SERVICE MANUAL

M520G

notebook

Notebook Computer

M520G

Service Manual

Notice

The company reserves the right to revise this publication or to change its contents without notice. Information contained herein is for reference only and does not constitute a commitment on the part of the manufacturer or any subsequent vendor. They assume no responsibility or liability for any errors or inaccuracies that may appear in this publication nor are they in anyway responsible for any loss or damage resulting from the use (or misuse) of this publication.

Brand and product names mentioned in this publication may or may not be copyrights and/or registered trademarks of their respective companies. They are mentioned for identification purposes only and are not intended as an endorsement of that product or its manufacturer.

Version 1.0
February 2006

Trademarks

Intel®, **Pentium**® and **Celeron**® are US registered trademarks of Intel Corporation.
Windows® is a registered trademark of Microsoft Corporation.
Other brand and product names are trademarks and./or registered trademarks of their respective companies.

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 ***M520G*** 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 20V, 3.25A minimum AC/DC Adapter, OR by a DC Output 20V, 4.5A minimum AC/DC Adapter if you are using the optional port replicator.

CAUTION

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

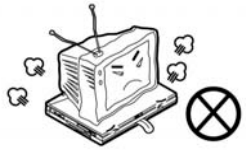
TO REDUCE THE RISK OF FIRE, USE ONLY NO. 26 AWG OR LARGER, TELECOMMUNICATION LINE CORD

This Computer's Optical Device is a Laser Class I Product

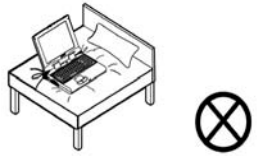
Instructions for Care and Operation

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.*
		

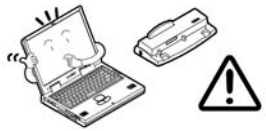
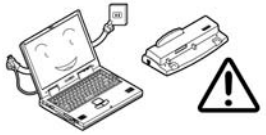
2. **Keep it dry, and don't overheat it.** Keep the computer and power supply away from any kind of heating element. This is an electrical appliance. If water or any other liquid gets into it, the computer could be badly damaged.

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.*
			

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.	*Unplug the power cord before attaching peripheral devices.*
	

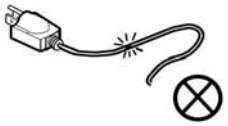
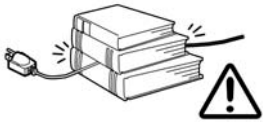
Power Safety

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.

Do not plug in the power cord if you are wet.	*Do not use the power cord if it is broken.*	*Do not place heavy objects on the power cord.*
		

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.

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

Chapter 1: Introduction

Overview

This manual covers the information you need to service or upgrade the ***M520G*** 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,* 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 ***M520G*** series notebook is designed to be upgradeable. See ***"Disassembly" on page 2 - 1*** for a detailed description of the upgrade procedures for each specific component. Please note the warning and safety information indicated by the "  " symbol.

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

System Specifications

Feature	Specification	
Processor	Intel Pentium® M Processor (478-pin) Micro-FC-PGA Package Models 730/ 740/ 750/ 760/ 770/ 780	(µ0.09) 0.09 Micron Process Technology 2MB On-die L2 Cache & 533MHz FSB 1.6/ 1.73/ 1.86/ 2.0/ 2.13/ 2.26 GHz
	Intel Celeron® M Processor (478-pin) Micro-FCPGA Package Models 350/ 350J/ 360/ 360J/ 370/ 380/ 390	(µ0.09) 0.09 Micron Process Technology 1MB On-die L2 Cache & 400MHz FSB 1.3/ 1.3/ 1.4/ 1.4/ 1.5/ 1.6/ 1.7 GHz
Core Logic	Intel 915GM + ICH6-M	
Memory	Two 200 Pin SO-DIMM Sockets Supporting **DDRII (DDR2)** 533 MHz 64-bit Wide **DDRII** (**DDR2**) Data Channel Memory Expandable up to 2GB (128/ 256/ 512/ 1024 MB **DDRII** Modules) (**Note**: Do Not Use Other Module Types)	
Security	Security (Kensington® Type) Lock Slot	BIOS Password
BIOS	One 512KB Flash ROM	Insyde™ BIOS
LCD	12.1" WXGA (1280*768) Glare Type Flat Panel TFT	
Video Adapter	Intel 915GM Integration - Intel® Graphics Media Accelerator 900 (Intel® GMA 900) - Dynamic Video Memory Technology DVMT 3.0 - Supports up to **128MB** of Video Memory (dynamically allocated from system memory where needed) - Supports DualView™ - DirectX 9.0 Compatible - Supports WXGA Resolution	
Storage	**Optional Device Drive Bay Options:** One Changeable 12.7mm(h) Optical Device (CD/DVD) Type Drive (see “Optional” on page 1 - 4 for drive options) **Hard Disk Bay:** Easy Changeable 2.5", 9.5mm (h) Hard Disk (HDD) with PATA (Parallel) Interface/ SATA (Serial) Interface Hard Disks Support Master Mode IDE, PIO Mode 4 / ATA 100/ 66/ 33 (Ultra DMA) SATA Interface	

Feature	Specification	
Audio	Intel High Definition Audio Interface 3D Stereo Enhanced Sound System Sound-Blaster PRO™ Compatible S/PDIF Digital Output (7.1 CH) 2 * Built-In Speakers Built-In Microphone	
Keyboard & Pointing Device	Winkey Keyboard	Built-In TouchPad with Scrolling Function
PCMCIA	One Type-II PCMCIA (3.3V/5V) CardBus PC Card Slot	
Card Reader	Embedded 4-in-1 Card Reader (MS/ MS PRO/ SD/ MMC)	
Interface & Communication	Three USB 2.0 Ports (1.1 Compatible) One Mini-IEEE 1394a Port One Headphone-Out Jack One Microphone-In Jack One Line-In Jack One S/PDIF Output Jack One Internal Microphone One Infrared Transceiver (IrDA 1.1/FIR/SIR) Intel® PRO/Wireless 2915ABG Mini-PCI Wireless LAN Module (**Optional**) Bluetooth Module with USB Interface - Version 1.2 (**Factory Option**) Rotative 1.3M Pixel PC Camera with USB Interface (**Factory Option**)	One RJ-11 Jack for Plug & Play 56K MDC Fax/Modem (V.90 & V.92 Compliant) One RJ-45 Jack for Gigabit Ethernet LAN One DC-in Jack One Serial Port One Parallel (LPT1) Port (ECP/ EPP) One External Monitor Port One S-Video-Out Port (supports HDTV 480P, 720P, 1080i Using a Transfer Cable)
Power Management	Supports ACPI 2.0	Supports Stand by Mode Supports Hibernate Mode

Feature	Specification	
Power	Full Range AC/DC Adapter - AC Input 100~240V, 50~60Hz / DC Output 20V, 3.25A Full Range AC/DC Adapter - AC Input 100~240V, 47~63Hz / DC Output 20V, 4.5A (If Using the **Optional Port Replicator**) 4 Cell, 2.4 AH, 4S1P, 14.8V, Smart Lithium-Ion Battery Pack (Standard Battery) 8 Cell, 4.0 AH, 4S2P, 14.8V, Smart Lithium-Ion Battery Pack (**Optional** Extended Battery) 8 Cell, 4.4 AH, 4S2P, 14.8V, Smart Lithium-Ion Battery Pack (**Optional** Extended Battery) Warm Swap Battery Support (**Factory Option**)	
Environmental Spec	Temperature Operating: 5°C ~ 35°C Non-Operating: -20°C ~ 60°C	Relative Humidity Operating: 20% ~ 80% Non-Operating: 10% ~ 90%
Physical Dimensions & Weight	291mm (w) * 218mm (h) * 25-32.5mm (d)	Around 1980g (+50, -50) with 4 Cell Battery
Optional	**Optical Device Module Options:** CD-ROM Drive Module DVD-ROM Drive Module DVD/CD-RW Combo Drive Module DVD-Dual Drive Module (**Factory Option**) Swap Battery Software DVD Player Port Replicator (10/100 Base-T Ethernet Port, 4 * USB 2.0 Ports, Serial Port, Parallel Port, External Monitor Port, DC-In Jack) (**Note: Port Replicator requires the supplied 90W power adapter**)	(**Factory Option**) Rotative 1.3M Pixel PC Camera with USB Interface Bluetooth Module with USB Interface - Version 1.2 Digital Video Software for Camera Intel® PRO/Wireless 2915ABG Mini-PCI Wireless LAN Module Component Video Transfer Cable 8 Cell Extended Battery Battery Charger Module

External Locator - Top View with LCD Panel Open

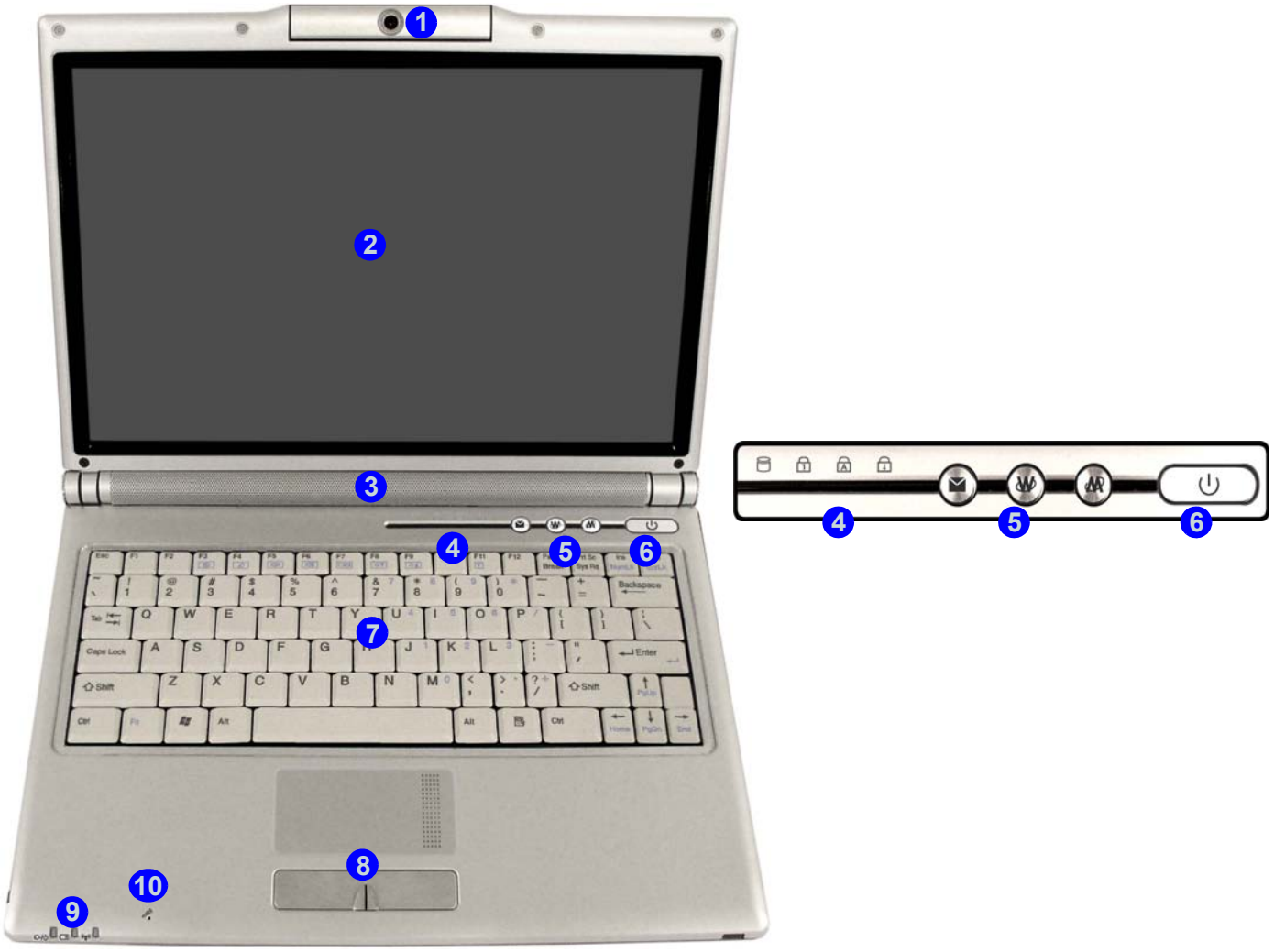


Figure 1
Top View

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

External Locator - Front & Rear Views

Figure 2
Front Views

1. LED Power & Communication Indicators
2. 4-in-1 Card Reader
3. PC Camera

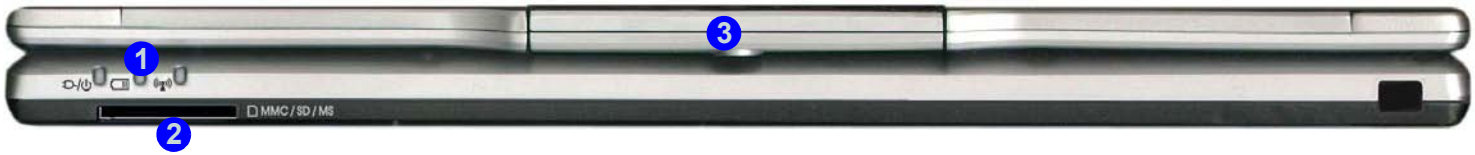


Figure 3
Rear Views

1. Parallel Port
2. Serial Port
3. S-Video-Out Port
4. RJ-11 Phone Jack
5. Battery
6. Security Lock Slot

External Locator - Left & Right Side View

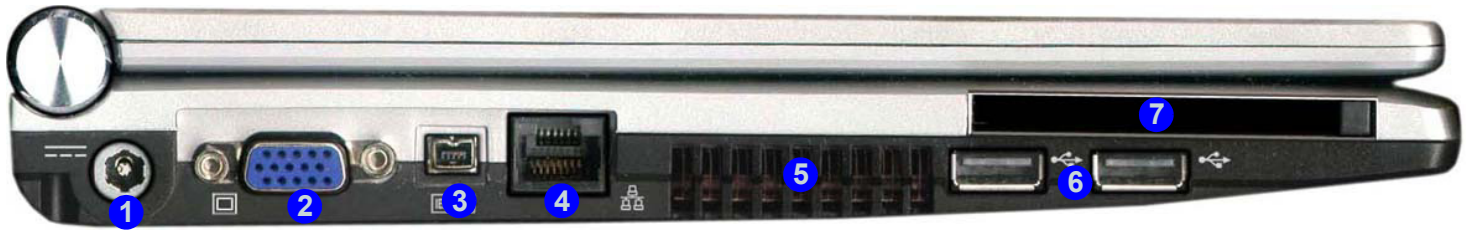


Figure 4
Left Side View

1. DC-In Jack
2. External Monitor Port
3. Mini-IEEE 1394a Port
4. RJ-45 LAN Jack
5. Vent/Fan Intake/ Outlet
6. 2 * USB 2.0 Ports
7. PC Card Slot

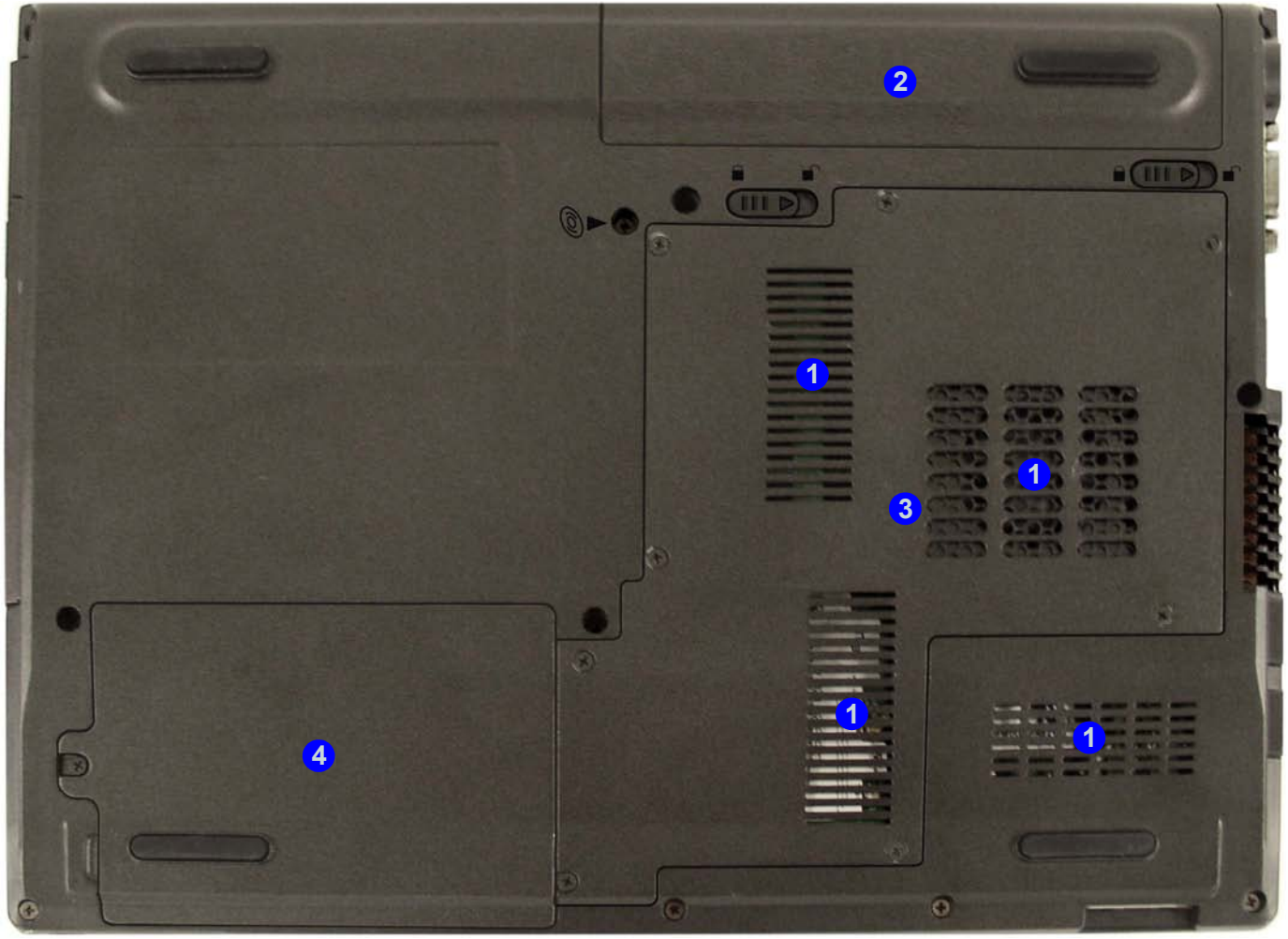
Figure 5
Right Side View

1. 1 * USB 2.0 Ports
2. Headphone/ Speaker-Out Jack
3. Microphone-In Jack
4. S/PDIF-Out Jack
5. Line-In Jack
6. Optical (CD/DVD) Device Drive Bay
7. Infrared Transceiver

External Locator - Bottom View

Figure 6
Bottom View

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



Overheating

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

M520G Mainboard Overview - Top (Key Parts)

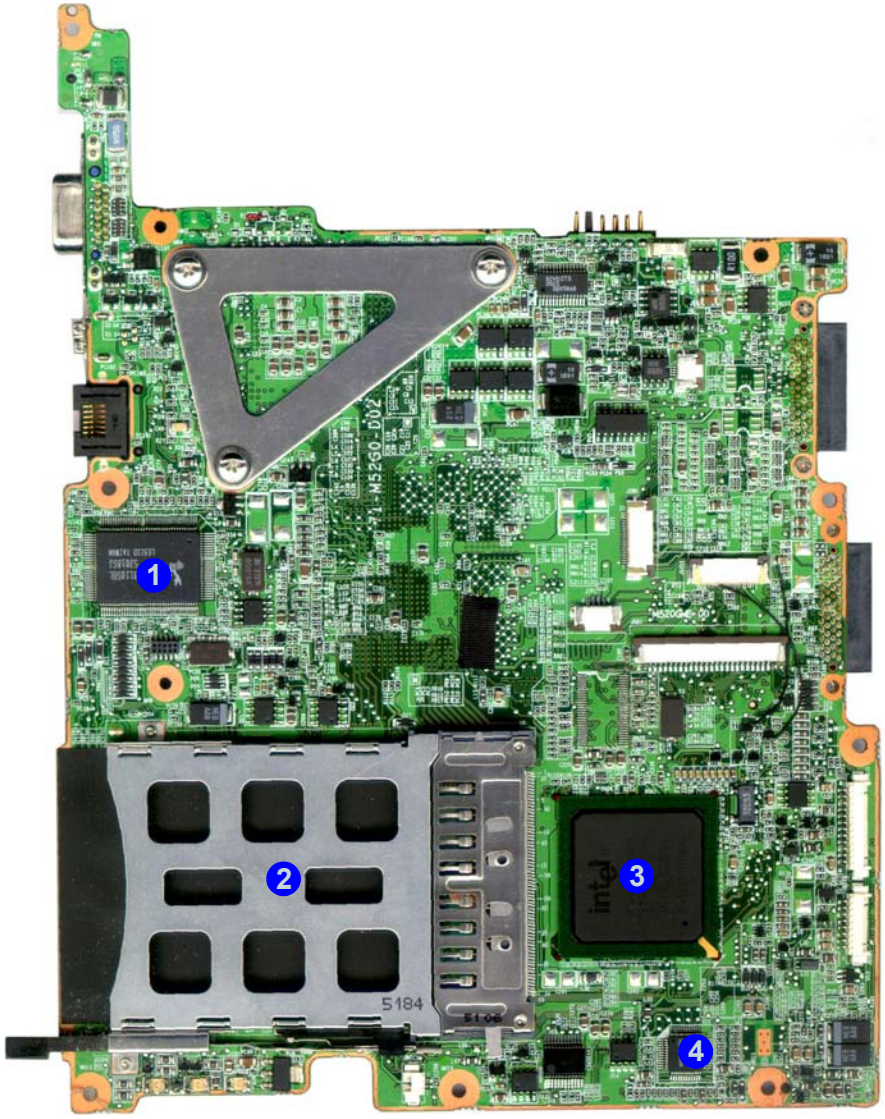


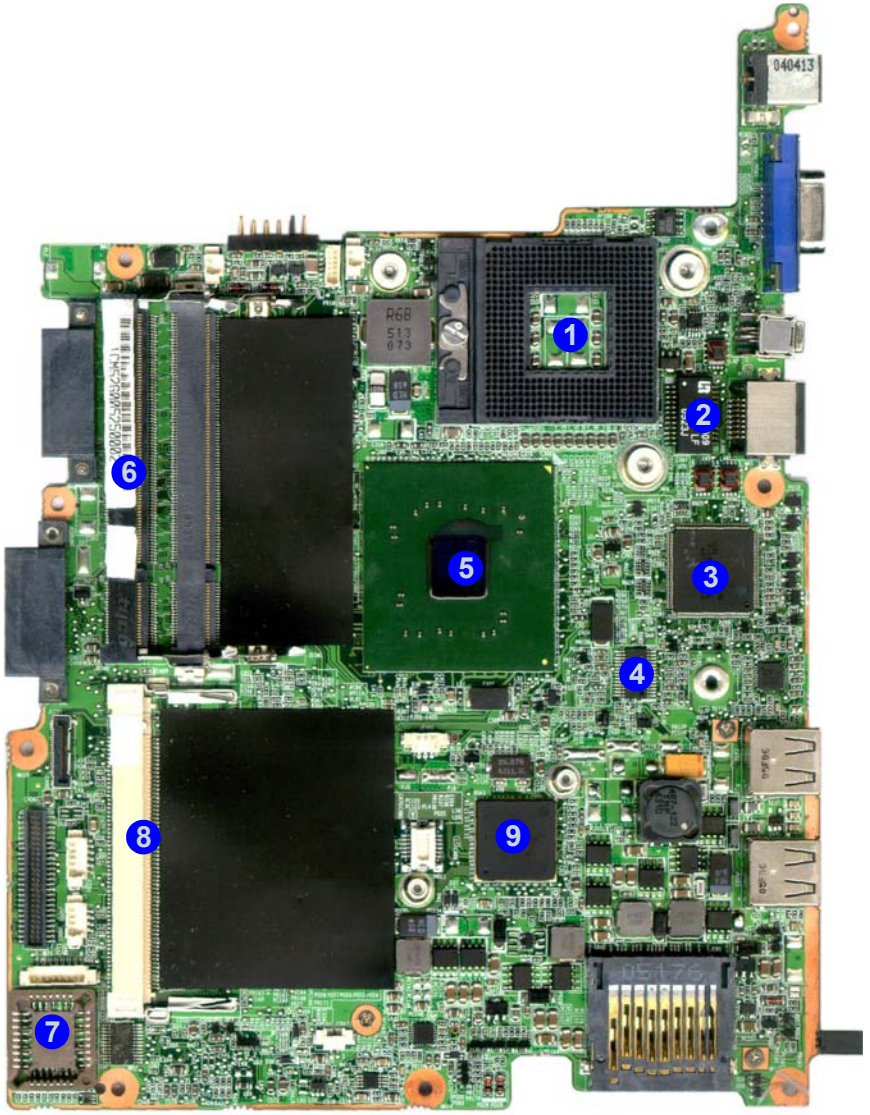
Figure 7
Mainboard Top Key Parts

1. RTL8110SBL 10/100/1000 LAN
2. PC Card Assembly
3. Southbridge- Intel ICH6-M
4. ALC880 Audio

M520G Mainboard Overview - Bottom (Key Parts)

