SERVICE MANUAL

L390T

LCD Computer

L390T

Service Manual

Notice

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Version 2.0

Trademarks

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 ***L390T*** series LCD PC.

The following information is included:

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

Appendix A, Part Lists
Appendix B, Schematic Diagrams
Appendix C, Wall Moutning Information
Appendix D, CPU Dip Switch Settings

FCC Statement

(Federal Communications Commission)

You are cautioned that changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Re orient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the service representative or an experienced radio/TV technician for help.

Operation is subject to the following two conditions:

1. This device may not cause interference.

   And

2. This device must accept any interference, including interference that may cause undesired operation of the device.

FCC RF Radiation Exposure Statement:

1. This Transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.
2. This equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20 centimeters between the radiator and your body.

Warning

Use only shielded cables to connect I/O devices to this equipment. You are cautioned that changes or modifications not expressly approved by the manufacturer for compliance with the above standards could void your authority to operate the equipment.

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 this equipment with a telephone line (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 (Full Range AC/DC Adapter – AC Input 100 - 240V, 50 - 60Hz, DC Output 19V, 4.74A).

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 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. **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.
4. **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.
5. **Take care when using peripheral devices**.

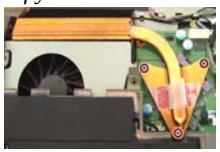
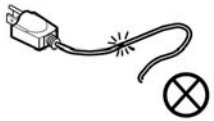
Power Safety Warning

Before you undertake any upgrade procedures, make sure that you have turned off the power, and disconnected all peripherals and cables (including telephone lines).

Power Safety

The computer has specific power requirements:

- When you want to unplug the power cord, be sure to disconnect it by the plug head, not by its wire.
- Make sure the socket and any extension cord(s) you use can support the total current load of all the connected devices.
- Before cleaning the computer, make sure it is disconnected from any external power supplies.

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

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.

Servicing

Do not attempt to service the computer yourself. Doing so may violate your warranty and expose you and the computer to electric shock. Refer all servicing to authorized service personnel. Unplug the computer from the power supply. Then refer servicing to qualified service personnel under any of the following conditions:

- When the power cord is damaged or frayed.
- If the computer has been exposed to any liquids.
- If the computer does not work normally when you follow the operating instructions.
- If the computer has been dropped or damaged (do not touch the poisonous liquid if the LCD panel breaks).
- If there is an unusual odor, heat or smoke coming from your computer.

Removal Warning

When removing any cover(s) and screw(s) for the purposes of device upgrade, remember to replace the cover(s) and screw(s) before turning the computer on.

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 ***L390T*** series LCD 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 ***L390T*** 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® Core™2 Duo Processor (478-pin) Micro-FC-PGA Package, Socket P TDP: 35W **T9400/ T9600**	45nm (45 Nanometer) Process Technology 6MB On-die L2 Cache & 1066MHz FSB **2.53/ 2.8 GHz**
	Intel® Core™2 Duo Processor (478-pin) Micro-FC-PGA Package, Socket P TDP: 25W **P9500**	45nm (45 Nanometer) Process Technology 6MB On-die L2 Cache & 1066MHz FSB **2.53 GHz**
	Intel® Core™2 Duo Processor (478-pin) Micro-FC-PGA Package, Socket P TDP: 25W **P8400/ P8600**	45nm (45 Nanometer) Process Technology 3MB On-die L2 Cache & 1066MHz FSB **2.26/ 2.40** GHz
Core Logic	Intel GM45 + ICH9M Chipset	
LCD	19" WXGA+ (1440*900) Flat Panel TFT Hard Glass (**Factory Option**) Touch Panel (**Factory Option**)	
Memory	Two 200 Pin SO-DIMM Sockets Supporting **DDRII (DDR2)** 667 MHz/ 800 MHz 64-bit Wide DDRII (DDR2) Data Channel Memory Expandable up to 4GB (1024/ 2048 MB **DDRII** Modules)	
Video Adapter	**Intel GM45 Integrated Video** High Preference 2D/3D Graphic Accelerator Shared Memory Architecture (up to **256MB** dynamically allocated from system memory where needed) MS DirectX® 10.0 Compatible	
BIOS	One 32Mb Flash ROM	Phoenix™ BIOS
Storage	One Changeable 12.7mm(h) Optical Device (CD/DVD) Type Drive (see page ***1 - 4*** for drive options) with SATA (Serial) Interface Changeable 2.5" 9.5 mm (h) HDD with SATA (Serial) Interface	

Feature	Specification	
Audio	Intel High Definition Audio Interface (HDA) 3D Stereo Enhanced Sound System Sound-Blaster PRO™ Compatible	S/PDIF Digital Output 2 * Built-In Speakers
Security	Security (Kensington® Type) Lock Slot	BIOS Password
Keyboard	Standard USB Keyboard (**Option**) or RF Keyboard with Receiver (**Option**)	
Interface	Five USB 2.0 Ports (Three for VESA Support) One HDMI-Out Port Two Headphone-Out Jacks Two Microphone-In Jacks One S/PDIF Output Jack One eSATA Port (IDE mode only and does not support	One RJ-11 Jack for Plug & Play Fax/Modem One RJ-45 Jack for 10Mb/ 100Mb Fast Ethernet One DC-in Jack One External Monitor Port One Mini-IEEE 1394a Port One Line-In Jack Two (Serial) COM Ports
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	ExpressCard/34/54 Slot	
Mini-Card Slots	One Mini-Card Slot for **Wireless LAN Module**	
Communication	Built-In 56K Fax/Modem Built-In Gigabit Ethernet LAN Bluetooth 2.0 + EDR (Enhanced Data Rate) Module (**Factory Option**) 1.3M or 2.0M Pixel USB PC Camera Module (**Factory Option**) **Wireless LAN Module Options:** Intel® WiFi Link 5300 Series (3*3 - 802.11a/g/n) Wireless LAN Mini-Card Module (**Option**) Intel® WiFi Link 5100 Series (1*2 - 802.11a/g/n) Wireless LAN Mini-Card Module (**Option**) 3rd Party 802.11b/g Wireless LAN MiniCard Module with USB Interface (**Option**)	
Power Management	Supports ACPI 3.0	Supports Wake on LAN Supports Resume from Modem Ring
Power	Full Range AC/DC Adapter – AC in 100 - 240V, 50 - 60Hz DC Output 19V, 4.74A (**90** Watts)	

Feature	Specification	
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	450mm (w) * 312mm (d) * 66.5mm (h)	11kg with ODD
Optional	**SATA Optical Drive Module Options:** Combo Drive Module DVD Dual (Super Multi) Drive Module **Wireless LAN Module:** Intel® WiFi Link 5300 Series (3*3 - 802.11a/g/n) Wireless LAN Mini-Card Module (**Option**) Intel® WiFi Link 5100 Series (1*2 - 802.11a/g/n) Wireless LAN Mini-Card Module (**Option**) 3rd Party 802.11b/g Wireless LAN MiniCard Module with USB Interface (**Option**)	1.3M or 2.0M Pixel USB PC Camera Module (**Factory Option**) Bluetooth 2.0 + EDR (Enhanced Data Rate) Module (**Factory Option**) Ion Thermal Module (**Factory Option**) - Note that the Ion Thermal Module is compatible only with the Intel® Core™2 Duo Processor **P8400/ P8600** (**2.26**/ **2.40** GHz)

Tilting the LCD Screen

It is possible to tilt the LCD screen in order to get the best possible viewing angle of the screen without glare etc. Apply pressure with one hand at the base of the computer, while carefully pushing the LCD screen to tilt it to the appropriate viewing angle.

Figure 1
Tilting the LCD Screen

Moving the Computer

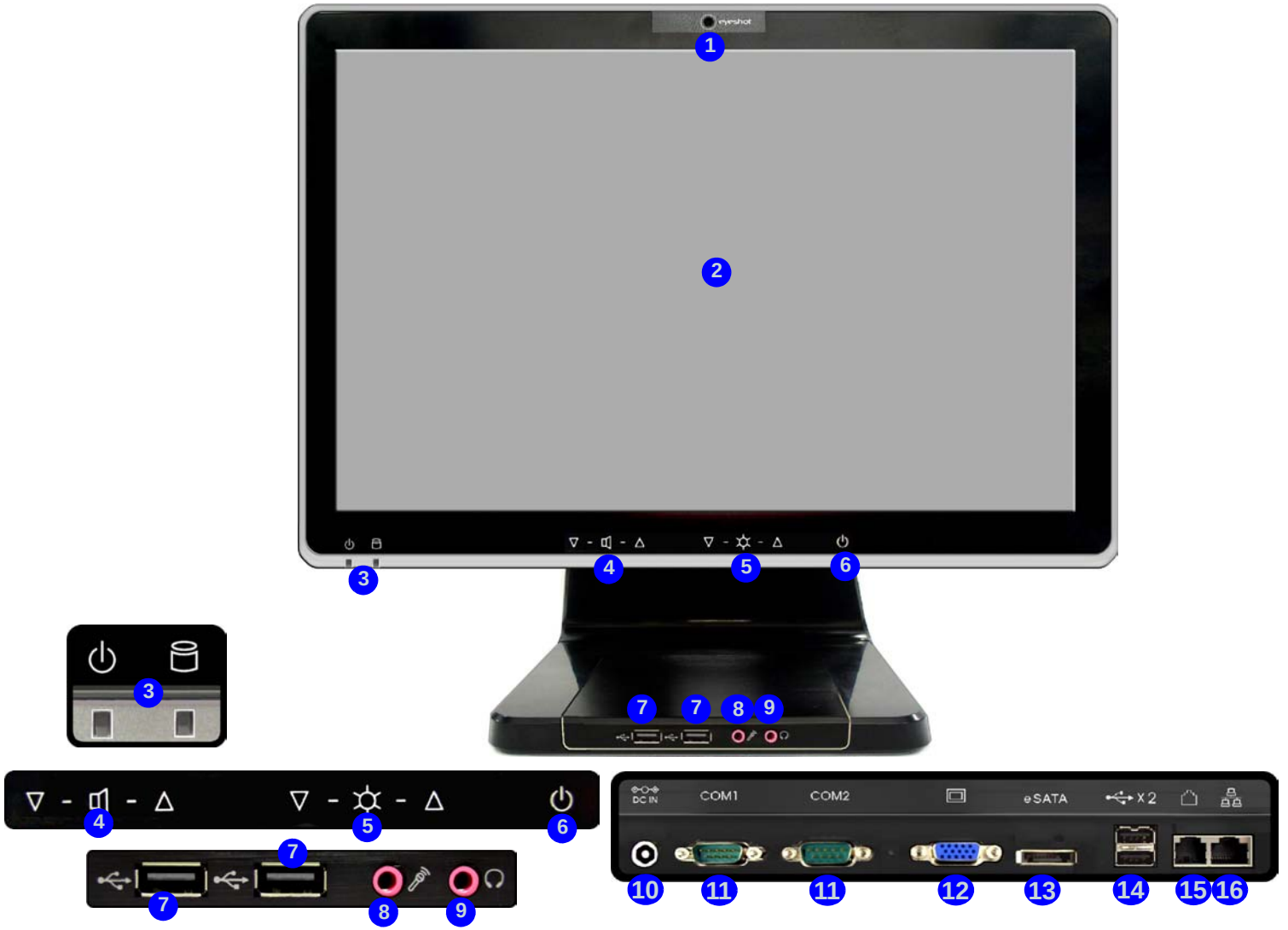
We strongly recommend using both hands to move the computer. You can use one hand to grip the computer by the stand, and the other to hold the top of the LCD screen.

It is recommended that you carry the computer with the LCD facing your body to avoid scratching the surface against other objects. However take care not to scratch the LCD with any personal items, belt fittings or jewelry etc.(one hand gripping the stand and the other gripping the top of the computer to avoid accidentally dropping it).

External Locator - Front View

Figure 2
Front View

1. Optional Built-In PC Camera
2. LCD (With **Optional** Touch Panel)
3. Power & System Activity LED Indicators
4. Volume Buttons (under the LCD)
5. Brightness Buttons (under the LCD)
6. Power Button (under the LCD)
7. USB Ports
8. Microphone-In Jack
9. Headphone/ Speaker-Out Jack
10. DC-In Jack (under the LCD)
11. 2 * COM Ports (under the LCD)
12. External Monitor Port (under the LCD)
13. eSATA Port (under the LCD)
14. 2 * USB Ports (under the LCD)
15. RJ-11 Phone Jack (under the LCD)
16. RJ-45 LAN Jack (under the LCD)



External Locator - Left & Right Side Views

ExpressCard Slot

The ExpressCard Slot accepts either **ExpressCard/34** or **ExpressCard/54** formats.

7-in-1 Card Reader

The card reader allows you to use the most popular digital storage card formats:

MMC (MultiMedia Card) / SD (Secure Digital) / MS (Memory Stick) / MS Pro (Memory Stick Pro) / MS Duo (requires PC adapter) / Mini SD (requires PC adapter) / RS MMC (requires PC adapter)

Mini-IEEE 1394 Port

The Mini-IEEE 1394 port only supports **SELF POWERED** IEEE 1394 devices.

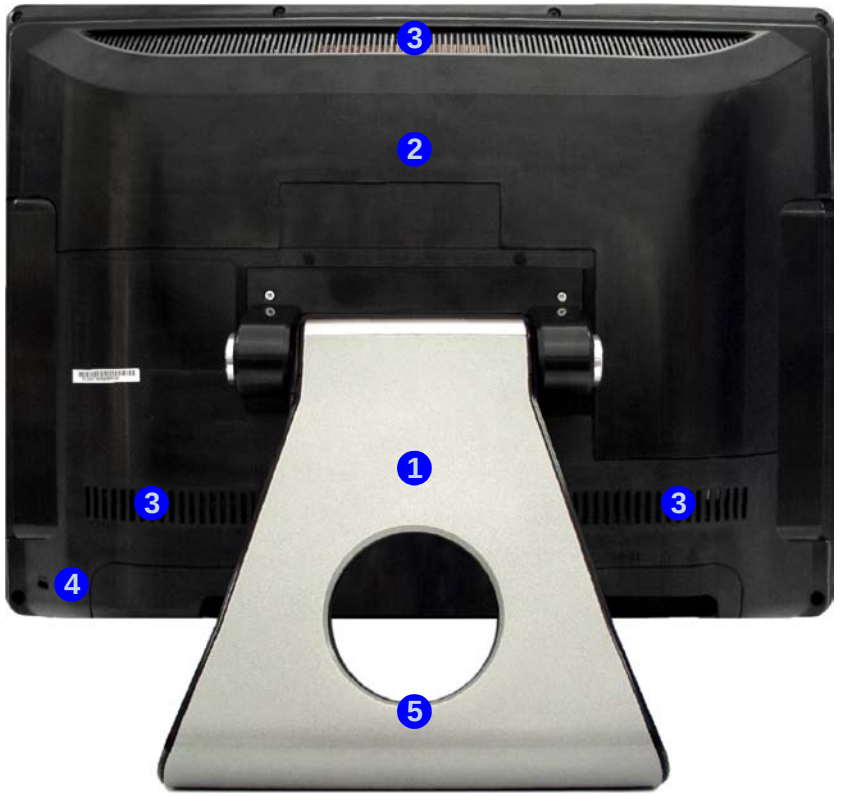
Figure 3
Left & Right Side Views

1. Stand
2. S/PDIF-Out Jack
3. Headphone-Out Jack
4. Microphone-In Jack
5. Line-In Jack
6. Mini-IEEE 1394 Port
7. HDMI-Out Port
8. 1 * USB 2.0 Port
9. 7-in-1 Card Reader
10. ExpressCard Slot
11. Optical Device Drive Bay

External Locator - Rear View

Figure 4
Rear View

1. Stand
2. Rear Component Cover
3. Vent/Fan Intake
4. Security Lock Slot
5. Carrying Handle Area



Overheating

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

Carrying the Computer

We strongly recommend using both hands to move the computer (one hand gripping the handle area and the other gripping the computer) to avoid accidentally dropping it. Be careful that objects such as belt buckles etc. do not scratch the screen while it is being carried.

Mainboard Overview - Top (Key Parts)

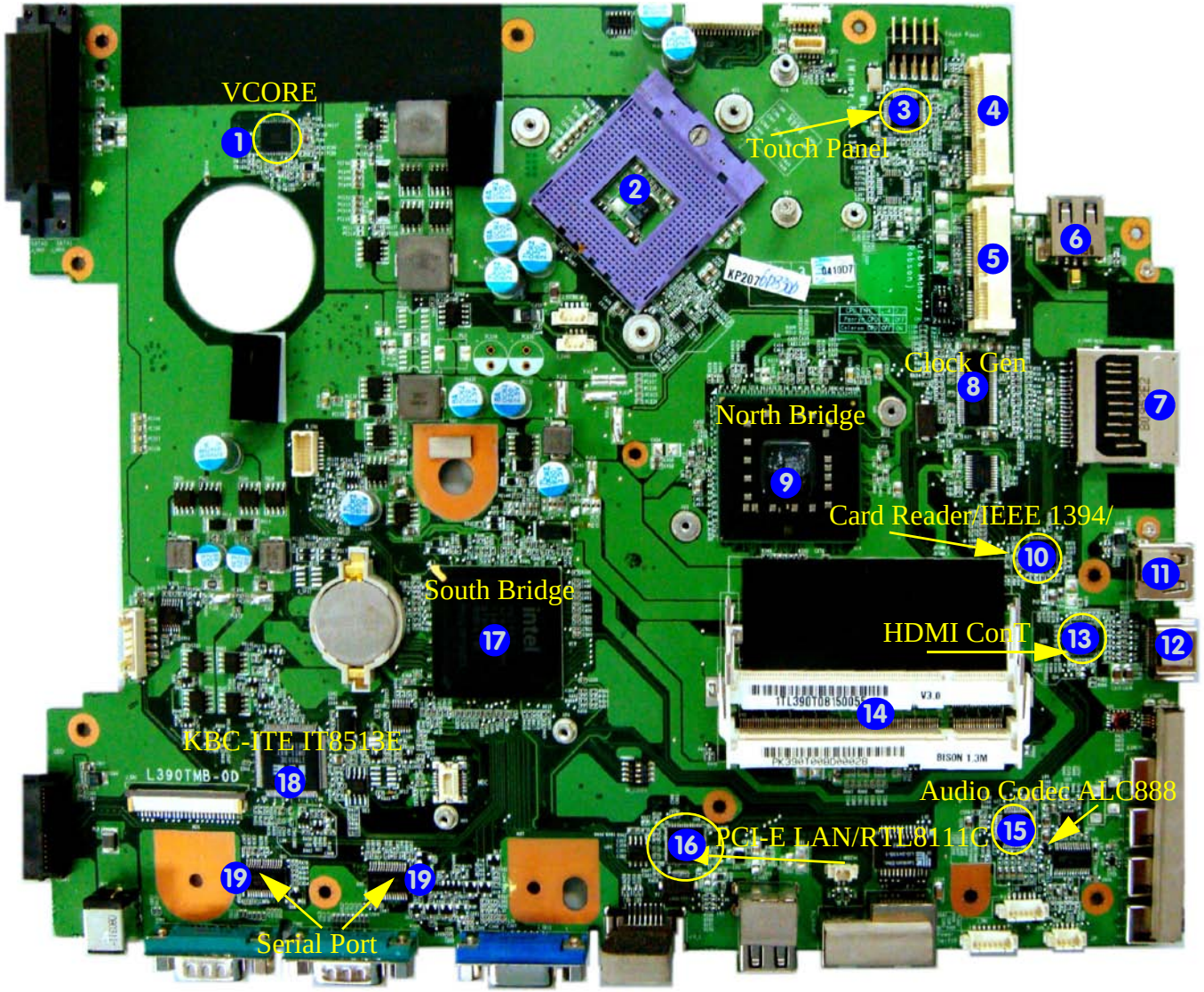


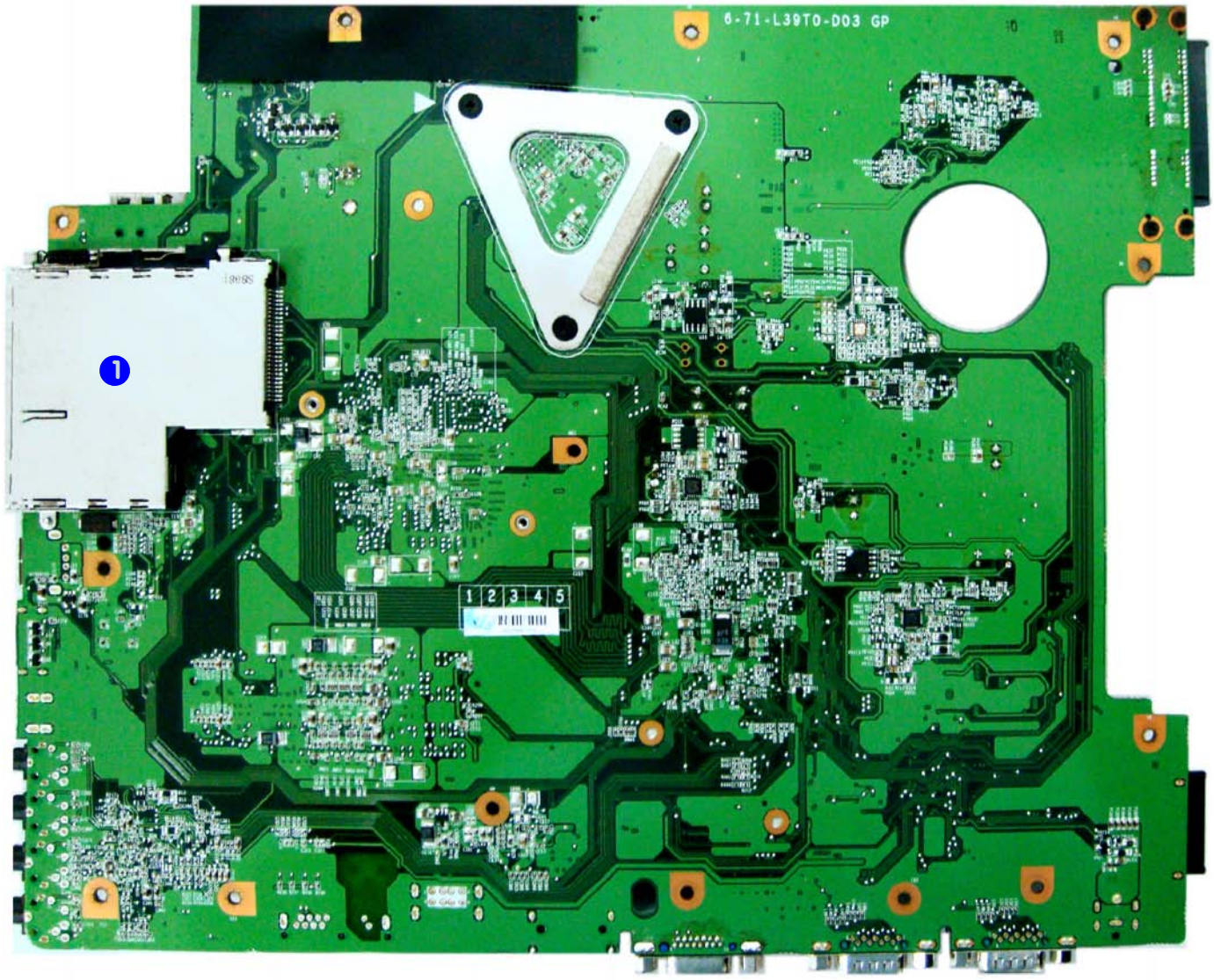
Figure 5
Mainboard Top Key Parts

1. VCORE
2. CPU Socket
3. Touch Panel
4. WLAN Socket
5. Turbo Memory Socket
6. USB Port (Internal for USB Wireless & Keyboard)
7. 7-in-1 Card Reader
8. Clock Generator
9. North Bridge
10. Card Reader/ IEEE 1394
11. USB Ports
12. HDMI-Out Port
13. HDMI Cont
14. RAM Sockets
15. Audio Codec ALC888
16. PCI-E LAN/ RTL8111C
17. South Bridge
18. KBC-ITE IT8513E
19. Serial Port

Mainboard Overview - Bottom (Key Parts)

Figure 6
Mainboard Bottom Key Parts

1. Express Card Slot



Mainboard Overview - Top (Connectors & Switches)

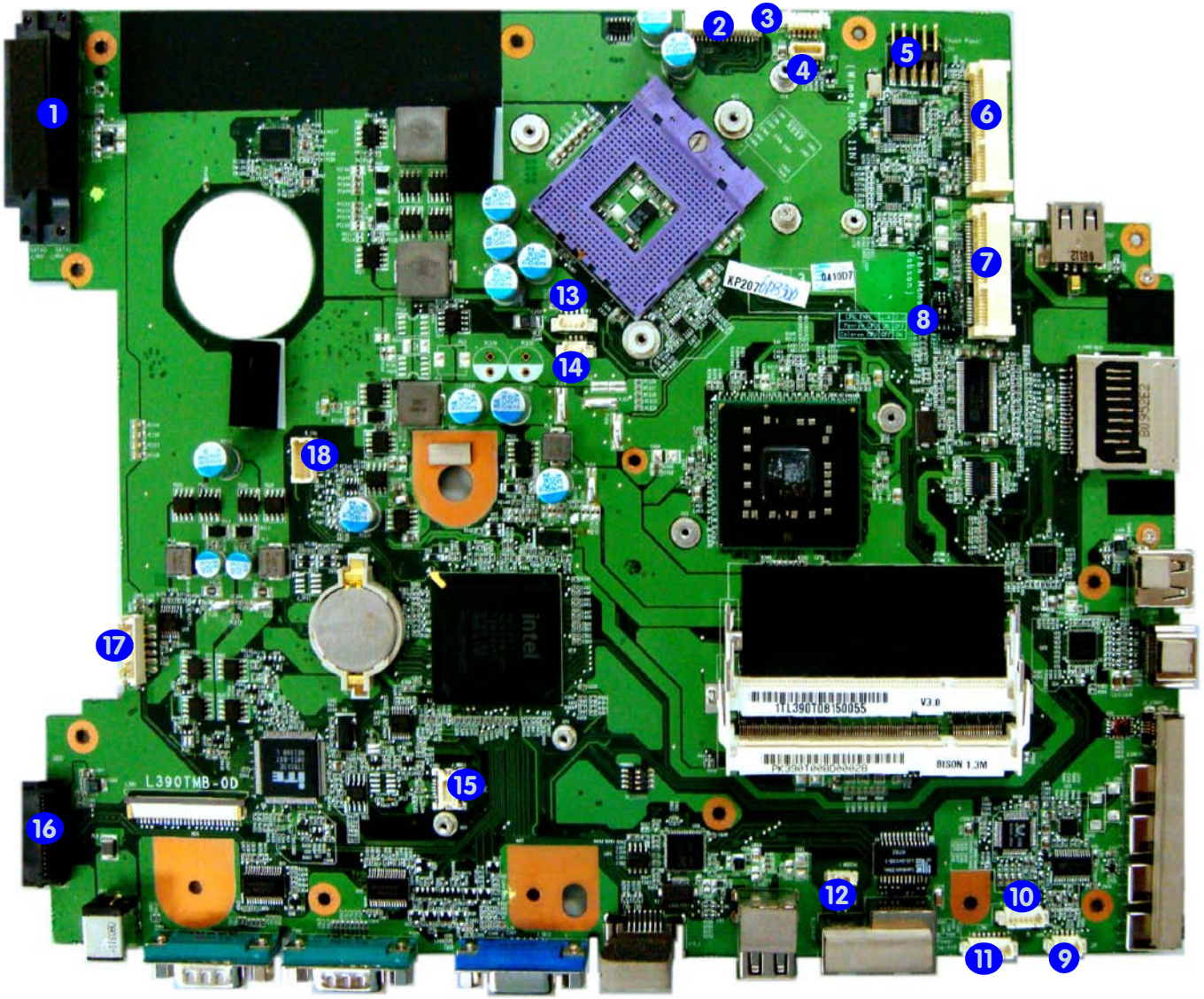


Figure 7
Mainboard Top Connectors

1. HDD (J_HDD1/2)
2. LCD (LCD1)
3. Camera (J_CCD1)
4. Bluetooth Cable (J_BT1)
5. Touch Panel (J_TP1)
6. WLAN Socket (J_Mini1)
7. Turbo Memory Socket (J_Robson1)
8. CPU DIP Switch (CPU_SW1)
9. Speaker (JSPK_1)
10. LED (J_LED)
11. Power Switch (J_PW1)
12. Modem Cable (J_MODEM1)
13. Ionizer (J_OZONE)
14. Fan (J_FAN1)
15. Modem (J_MDC1)
16. Optical Device (J_ODD1)
17. Inverter (J_INV1)
18. Base (B-CN1)

Chapter 2: Disassembly

Overview

This chapter provides step-by-step instructions for disassembling the ***L390T*** series LCD computer's parts and sub-systems. When it comes to reassembly, reverse the procedures (unless otherwise indicated).

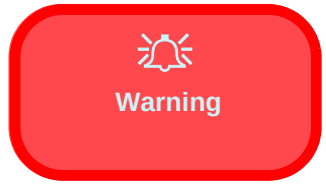
We suggest you completely review any procedure before you take the computer apart.

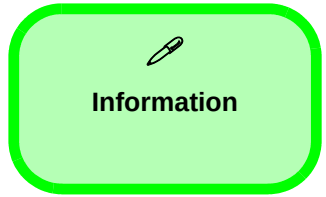
Procedures such as upgrading/replacing the RAM, optical device and hard disk are included in the User's Manual but are repeated here for your convenience.

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

A box with a will also provide any possible helpful information. A box with a contains warnings.

An example of these types of boxes are shown in the sidebar.





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).

Removal Warning

When removing any cover(s) and screw(s) for the purposes of device upgrade, remember to replace the cover(s) and screw(s) before turning the computer 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 Rear Top Cover:

1. Remove the rear top cover *page 2 - 6*

To remove the Hard Disk Drive:

1. Remove the rear top cover *page 2 - 6*
2. Remove the HDD *page 2 - 7*

To remove the System Memory:

1. Remove the rear top cover *page 2 - 6*
2. Remove the system memory *page 2 - 8*

To remove the Stand:

1. Remove the rear top cover *page 2 - 6*
2. Remove the stand *page 2 - 10*

To remove the Rear Bottom Cover:

1. Remove the rear top cover *page 2 - 6*
2. Remove the stand *page 2 - 10*
3. Remove the rear bottom cover *page 2 - 11*

To remove the Fan Module:

1. Remove the rear top cover *page 2 - 6*
2. Remove the stand *page 2 - 10*
3. Remove the rear bottom cover *page 2 - 11*
4. Remove the fan module *page 2 - 12*

To remove the Ion Thermal Module:

1. Remove the rear top cover *page 2 - 6*
2. Remove the stand *page 2 - 10*
3. Remove the rear bottom cover *page 2 - 11*
4. Remove the ion thermal module *page 2 - 13*

To remove the Optical Device:

1. Remove the rear top cover *page 2 - 6*
2. Remove the stand *page 2 - 10*
3. Remove the rear bottom cover *page 2 - 11*
4. Remove the optical device *page 2 - 15*

To remove the WLAN Module:

1. Remove the rear top cover *page 2 - 6*
2. Remove the WLAN module *page 2 - 16*

To remove the Bluetooth Module:

1. Remove the rear top cover *page 2 - 6*
2. Remove the Bluetooth module *page 2 - 17*

To remove the Modem Module:

1. Remove the rear top cover *page 2 - 6*
2. Remove the stand *page 2 - 10*
3. Remove the rear bottom cover *page 2 - 11*
4. Remove the modem module *page 2 - 18*

To remove the CPU:

1. Remove the rear top cover *page 2 - 6*
2. Remove the CPU *page 2 - 19*

To remove the Inverter:

1. Remove the rear top cover *page 2 - 6*
2. Remove the inverter *page 2 - 22*

Removing the Rear Top Cover

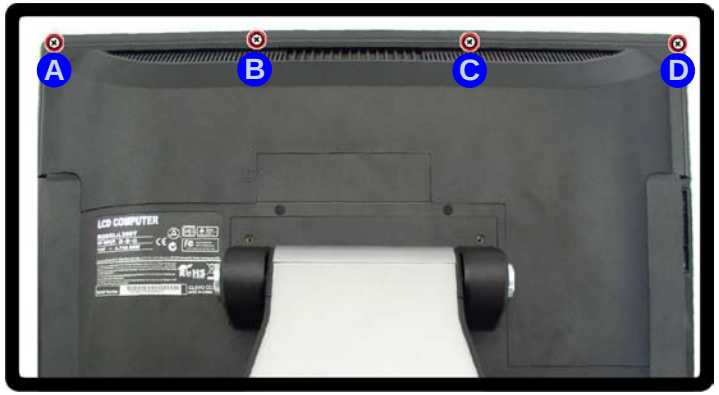
Before undertaking any upgrade procedure it is necessary to remove the rear top cover to access the components.

1. Turn **off** the computer and disconnect all cables and peripherals.
2. Carefully place the computer flat with the LCD facing down (make sure you cover the LCD to avoid scratches) so that you may access the rear cover.
3. Remove screws A - D.
4. Slide the rear top cover until the arrow is aligned with the unlock icon E.
5. When the arrow is aligned with the unlock icon you can remove the rear top cover F.

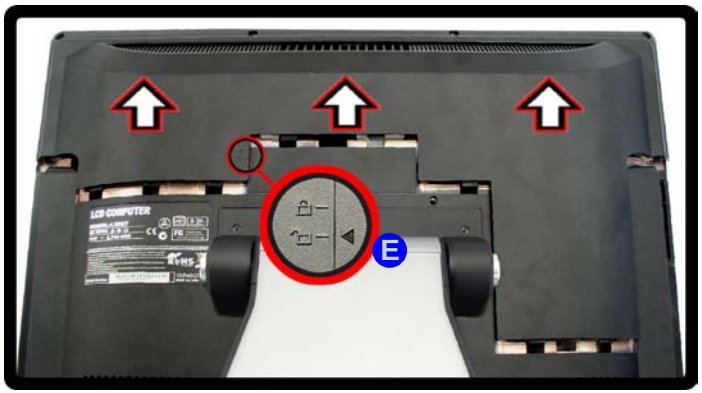
Figure 1
Rear Top Cover Removal

a. Remove the screws.
b. Slide the top cover to unlock.
c. Remove the rear top cover.

