

Acer V3-771/V3-771G

SERVICEGUIDE



acer

Revision History

Refer to the table below for the updates made to this V3-771/V3-771G service guide.

Date	Chapter	Updates

Service guide files and updates are available on the ACER/CSD Website. For more information, go to <http://csd.acer.com.tw>.

Disclaimer

The information in this guide is subject to change without notice.

There are no representations or warranties, either expressed or implied, with respect to the contents hereof and specifically disclaims any warranties of merchantability or fitness for any particular purpose. The software described in this manual is sold or licensed "as is". Should the programs prove defective following their purchase, the buyer (not the manufacturer, distributor, or its dealer) assumes the entire cost of all necessary servicing, repair, and any incidental or consequential damages resulting from any defect in the software.

Copyright

© 2012 by Acer Incorporated. All rights reserved. No part of this publication may be reproduced, transmitted, transcribed, stored in a retrieval system, or translated into any language or computer language, in any form or by any means, electronic, mechanical, magnetic, optical, chemical, manual or otherwise, without the prior written permission of Acer Incorporated.

Conventions

The following conventions are used in this manual:

WARNING:

Indicates a potential for personal injury.

CAUTION:

Indicates a potential loss of data or damage to equipment.

+ IMPORTANT:

Indicates information that is important to know for the proper completion of a procedure, choice of an option, or completing a task.

The following typographical conventions are used in this document:

- Book titles, directory names, file names, path names, and program/process names are shown in *italics*.

Example:

the DRS5 User's Guide

/usr/local/bin/fd

the `/TPH15spool_M` program

- Computer output (text that represents information displayed on a computer screen, such as menus, prompts, responses to input, and error messages) are shown in constant width.

Example:

```
[01] The server has been stopped
```

- User input (text that represents information entered by a computer user, such as command names, option letters, and words) are shown in constant width bold.

Variables contained within user input are shown in angle brackets (< >).

Example:

At the prompt, type run **<file name> -m**

- Keyboard keys are shown in ***bold italics***.

Example:

After entering the data, press ***Enter***.

General information

Before using this information and the product it supports, read the following general information.

This service guide provides you with all technical information relating to the basic configuration for Acer's global product offering. To better fit local market requirements and enhance product competitiveness, your regional office may have decided to extend the functionality of a machine (such as add-on cards, modems, or extra memory capabilities). These localized features are not covered in this generic service guide. In such cases, contact your regional offices or the responsible personnel/channel to provide you with further technical details.

When ordering FRU parts: Check the most up-to-date information available on your regional Web or channel. If, for whatever reason, a part number change is made, it may not be noted in this printed service guide.

Acer-authorized Service Providers: Your Acer office may have a different part number code than those given in the FRU list in this service guide. You must use the list provided by your regional Acer office to order FRU parts for repair and service of customer machines.

CHAPTER 1

Hardware Specifications

Features	1-5
Operating System	1-5
Platform	1-5
System Memory	1-5
Display	1-5
Graphics	1-5
Storage Subsystem	1-6
Audio Subsystem	1-6
Optical Media Drive	1-7
Communication	1-7
Privacy Control	1-7
Dimensions and Weight	1-8
Power Adapter and Battery	1-8
Special Keys and Controls	1-8
I/O Ports	1-8
Software	1-9
Environment	1-10
Notebook Tour	1-11
Top Cover View	1-11
Keyboard View	1-12
Closed Front View	1-13
Left View	1-14
Right View	1-15
Base View	1-16
Indicators	1-17
Touchpad Basics	1-18
Using the Keyboard	1-19
Lock Keys	1-20
Windows Keys	1-21
Hotkeys	1-22
Specification Tables	1-25

CHAPTER 2

System Utilities

BIOS Setup Utility	2-3
Navigating the BIOS Utility	2-3
BIOS	2-4
Information	2-4
Main	2-6

Security	2-8
Boot.....	2-12
Exit.....	2-13
BIOS Flash Utilities.....	2-14
DOS Flash Utility.....	2-15
WinFlash Utility	2-17
Remove HDD/BIOS Password Utilities.....	2-18
Remove HDD Password Utilities	2-18
Removing BIOS Passwords.....	2-20
Cleaning BIOS Passwords.....	2-21
Using DMI Tools.....	2-22
LAN MAC EEPROM Utility	2-29