Figure 8
Mainboard Bottom Key Parts

1. CPU Socket (no CPU installed)
2. GST5009
3. H8S/2111
4. SC1485ITS
5. Northbridge-Intel Alviso 915 GM
6. Memory Slots DDRII SO-DIMM
7. Flash BIOS ROM
8. Mini-PCI Socket (WLAN Module)
9. Ultra Media



M520G Mainboard Overview - Top (Connectors)

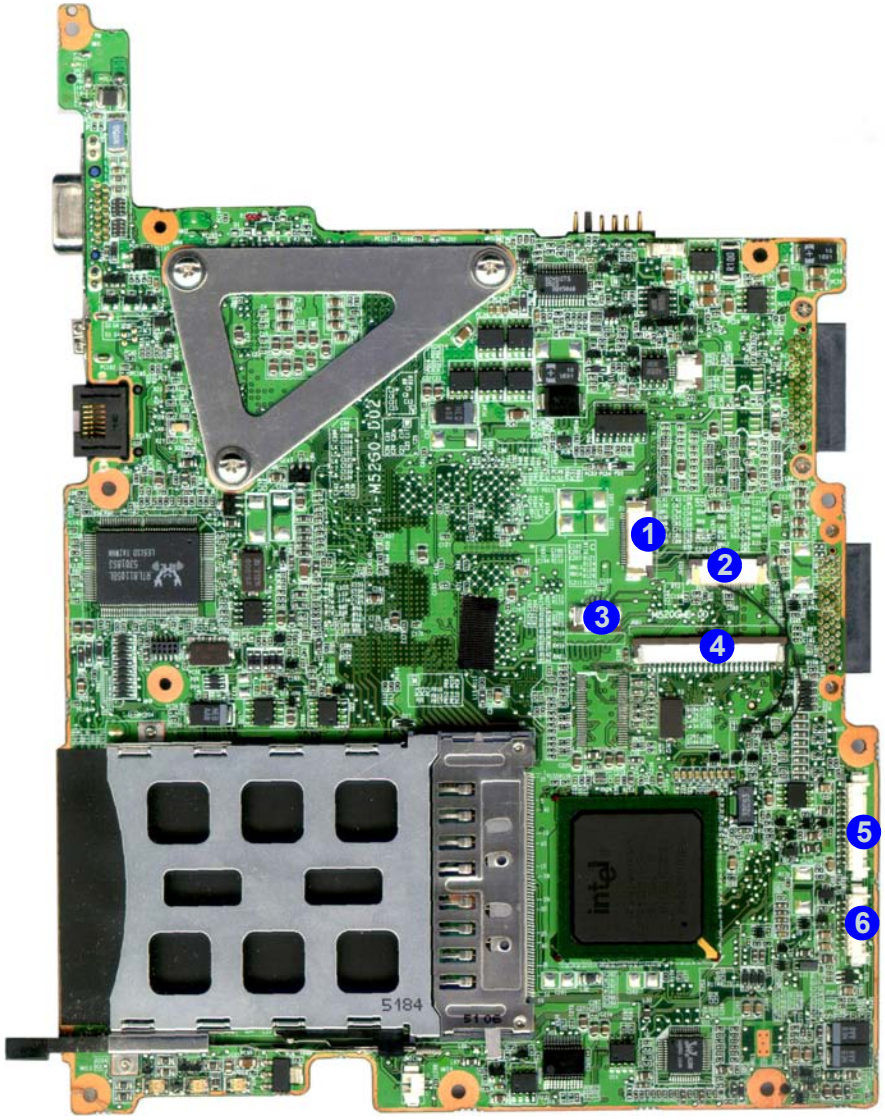


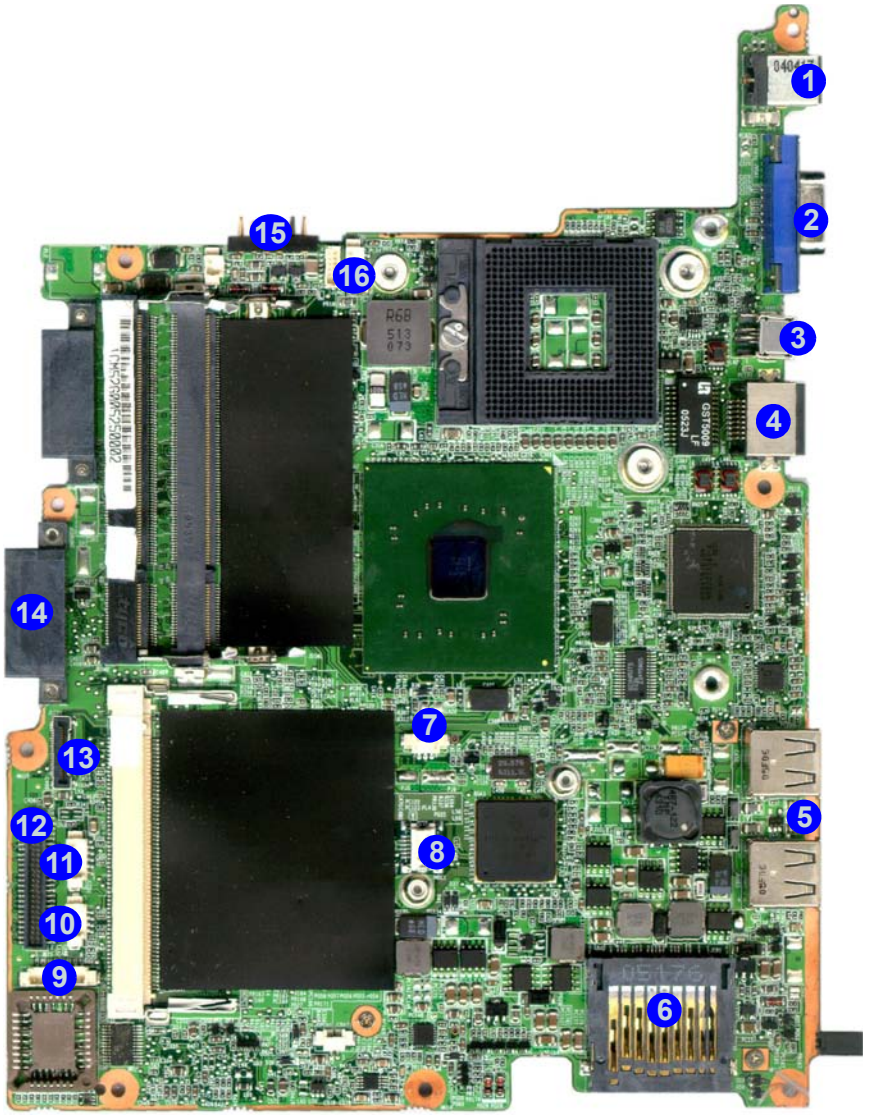
Figure 9
Mainboard Top Connectors

1. LED Connector
2. Hot-Key Connector
3. Touch Pad Connector
4. Keyboard Cable Connector
5. Audio cable Connector
6. USB Connector

M520G Mainboard Overview - Bottom (Connectors)

Figure 10
Mainboard Bottom Connectors

1. DC-In Jack
2. External Monitor Port
3. Mini-IEEE 1394a Port
4. RJ-45 LAN Jack
5. 2* USB 2.0 Ports
6. Card Reader Socket
7. CPU Fan Cable Connector
8. Modem Connector
9. Bluetooth Connector
10. SPK Connector
11. CCD Connector
12. HDD Connector
13. LCD Connector
14. Optical Device Connector
15. Battery Connector
16. Inverter Connector



Chapter 2: Disassembly

Overview

This chapter provides step-by-step instructions for disassembling the ***M520G*** series notebook's parts and subsystems. When it comes to reassembly, reverse the procedures (unless otherwise indicated).

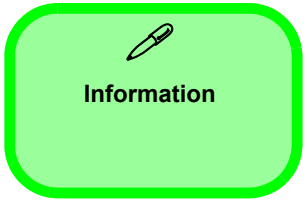
We suggest you completely review any procedure before you take the computer apart.

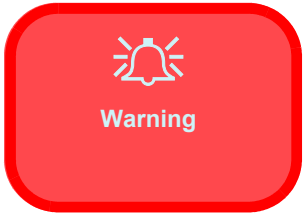
Procedures such as upgrading/replacing the RAM, CD device and hard disk are included in the User's Manual but are repeated here for your convenience.

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.





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.

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.

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.**

To remove the Battery:

1. Remove the battery *page 2 - 5*

To remove the HDD:

1. Remove the battery *page 2 - 5*
2. Remove the HDD *page 2 - 6*

To remove the Optical Device:

1. Remove the battery *page 2 - 5*
2. Remove the Optical device *page 2 - 7*

To remove the Processor:

1. Remove the battery *page 2 - 5*
2. Remove the Component bay cover *page 2 - 7*
3. Remove the Processor *page 2 - 8*

To remove the System Memory:

1. Remove the battery *page 2 - 5*
2. Remove the Component bay cover *page 2 - 7*
3. Remove the System Memory *page 2 - 10*

To remove the Wireless LAN:

1. Remove the battery *page 2 - 5*
2. Remove the Component bay cover *page 2 - 7*
3. Remove the Wireless LAN *page 2 - 11*

To remove the Modem:

1. Remove the battery *page 2 - 5*
2. Remove the HDD *page 2 - 6*
3. Remove the Modem *page 2 - 12*

To remove the Keyboard:

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

Removing the Battery

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

Figure 1
Battery Removal

a. Slide the latch in the direction of the arrow.
b. Slide the battery out of the computer.

a.

b.

Standard Battery **Extended battery**

4. Battery

Removing the Hard Disk Drive

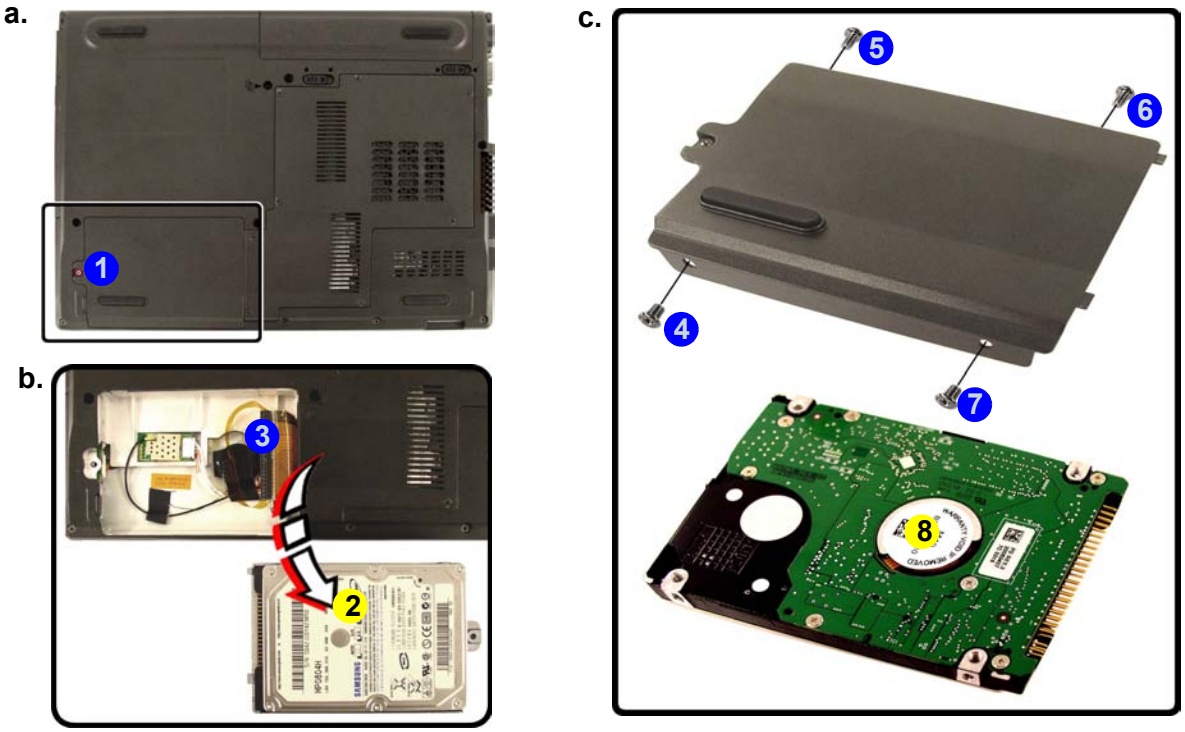
The hard disk drive is mounted in a removable case and can be taken out to accommodate other 2.5" IDE hard disk drives with a height of 9.5mm (h). Follow your operating system's installation instructions, and install all necessary drivers and utilities (as outlined in **Chapter 4 of the User's Manual**) when setting up a new hard disk.

Hard Disk Upgrade Process

1. Turn off the computer, and turn it over and remove the battery (*page 2 - 5*).
2. Locate the hard disk bay cover and remove screw 1.
3. Lift the hard disk assembly 2 up out of the bay and disconnect the cable 3 (note that different cables will be provided for serial or parallel hard disk types).
4. Remove the screws 4 - 7 to release the hard disk 8 from the assembly cover, and reverse the process to install any new hard disk.

Figure 2
HDD Assembly Removal

a. Remove the screw.
b. Lift the hard disk assembly and disconnect the cable.
c. Remove the screws to release HDD from the assembly cover.



2. Hard Disk Assembly
8. HDD

- 5 Screws

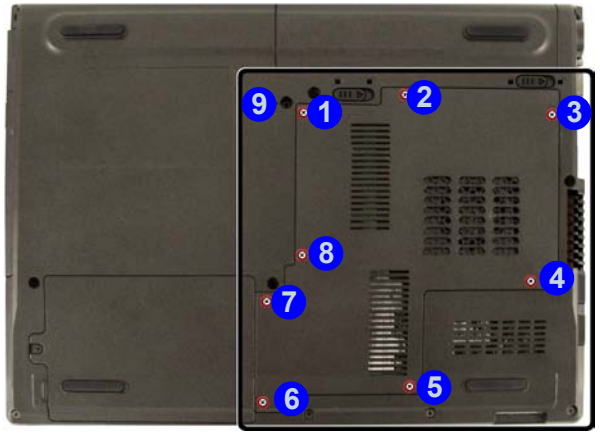
Removing the Optical (CD/DVD) Device

1. Turn off the computer, and turn it over and remove the battery (*page 2 - 5*).
2. Locate the component bay cover and remove screws 1 - 8.
3. Remove the optical device screw 9.
4. Carefully (a fan and cable are attached to the under side of the cover) lift up the component bay cover 10.
5. Carefully disconnect the fan cable 11.
6. Use a screwdriver to carefully push out the optical device 12 at point 13.
7. Reverse the process to install the new device.

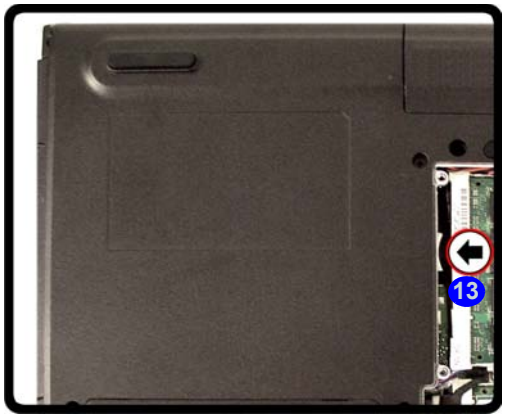
Figure 3
Optical Device Removal

a. Remove the screws.
b. Lift up the component bay cover and disconnect the fan cable.
c. Push the optical device out of the computer at point 13.
d. Remove the optical device.

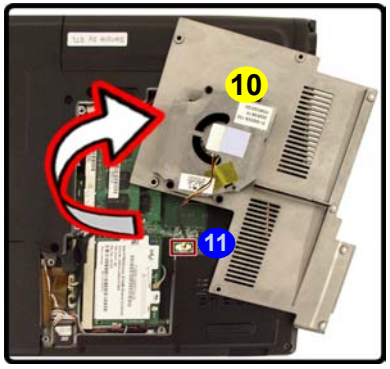
a.



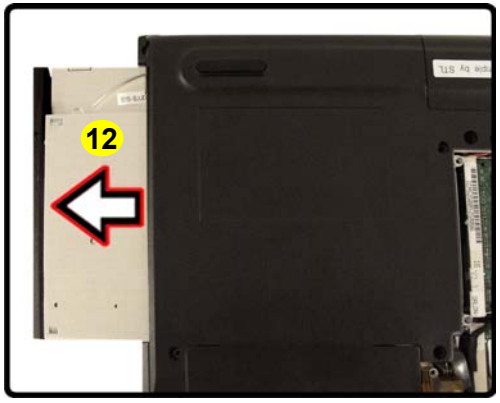
c.



b.



d.



10. Component Bay Cover
12. Optical Device

- 9 Screws

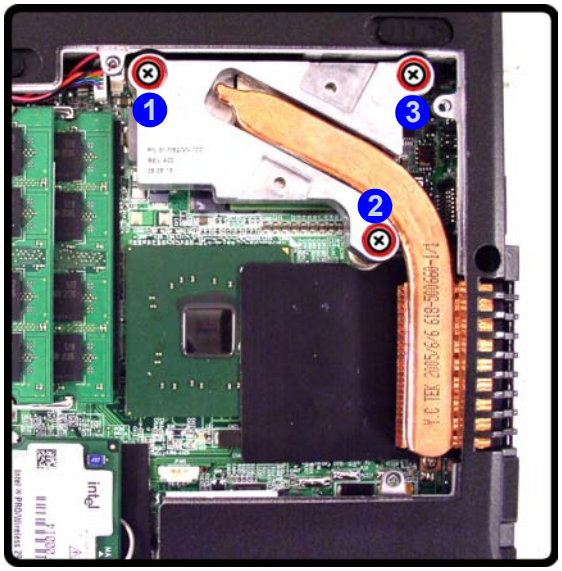
Figure 4
Processor Removal

a. Remove the screws in the order indicated.
b. Remove the heat sink.

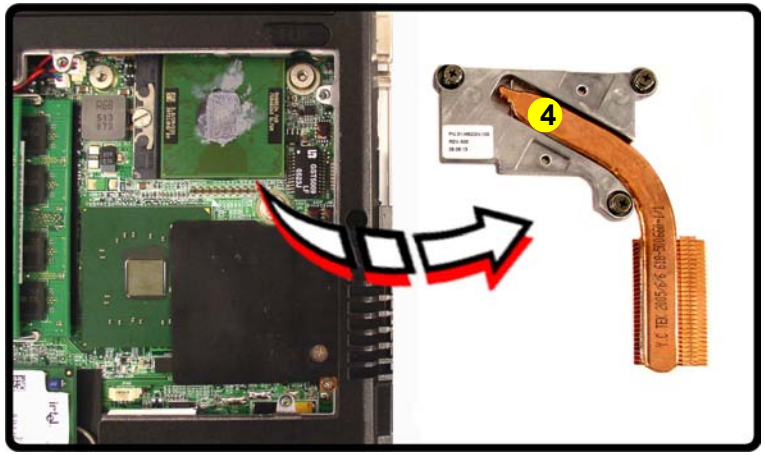
Removing the Processor

1. Turn off the computer, and turn it over, remove the battery (***page 2 - 5***) and remove the component bay cover (***page 2 - 7***).
2. Remove screws 1 - 3 (***Figure a***) from the heat sink in the order indicated on the label.
3. Carefully lift the heat sink 4 (***Figure b***) up off the computer.

a.



b.



4. Heat Sink

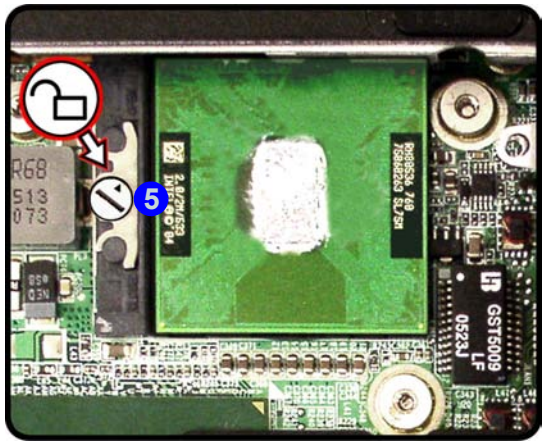
- 3 Screws

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

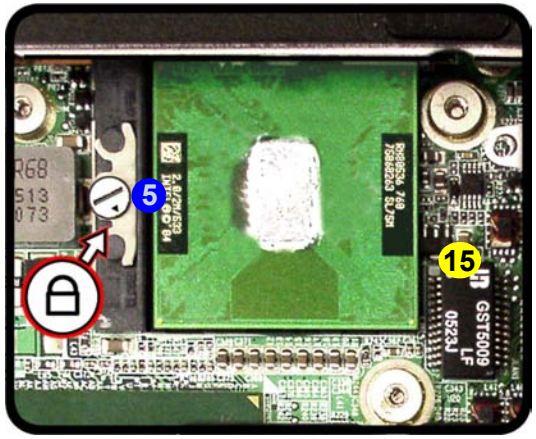
Figure 5
Processor Removal (cont'd)

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

c.

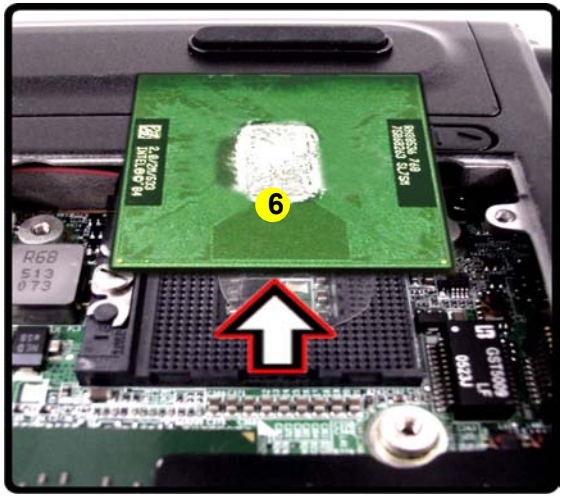


Unlock



Lock

d.



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.

6. CPU

Figure 6
RAM Module Removal

a. Pull the release latch(es).
b. Remove the module(s).

Contact Warning

Be careful not to touch the metal pins on the module's connecting edge. Even the cleanest hands have oils which can attract particles, and degrade the module's performance.

3. RAM Module(s)

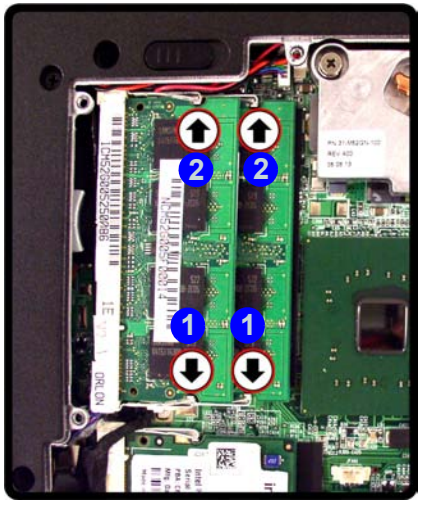
Removing the System Memory (RAM)

The computer has two memory sockets for 200 pin Small Outline Dual In-line Memory Modules (SO-DIMM) supporting DDRII 533 MHz. The main memory can be expanded up to 2GB. The SO-DIMM modules supported are 128MB, 256MB, 512MB and 1024MB **DDRII** Modules. The total memory size is automatically detected by the POST routine once you turn on your computer.

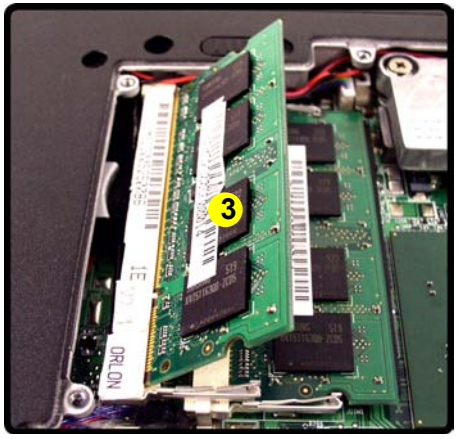
Memory Upgrade Process

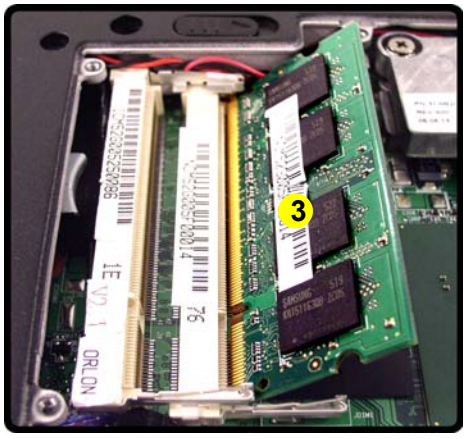
1. Turn off the computer, and turn it over, remove the battery (***page 2 - 5***) and remove the component bay cover (***page 2 - 7***).
2. Gently pull the two release latches 1 & 2 on the sides of the memory socket in the direction indicated by the arrows (***Figure a***).
3. The RAM module(s) 3 will pop-up (***Figure a***), and you can then remove it.
4. Pull the latches to release the second module if necessary.
5. Insert a new module holding it at about a 30° angle and fit the connectors firmly into the memory slot.
6. 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.
7. Press the module in and down towards the mainboard until the slot levers click into place to secure the module.
8. Replace the component bay cover and the screws (***page 2 - 7***).
9. Restart the computer to allow the BIOS to register the new memory configuration as it starts up.

a.



b.

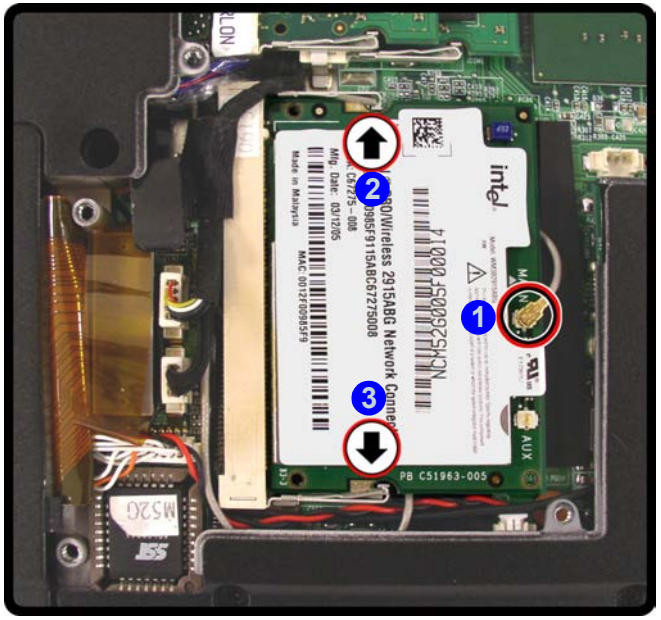




Removing the Wireless LAN Module

1. Turn off the computer, and turn it over, remove the battery (*page 2 - 5*) and remove the component bay cover (*page 2 - 7*).
2. Carefully disconnect cable 1 then gently pull the two release latches 2 - 3 on the sides of the module socket.
3. The Wireless LAN Module 4 (*Figure c*) will pop-up, and you can remove it.

a.



b.

Figure 7
Wireless LAN Module Removal

a. Disconnect the cables and pull the release latches.
b. Remove the WLAN module.

Note: Make sure you reconnect the antenna cable to the "Main" socket (*Figure a*).

4. Wireless LAN Module

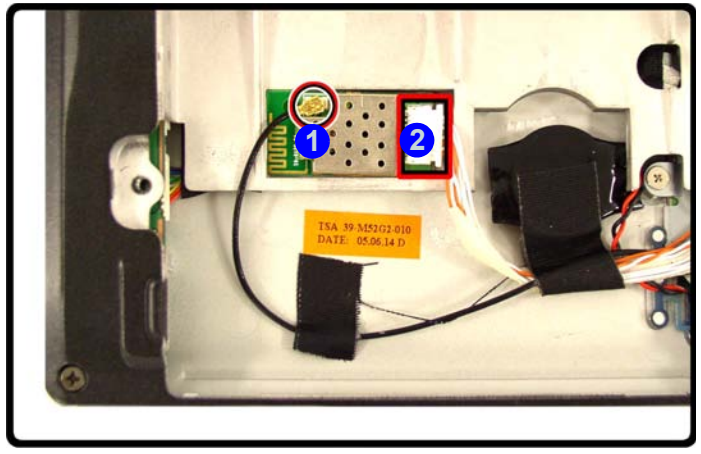
Removing the Modem

1. Turn off the computer, and turn it over, remove the battery (*page 2 - 5*) and remove the hard disk (*page 2 - 6*).
2. Disconnect cable 1 and carefully separate the modem from the connector 2.
3. Lift the modem 3 up and off the computer.

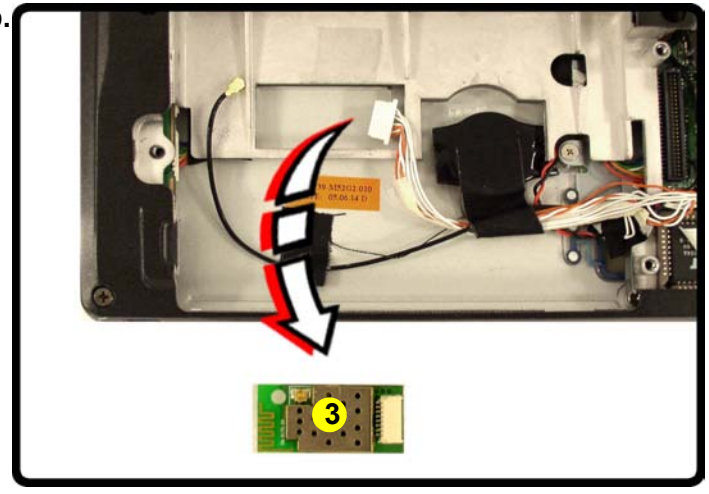
Figure 8
Modem Removal

a. Disconnect the cable and separate the modem from the connector.
b. Lift the modem up off the socket.

a.



b.



3. Modem

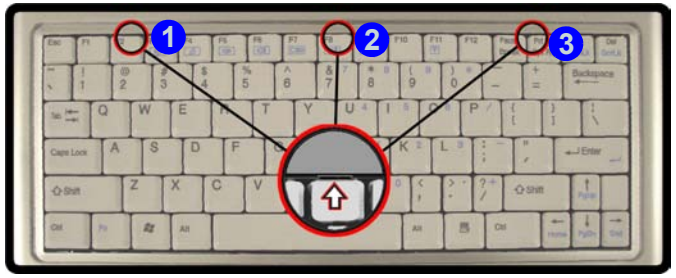
Removing the Keyboard

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 4 (*Figure b*).
4. Disconnect the keyboard ribbon cable 4 from the locking collar socket 5.
5. Carefully lift up the keyboard 6 (*Figure c*) off the computer.

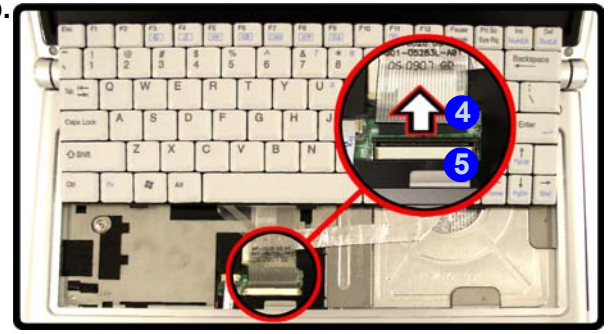
Figure 9
Keyboard Removal

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

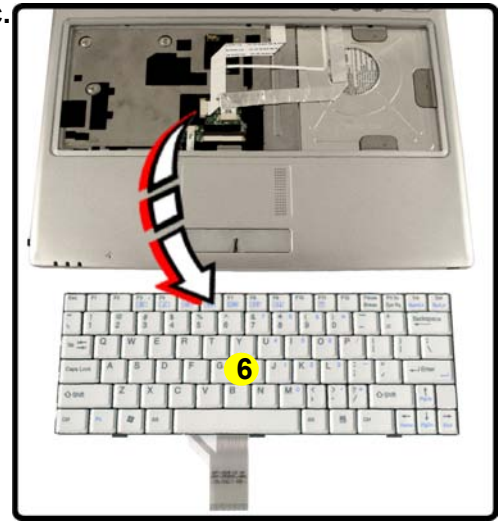
a.



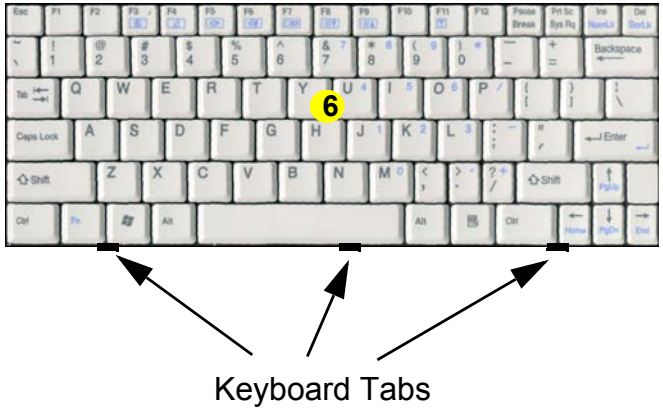
b.



c.



d.



Re-Inserting the Keyboard

When re-inserting the keyboard firstly align the **three** keyboard tabs at the bottom (*Figure d*) at the bottom of the keyboard with the slots in the case.

6. Keyboard

Appendix A:Part Lists

This appendix breaks down the ***M520G*** 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.

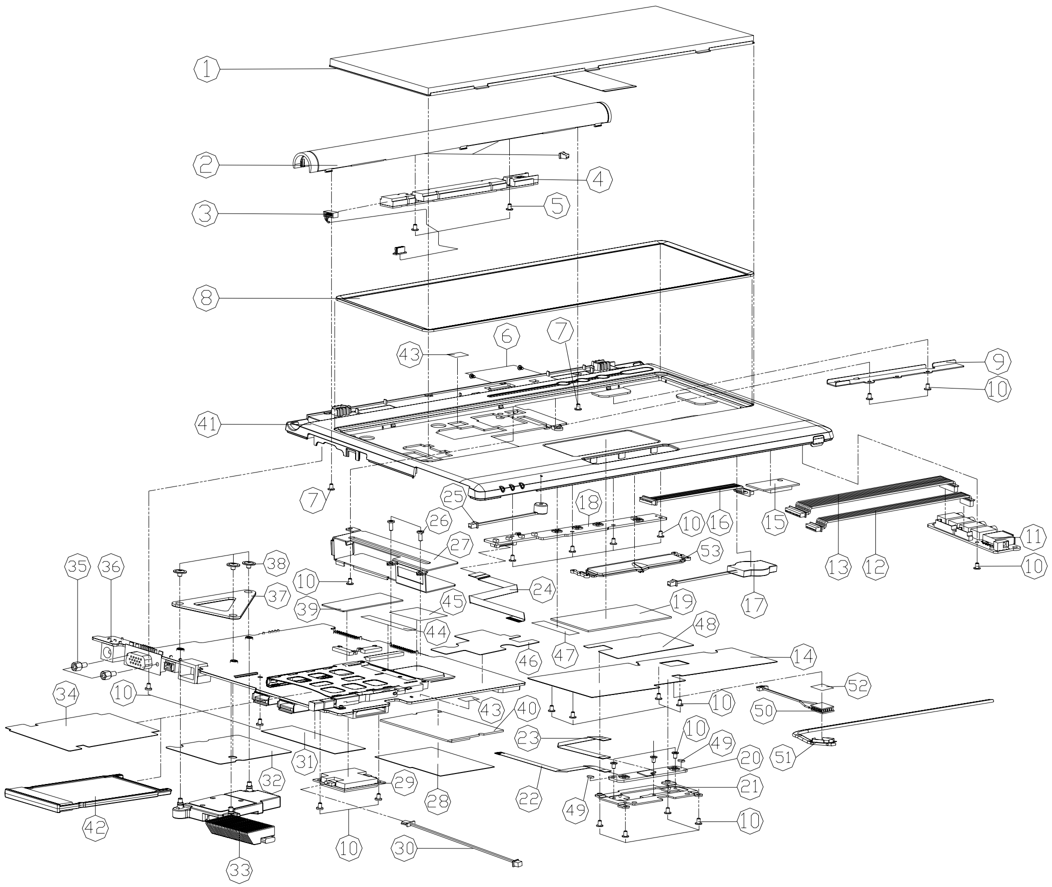
Part List Illustration Location

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

Table A - 1
Part List Illustration Location

Part	M520G
TOP - (M520G)	*page A - 3*
BOTTOM - (M520G)	*page A - 4*
LCD - (M520G)	*page A - 5*
DVD - (M520G)	*page A - 6*
DVD - RW - (M520G)	*page A - 7*
COMBO - (M520G)	*page A - 8*
HDD - (M520G)	*page A - 9*

TOP (M520G)



ITEM	PART NAME	PART NO	REMARK
1	KEYBOARD	80-M52G0-010-1	
2	M520G SPK MODULE 無鉛	23-5M52G-013	
3	WIRE CABLE MB TO INVERTER V3.0 M520G	43-M52G0-0B2	
4	INVERTER MODULE (PCB REV:1) FOR M520G	76-M52GR-012	
5	SCREW M2*4L I BZ ICT GTY-PATCH (T=0.8 D=4)	35-C6120-4RB	
6	SCREW M2*4L F NI ICT NY	35-21120-4RA	
7	SCREW M2.5*6L KI NI ICT NY (?4.5 t=0.5)	35-B1125-6RB	
8	K/B FRAME 無鉛	42-M52G2-060	
9	M520G COAXIAL CABLE FIX BRACKET無鉛	33-M52G2-072	
10	SCREW M2*3L K1 NI ICT GTY-PATCH 無鉛	35-B1120-3RE	
11	PHONE JACK BOARD VD3.0	77-M52GA-D03-L	
12	WIRE CABLE MB TO USB BD VD3.0 無鉛	43-M52G0-022	
13	WIRE CABLE MB TO AUDIO BD VD3.0無鉛	43-M52G0-012	
14	M520G GRAPHITE PLATE MODULE 無鉛	31-M52G3-501	
15	BLUETOOTH V1.2 8 PIN MODULE QBTM300 (GREEN	88-M54G5-620	
15	BLUETOOTH 2.0 8 PIN MODULE GUBTCR42M BILLI	88-M55J5-390	
16	WIRE CABLE MB TO BT BD 8PIN VD1.0 無鉛	43-M52G0-031	
17	BAT. 20MM 3V 230MAH W/CABLE 140MM CR2032M5	23-22015-P39	
18	SWITCH & LED BOARD VD3.0	77-M52GS-D03-L	
19	TOUCH PAD SYNAPTICS TM51P-G378 無鉛	49-M52G2-011	
20	CLICK BOARD VD3.0	77-M52G2-D03-L	
21	M520G GP BRACKET (ALUMINUM) 無鉛	33-M52G2-043	
22	FFC CABLE MB TO CLICK BD VD1.0 無鉛	43-M52G0-090	
23	FFC CABLE TOUTCH PAD TO CLICK BD VD1.0 無鉛	43-M52G2-010	
24	FFC CABLE MB TO LED BD VD1.0無鉛	43-M52G0-050	
25	WIRE CABLE FOR MIC 2PIN VD1.0 無鉛	43-M52GT-010	
26	SCREW M2*6L KI NI ICT	35-B1120-6RA	
27	M520G MAIN BOARD CABLE BRACKET 無鉛	33-M52G2-063	
28	M520G MYLAR FOR WLAN 無鉛	40-M52GS-030	
29	MODEM AZALIA 12 PIN CONEXANT RD02-D110 ROH	88-M55N1-530	
29	MODEM AZALIA 12 PIN CONEXANT RD02-D110 M55	88-M55J1-390	
30	WIRE CABLE FOR MB TO MDC VD3.0 無鉛	43-M52G0-062	
31	M520G MYLAR FOR DDR 無鉛	40-M52GS-010	
32	M520G MYLAR FOR HS 無鉛	40-M52GS-021	
33	M520G HEAT SINK MODULE 無鉛	31-M52GN-101	
34	M520G MYLAR FOR CARDBUS 無鉛	40-M52GS-042	
35	HEX STUD (SUM22 NI-PL) 11MM GTY-PATCH 無鉛	34-07009-012	
36	MAIN BOARD VD4.0 無鉛	77-M52G0-D03-L	
37	M520G CPU SUPPORTER 無鉛	33-M52GS-010	
38	(35-41025-2R5-1)SCREW,M2.5*2.5L,B,NI,ICT	35-41025-2R5	
39	M520G K/B CONN MYLAR無鉛	40-M52GS-060	
40	WLAN 802.11G+B MINI-PCI 3B MS-6833B MSI 無鉛	88-M55J2-470	
40	WLAN 802.11ABG MINI-PCI 3B PB-FREE INTEL W	88-M55G2-421	
40	WLAN 802.11ABG MINI-PCI 3B PB-FREE INTEL W	88-M55G2-422	
40	WLAN 802.11ABG MINI-PCI 3B INTEL WM3B2915A	88-M55G2-423	
40	WLAN 802.11ABG MINI-PCI 3B PB-FREE INTEL W	88-M55G2-424	
41	TOP CASE MODULE 無鉛	39-M52G2-014	
42	M520G PCMCIA DUMMY CARD MODULE (GREY)無鉛	42-M52G3-700	
43	KAPTON (8MM*16MM)無鉛	40-M52G2-080	
44	M520G MYLAR FOR PCMCIA 無鉛	40-M52G3-041	
45	M520G MYLAR FOR CHIP 無鉛	40-M52G3-030	
46	M520G MYLAR FOR G/P BRACKET 無鉛	40-M52G2-0B0	
47	M520G MYLAR FOR TOP CASE 無鉛	40-M52G2-021	
48	M520G MYLAR FOR TOUCHPAD 無鉛	40-M52G2-030	
49	SPONGE (L9MM*W5.5MM*H4MM) 無鉛	47-0019A-091	
50	M520G 致冷器 (8*15*3) ON TOP CASE PLAMREST 無鉛	31-M52G3-012	
51	M520G TOUCHPAD HEAT PIPE MODULE 無鉛	31-M52G3-601	
52	THERMAL PAD (PCS-A-G25)(8MM*15MM*0.25MM) 無鉛	47-M52GS-010	
53	G/P KNOB 無鉛	42-M52G2-0B0	

Figure A - 1
TOP (M520G)

BOTTOM (M520G)

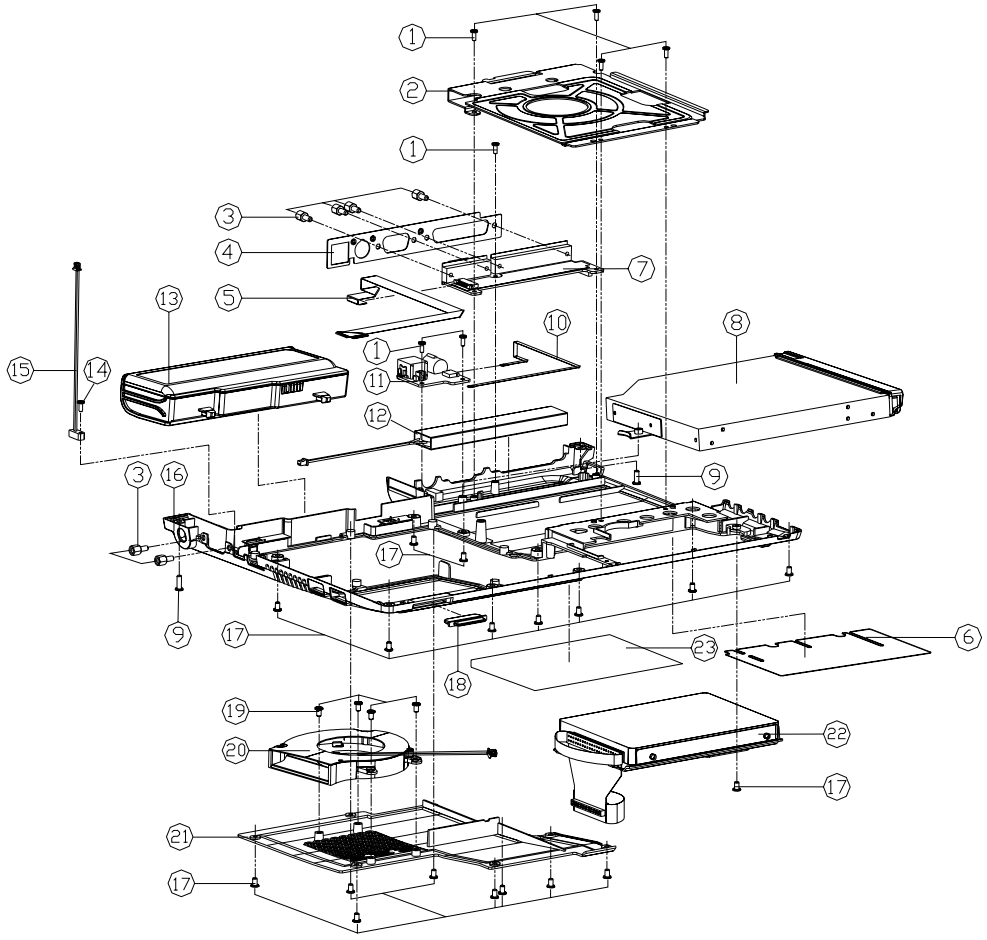
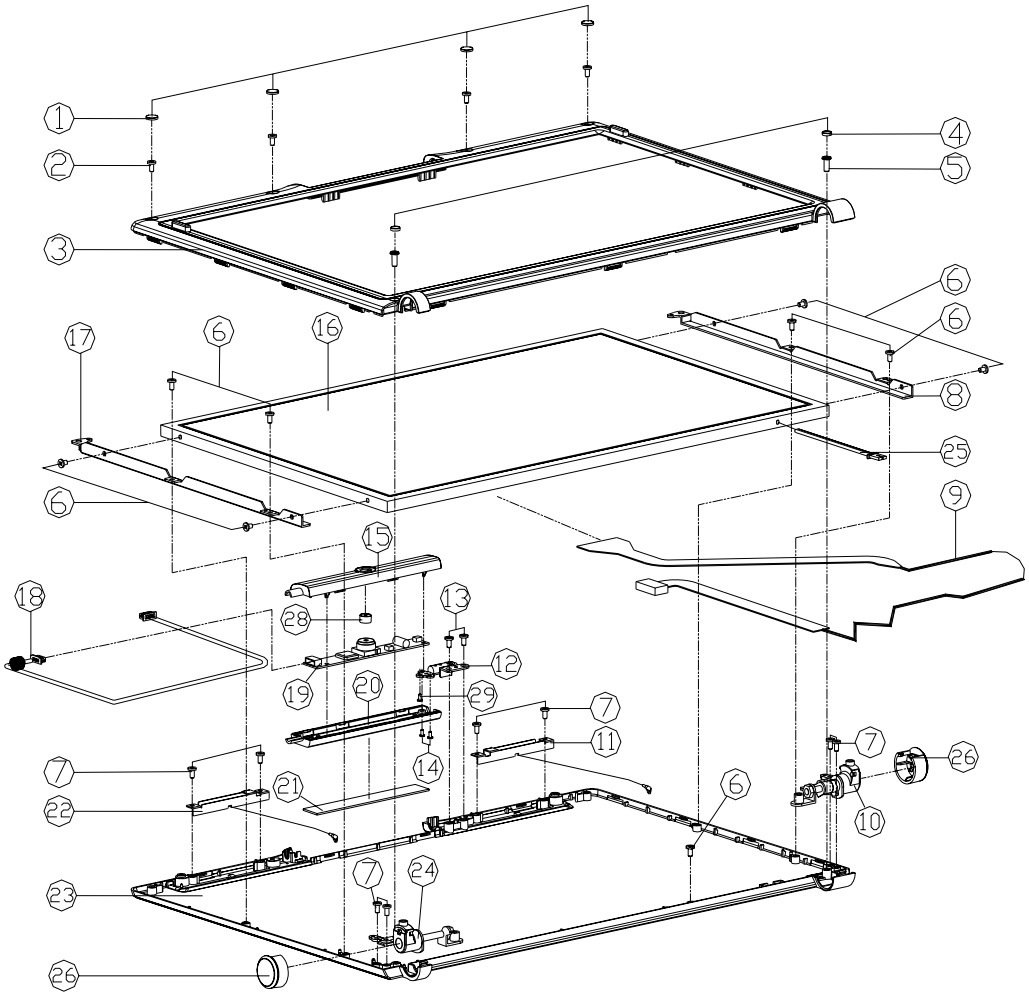


Figure A - 2
BOTTOM (M520G)

ITEM	PART NAME	PART NO	REMARK
1	SCREW M2*5L KI NI ICT	35-B1120-5RA	
2	M520G CD-ROM TOP BRACKET 無鉛	33-M52GZ-033	
3	HEX STUB (SUS22 NI-PL) 10MM GTY-PATCH 無鉛	34-07009-012	
4	M520G IO PORT BRACKET 無鉛	33-M52G3-052	
5	FFC CABLE FOR MB TO COMPORT&FRONT PORT BD	43-M52G0-042	
6	MYLAR FOR HDD ON BOTTOM CASE 無鉛	40-M52G3-050	
7	SUPER IO BOARD VD3.0	77-M52G1-D03-L	
8	DVD (OPTION) M520G	79-M52GV-000	(OPTION)
8	DVD/RW (OPTION) M520G	79-M52G0-000	(OPTION)
8	COMBO(OPTION) M520G	79-M52GX-000	(OPTION)
8	ODD DUMMY CASE	79-M52GZ-000	(OPTION)
9	SCREW M2.5*6L	35-82125-6RA	
10	FFC CABLE FOR MAIN BD TO RJ11&TV BD 106MM	43-M52G0-070	
11	RJ11& TV OUT BOARD VD3.0	77-M52GH-D03-L	
12	BAT.12V 80MAH 6 CELL W/CABLE 105MM VARTA	23-21701-Q0B	
13	BAT(P7) S LI 14.8V/2.4AH 4S1P 4C(SSDN(Y) ST	87-M52GS-4KF	
13	BAT(P7) S LI 14.8V/2.4AH 4S1P 4C(SAMSUNG)	87-M52GS-4DF	
13	BAT(P7) S LI 14.8V/4.4AH 4S2P BC(SAMSUNG)	87-M52GS-424	
13	BAT(P7) S LI 14.8V/4.0AH 4S2P BC(PANASONI	87-M52GS-4C3	
13	BAT(P7) S LI 14.8V/4.4AH 4S2P BC(SSDN(Y) ST	87-M52GS-4K4	
14	SCREW M2*6L KI NI ICT	35-B1120-6RA	
15	WIRE CABLE MB TO UPS BATTERY VD1.0	43-M52G0-0A0	
16	M520G BOTTOM CASE MODULE (BLACK)無鉛	33-M52G3-104	
17	SCREW M2.5*5L I BK/Z ICT (D4.0,T0.8) 無鉛	35-C6125-5R0	
18	M520G CARD READER RUBBER 無鉛	47-M52G8-010	
19	SCREW M2.5*4L KI BK/D ICT NY 無鉛	35-B4125-4RA	
20	M520G FAN MODULE (含銅網) 無鉛	31-M52GS-103	
21	M520G CPU COVER MODULE 無鉛	33-M52GS-204	
22	W/O IDE HDD ASS'Y M520G	79-M52GJ-010	(OPTION)
22	W/O SATA HDD ASS'Y M520G	79-M52GJ-020	(OPTION)
23	PRODUCT LABEL FOR M520G	45-M52G3-011-C	

LCD (M520G)

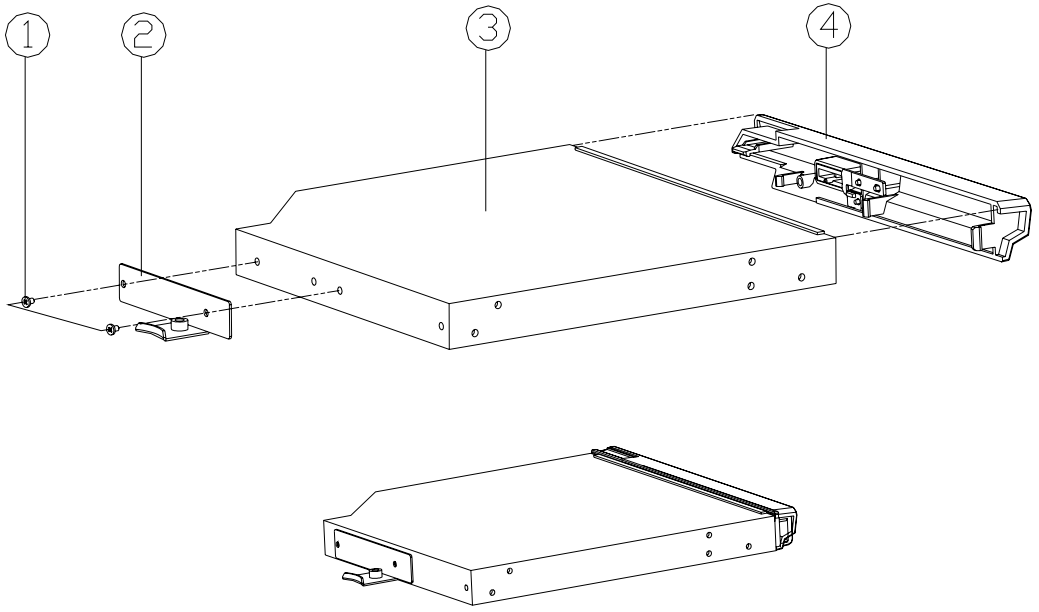


ITEM	PART NAME	PART NO	REMARK
1	M520G LCD RUBBER UP 無鉛	47-M52G1-010	
2	SCREW M2*5L K1 NI ICT	35-B1120-5RA	
3	M520G DISPLAY FRONT CASE MODULE	39-M52G1-013	
4	M520G LCD RUBBER LOWER 無鉛	47-M52G1-021	
5	SCREW M2.5*6L K BZ ICT NY	35-82125-6RA	
6	SCREW M2*3L K1 NI ICT NY	35-B1120-3RA	
7	SCREW M2*4L I BZ ICT GTY-PATCH (T=0.8 D=4)	35-C6120-4RB	
8	M520G LCD BRACKET R (AU) 無鉛	33-M52G1-011	
8	M520G LCD BRACKET R (CPT) 無鉛	33-M52G1-051	
9	LCD COAXIAL CABLE FOR CPT(CLAA121WA0D) V04	43-M52G1-013	
10	M520G LCD HINGE R 無鉛	33-M52G1-033	
11	ANTENNA WIRELESS DUAL BAND PIFA BLACK L=76	23-7M52G-022	
12	M520G CCD HINGE 無鉛	33-M52G1-063	
13	SCREW M2.5*4L K1 BK	35-B4125-4R0	
14	SCREW M1.6*6L F NI NY 無鉛	35-21116-6RB	
15	CCD FRONT CASE MODULE 無鉛	42-M52G1-402	
16	AU TFT-LCD B121EW02, V0(GLARE TYPE) 12.1"	50-F2255-G03	FOR AU
16	LCD T CPT CLAA121WA01 12.1" WXGA(1280X800)	50-F2255-C01	FOR CPT
17	M520G LCD BRACKET L (AU) 無鉛	33-M52G1-021	
17	M520G LCD BRACKET L (CPT) 無鉛	33-M52G1-071	
18	WIRE CABLE MAIN BD TO CCD MODULE V4.0 M520	43-M52G0-083	
19	ROTATIVE VIDEO CAMERA ,CMN-2226-01 (V1.6)	88-M52GC-681	
20	M520G CCD BACK CASE 無鉛	42-M52G1-062	
21	LOGO "CLEVO" FOR M520G 無鉛	45-M52G1-010-L	
22	ANTENNA BLUETOOTH DUAL BAND PIFA GARY L=76	23-7M52G-012	(OPTION)
23	M520G DISPLAY BACK CASE MODULE 無鉛	33-M52G1-103	
24	M520G LCD HINGE L 無鉛	33-M52G1-043	
25	WIRE CABLE FOR M520G INVERTER HIGH VOLTAGE	43-M52G0-0C3	
26	M520G HINGE COVER MODULE 無鉛	42-M52G2-204	
27	M520G CCD RUBBER 無鉛	47-M52GC-010	W/O CCD RUBBER
28	SCREW K1 M1.6*3L I D=4 T=0.4 BZ ICT 無鉛	35-B2116-3R0	

Figure A - 3
LCD (M520G)

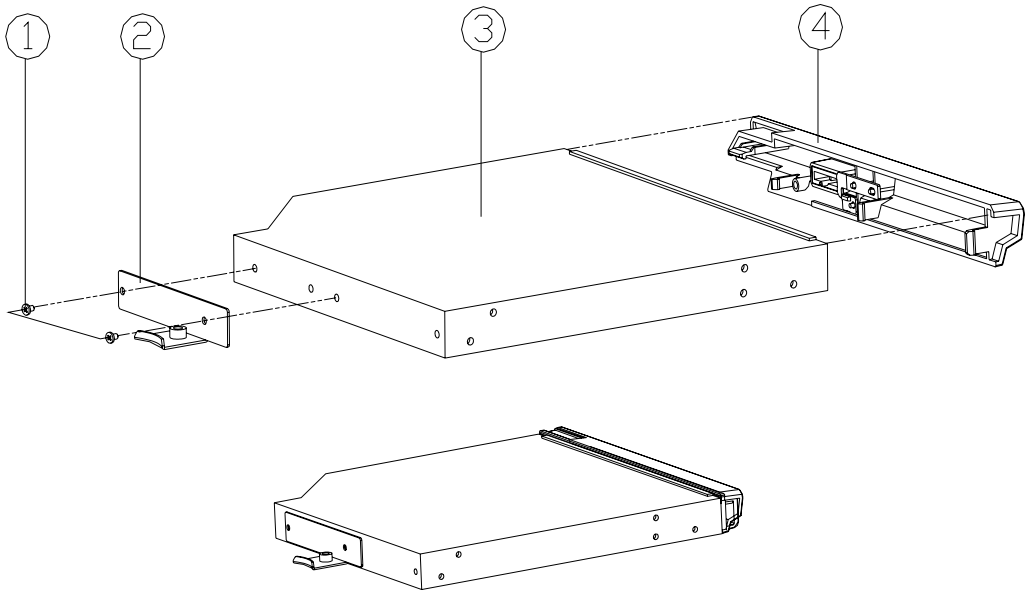
DVD (M520G)

Figure A - 4
DVD (M520G)



ITEM	PART NAME	PART NO	REMARK
1	SCREW M2*3L K1 NI ICT GTY-PATCH 無鉛	35-B1120-3RE	
2	M520G CD-ROM LOCK BRACKET 無鉛	33-M52GZ-023	
3	DVD 5 1/4" 8X 12.7MM SD-C2732 TOSHIBA	85-7078X-T06	
3	DVD 5 1/4" 8X 12.7MM SD-C2712 TOSHIBA	85-7078X-T05	
4	M520G DVD BEZEL MODULE 無鉛	42-M52GV-104	

DVD - RW (M520G)

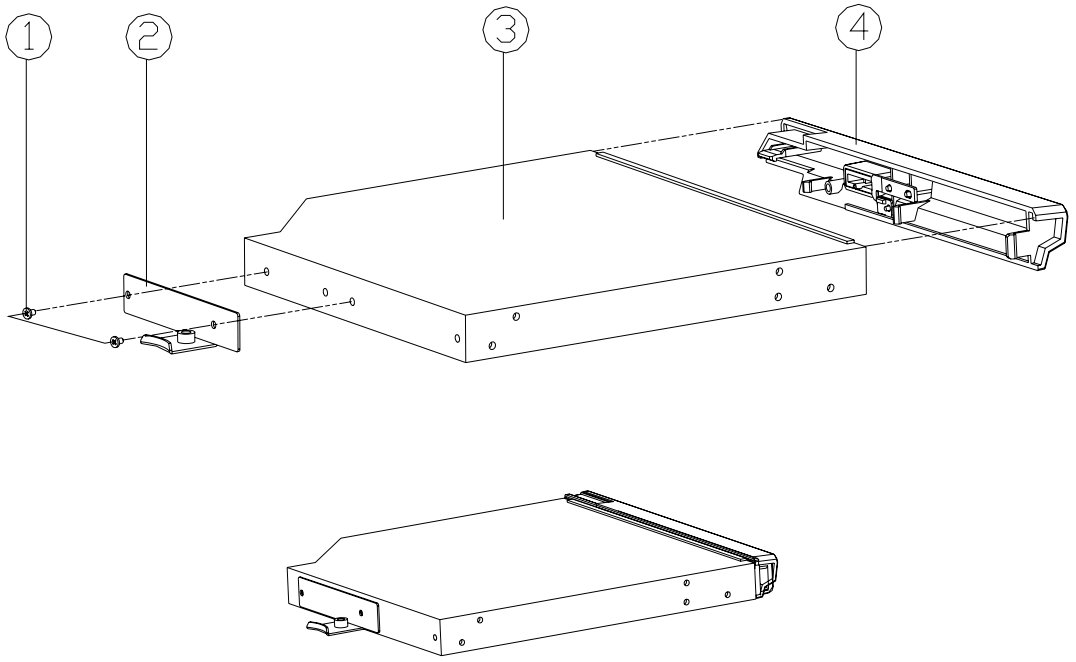


ITEM	PART NAME	PART NO	REMARK
1	SCREW M2*3L K1 NI ICT GTY-PATCH 無鉛	35-B1120-3RE	
2	M520G CD-ROM LOCK BRACKET 無鉛	33-M52GZ-023	
3	DVD/DUAL RW 5 1/4" 8X 12.7MM TS-L532A TOSH	85-A078X-T00	
3	DVD/DUAL RW 5 1/4" 8X 12.7MM DVR-K15RA F/W	85-A078X-B02	
3	DVD/DUAL RW 5 1/4" 8X 12.7MM TS-L532U TSST	85-A078X-T01	
3	DVD/DUAL RW 5 1/4" 8X 12.7MM SDVD8441 PHIL	85-A078X-C03	
3	DVD/DUAL RW 5 1/4" 8X 12.7MM UJ-840S PANAS	85-A078X-P01	
4	M520G DVD/RW BEZEL MODULE 無鉛	42-M52GQ-104	

Figure A - 5
DVD-RW (M520G)

COMBO (M520G)

Figure A - 6
COMBO (M520G)



ITEM	PART NAME	PART NO	REMARK
1	SCREW M2*3L K1 NI ICT GTY-PATCH 無鉛	35-B1120-3RE	
2	M520G CD-ROM LOCK BRACKET 無鉛	33-M52GZ-023	
3	CD-RW/DVD 5 1/4" 24X 12.7MM TS-L462A TOSHI	85-907DX-T01	
3	CD-RW/DVD 5 1/4" 24X 12.7MM SCB5265 PHILIP	85-907PX-C00	
4	M520G COMBO BEZEL MODULE 無鉛	42-M52GX-104	

HDD (M520G)

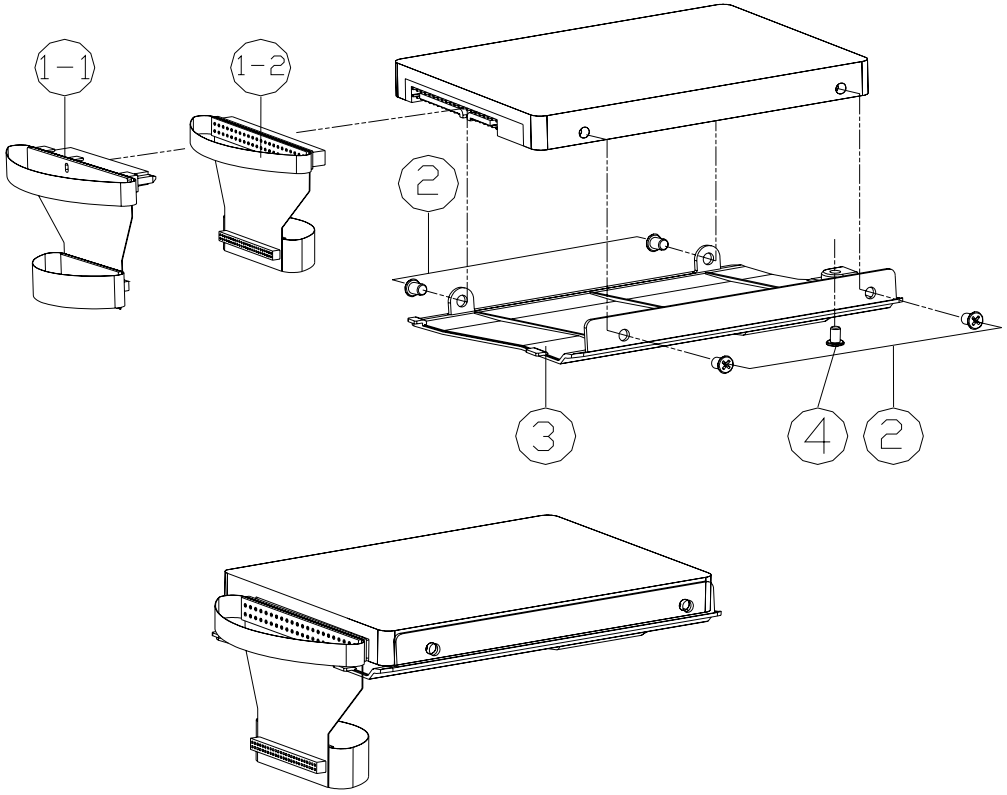


Figure A - 7
HDD (M520G)

ITEM	PART NAME	PART NO	REMARK
1-1	FPC CABLE SATA HDD CABLE FOR M520G 無鉛	43-M52GJ-024	
1-2	FPC CABLE IDE HDD CABLE FOR M520G無鉛	43-M52GJ-012	
2	SCREW M3*4L KI BZ ICT NY (D=4.8 T=0.5)	35-B6130-4RB	
3	M520G HDD COVER MODULE	33-M52GJ-103	
4	SCREW M2.5*5L I BK/Z ICT (D4.0,T0.8) 無鉛	35-C6125-5R0	

Appendix B:Schematic Diagrams

This appendix has circuit diagrams of the ***M520G*** notebook's PCB's. The following table indicates where to find the appropriate schematic diagram.

Table B - 1
Schematic Diagrams

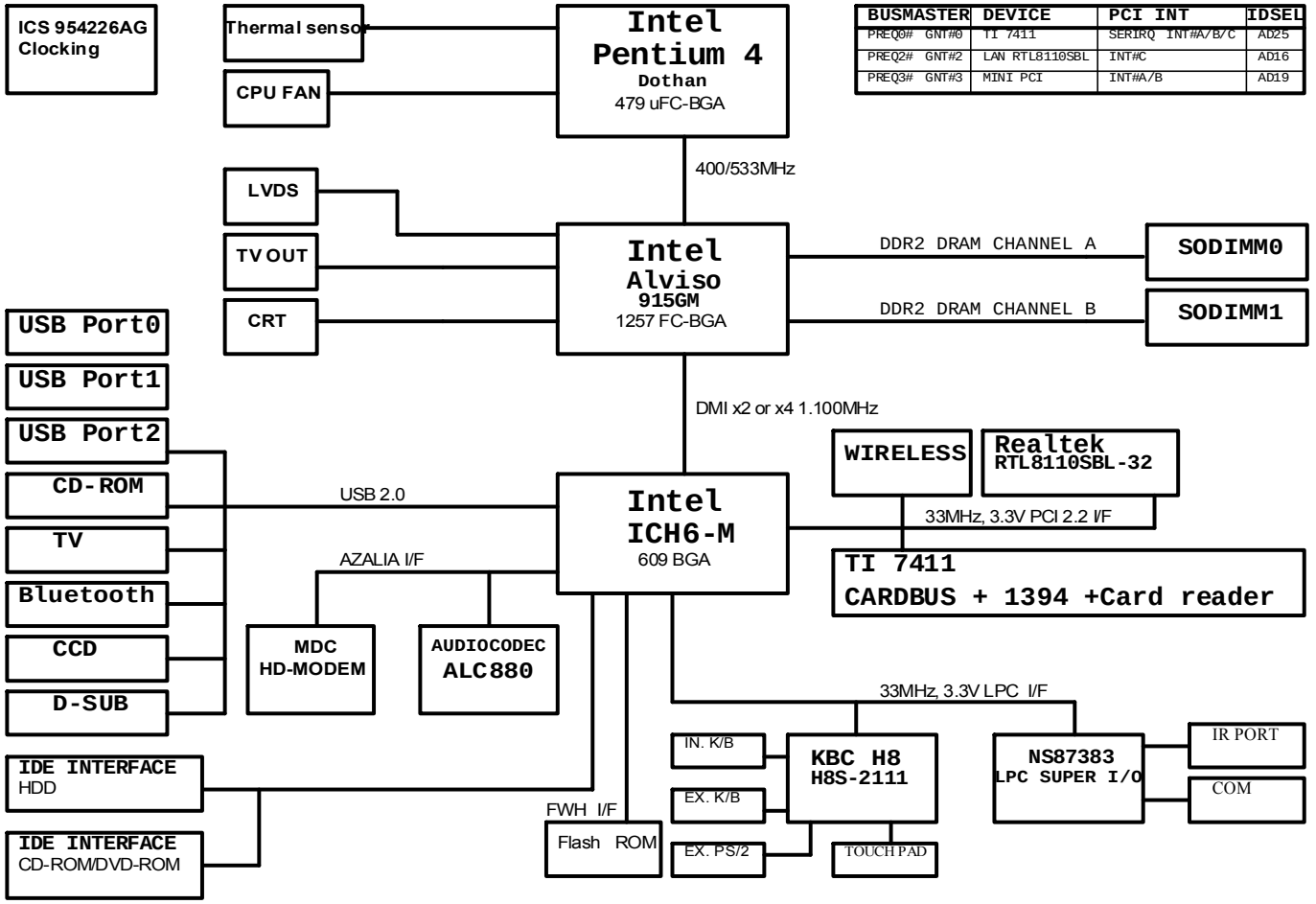
Version Note

The schematic diagrams in this chapter are based upon version **71-M520G-D03**. If your mainboard (or other boards) are a later version, please check with the Service Center for updated diagrams (if required).

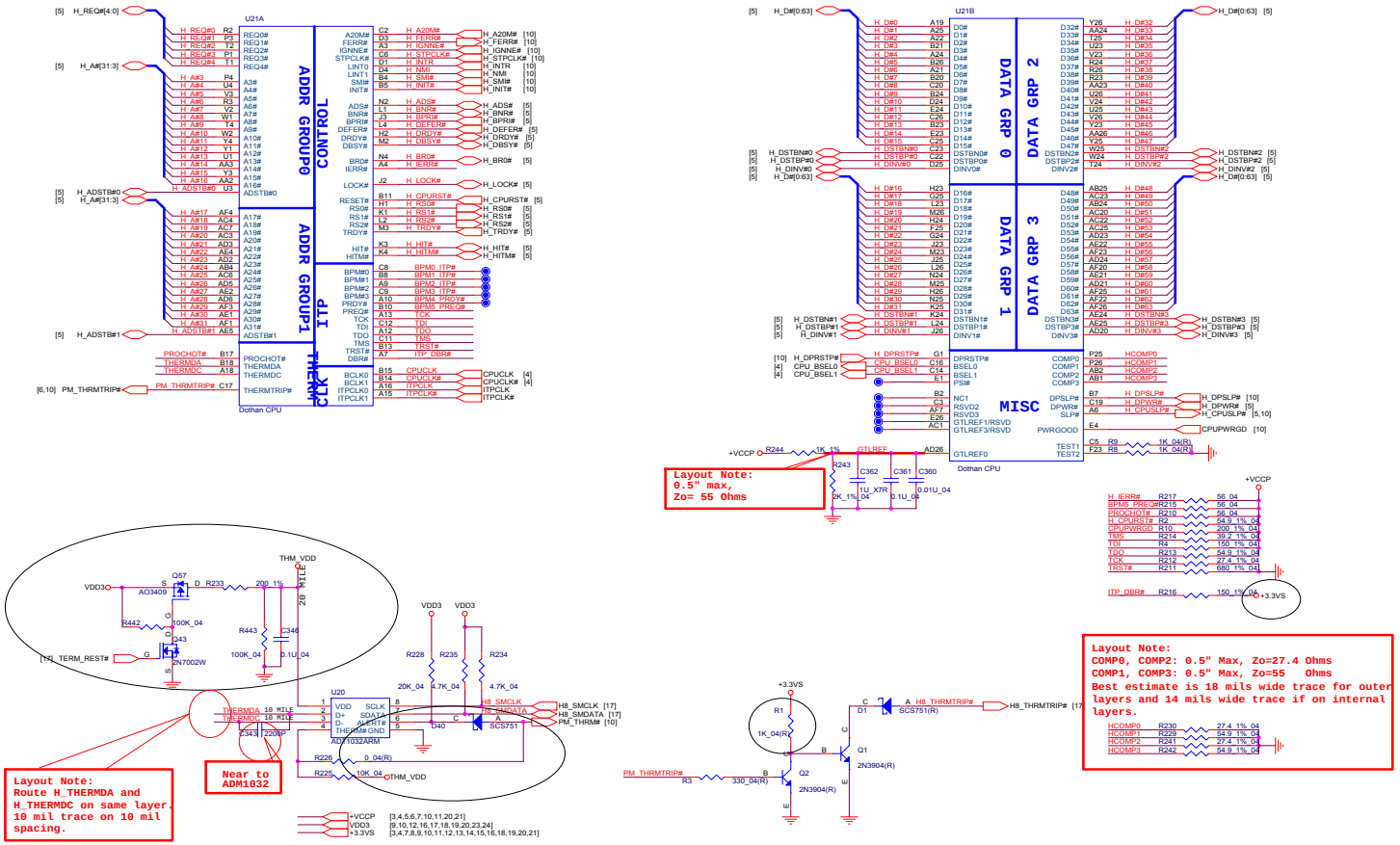
BLOCK DIAGRAM

M520G SCHEMATIC

Sheet 1 of 30
BLOCK DIAGRAM



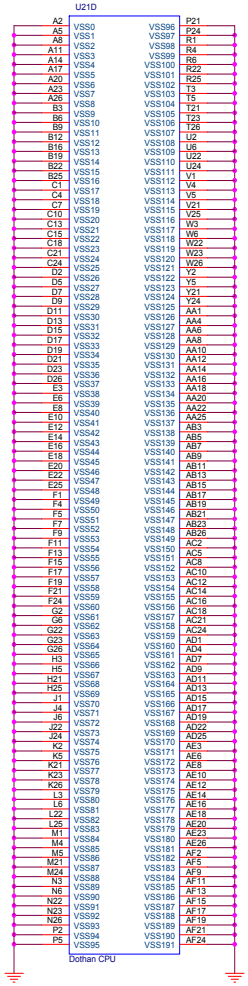
CPU 1/2

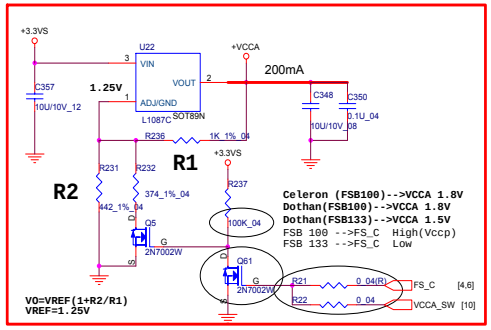


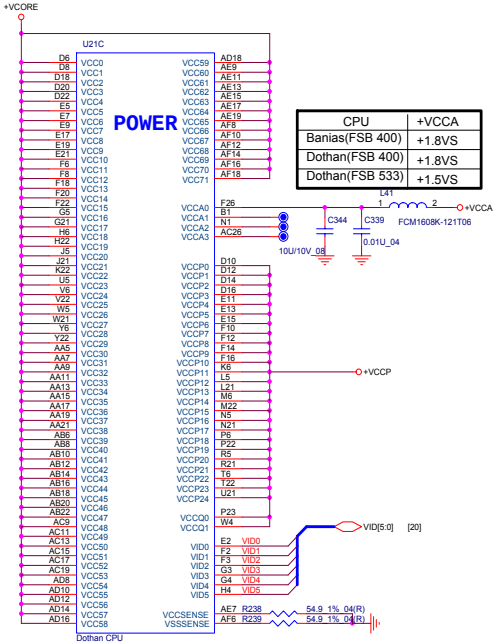
Sheet 2 of 30
CPU 1/2

CPU 2/2

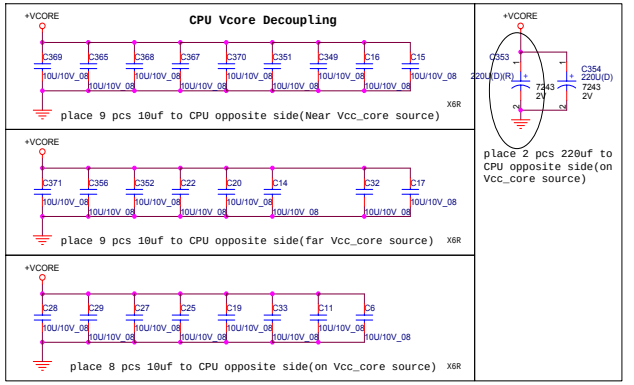
Sheet 3 of 30
CPU 2/2

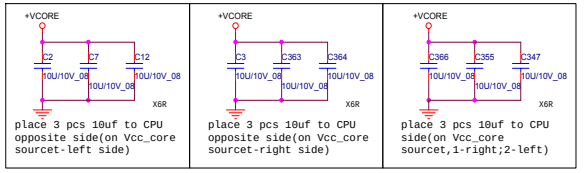


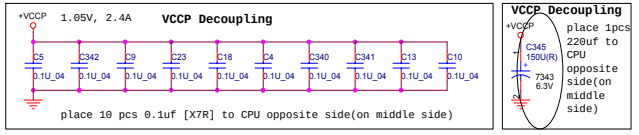


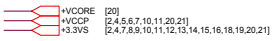


CPU	+VCCA
Banias(FSB 400)	+1.8VS
Dothan(FSB 400)	+1.8VS
Dothan(FSB 533)	+1.5VS

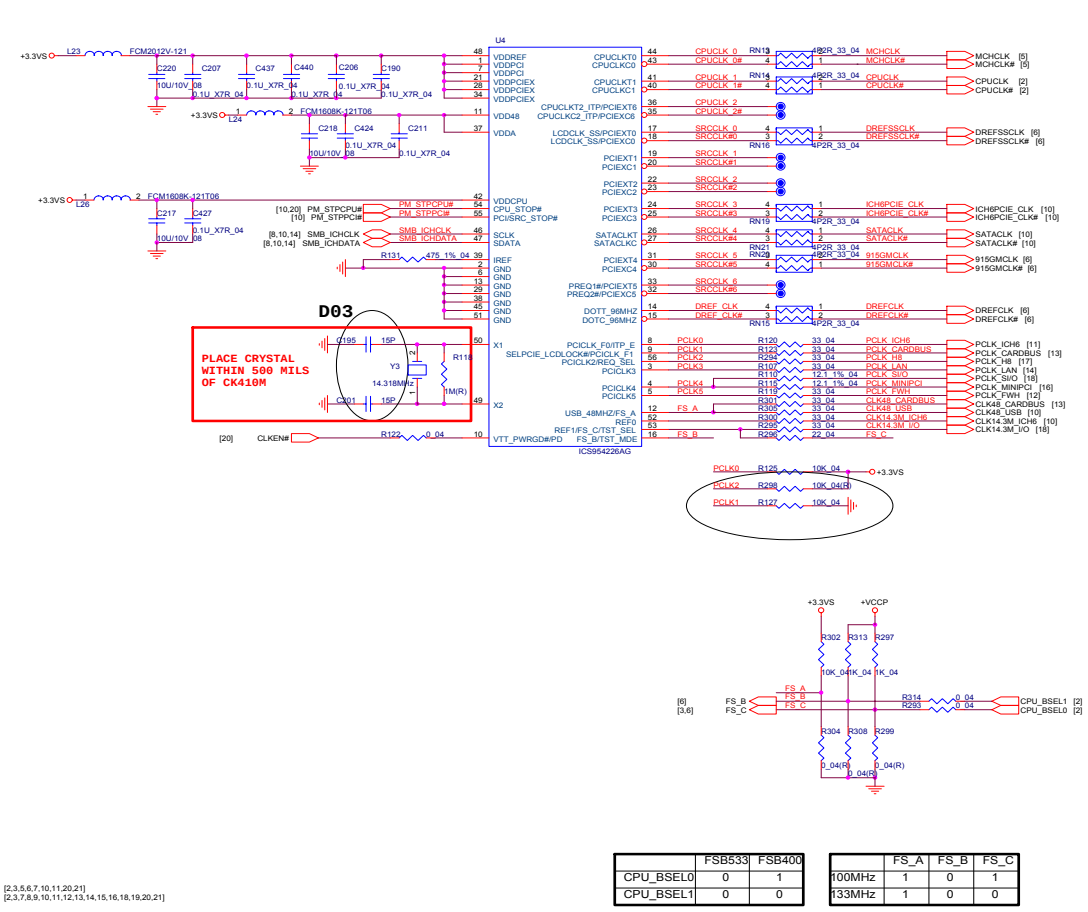


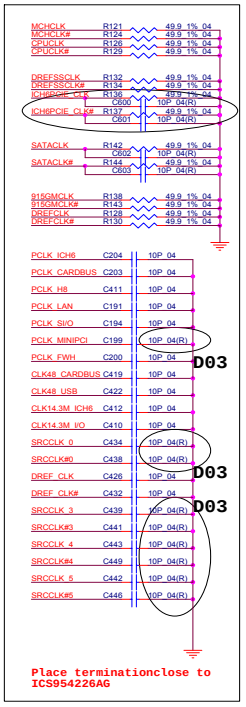






CLOCK GENERATOR





Sheet 4 of 30
CLOCK
GENERATOR

	FSB533	FSB400
CPU_BSEL0	0	1
CPU_BSEL1	0	0

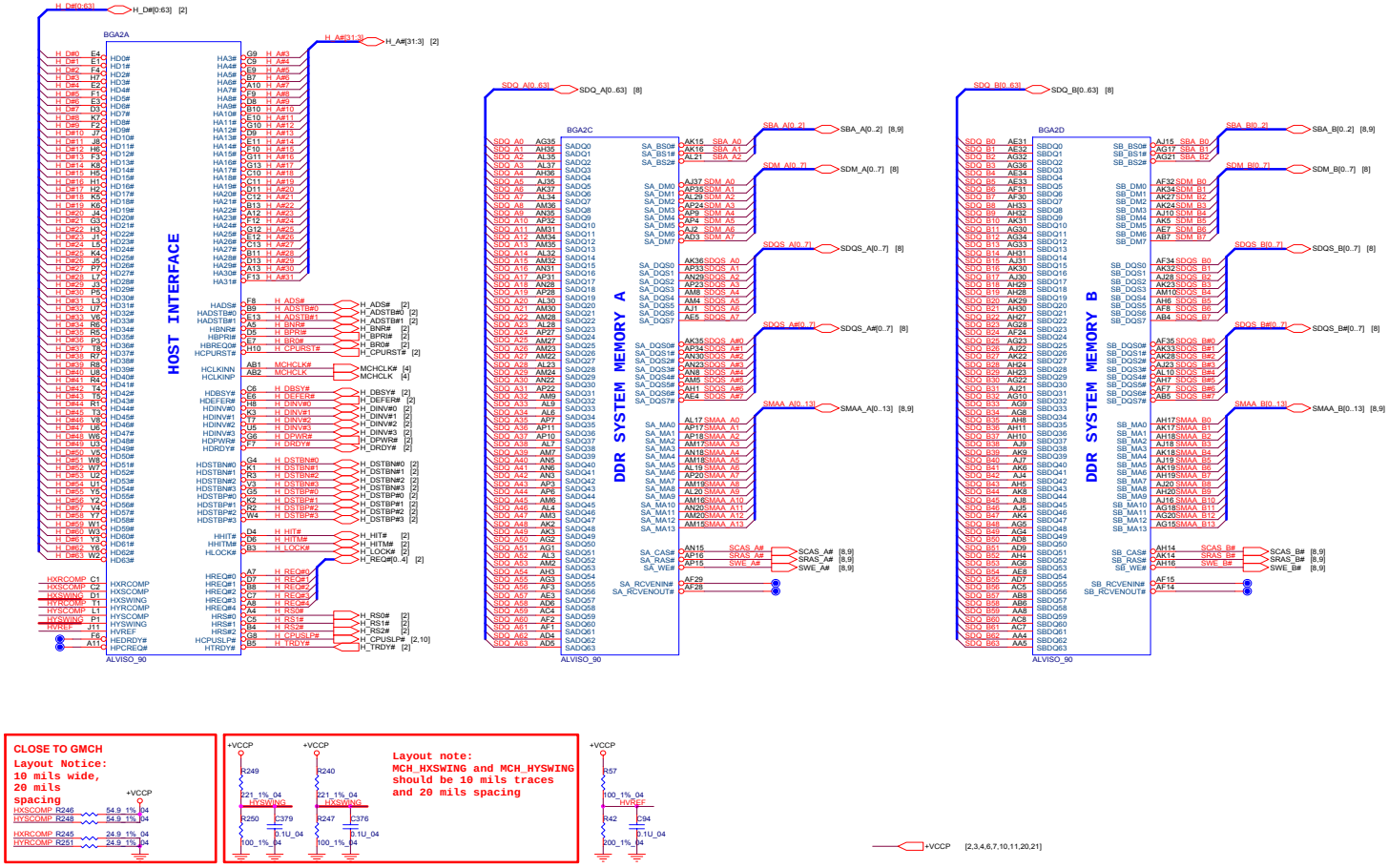
	FS_A	FS_B	FS_C
100MHz	1	0	1
133MHz	1	0	0

+VCCP [2,3,5,6,7,10,11,20,21]
+3.3VS [2,3,7,8,9,10,11,12,13,14,15,16,18,19,20,21]

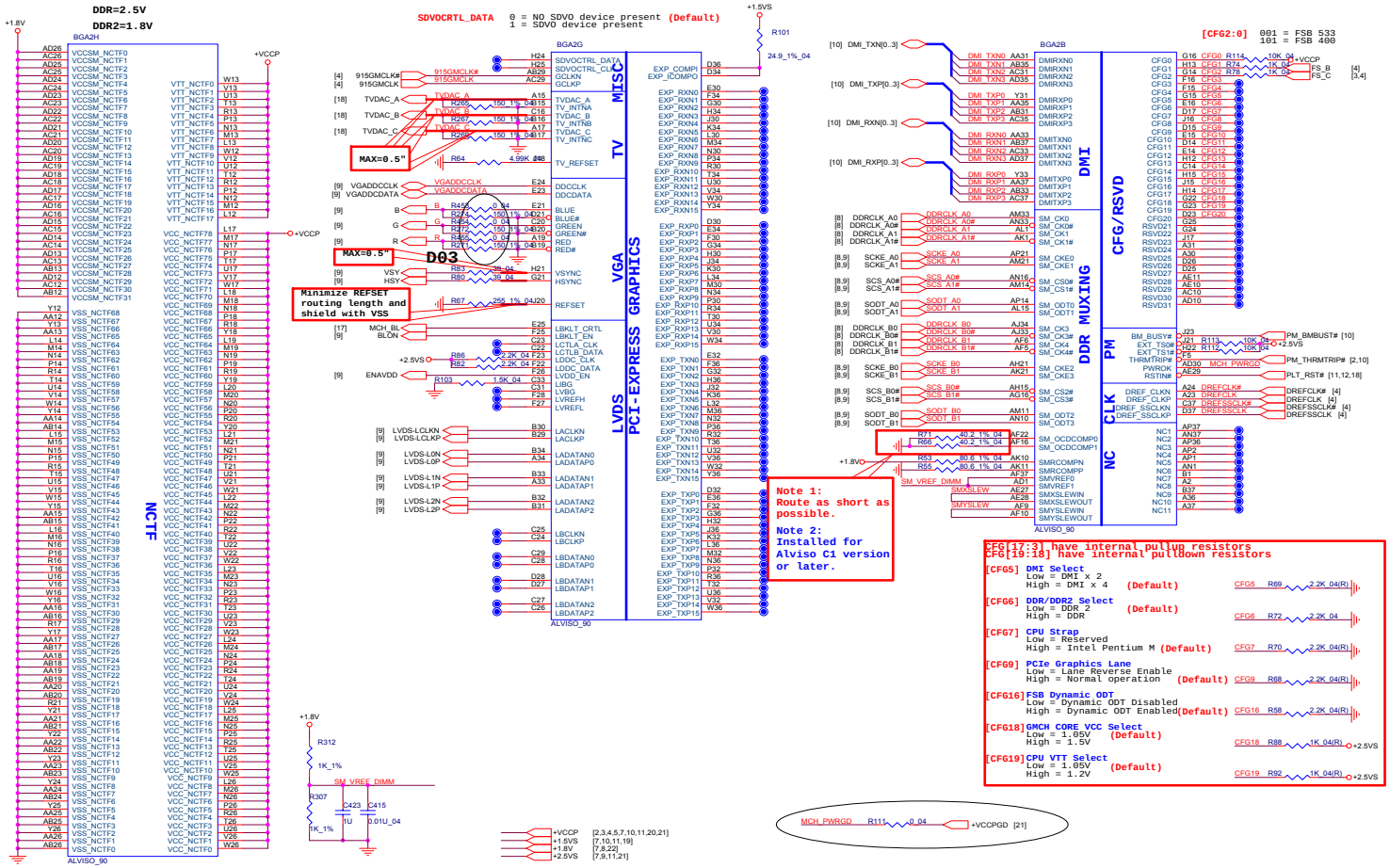
B.Schematic Diagrams

ALVISO GMCH 1/3

Sheet 5 of 30
ALVISO GMCH 1/3



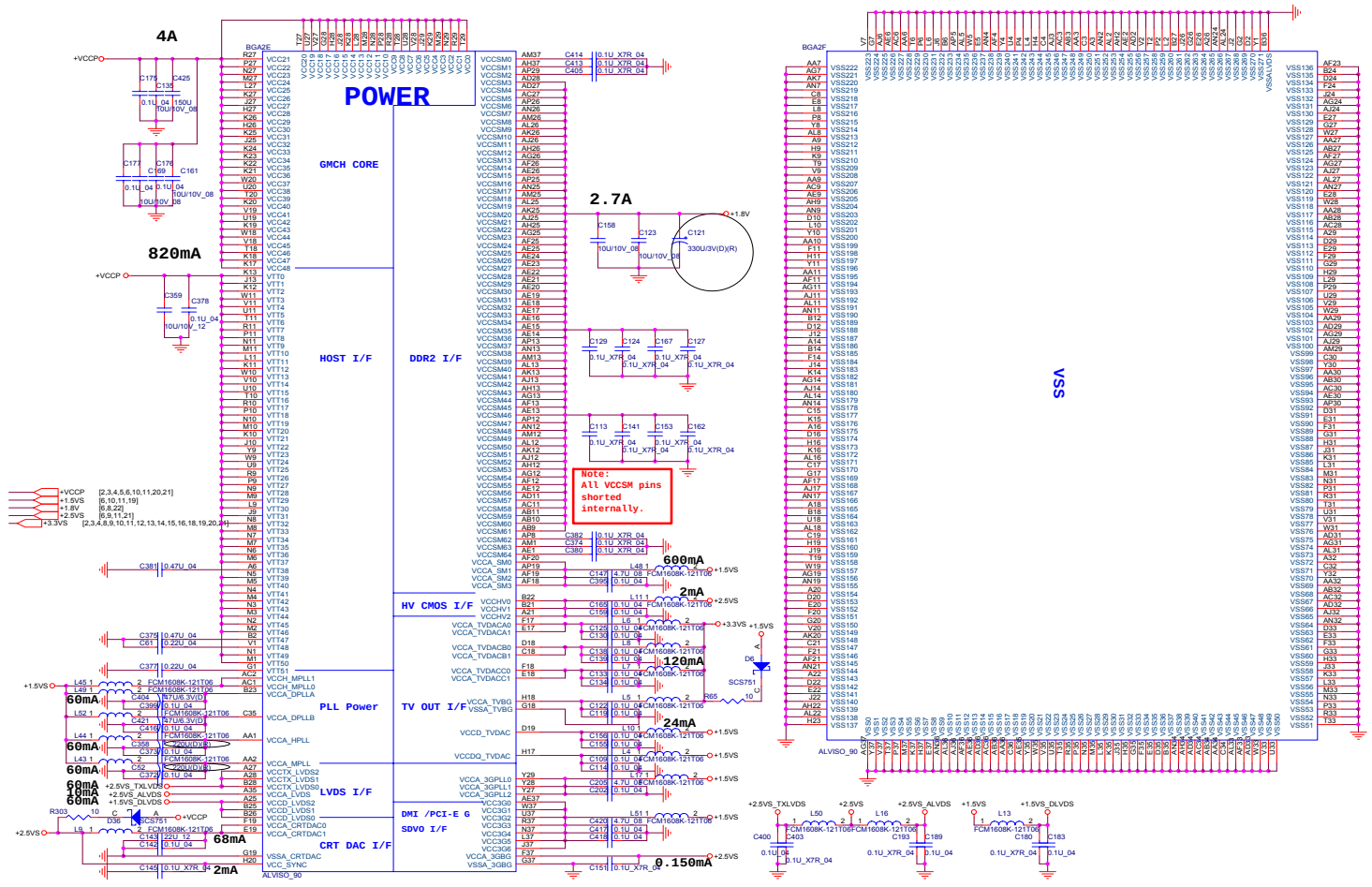
ALVISO GMCH 2/3



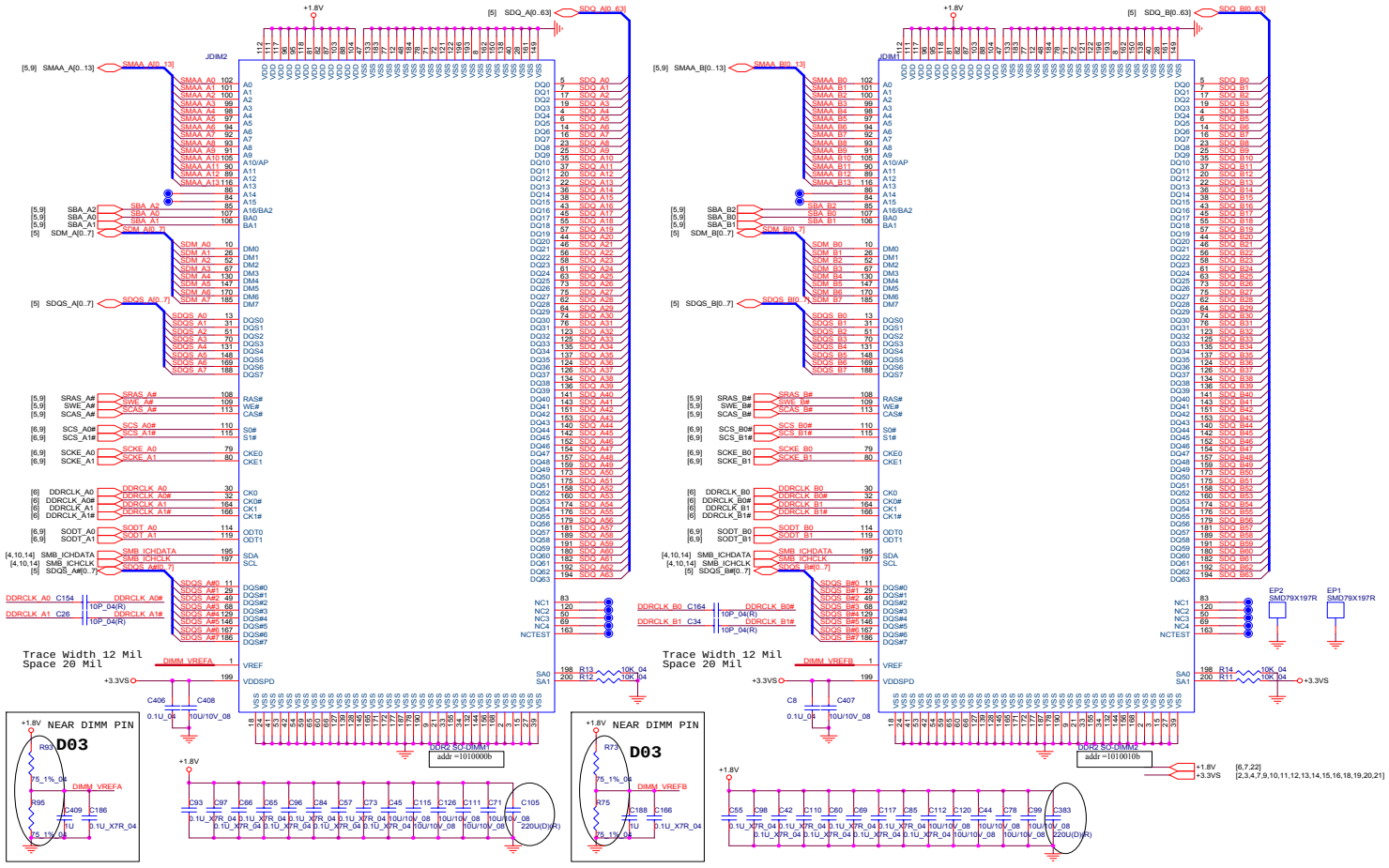
Sheet 6 of 30
ALVISO GMCH 2/3

ALVISO GMCH 3/3

Sheet 7 of 30
ALVISO GMCH 3/3



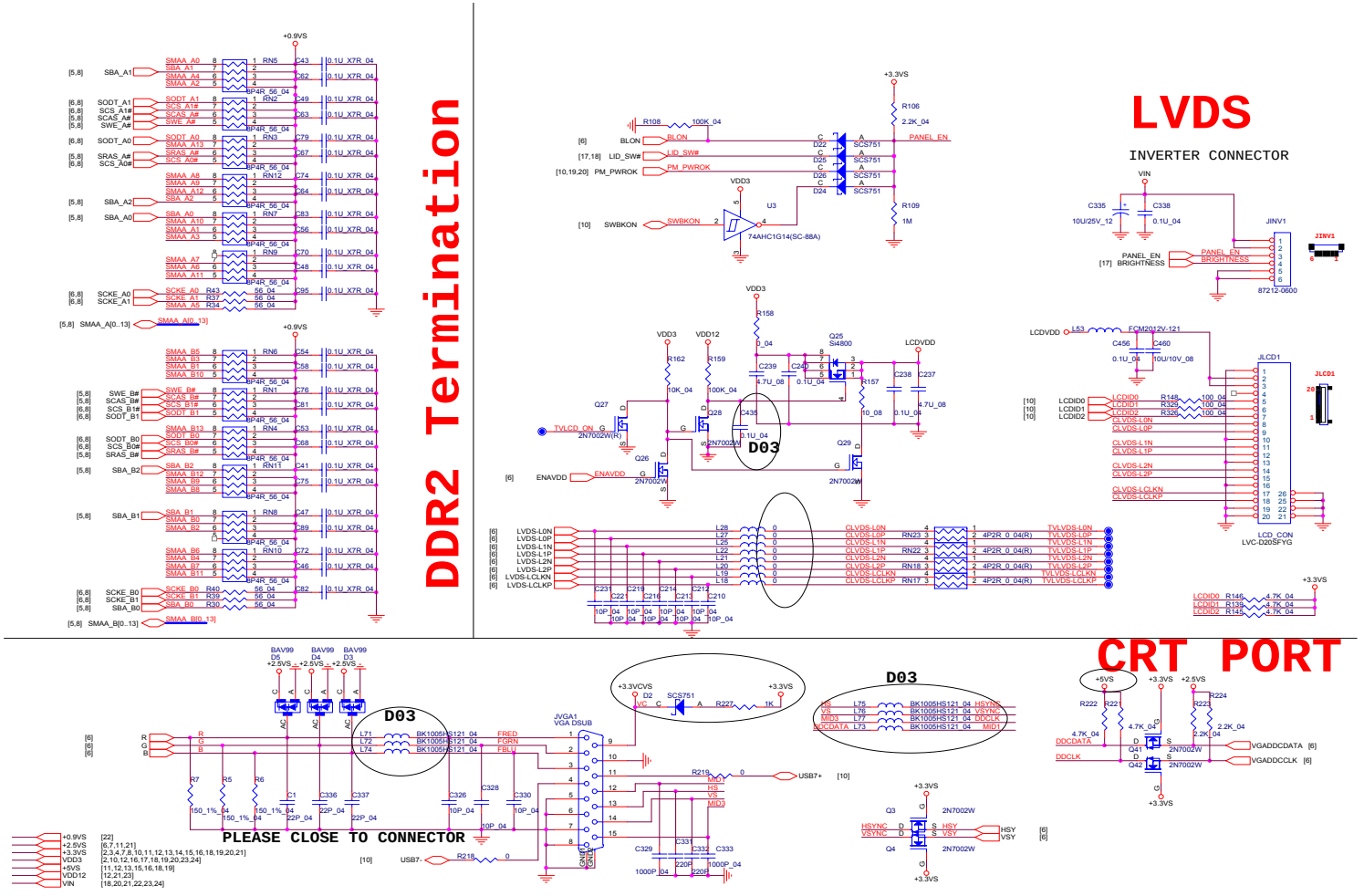
DDR2 SO-DIMM



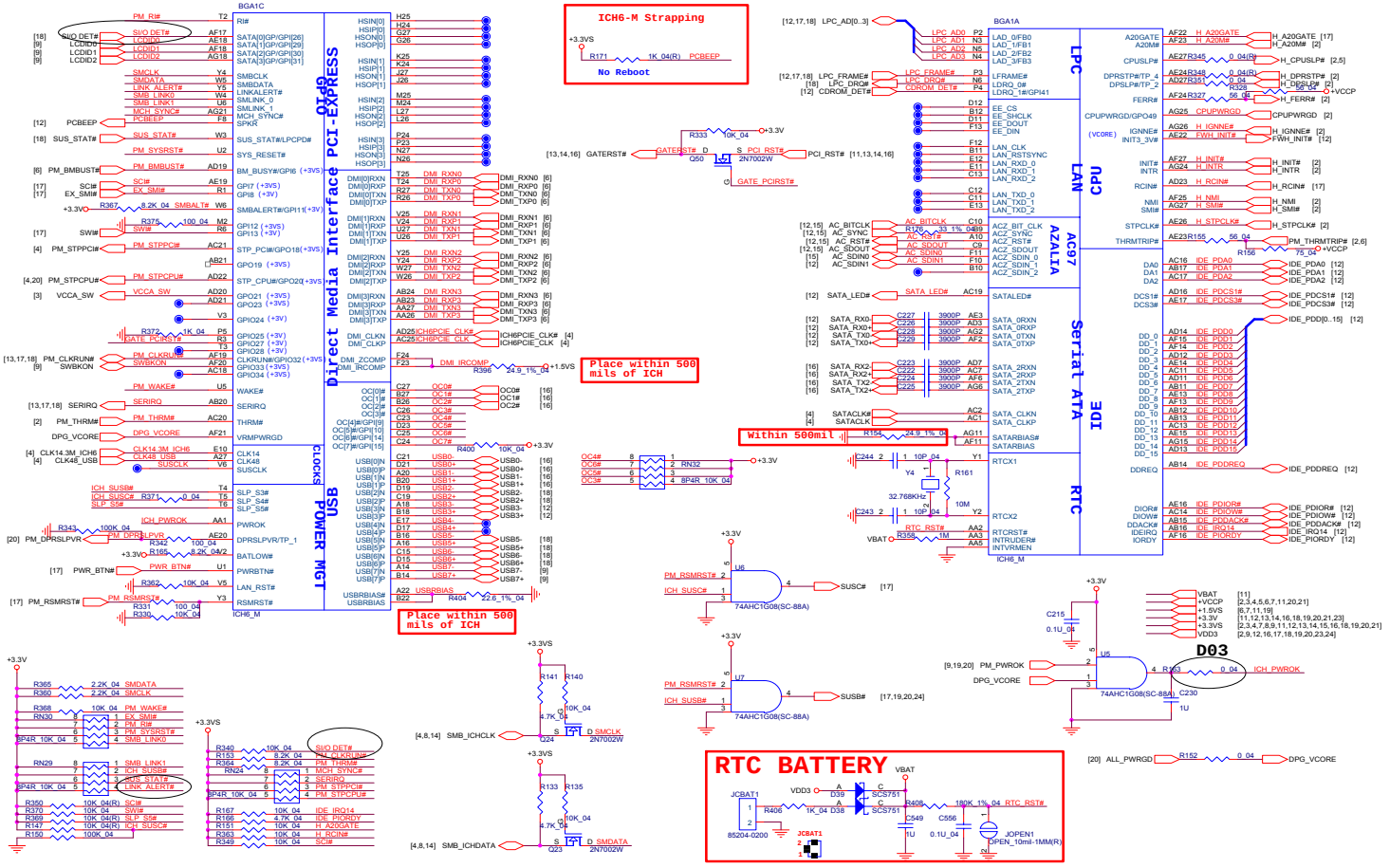
Sheet 8 of 30
DDR2 SO-DIMM

LVDS & CRT & TV OUT

Sheet 9 of 30
LVDS & CRT & TV OUT



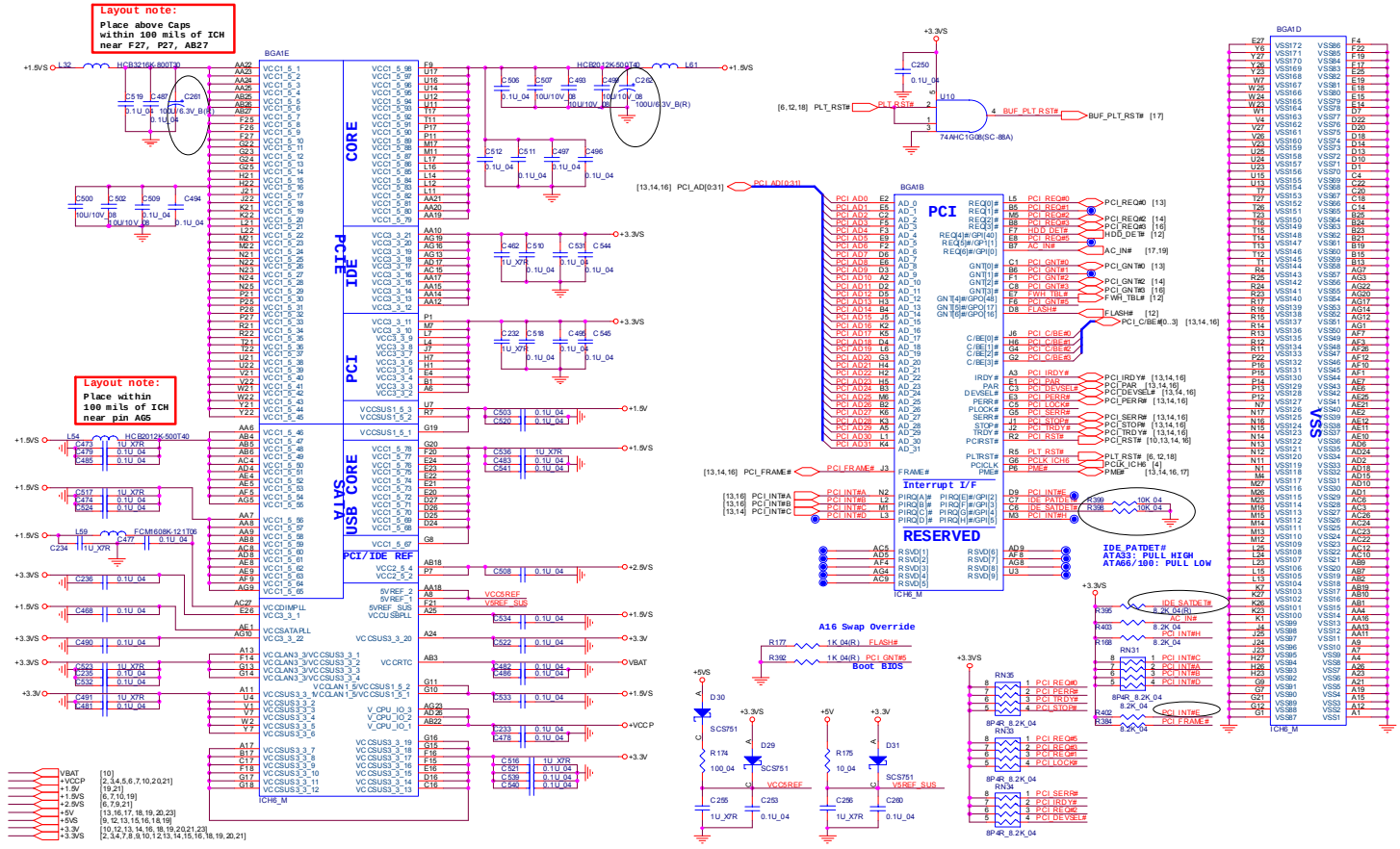
ICH6-M 1/2



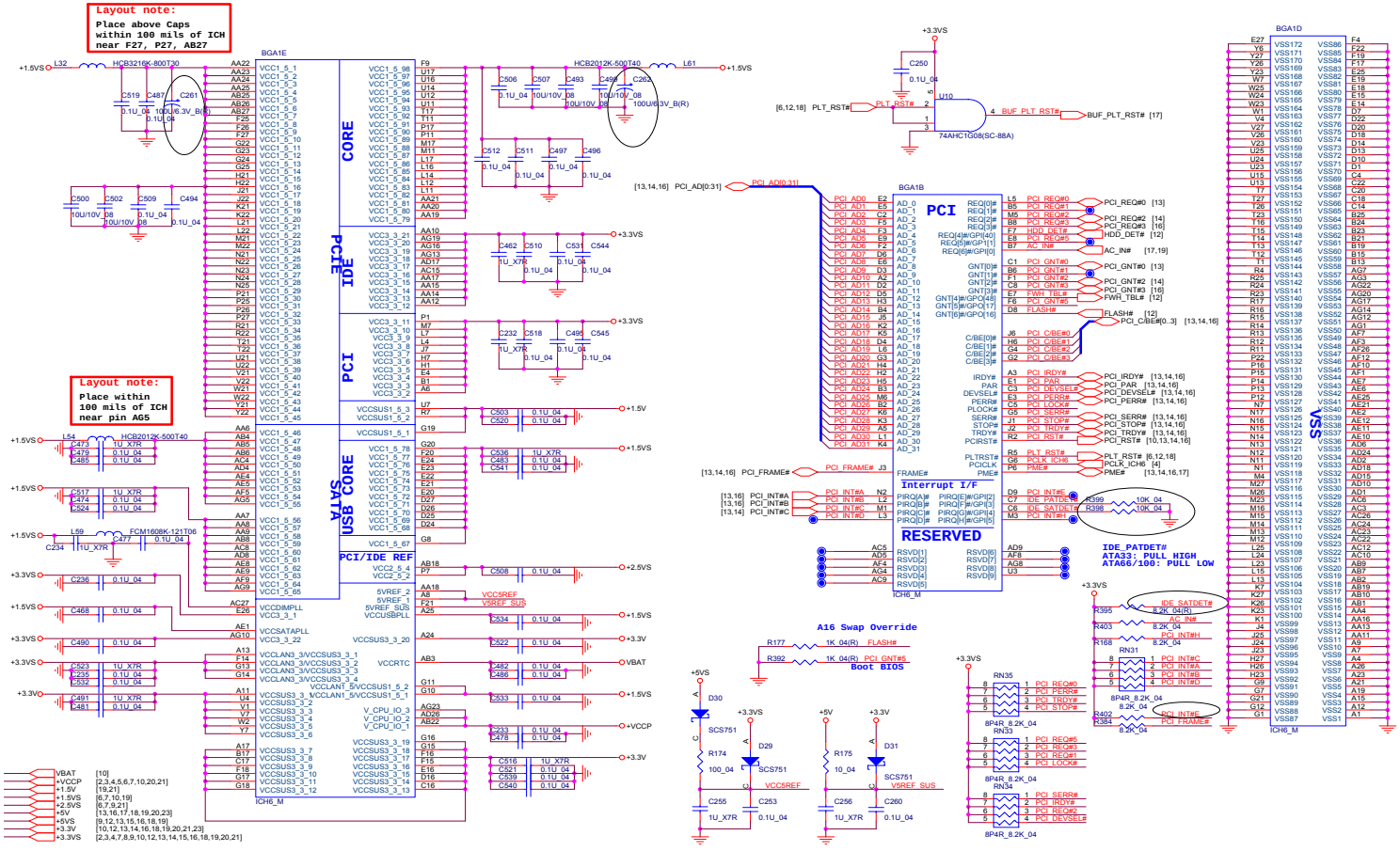
Sheet 10 of 30
ICH6-M 1/2

ICH6-M 2/2

Sheet 11 of 30
ICH6-M 2/2



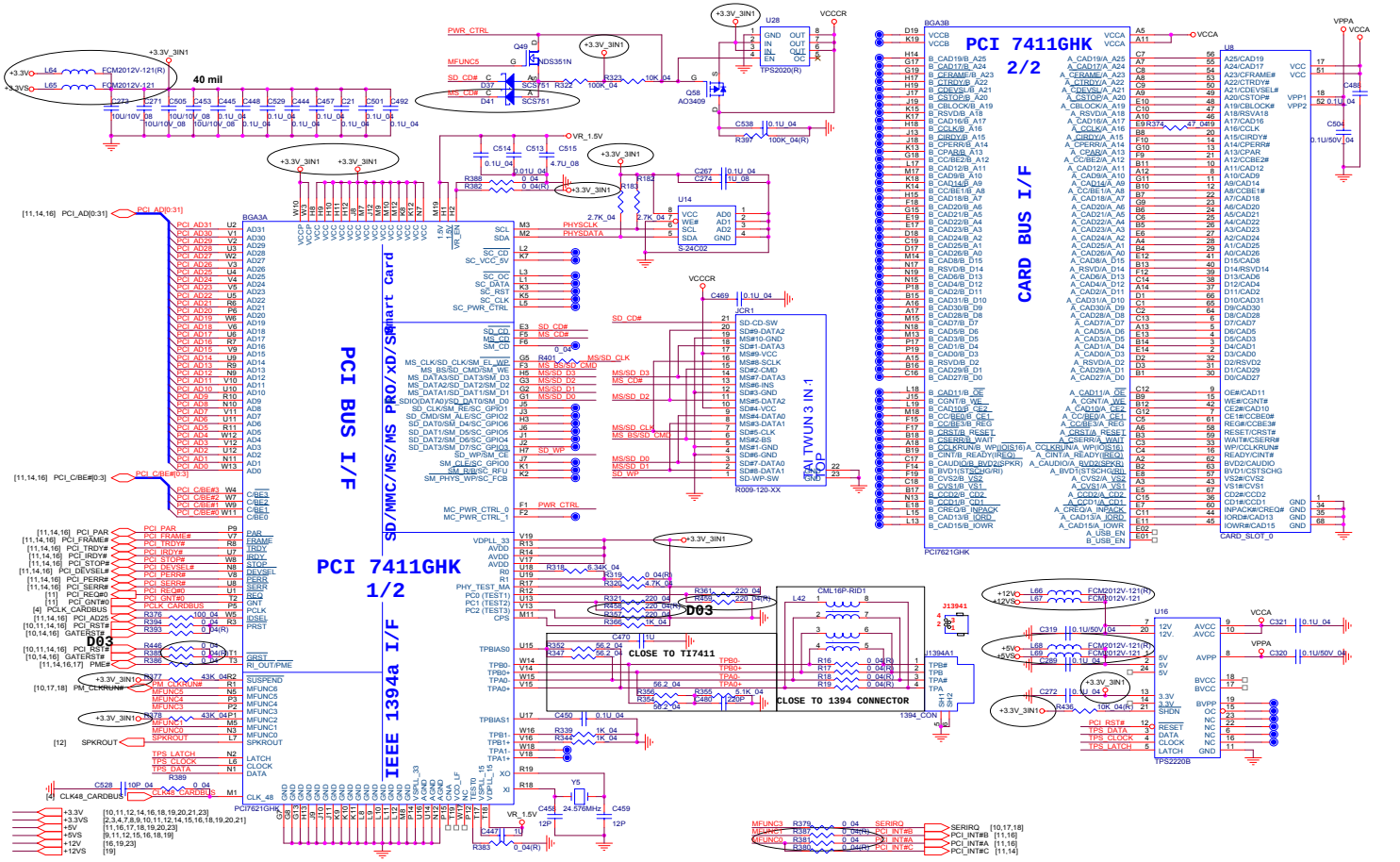
HDD & CD & FAN & BIOS & MDC



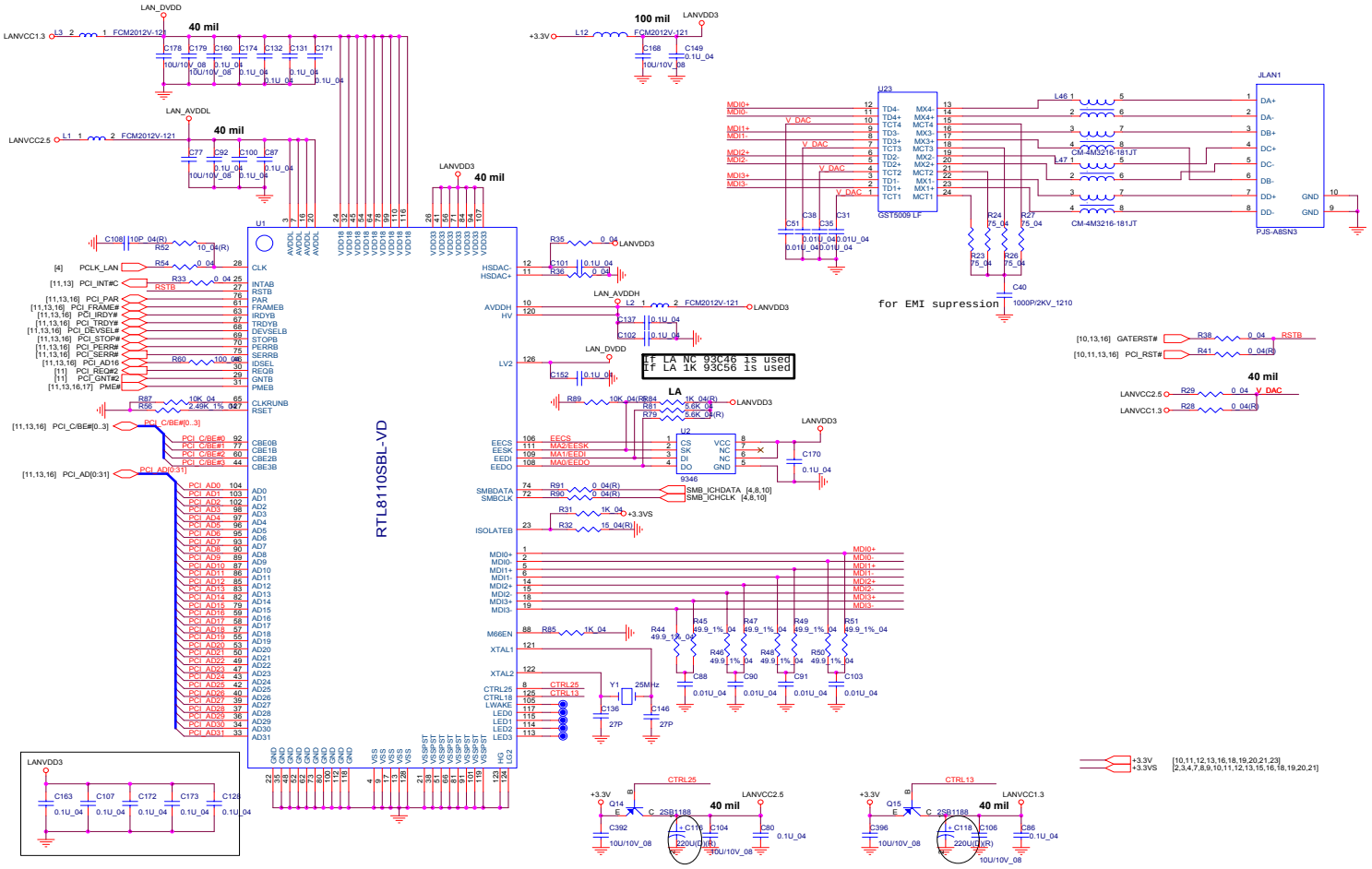
Sheet 12 of 30
HDD & CD & FAN & BIOS & MDC

TI 7411

Sheet 13 of 30
TI 7411



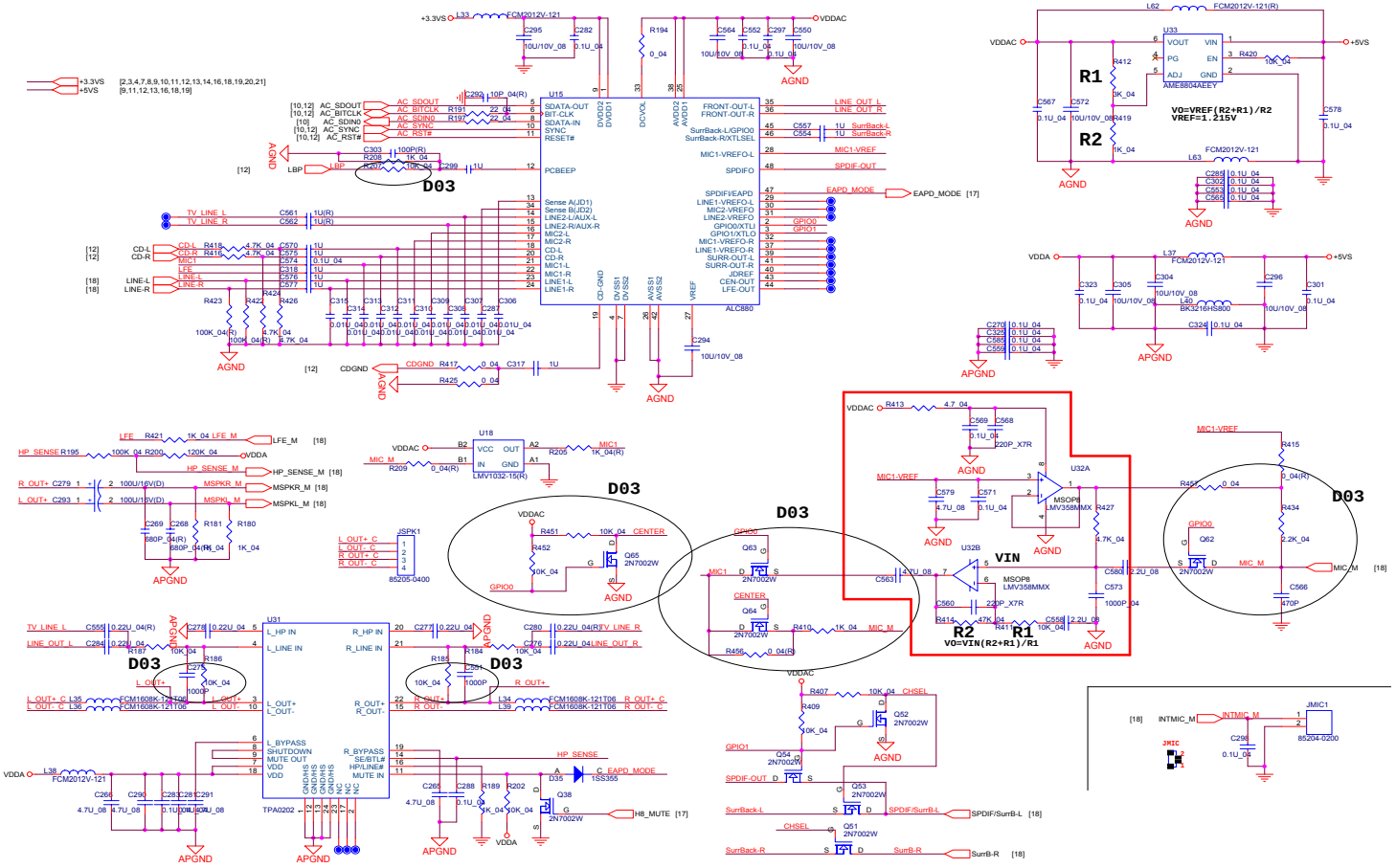
GLAN RTL8110SBL



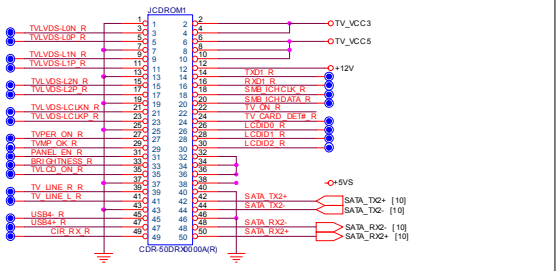
Sheet 14 of 30
GLAN RTL8110SBL

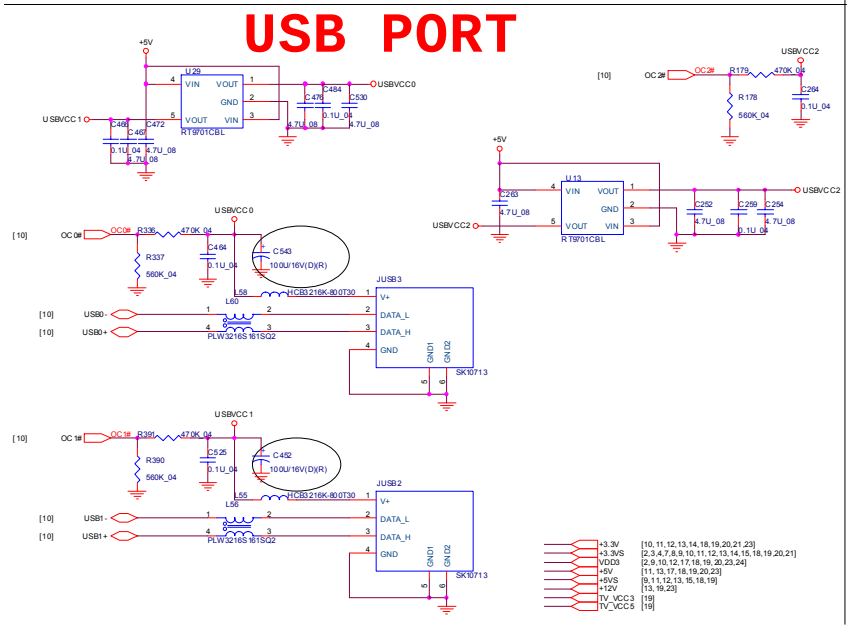
AUDIO CODEC

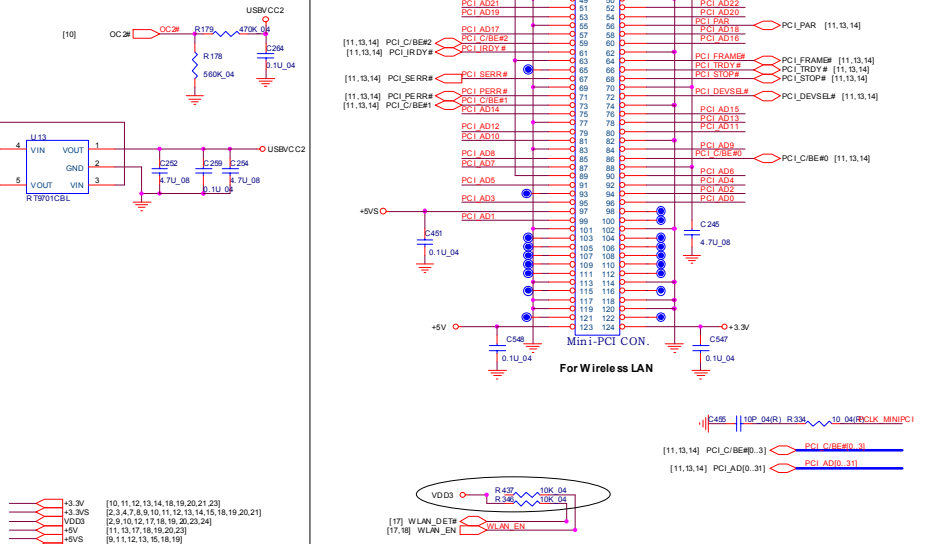
Sheet 15 of 30
AUDIO CODEC



MINI PCI & USB



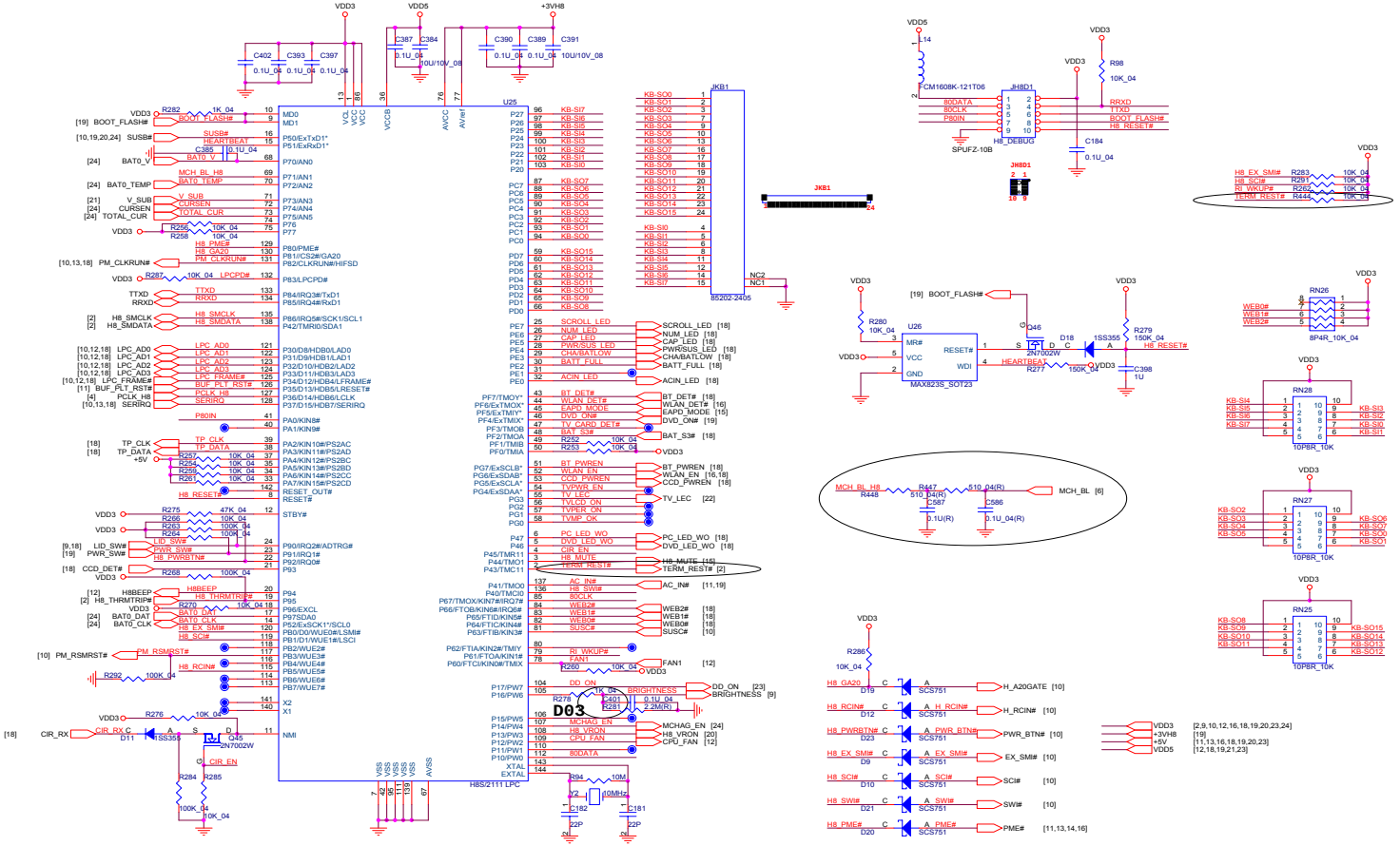




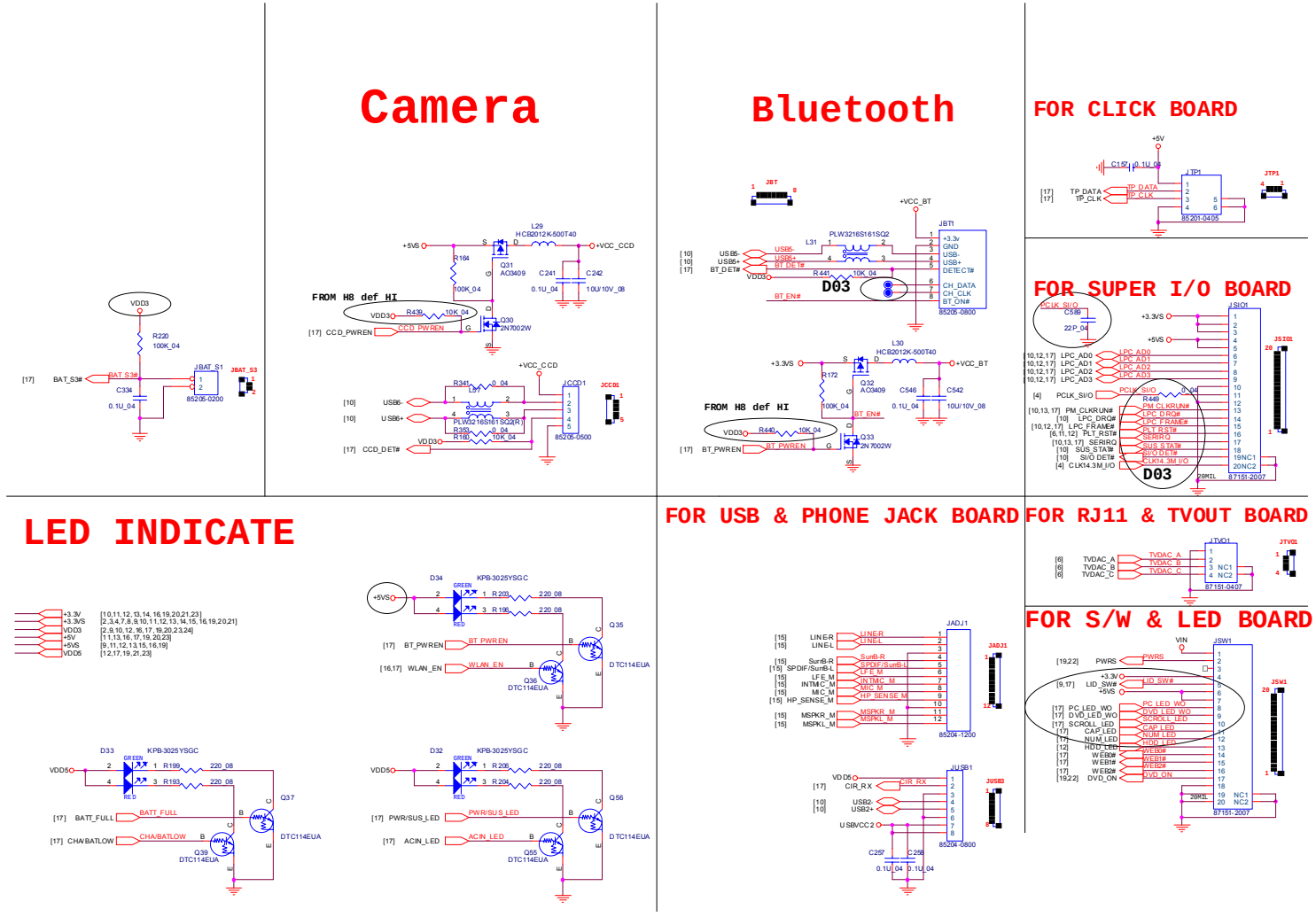
Sheet 16 of 30
MINI PCI & USB

H8 2111

Sheet 17 of 30
H8 2111



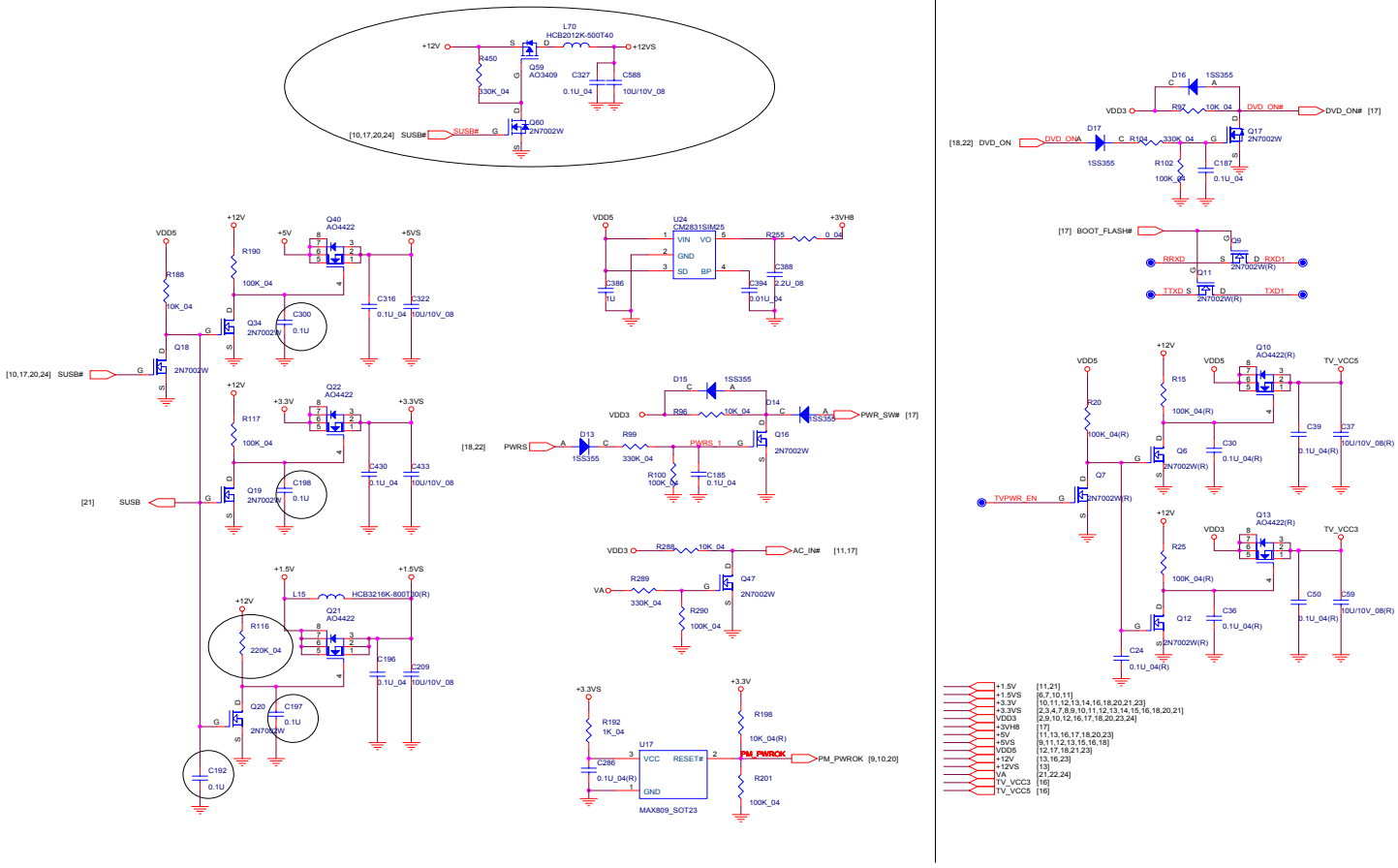
BD CON & CAMERA & BT



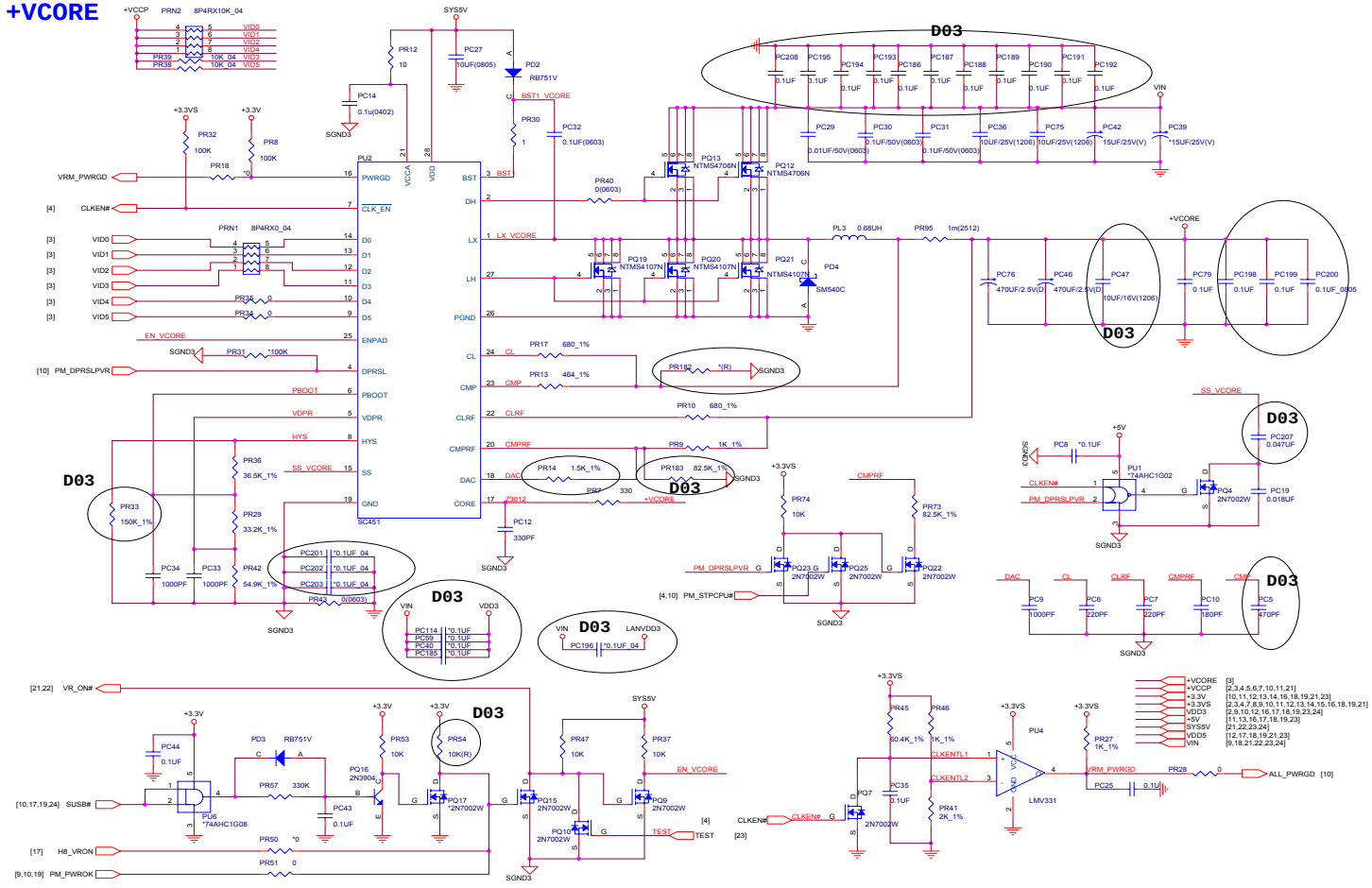
Sheet 18 of 30
BD CON &
CAMERA & BT

SUS POWER

Sheet 19 of 30
SUS POWER



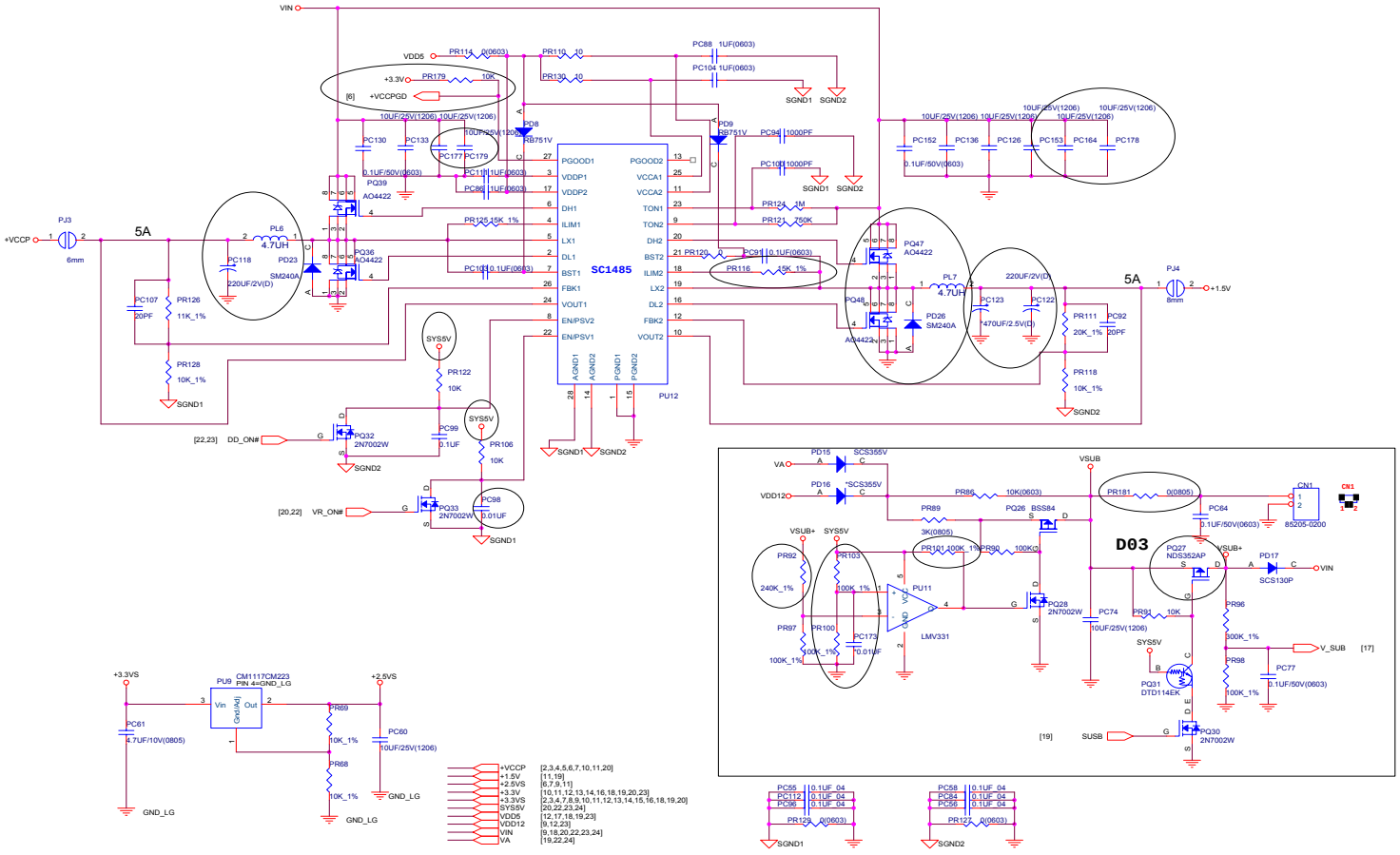
+VCORE



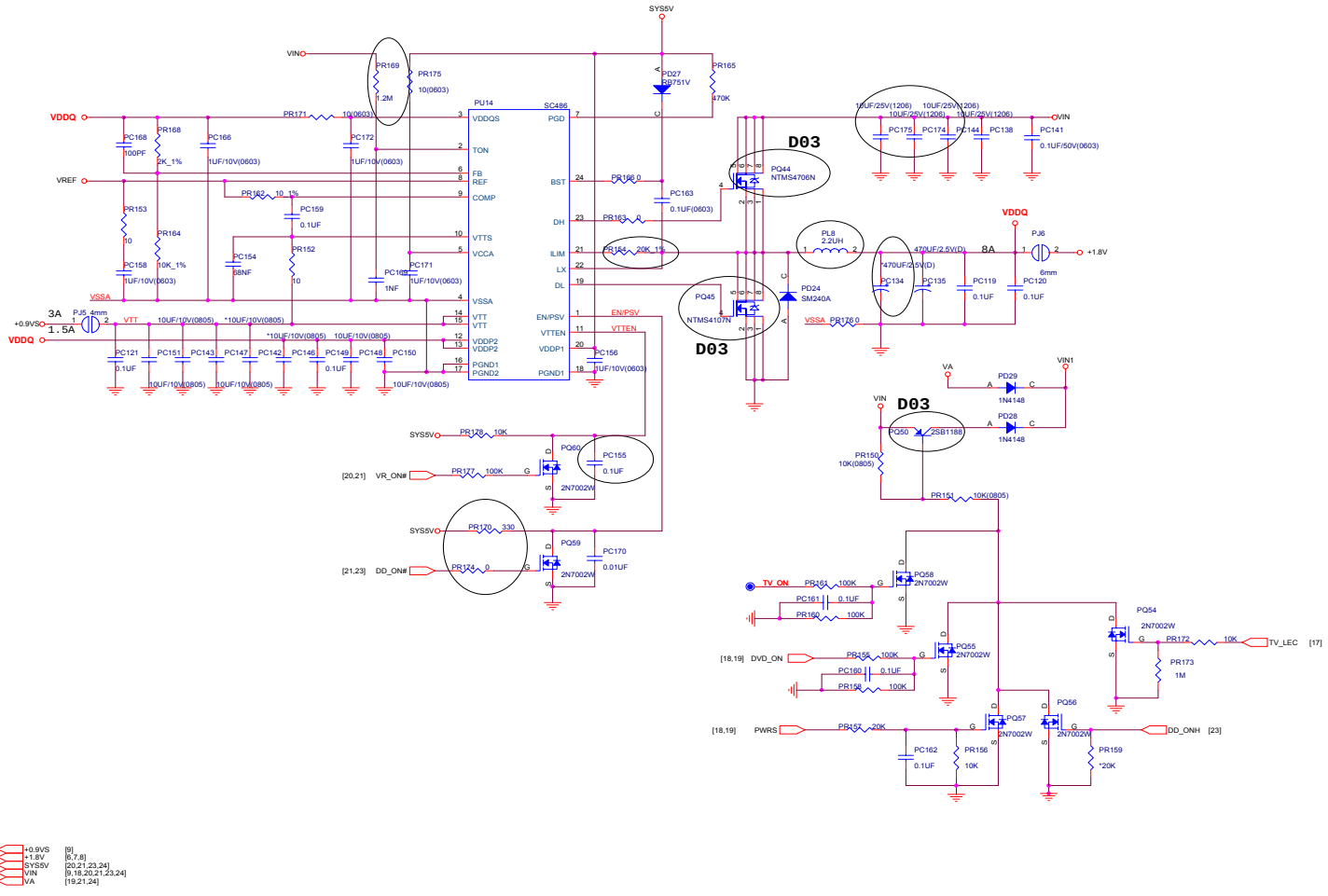
Sheet 20 of 30
+VCORE

+1.5V, +1.05

Sheet 21 of 30
+1.5, +1.05



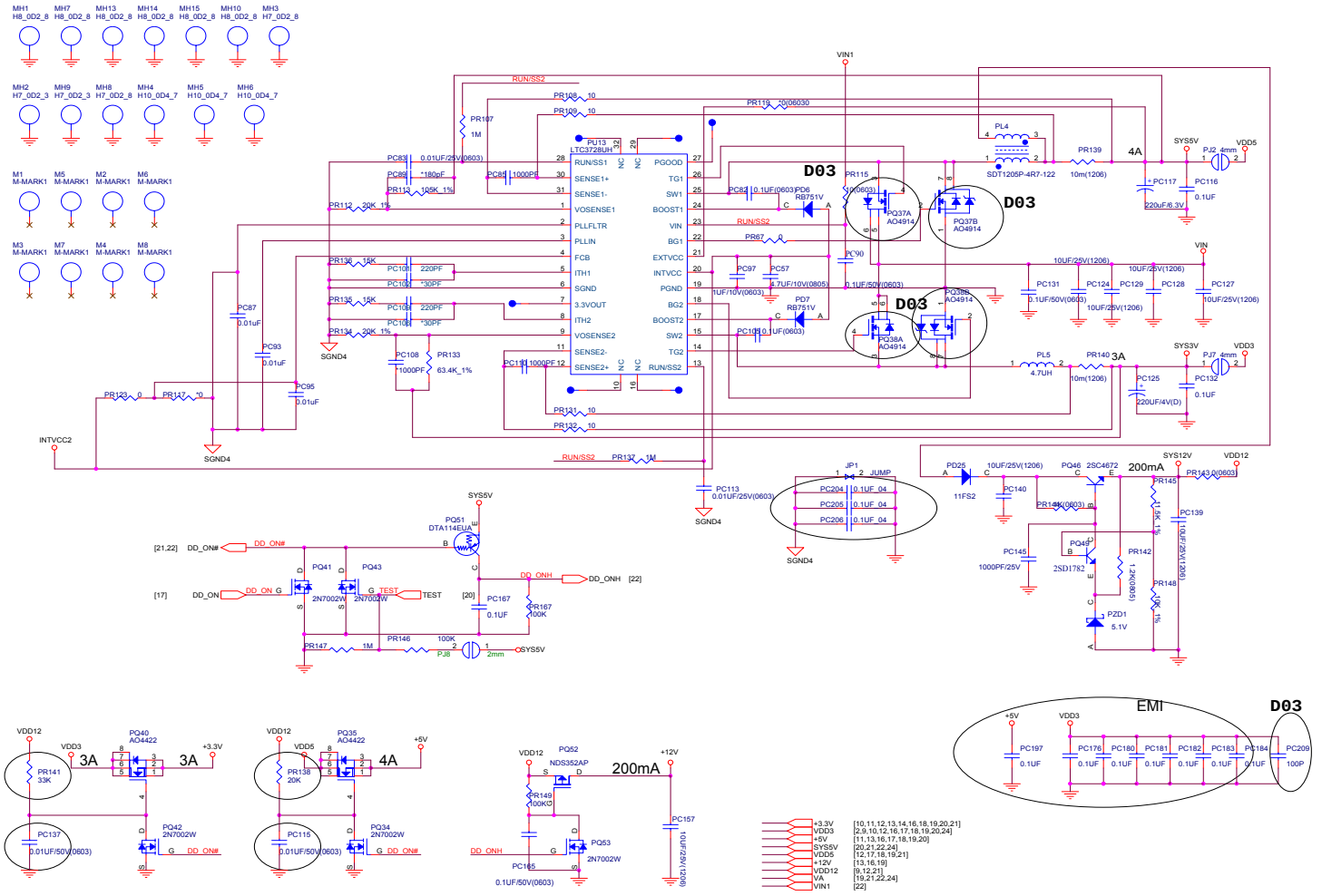
MEMORY POWER +1.8V, +0.9V



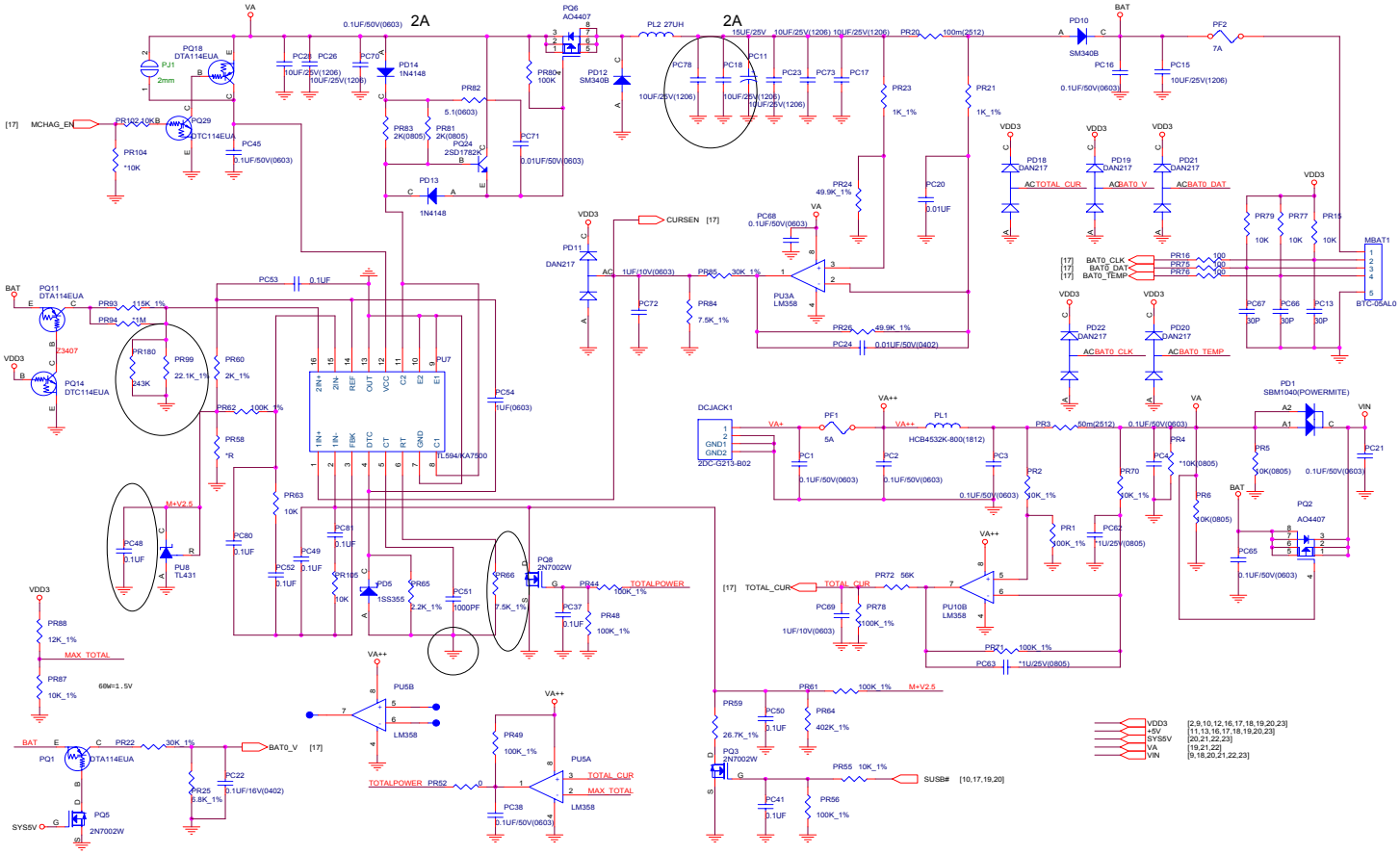
Sheet 22 of 30
MEMORY POWER
+1.8V, +0.9V

SYSTEM POWER 1

Sheet 23 of 30
SYSTEM POWER 1



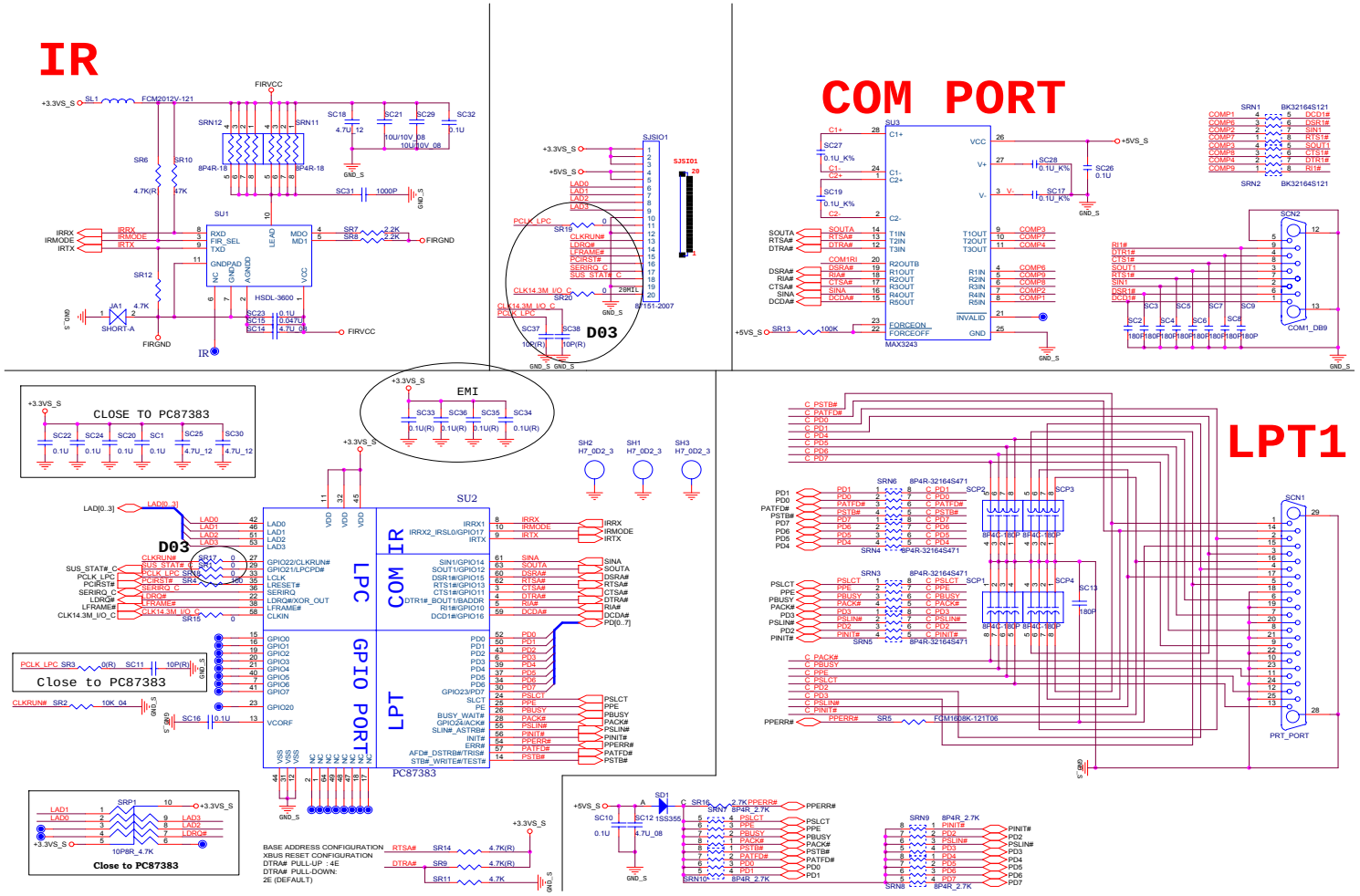
ACIN & CHARGER



Sheet 24 of 30
ACIN & CHARGER

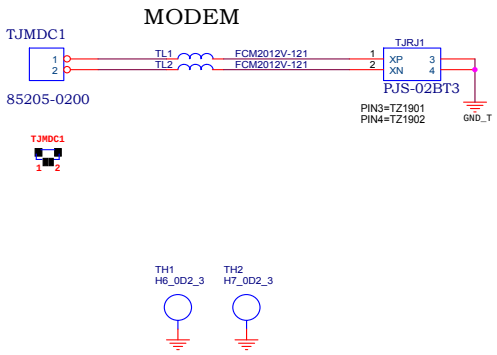
SUPER I/O BOARD

Sheet 25 of 30
SUPER 1/O BOARD

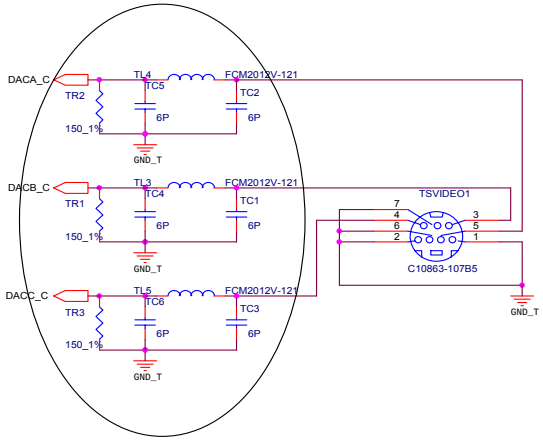


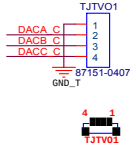
RJ11 & TV OUT BOARD

RJ11



TV OUT

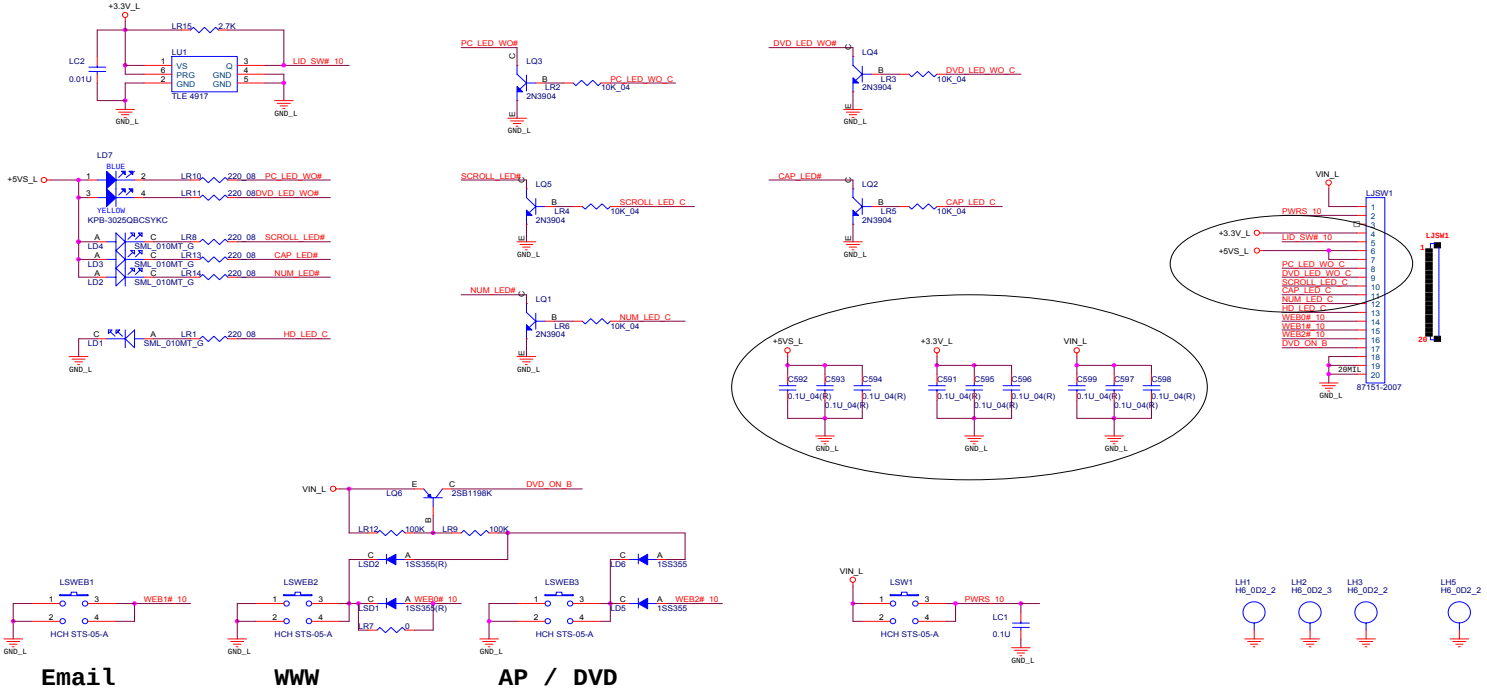




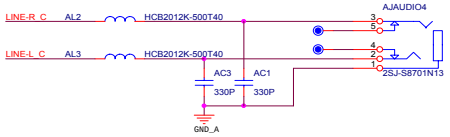
Sheet 26 of 30
RJ11 & TV OUT BOARD

SWITCH & LED BOARD

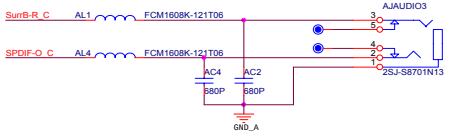
Sheet 27 of 30
SWITCH & LED BOARD



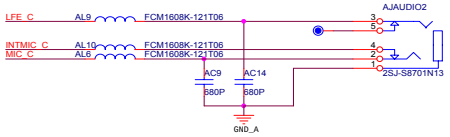
USB & PHONE JACK BOARD



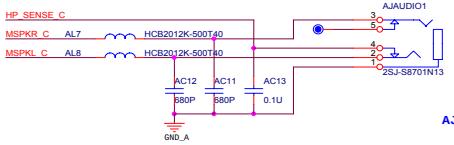
LINE IN (SURR) 4 BLUE



SPDIF OUT (SURRB) 3 BLACK

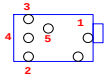


MIC IN (CENTER) 2 PINK

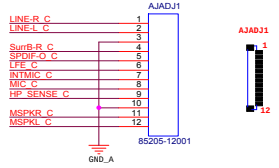


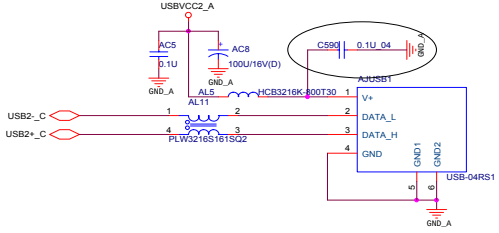
SPEAKER OUT (FRONT) 1 GREEN

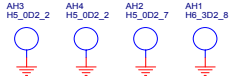
AJAUDIO1,AJAUDIO2, AJAUDIO3, AJAUDIO4

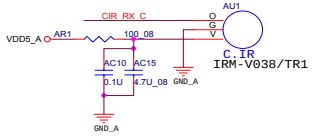


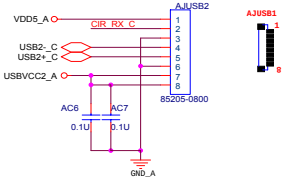
SOLDER SIDE VIEW







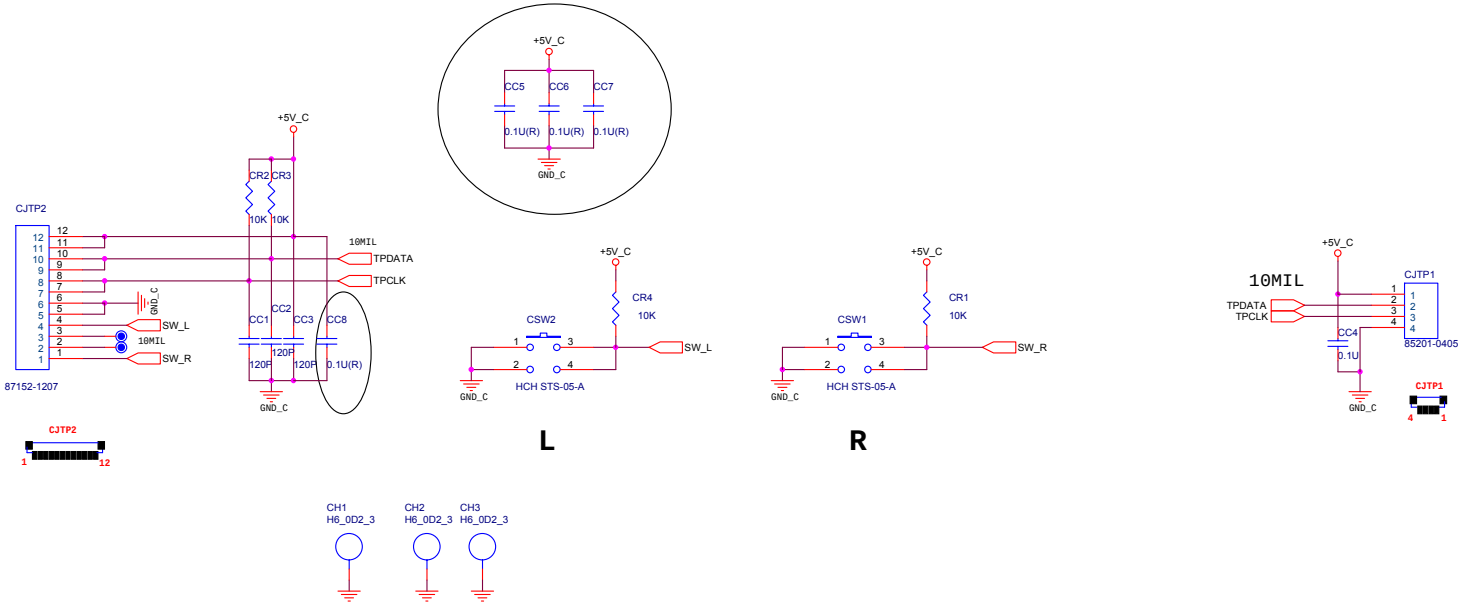




Sheet 28 of 30
USB & PHONE JACK BOARD

CLICK BOARD

Sheet 29 of 30
CLICK BOARD



H8 DEBUG BOARD

Sheet 30 of 30
H8 DEBUG BOARD