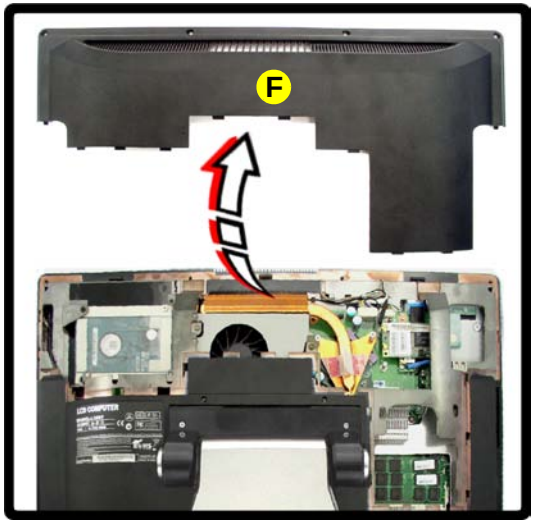
a.



b.



c.



F. Rear Top Cover

- 4 Screws

Removing the Hard Disk Drive

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

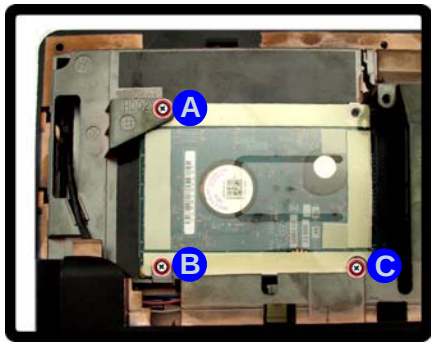
Hard Disk Upgrade Process

1. Remove the rear top cover (***page 2 - 6***).
2. Remove screws A - C.
3. Firstly slide the hard disk in the direction of arrow D, and then slide it in the direction of arrow E to remove it.
4. Remove the adhesive hard disk cover F.
5. Reverse the process to install a new hard disk.

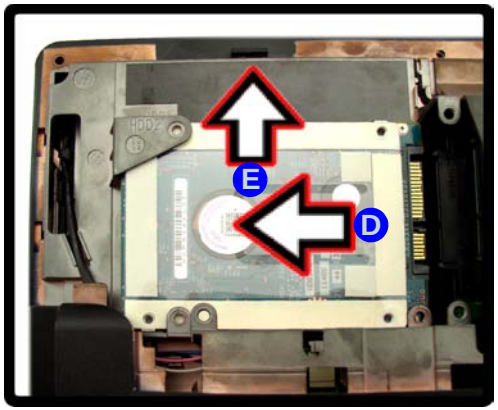
Figure 2
Hard Disk Drive Removal

a. Remove the screws.
b. Slide the hard disk in the direction of the arrows.
c. Remove the adhesive hard disk cover top cover.

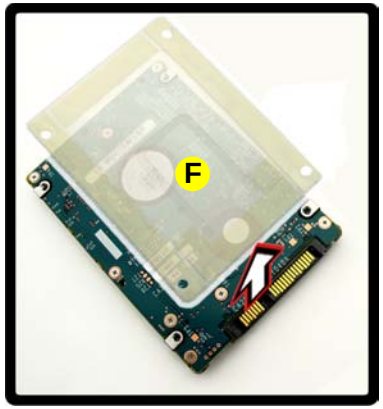
a.



b.



c.



Hard Disk Slot

Make sure you install the hard disk into the lower slot on the mainboard.

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.

F. Adhesive Hard Disk Cover

- 3 Screws

Upgrading the System Memory (RAM)

The computer has **two** memory sockets for 200 pin Small Outline Dual In-line (SO-DIMM) **DDRII (DDR2)** type memory modules (see *"Memory" on page 1 - 2* for details of supported module types).

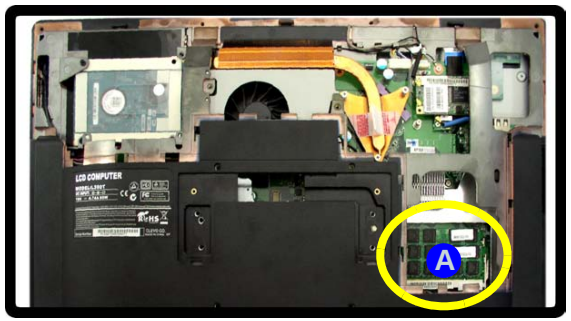
The total memory size is automatically detected by the POST routine once you turn on your computer.

1. Remove the rear top cover (*page 2 - 6*).
2. The RAM is located at point A.
3. Gently pull the two release latches on the sides of the memory socket in the direction indicated by the arrows (B & C) in *Figure 3b*.
4. The RAM module D will pop-up, and you can remove it (see over).

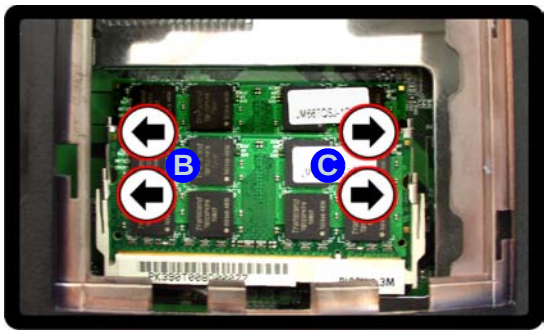
Figure 3
RAM Module Removal

a. Locate the RAM.
b. Pull the latches to release the RAM module(s).
c. Remove the RAM module(s).

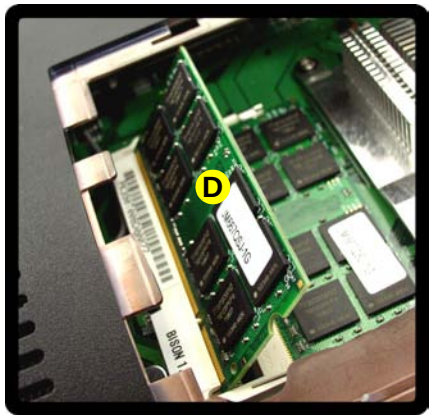
a.



b.



c.



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.

D. RAM Module

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

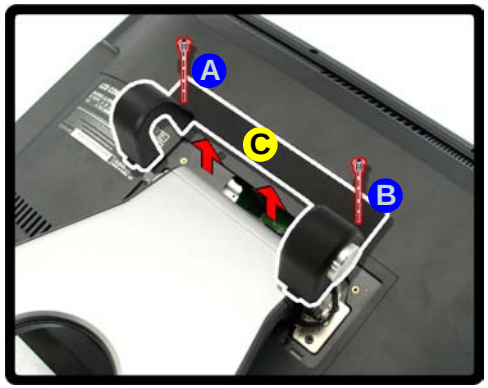
Removing the Stand

1. Turn **off** the computer and disconnect all cables and peripherals.
2. Carefully place the computer flat with the LCD facing down (make sure you cover the LCD to avoid scratches) so that you may access the rear cover.
3. Remove screws A & B from the stand cover, and then remove the stand cover C.
4. Carefully release cable D, and remove screws E - H.
5. Remove the stand I

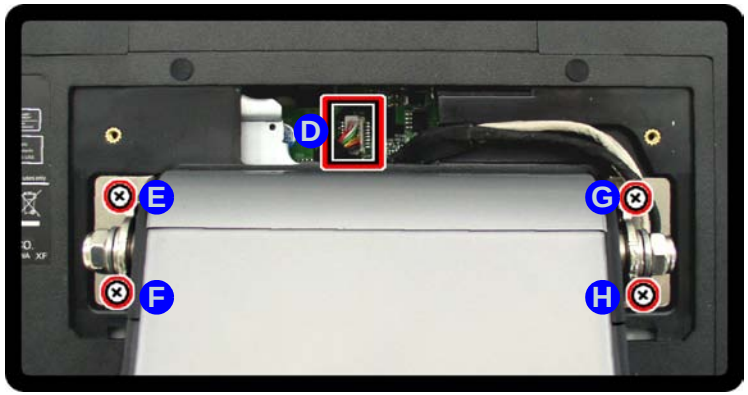
Figure 4
Stand Removal

a. Remove the screws and stand cover.
b. Disconnect the cable and remove the screws.
c. Remove the stand.

a.



b.



c.

C. Stand Cover
I. Stand

- 6 Screws

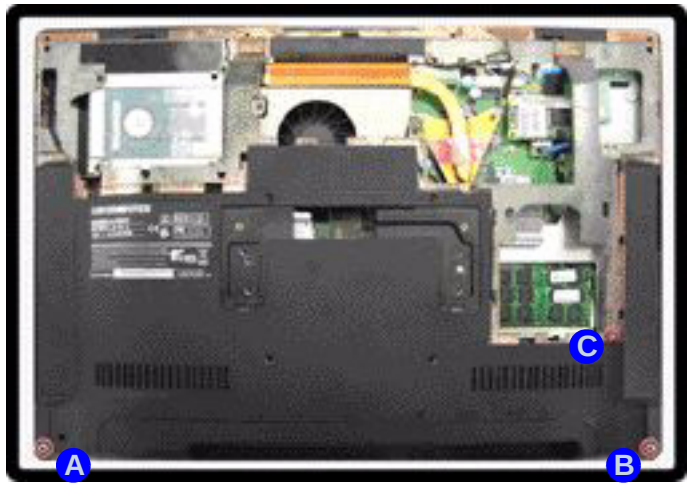
Removing the Rear Bottom Cover

1. Remove the rear top cover (***page 2 - 6***) and stand (***page 2 - 10***).
2. Remove screws A.- C.
3. Carefully remove the rear bottom cover D (a fan cable is attached at point E and this will need to be disconnected) .

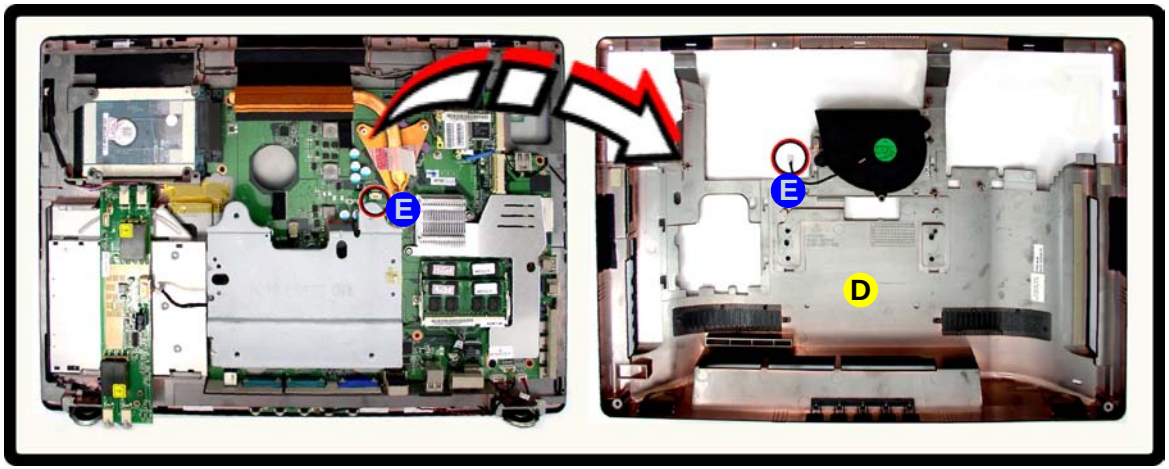
Figure 5
Rear Bottom Cover Removal

a. Remove the screws.
b. Carefully remove the rear bottom cover and disconnect the fan cable as you lift up the cover.

a.



b.



D. Rear Bottom Cover

- 3 Screws

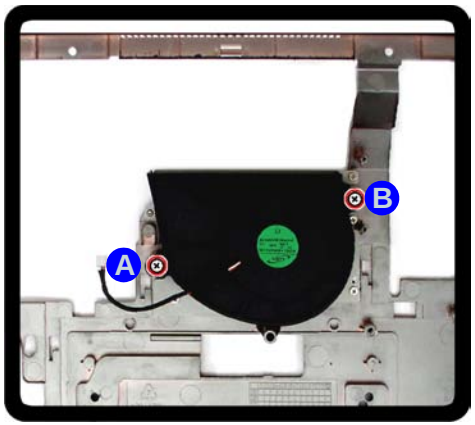
Removing the Fan Module

1. Remove the rear top cover (***page 2 - 6***), stand (***page 2 - 10***) and rear bottom cover (***page 2 - 11***).
2. Turn over the rear bottom cover and remove screws A.& B.
3. Carefully remove the fan module C.
4. Remove the fan bracket D (if required).

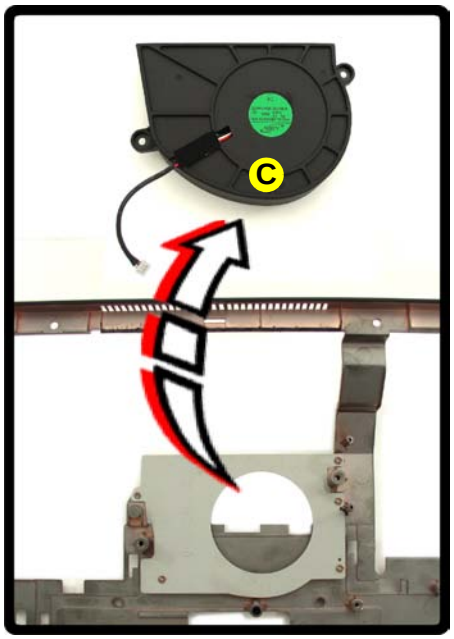
Figure 6
Fan Module Removal

a. Remove the screws.
b. Remove the Fan unit.
c. Remove the bracket if required,

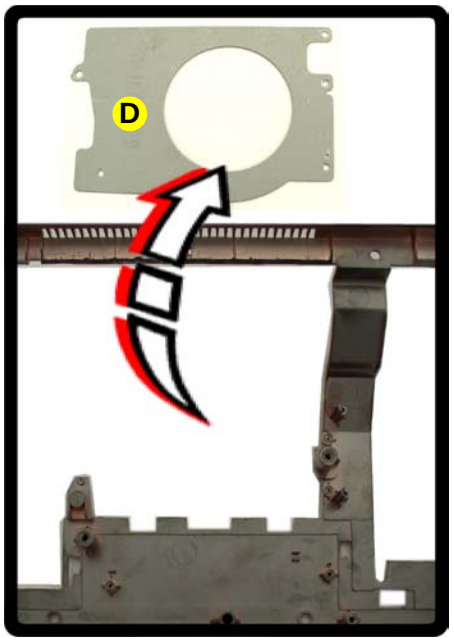
a.



b.



c.



C. Fan Module
D. Fan Bracket

- 2 Screws

Removing the Ion Thermal Module

1. Remove the rear top cover (*page 2 - 6*).
2. Remove screws A.& B from the ion thermal module.
3. Carefully (cables are attached to the module) remove the ion thermal module C.

a.

b.

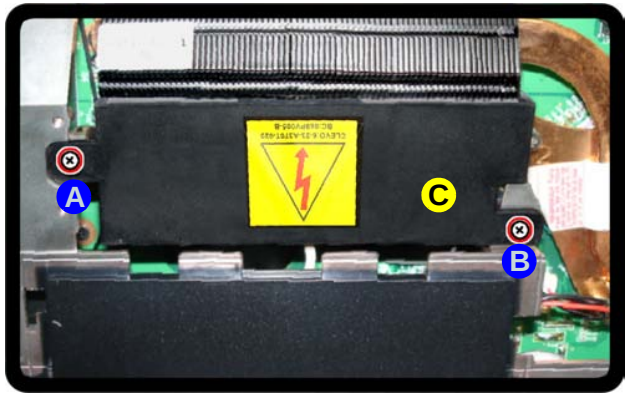


Figure 7
Ion Thermal Module Removal

a. Remove the screws.
b. Carefully remove the ion thermal module.

Processors Supported

Note that the Ion Thermal Module is compatible only with the Intel® Core™2 Duo Processor **P8400/ P8600** (**2.26/ 2.40** GHz).

Ion Thermal Module Service Personnel Note

Note that user's will send the computer for service if they hear a buzzing sound emanating from the area of the ion thermal module (after they have tried to restart the computer to resolve the problem).

If the sound persists, then the module has reached the end of it's life cycle and will require replacing.

Ion Thermal Module Rear Cover

Note that the ion thermal module rear cover must be re-inserted with the warning sign on the rear of the cover facing upwards (the point of the lightning arrow must point upwards) as illustrated above.

C. Ion Thermal Module

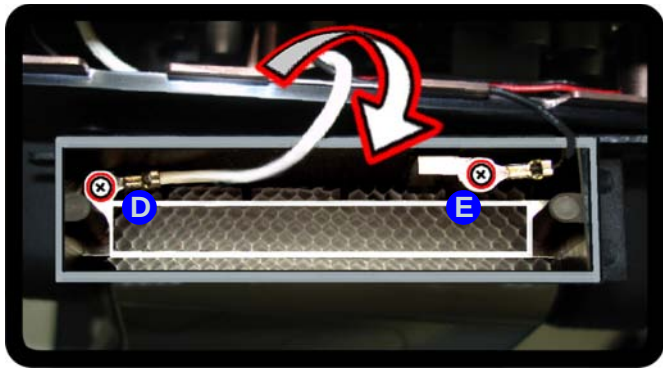
- 2 Screws

Figure 8
Ion Thermal Module Cables

c. Remove the screws and connect the new module to the appropriate cables.
d. DO NOT touch the mesh.
e. Reconnect the module in the correct orientation.

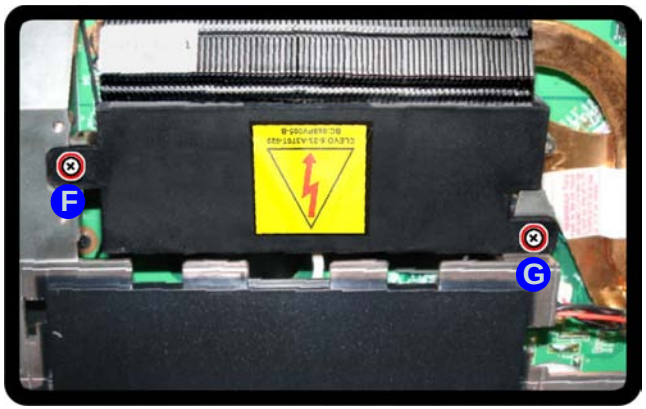
4. Turn the module over to access the bottom as illustrated (in ***Figure 8c***).
5. **DO NOT touch the mesh** at the top of the module as this will affect the module's performance.
6. Remove screws D.& E in order to disconnect the cables
7. Remove the module and connect the cables to the new module.
8. Make sure that the **white** (positive) cable is connected to the PCB to point D, and the **black** (negative) cable is connected to point E on the right as illustrated (in ***Figure 8c***).
9. Carefully replace screws F.& G to reconnect the module and make sure the warning sign is orientated correctly (in ***Figure 8e***).

c.



d.

e.



Ion Thermal Module Rear Cover

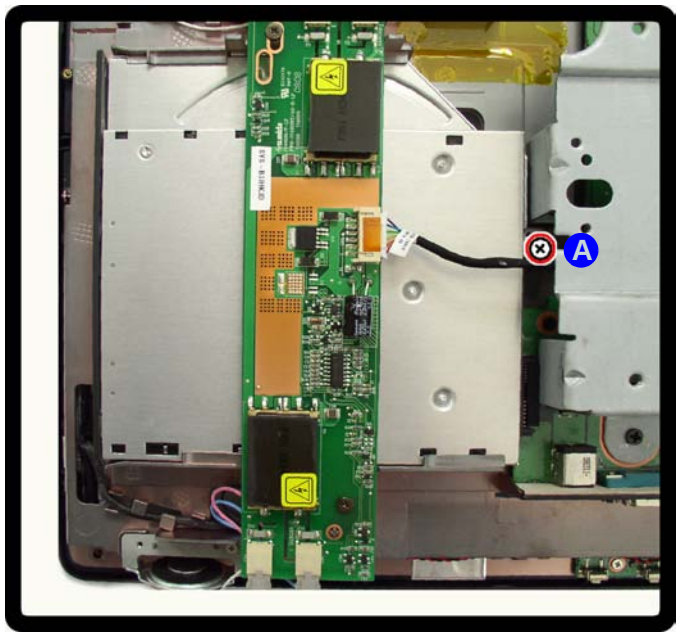
Note that the ion thermal module rear cover must be re-inserted with the warning sign on the rear of the cover facing upwards (the point of the lightning arrow must point upwards) as illustrated right (in ***Figure 8e***).

- 2 Screws

Removing the Optical (CD/DVD) Device

1. Remove the rear top cover (***page 2 - 6***), stand (***page 2 - 10***) and rear bottom cover (***page 2 - 11***).
2. Remove screws A from the optical device.
3. Push the optical device B out in the direction of arrow C.

a.



b.

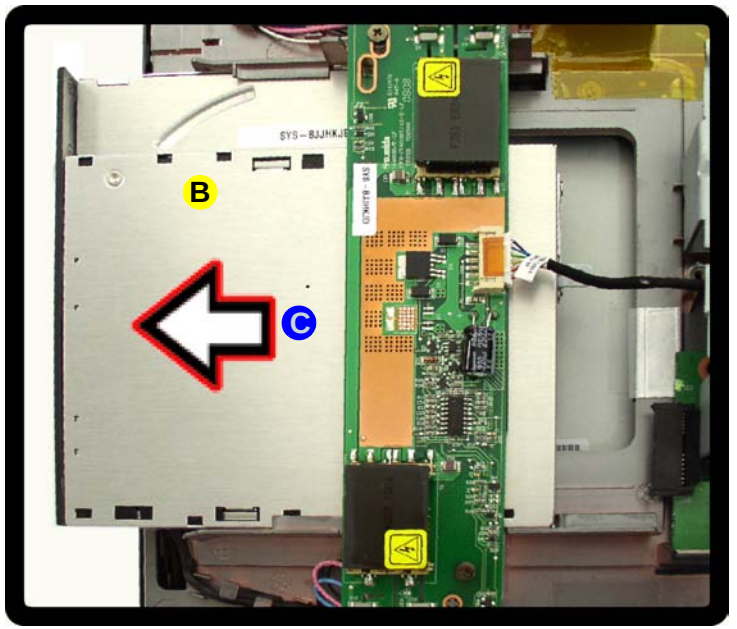


Figure 9
Optical Device Module Removal

a. Remove the screw.
b. Push out the optical device module.

B. Optical Device Module

- 1 Screw

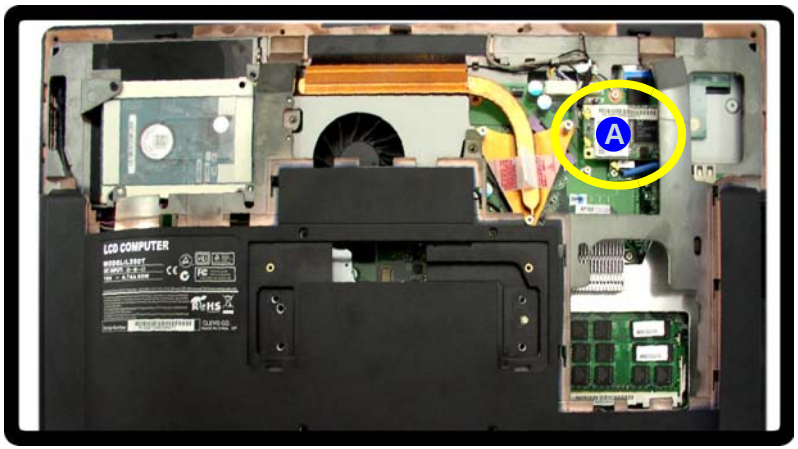
Removing the Wireless LAN Module

Figure 10
WLAN Module Module Removal

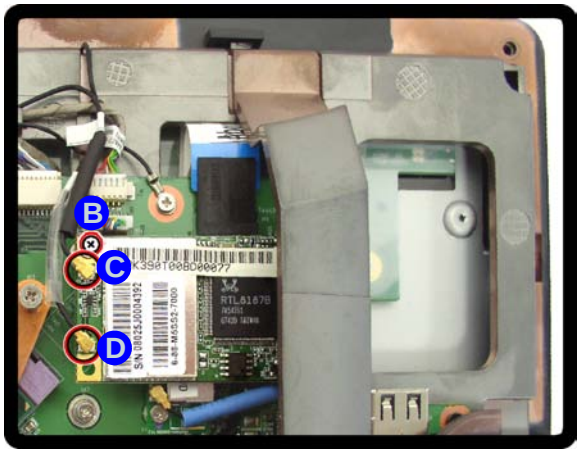
a. Locate the WLAN module.
b. Remove the screw and disconnect the antenna cables.
c. The module will pop up.
d. You can then remove the module.

1. Remove the rear top cover (***page 2 - 6***).
2. The WLAN module is located at point A.
3. Remove screw B, and disconnect antenna cables C & D.
4. When the screw and cables have been removed/disconnected the WLAN module E will pop up and can be removed.

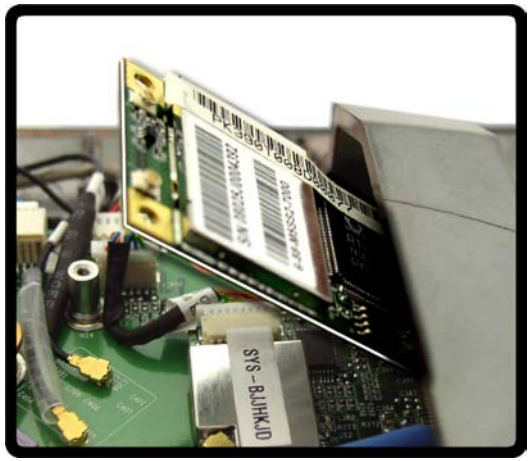
a.



b.



c.



d.

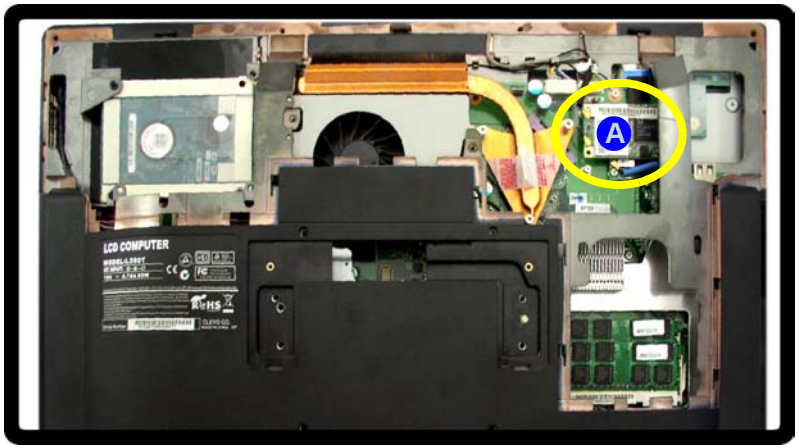
E. WLAN Module

- 1 Screw

Removing the Bluetooth Module

1. Remove the rear top cover (*page 2 - 6*) and Wireless LAN module (*page 2 - 16*).
2. The Bluetooth module is located under the WLAN module (if the WLAN option is installed) at point A.
3. Remove screw B, disconnect antenna cable C.
4. Disconnect the connector cable D and remove the Bluetooth module E.

a.



b.

c.

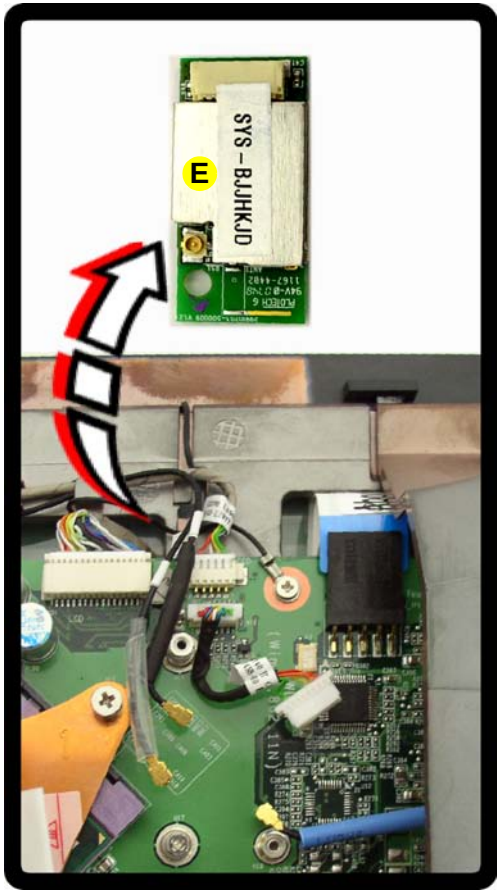


Figure 11
Bluetooth Module Module Removal

a. Locate the Bluetooth module.
b. Remove the screw and disconnect the cables.
c. You can then remove the module.

E. Bluetooth Module

- 1 Screw

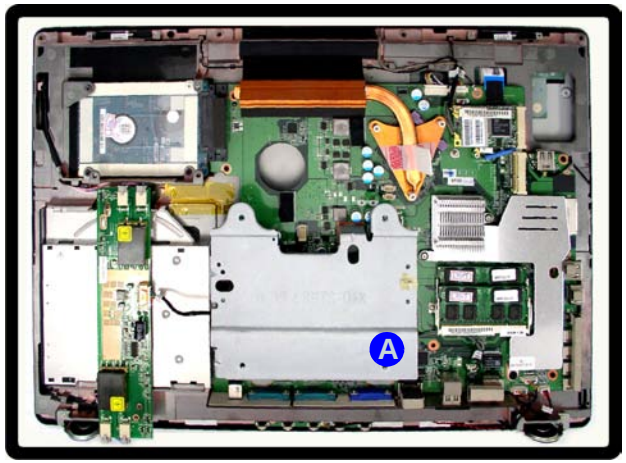
Removing the Modem Module

1. Remove the rear top cover (*page 2 - 6*), stand (*page 2 - 10*) and rear bottom cover (*page 2 - 11*).
2. The modem module is located at point A (under the bracket).
3. Remove screws B - E and remove the bracket F.
4. Remove screws G & H and disconnect antenna cable I.
5. You can then remove the modem module J.

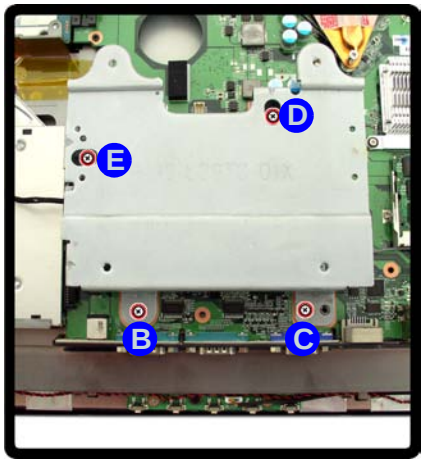
Figure 12
Modem Module Removal

a. Locate the bracket which covers the modem module.
b. Remove the screws.
c. Remove the bracket.
d. Remove the screws and disconnect the cable.
e. You can then remove the module.

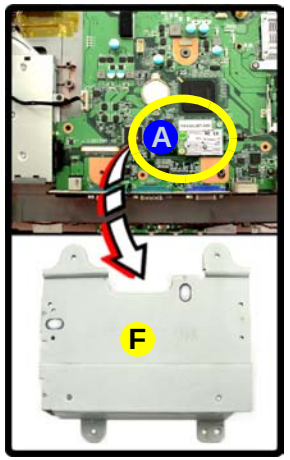
a.



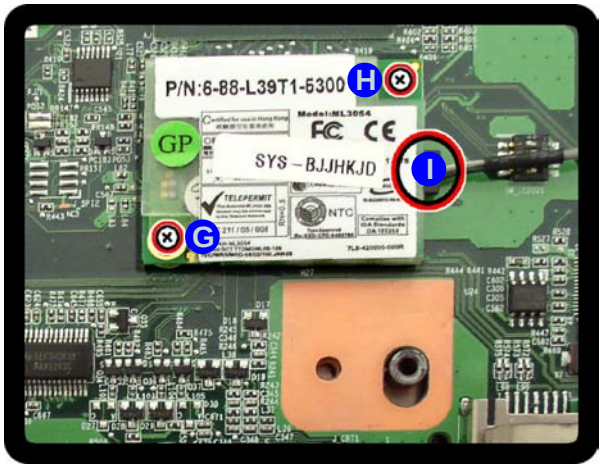
b.



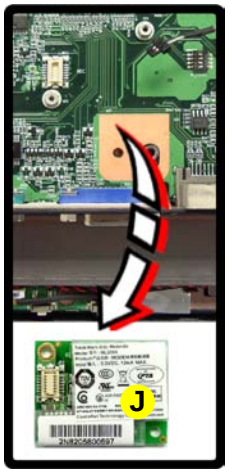
c.



d.



e.



F. Bracket
J. Modem Module

- 6 Screws

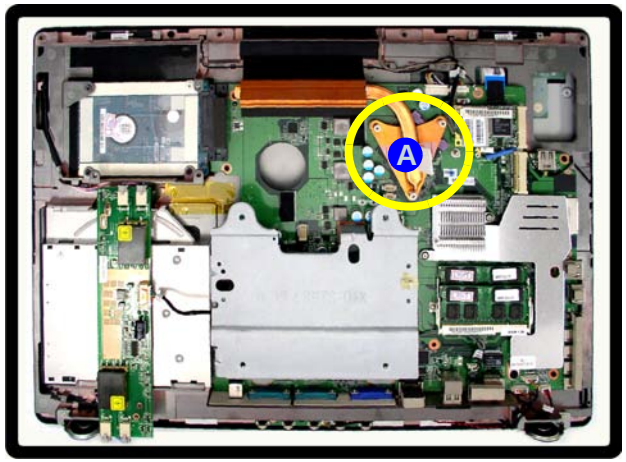
Removing the CPU

1. Remove the rear top cover (*page 2 - 6*).
2. The CPU heat sink unit is located at point A.
3. Loosen the heat sink unit screws in the order 3, 2, 1.
4. You can then remove the heat sink unit B.