CHAPTER 3

Machine Maintenance

Machine Disassembly and Replacement.....	3-5
Recommended Equipment	3-5
Replacement Requirements.....	3-5
Pre-disassembly Instructions	3-6
Disassembly Process	3-7
External Module Disassembly Process.....	3-8
External Modules Disassembly Flowchart.....	3-8
Removing the Memory Card	3-9
Removing the Battery	3-10
Removing the Main Door	3-12
Removing the Memory Module	3-14
Removing the HDD Module.....	3-17
Removing the WLAN Card.....	3-21
Removing the ODD Module	3-23
Main Unit Disassembly Process	3-26
Main Unit Disassembly Flowchart	3-26
Removing the Top Case Palmrest	3-27
Removing the Touchpad Switch Board.....	3-30
Removing the Top Case	3-33
Removing the Speaker Module.....	3-37
Remove the Power Switch Board	3-40
Removing the Keyboard Bracket.....	3-42
Removing the Keyboard	3-45
Removing the IO Board	3-46

Removing the Motherboard	3-48
Removing the Thermal Module.	3-52
Removing the CPU	3-54
Removing the Bottom Case	3-56
LCD Module Disassembly Process	3-61
LCD Module Disassembly Flowchart	3-61
Removing the LCD Bezel	3-62
Removing the LCD Panel	3-66
Removing the Hinges.	3-69
Removing the Camera	3-71
Removing the LVDS Combo Cable	3-72
LCD Reassembly Procedure	3-76
Replacing the Camera	3-76
Replacing the LCD Panel	3-77
Replacing the LCD Bezel	3-84
Replacing the Bottom Case	3-87
Replacing the CPU	3-90
Replacing the Thermal Module.	3-92
Replacing the Motherboard	3-95
Replacing the IO Board	3-98
Replacing the Keyboard.	3-100
Replacing the Power Switch Board	3-103
Replacing the Speaker Module	3-105
Replacing the Top Case	3-108
Replacing the Top Case Palmrest	3-111
Replacing the ODD Module.	3-116
Replacing the WLAN Card	3-119
Replacing the HDD Module.	3-121
Replacing the DIMM Module	3-125
Replacing the Main Door.	3-127
Replacing the Battery.	3-128

CHAPTER 4

Troubleshooting

Introduction	4-3
General Information	4-3
Power On Issues	4-4
No Display Issues.	4-5
LCD Failure	4-7
Keyboard Failure	4-8

Touchpad Failure	4-9
Internal & External Speaker Failure	4-10
Microphone Failure	4-12
USB Failure	4-13
WLAN Failure	4-14
Card Reader Failure	4-15
Thermal Unit Failure	4-16
HDMI and CRT Failure	4-17
CD-ROM/DVD Failure	4-18
Other Functions Failure	4-19
Intermittent Problems	4-19
Undetermined Problems	4-19
Post Codes	4-20
POST Code Range	4-20

CHAPTER 5

Jumper and Connector Locations

Clearing Password Check and BIOS Recovery	5-6
Clearing Password Check	5-6
Clear CMOS Jumper	5-7
BIOS Recovery by Crisis Disk	5-8

CHAPTER 6

FRU List

V3-771/V3-771G Exploded Diagrams	6-4
Main Assembly	6-4
FRU List	6-6
Screw List	6-13

CHAPTER 7

Test Compatible Components

Microsoft® Windows® 7 Environment Test	7-4
V3 771/771G	7-4

CHAPTER 8

Online Support Information

Introduction	8-3
--------------------	-----

CHAPTER 1

Hardware Specifications

Features	1-5
Operating System	1-5
Platform	1-5
System Memory	1-5
Display	1-5
Graphics	1-5
Storage Subsystem	1-6
Audio Subsystem	1-6
Optical Media Drive	1-7
Communication	1-7
Privacy Control	1-7
Dimensions and Weight	1-8
Power Adapter and Battery	1-8
Special Keys and Controls	1-8
I/O Ports	1-8
Software	1-9
Environment	1-10
Notebook Tour	1-11
Top Cover View	1-11
Keyboard View	1-12
Closed Front View	1-13
Left View	1-14
Right View	1-15
Base View	1-16
Indicators	1-17
Touchpad Basics	1-18
Using the Keyboard	1-19
Lock Keys	1-20
Windows Keys	1-21
Hotkeys	1-22
System Block Diagram	1-24
Specification Tables	1-25
Computer specifications	1-25
System Board Major Chips	1-26
Processor	1-26
Processor Specifications	1-27
DIS 35W CPU Fan True Value Table (Tj85/Tj90/Tj100/Tj105)	1-28
DIS 45W CPU Fan True Value Table (Tj85/Tj90/Tj100/Tj105))	1-28
UMA CPU Fan True Value Table (Tj85/Tj90/Tj100/Tj105)	1-29
System Memory	1-29
Memory Combinations	1-29
Graphics Controller	1-30
Video Interface	1-30
BIOS	1-31
LAN Interface	1-31
Keyboard	1-31
Hard Disk Drive (AVL components)	1-32
Super-Multi Drive Interface	1-32

BD Combo Drive Interface	1-33
BD RW Drive Interface	1-34
LED 17.3"	1-35
Display Supported Resolution (System Supported Resolution)	1-35
Graphics Controller	1-36
Display Supported Resolution (GPU Supported Resolution)	1-36
Display Supported Resolution (LCD panel Supported Resolution)	1-37
Bluetooth Interface	1-37
Bluetooth Module	1-37
Camera	1-38
WIFI Card	1-38
Audio Codec and Amplifier	1-38
Audio Interface	1-40
Battery	1-40
VRAM	1-40
USB Port	1-41
HDMI Port	1-41
AC Adapter	1-41
System Power Management	1-41
Card Reader	1-42
System LED Indicator	1-42
System DMA Specification	1-42
System Interrupt Specification	1-42
System IO Address Map	1-43
.	1-45

Hardware Specifications and Configurations

Features

The following is a brief summary of the computer's many features:

Operating System

- Genuine Windows® 7 Home Premium 64-bit
- Genuine Windows® 7 Home Basic 64-bit

Platform

- Intel® Core™ i3-2350M processor (3 MB L3 cache, 2.30 GHz.35W), Intel® Core™ i3-2370M processor (3 MB L3 cache, 2.40 GHz.35W), i3-3110M processor (3 MB L3 cache, 2.30 GHz.35W), Intel® Core™ i5-2450M processor (3 MB L3 cache, 2.50 GHz.35W), Intel® Core™ i5-2520M processor (3 MB L3 cache, 2.50 GHz.35W), Intel® Core™ i5-2540M processor (3 MB L3 cache, 2.60 GHz.35W), Intel® Core™ i5-3210M processor (3 MB L3 cache, 2.50 GHz.35W), Intel® Core™ i5-3320M processor (3 MB L3 cache, 2.60 GHz.35W), Intel® Core™ i5-3360M processor (3 MB L3 cache, 2.80 GHz.35W), Intel® Core™ i7-2670QM processor (6 MB L3 cache, 2.20 GHz.45W), Intel® Core™ i7-3610QM processor (6 MB L3 cache, 2.30 GHz.45W), Intel® Core™ i7-3720QM processor (6 MB L3 cache, 2.60 GHz.45W), supporting Intel® 64 architecture, Intel® Smart Cache
- Mobile Intel® HM77 Express Chipset

System Memory

- Dual-channel DDR3 SDRAM support:
 - Up to 4 GB of DDR3 system memory, upgradable to 8 GB using two soDIMM modules for Dual-Core CPU, upgradable to 16 GB using four soDIMM modules for Quad-Core CPU

Display

- 17.3" HD 1600 x 900 resolution, high-brightness (220-nit) LED-backlit Glare TFT LCD
- Mercury-free, environment-friendly
- LED-backlight with driving circuit design
- 16:9 aspect ratio

Graphics

NVIDIA Optimus™ GeForce GT630M/GT640M/GT650M with dedicated DDR3 VRAM, supporting CUDA®, PhysX®, 3D Vision®, Microsoft® DirectX® 11, OpenGL® 4.1, OpenCL™ 1.1

- Dual independent display support
- 16.7 million colors
- External resolution / refresh rates:
 - HDMI® port up to 1920 x 1080: 60 Hz
 - VGA port up to 2048 x 1536: 75 Hz

- MPEG-2/DVD decoding
- VC-1 and H.264 (AVC) decoding
- Microsoft® DirectX® Video Acceleration (DXVA) application interface (API)
- HDMI® (High-Definition Multimedia Interface) with HDCP (High-bandwidth Digital Content Protection) support

Intel® HD Graphics 3000/4000

- Dual independent display support
- 16.7 million colors
- External resolution / refresh rates:
 - HDMI® port up to 1920 x 1200: 60 Hz
 - VGA port up to 2048 x 1536: 75 Hz
- MPEG-2/DVD decoding
- VC-1 and H.264 (AVC) decoding
- Microsoft® DirectX® Video Acceleration (DXVA) application interface (API)
- HDMI® (High-Definition Multimedia Interface) with HDCP (High-bandwidth Digital Content Protection) support

Storage Subsystem

Solid state drive

- SATA Type, LF+HF
- Multi-Level Cell (MLC) NAND flash
- 120 GB/256 GB

Hard disk drive

- SATA Type, 5400 RPM, 2.5 ", Slim with height of 7.0/9.5/12.5 mm
- 320/500/640/750/1000 GB

Multi-in-1 card reader, supporting:

- Secure Digital™ (SD), Secure Digital™ eXtended Capacity(SDXC), MultiMediaCard™ (MMC), MultiMediaCard Plus (MMCplus™), Memory Stick™ (MS), xD-Picture Card™ (xD), Secure Digital™ High Capacity (SDHC)

Audio Subsystem

- Optimized Dolby® