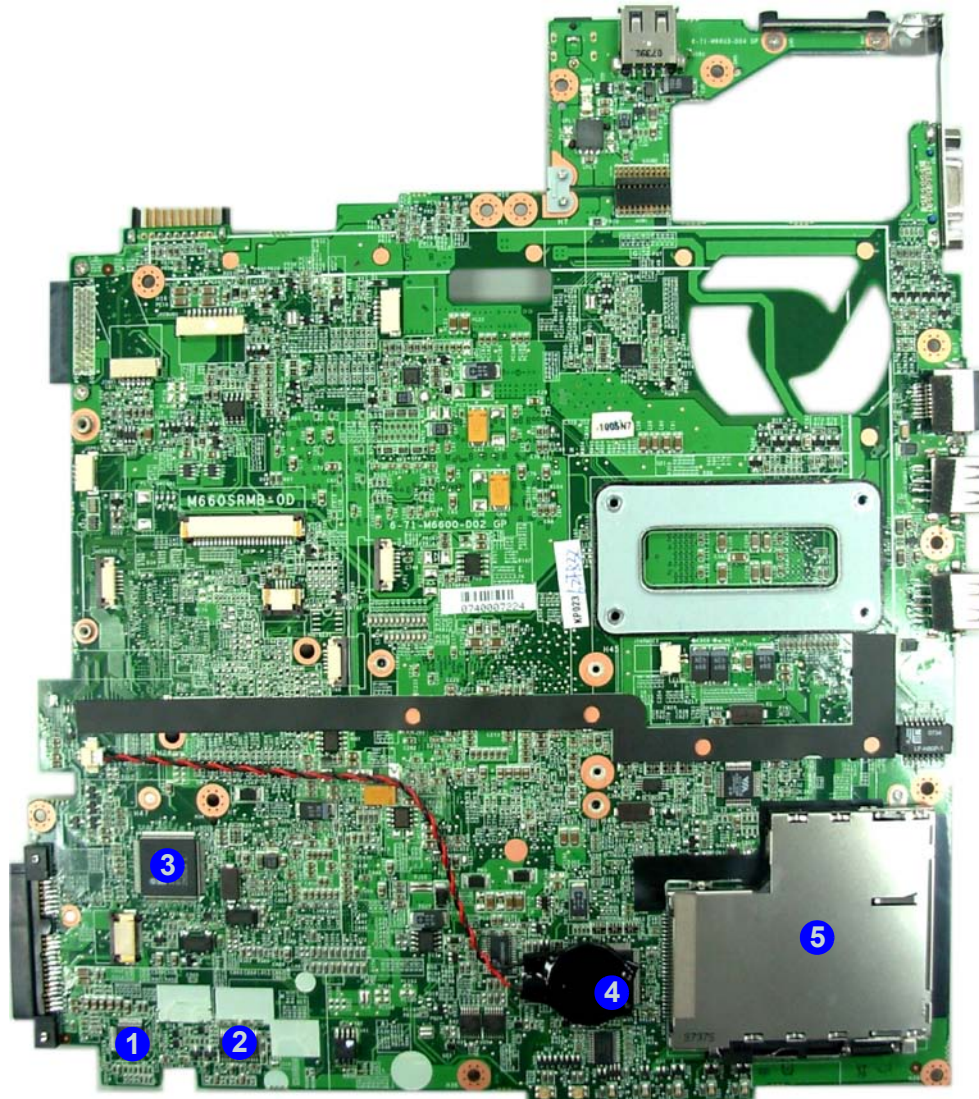


Figure 7
**Mainboard Top
Key Parts**

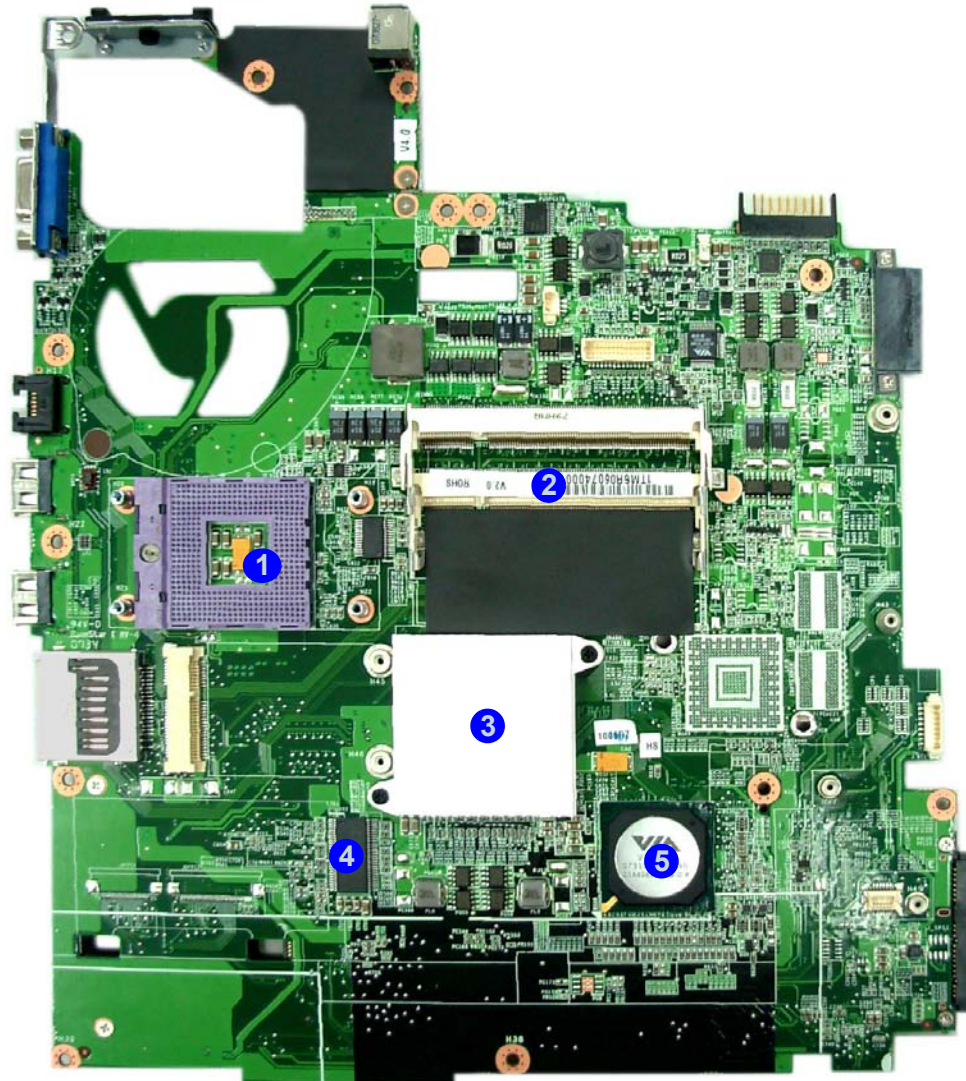
1. Audio Codec
VT1613
2. Audio Amp
3. Hitachi H8
4. Card Reader
Control
5. ExpressCard
Assembly

Introduction

Figure 8
**Mainboard 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

Mainboard Overview - Bottom (Key Parts)



Mainboard Overview - Top (Connectors)

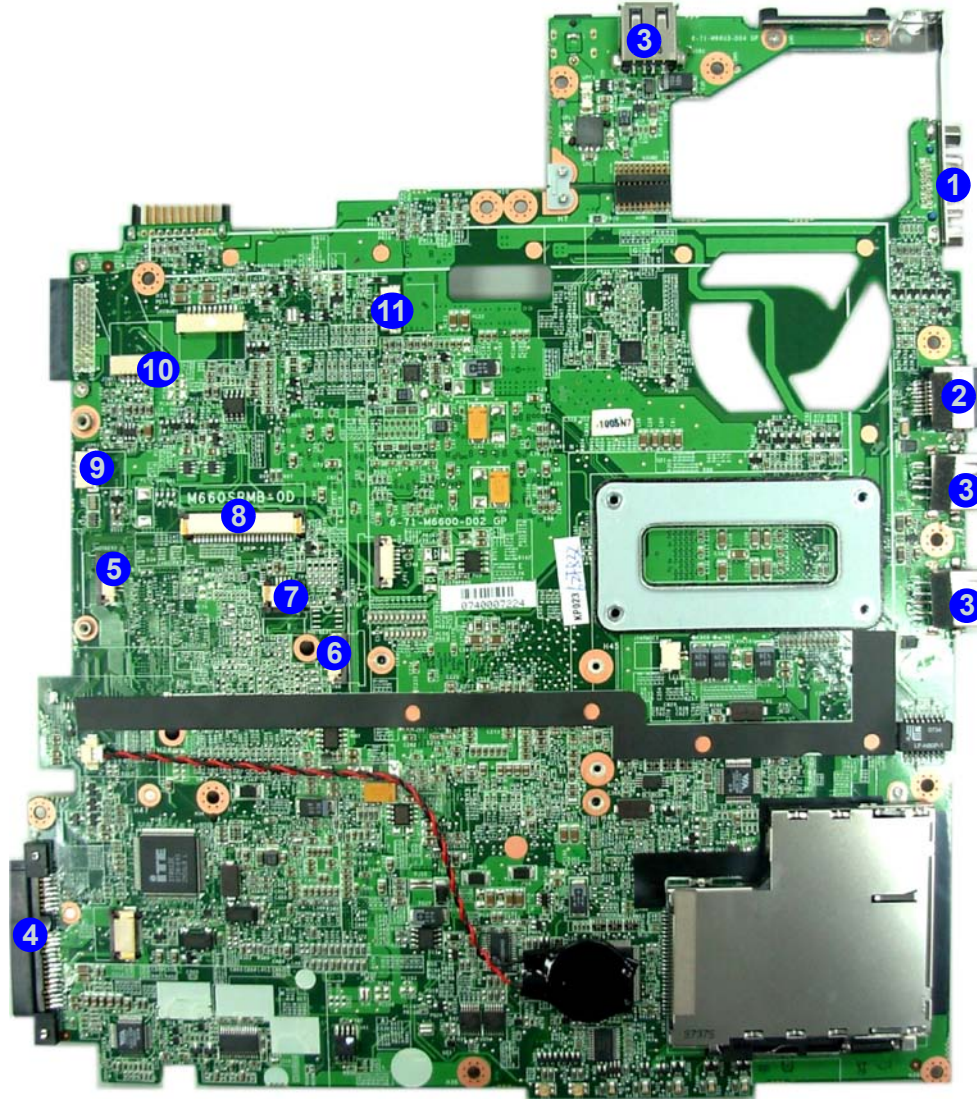


Figure 9
Mainboard Top Connectors

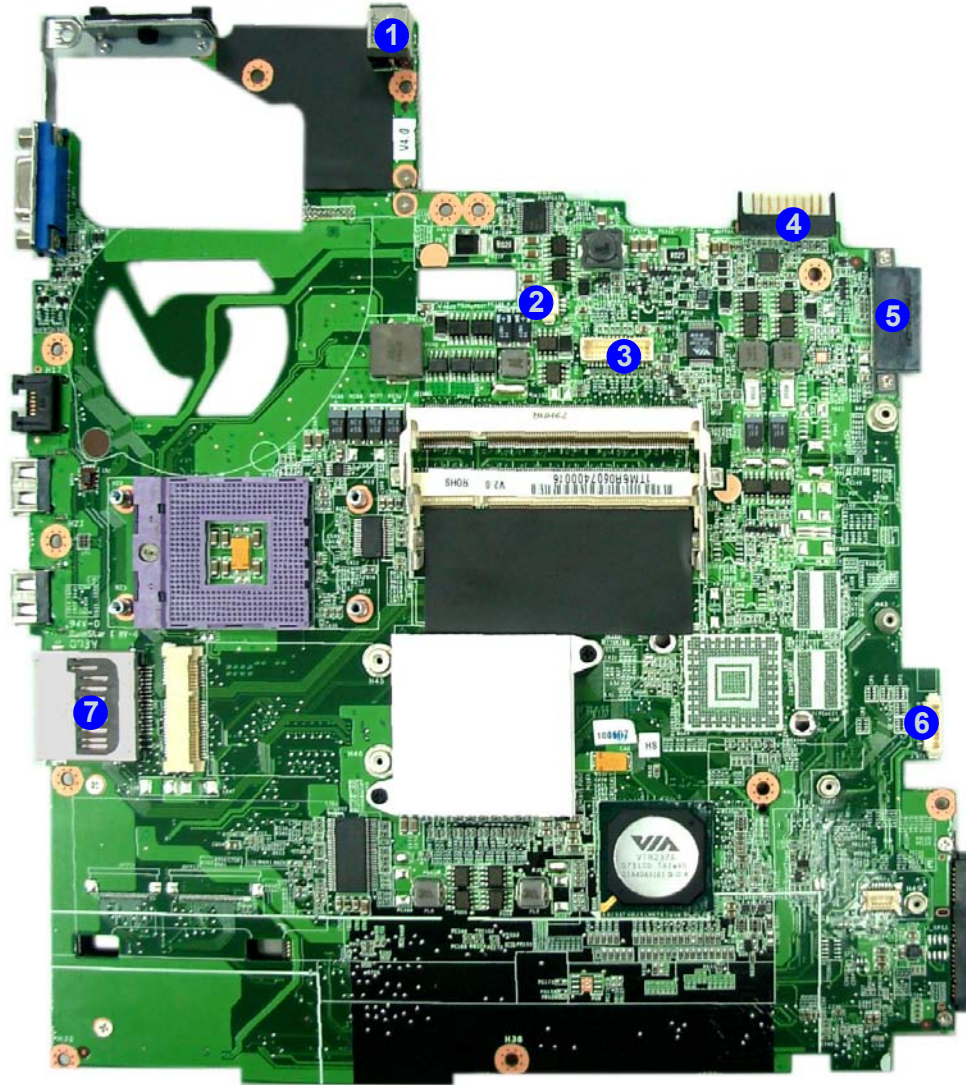
1. External Monitor Port
2. RJ-45 LAN Jack
3. USB Port
4. HDD Connector
5. Hotkey Cable Connector
6. Power Hotkey Cable Connector
7. Touch Pad Cable Connector
8. Keyboard Cable Connector
9. Speaker Cable Connector
10. Inverter Cable Connector
11. CCD Cable Connector

Introduction

Figure 10
**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

Mainboard Overview - Bottom (Connectors)




Chapter 2: Disassembly



Overview

This chapter provides step-by-step instructions for disassembling the *M660SRU/M665SRU* series notebook's parts and subsystems. When it comes to reassembly, reverse the procedures (unless otherwise indicated).

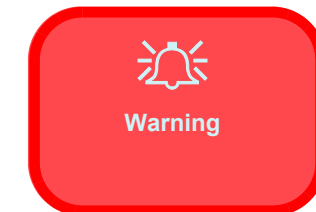
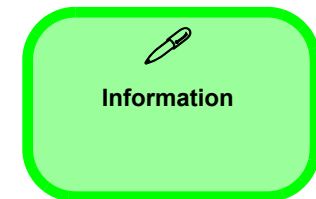
We suggest you completely review any procedure before you take the computer apart.

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

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

A box with a  will 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 System Memory:

1. Remove the battery *page 2 - 5*
2. Remove the system memory *page 2 - 8*

To remove the Processor:

1. Remove the battery *page 2 - 5*
2. Remove the processor *page 2 - 10*

To remove the Wireless LAN Module:

1. Remove the battery *page 2 - 5*
2. Remove the wireless LAN *page 2 - 12*

To remove the Modem :

1. Remove the battery *page 2 - 5*
2. Remove the modem *page 2 - 13*

To remove the Bluetooth:

1. Remove the battery *page 2 - 5*
2. Remove the bluetooth *page 2 - 14*

To remove the Optical Device:

1. Remove the battery *page 2 - 5*
2. Remove the Optical device *page 2 - 15*

To remove the Keyboard:

1. Remove the battery *page 2 - 5*
2. Remove the keyboard *page 2 - 16*

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.

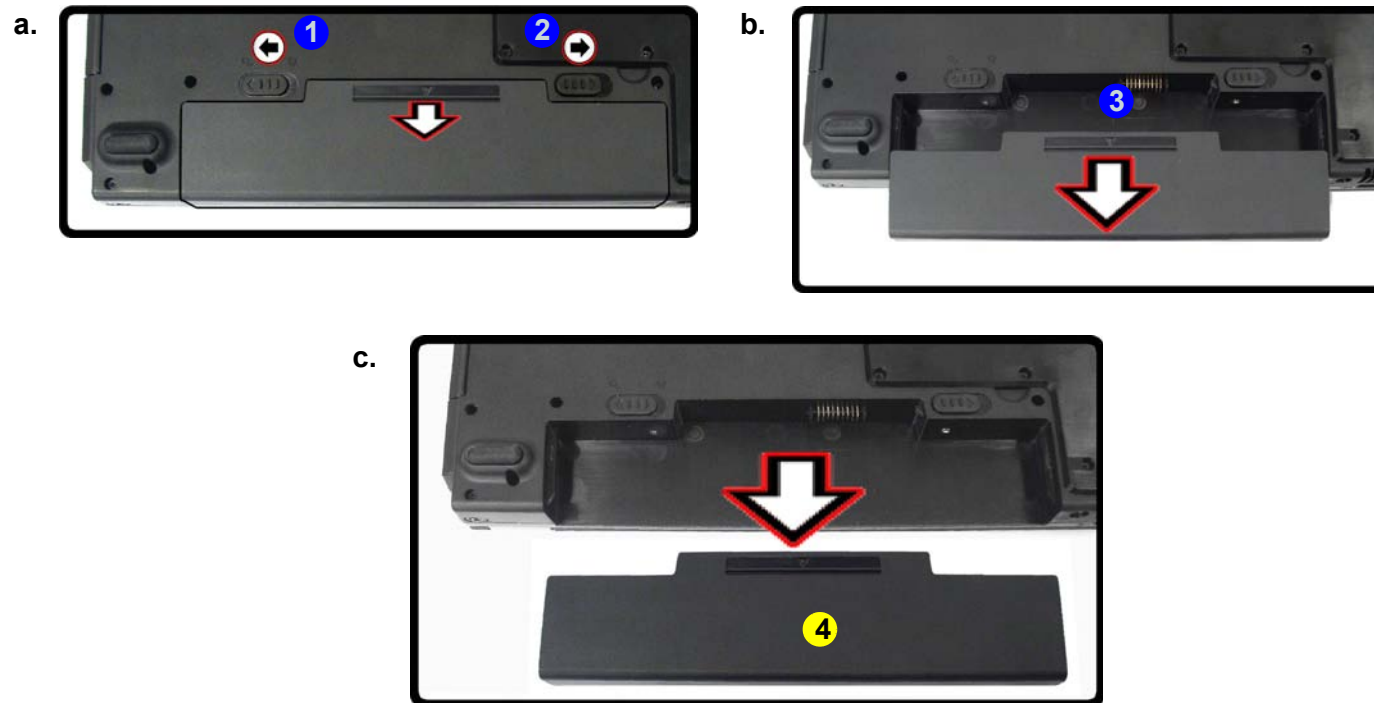
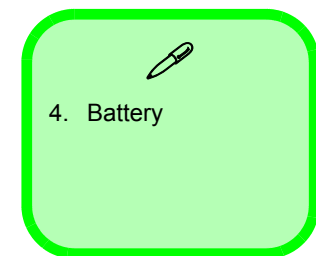


Figure 1
Battery Removal

- 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

Figure 2
**HDD Assembly
Removal**

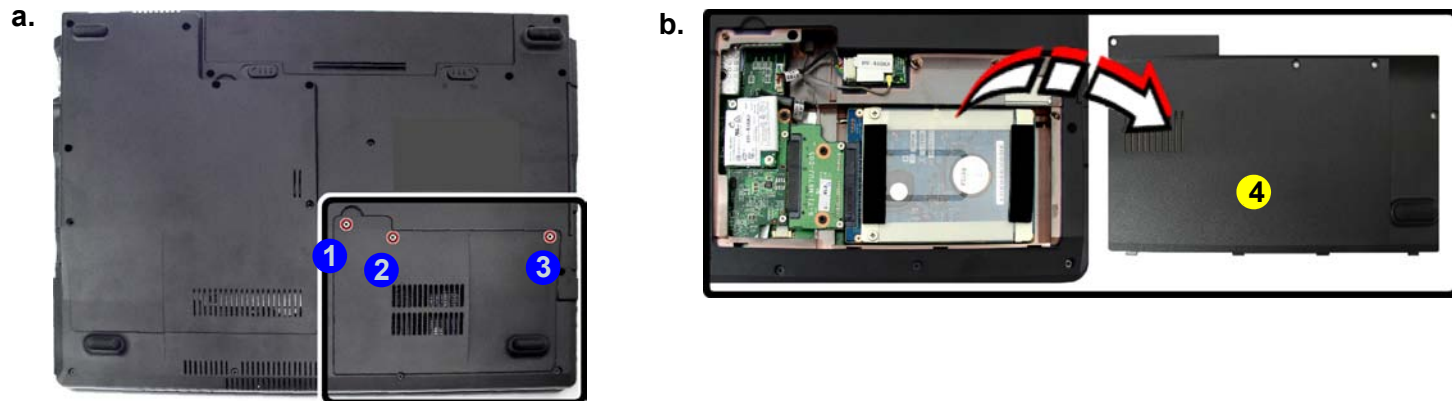
- Locate the HDD bay cover and remove the screws.
- Remove the bay cover.

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](#)).
- Locate the hard disk bay cover and remove the screws (1 - 3).
- Remove the bay cover (4).



4. HDD Bay Cover

- 3 Screw



HDD System Warning

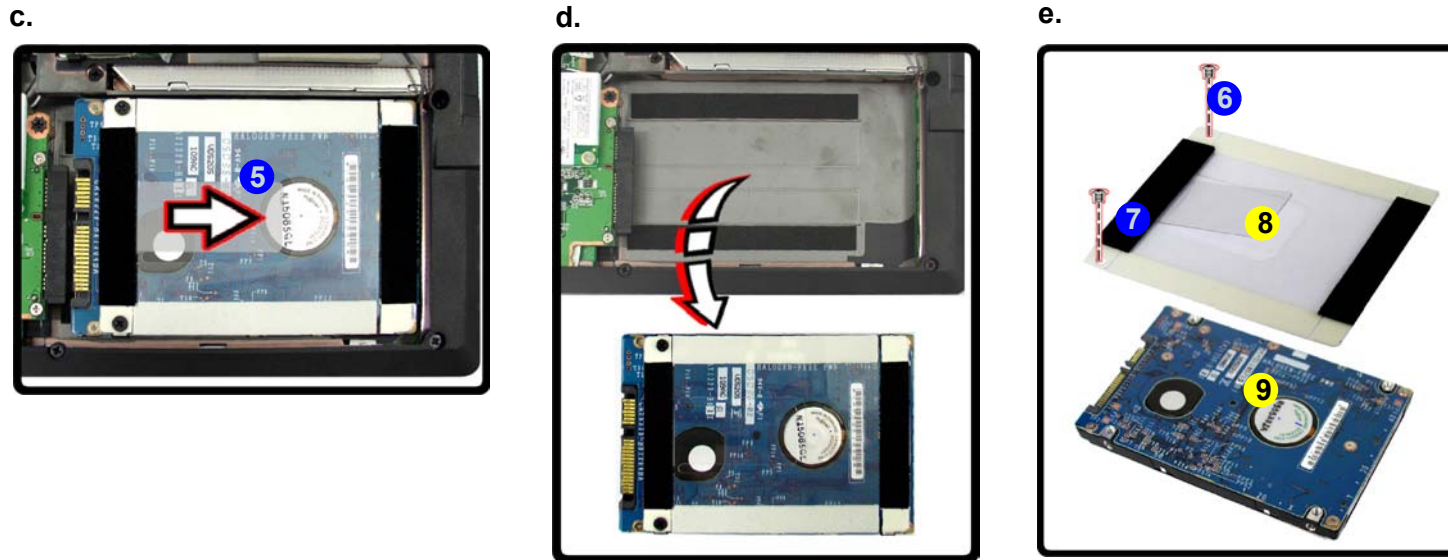
New HDD's are blank. Before you begin make sure:

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.

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



- Figure 3*
HDD Assembly Removal Sequence
- Slide the HDD in the direction of the arrow.
 - Lift the HDD out of the bay.
 - Remove the screws and separate the mylar cover from the HDD.



Disassembly

Figure 4
**RAM Module
Removal**

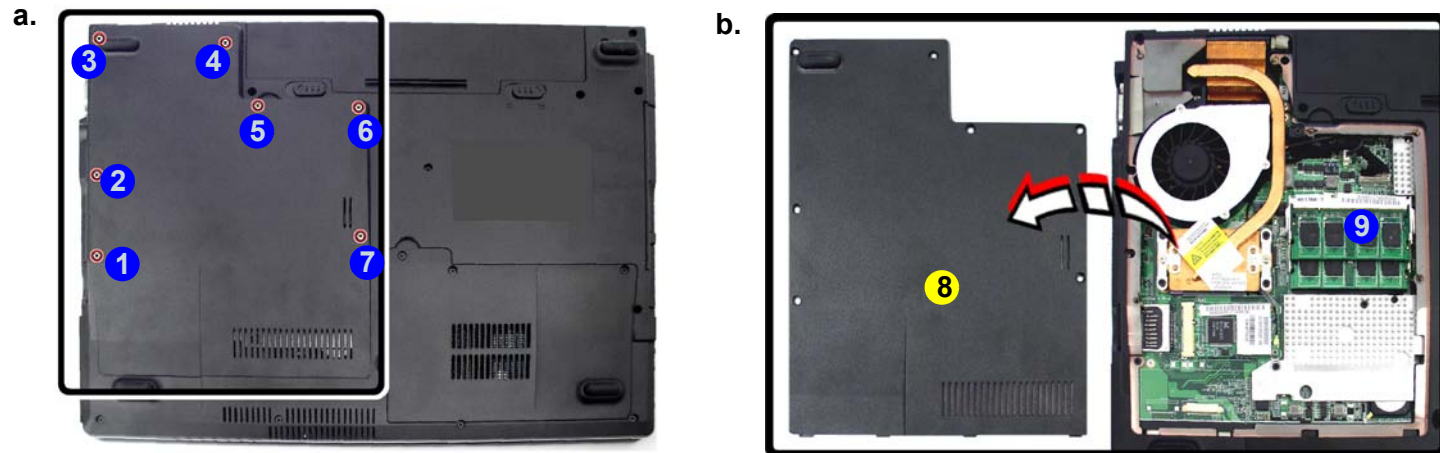
- Remove the screws.
- Remove the cover.

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

- Turn **off** the computer, remove the battery ([page 2 - 5](#)).
- Locate the CPU/RAM bay cover, and remove screws **1** - **7**.
- Remove the bay cover **8**.
- 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.

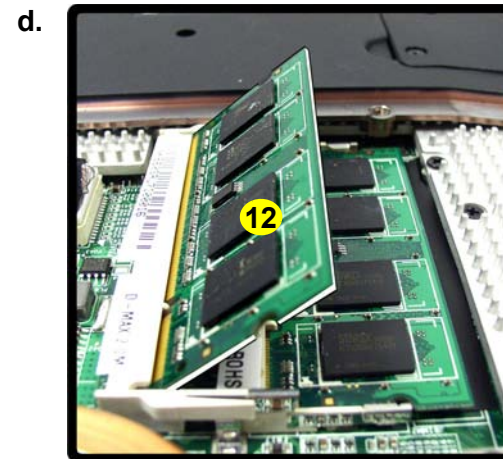
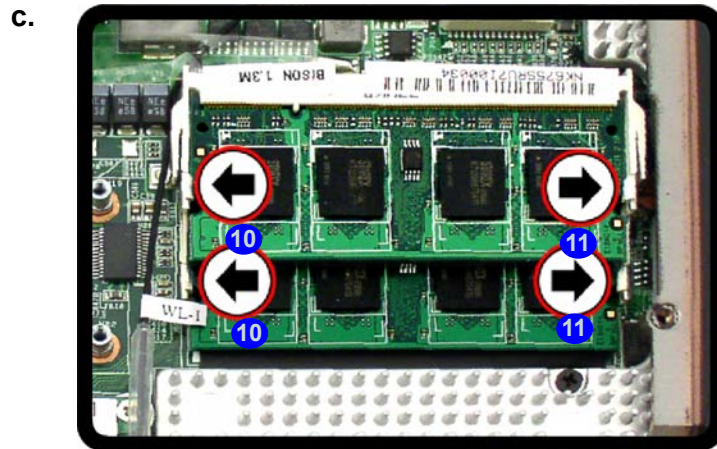


8. CPU/RAM Bay Cover

- 7 Screws

Figure 5
Memory Removal Sequence

- c. Push the release latch(es).
- d. Remove the module(s).



- 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.



12 RAM Module(s)

Disassembly

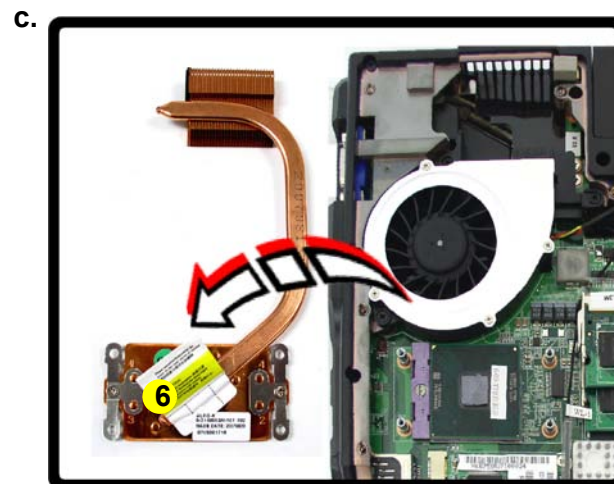
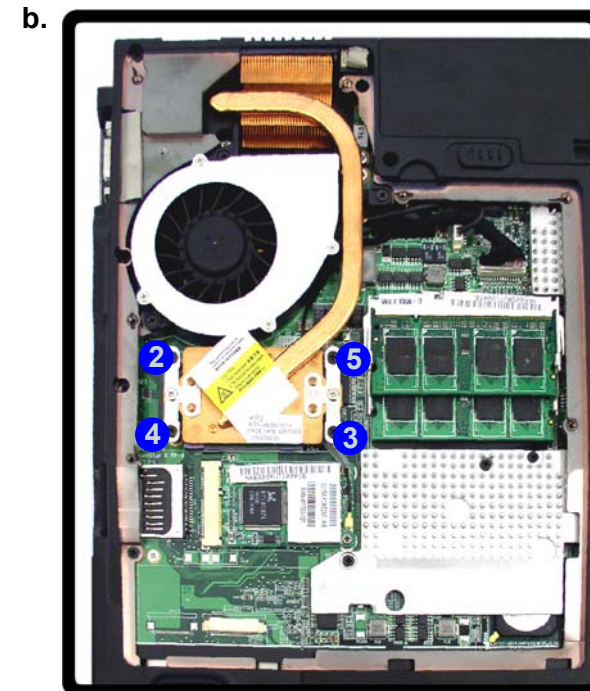
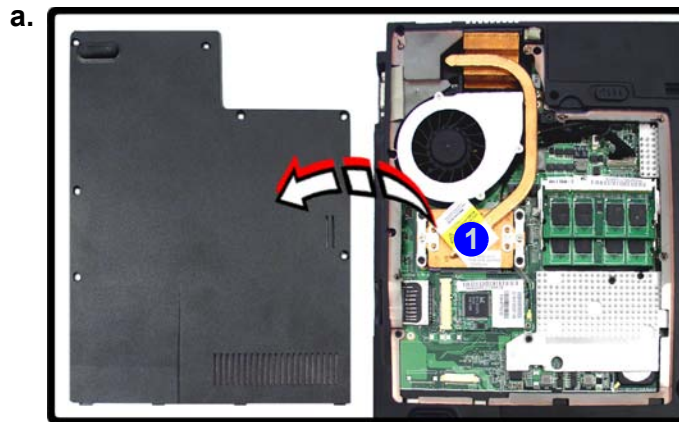
Figure 6

Processor Removal

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

Removing the Processor

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



6. Heat Sink

- 4 Screws


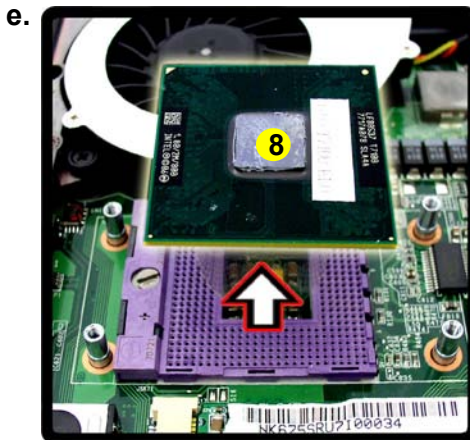
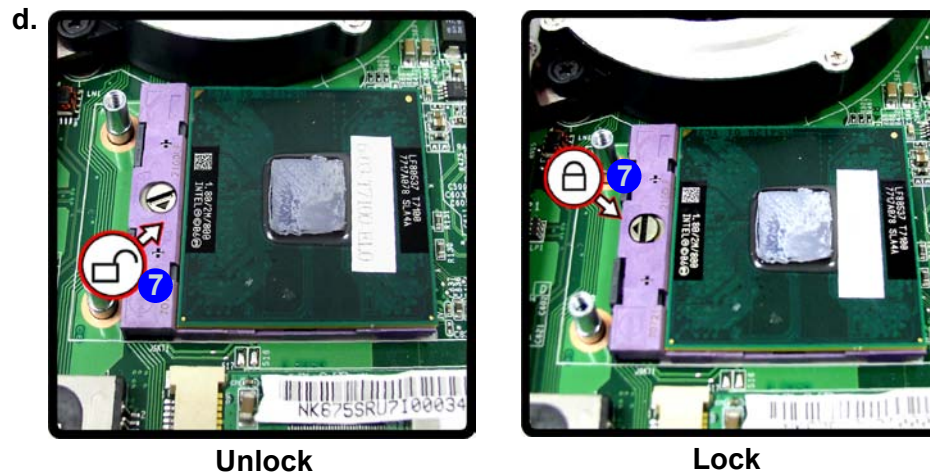

- Turn the release latch **7** towards the unlock symbol , to release the CPU (*Figure d*).
- Carefully (it may be hot) lift the CPU **8** up out of the socket (*Figure e*).
- Reverse the process to install a new CPU.
- When re-inserting the CPU, pay careful attention to the pin alignment, it will fit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

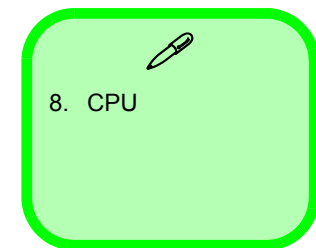
Figure 7
Processor Removal
(cont'd)

- Turn the release latch to unlock the CPU.
- 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.

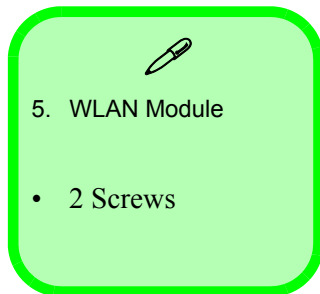


Disassembly

Figure 8
**Wireless LAN
 Module Removal**

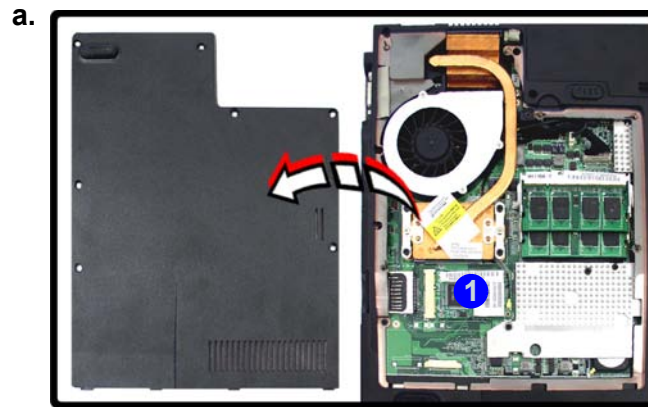
- a. Remove the cover and locate the heat sink.
- b. Disconnect the cable and remove the 2 screws.
- c. The WLAN module will pop up.
- d. Remove the WLAN module.

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



Removing the Wireless LAN Module

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



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.

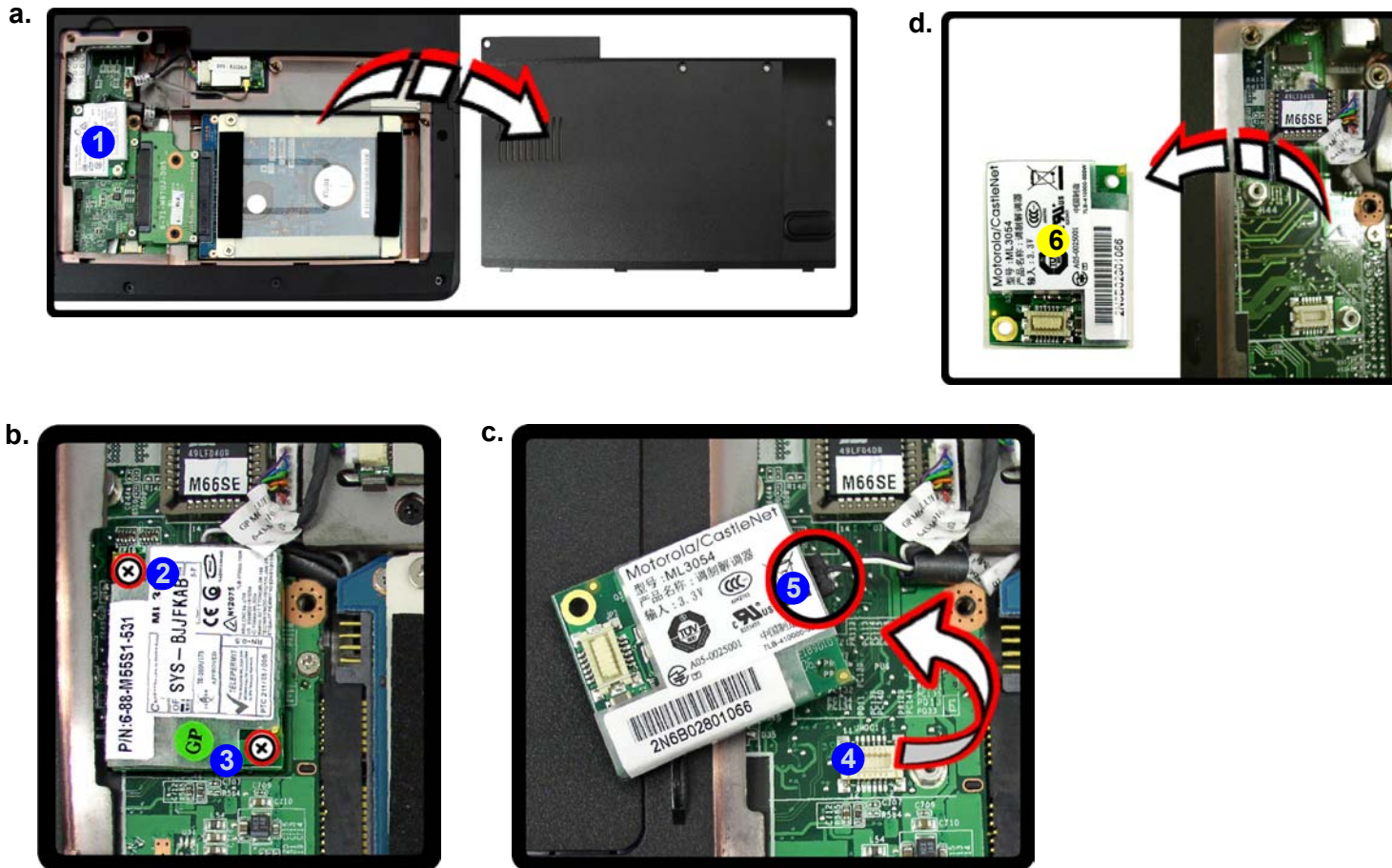
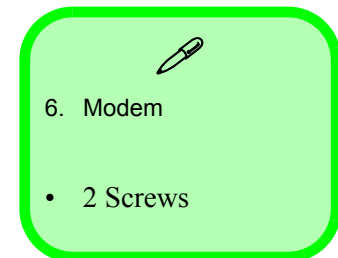


Figure 9
Modem Removal

- 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.



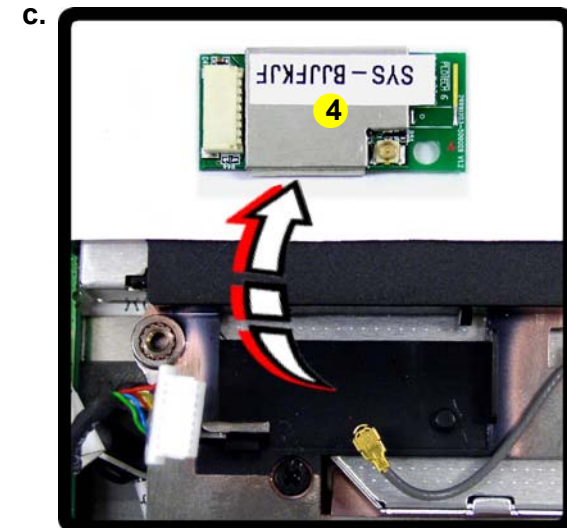
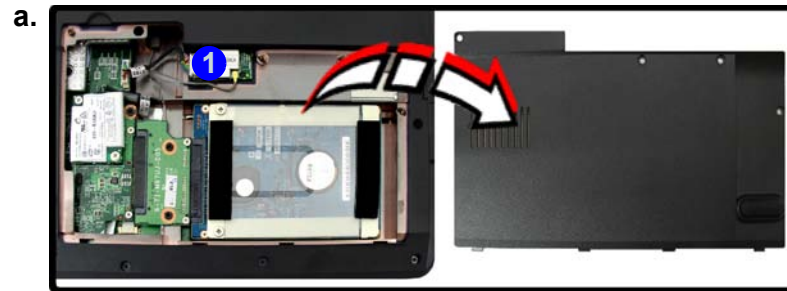
Disassembly

Figure 10
Bluetooth Removal

- Remove the cover and locate the Bluetooth module.
- Separate the the module from connector and disconnect the cable.
- Remove Bluetooth module.

Removing the Bluetooth Module

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



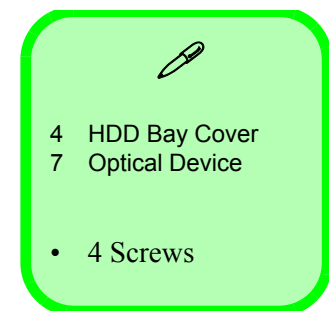
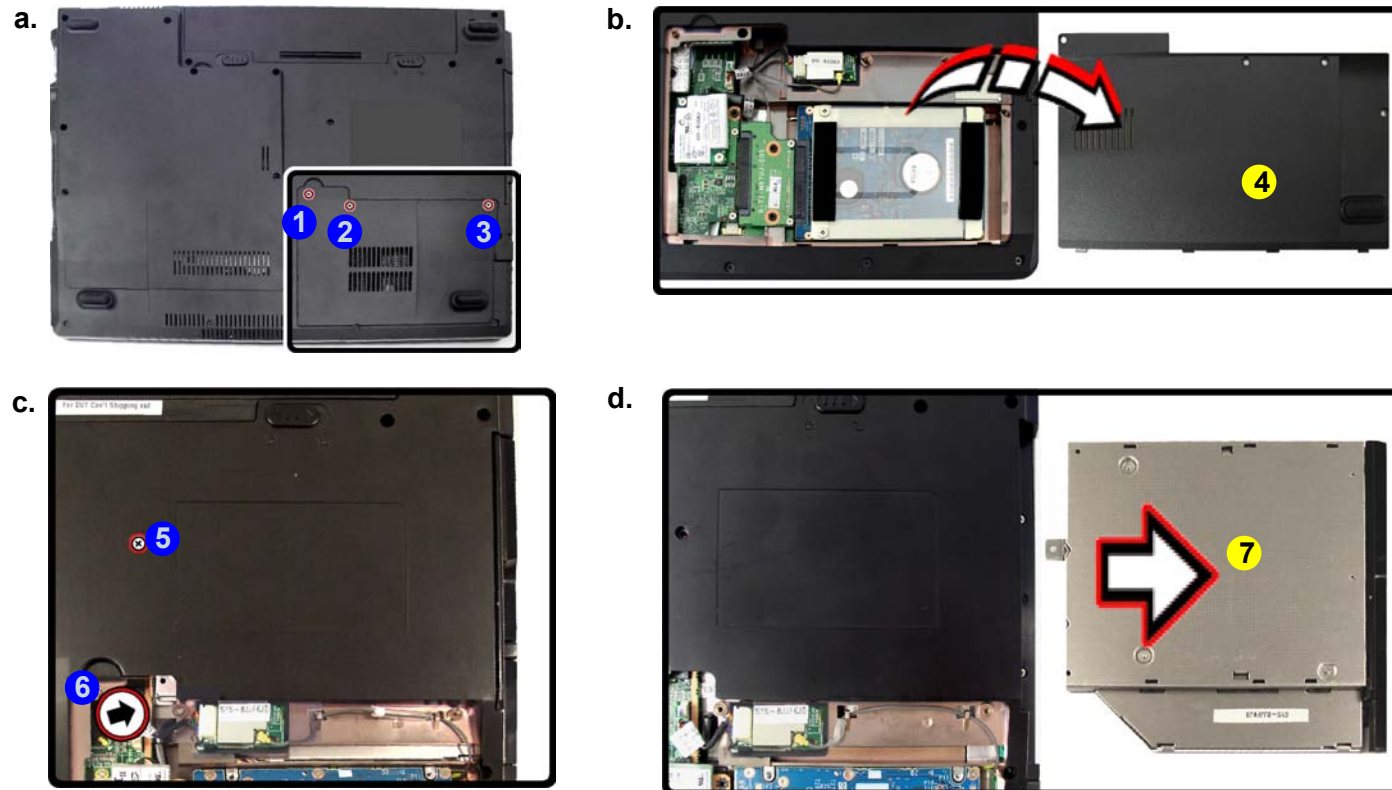
4. Bluetooth Module

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.

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.



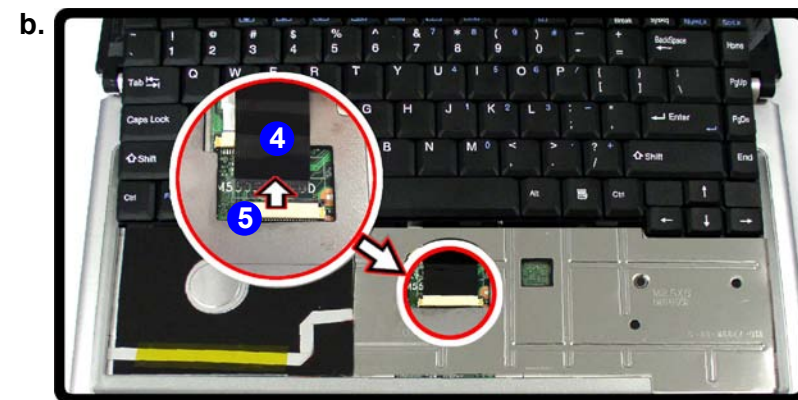
Disassembly

Figure 12
Keyboard Removal

- Press the three latches to release the keyboard.
- Lift the keyboard up and disconnect the cable from the locking collar.
- Remove the keyboard.

Removing the Keyboard

- Turn **off** the computer, and remove the battery ([page 2 - 5](#)).
- 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).
- Carefully lift the keyboard up, being careful not to bend the keyboard ribbon cable ([Figure b](#)).
- Disconnect the keyboard ribbon cable **4** from the locking collar socket **5**.
- Carefully lift up the keyboard **6** ([Figure c](#)) off the computer.



Keyboard Tabs



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.



6. Keyboard

Appendix A:Part Lists

This appendix breaks down the *M660SRU/M665SRU* 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**

Part	Pages#
Top with Fingerprint - (M660SRU)	<i>page A - 3</i>
Top without Fingerprint - (M660SRU)	<i>page A - 4</i>
Top with Fingerprint - (M665SRU)	<i>page A - 5</i>
Top without Fingerprint - (M665SRU)	<i>page A - 6</i>
Bottom - (M660SRU/M665SRU)	<i>page A - 7</i>
LCD - (M660SRU/M665SRU)	<i>page A - 8</i>
Combo - (M660SRU/M665SRU)	<i>page A - 9</i>
DVD-Dual RW - (M660SRU/M665SRU)	<i>page A - 10</i>

Top with Fingerprint (M660SRU)

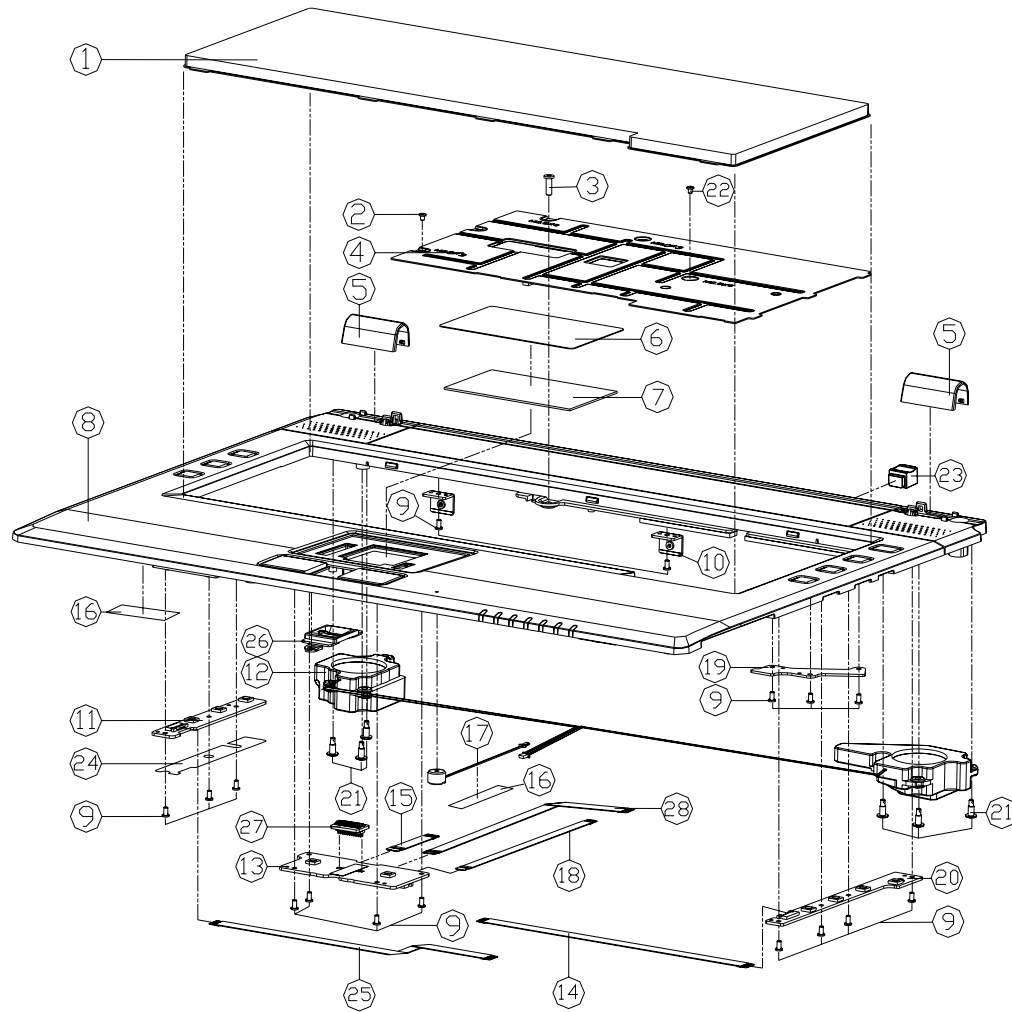


Figure A - 1
Top
with Fingerprint
(M660SRU)

ITEM	PART NAME	PART NO	REMARK
1	KEYBOARD(OPTION)	6-80-M55G0-012-1	
2	SCREW M2*3L KI NI ICT GY-PATCH	6-35-B1120-3RE	
3	SCREW M2.5*8L KI BK/Z NY ICT	6-35-B6125-BR0	
4	KEYBOARD SHIELDING M660JE	6-33-M66E7-011	
5	HINGE COVER FOR M660N	6-42-M66N2-011	
6	TRACKPAD MYLAR (A-Z) M660JE	6-40-M55G2-025	
7	TOUCH PAD TM66PDZIR389 M660JE	6-49-M66E2-010	
8	REAR REINFORCE BRACKET M660JE	6-39-M66U2-022	
9	SCREW M2*3L KI NI ICT NY	6-35-B1120-3RA	
10	REAR REINFORCE BRACKET	6-33-M66N2-031	
11	HOTKEY LT BOARD	6-77-M66NS-D11	
12	SPEAKER L/R 25MM ØH 15W 4ΩM 185MM/24MM	6-23-5M66N-012	
13	CLICK BOARD	6-77-M66U2-D05	
14	FFC CABLE FOR PWR-HOTKEY 6P PITCH=1.0MM	6-43-M66N0-010	
15	FFC CABLE FOR TOUCHPAD BOARD 12P PITCH=0.5	6-43-M66N0-030	
16	TAPE MYLAR (C) MYLAR M550J	6-40-M55J2-030	
17	MICPHONE 6MM*3.56MM*3.5-FIL-UD 10V/2V 22K	6-23-EM55G-011	
18	FFC CABLE FOR CLICK BOARD 4P PITCH=1.0MM	6-43-M66N0-020	
19	CABLE ALIGN BRACKET	6-33-M66N2-040	
20	POWER HOT BOARD	6-77-M66NS-D01	
21	SCREW FOR SPEAKER M2	6-35-Z0Z20-000	
22	SCREW M2.5*5L KI BK/Z ICT NY	6-35-B6125-5RA	
23	MINI-1394 RUBBER	6-47-M66SP-010	
24	MYLAR (R-83.7)M2411.750MM DR 75P7 M660N	6-40-M66NS-090	
25	FFC CABLE FOR HOTKEY 6P PITCH=1.0MM	6-43-M66E0-010	
26	FINGERPRINT COVER PC+ABS M660N	6-42-M66N2-0B0	
27	FINGERPRINTER BOARD V30 FOR M660SU	6-77-M66UF-D03	
28	FFC CABLE FOR FINGERPRINT BOARD 6P PITCH=1.0MM	6-43-M66E6F-011	

A.Part Lists

Top without Fingerprint (M660SRU)

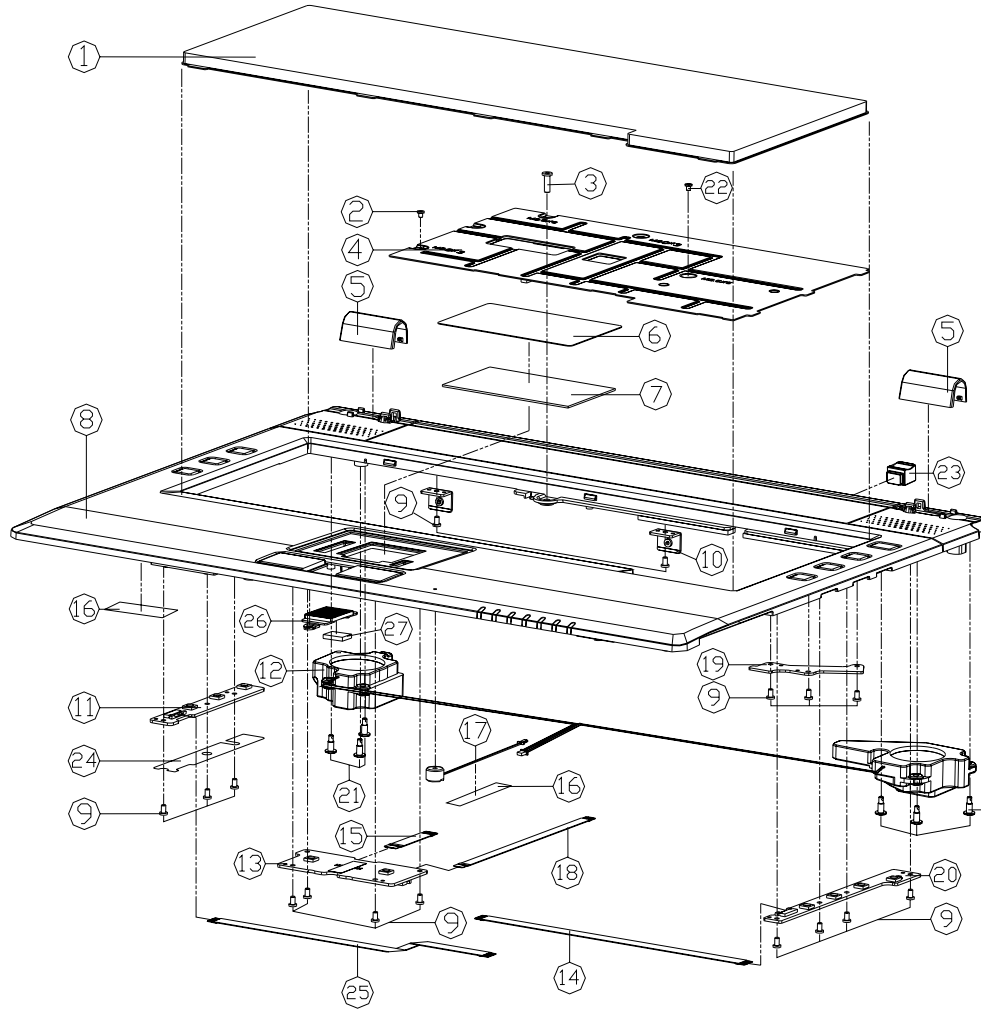


Figure A - 2
Top without
Fingerprint
(M660SRU)

ITEM	PART NAME	PART NO	REMARK
1	KEYBOARD(OPTION)	6-80-M55G0-012-1	
2	SCREW M2x3L KI NI ICT GTY-PATCH	6-35-B1120-3RE	
3	SCREW M2.5x8L KI BK/Z NY ICT	6-35-B6125-8R0	
4	KEYBOARD SHIELDING M660JE	6-33-M66E7-011	
5	HINGE COVER FOR M660N	6-42-M66N2-011	
6	TRACK PAD NYLAR (A-Z,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43,44,45,46,47,48,49,50,51,52,53,54,55,56,57,58,59,60,61,62,63,64,65,66,67,68,69,70,71,72,73,74,75,76,77,78,79,80,81,82,83,84,85,86,87,88,89,90,91,92,93,94,95,96,97,98,99,100)	6-40-M55G2-025	
7	TOUCH PAD TM61PDZIR389 M660JE	6-49-M66E2-010	
8	TOP CASE FOR TOUCH PAD	6-39-M66U2-022	
9	SCREW M2x3L KI NI ICT NY	6-35-B1120-3RA	
10	REAR REINFORCE BRACKET	6-33-M66N2-031	
11	HOTKEY LT BOARD	6-77-M66NS-D11	
12	SPEAKER-L/R 25x10x8 15W 4ΩM 185MM/24MM	6-23-SM66N-012	
13	CLICK BOARD W/O FP	6-77-M66U2-D05-1	
14	FFC CABLE FOR PWR-HOTKEY 6P PITCH=1.0MM	6-43-M66N0-010	
15	FFC CABLE FOR TOUCHPAD BOARD 12P PITCH=0.5	6-43-M66N0-030	
16	TAPE NYLAR (C)MYLAR M550J	6-40-M55J2-030	
17	MICPHONE 6MMx35CM66025-FIL-ID 10V12V 22K	6-23-EM55G-011	
18	FFC CABLE FOR CLICK BOARD 4P PITCH=1.0MM	6-43-M66N0-020	
19	CABLE ALIGN BRACKET	6-33-M66N2-040	
20	POWER HOT BOARD	6-77-M66NS-D01	
21	SCREW FOR SPEAKER M2	6-35-Z0220-000	
22	SCREW M2.5x5L KI BK/Z ICT NY	6-35-B6125-5RA	
23	MINI-1394 RUBBER	6-47-M66SP-010	
24	NYLAR (FR-83.77x46x11.25MM OR 750F) M660N	6-40-M66NS-090	
25	FFC CABLE FOR HOTKEY 6P PITCH=1.0MM	6-43-M66E0-010	
26	FINGER PRINT FLAT COVER PCB ASS M660N	6-42-M66N2-0A1	
27	RUBBER FOR DUMMY FINGERPRINTER COVER M660U	6-47-M66U2-010	

Top with Fingerprint (M665SRU)

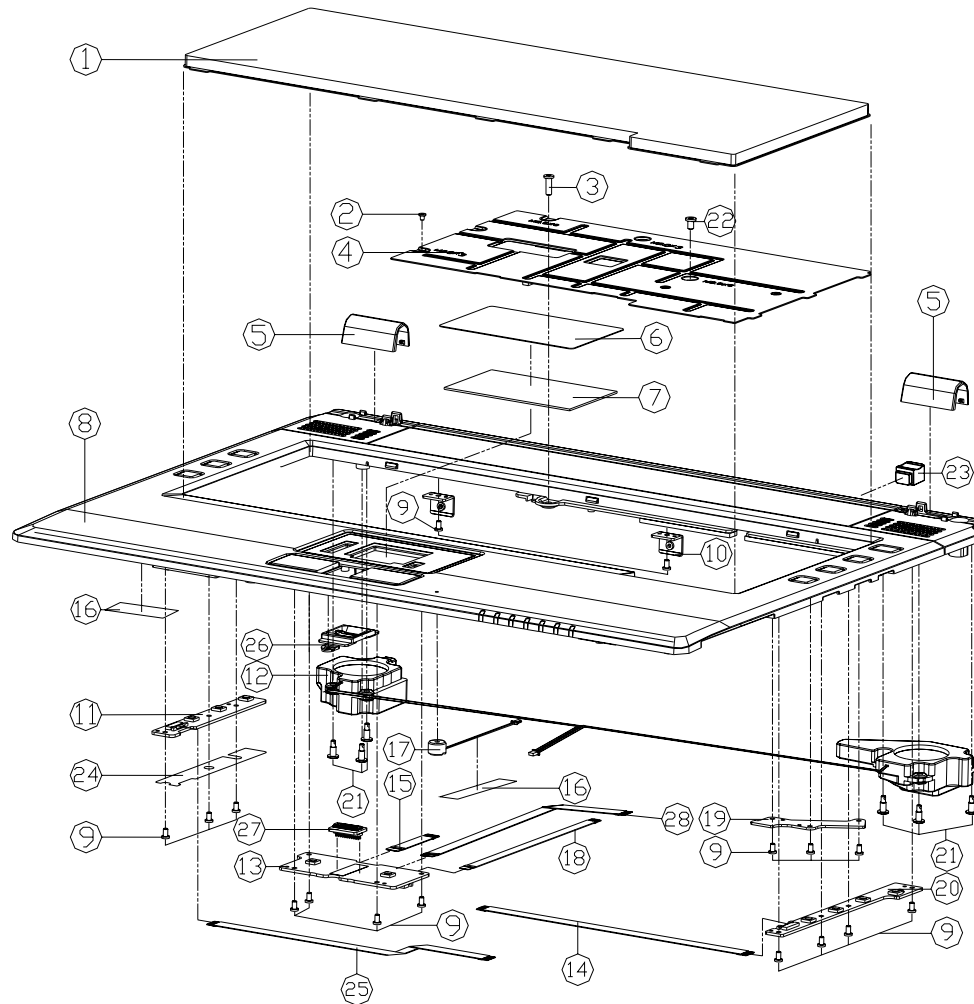


Figure A - 3
Top
with Fingerprint
(M665SRU)

ITEM	PART NAME	PART NO	REMARK
1	KEYBOARD(OPTION)	6-80-M55G0-012-1	
2	SCREW M2*3L K1 NI ICT GY-PATCH 無鉛	6-35-B1120-3RE	
3	SCREW M2.5*8L K1 BK/Z NY ICT 無鉛	6-35-B6125-8R0	
4	KEYBOARD SHIELDING M660JE 無鉛	6-33-M66E7-011	
5	HINGE COVER FOR M665N 無鉛	6-42-M66E2-010	
6	TOUCH PAD MYLAR 42*20*0.05 0.025 M550J 無鉛	6-40-M55G2-025	
7	TOUCH PAD TM61PDZIR389 M660JE 無鉛	6-49-M66E2-010	
8	TP DE KILLER PAPER M660JE 無鉛	6-39-M65U2-022	
9	SCREW M2*3L K1 NI ICT NY 無鉛	6-35-B1120-3RA	
10	REAR REINFORCE BRACKET (TP PAPER) 無鉛	6-33-M66N2-031	
11	HOTKEY LT BOARD	6-77-M66NS-D11	
12	SPEAKER-L/R 250*108*15W 40MM 185MM/24MM	6-23-5M66N-012	
13	CLICK BOARD V5.0 M660SU	6-77-M66U2-D05	
14	FFC CABLE FOR PWR-HOTKEY 6P PITCH-1.0MM 無鉛	6-43-M66N0-010	
15	FFC CABLE FOR TOUCHPAD BOARD 12P PITCH-0.5	6-43-M66N0-030	
16	TAPE MYLAR (C)MYLAR M550J 無鉛	6-40-M55J2-030	
17	MICPHONE 6MM*35CM*6.05-FIL-10 DIV-2V 22K	6-23-EM55G-011	
18	FFC CABLE FOR CLICK BOARD 4P PITCH-1.0MM	6-43-M66N0-020	
19	CABLE ALIGN BRACKET 無鉛	6-33-M66N2-040	
20	POWER HOT BOARD	6-77-M66N5-D01	
21	SCREW FOR SPEAKER M2 無鉛	6-35-Z0220-000	
22	SCREW M2.5*5L K1 BK/Z ICT NY 無鉛	6-35-B6125-5RA	
23	MINI-1394 RUBBER 無鉛	6-47-M66SP-010	
24	MYLAR (FR-8377)24*11.15*0.15MM (FR-7507) M660N 無鉛	6-40-M66NS-090	
25	FFC CABLE FOR HKEY 6P PITCH-1.0MM 無鉛	6-43-M66E60-010	
26	FINGER PRINT COVER PC+ABS M665N 無鉛	6-42-M66E2-080	
27	FINGERPRINTER BOARD V1.0 FOR M660SU 無鉛	6-77-M66JF-D01	
28	FFC CABLE FOR TOUCHPAD BOARD 12P PITCH-0.5 無鉛	6-43-M66E6F-011	

A.Part Lists

Top without Fingerprint (M665SRU)

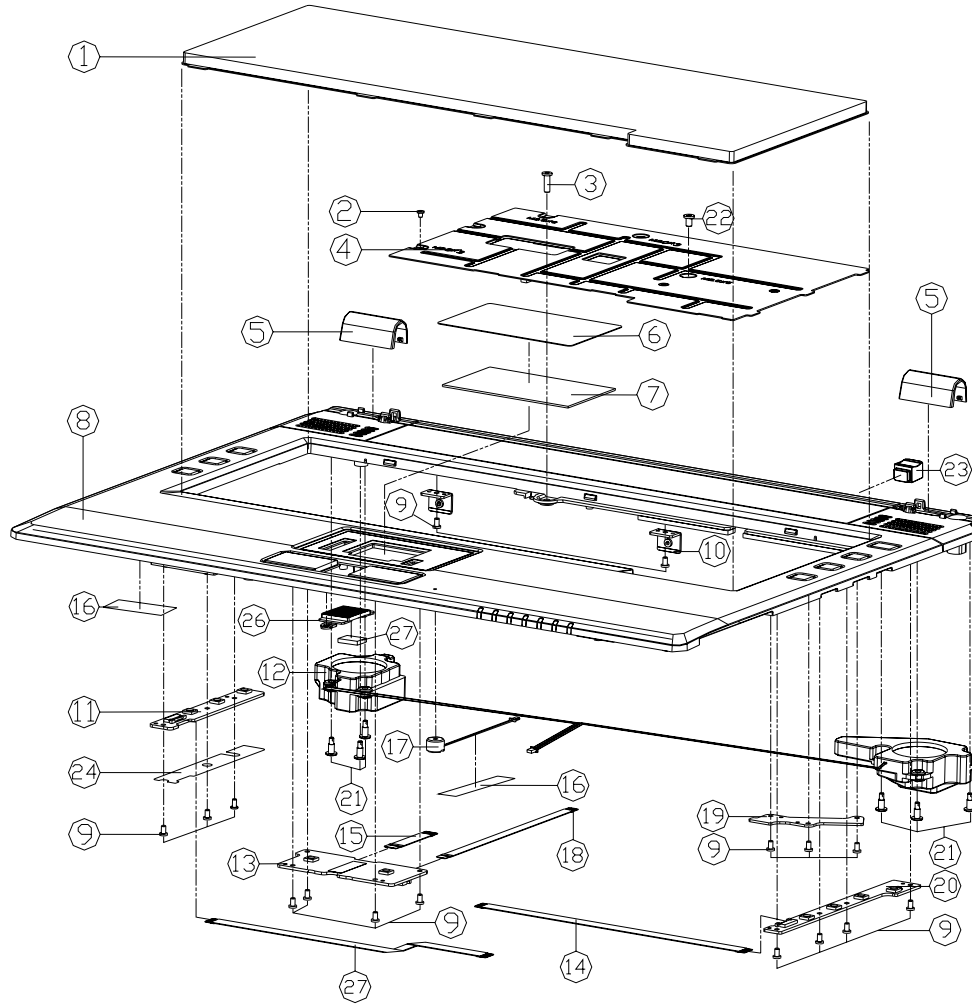
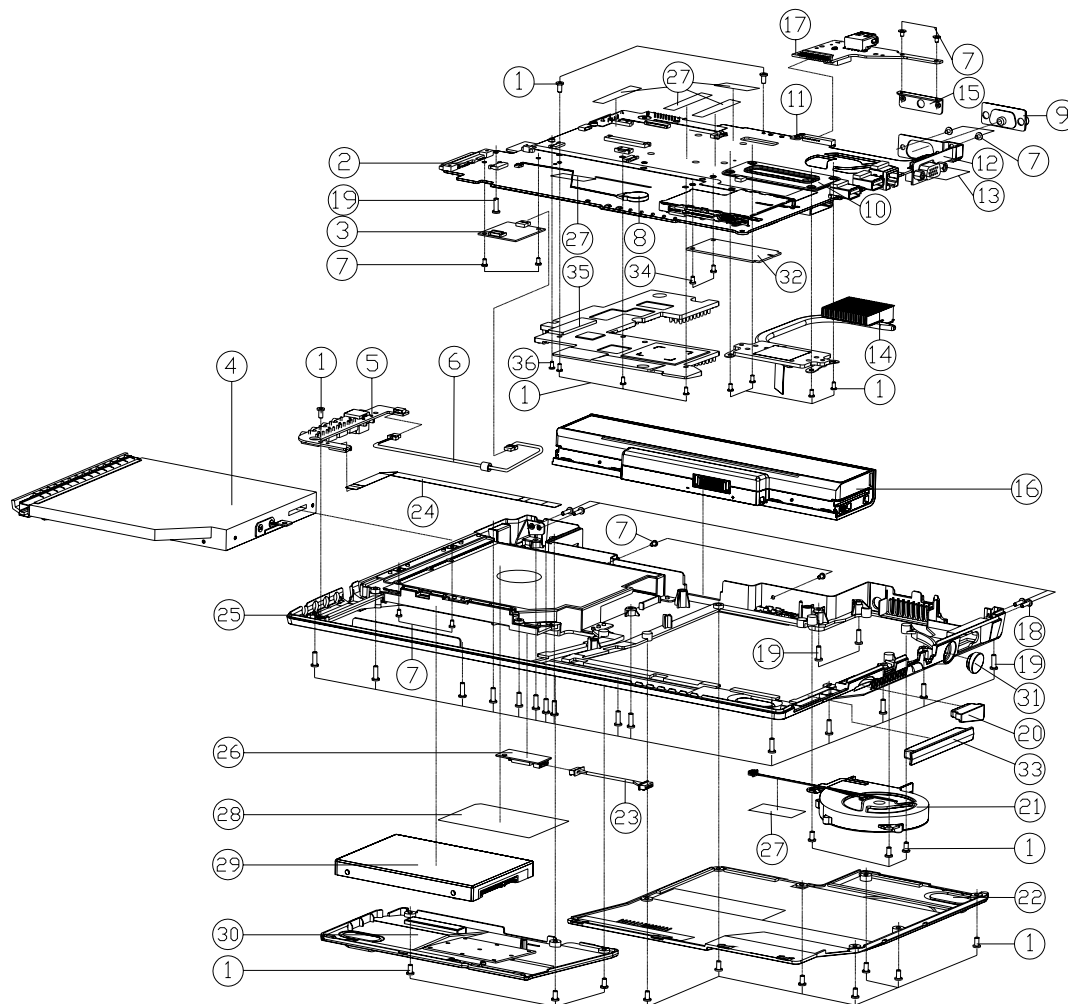


Figure A - 4
Top without Fingerprint (M665SRU)

ITEM	PART NAME	PART NO	REMARK
1	KEYBOARD(OPTION)	6-80-M55G0-011-1	
2	SCREW M2*3L KI NI ICT GTY-PATCH	6-35-B1120-3RE	
3	SCREW M2.5*6L KI BK/Z NY ICT	6-35-B6125-BR0	
4	KEYBOARD SHIELDING M660JE	6-33-M66E7-011	
5	HINGE COVER FOR M665N	6-42-M66E2-010	
6	TRACK PAD MYLAR (A.C.2008) BBS M55G	6-40-M55G2-025	
7	TOUCH PAD TM61PZIR389 M660JE	6-49-M66E2-010	
8	TOP bezel (M665SRU)	6-39-M65U2-022	
9	SCREW M2*3L KI NI ICT NY	6-35-B1120-3RA	
10	REAR REINFORCE BRACKET (L/R)	6-33-M66N2-031	
11	HOTKEY LT BOARD	6-77-M66NS-D11	
12	SPEAKER L/R 25MM108H 15V 40M 185W/24M	6-23-5M66N-012	
13	CLICK BOARD W/O FP V5.0 M660SU/SE	6-77-M66U2-D05-1	
14	FFC CABLE FOR PWR-HOTKEY 6P PITCH=65	6-43-M66N0-010	
15	FFC CABLE FOR TOUCHPAD BOARD 12P PITCH=65	6-43-M66N0-030	
16	TAPE MYLAR (C)MYLAR M550J	6-40-M55J2-030	
17	MICPHONE 6MM35C M635-FIL-ID 10V-2V 22K	6-23-EM55G-010	
18	FFC CABLE FOR CLICK BOARD 4P PITCH=10MM	6-43-M66N0-020	
19	CABLE ALIGN BRACKET	6-33-M66N2-040	
20	POWER HOT BOARD	6-77-M66N5-D01	
21	SCREW FOR SPEAKER M2	6-35-Z0220-000	
22	SCREW M2.5*5L KI BK/Z ICT NY	6-35-B6125-5RA	
23	MINI-1394 RUBBER	6-47-M66SP-010	
24	MYLAR (P-837)M66T, 35 SEEM DR 7001 M660N	6-40-M66NS-090	
25	FFC CABLE FOR HOTKEY 6P PITCH=10MM	6-43-M66E0-010	
26	FINGER PRINT FLAT COVER PC/ABS M665N	6-42-M66E2-0A1	
27	RUBBER FOR DUMMY FINGERPRINTER COVER M650U	6-47-M65U2-010	

Bottom (M660SRU/M665SRU)



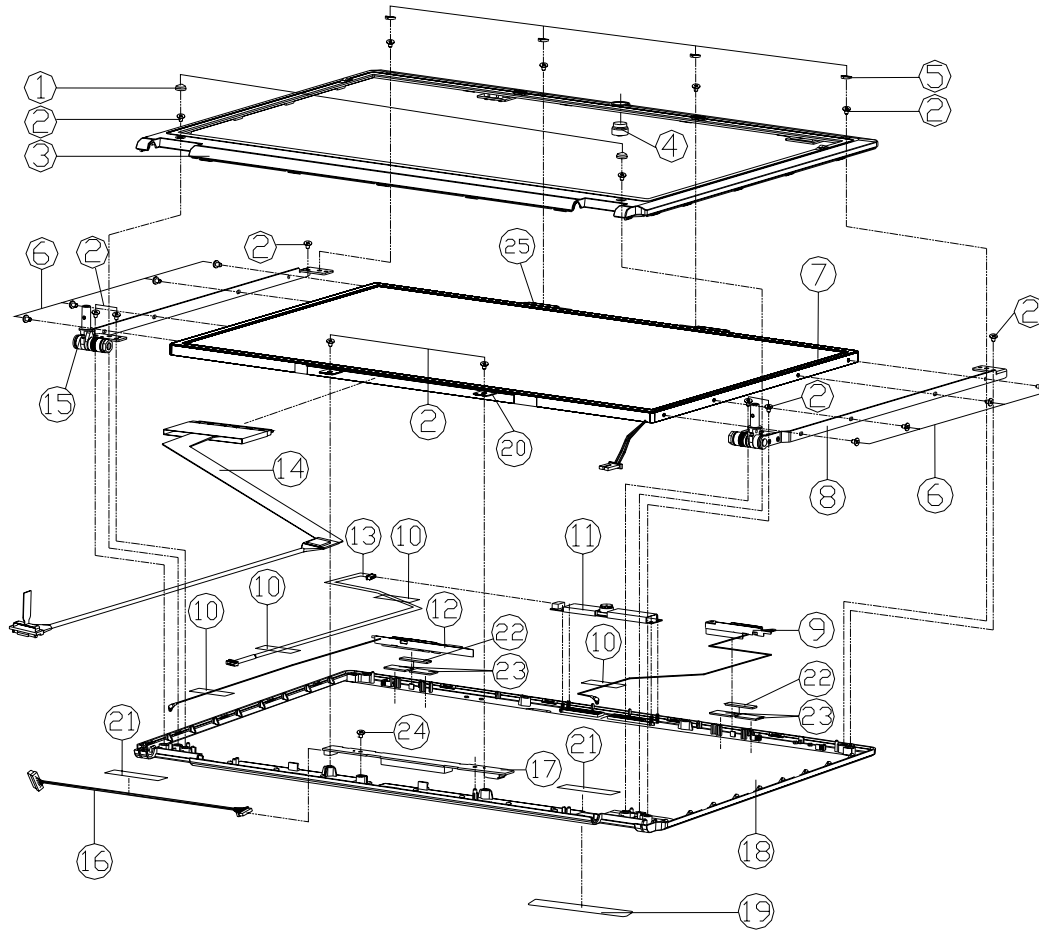
ITEM	PART	NAME	PART NO	REMARK
1	SCREW	M2.5xL KI BK/Z ICT NY	6-35-B6125-SRA	
2	MAIN BOARD	12MM VMM V10 M660SRU	6-77-M6600-001-1	
3	INDEX IZ PIN OUT/DIOLA	SOLUTIONU M.3051 G	6-88-M6651-620	
3	INDEX AZALJAKOZY IZ PIN OUT/DIOLA	SOLUTIONU	6-88-M5551-521	
4	INTEGRAL WAFER M660 B1 10T ICT M660N		6-79-M6600-000	
4	CONRO 2M 1551 ITC-LANGD ASSY M660N		6-79-M660X-010	
4	CONRO 2M 3050 K8P-C SUPER VIEW ASSY		6-79-M660X-020	
5	AUDIO BOARD	V3.0 M660SRU	6-77-M660B-D01	
6	MDC CABLE	2P AVG.30P M660N	6-43-M660D-050	
7	SCREW	M2xL KI NI ICT G1Y-PATCH	6-35-B1120-SRE	
8	BAT. 20M 3V 220MH VIOABLE 10MM CR2032		6-23-22015-P39	
9	SERIAL-PORT RUBBER		6-47-M665S-011	
10	CPU SUPPORTER	M660N	6-33-M66NS-030	
11	REINFORCE BRACKET/W/ LAMP SERIAL B		6-33-M66NS-051	
12	I/O BRACKET	FOR M/B	6-33-M66NS-011	
13	HEX STUD	SUM22 NI-PL 10MM NY	6-34-96302-00A	
14	CPU HEATSINK	MODEL:5207P M660N	6-31-M66SN-101-1	
15	SERIAL-PORT BRACKET		6-33-M665S-020	
16	BATP S LI 108V/4Ah 32P 3P/PMANSNIC		6-87-M665S-454	
16	BATP S LI 108V/4Ah 32P 3P/MANSNIC		6-87-M66NS-4C3	
16	BATP S LI 108V/4Ah 32P 3P/MANSNIC 98		6-87-M665S-4D4	
16	BATP S LI 108V/72Ah 32P 3P/MANSNIC		6-87-M66NS-4A3	
16	BATP S LI 108V/72Ah 32P 3P/MANSNIC		6-87-M66NS-4CA	
16	BATP S LI 108V/4Ah 32P 3P/MANSNIC SH		6-87-M665U-4D3	
16	BATP S LI 108V/4Ah 32P 3P/MANSNIC SD		6-87-M665U-4DE	
17	USB BOARD	V3.0 M660SRU	6-77-M6603-D03	
18	SCREW	M2xL KI BK/Z ICT NY	6-35-B6120-BR0	
19	SCREW	M2.5xL KI BK/Z NY ICT	6-35-B6125-BR0	
20	CARD READER	RUBBER COVER	6-47-M66NS-010	
21	CPU FAN	MODEL:1000 M6705D	6-31-M67UN-200	
22	CPU COVER	MODULE FOR DS V10 M660N	6-42-M660S-101	
23	BLUETOOTH CABLE	SP AVG.30P M660N	6-43-M660B-010	
24	ITE CABLE	FOR AUDIO JACK BOARD TOP PITCH	6-43-M660D-041	
25	MOTOR CASE	MODEL:1000 ON LABEL 6 M660SRU	6-39-M66N3-01B	
26	LEADER PAPER	RECO 1000 PAPER FOR DS V10 M660N	6-88-M662'S-390	
27	TAPE	MYLAR (C)MYLAR M550J	6-40-M55J2-030	
28	PRODUCT LABEL	FOR M660SRU	6-45-M6603-010	
28	PRODUCT LABEL	FOR M665SRU	6-45-M6603-020	
29	W/O HDD	ASS'Y M660N	6-79-M660J-010	
30	HDD COVER	MODULE	6-42-M660J-103	
31	T/V-CLUTY	RUBBER	6-47-M66NS-010	
32	RECT 8MG W/M CARBOSD	REALTEX CHIPS	6-88-M7702-701	
33	RUBBER COVER	FOR NEW CARD SOCKET	6-47-M66NS-020	
34	SCREW	M2xL KI BNI ICT NY	6-35-B9120-40A	
35	SPRING	MODEL:1000 NI-PL 10MM NY	6-31-M660X-100	
36	SCREW	M2xSL KI NI ICT NY	6-35-B1120-SR0	

Figure A - 5
Bottom (M660SRU/
M665SRU)

A.Part Lists

LCD (M660SRU/M665SRU)

Figure A - 6
LCD (M660SRU/
M665SRU)



ITEM	PART NAME	PART NO	REMARK
1	LCD RUBBER	6-47-M56A1-010	
2	SCREW M2.5*5L KI NI ICT NY	6-35-B6125-5RA	
3	LCD FRONT COVER MODULE	6-39-M66NI-012	
4	W/O CCD RUBBER/RUBBER M550G	6-47-M55GT-020	
5	LCD RUBBER 06	6-47-M66NI-030	
6	SCREW M2*3L KI NI ICT GTY-PATCN	6-35-B1120-3RE	
7	AU B154P*V01 V3 15.4" WGA(C 1440*900)	6-50-L7261-G00	FOR AU
7	LCD 15.4" WGA OPT QUANTA/BESA GLARE TYPE	6-50-LC262-C00	FOR CPT
7	LCD 15.4" WGA AU B154P*V01 V1 GLARE TYPE	6-50-LC261-G01	FOR CPT
8	LCD HINGE ASSY R M660N	6-33-M66NI-011-1	
9	INVERTER MODULE	6-23-7M66N-025	
10	TAPE MYLAR (C)MYLAR M550J	6-40-M55J2-030	
11	NON-UV-CAMERA D-MAX FIX CO-665A 2M M570R	6-88-M57RC-743	(OPTION)
11	UV-CAMERA BISON TX DCSM572000 1.5M M548E	6-88-M5E4C-4920	(OPTION)
12	M660N BT ANTENNA WITH GRAY CABLE AND OPEN	6-23-7M66N-013	
13	CCD CABLE 5P AWG20 M660N-T04	6-43-M66NI-062	
14	LCD CABLE 6PIN	6-43-M66UI-020	FOR AU
14	LCD CABLE 6PIN	6-43-M66UI-011	FOR AU/CPT
15	LCD HINGE ASSY L M660N	6-33-M66NI-021-1	
16	INVERTER MODULE	6-43-M66NI-053	
17	INVERTER MODULE 80A METAL DA-188-CV06N	6-76-M6R6R-010	
18	LCD BACK COVER MODULE	6-39-M66NI-024	FOR M660SU/SE
18	LCD BACK COVER MODULE (ROSS ADD RIB)	6-39-M6651-023	FOR M665SU/SE
19	FR M550G (H) LDDK(STYLE-NOTED)	6-45-M55G1-020	
20	BRACKET(BOTTOM) FOR LCD ODI	6-33-M66NI-080	FOR LCD AUB154P*V01
21	TAPE MYLAR (A)MYLAR M550J	6-40-M55J2-010	
22	SPONGE L33*W5*H0.65MM	6-47-M6651-010	
23	SPONGE L22*W10*H1.65	6-47-M6651-020	
24	SCREW M2*3.5L KI NI ICT NY	6-35-B1120-350	
25	BRACKET(TOP) FOR LCD ODI	6-33-M66NI-0A1	FOR LCD AUB154P*V01

Combo (M660SRU/M665SRU)

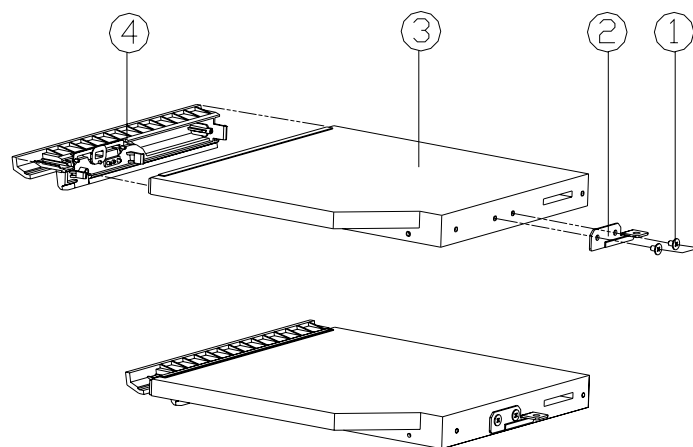


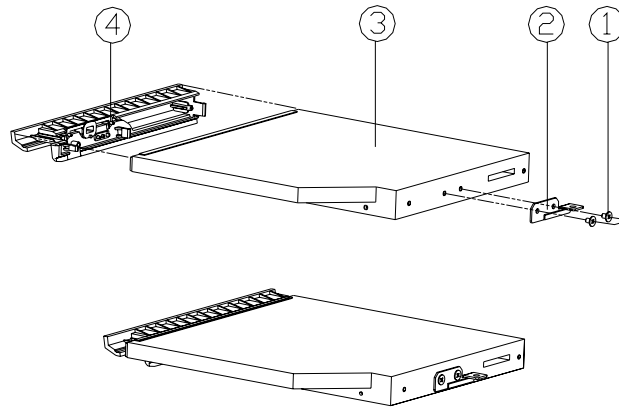
Figure A - 7
 Combo (M660SRU/
 M665SRU)

ITEM	PART NAME	PART NO	REMARK
1	SCREW M2*3L K1 NI ICT GTY-PATCH	6-35-B1120-3RE	
2	ODD FIX BRACKET M660N	6-33-M66NZ-010	
3	CD-R/DVD 5.25" 24X 12.7MM (12.7MM) SHIMM FANOUT-C (G-BASS)SUPPORT VISTA	6-85-907PX-C03	
3	COMBO 5.25" 24X 12.7MM TS-L4620 (G-BASS) *SUPPORT VISTA *TS1	6-85-907PX-T02	
4	G BEZEL MODULE FOR DVD COMBO (REB-0809) M660N	6-42-M66NX-102	

A.Part Lists

DVD-Dual RW (M660SRU/M665SRU)

Figure A - 8
DVD-Dual RW
(M660SRU/
M665SRU)



ITEM	PART NAME	PART NO	REMARK
1	SCREW M2X3L K1 NI ICT GTY-PATCH	6-35-B1120-3RE	
2	DDD FIX BRACKET M660N	6-33-M66NZ-010	
3	DVD-DUAL RW (SUPER MULTI) G-BEZEL MODULE M660N	6-85-A078X-T03	FOR TSST
3	DVD-DUAL RW (SUPER MULTI) G-BEZEL MODULE M660N	6-85-A078X-C09	FOR QSI
4	DVD-DUAL(SUPER MULTI) G-BEZEL MODULE M660N	6-42-M66NQ-A01	

Appendix B:Schematic Diagrams

This appendix has circuit diagrams of the *M660SRU/M665SRU* 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>VT8237A-1 - Page B - 16</i>	<i>CHARGER, DC IN - Page B - 30</i>
<i>CLOCK GENERATOR - Page B - 3</i>	<i>VT8237A-2 - Page B - 17</i>	<i>1.5V, 1.05VS - Page B - 31</i>
<i>CPU-1 - Page B - 4</i>	<i>VT8237A-3 - Page B - 18</i>	<i>VCORE - Page B - 32</i>
<i>CPU-2 - Page B - 5</i>	<i>HDD & CDROM - Page B - 19</i>	<i>1.8V, 0.9VS - Page B - 33</i>
<i>VN896-1 - Page B - 6</i>	<i>CARD READER - Page B - 20</i>	<i>VDD3, VDD5 - Page B - 34</i>
<i>VN896-2 - Page B - 7</i>	<i>NEW CARD SOCKET - Page B - 21</i>	<i>EXT GPU 1.0VS/1.2VS - Page B - 35</i>
<i>VN896-3 - Page B - 8</i>	<i>LAN - Page B - 22</i>	<i>HOTKEY LT BOARD - Page B - 36</i>
<i>VN896-4 - Page B - 9</i>	<i>USB & CCD - Page B - 23</i>	<i>PWR HOT BOARD - Page B - 37</i>
<i>DDR2-1 - Page B - 10</i>	<i>KBC-IT8512E - Page B - 24</i>	<i>AUDIO & MODEM BOARD - Page B - 38</i>
<i>DDR2-2 - Page B - 11</i>	<i>CRT & LVDS - Page B - 25</i>	<i>CLICK BOARD - Page B - 39</i>
<i>VGA G72M-1 - Page B - 12</i>	<i>FAN CONTROL, LPC ROM - Page B - 26</i>	<i>USB BOARD - Page B - 40</i>
<i>VGA G72M-2 - Page B - 13</i>	<i>MINI-PCI & BLUETOOTH - Page B - 27</i>	<i>FINGERPRINT BOARD - Page B - 41</i>
<i>VGA G72M-3 - Page B - 14</i>	<i>AUDIO VTI708A/ALC883 - Page B - 28</i>	
<i>VGA G72M-4 - Page B - 15</i>	<i>LED, VS POWER - Page B - 29</i>	

Table B - 1
**Schematic
Diagrams**

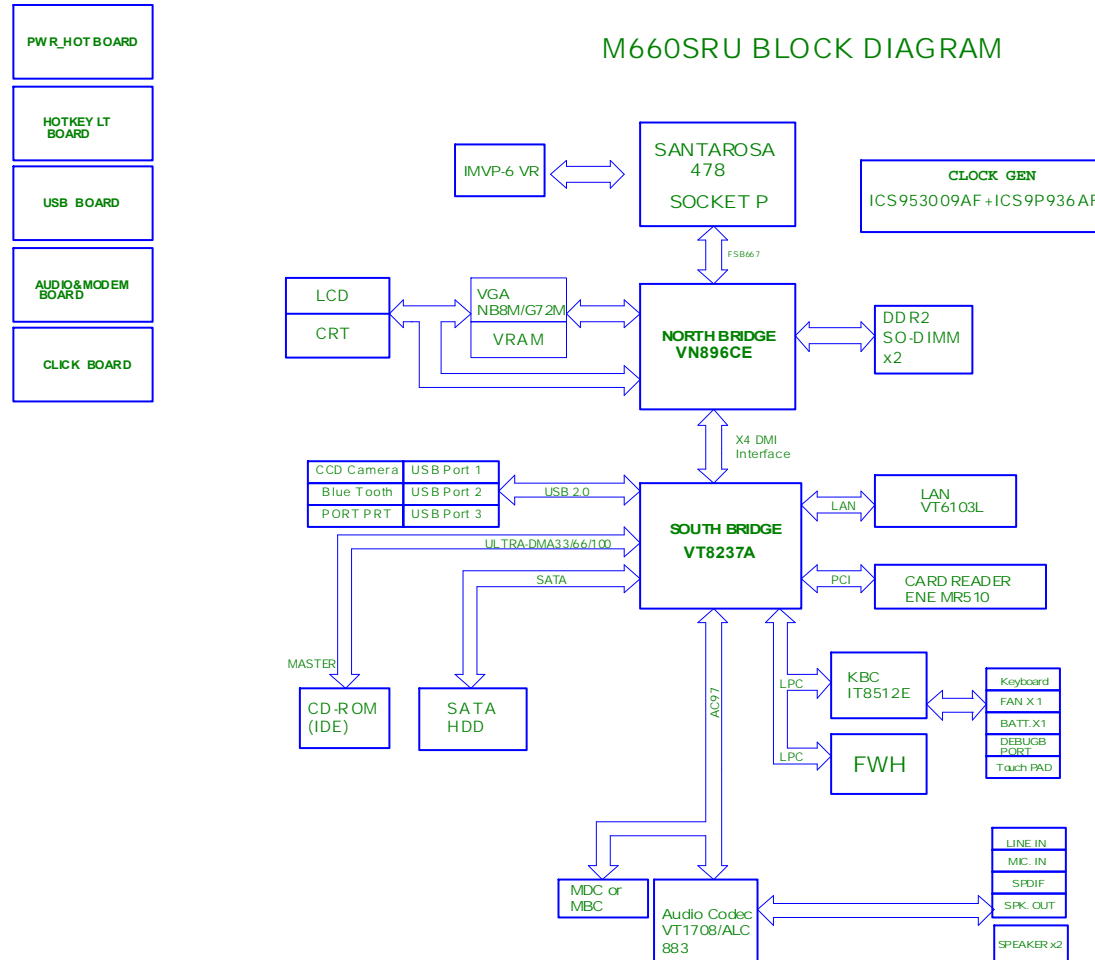


Version Note

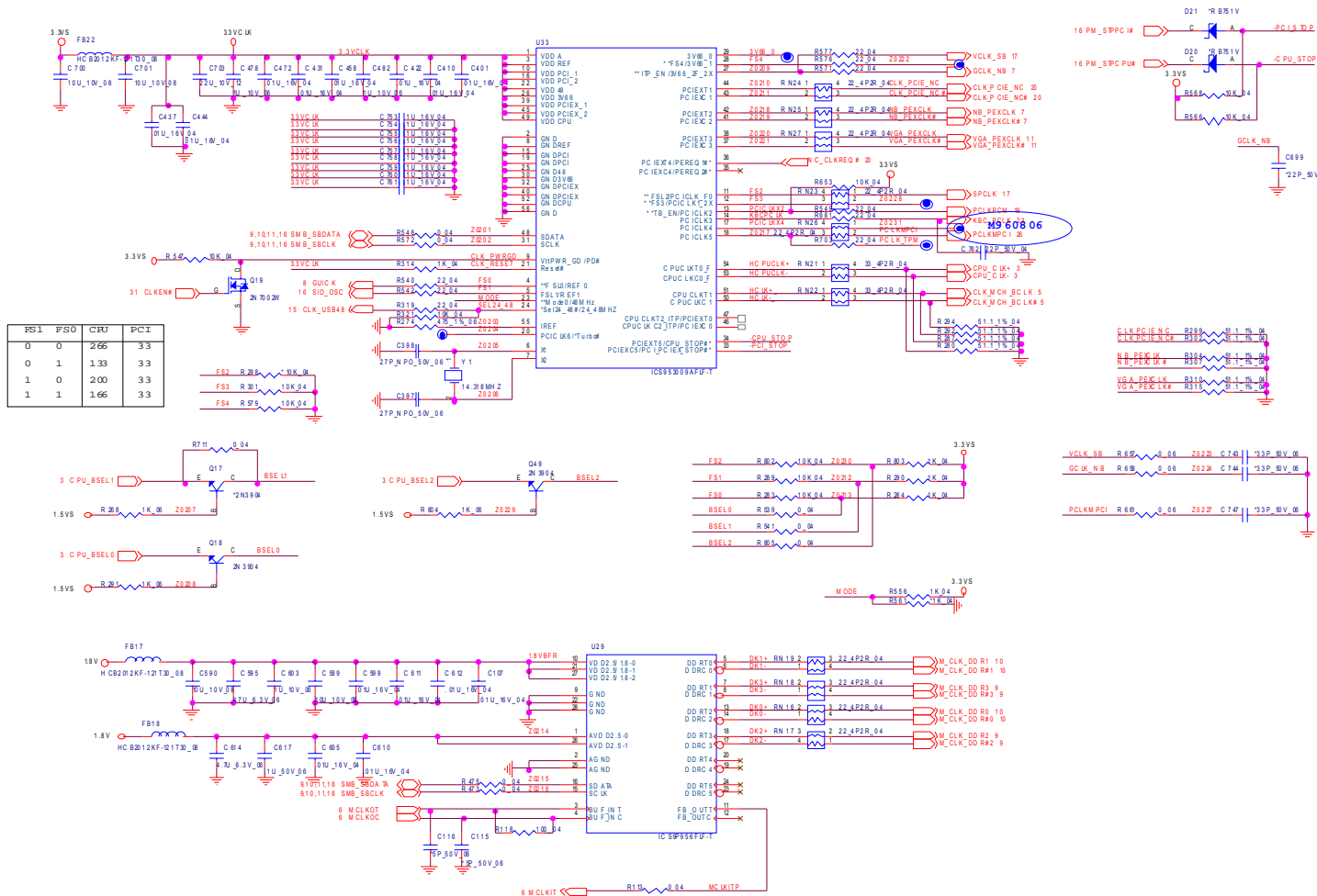
The schematic diagrams in this chapter are based upon version 6-7P-M6607-003. If your mainboard (or other boards) are a later version, please check with the Service Center for updated diagrams (if required).

SYSTEM BLOCK DIAGRAM

Sheet 1 of 40
SYSTEM BLOCK
DIAGRAM



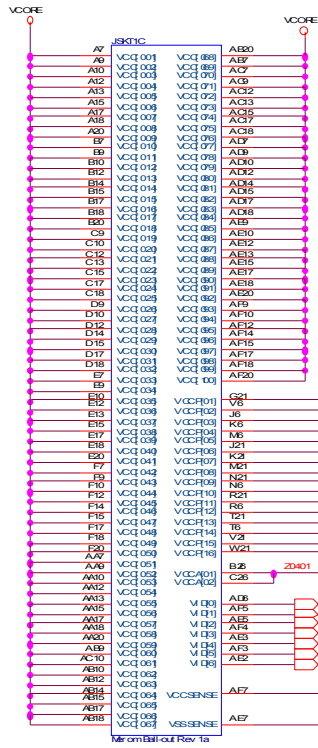
CLOCK GENERATOR



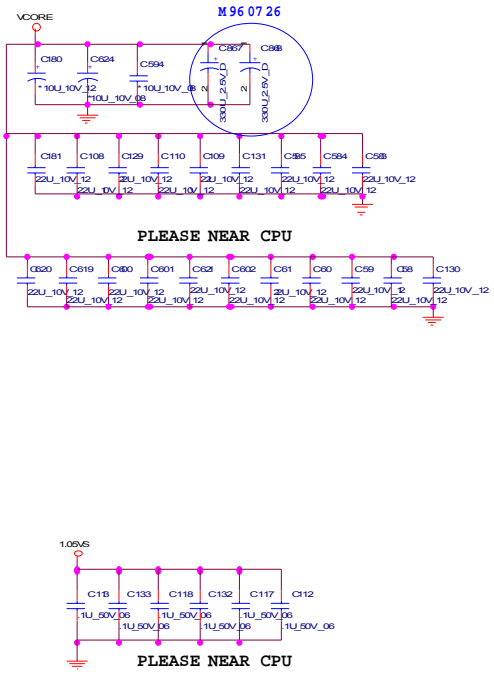
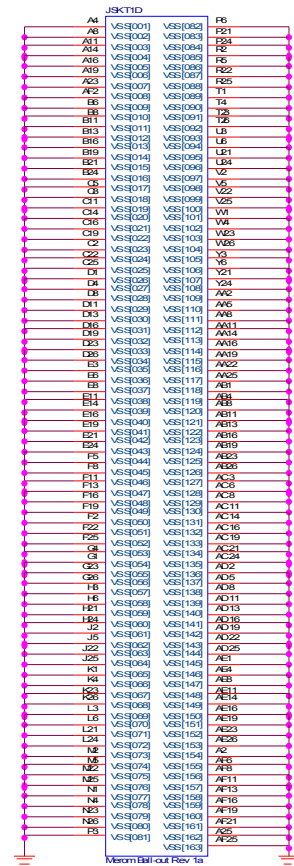
Sheet 2 of 40
CLOCK
GENERATOR

B.Schematic Diagrams

CPU-2



Layout Note:
Route VCCSENSE and VSSSENSE trace at 27.4 ohms with 50mil spacing. place PU and PD within 1 inch of CPU



Sheet 4 of 40
CPU-2

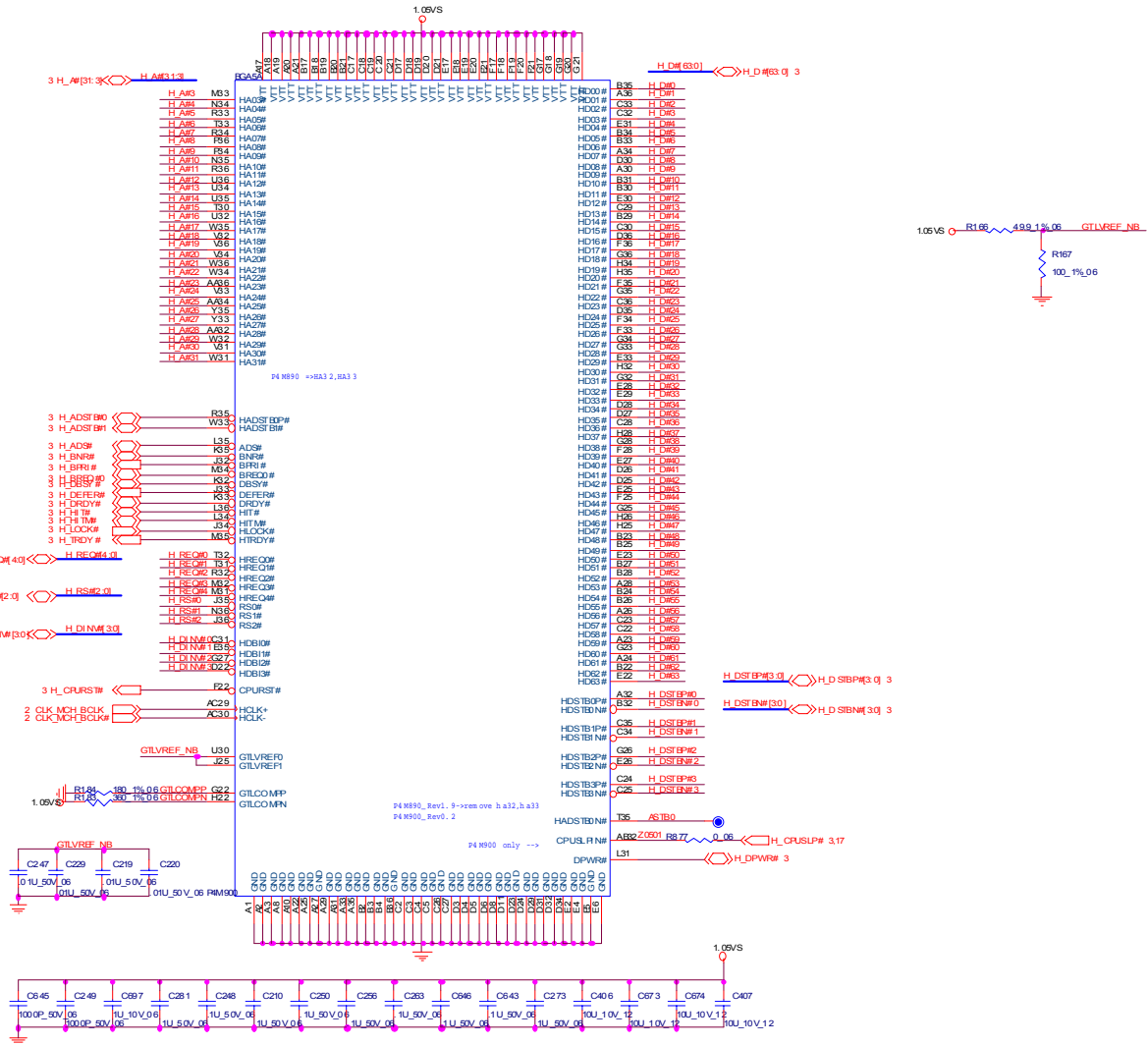
B. Schematic Diagrams

Schematic Diagrams

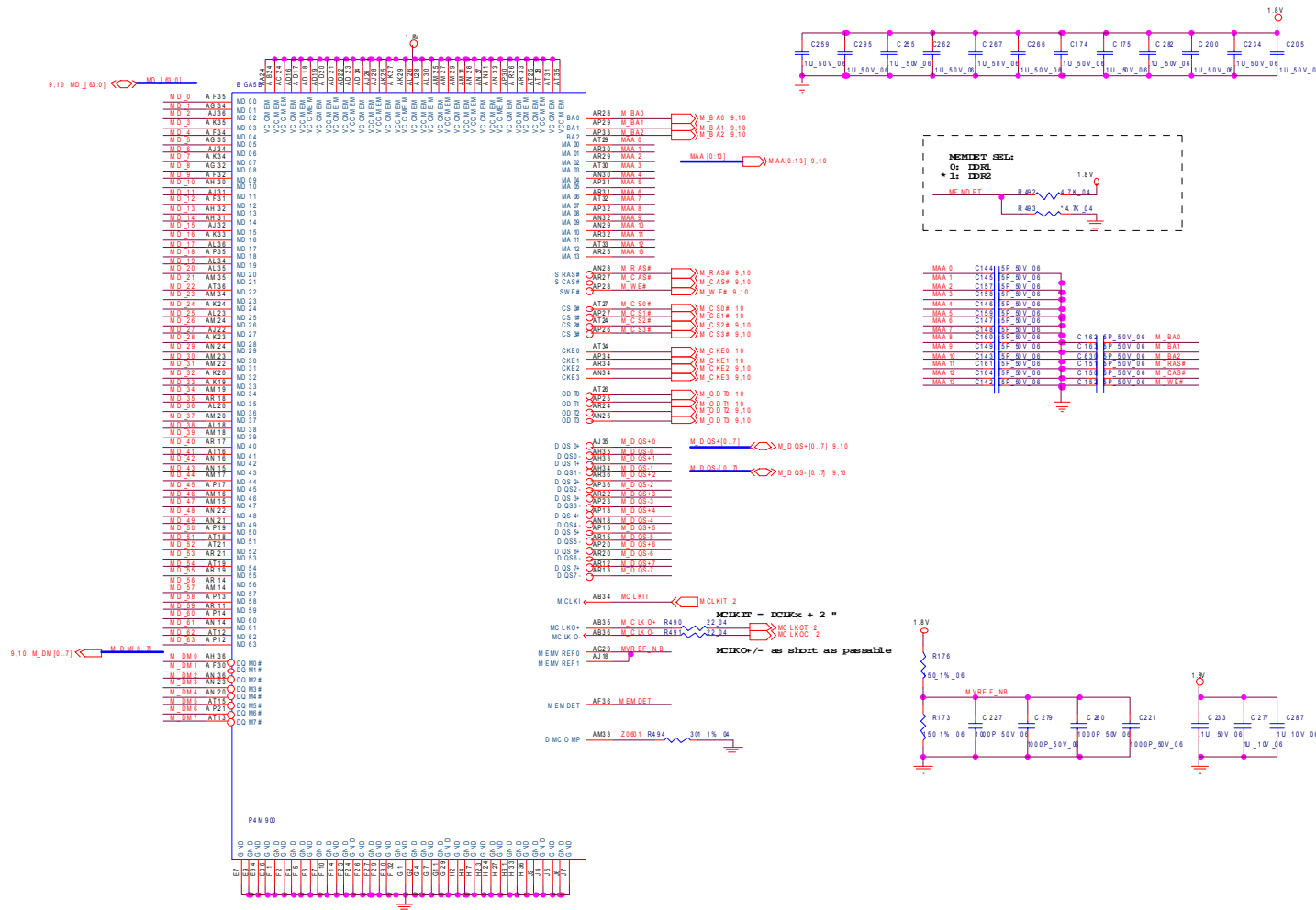
VN896-1

B.Schematic Diagrams

Sheet 5 of 40
VN896-1



VN896-2

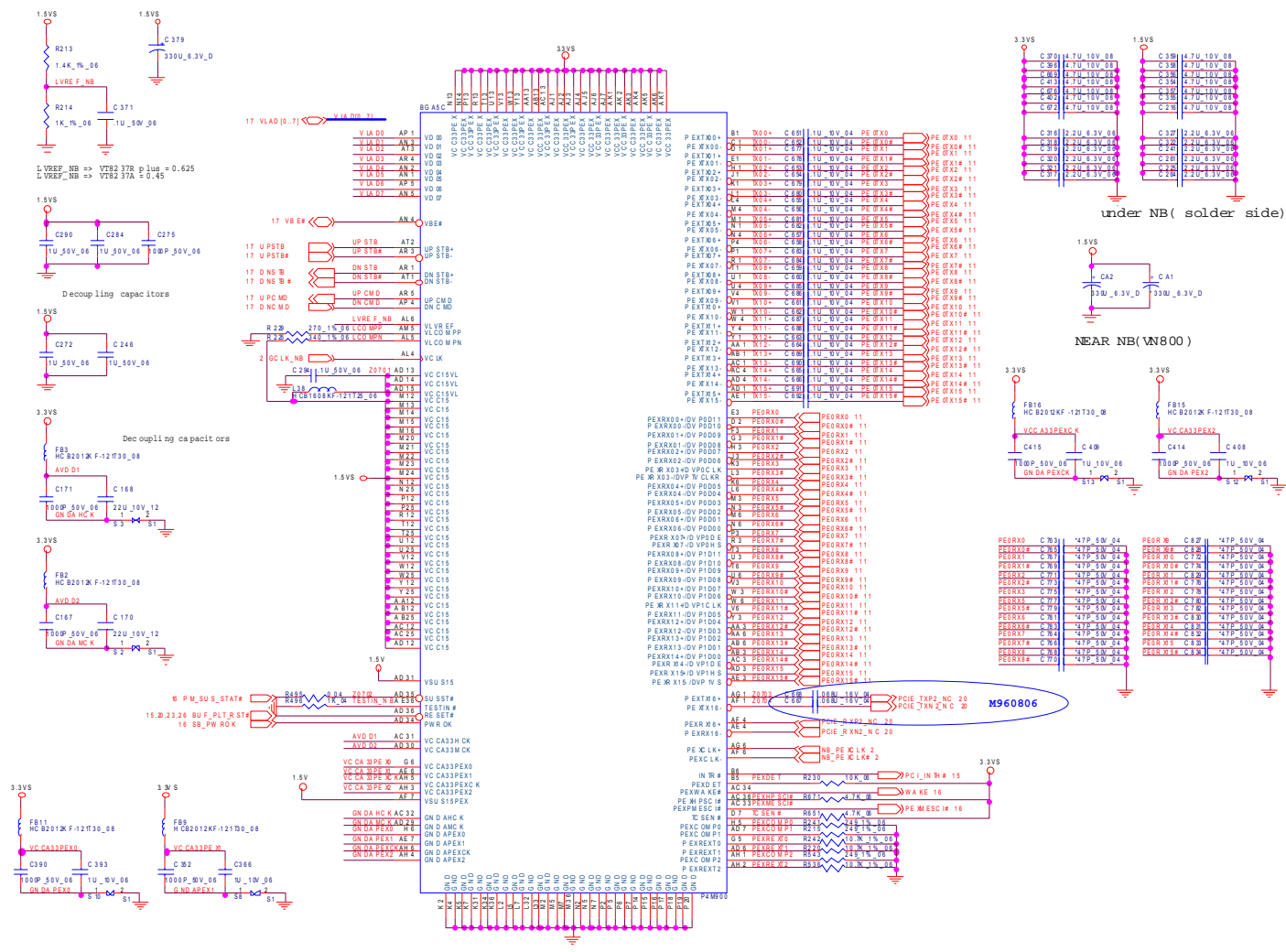


Sheet 6 of 40
VN896-2

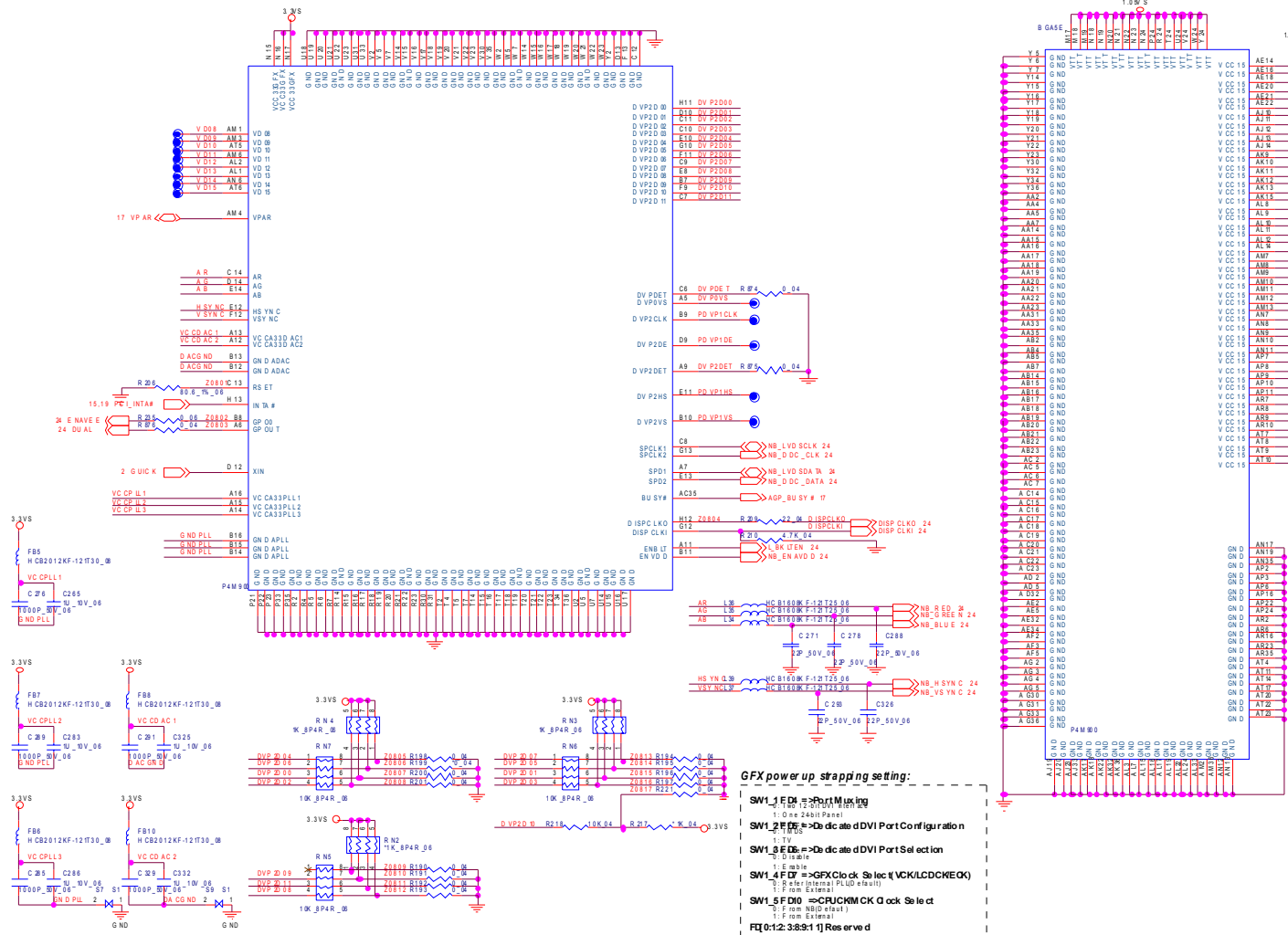
B.Schematic Diagrams

VN896-3

Sheet 7 of 40
VN896-3



VN896-4



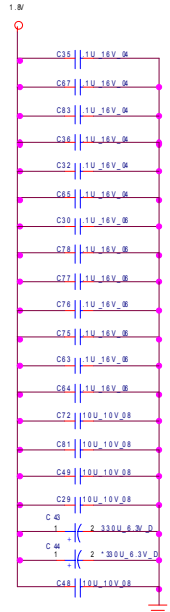
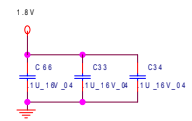
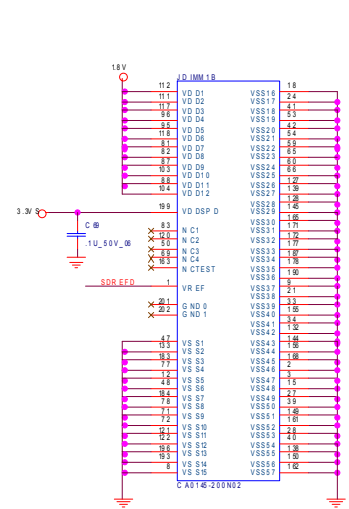
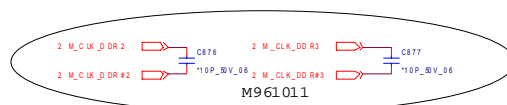
Sheet 8 of 40
VN896-4

B. Schematic Diagrams

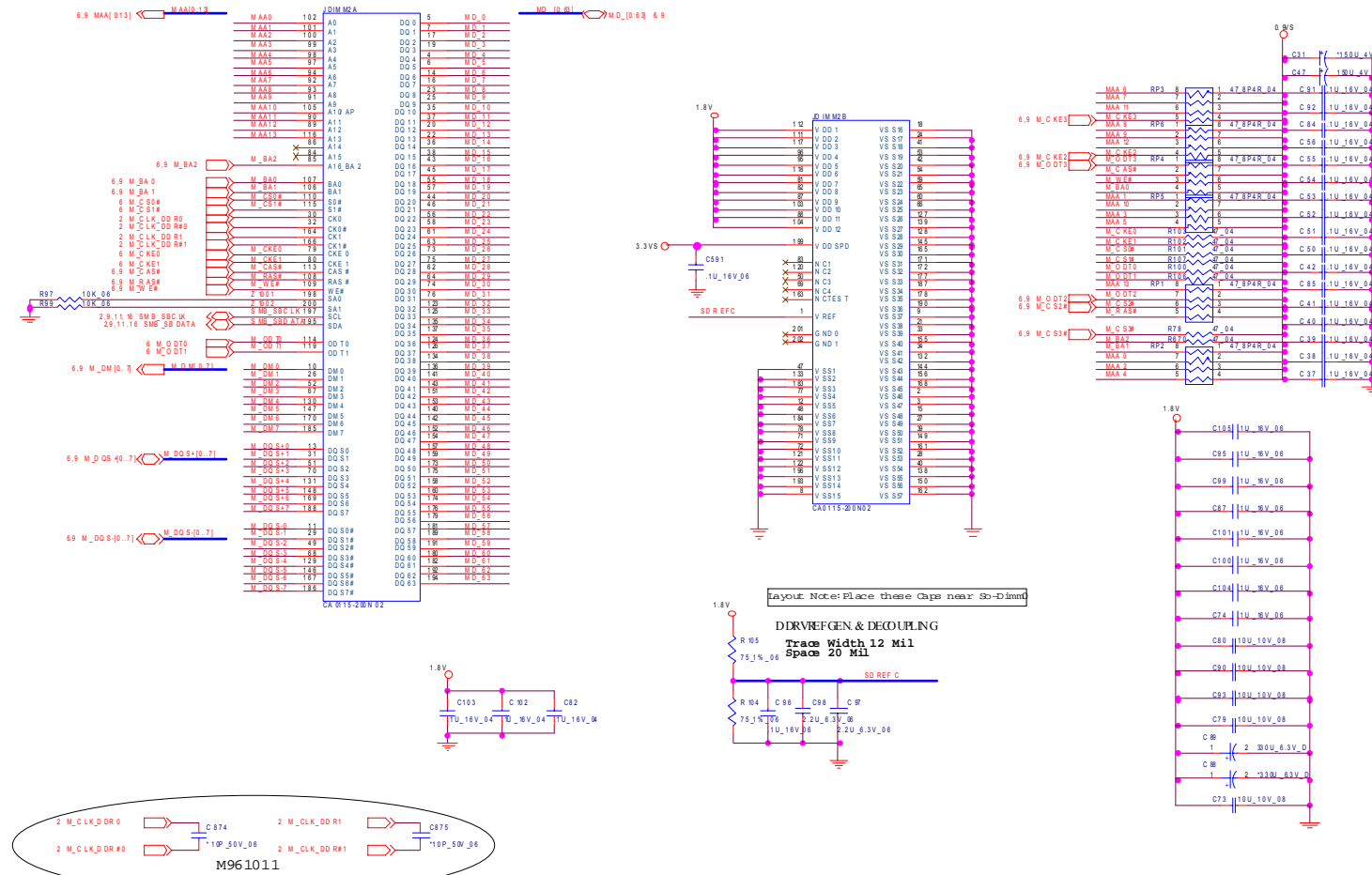
Schematic Diagrams

DDR2-1

Sheet 9 of 40
DDR2-1



DDR2-2



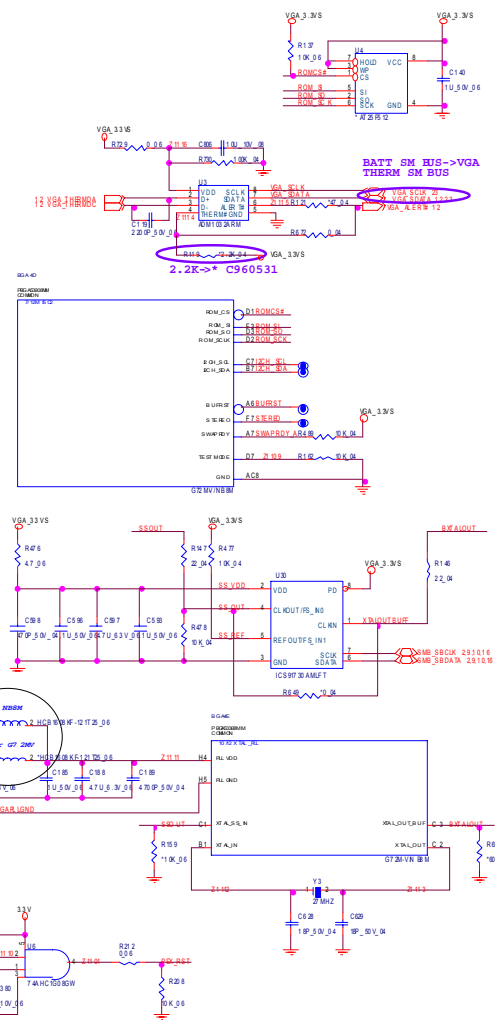
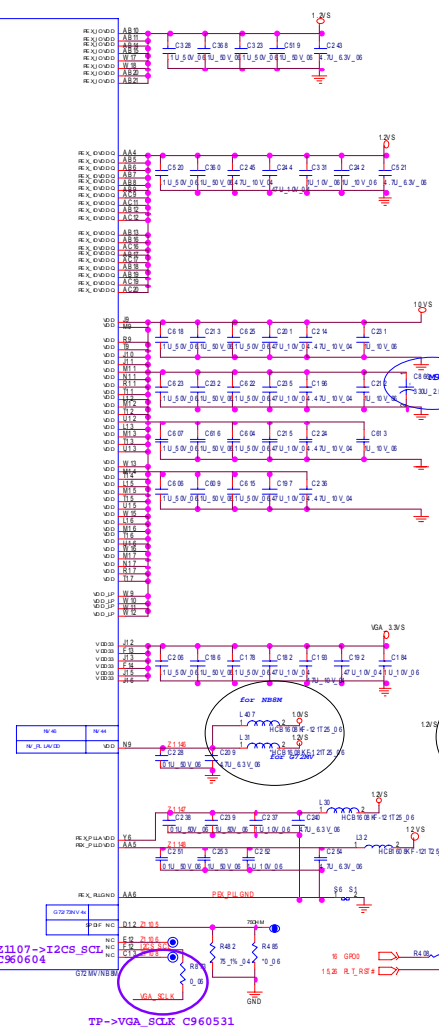
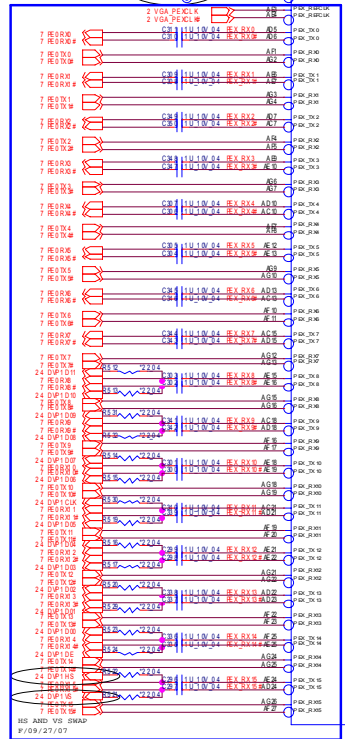
Sheet 10 of 40
DDR2-2

B.Schematic Diagrams

VGA G72M-1

SRU DEL->R ADD->C
SR DEL->C ADD->R

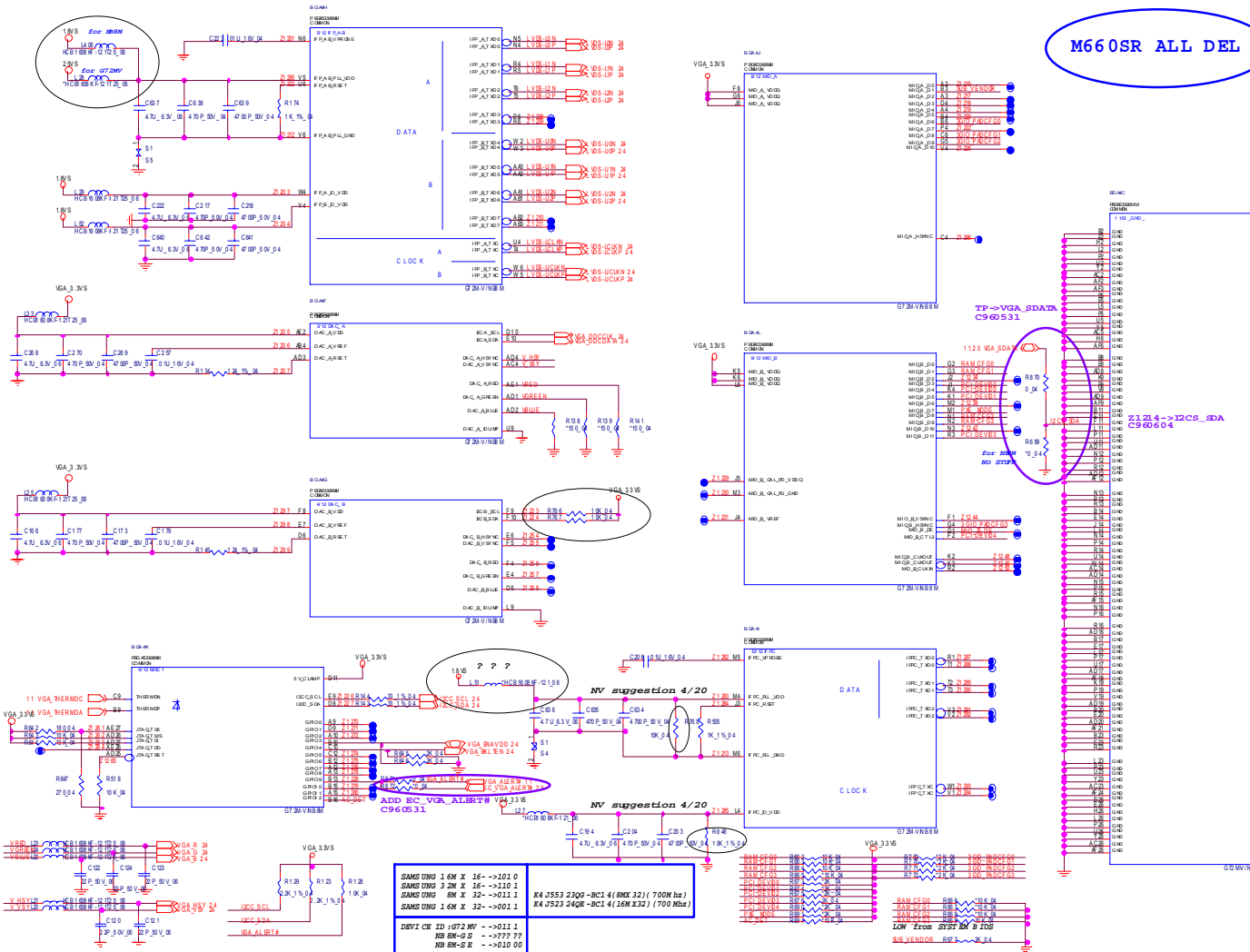
NV aug ges t/c n 4 / 20



B.Schematic Diagrams

Sheet 11 of 40
VGA G72M-1

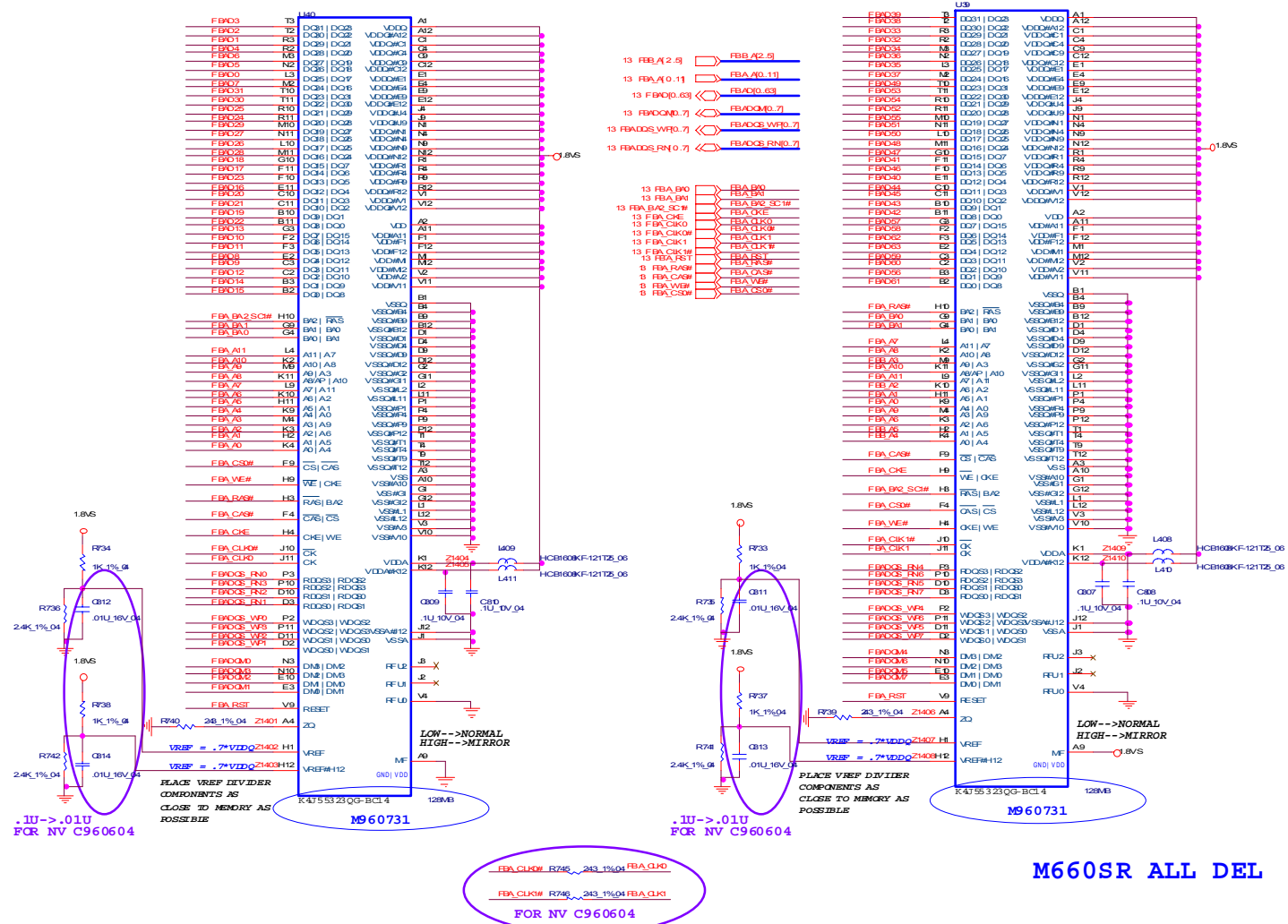
VGA G72M-2



Sheet 12 of 40
VGA G72M-2

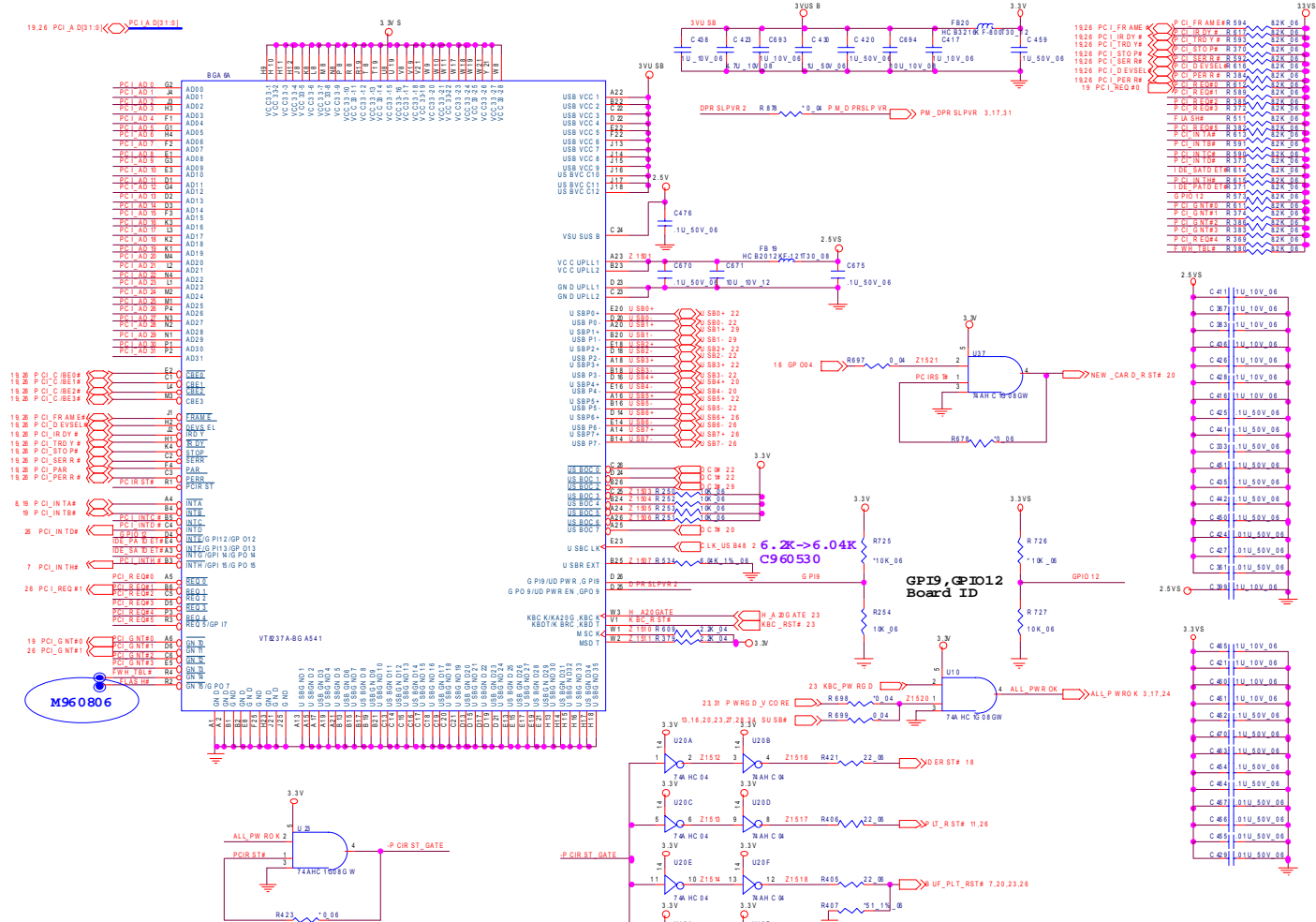
VGA G72M-4

Sheet 14 of 40
VGA G72M-4

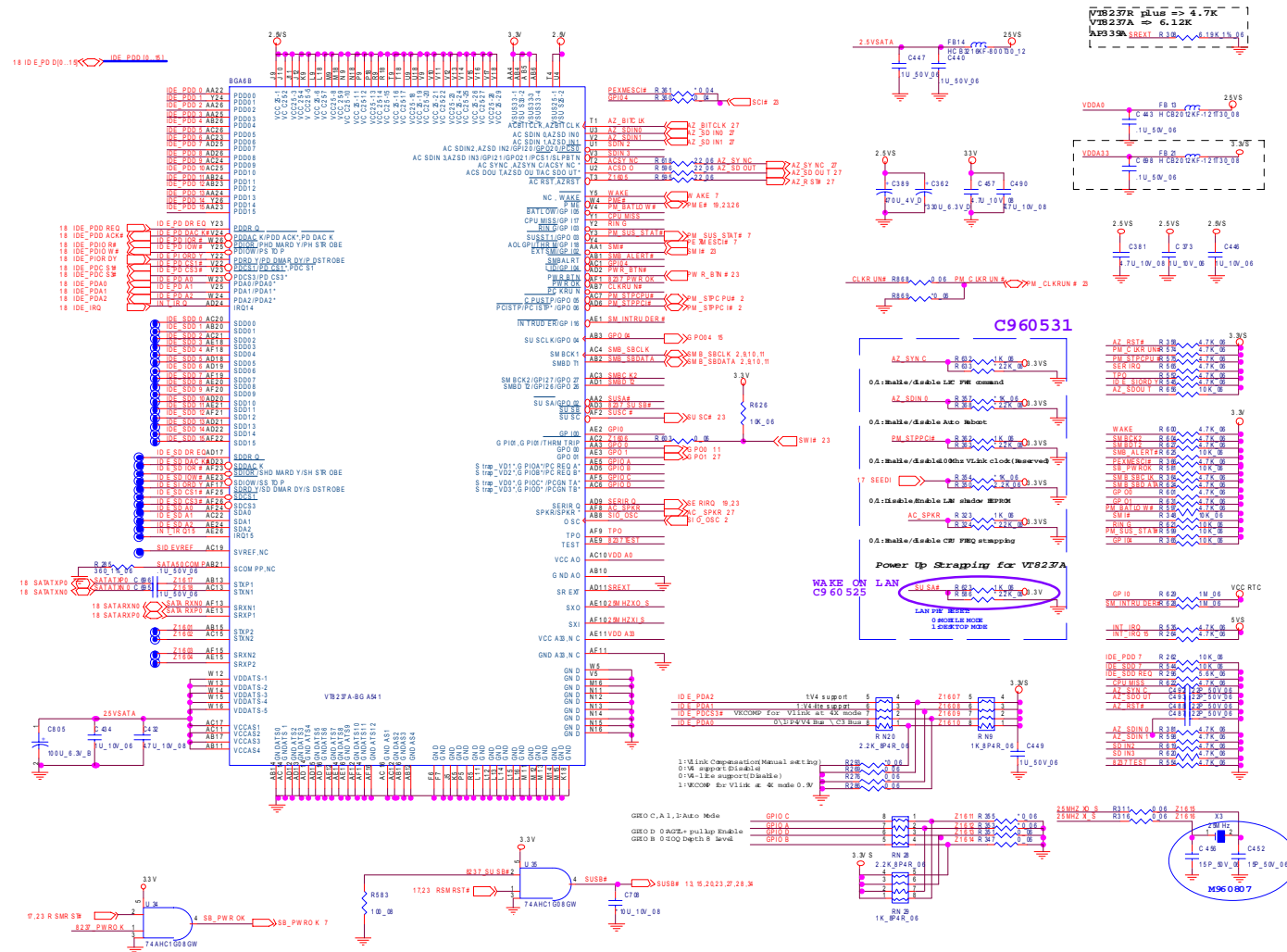


VT8237A-1

Sheet 15 of 40
VT8237A-1



VT8237A-2



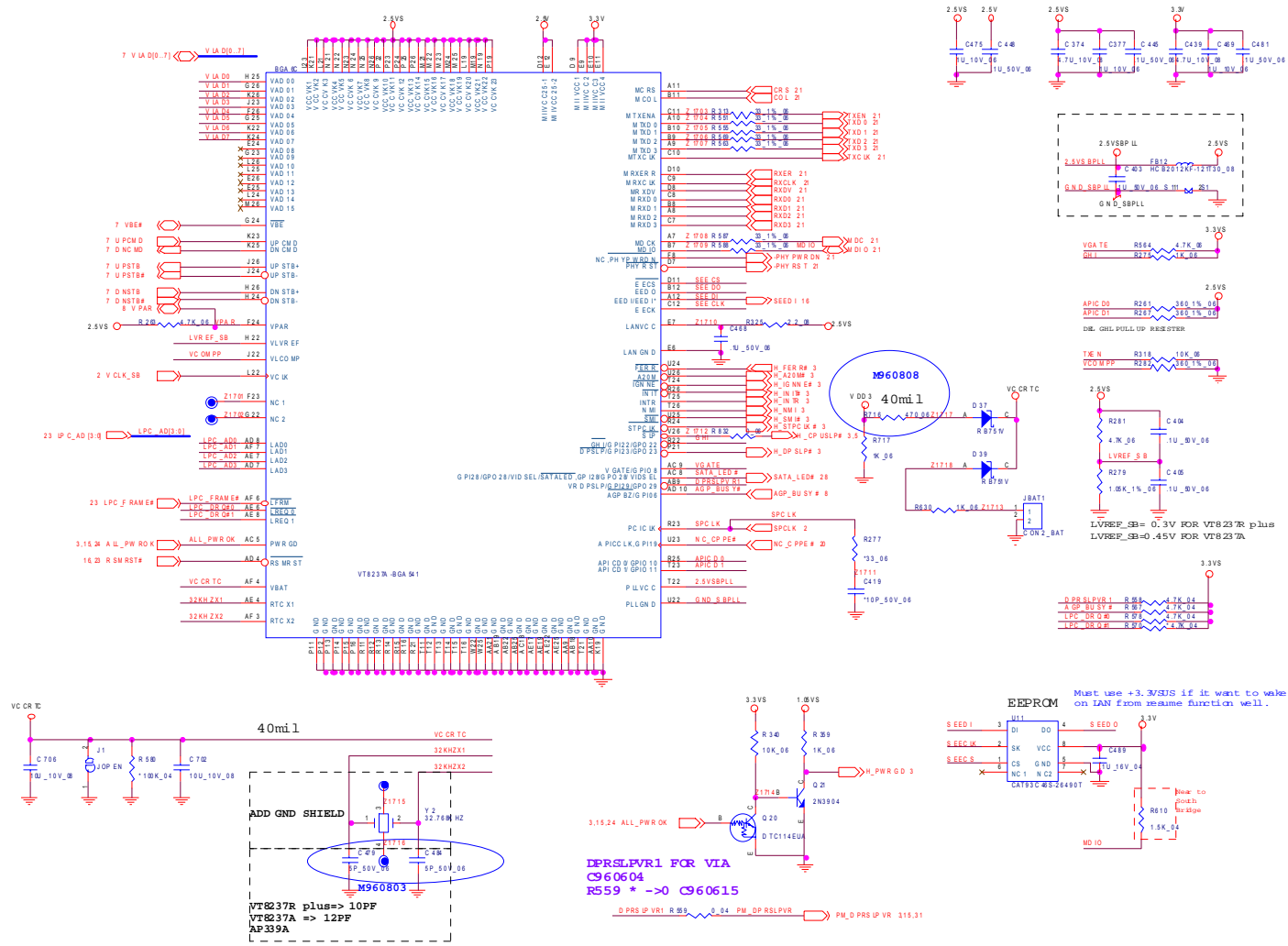
Sheet 16 of 40
VT8237A-2

B. Schematic Diagrams

VT8237A-3

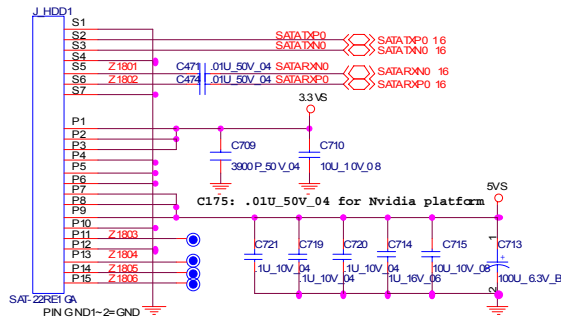
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VT8237A-3

B.Schematic Diagrams

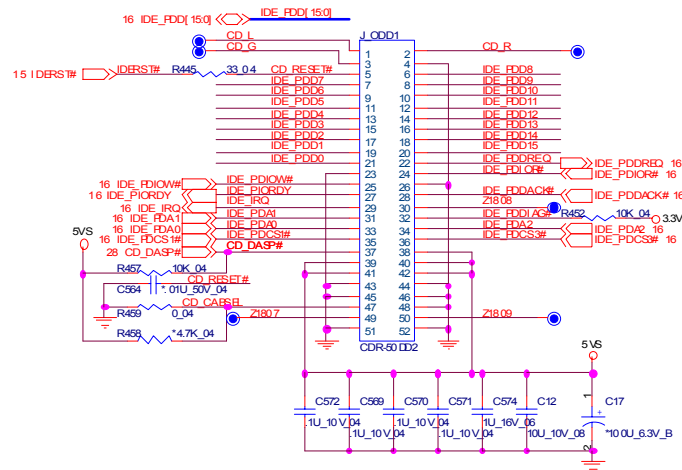


HDD & CDROM

SATA HDD



CD-ROM



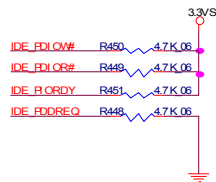
Sheet 18 of 40
HDD & CDROM

B.Schematic Diagrams

Layout note:
CD_R & CD_G & CD_L must parallel routing to Audio Codec. The wide is 12mils and space must be equal.

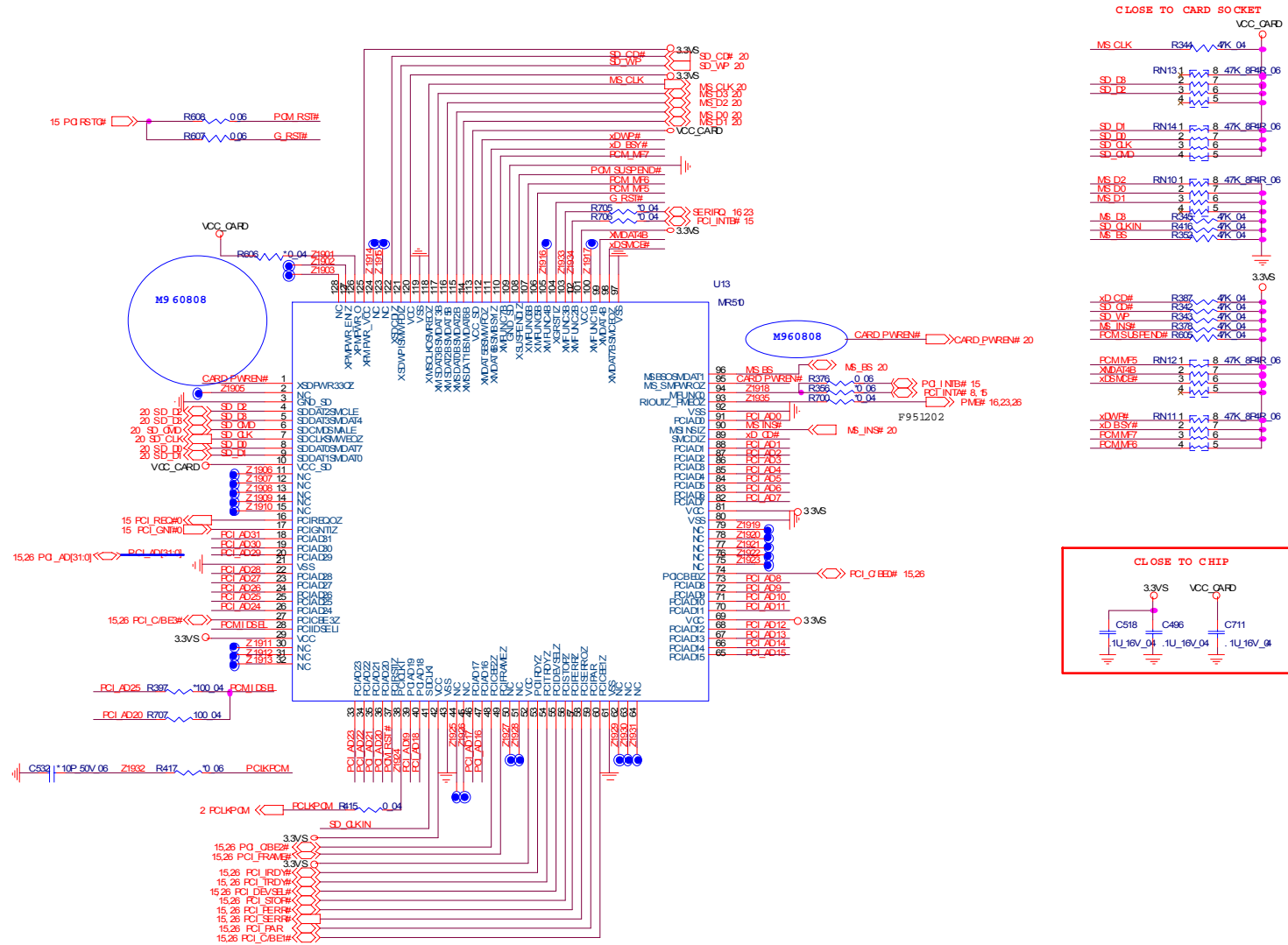
Signal: Space = 1:2	Other Signal
Signal: Space = 1:1	CD_R
Signal: Space = 1:1	CD_G
Signal: Space = 1:1	CD_L
Signal: Space = 1:2	Other Signal

To AUDIO CODEC From CD-ROM



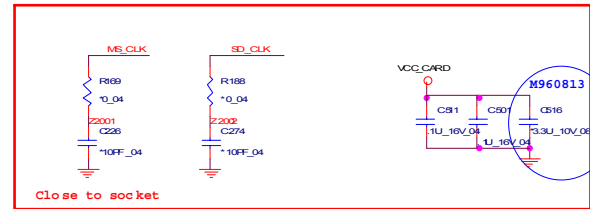
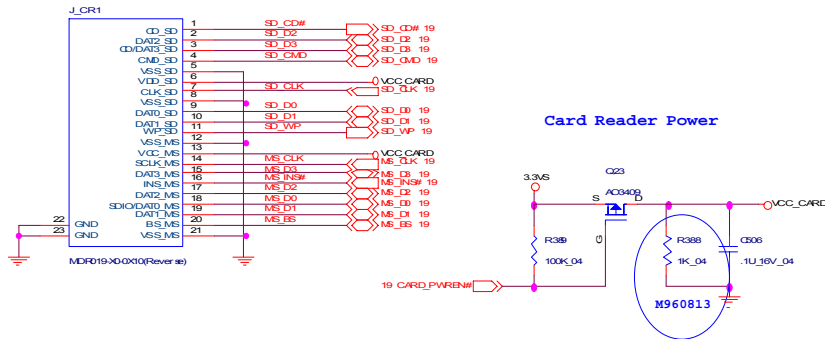
CARD READER

Sheet 19 of 40
CARD READER



NEW CARD SOCKET

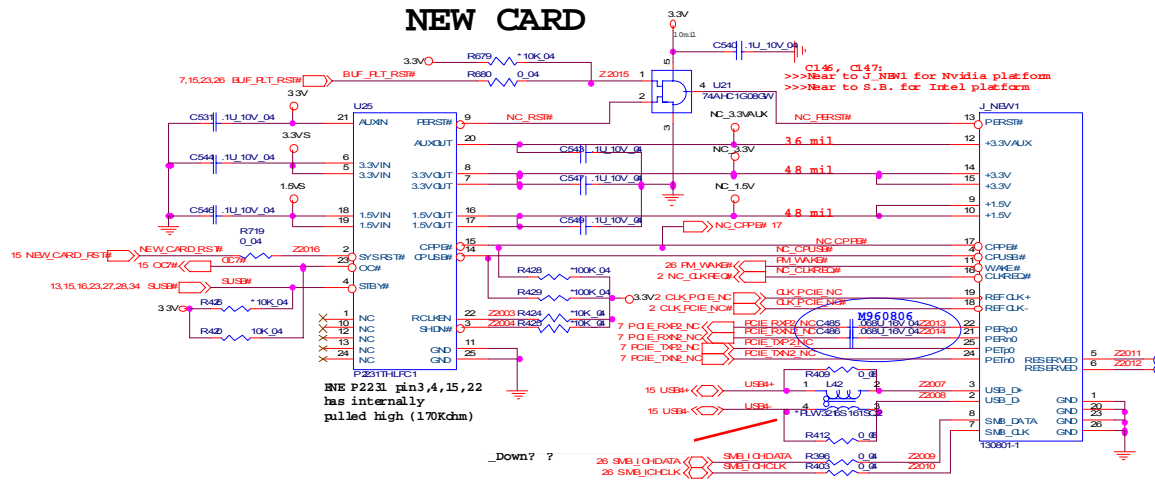
3 IN 1 SOCKET SD/MMC/MS(Pro)



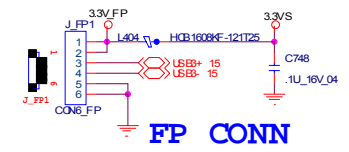
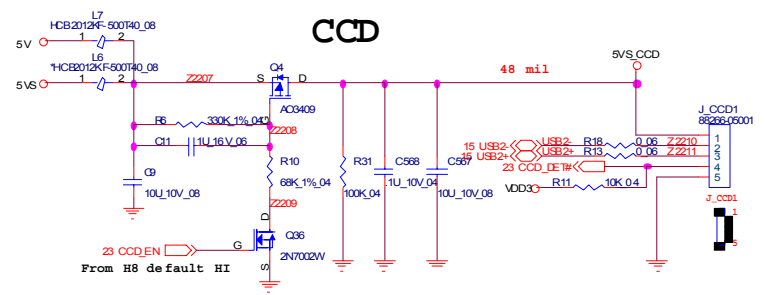
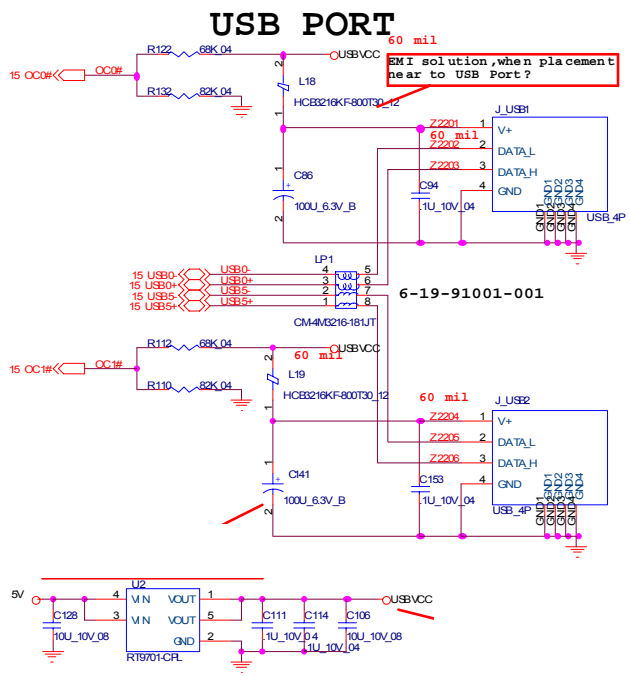
Sheet 20 of 40
NEW CARD
SOCKET

B.Schematic Diagrams

NEW CARD



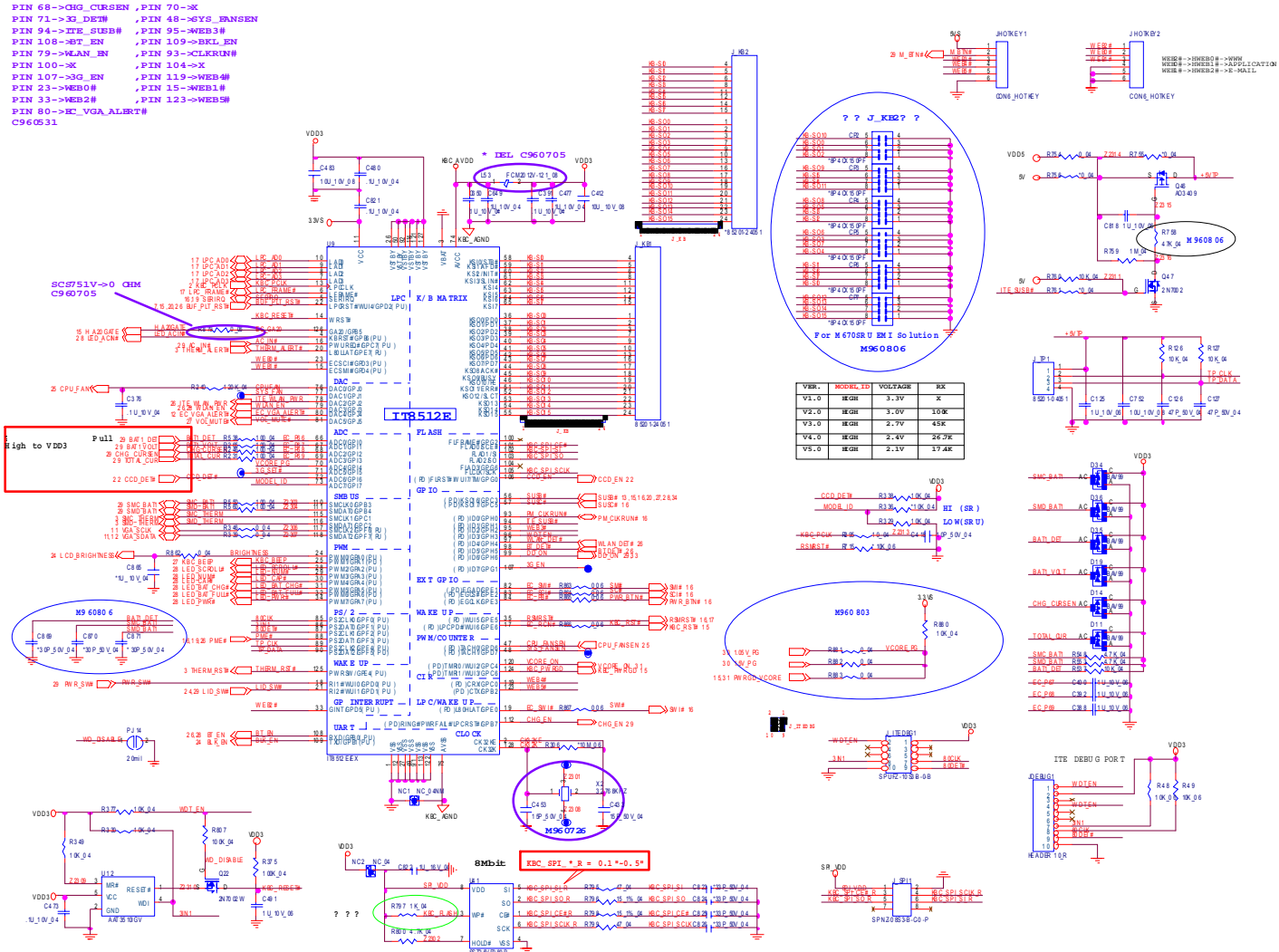
USB & CCD



Sheet 22 of 40
USB & CCD

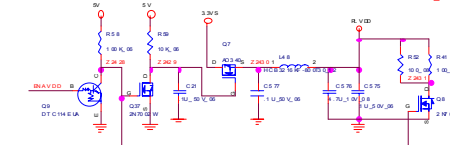
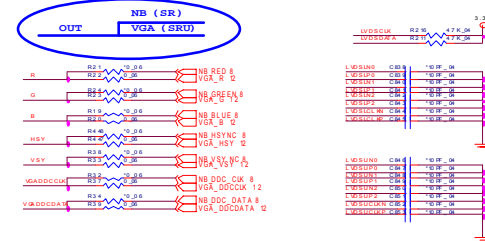
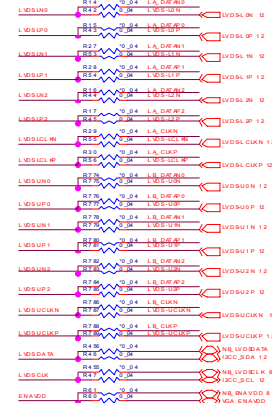
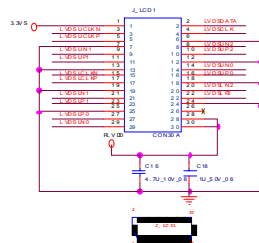
KBC-IT8512E

Sheet 23 of 40
KBC-IT8512E

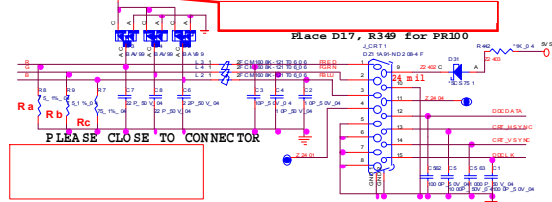


CRT & LVDS

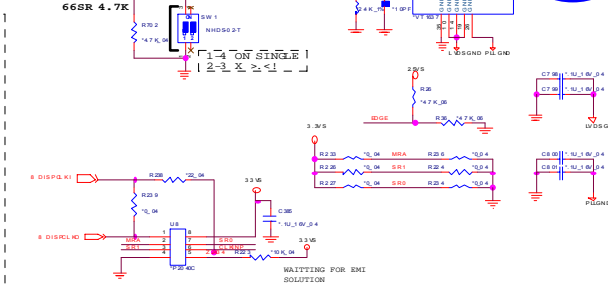
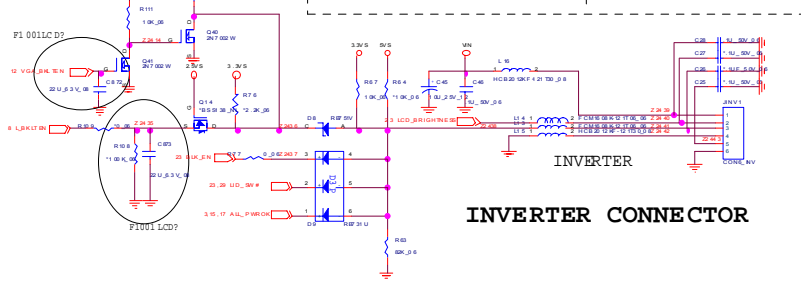
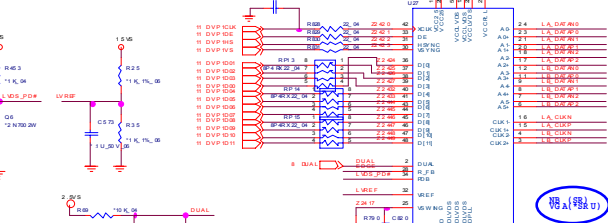
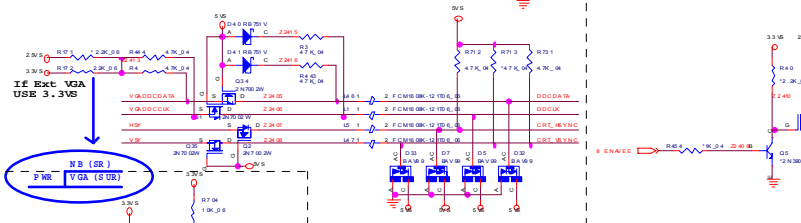
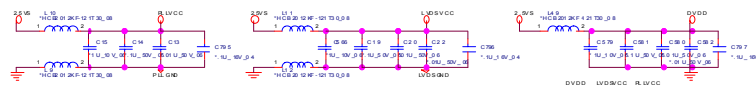
PANEL INTERFACE



CRT PORT



For M660SR USE



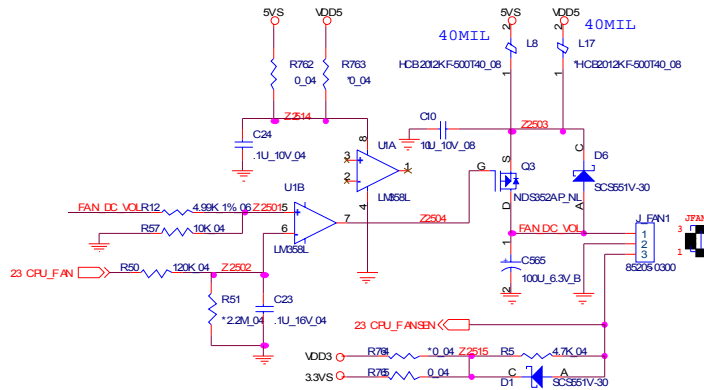
Sheet 24 of 40
CRT & LVDS

B.Schematic Diagrams

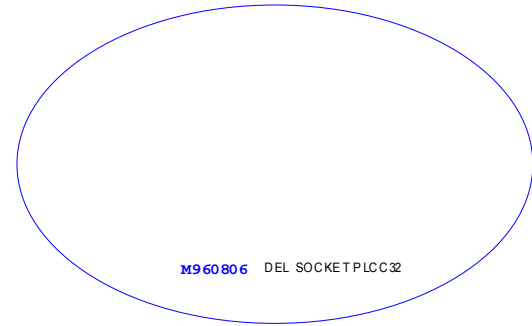
FAN CONTROL, LPC ROM

Sheet 25 of 40
FAN CONTROL,
LPC ROM

FAN CONTROL



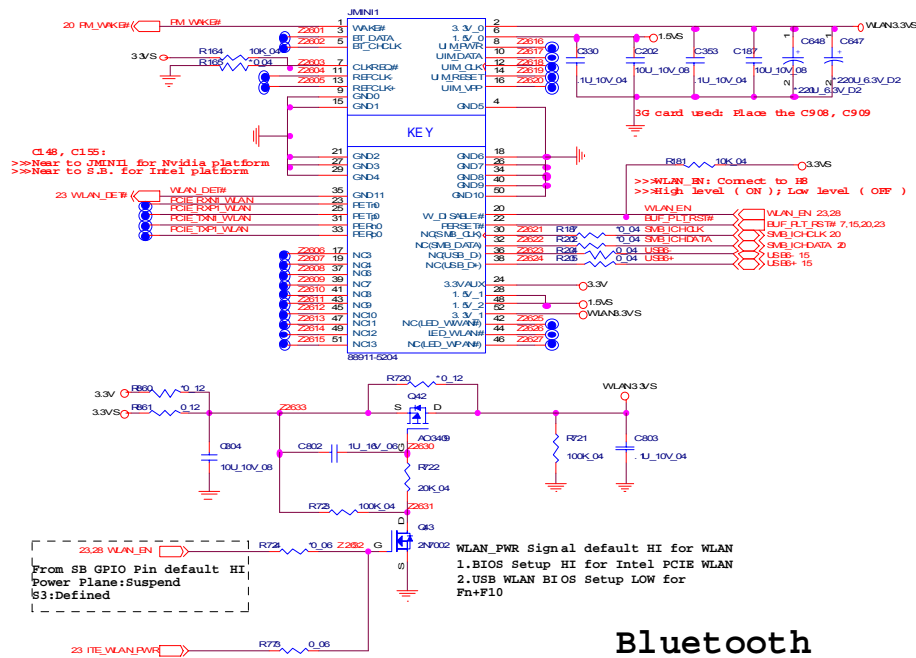
Normal Low



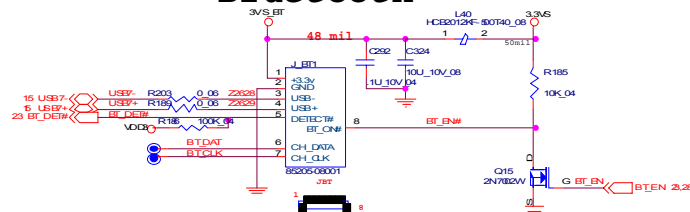
FWH_TBL#	FWH_WP#	Flash Mode
Low	Low	Protected
Low	High	Block 1-7
High	Low	Block 0
High	High	Block 0-7

MINI-PCI & BLUETOOTH

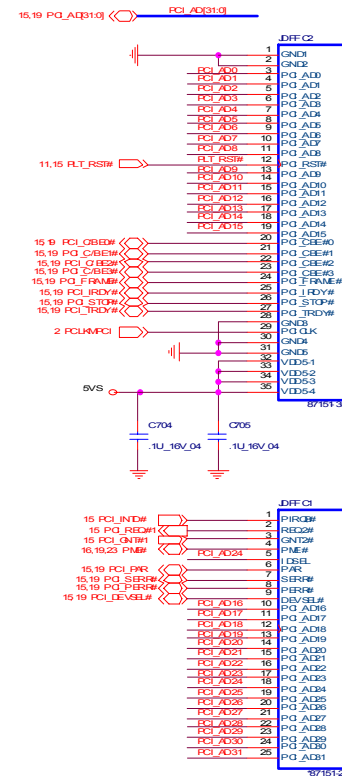
MINI-PCIE CARD



Bluetooth



MINI FFC CONN

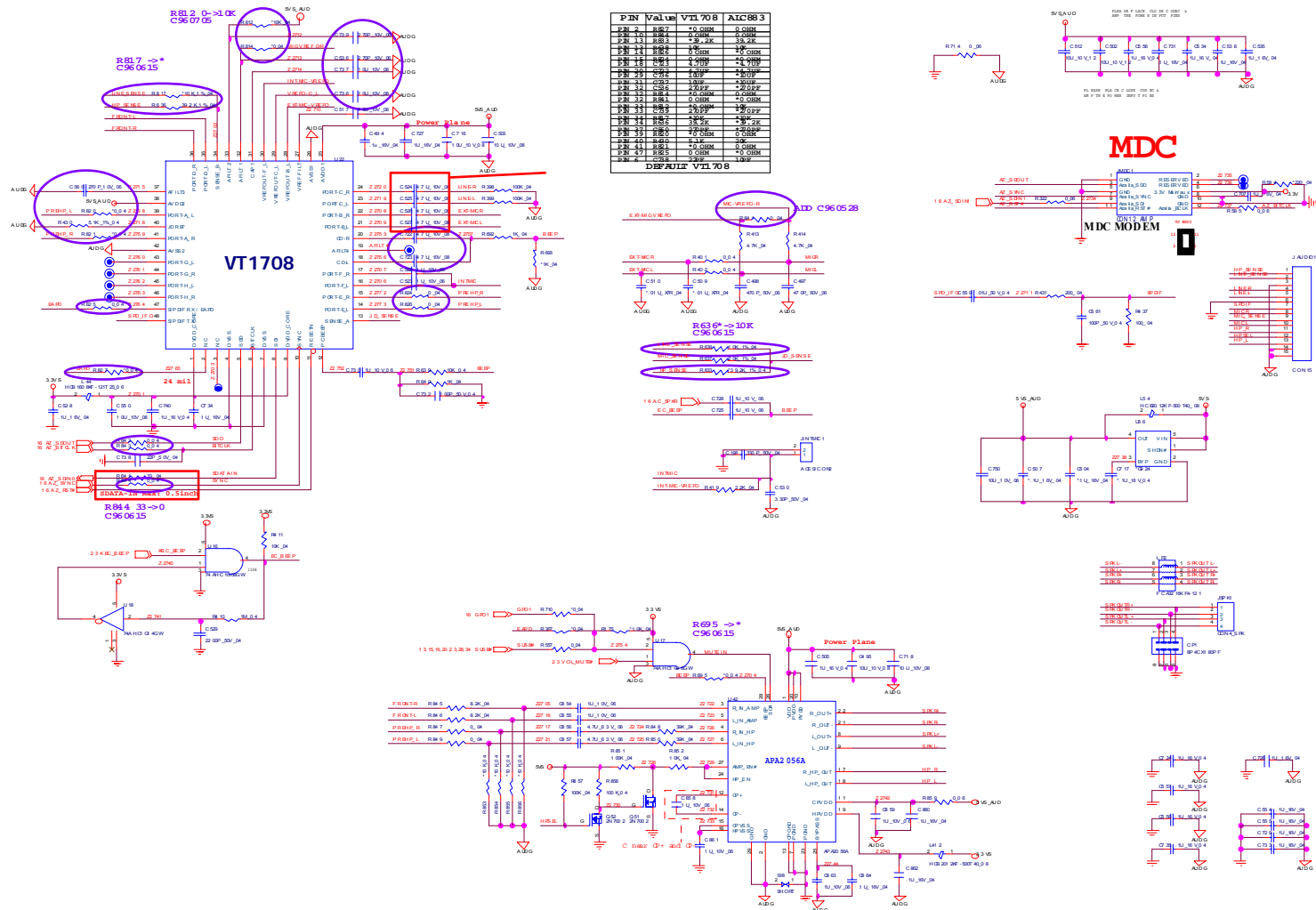


Sheet 26 of 40
MINI-PCI &
BLUETOOTH

B.Schematic Diagrams

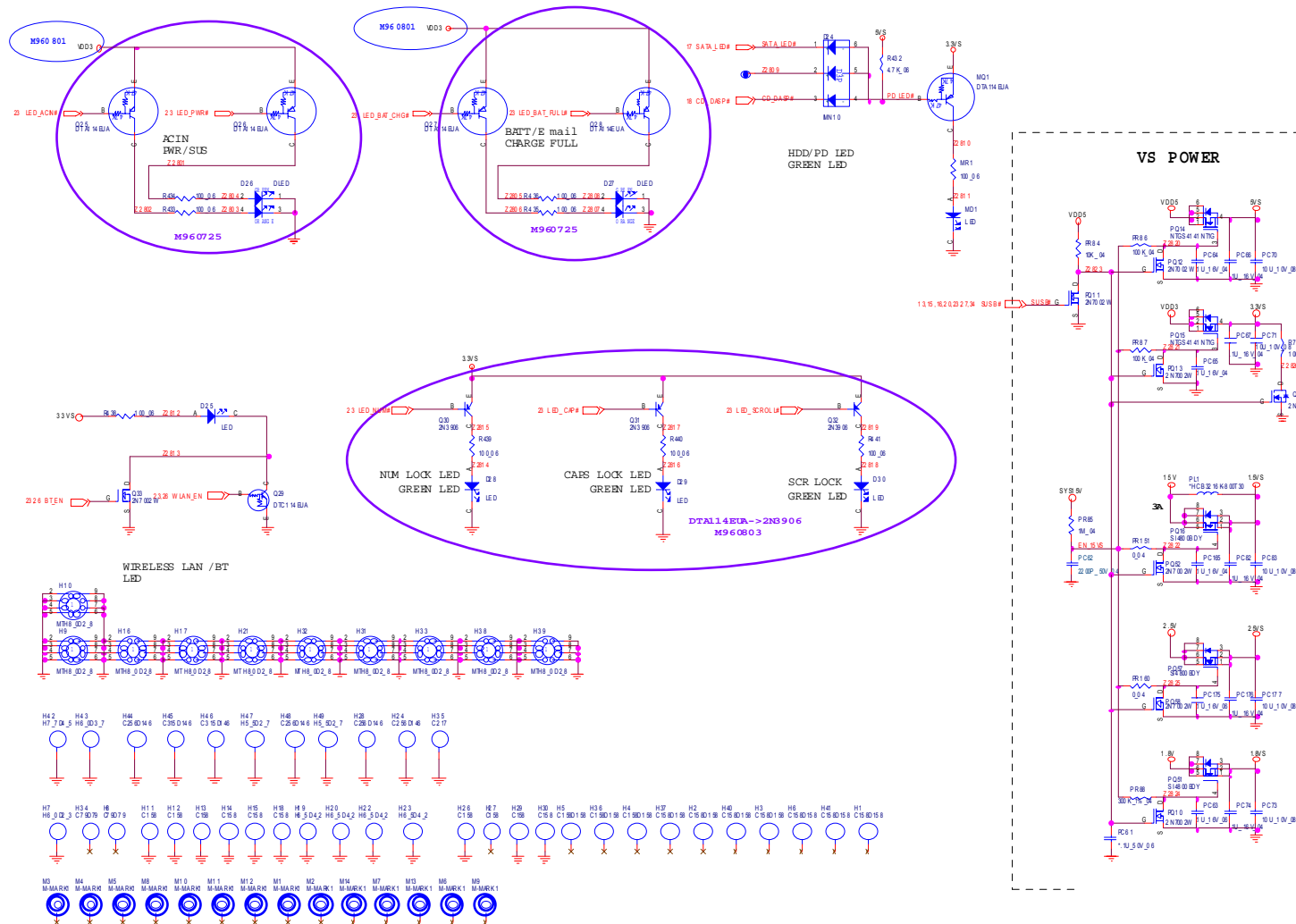
AUDIO VT1708A/ALC883

Sheet 27 of 40
AUDIO VT1708A/
alc883



Pin	Value	Pin	Value
Pin 1	10k	Pin 1	10k
Pin 2	10k	Pin 2	10k
Pin 3	10k	Pin 3	10k
Pin 4	10k	Pin 4	10k
Pin 5	10k	Pin 5	10k
Pin 6	10k	Pin 6	10k
Pin 7	10k	Pin 7	10k
Pin 8	10k	Pin 8	10k
Pin 9	10k	Pin 9	10k
Pin 10	10k	Pin 10	10k
Pin 11	10k	Pin 11	10k
Pin 12	10k	Pin 12	10k
Pin 13	10k	Pin 13	10k
Pin 14	10k	Pin 14	10k
Pin 15	10k	Pin 15	10k
Pin 16	10k	Pin 16	10k
Pin 17	10k	Pin 17	10k
Pin 18	10k	Pin 18	10k
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Pin 99	10k	Pin 99	10k
Pin 100	10k	Pin 100	10k

LED, VS POWER

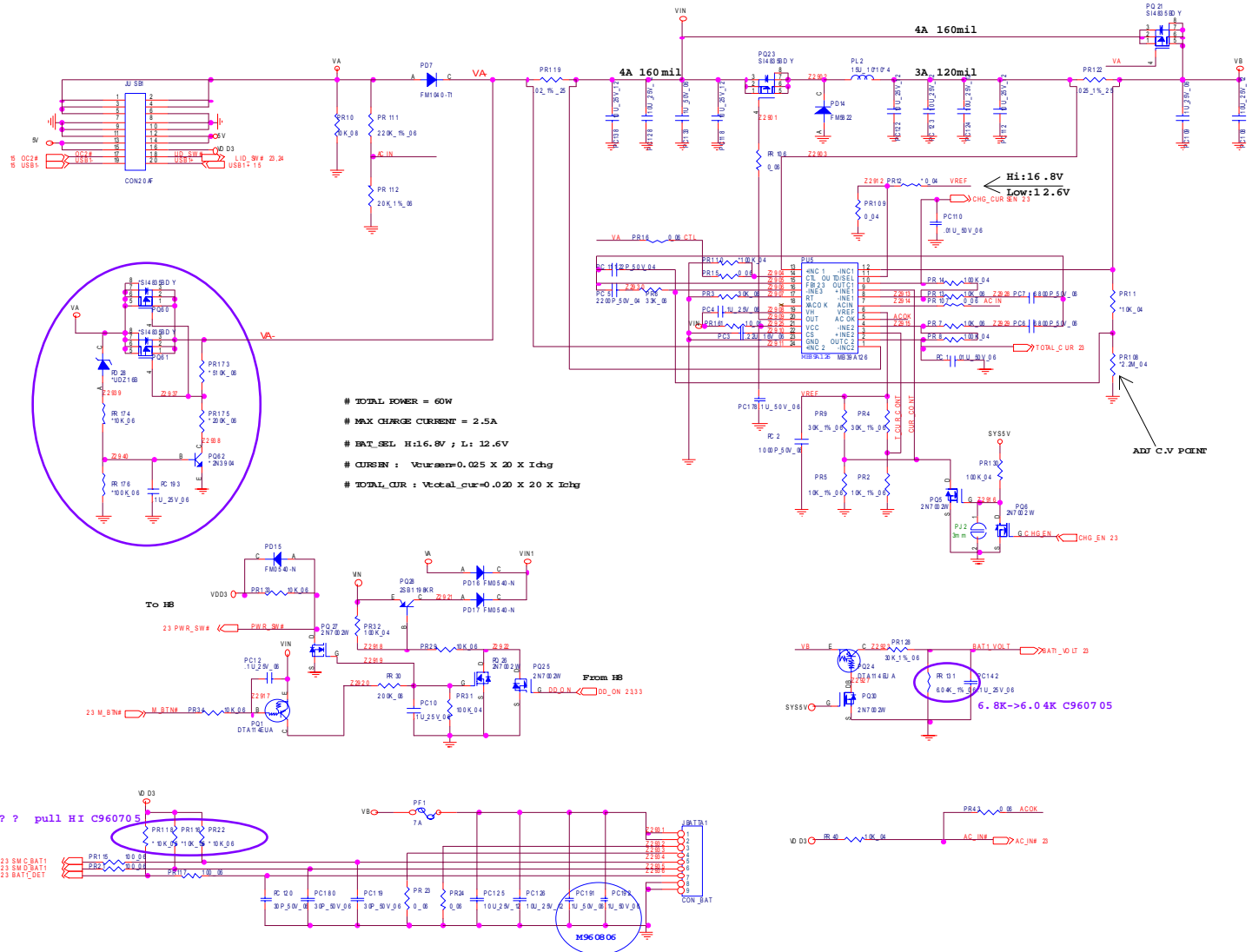


Sheet 28 of 40
LED, VS POWER

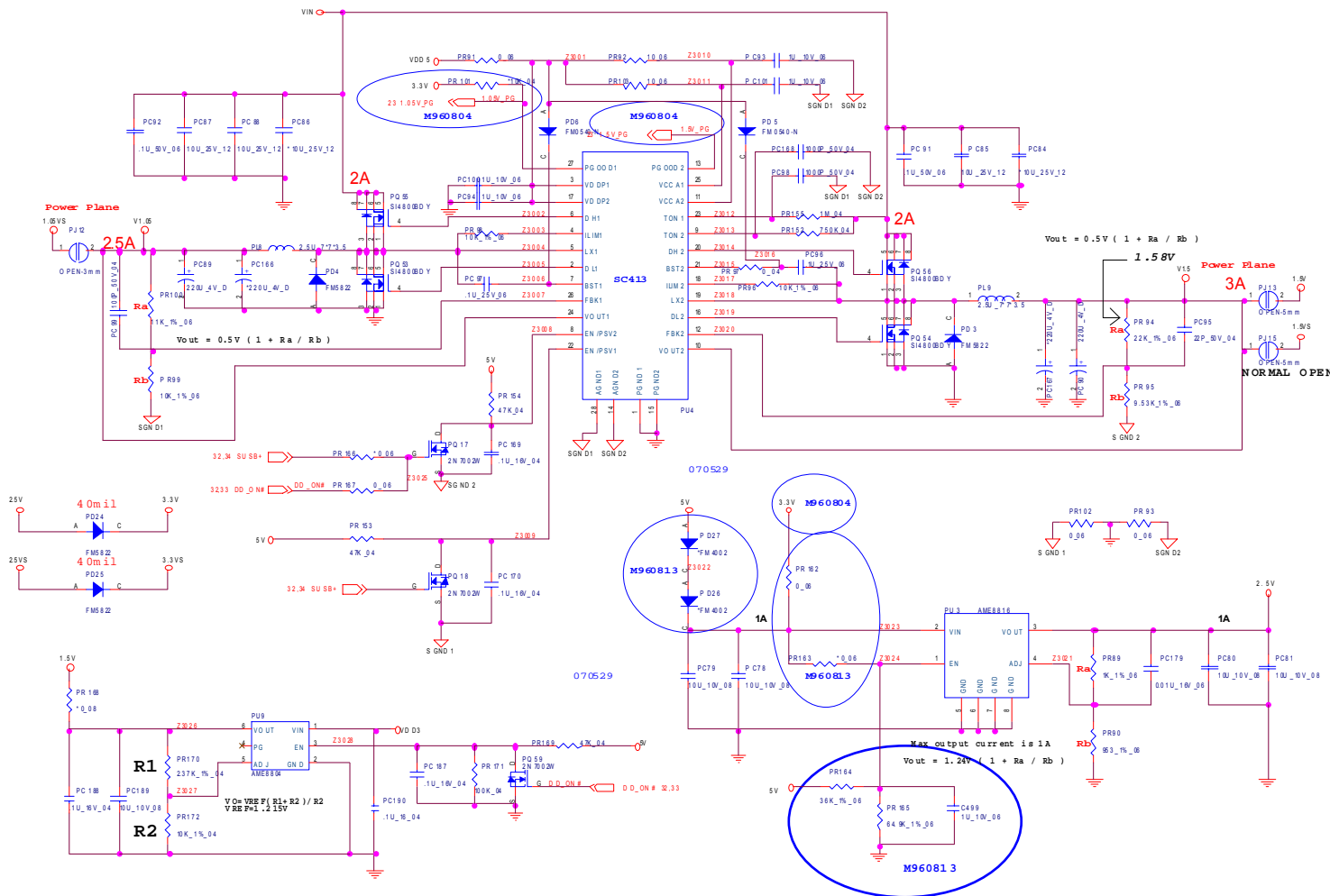
B.Schematic Diagrams

CHARGER, DC IN

Sheet 29 of 40
CHARGER, DC IN



1.5V, 1.05VS



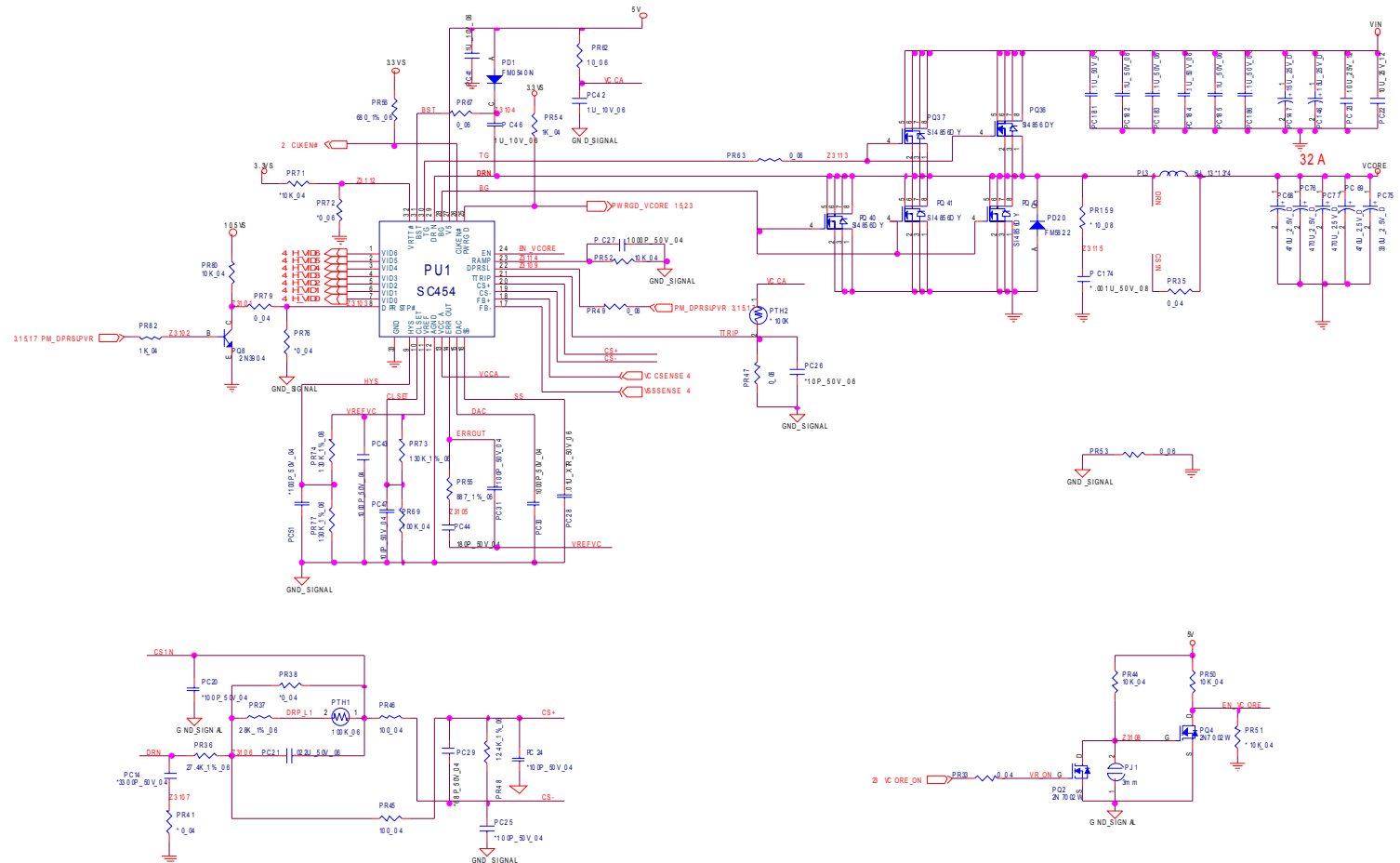
Sheet 30 of 40
1.5V, 1.05VS

B.Schematic Diagrams

VCORE

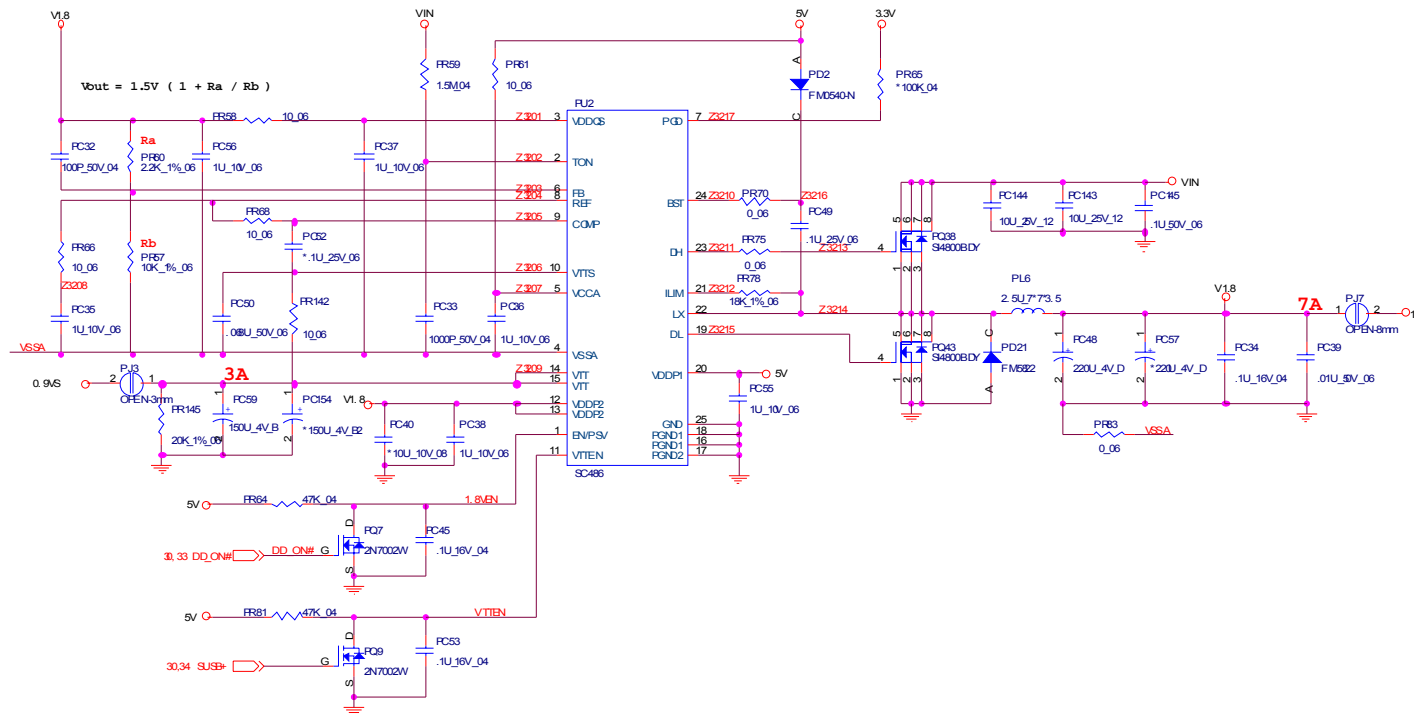
VCORE FOR YUNA AND NAPA CPU

Sheet 31 of 40
VCORE



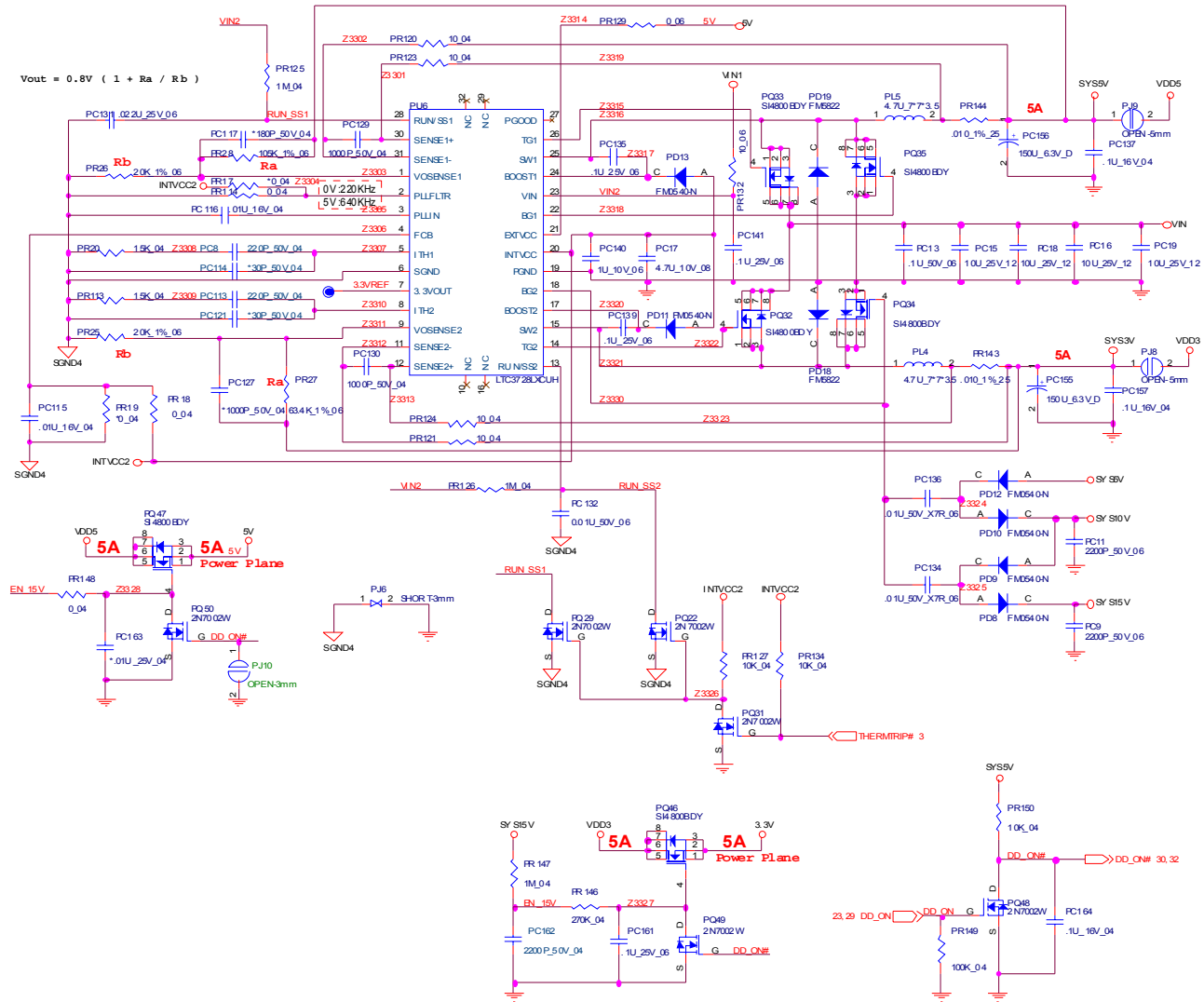
B.Schematic Diagrams

1.8V, 0.9VS



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1.8V, 0.9VS

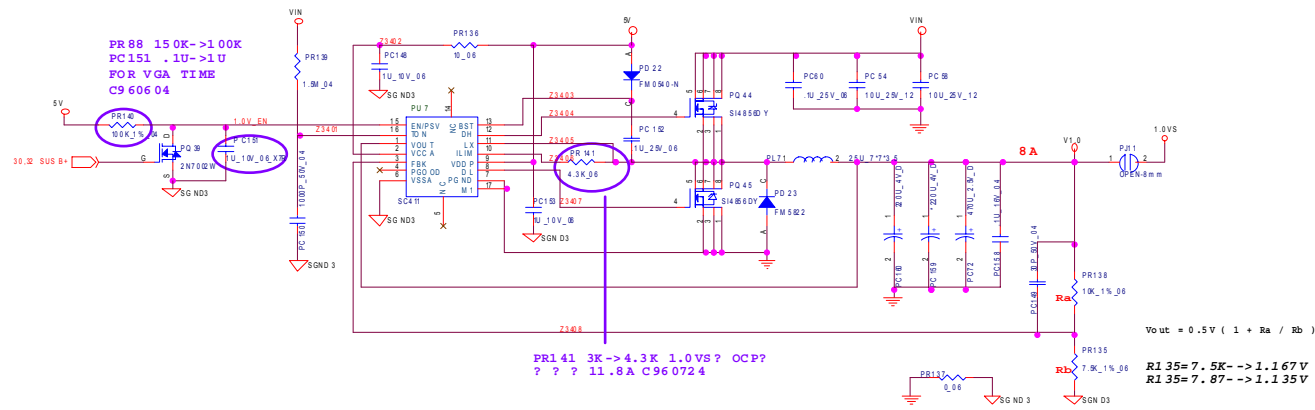
VDD3, VDD5



Sheet 33 of 40
VDD3, VDD5

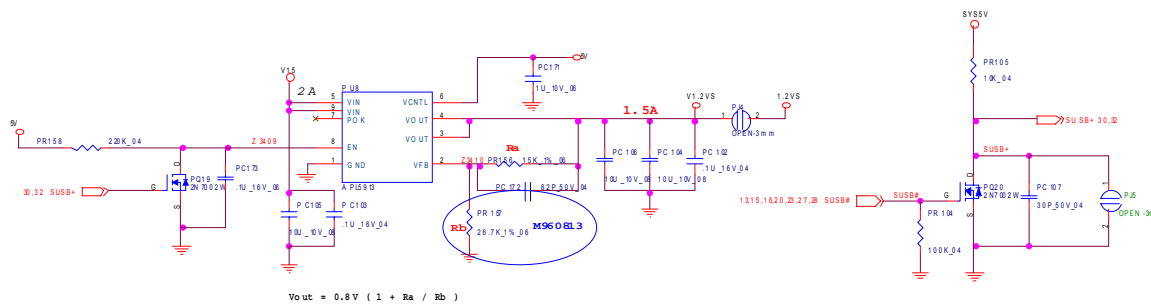
B.Schematic Diagrams

EXT GPU 1.0VS/1.2VS



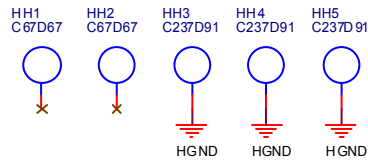
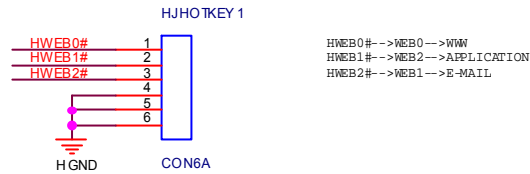
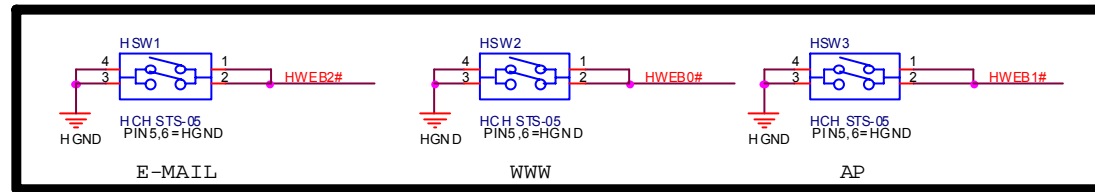
Sheet 34 of 40
EXT GPU 1.0VS/
1.2VS

B.Schematic Diagrams

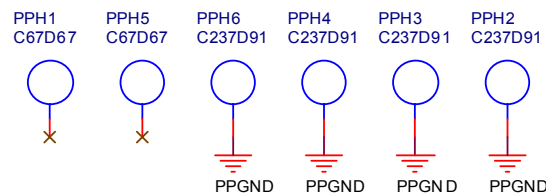
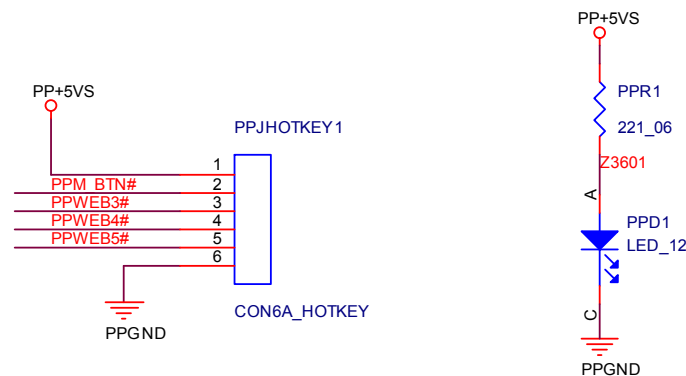
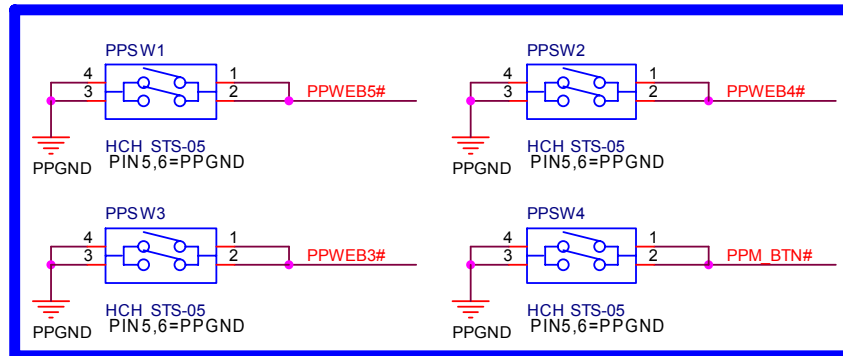


HOTKEY LT BOARD

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HOTKEY LT
BOARD



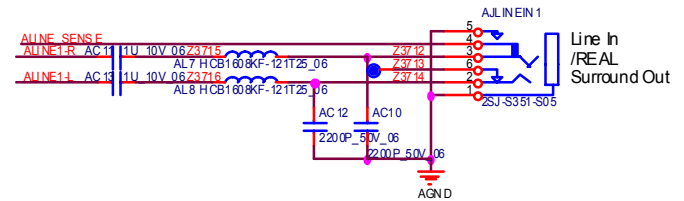
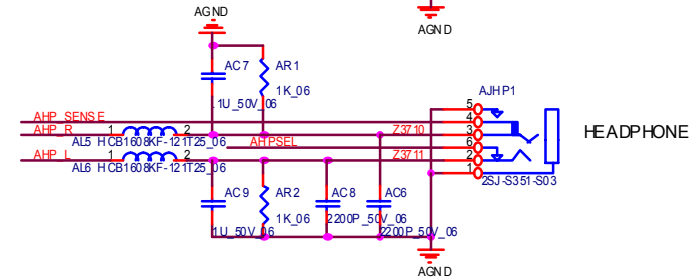
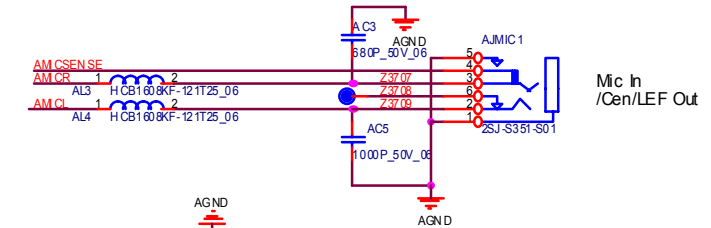
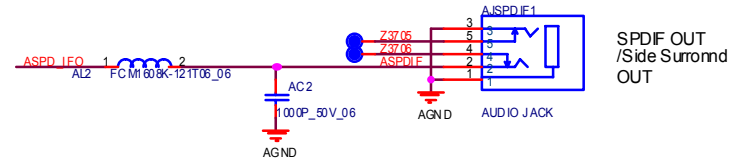
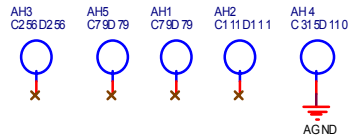
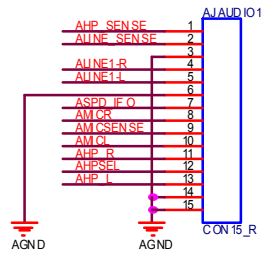
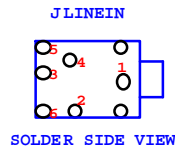
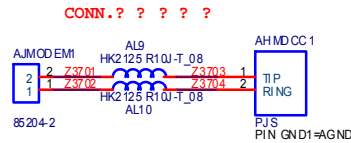
PWR HOT BOARD



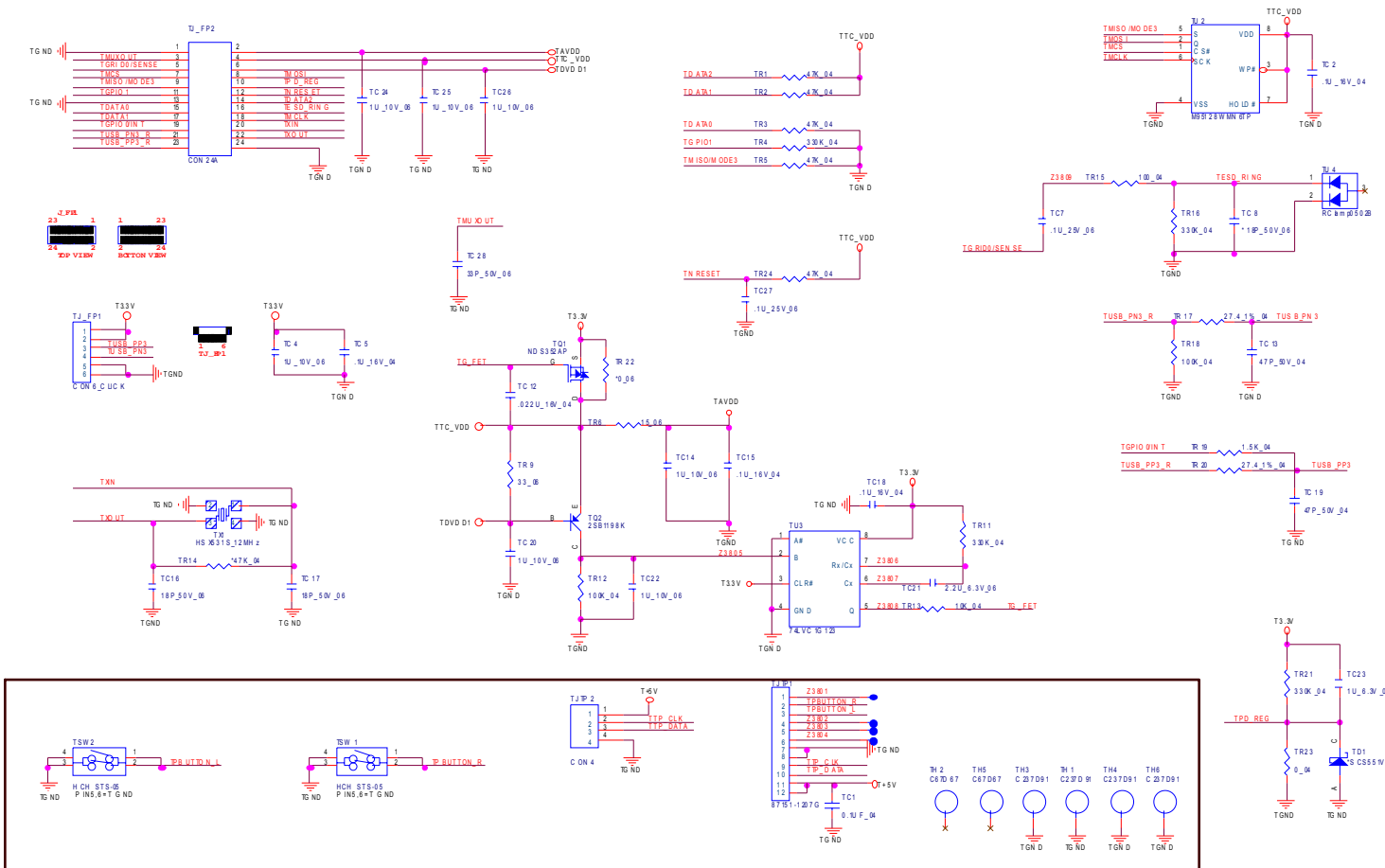
Sheet 36 of 40
PWR HOT BOARD

AUDIO & MODEM BOARD

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AUDIO & MODEM BOARD



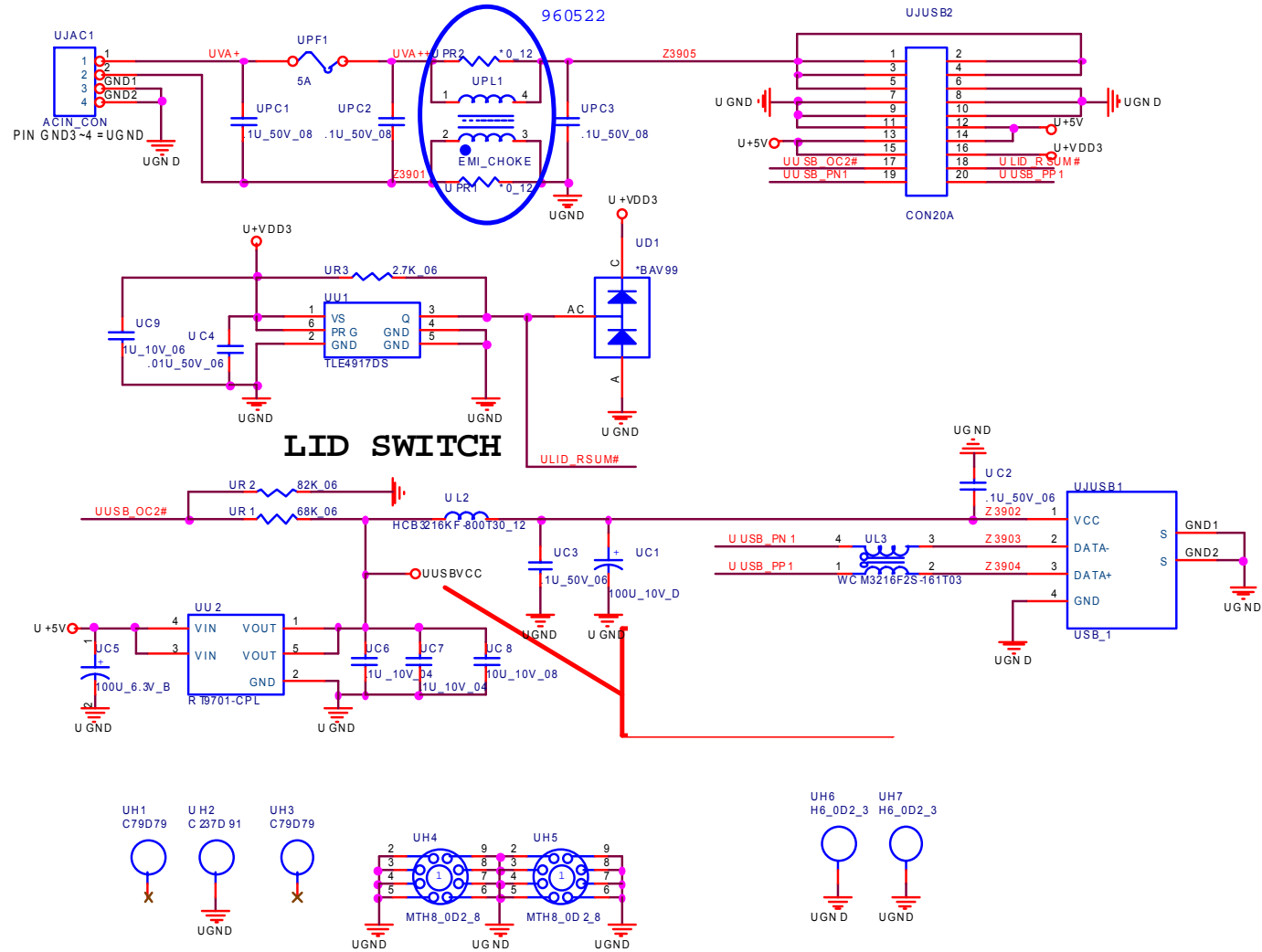
CLICK BOARD



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CLICK BOARD

B.Schematic Diagrams

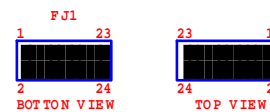
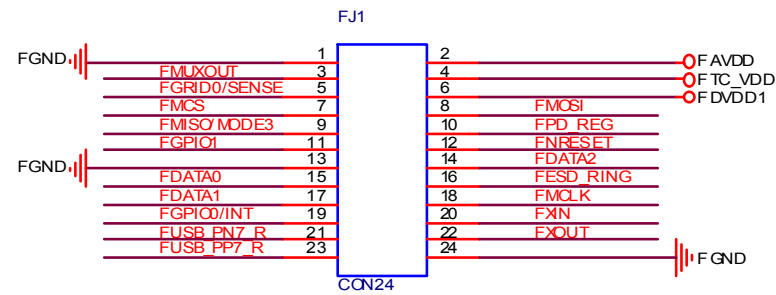
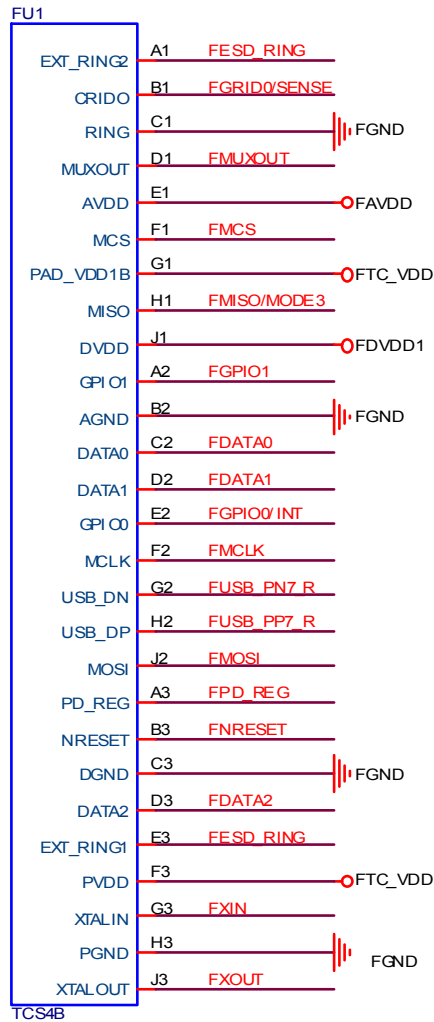
USB BOARD



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USB BOARD

FINGERPRINT BOARD

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FINGERPRINT
BOARD



Schematic Diagrams

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