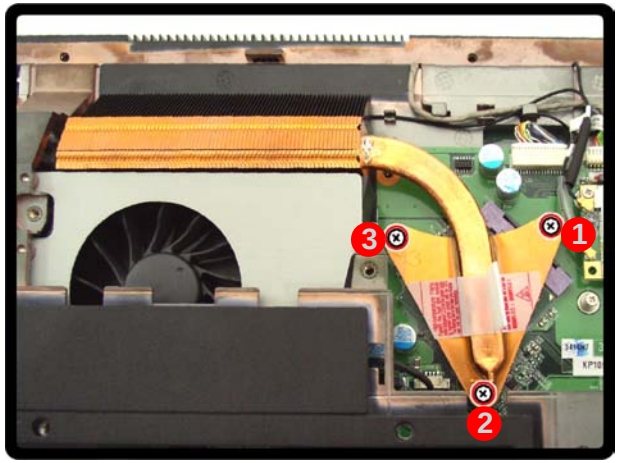
Figure 13
CPU Removal

a. Locate the heat sink.
b. Loosen the screws in the order indicated.
c. Remove the heat sink unit

a.

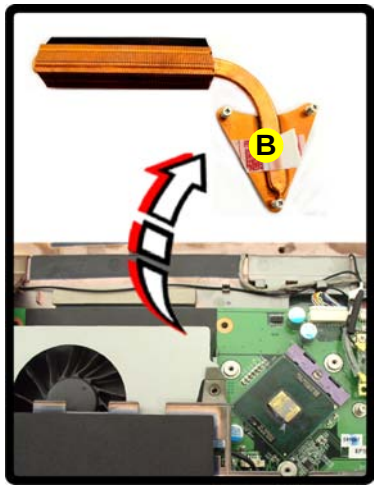


b.



To remove the heat sink unit loosen the screws in the order 3, 2, 1 (there are numbers on the heat sink unit itself).

c.



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.

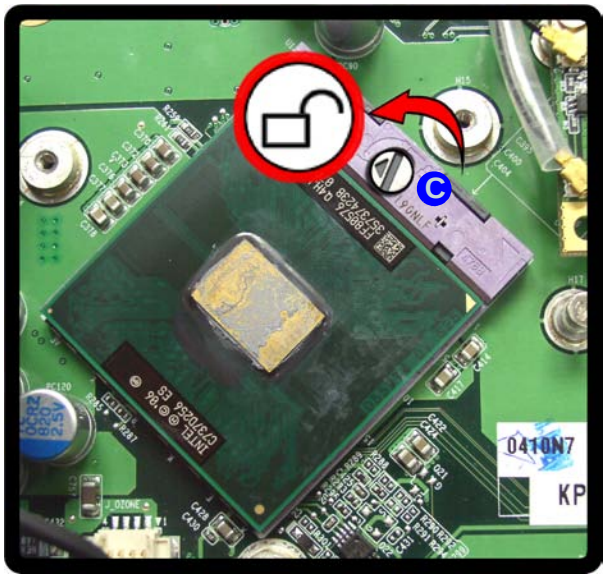
B. Heat Sink Unit

Figure 14
CPU Removal (cont'd)

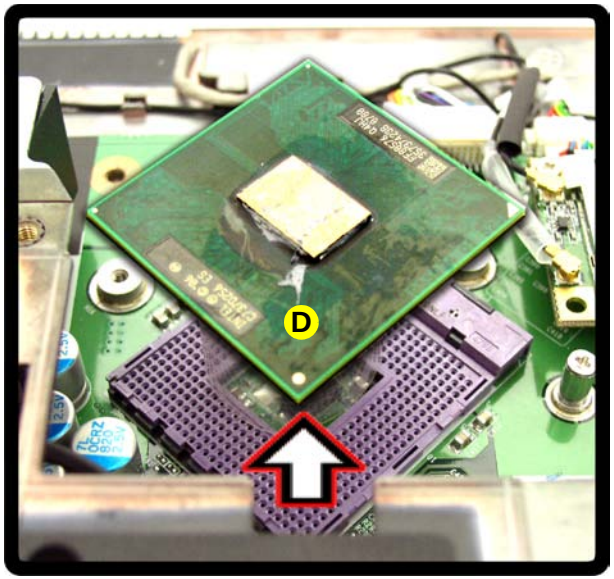
d. Unlock the cpu.
e. Remove the cpu.

5. Turn the release latch towards the unlock symbol C, to release the CPU.
6. Carefully (it may be hot) lift the CPU D up out of the socket.
7. See overleaf for information on inserting a new CPU.
8. When inserting a CPU, pay careful attention to the pin alignment, it will fit only one way (DO NOT FORCE IT!).

d.



e.



D. CPU

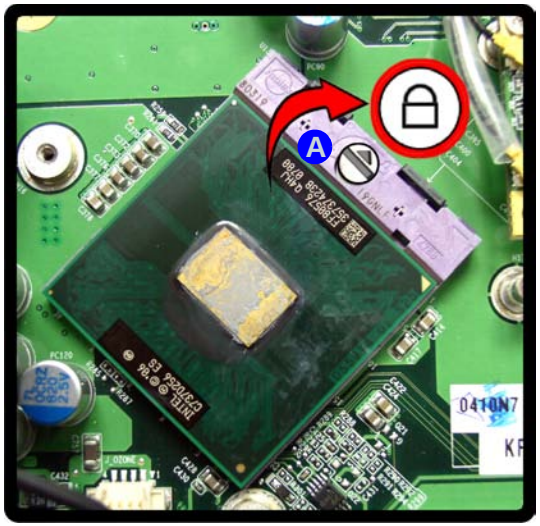
Processor Installation Procedure

1. Insert the CPU paying careful attention to the pin alignment, it will fit only one way (DO NOT FORCE IT!).
2. Turn the release latch towards the lock symbol A.
3. Remove the sticker B from the heat sink.
4. Insert the heat sink C as indicated.
5. Tighten screws in the order 1, 2, 3.
6. Replace the rear top cover and tighten all the screws.

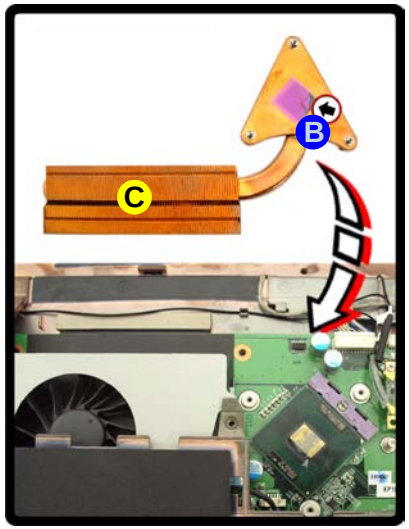
Figure 15
Processor Installation

a. Lock the cpu.
b. Insert the heat sink (remember to remove any sticker on a new heat sink unit).
c. Tighten the screws in the order indicated.

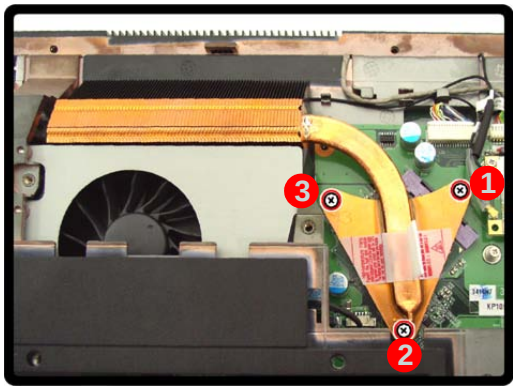
a.



b.



c.



To remove the heat sink unit loosen the screws in the order 1, 2, 3 (there are numbers on the heat sink unit itself).

C. Heat Sink Unit

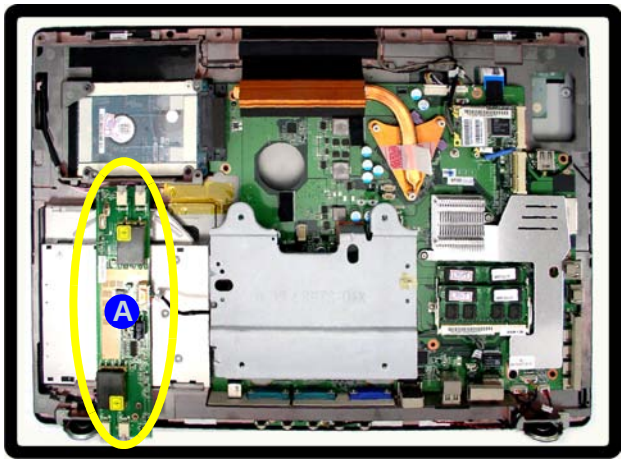
Removing the Inverter

1. Remove the rear top cover (*page 2 - 6*), stand (*page 2 - 10*) and rear bottom cover (*page 2 - 11*).
2. The inverter is located at point A.
3. Remove screws B & C and disconnect cables D - G.
4. You can then remove the inverter H.

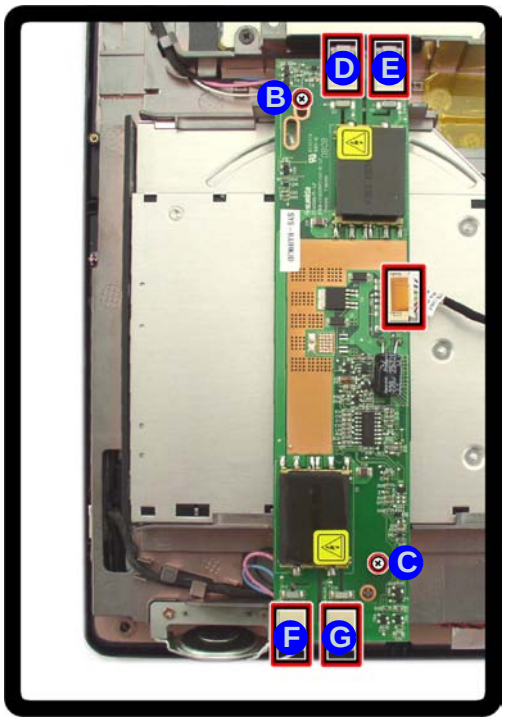
Figure 16
inverter Removal

a. Locate the inverter.
b. Remove the screws and disconnect the cables.
c. You can then remove the inverter.

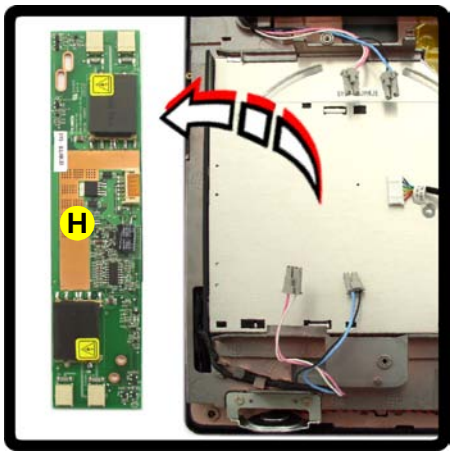
a.



b.



c.



H. Inverter

- 2 Screws

Inverter Removal Warning

Note that if you have the rear cover removed and are testing the inverter, wait **until at least 5 seconds after the system has been POWERED OFF** before removing the inverter. Failure to do so may result in damage to the inverter.

Appendix A: Part Lists

This appendix breaks down the ***L390T*** series LCD computer's construction into a series of illustrations. The component part numbers are indicated in the tables opposite the drawings.

Note: This section indicates the *manufacturer's* part numbers. Your organization may use a different system, so be sure to cross-check any relevant documentation.

Note: Some assemblies may have parts in common (especially screws). However, the part lists DO NOT indicate the total number of duplicated parts used.

Note: Be sure to check any update notices. The parts shown in these illustrations are appropriate for the system at the time of publication. Over the product life, some parts may be improved or re-configured, resulting in *new* part numbers.

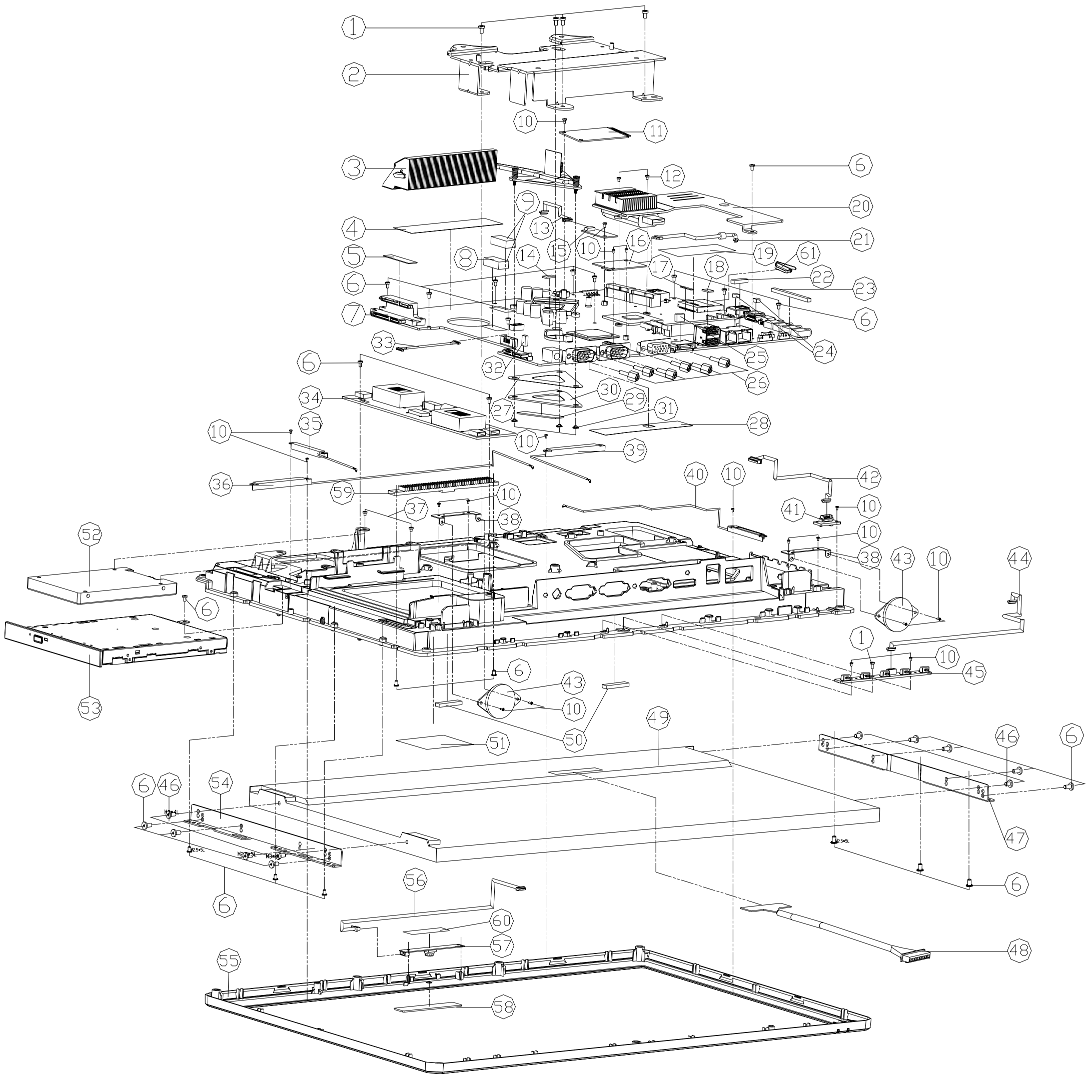
Part List Illustration Location

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

Table A- 1
Part List Illustration Location

Parts	L390T
LCD	*page A - 3*
Stand	*page A - 4*
Back Fan-1	*page A - 5*
Back Fan-2	*page A - 6*
DVD	*page A - 7*
COMBO	*page A - 8*

LCD (L390T)



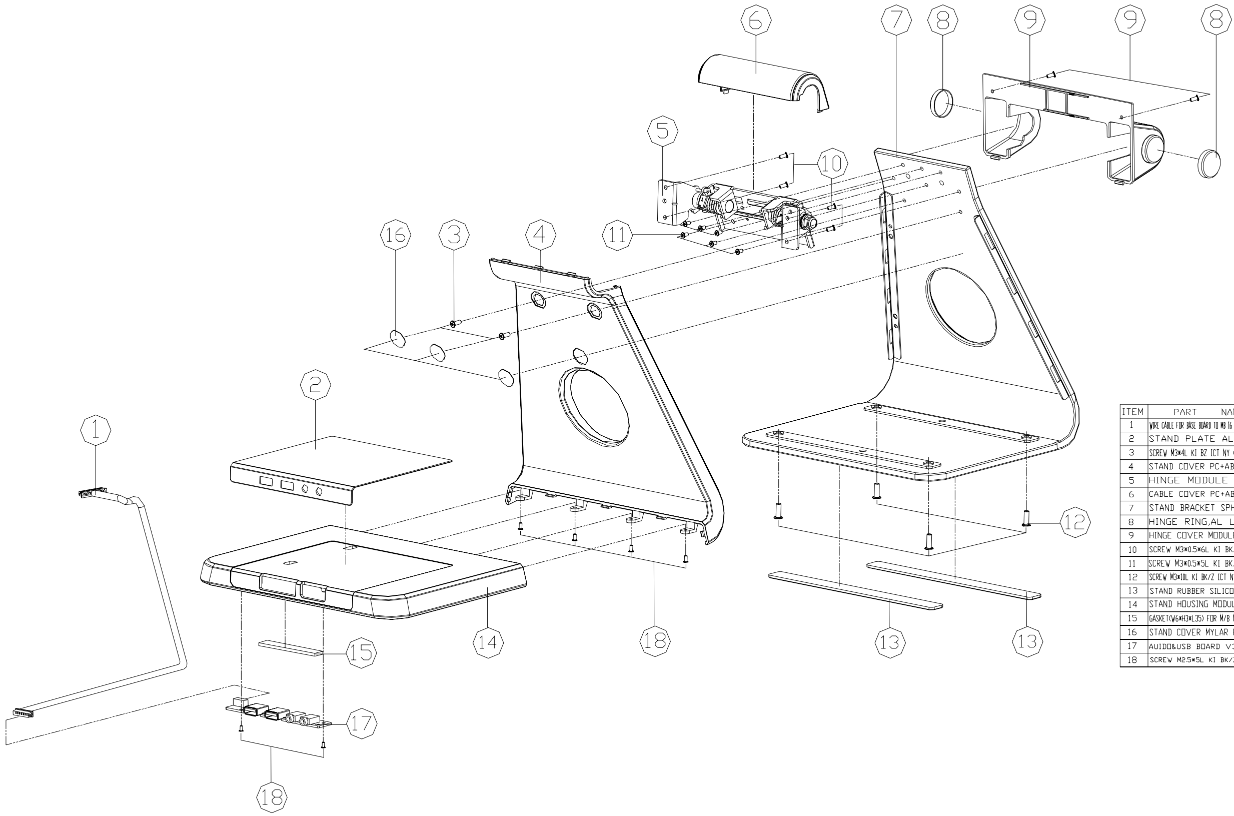
ITEM	PART NAME	PART NO	REMARK
1	SCREW M3*0.5*6L KI BK/Z ICT NY 無鉛	6-35-B6130-6RA	
2	VESA BRACKET SECC L390T無鉛	6-33-L39TS-012	
3	CPU THERMAL MODULE CU L390T無鉛	6-31-L39TS-102	
4	HEATSINK MYLAR FR83 L390T無鉛	6-40-L39TN-010	
5	HDD CONN SPONGE ML32 L390T 無鉛	6-47-L39TJ-020	
6	SCREW M2.5*5L KI BK/Z ICT NY-無鉛	6-35-B6125-5RA	
7	MAIN BOARD V3.0 (W/O TP)--L390T 無鉛	6-77-L39T0-D03	
7	MAIN BOARD V3.0 (W/TP)--L390T 無鉛	6-77-L39T0-D03-1	
8	FAN SUPPORT RUBBER SILICONE L390T 無鉛	6-47-L39T1-0F0	FOR高能離子風靜電集塵器
9	FAN SUPPORT RUBBER SILICONE L390T 無鉛	6-47-L39T1-0F0	FOR FAN
10	SCREW M2*3L K1 NI ICT NY 無鉛	6-35-B1120-3RA	
11	WLAN 802.11BG AW-GU702 海華 MINI-CARD USB RTL8187B WITH POWER SAVING無鉛	6-88-M5SS2-7000	
11	WLAN 802.11A+G+N INTEL SHIRLEY PEAK (WIF 無鉛	6-88-M72T2-4210	
11	WLAN 802.11A+G+N INTEL SHIRLEY PEAK 1X2 MI 無鉛	6-88-M72T2-4240	
12	*(非耐落)SCREW M2*3L KI NI ICT GTY-PATCH (DD= 無鉛	6-35-B1120-3RD	
13	WIRE CABLE 6PIN M/B TO 8PIN BLUETOOTH MODU無鉛	6-43-M74SB-010	
14	GASKET (W5*H1.5*L10) FOR DD BOTTOM (A) M550G無鉛	6-47-00190-012	
15	BLUETOOTH V2.0 QBTM300 (N6) QCOM 8 PIN USB無鉛	6-88-M5S45-620	(OPTION)
15	BLUETOOTH V2.0 GUBTCR42M-NS-藍天3 互億8 PIN U 無鉛	6-88-M5S45-390	(OPTION)
16	MODEM AZALIA+AC97 ML3054(2.0D)凱碩 MDC 12 PIN MOTOROLA (LOW POWER) L390T無鉛	6-88-L39T1-5300	
17	GASKET (25*4*0.5) FOR SD CON L390T無鉛	6-47-L39TS-050	
18	GASKET L13*W10*H3 無鉛	6-47-00190-13D	
19	M520G MYLAR FOR DDR無鉛	6-40-M52GS-010	
20	NORTH BRIDGE HEAT SINK AL L390T 無鉛	6-31-L39TN-011	
21	WIRE CABLE FOR MDC 2P 85MM TP80V無鉛	6-43-T80VU-011	
22	GASKET(L25*W8*H7) FOR RJ CONN. ON MB L390T 無鉛	6-47-00190-25R	
23	GASKET(L55*W6*H6) FOR AUDIO CONN. ON MB L390T無鉛	6-47-00190-557	
24	GASKET(W7*H4*L7) FOR HDMI CON. ON MB L390T無鉛	6-47-00190-078	
25	GASKET(L7*W15*H15) FOR E-SATA CONN. ON MB無鉛	6-47-00190-079	
26	HEX STUD SUM22 NI-PL 10mm 無鉛	6-34-96002-000	
27	CPU SUPPORT BRACKET MYLAR,MYLAR M550J 無鉛	6-40-M55JS-010	
28	LCD CABLE MYLAR FR83 L390T 無鉛	6-40-L39TS-010	
29	GASKET W5XH2.5XL40 無鉛	6-47-00190-05D	
30	CPU SUPPORT BRACKET,SUS M550J 無鉛	6-33-M55JS-031	
31	SCREW M2*2L KI BK/Z ICT NY (ø6,T=0.5)無鉛	6-35-B6120-2RC	
32	ODD CON RUBBER SILICONE H60 L390T 無鉛	6-47-L39TZ-011	
33	WIRE CABLE FOR 19 LCD INVERTER 6 PIN 80MM 無鉛	6-43-L39TR-011	
34	INVERTER MODULE 1B SUMIDA TWS-400-9672(LV2 無鉛	6-76-L22CR-031	
35	ANTENNA WIMAX 2.4G/5G PIFA WM3(黑色) 430MM 精乘L390T無鉛	6-23-7L39T-010	
36	ANTENNA WIMAX 2.4G/3.7G/5G PIFA WM2 (黑色) 310MM精乘 L390T無鉛	6-23-7L39T-041	
37	SCREW M2.5*4L KI(T=0.8 OD5) BNI ICT NY 無鉛	6-35-B9125-4R0	
38	SPEAKER BRACKET SECC L390T無鉛	6-33-L39T3-010	
39	ANTENNA WIMAX 2.4G/5G PIFA WM3(黑色) 110MM 精乘L390T無鉛	6-23-7L39T-030	
40	ANTENNA BLUETOOTH 2.4G PIFA BT 140MM 精乘 L390T 無鉛	6-23-7L39T-021	
41	LED BOARD V3.0 L390T	6-77-L39T4-D03	
42	WIRE CABLE FOR LED BOARD TO MB 6 PIN 110MM 無鉛	6-43-L39T0-020	
43	SPEAKER MODULE 27.9MM 1.5W-2W 4OHM FG-28N0 無鉛	6-23-5L39T-010	
44	WIRE CABLE FOR SW BOARD TO MB 6 PIN TO 7 P 無鉛	6-43-L39T0-010	
45	POWER SWITCH BOARD V3.0 L390T 無鉛	6-77-L39TS-D03	
46	SCREW M3*4L KI BZ ICT NY (D=4.8 T=0.5 無鉛	6-35-B6130-4RB	
47	LCD BRACKET R SECC L390T 無鉛	6-33-L39T1-031	
48	COAXIAL CABLE FOR LCD 無鉛	6-43-L39T1-010	
49	LCD (19" WXGA+ MDT M190MWW1)+TOUCH PANEL P 無鉛	6-50-L39T1-011	
49	LCD (19" WXGA+ CHIMEI M190A1-L09 GT)+TOUCH 無鉛	6-50-L39T1-031	
49	LCD 19" WXGA+ MDT M190MWW1 15.5MM 無鉛	6-50-Q72F5-X00	
49	LCD 19" WXGA+ CHIMEI M190A1-L09 GLARE TYPE 無鉛	6-50-Q72G0-D00	
49	LCD (19" WXGA+ MTD M190MWW1)+TOUCH PANEL 無鉛	6-50-L39T1-010	
49	LCD (19" WXGA+ CHIMEI M190A1-L09 GT)+TOUCH 無鉛	6-50-L39T1-030	
49	LCD (19 WXGA+ CHIMEI M190A1-L09 GT)+ANTI無鉛	6-50-L39T1-050	
50	LCD+T/P RUBBER SILICONE L390T 無鉛	6-47-L39T1-0D0	
50	LCD RUBBER SILICONE L390T 無鉛	6-47-L39T1-0E0	
51	INVERTER MYLAR PC L390T 無鉛	6-40-L39TS-020	
52	W/O HDD ASS'Y L390T 無鉛	6-79-L390T00J-010	
53	SATA DVD SUPER MULTI ASS'Y L390T 無鉛	6-79-L390T00Q-000	(OPTION)
53	SATA DVD COMBO ASS'Y L390T 無鉛	6-79-L390T00X-010	(OPTION)
54	LCD BRACKET L SECC L390T 無鉛	6-33-L39T1-041	
55	LCD FRONT COVER MODULE L390T 無鉛	6-39-L39T1-012	
56	WIRE CABLE FOR CCD TO MB 5 PIN 215MM L390T 無鉛	6-43-L39TT-012	
57	UVC CAMERA BISON FIX BN2824S7-010 2M M740T 無鉛	6-88-M740C-4911	
57	UVC CAMERA BISON FIX BN28M4S7-000 1.3M M740T 無鉛	6-88-M740C-4921	
58	CCD 銘板 PC L390T 無鉛	6-40-L39T1-011	
59	CCD HEAT SINK MODULE AL L390T無鉛	6-31-L39TN-101	
60	導電布 (L43*W8*0.1) FOR CCD L390T 無鉛	6-47-L39TT-021	
61	CARD READER RUBBER,SILICON M550G 無鉛	6-47-M55GE-011	

Figure A - 1
LCD (L390T)

A.Part Lists

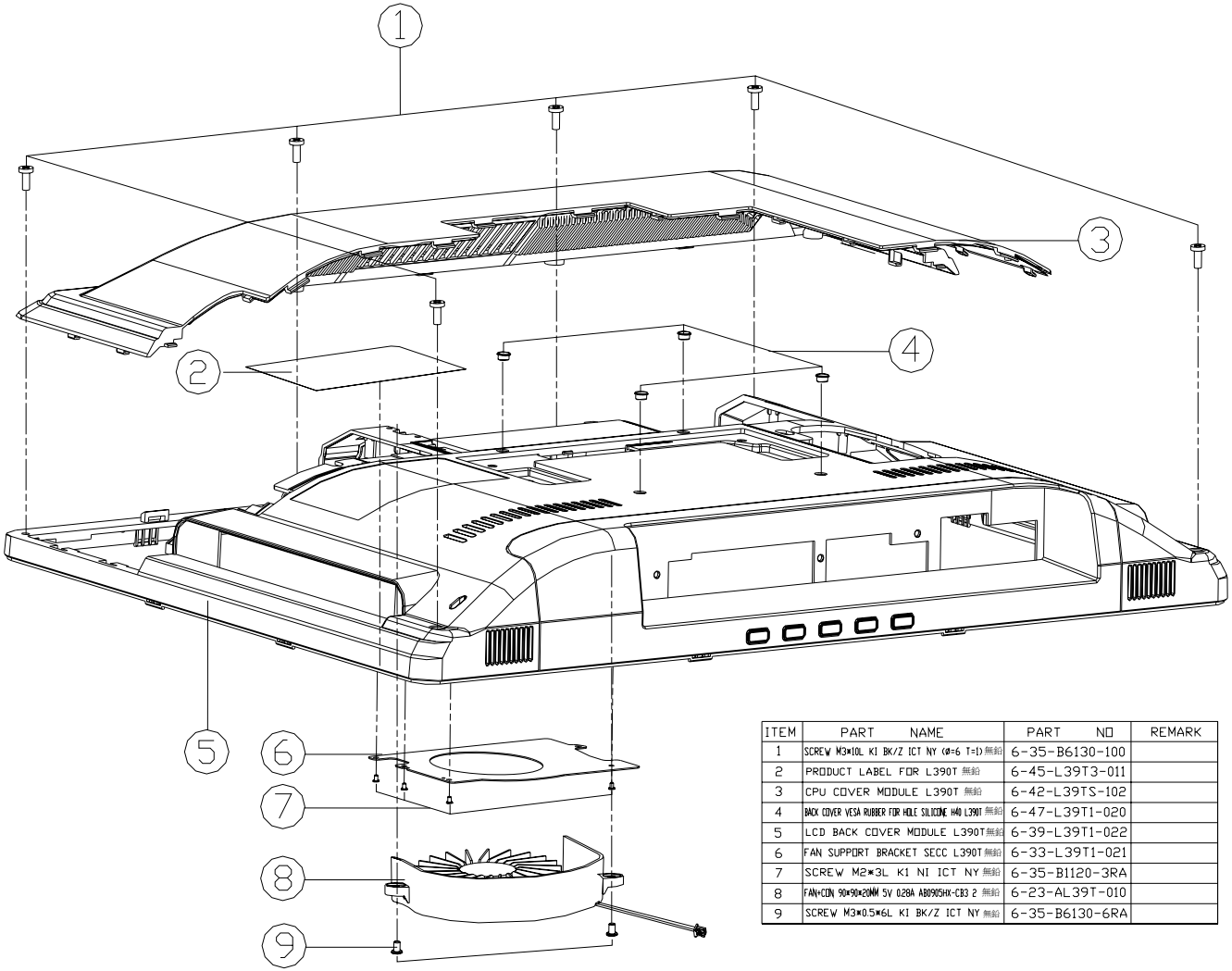
Stand (L390T)

Figure A - 2
Stand (L390T)



ITEM	PART NAME	PART NO	REMARK
1	WIRE CABLE FOR BASE BOARD TO MB 16 PIN 520MM L390T 無鉛	6-43-L39T0-032	
2	STAND PLATE AL L390T 無鉛	6-33-L39T3-022	
3	SCREW M3*4L KI BZ ICT NY (D=4.8 T=0.5) 無鉛	6-35-B6130-4RB	
4	STAND COVER PC+ABS L390T 無鉛	6-42-L39T3-012	
5	HINGE MODULE L390T 無鉛	6-33-L39T1-102	
6	CABLE COVER PC+ABS L390T 無鉛	6-42-L39T3-032	
7	STAND BRACKET SPHC L390T 無鉛	6-33-L39T3-032	
8	HINGE RING,AL LV220C 無鉛	6-33-L22CY-010	
9	HINGE COVER MODULE L390T 無鉛	6-42-L39T1-102	
10	SCREW M3*0.5*6L KI BK/Z ICT NY 無鉛	6-35-B6130-6RA	
11	SCREW M3*0.5*5L KI BK/Z ICT NY 無鉛	6-35-B6130-5R0	
12	SCREW M3*10L KI BK/Z ICT NY (Ø=6 T=1) 無鉛	6-35-B6130-100	
13	STAND RUBBER SILICONE L390T 無鉛	6-47-L39T3-010	
14	STAND HOUSING MODULE L390T 無鉛	6-42-L39T3-102	
15	GASKET(W6*H3*L35) FOR M/B MYLAR M540N 無鉛	6-47-00190-35D	
16	STAND COVER MYLAR PC L390T 無鉛	6-40-L39T3-010	
17	AUIDO&USB BOARD V3.0 L390T 無鉛	6-77-L39T8-D03	
18	SCREW M2.5*5L KI BK/Z ICT NY- 無鉛	6-35-B6125-5RA	

Back Fan-1 (L390T)

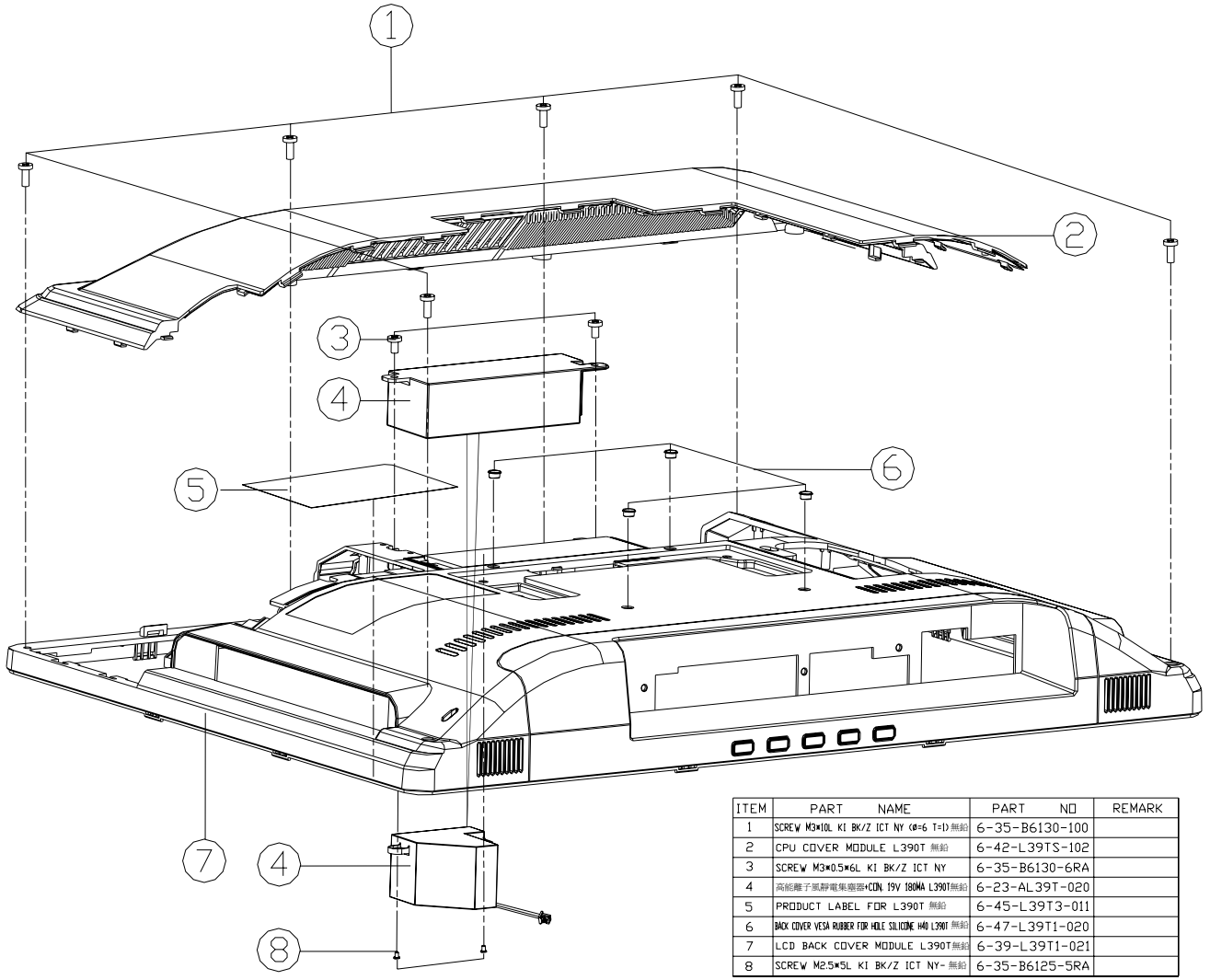


ITEM	PART NAME	PART NO	REMARK
1	SCREW M3*10L K1 BK/Z ICT NY (Ø=6 T=1) 無鉛	6-35-B6130-100	
2	PRODUCT LABEL FOR L390T 無鉛	6-45-L39T3-011	
3	CPU COVER MODULE L390T 無鉛	6-42-L39TS-102	
4	BACK COVER VESA RUBBER FOR HOLE SILICONE H40 L390T 無鉛	6-47-L39T1-020	
5	LCD BACK COVER MODULE L390T 無鉛	6-39-L39T1-022	
6	FAN SUPPORT BRACKET SECC L390T 無鉛	6-33-L39T1-021	
7	SCREW M2*3L K1 NI ICT NY 無鉛	6-35-B1120-3RA	
8	FAN+CON 90*90*20MM 5V 0.28A AB0905HX-CB3 2 無鉛	6-23-AL39T-010	
9	SCREW M3*0.5*6L K1 BK/Z ICT NY 無鉛	6-35-B6130-6RA	

Figure A - 3
Back Fan-1 (L390T)

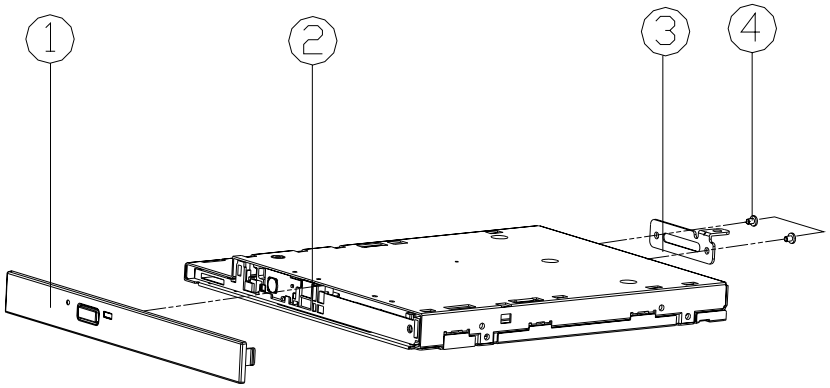
Back Fan-2 (L390T)

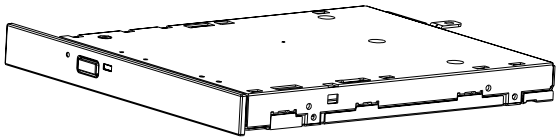
Figure A - 4
Back Fan-2 (L390T)



ITEM	PART NAME	PART NO	REMARK
1	SCREW M3*10L KI BK/Z ICT NY (Φ=6 T=1)無鉛	6-35-B6130-100	
2	CPU COVER MODULE L390T 無鉛	6-42-L39TS-102	
3	SCREW M3*0.5*6L KI BK/Z ICT NY	6-35-B6130-6RA	
4	高能離子風靜電集塵器+CON, 19V 180MA L390T無鉛	6-23-AL39T-020	
5	PRODUCT LABEL FOR L390T 無鉛	6-45-L39T3-011	
6	BACK COVER VESA RUBBER FOR HOLE SILICONE H40 L390T 無鉛	6-47-L39T1-020	
7	LCD BACK COVER MODULE L390T無鉛	6-39-L39T1-021	
8	SCREW M2.5*5L KI BK/Z ICT NY- 無鉛	6-35-B6125-5RA	

DVD (L390T)



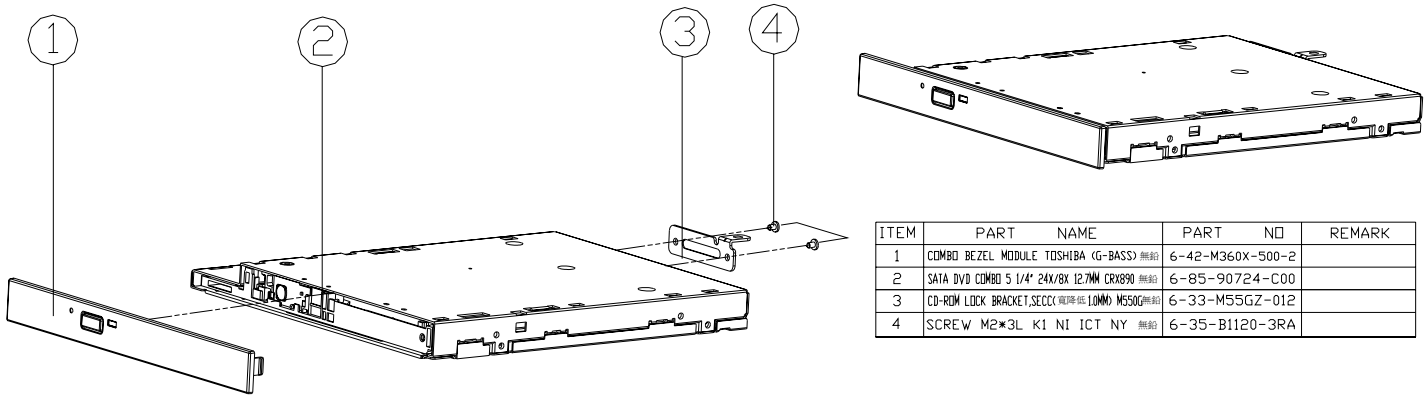


ITEM	PART NAME	PART NO	REMARK
1	TOSHIBA DUAL DVDRW BEZEL MODULE (G-BASS) 無鉛	6-42-M360Q-A00-1	
2	SATA DVD SUPER MULTI 5 1/4 24X/8X 12.7MM 無鉛	6-85-A0724-T01	
2	SATA DVD SUPER MULTI 5 1/4" 24X/8X 12.7MM 無鉛	6-85-A0724-C00	
3	CD-ROM LOCK BRACKET,SECC(窄降低 1.0MM) M550G無鉛	6-33-M55GZ-012	
4	SCREW M2*3L K1 NI ICT NY 無鉛	6-35-B1120-3RA	

Figure A - 5
DVD (L390T)

Combo (L390T)

Figure A - 6
Combo (L390T)



ITEM	PART NAME	PART NO	REMARK
1	COMBO BEZEL MODULE TOSHIBA (G-BASS)無鉛	6-42-M360X-500-2	
2	SATA DVD COMBO 5 1/4" 24X/8X 12.7MM CRX890 無鉛	6-85-90724-C00	
3	CD-ROM LOCK BRACKET,SECC(電降低1.0MM) M550G無鉛	6-33-M55GZ-012	
4	SCREW M2*3L K1 NI ICT NY 無鉛	6-35-B1120-3RA	

Appendix B: Schematic Diagrams

This appendix has circuit diagrams of the ***L390T*** series LCD computer's PCBs. The following table indicates where to find the appropriate schematic diagram.

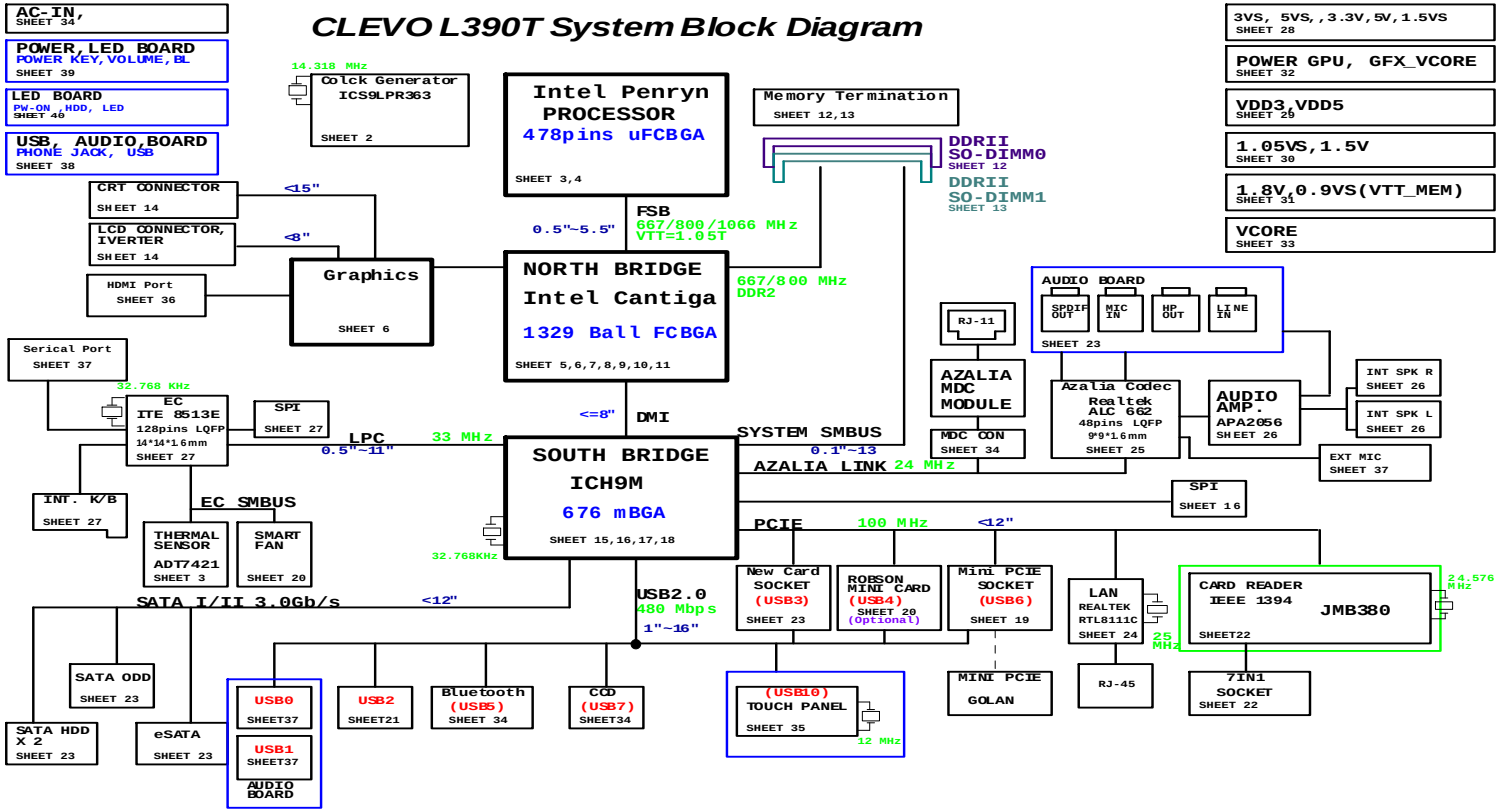
Table B - 1
Schematic Diagrams

Version Note

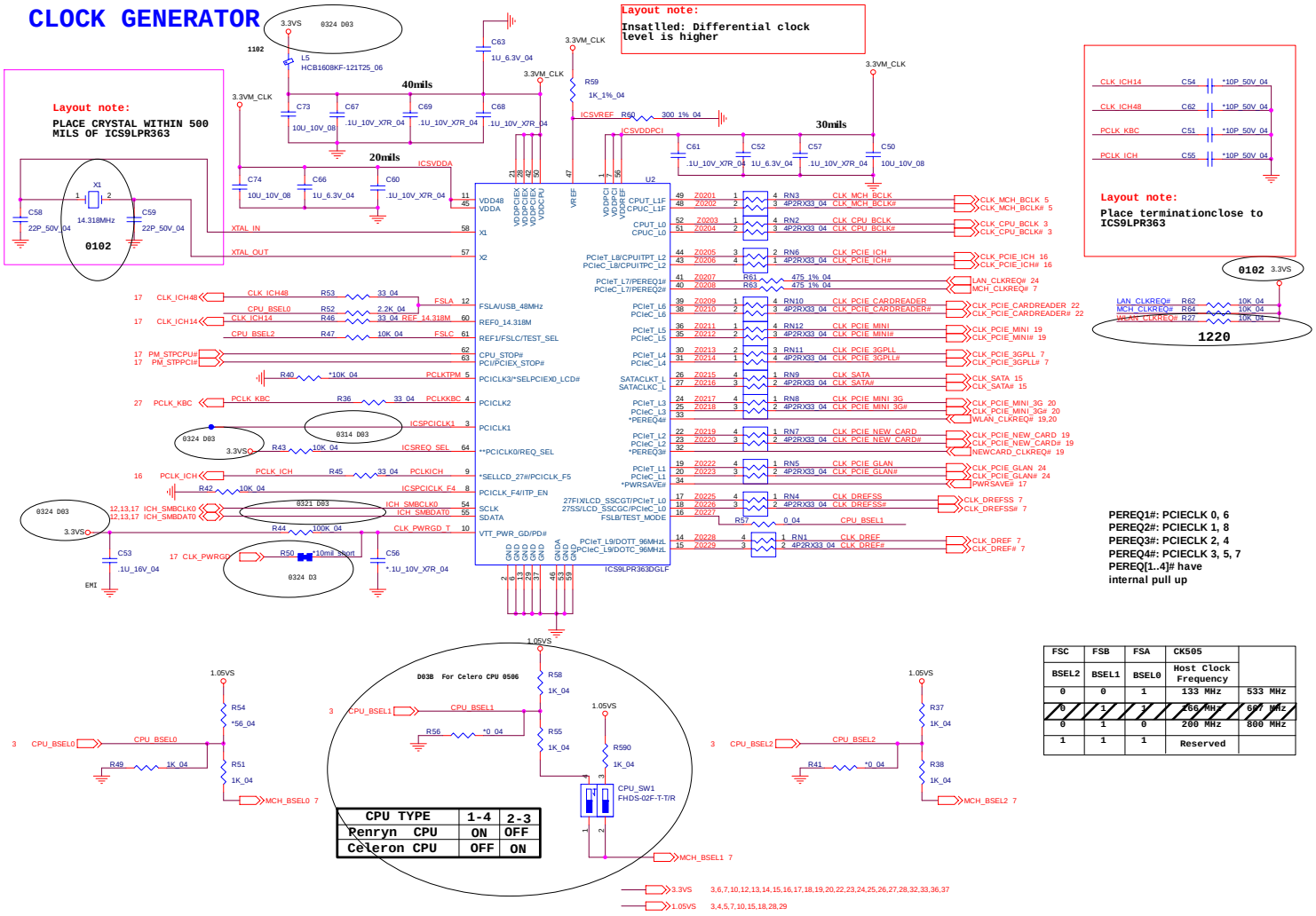
The schematic diagrams in this chapter are based upon version 6-71-L39T0-D03. If your mainboard (or other boards) are a later version, please check with the Service Center for updated diagrams (if required).

System Block Diagram

Sheet 1 of 48
System Block Diagram



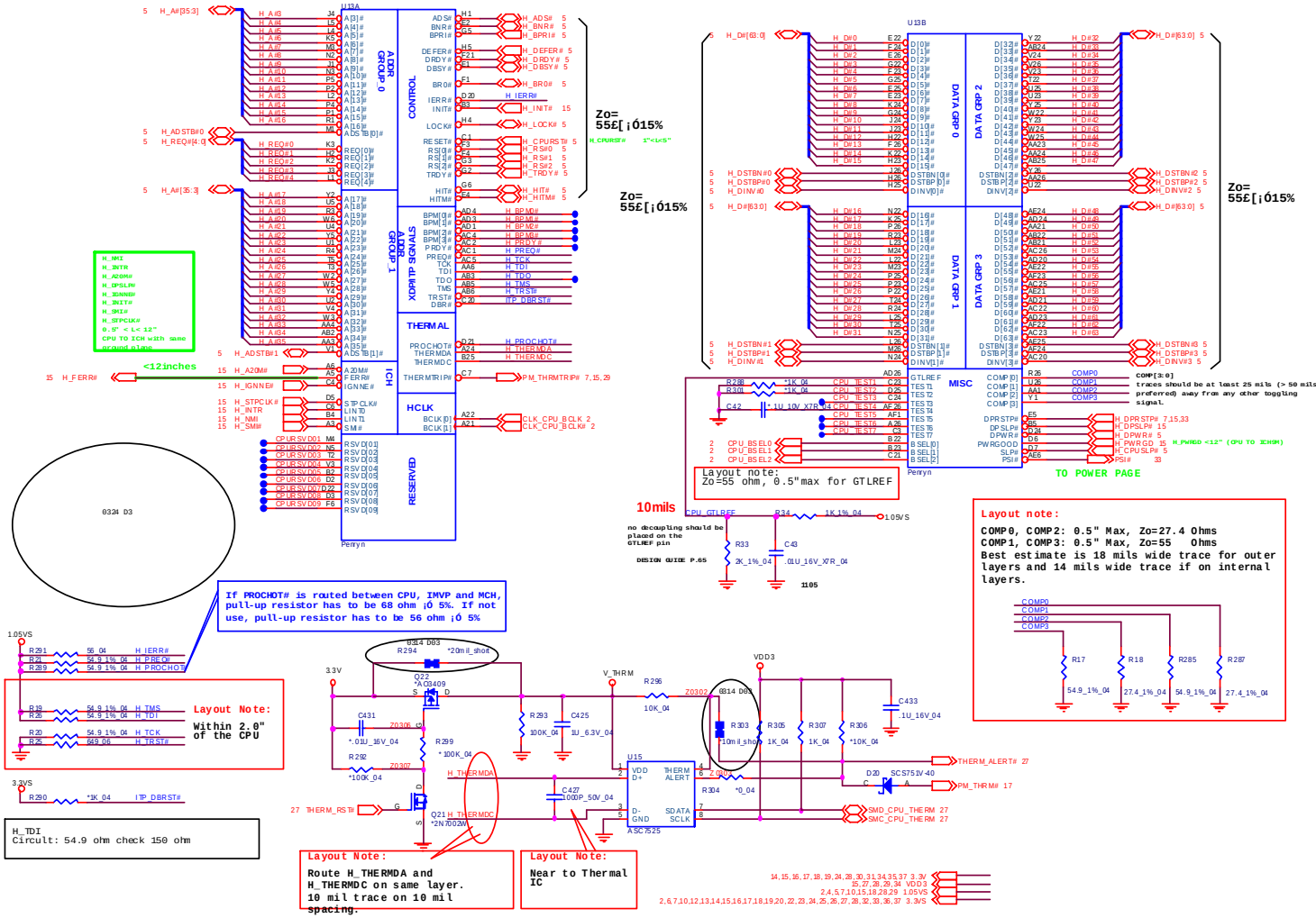
Clock Generator



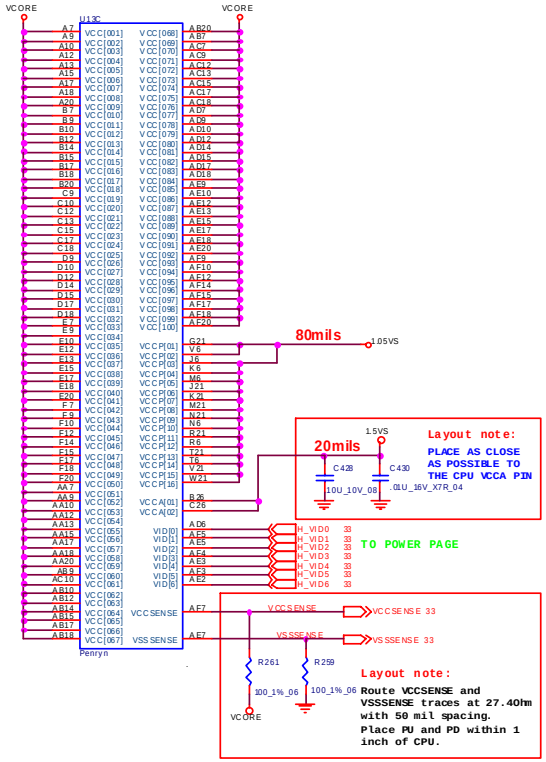
Sheet 3 of 48
Clock Generator

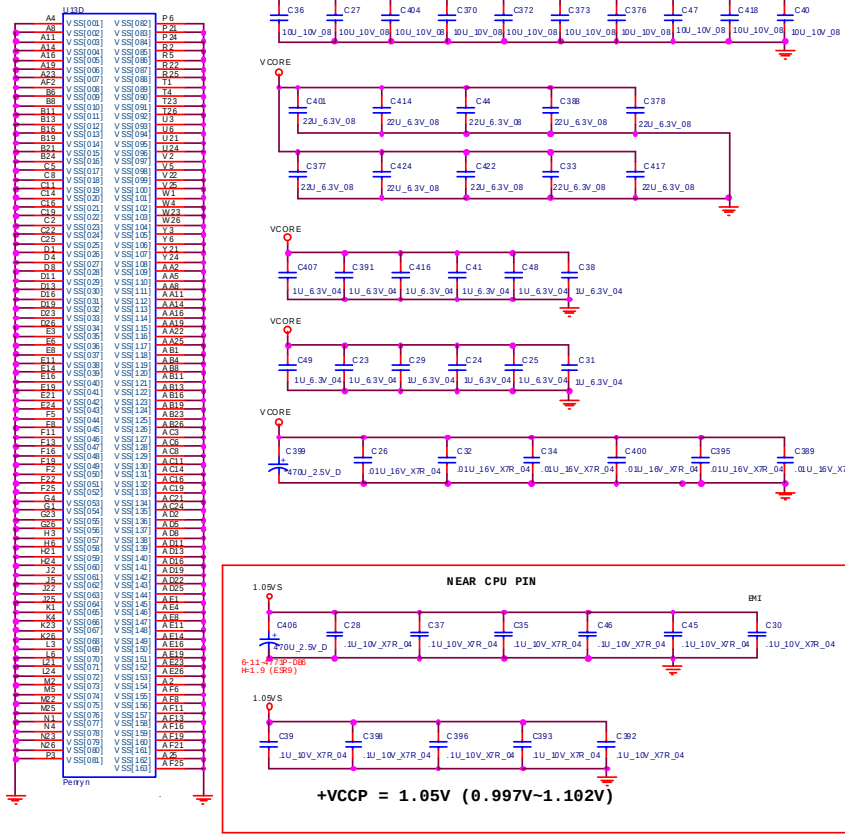
Penryn (Socket-P) CPU 1/2

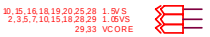
Sheet 4 of 48
Penryn (Socket-P)
CPU 1/2



Penryn (Socket-P) CPU 2/2



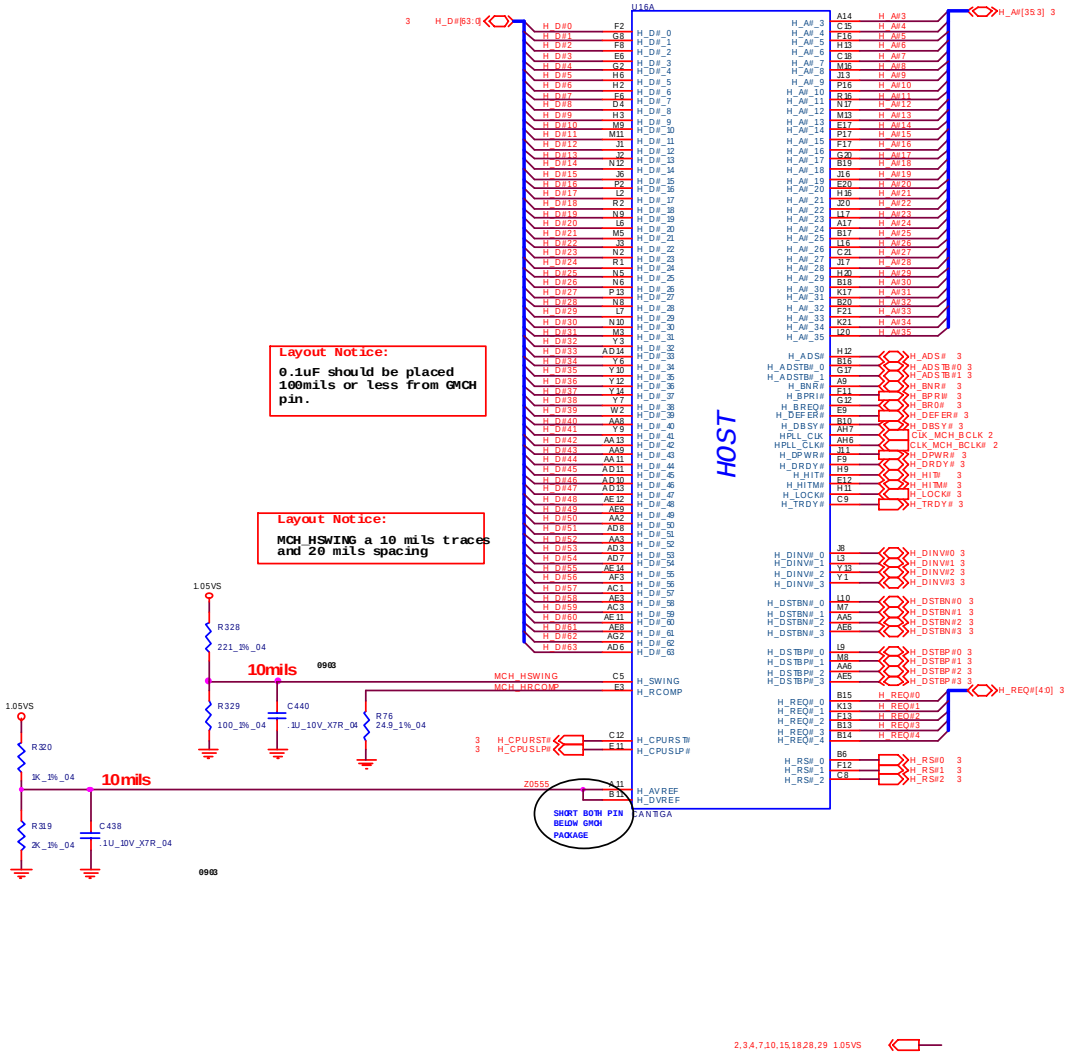




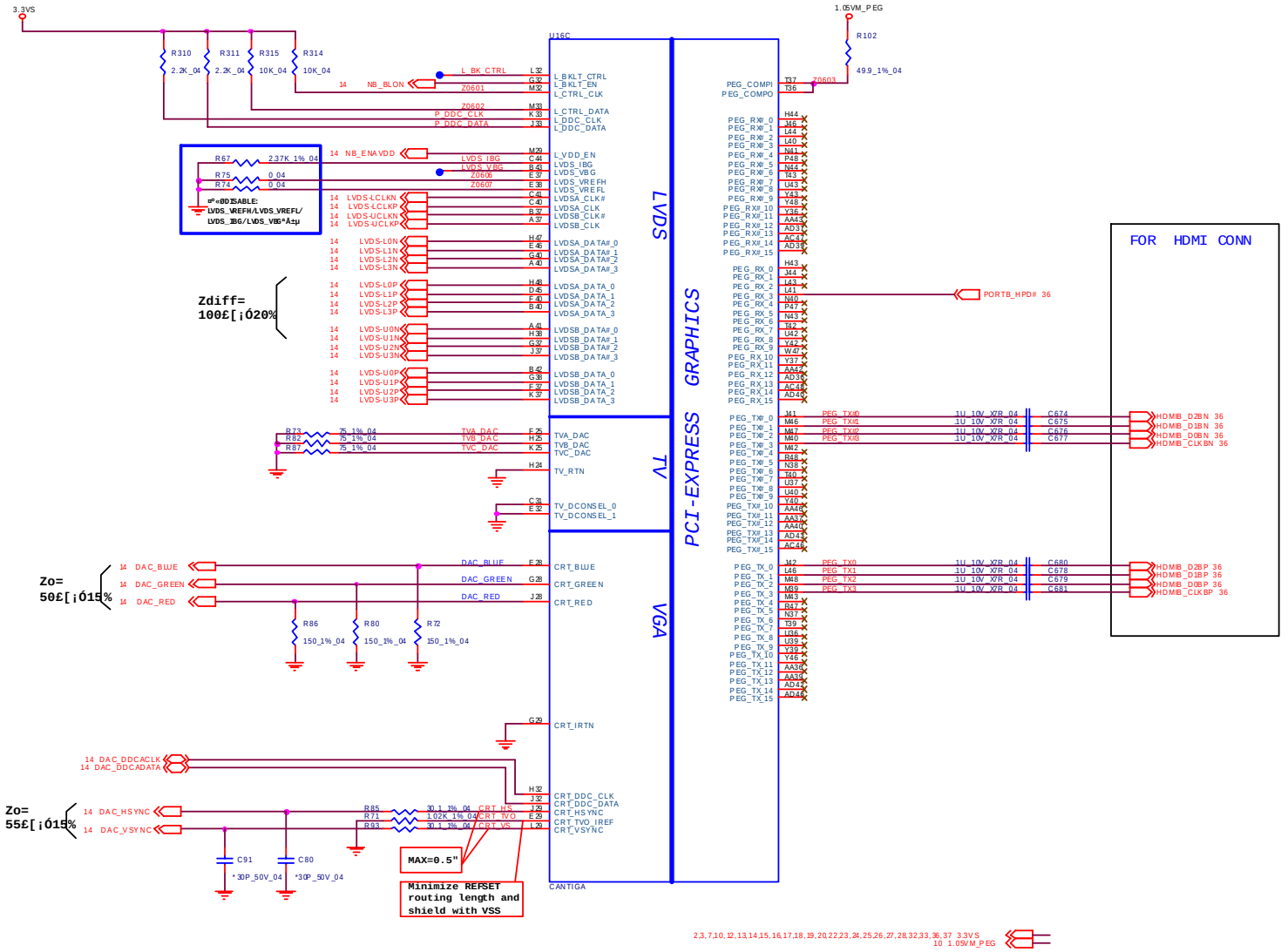
Sheet 5 of 48
Penryn (Socket-P)
CPU 2/2

Cantiga 1/7 Host

Sheet 6 of 48
Cantiga 1/7 Host



Cantiga 2/7 Graphics

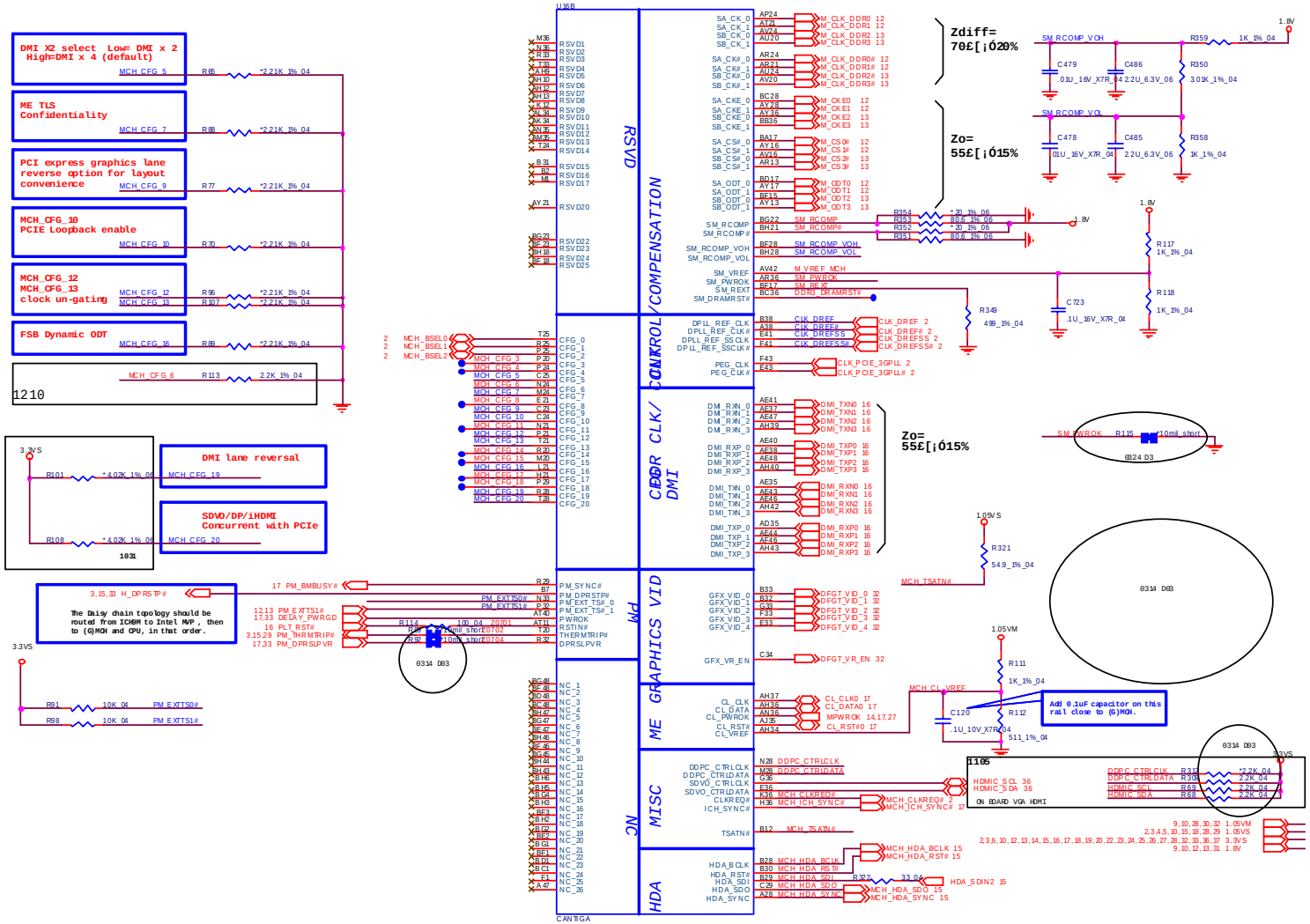


Sheet 7 of 48
Cantiga 2/7
Graphics

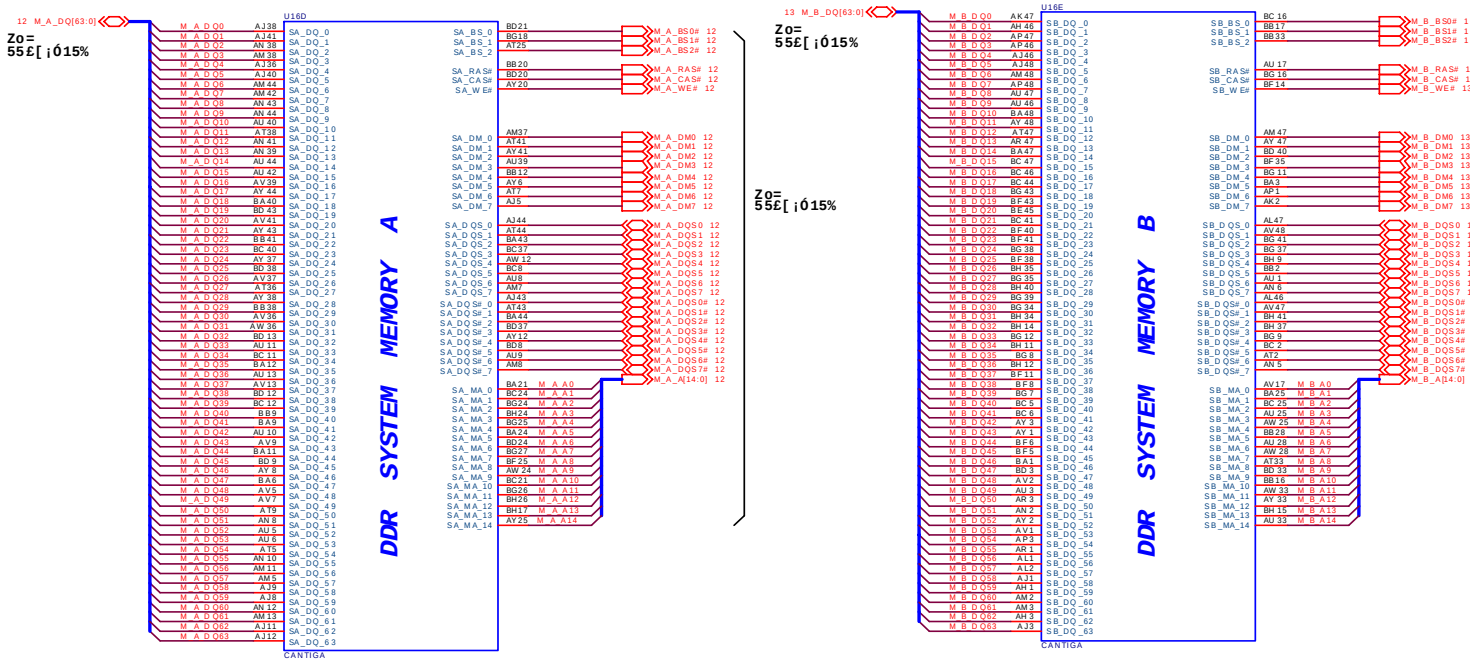
B.Schematic Diagrams

Cantiga 3/7

Sheet 8 of 48
Cantiga 3/7



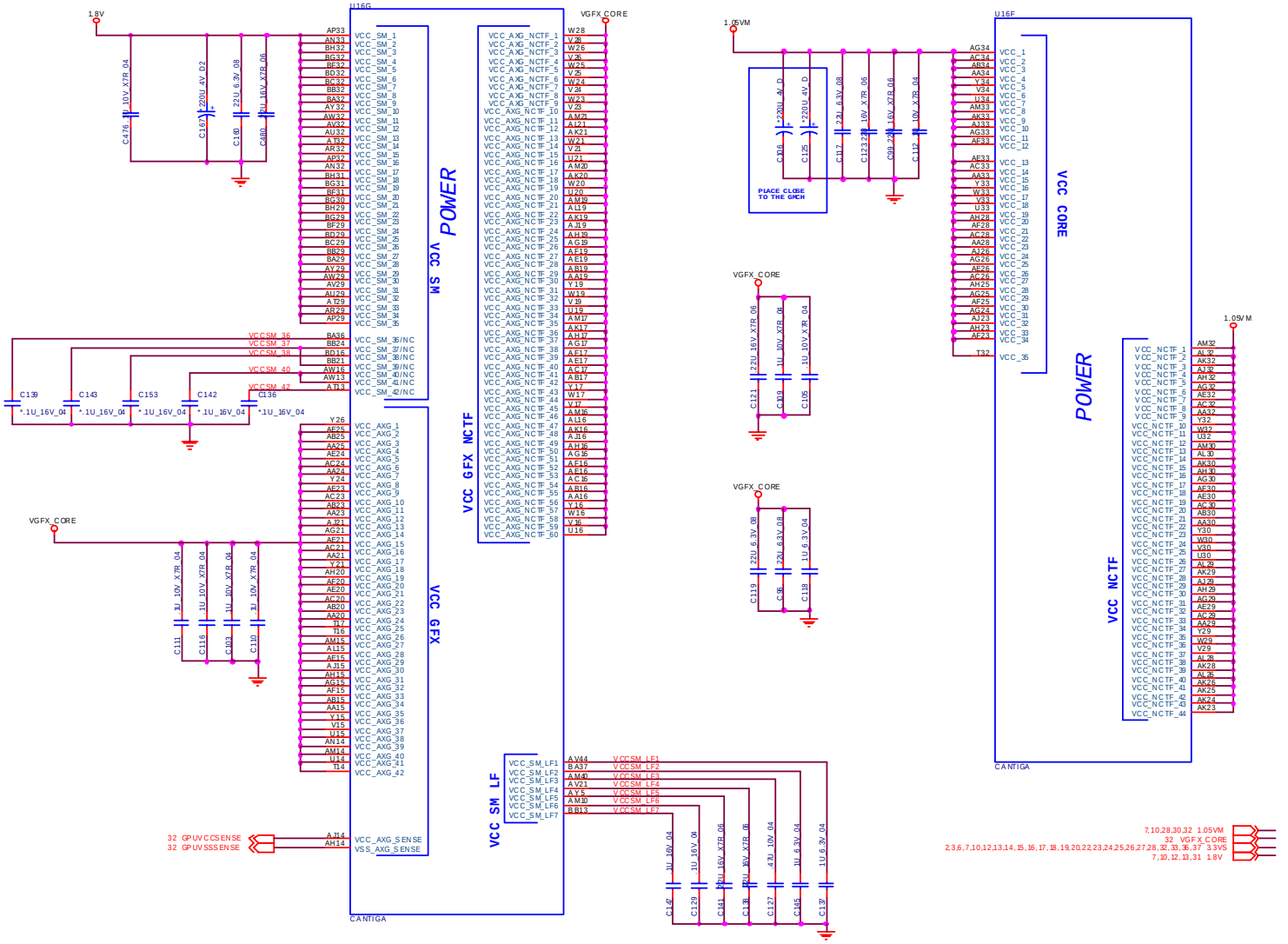
Cantiga 4/7



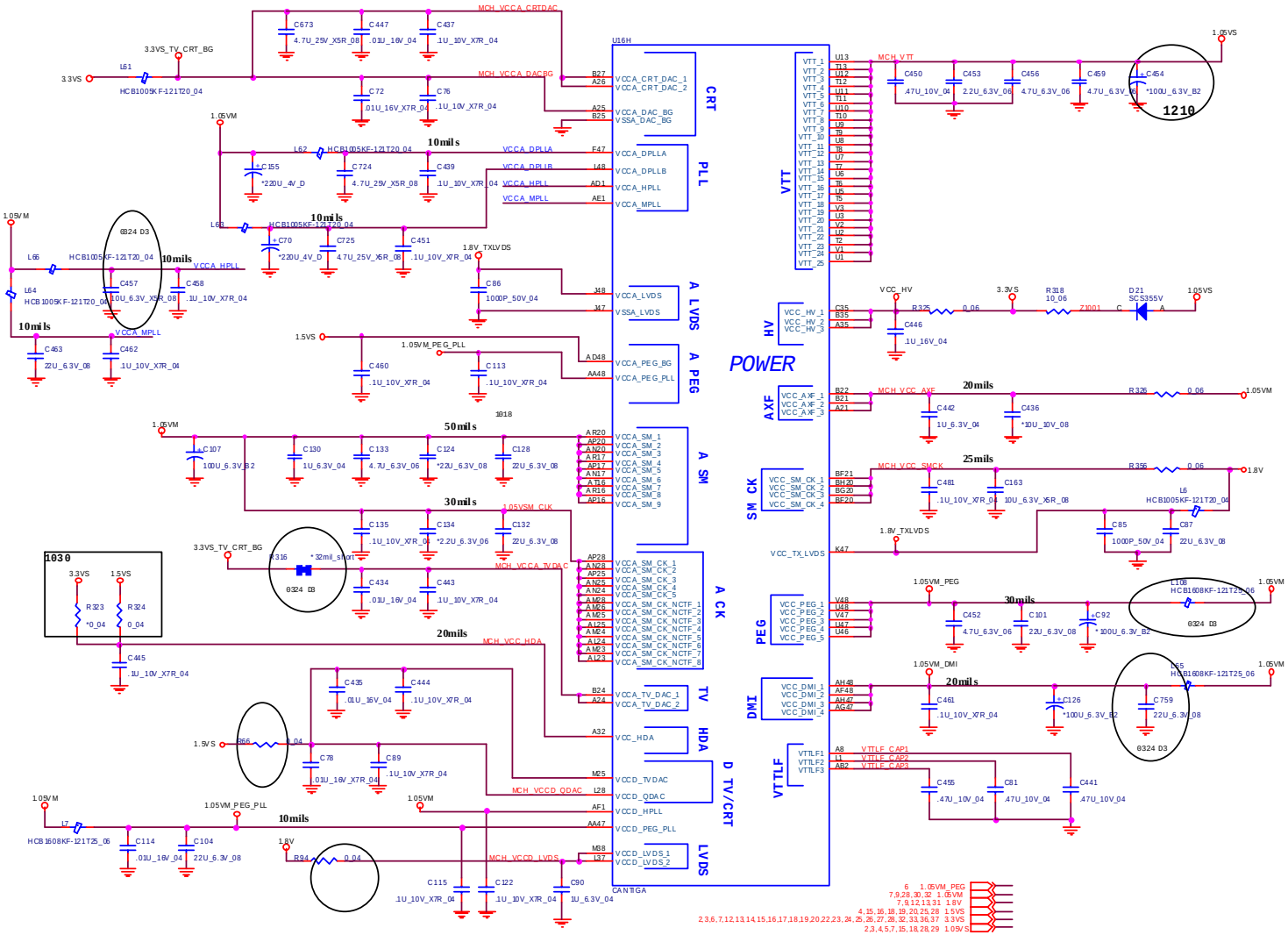
Sheet 9 of 48
Cantiga 4/7

Cantiga 5/7

Sheet 10 of 48
Cantiga 5/7



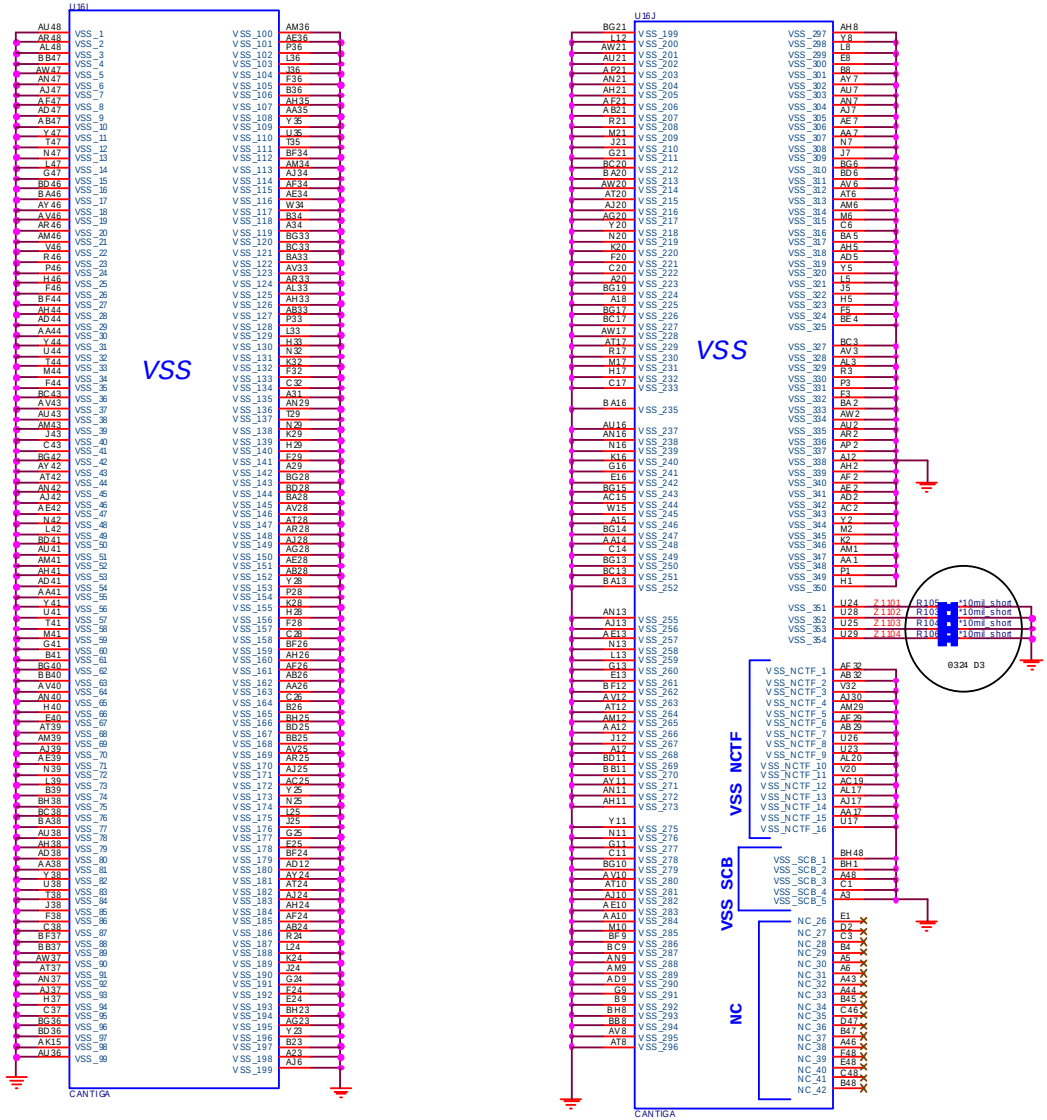
Cantiga 6/7



Sheet 11 of 48
Cantiga 6/7

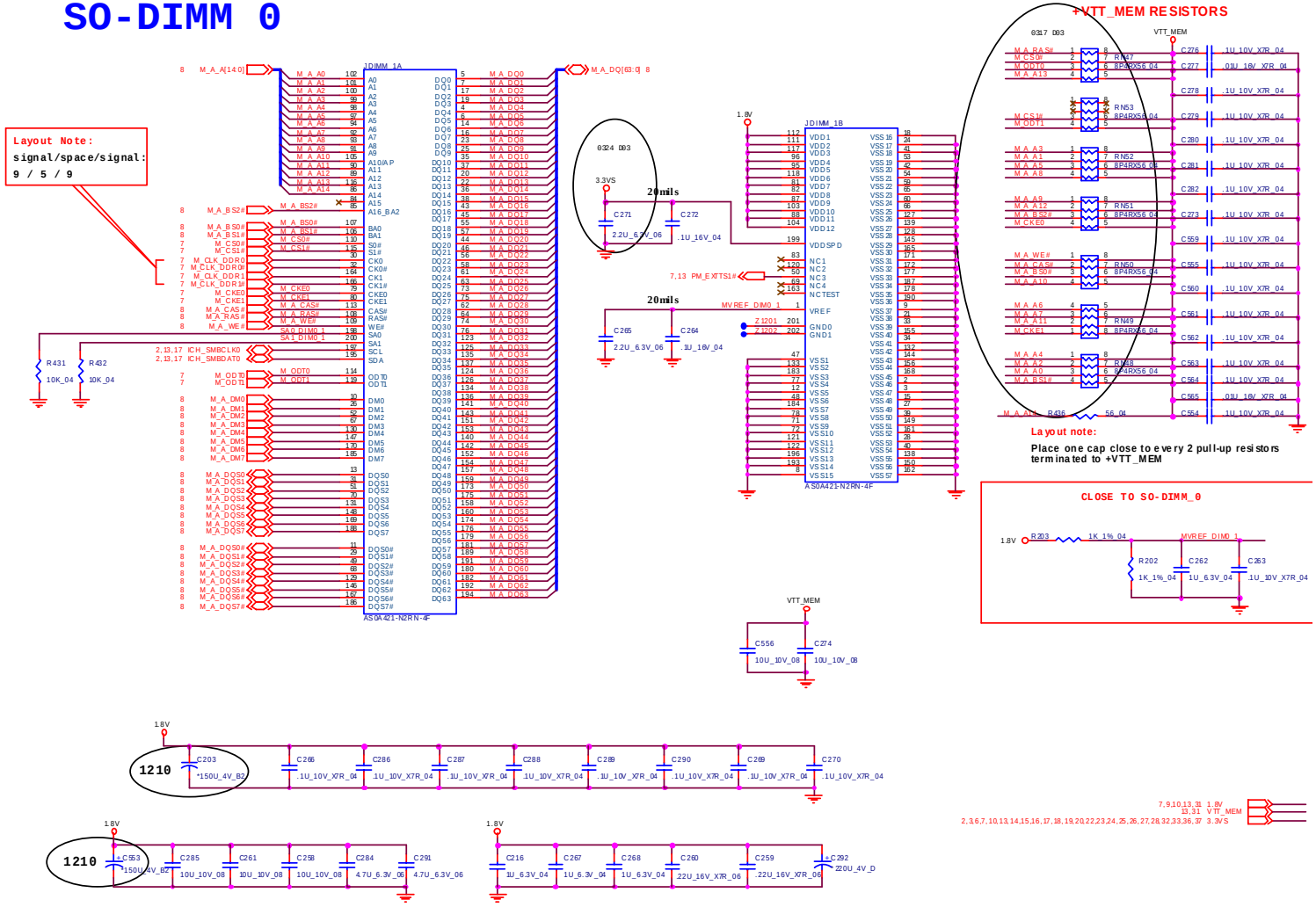
Cantiga 7/7

Sheet 12 of 48
Cantiga 7/7



DDRII SO-DIMM_0

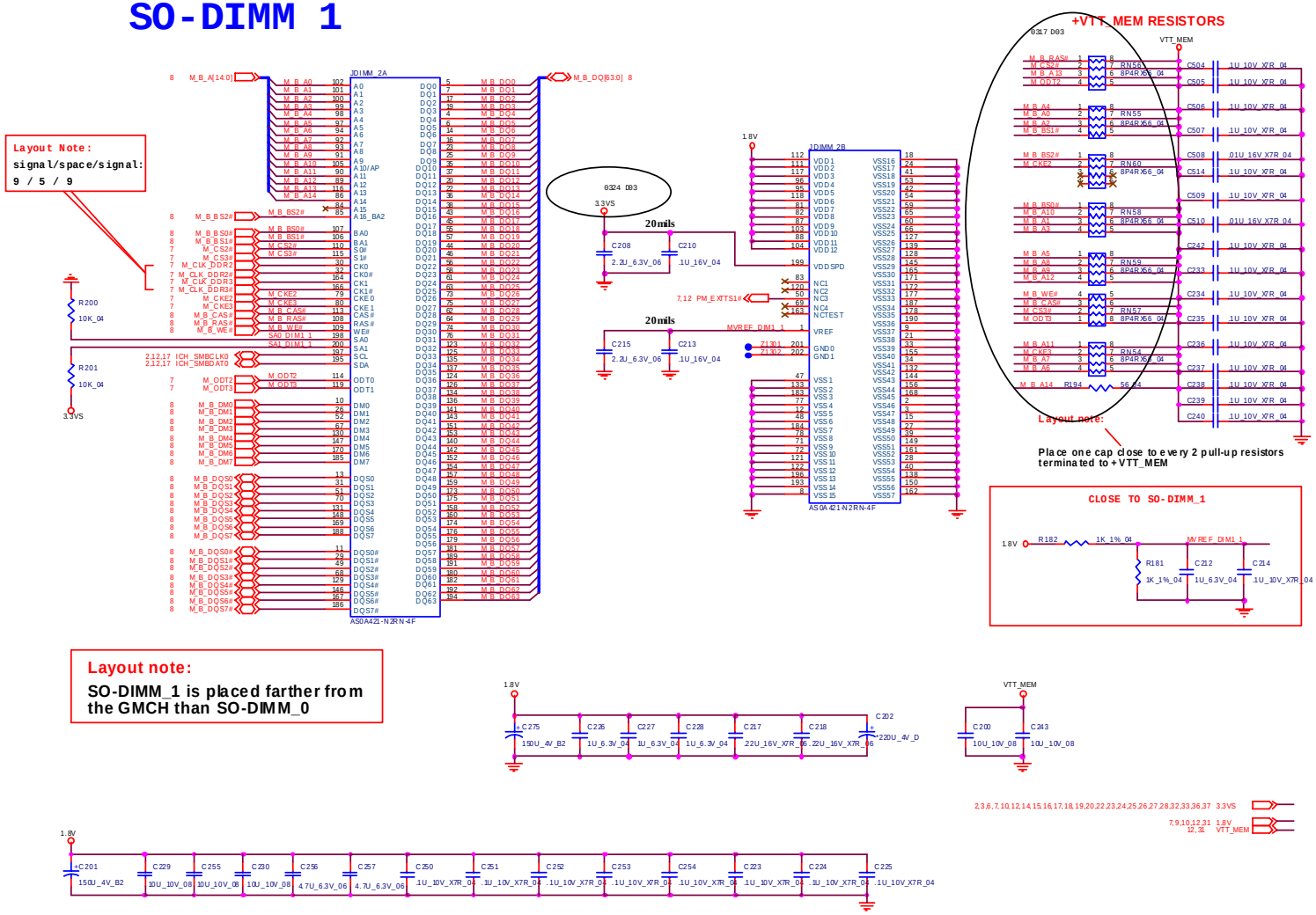
SO-DIMM 0



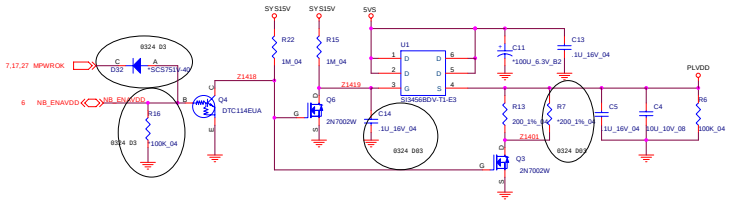
Sheet 13 of 48
DDRII SO-DIMM_0

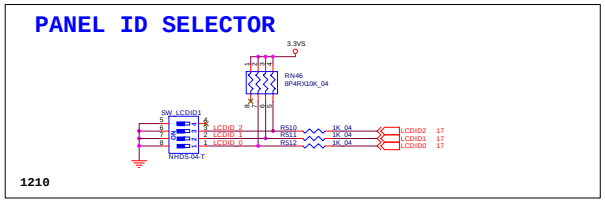
DDRII SO-DIMM_1

Sheet 14 of 48
DDRII SO-DIMM_1

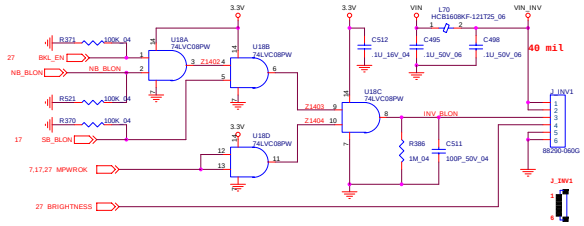


Panel, Inverter, CRT

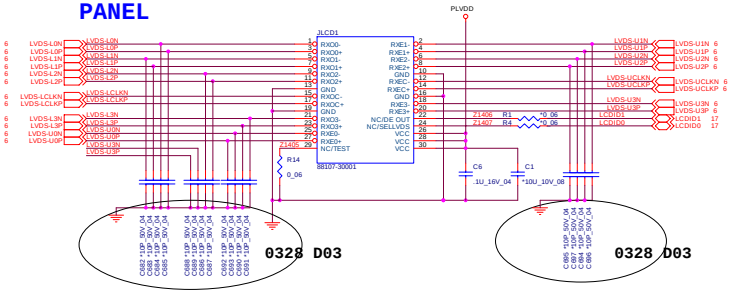




INVERTER CONNECTOR

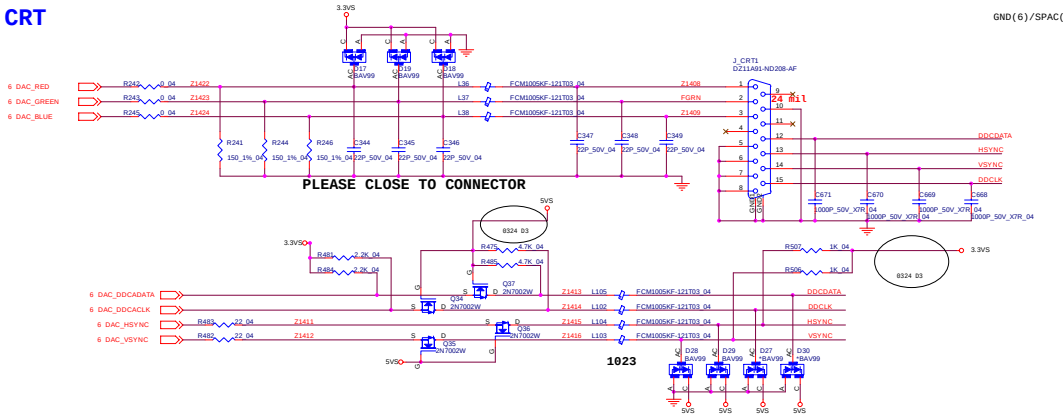


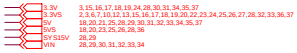
PANEL

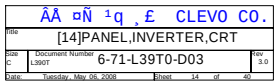


GND(6)/SPAC(6)/SIGNAL(8)/SPAC(10)/SGINAL(8)/SPAC(6)/GND(6)

CRT







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Panel, Inverter, CRT

ICH9M 1/4

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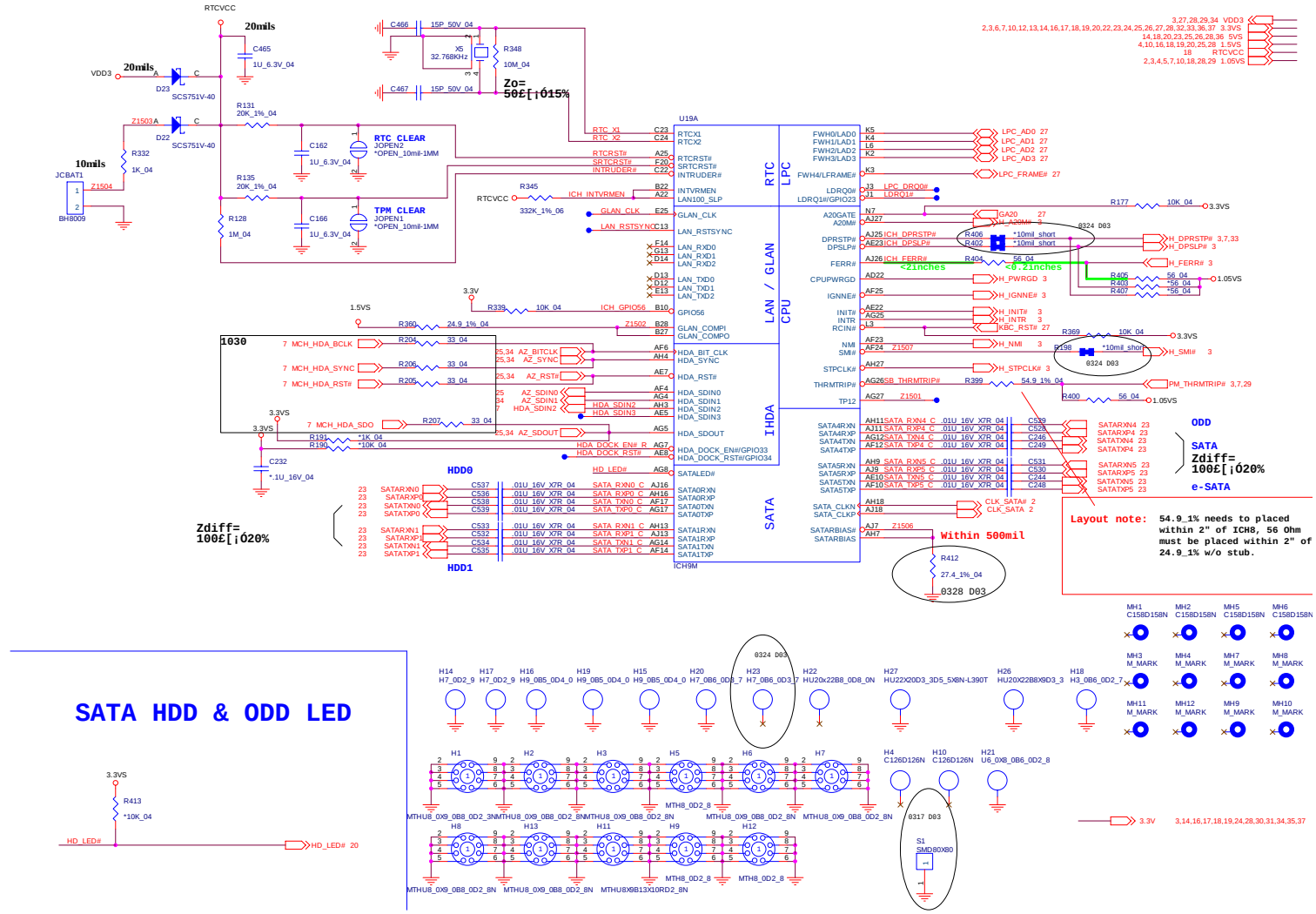
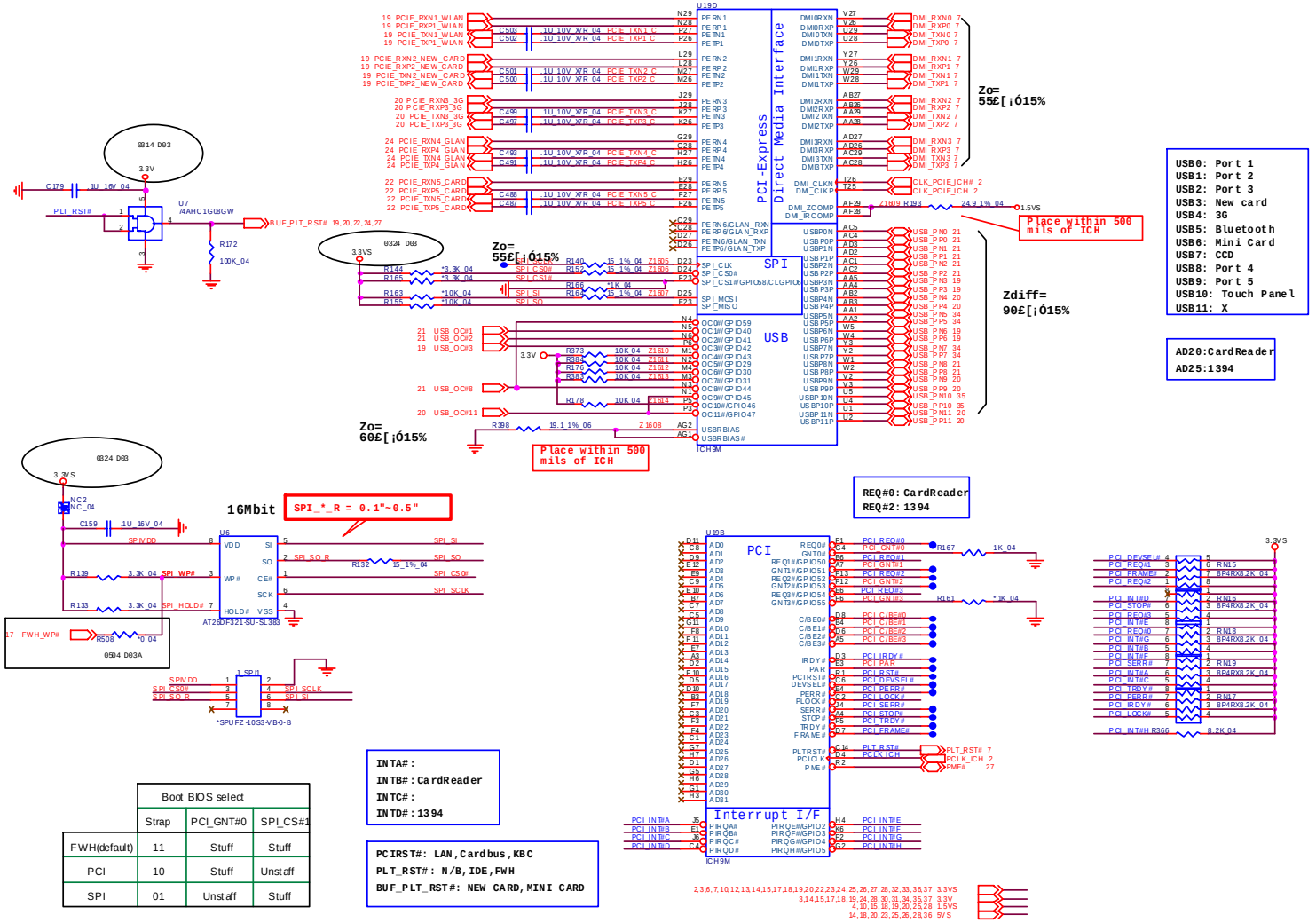
ICH9M 1/4



ICH9M 2/4, PCI, USB, SPI



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ICH9M 2/4
PCI, USB, SPI

ICH9M 3/4

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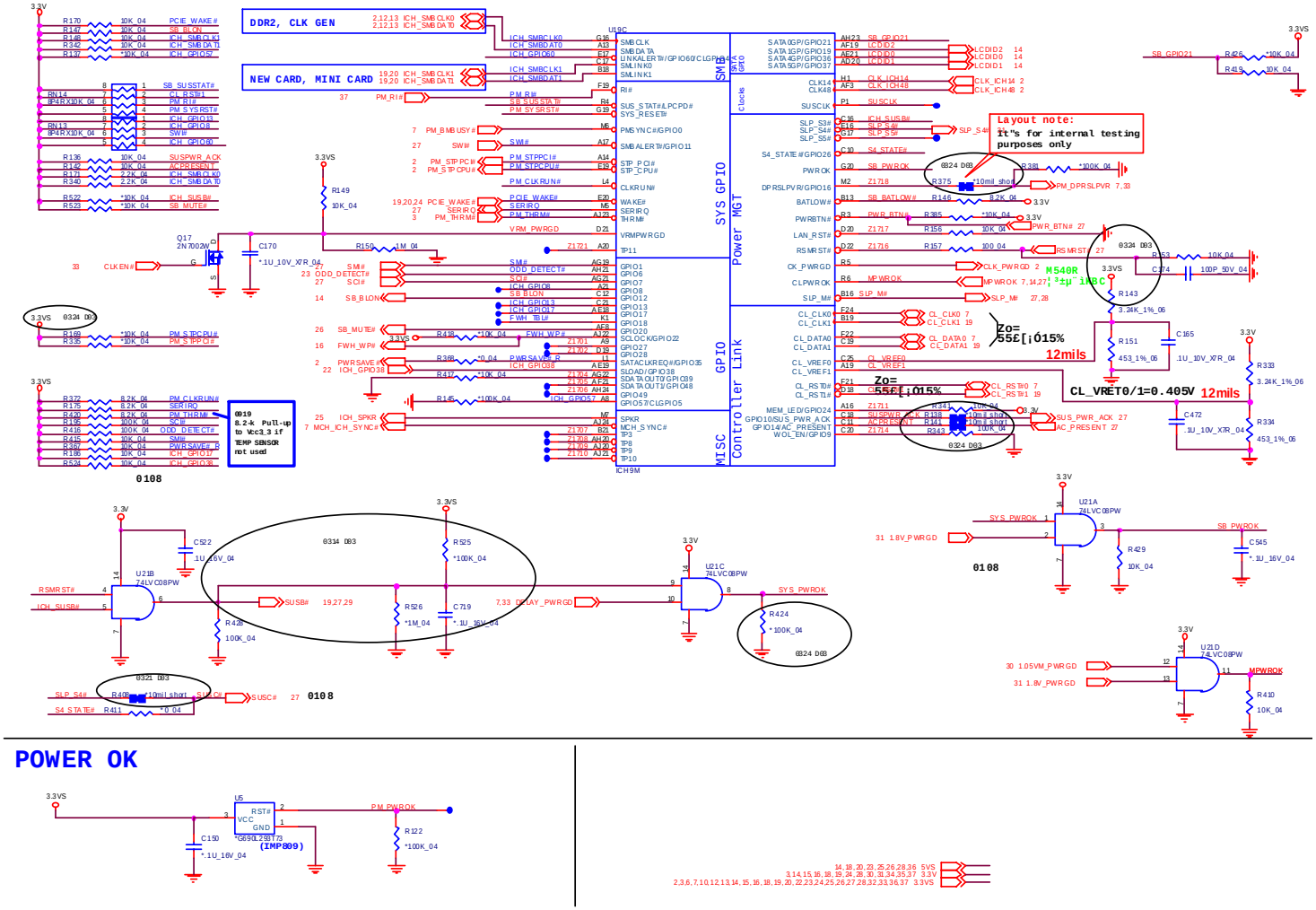
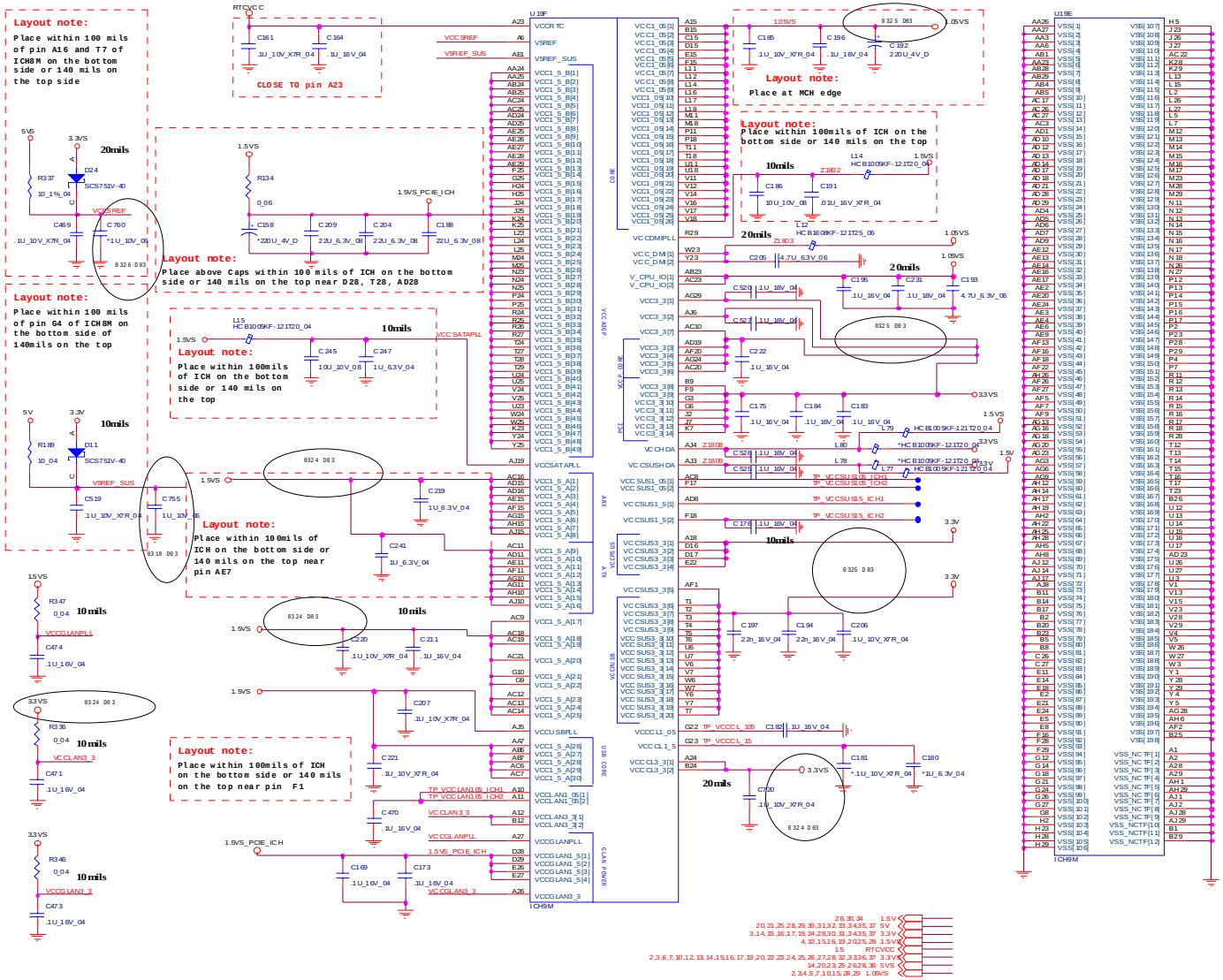
ICH9M 3/4



ICH9M 4/4



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ICH9M 4/4

New Card, Mini PCIE

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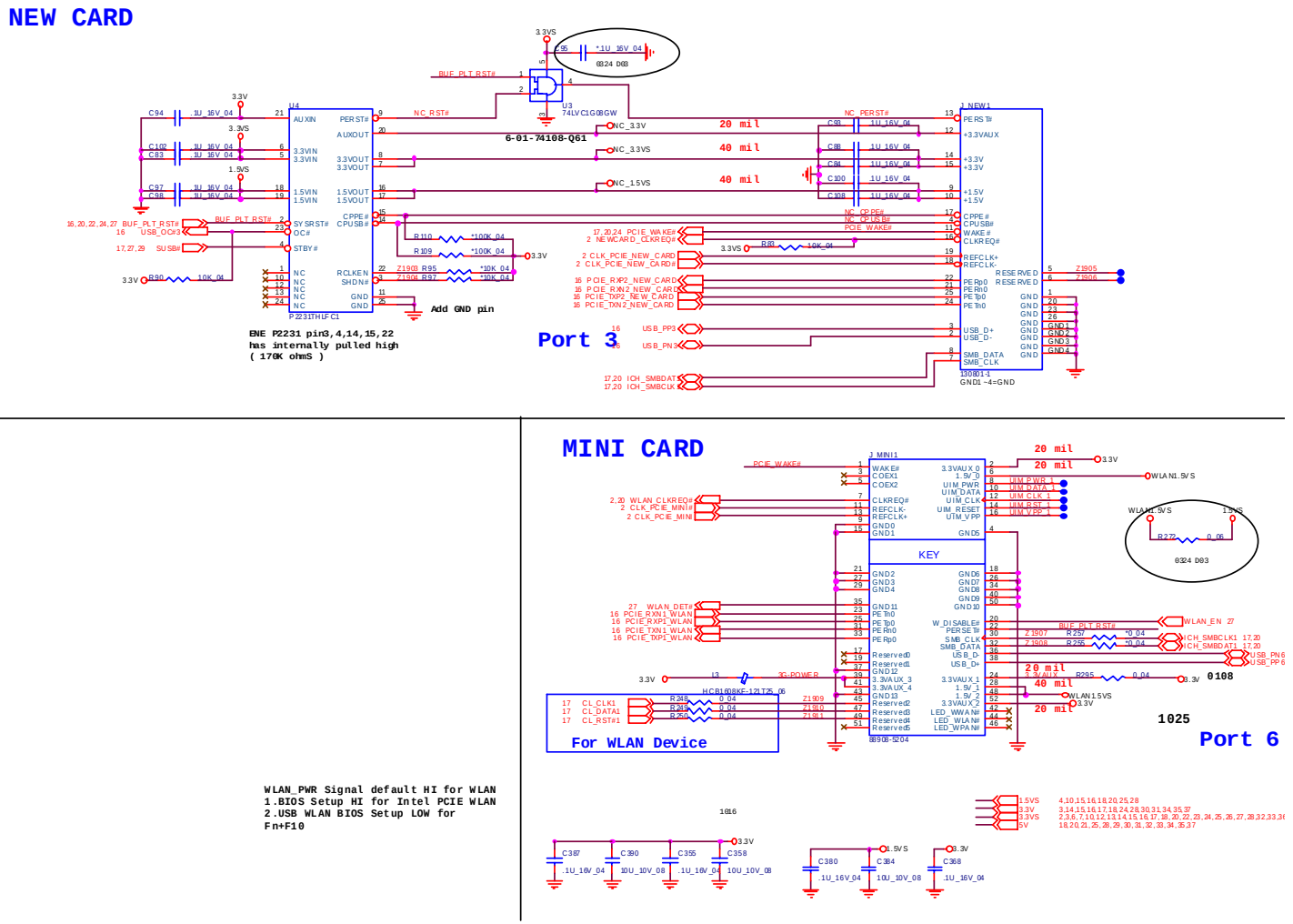
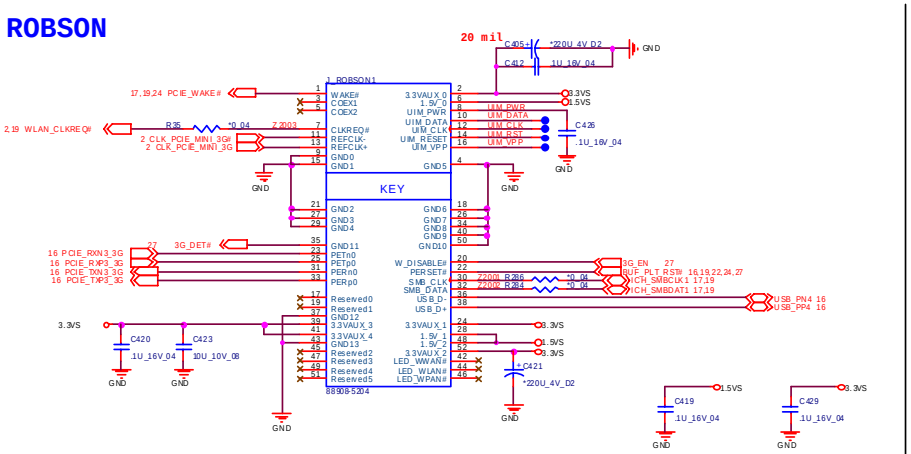
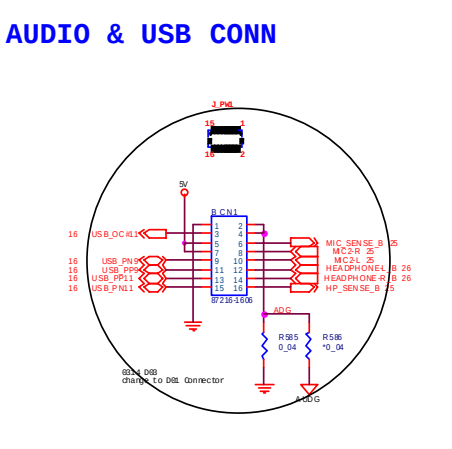
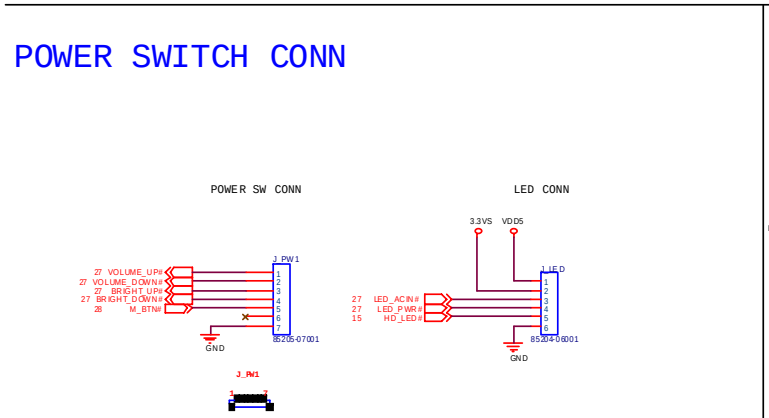
New Card, Mini PCIE

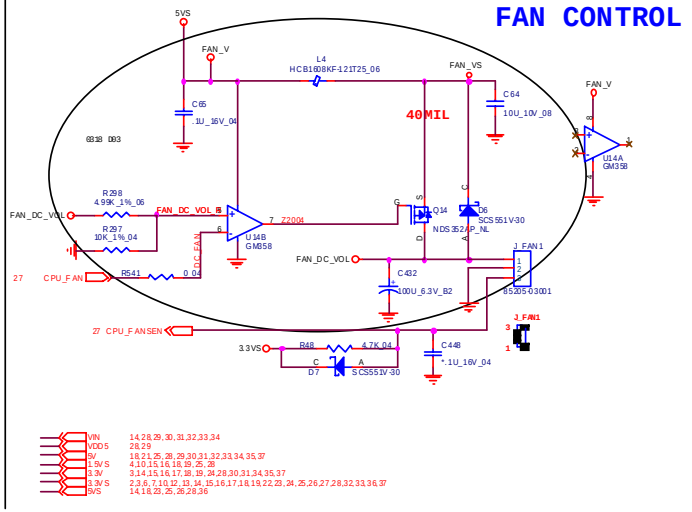


Mini, PW Conn, Fan









Sheet 21 of 48
Mini, PW Conn, Fan

USB Port Con

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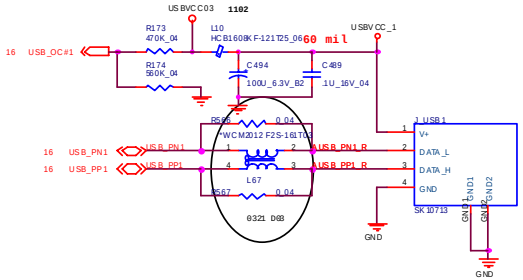
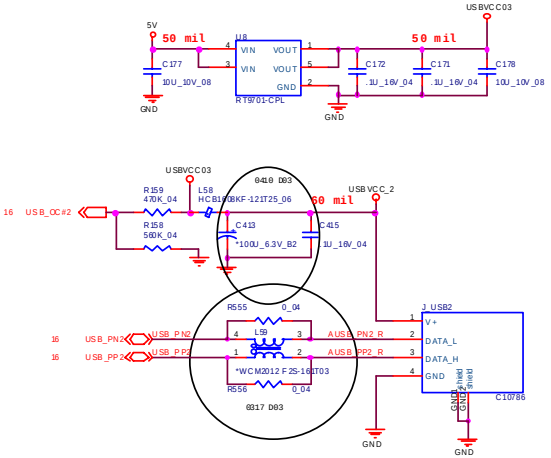
USB Port Con

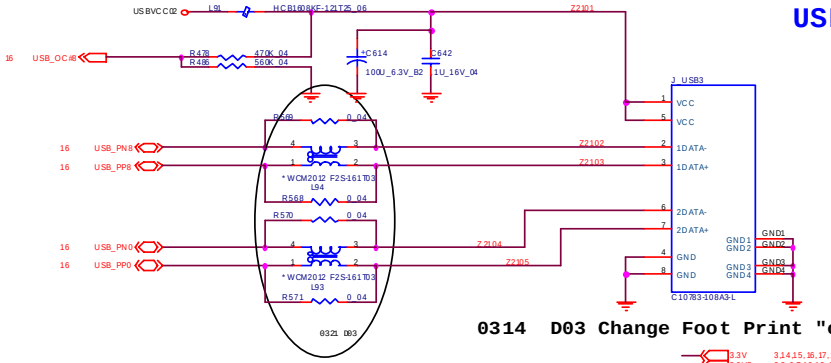
USB PORT6

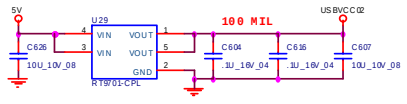


USB PORT 3

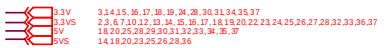


USB PORT 4,5

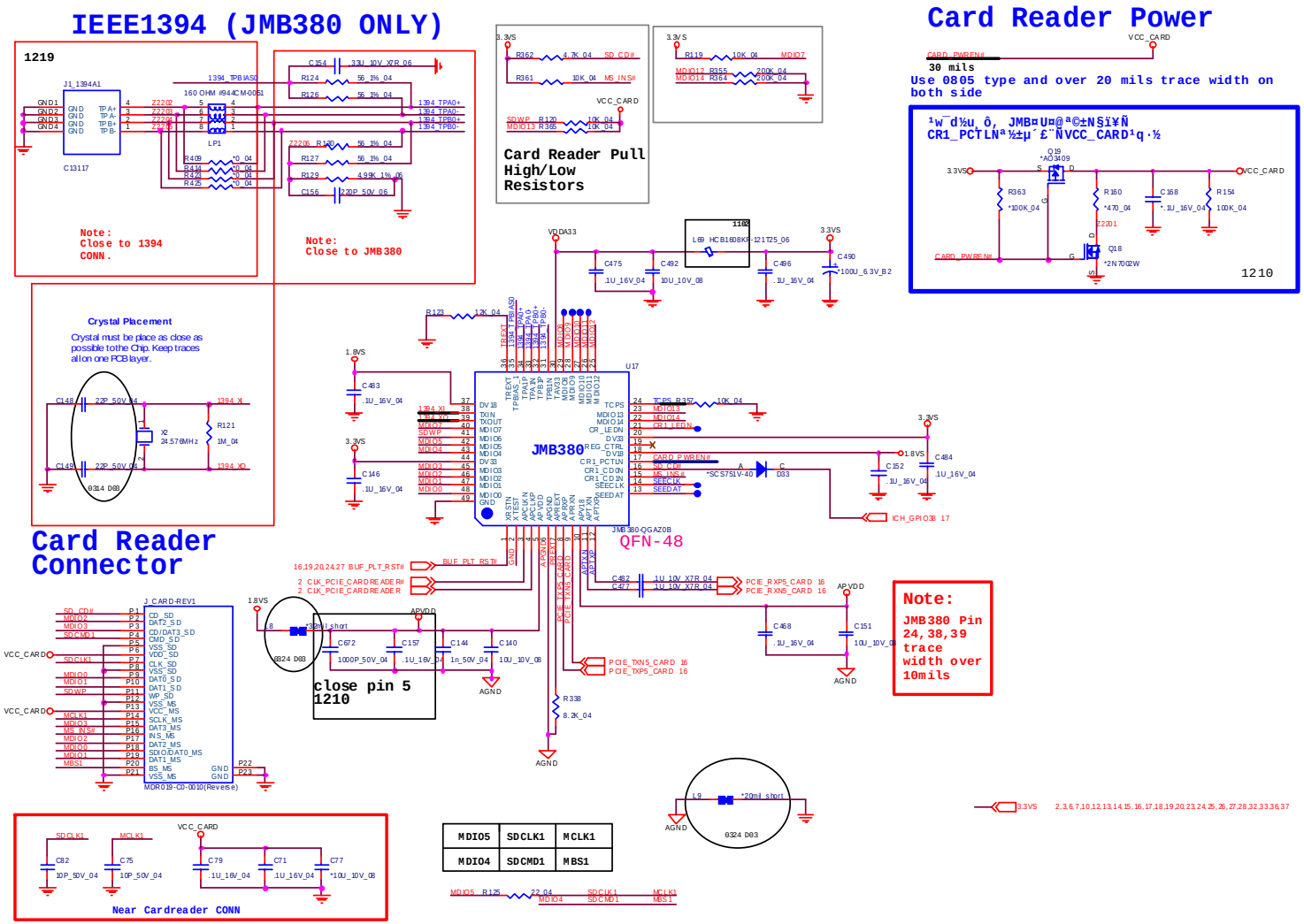




0314 D03 Change Foot Print "c10783-108A3-R"



CardReader, IEEE 1394



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CardReader, IEEE 1394

SATA ODD, Audio

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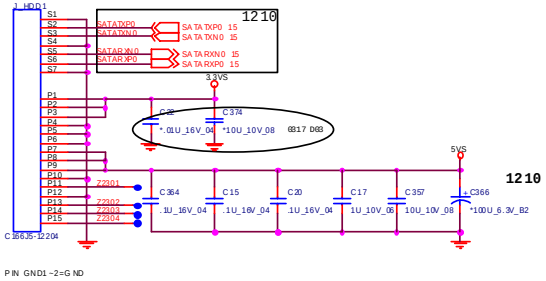
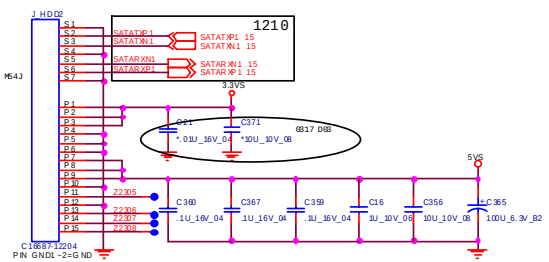
SATA ODD, Audio

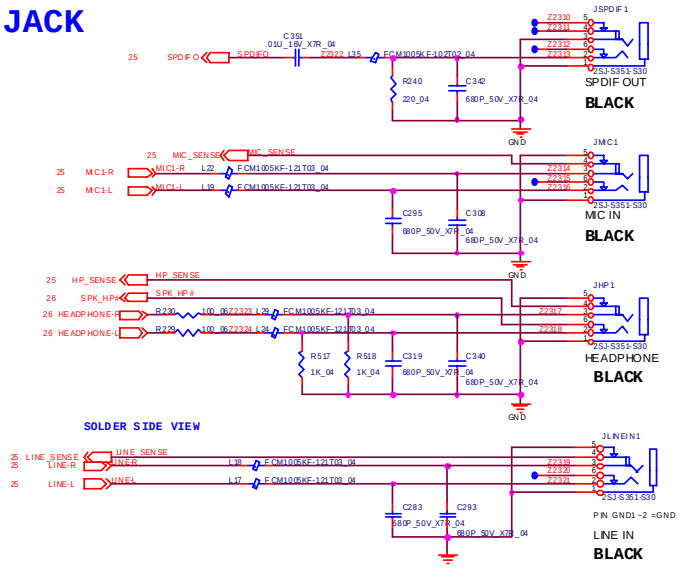
SATA HDD 0



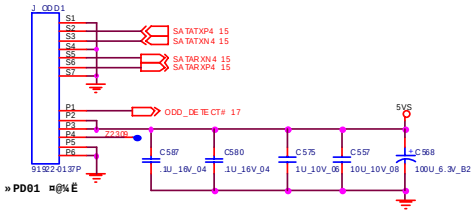
SATA HDD 1



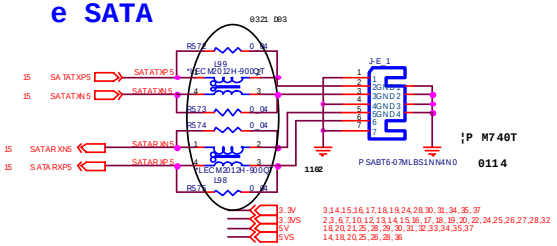
AUDIO JACK



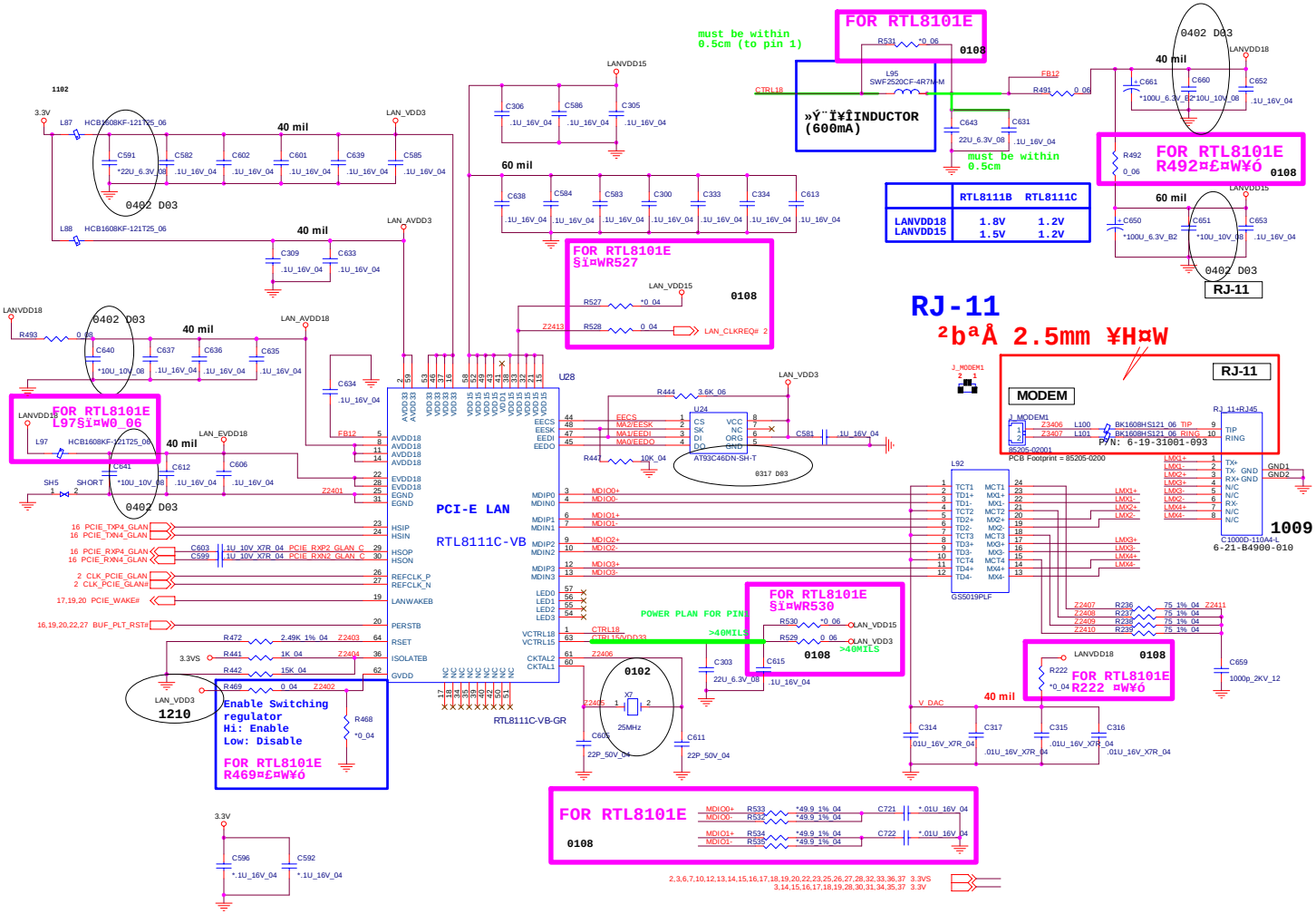
SATA ODD



e SATA



PCI-E LAN RTL8111C



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PCI-E LAN
RTL8111C

Audio Codec ALC888

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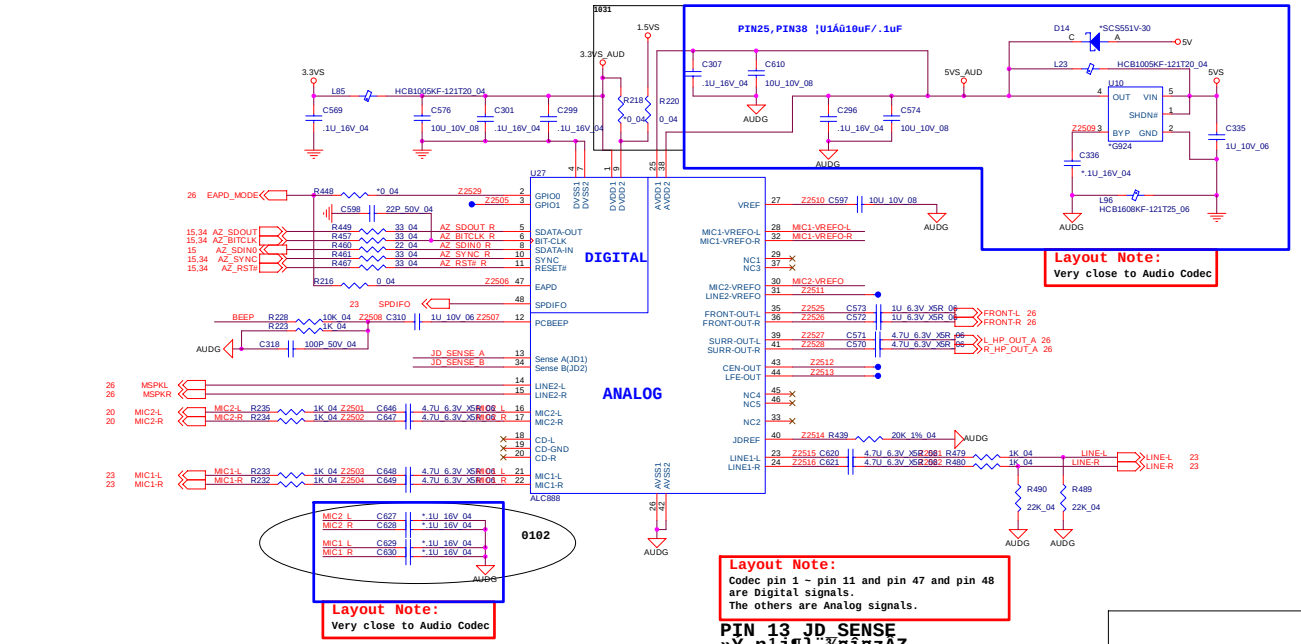
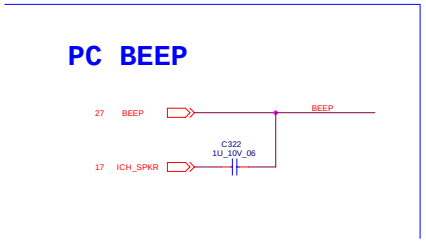
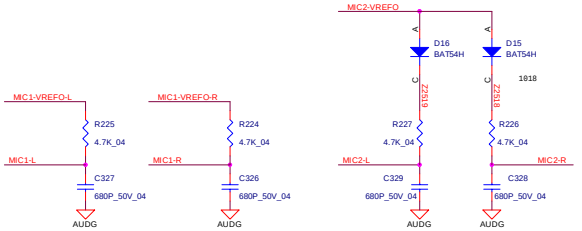
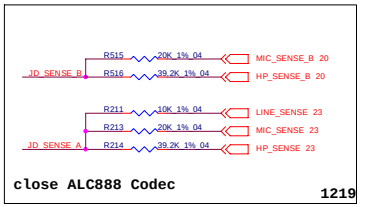
Audio Codec
ALC888

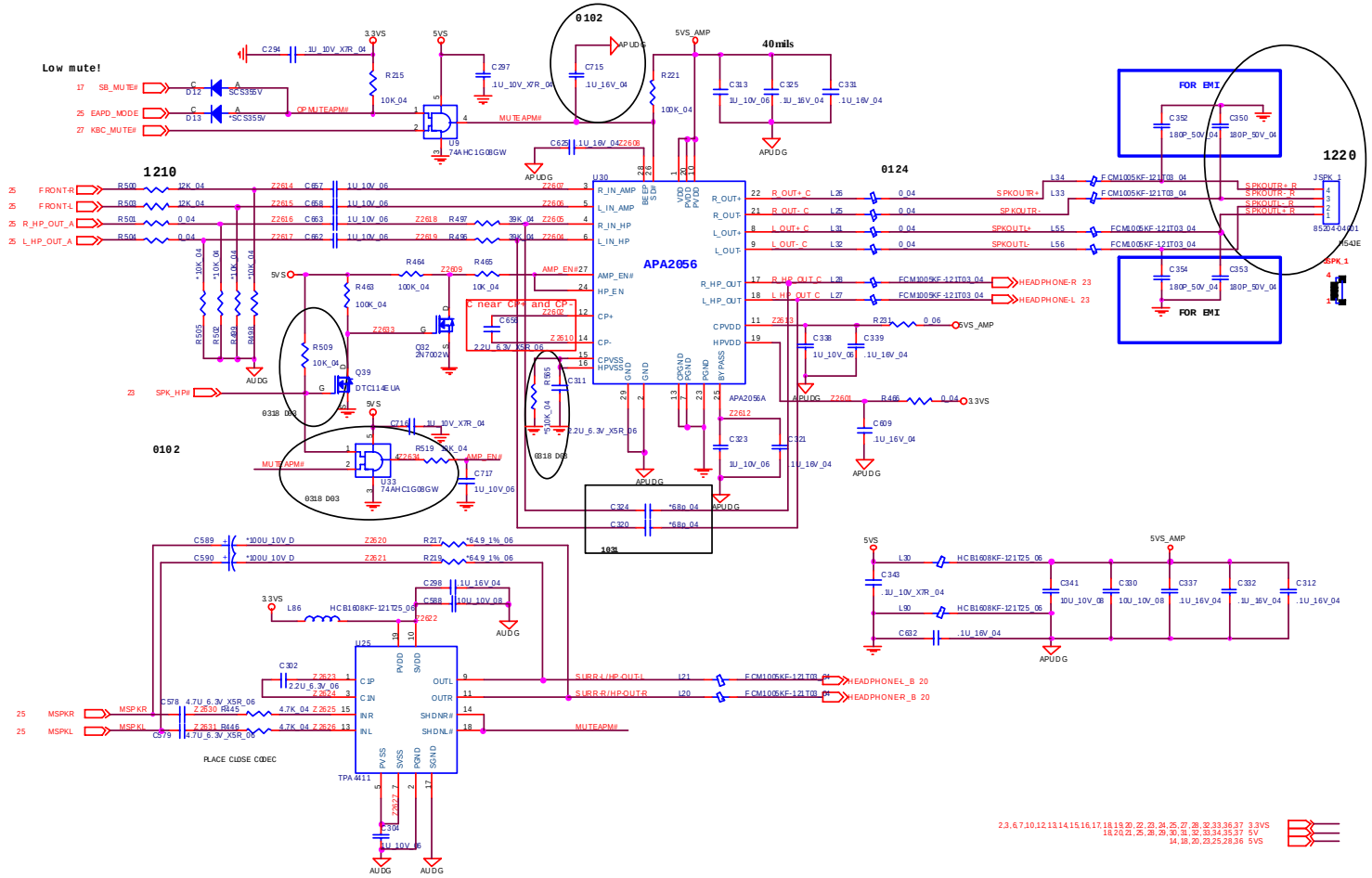








Audio AMP2056



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Audio AMP2056

KBC-ITE IT8513E

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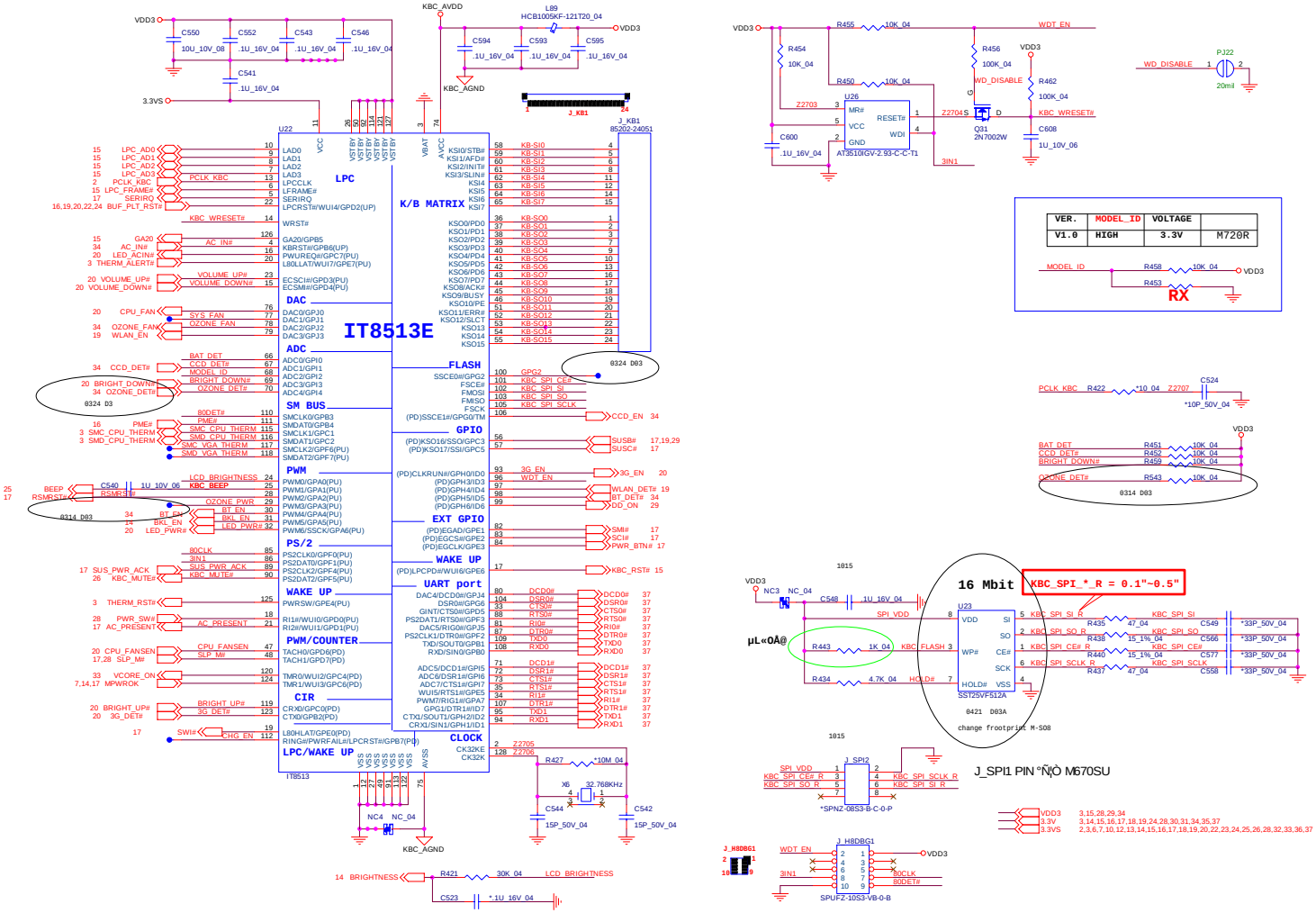
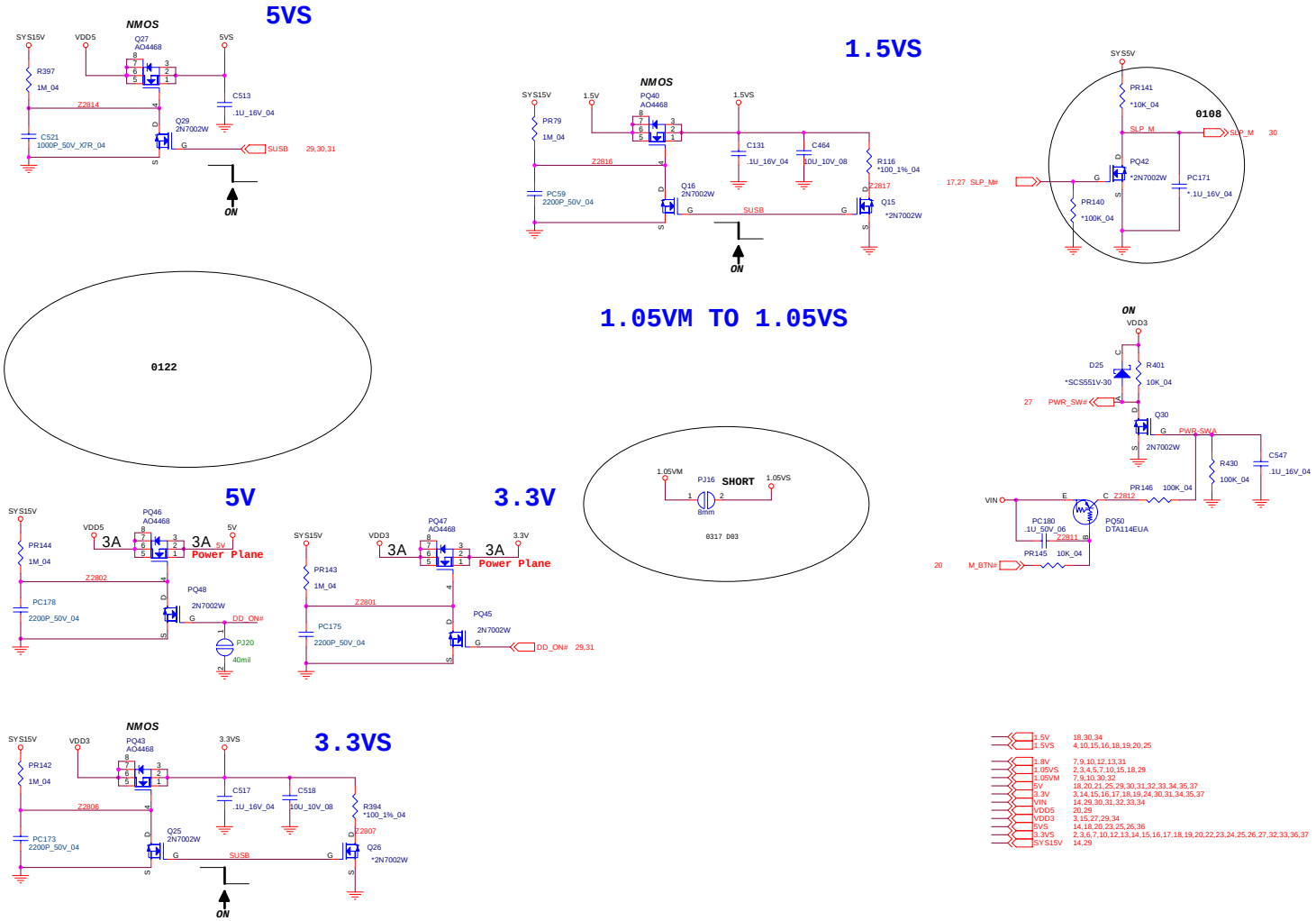
KBC-ITE IT8513E



5VS, 3, 3VS, VIN



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5VS, 3, 3VS, VIN

Power VDD3/VDD5

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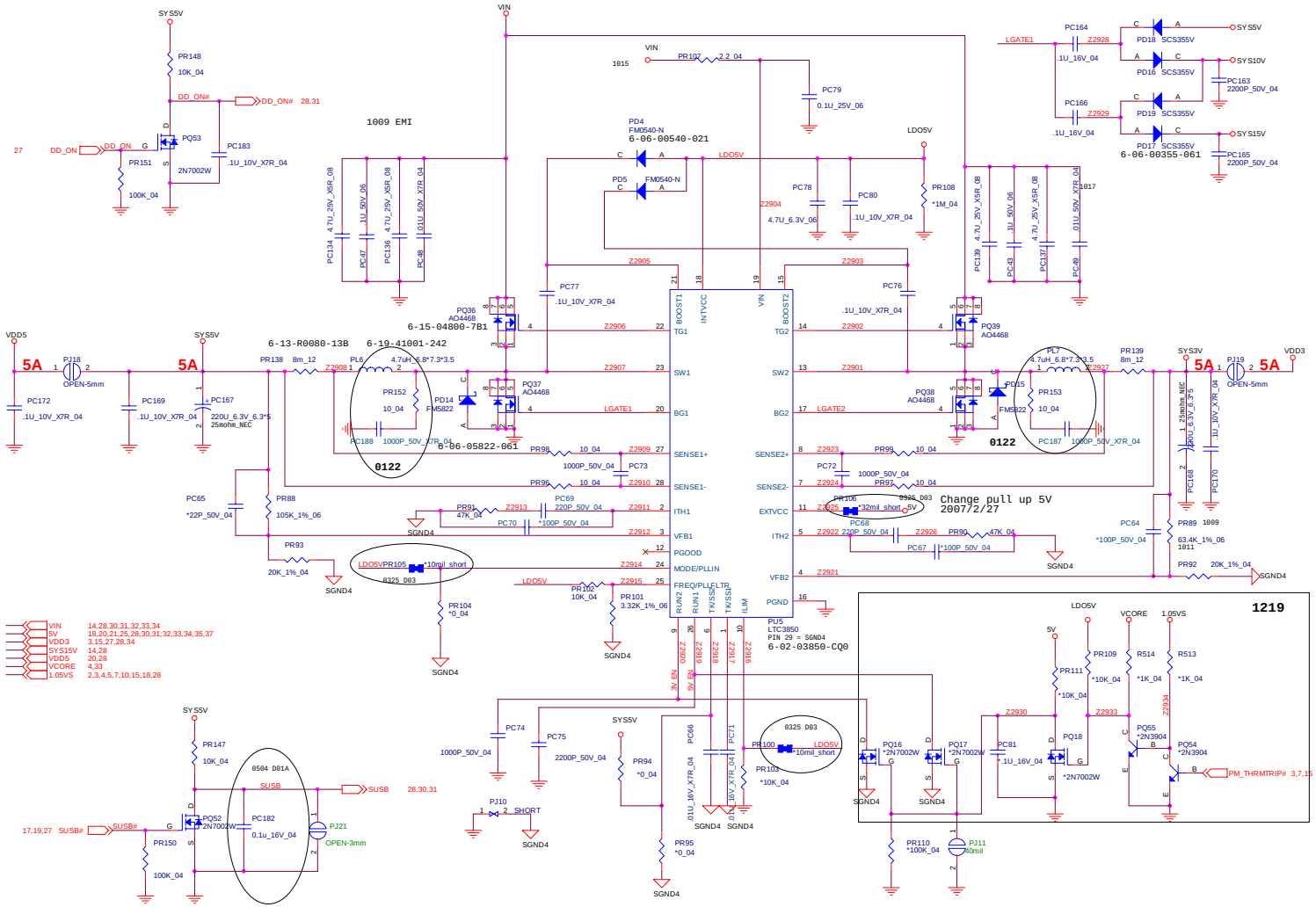
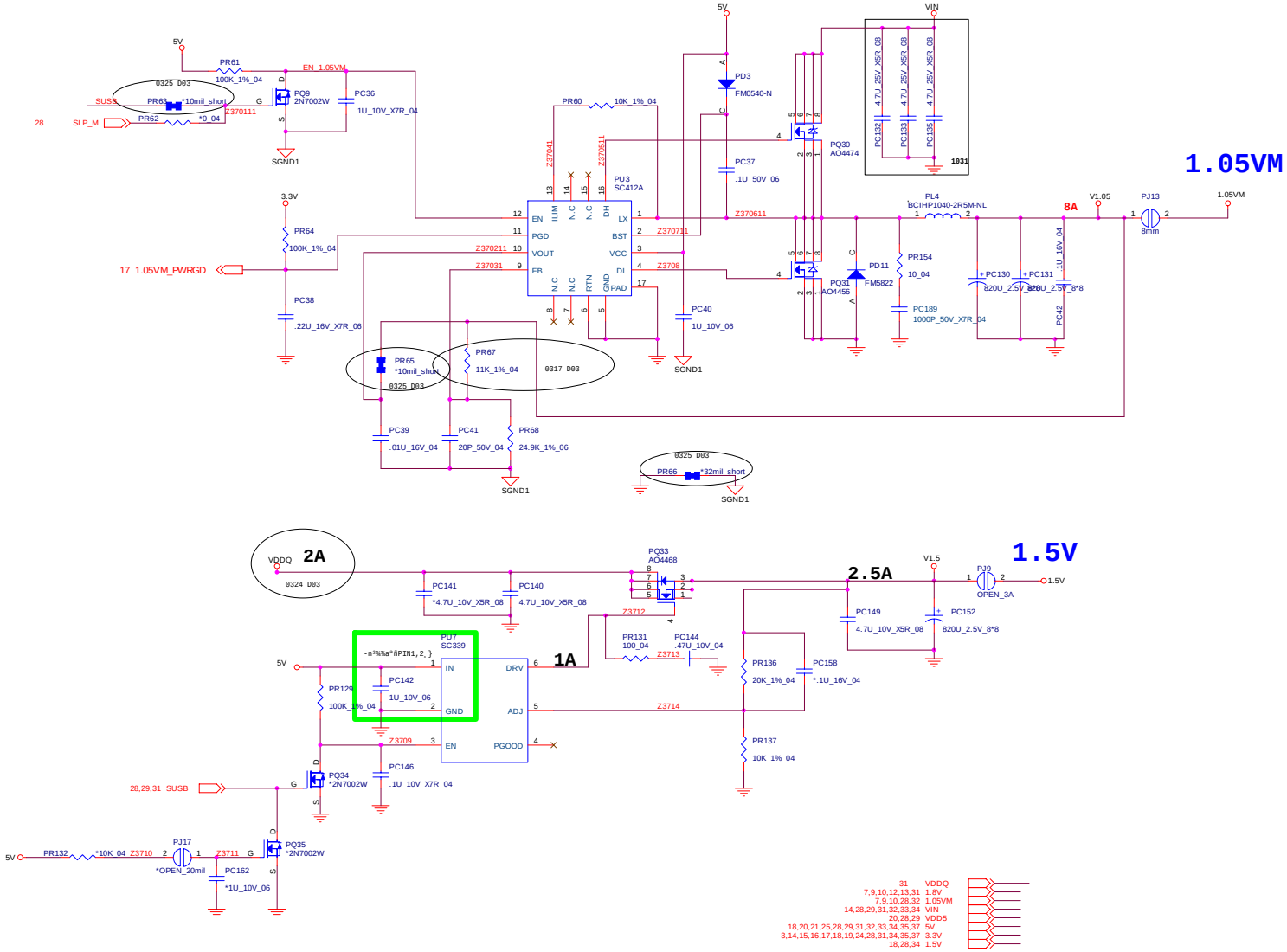
Power VDD3/VDD5



Power 1.5V/1.05V



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Power 1.5V/1.05V

POWER 1.8V/0.9V

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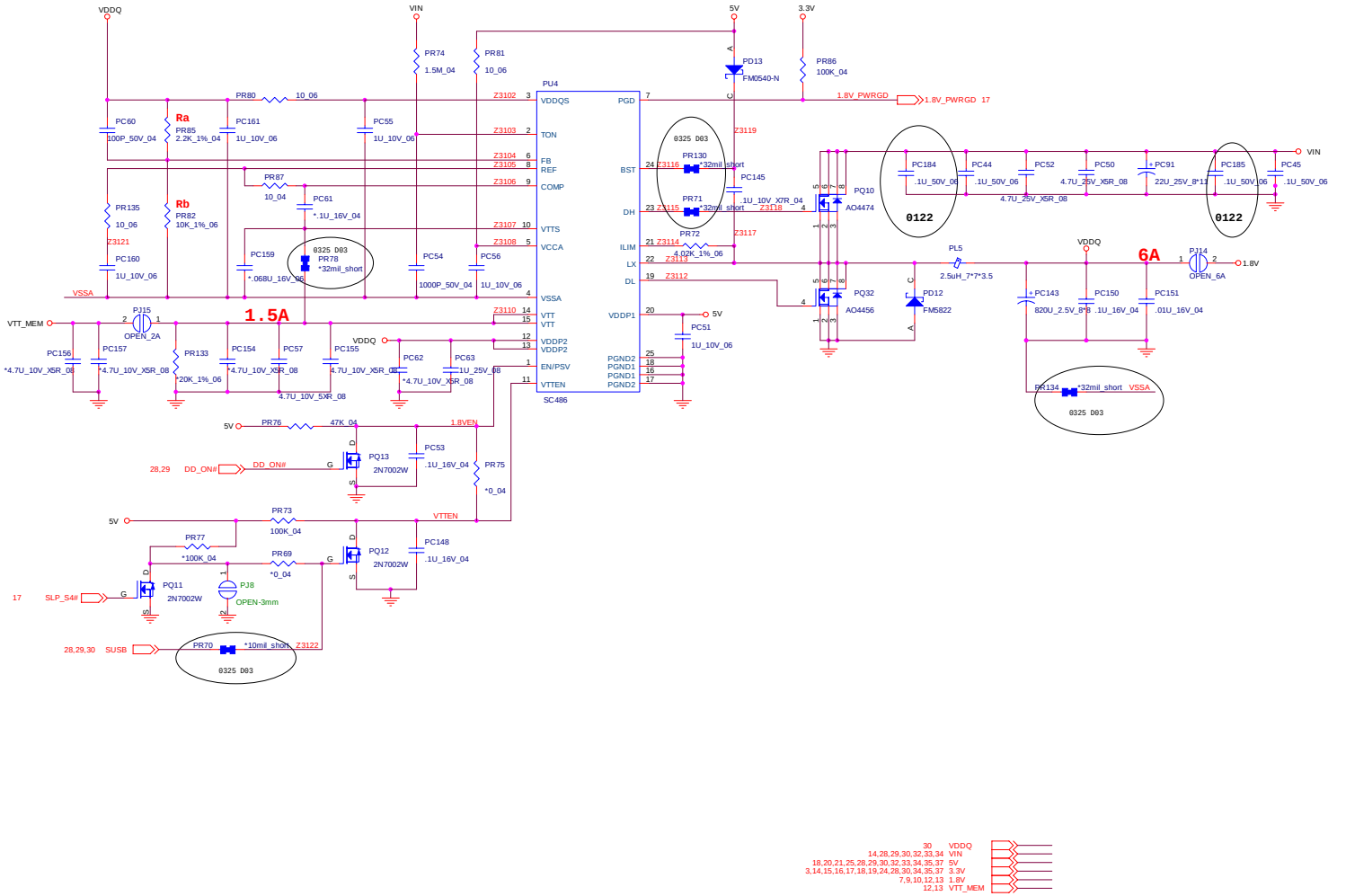
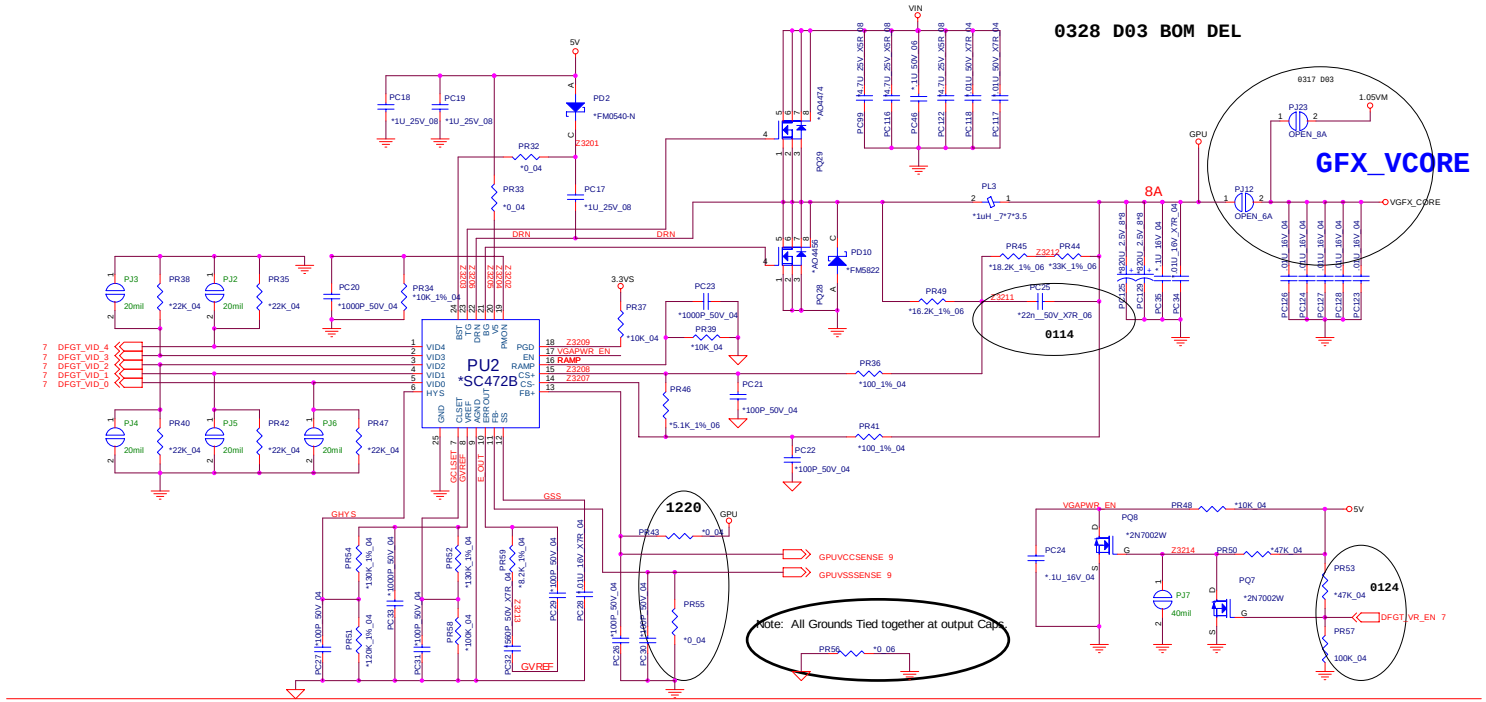
POWER 1.8V/0.9V



GFX_VCORE



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GFX-VCORE

VCORE

VCORE FOR MEROM CPU

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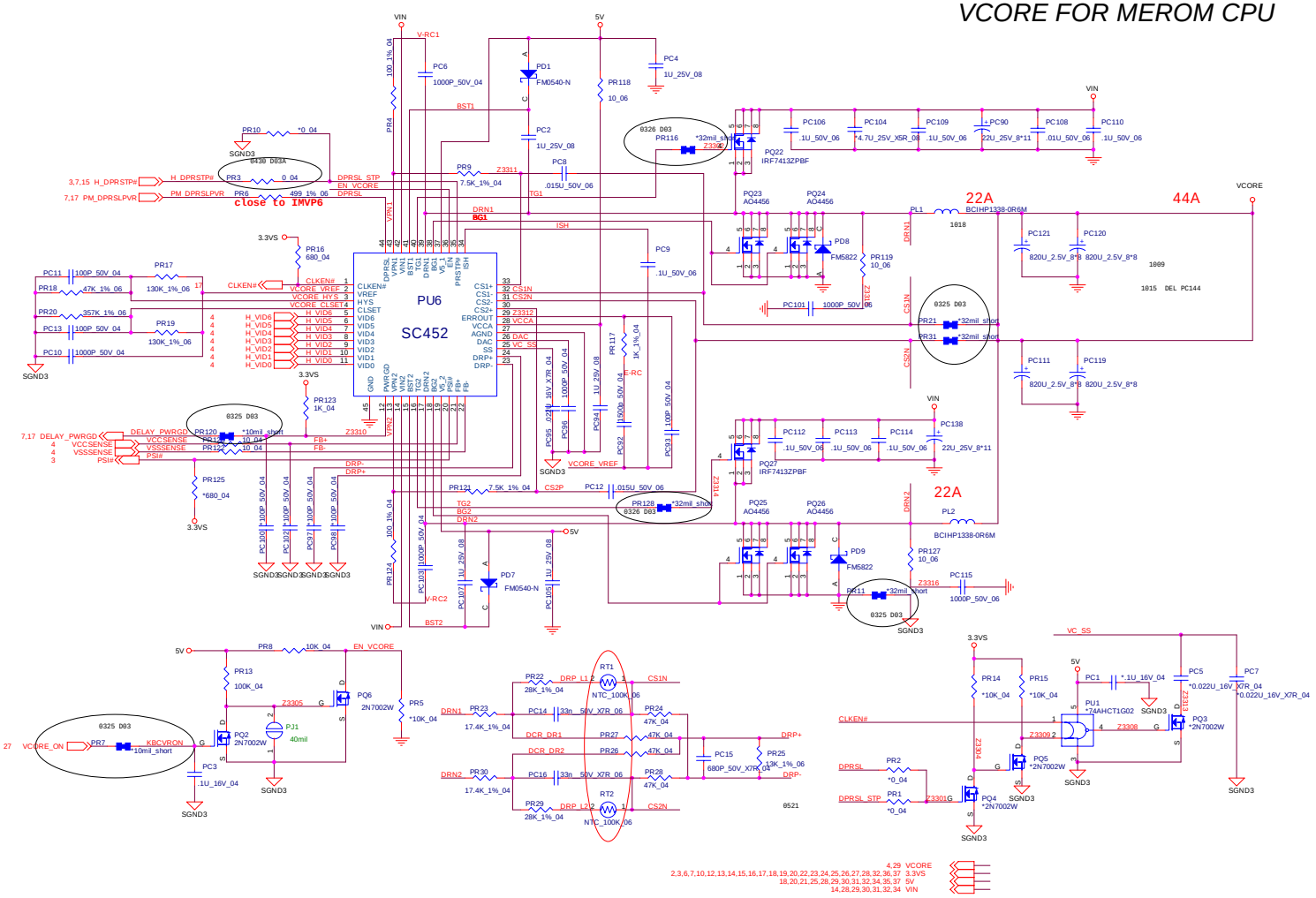
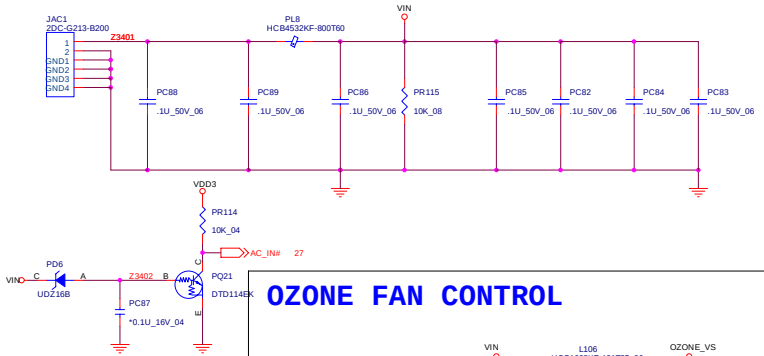
VCORE

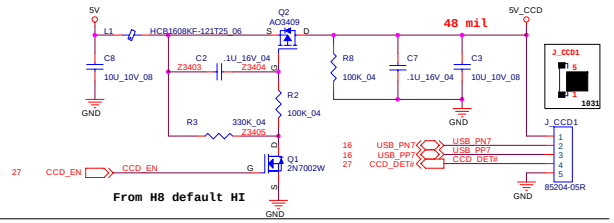


BT, CCD, MDC, AC-IN CONN

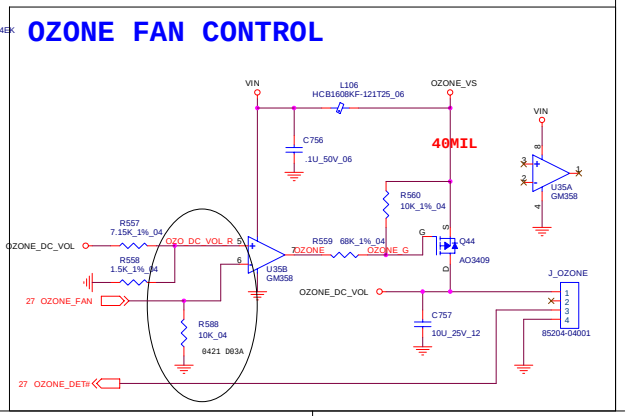
AC-IN



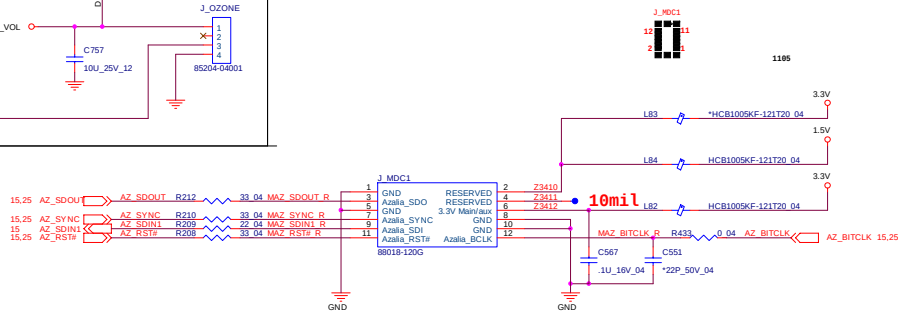
CCD



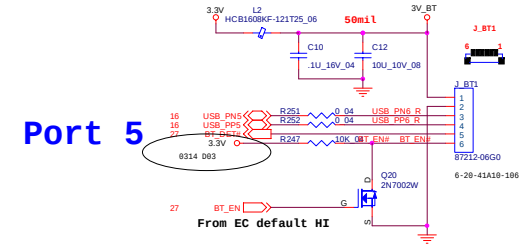
OZONE FAN CONTROL



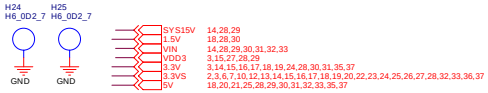
MDC MODULE



Bluetooth



Port 5



Sheet 35 of 48
BT, CCD, MDC, AC-IN CONN

TOUCH PANEL CONN

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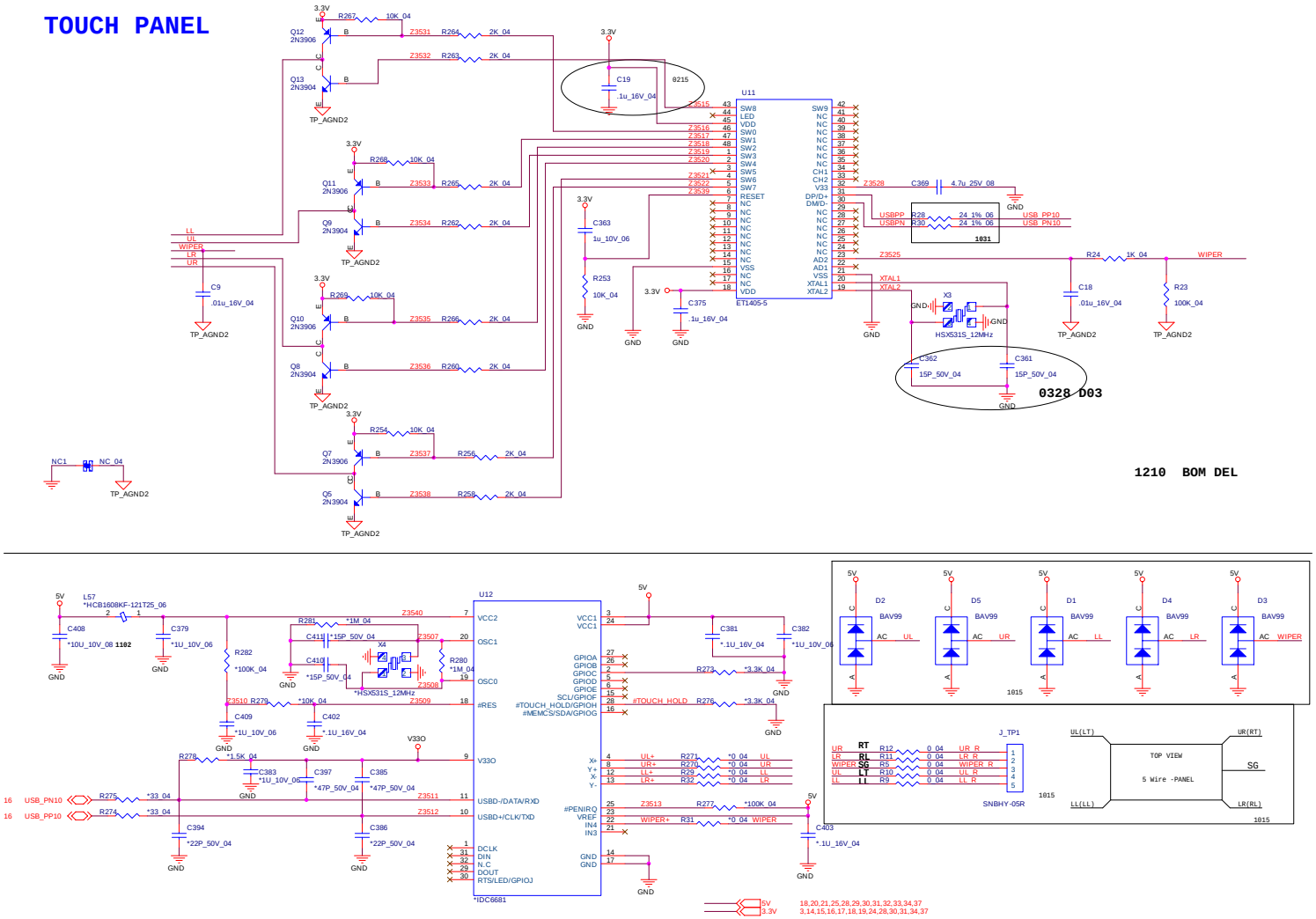
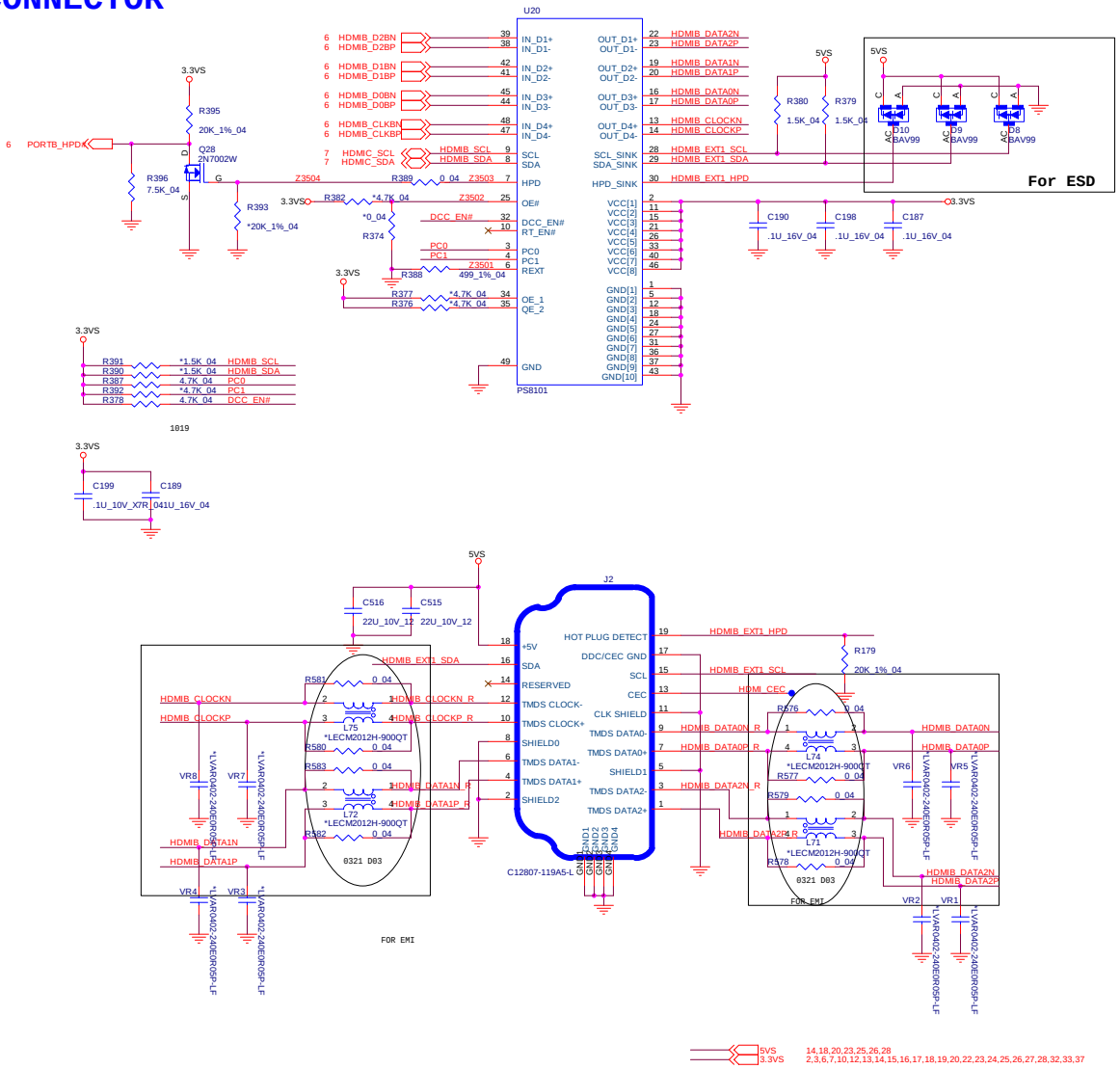
TOUCH PANEL CONN



HDMI CONN

HDMI CONNECTOR



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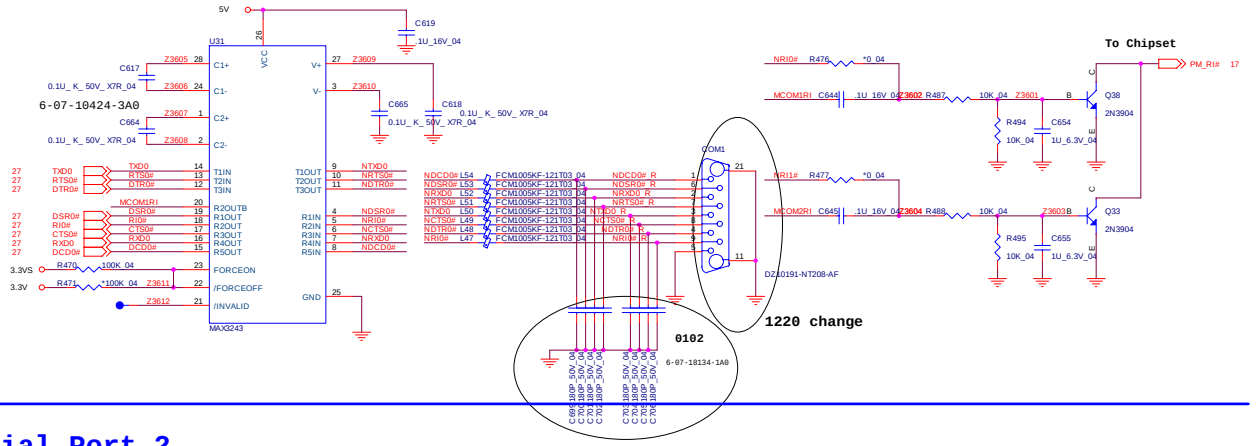
HDMI CONN

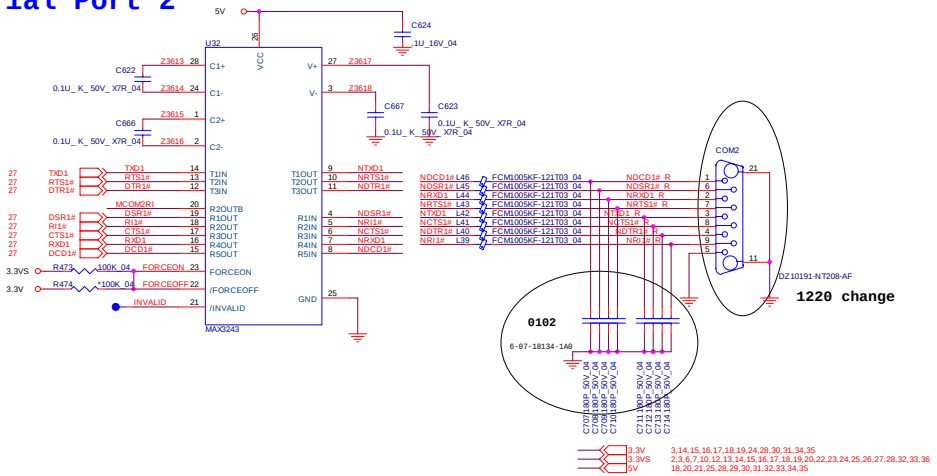
COM PORT

Sheet 38 of 48
COM PORT

Serial Port 1

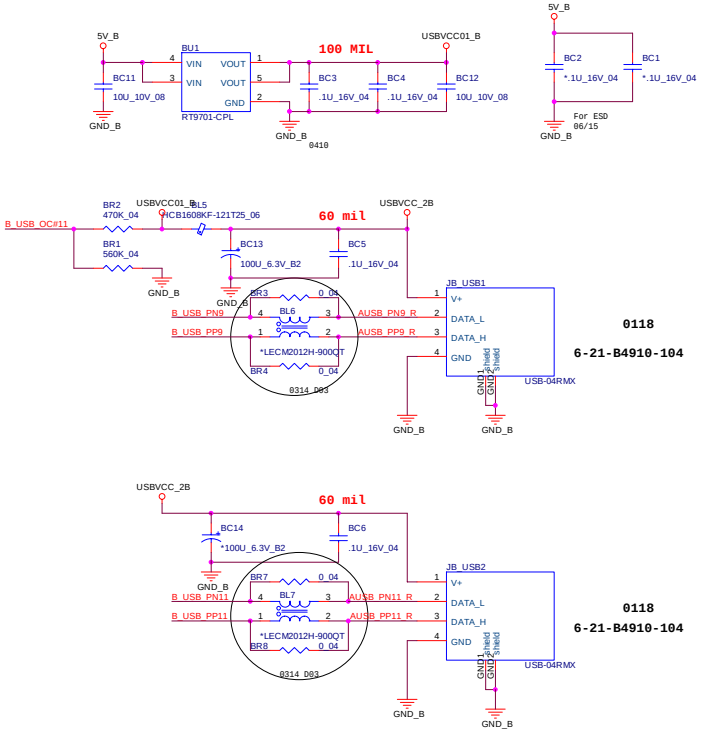


Serial Port 2

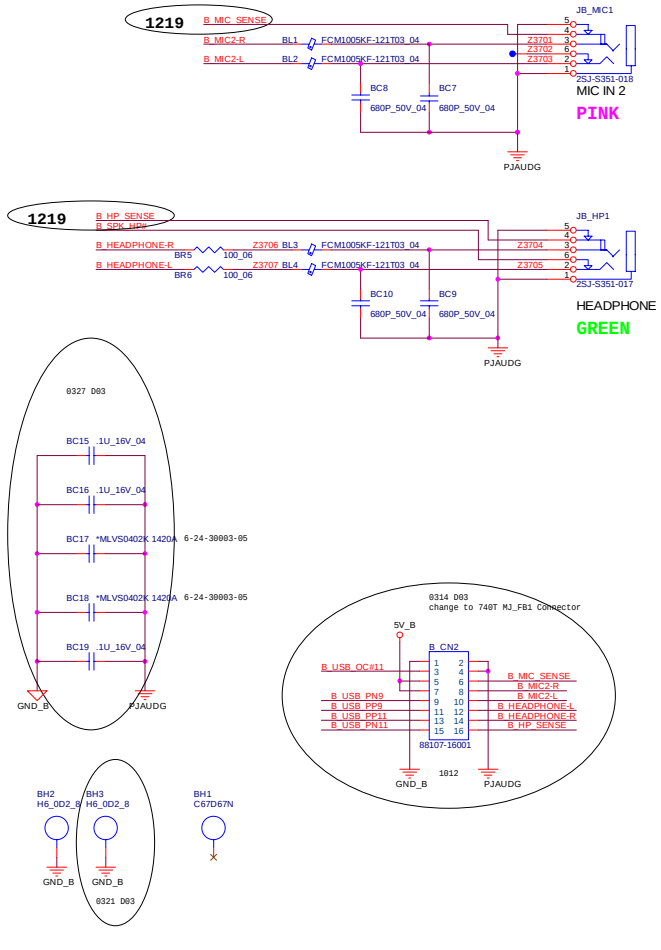


USB, AUDIO, BOARD

USB PORT 1,2



AUDIO JACK



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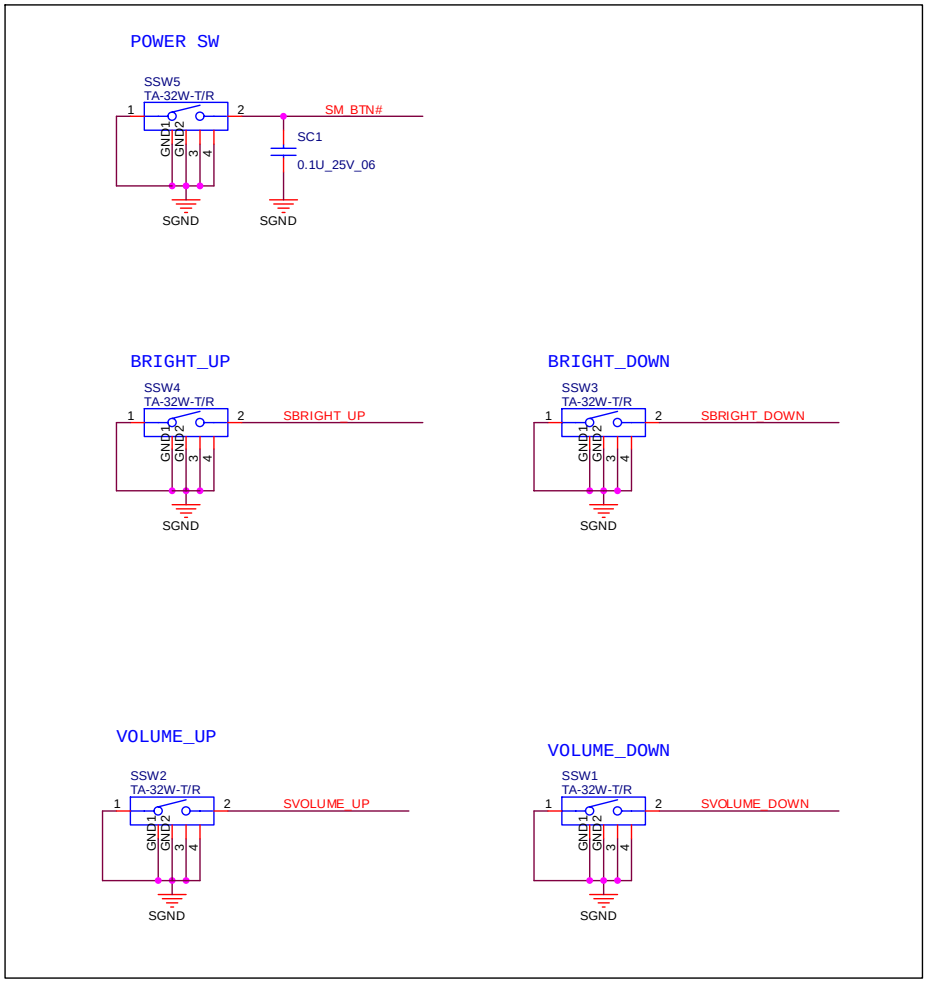
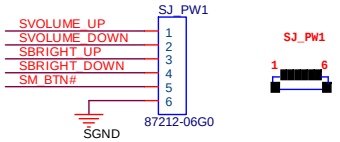
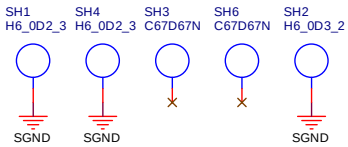
USB, AUDIO, BOARD

POWER, SW, BOARD

POWER BOARD







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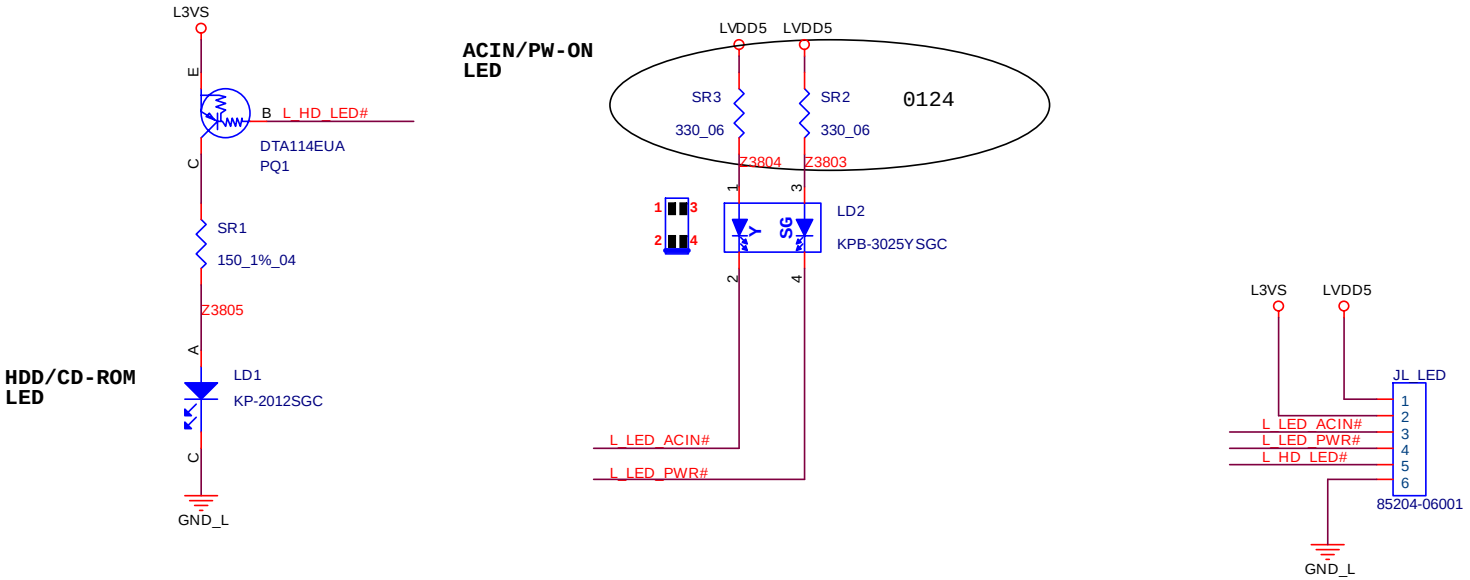
POWER, SW, BOARD

LED BOARD

LED



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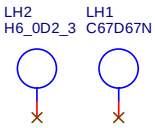
LED BOARD



Appendix C: Wall Mounting Guide

The computer may be mounted on a wall for display, however in order to avoid personal injury or damage to the computer make note of the standards, warnings and precautions listed in this chapter:

The system meets VESA (FDMI) Standard (**100mm * 100mm**), however before attaching any display bracket it is necessary to remove the stand.

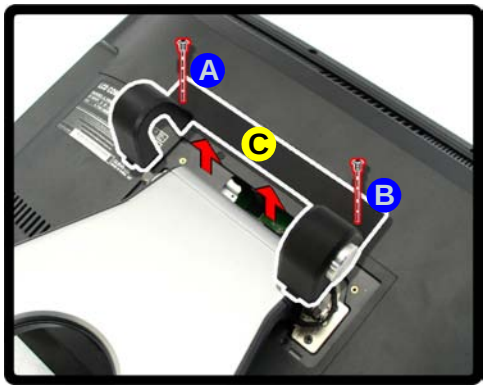
Removing the Stand

1. Turn **off** the computer and disconnect all cables and peripherals.
2. Carefully place the computer flat with the LCD facing down (make sure you cover the LCD to avoid scratches) so that you may access the rear cover.
3. Remove screws A & B from the stand cover, and then remove the stand cover C.
4. Carefully release cable D, and remove screws E - H.
5. Remove the stand I.
6. Remove the rubber covers J - M.

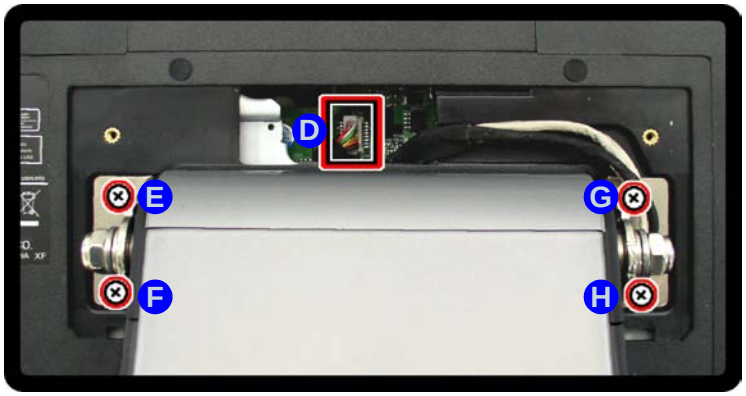
Figure 1
Stand Removal

a. Remove the screws and stand cover.
b. Disconnect the cable and remove the screws.
c. Remove the stand.
d. Remove the rubber covers.

a.

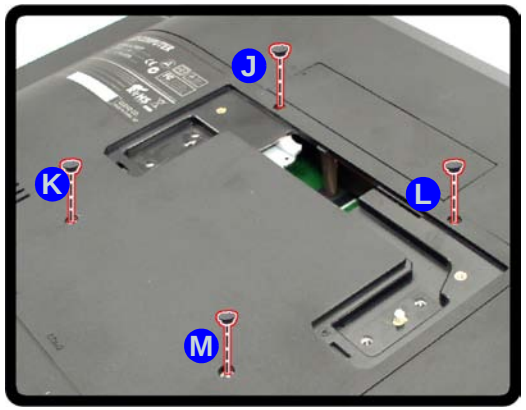


b.



c.

d.



C. Stand Cover
I. Stand

- 6 Screws & 4 Rubber Covers

Stand & Screws

Make sure you keep the stand and removed screws in a safe place in case you need to re-attach the stand at a later date.

Mounting Systems

This computer complies to the VESA FDMI (Flat Display Mounting Interface) 100mm * 100mm standard. Make sure that any mounting system you want to use meets the same standard.

It is imperative that you consult appropriate professional installers (i.e. qualified engineering, construction or architectural personnel) to install, move or service any mounting system. This is especially so as vertical surfaces vary widely and thus the actual mounting of any screen is beyond the scope of what can be outlined in written manual form. Some surfaces require significant reinforcement before any mount and display can function safely. Professional installers can determine if any vertical surface can bear the weight of the whole system.

Warning

If non-qualified installers are used to install any mounting system the system may fall and cause a serious injury if:

- The wall bracket does not support the weight of the system.
- The wall bracket is not securely (or is unevenly) fastened to the wall.
- The wall itself is not sturdy enough to support the system.
- An earthquake occurs.

General Guidelines for Wall Mounting

- Only use professional installers to install, move or service any mounting system.
- The system must only be mounted on a wall which can support the whole system's weight (including the weight of any arm or bracket).
- Make sure any wall is perpendicular and flat.
- Any mounting system used must support a minimum of **30kg** weight and be VESA compliant.
- Only use the screws and fittings supplied with the mounting system.
- Only use **M4 screws of a length of 12mm** to attach any bracket to the computer.
- Drill any holes to a depth of **30mm** (minimum), and only use the screws supplied with any bracket to attach it to the wall.
- Bear in mind that sufficient space must be left between the rear of the computer and the wall in order to allow:

  access to the ports & jacks
  the screen to be tilted (if the mounting system supports this)
  ventilation space

- It usually requires two people to mount the display on the wall (i.e. when joining the display bracket to the wall bracket).
- Make sure that any cables are firmly secured and do not cause an obstruction.
- Do not make any alterations or adjustments to any wall bracket yourself.
- Do not hang anything from (or add any other items to) the system.
- Do not expose the system to moisture or liquid.
- Do not mount the system in a location where it may excessively protrude or cause an obstruction.
- Do not mount the system too close to an air conditioning unit.
- Take care, and do not lean your weight on the system when cleaning it.
- Keep flammable objects and/or open flames away from the mounted system.
- Do not spill or spray liquid on the system.

Mounted System Example

The following pictures show some examples of how a system can be mounted on to a wall. These pictures are intended for guideline purposes only, and are not specific instructions. Professional installers will determine the exact installation procedure for your specific bracket and mounting conditions.

Installation Example

1. After removing the stand, the display bracket (which must to be VESA 100mm * 100mm compliant - weight rating of 30kg minimum) is attached firmly to the rear of the computer using **M4 screws** (of a length of 12mm) provided with the bracket.

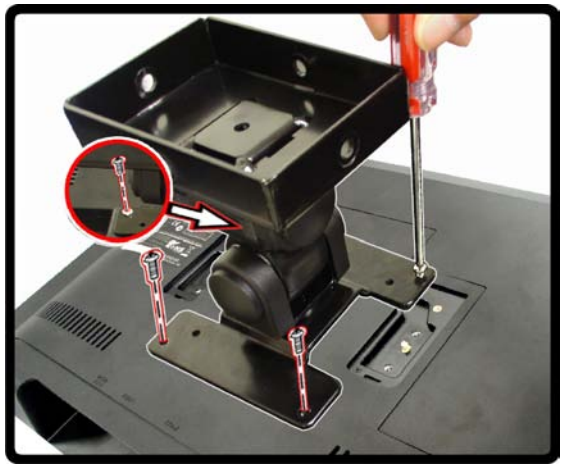


Figure 2
Display Bracket Attached

2. The (VESA compliant) wall bracket can then be attached to the wall using the screws provided with the system (holes in the flat, perpendicular wall should be drilled to a minimum depth of 30mm).

Figure 3
Wall Bracket

3. The display can now be mounted by lowering the display bracket (**in this example**) over the wall bracket and attaching the screws. Note that this procedure usually requires **two people**, as one person will need to hold the computer while the other inserts and tightens the screws.

Figure 4
Mounting the Display

4. The cables may now be attached, and firmly secured, to the system's ports and jacks.

Figure 5
Wall Bracket

Rotation

Once mounted the screen may be rotated through 180 degrees up/down and left/right, and through 270 degrees clockwise/ counterclockwise.

Appendix D: CPU Type DIP Switch Settings

This appendix is about the system's CPU type (**Penryn** or **Celeron** CPU) switch settings.

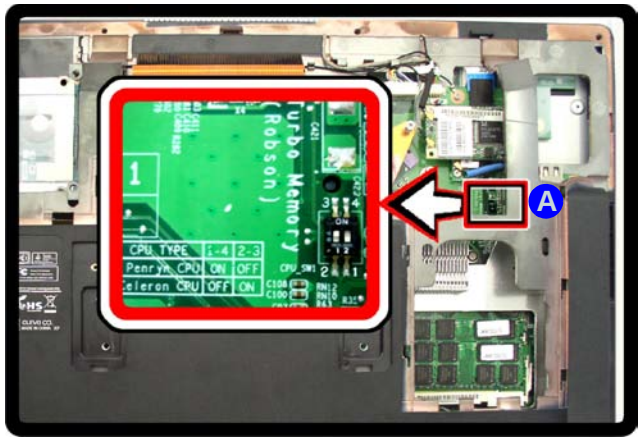
The following figure shows the location of the CPU Type DIP Switch. You can access the DIP Switch after you remove the Rear Top Cover. Be sure to turn OFF the system before you perform any part removal procedure.

1. Remove the rear top cover (see ***"Removing the Rear Top Cover" on page 2 - 6***).
2. Locate the **Dip Switch** at point A.
3. Set the switch as per the setting in ***Table D - 1 on page 2***

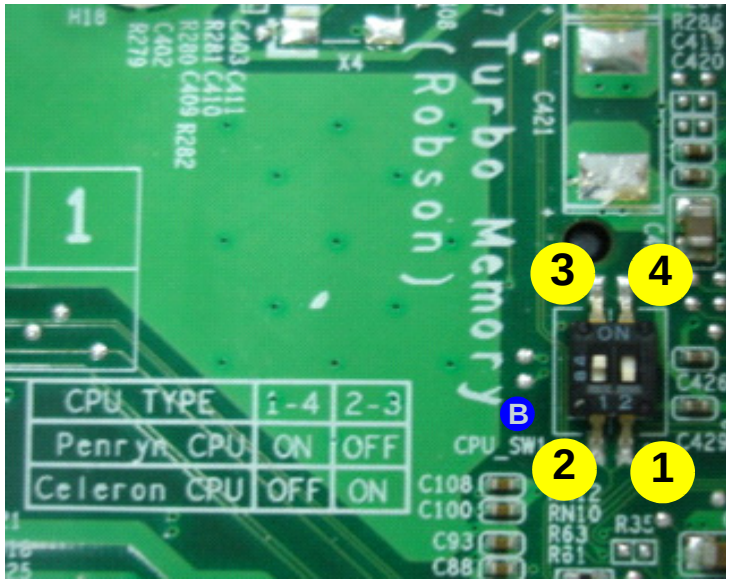
Figure 1
CPU Type Switch

a. Locate the Dip Switch CPU_SW1.
b. Adjust the settings for the CPU as per the instructions.

a.



b.



B. CPU Type Switch (CPU_SW1)

CPU Type Switch Settings (CPU_SW1)

CPU Type	1 - 4	2 - 3
Penryn CPU	**ON**	OFF
Celeron CPU	OFF	**ON**

Table D - 1 - CPU Type Switch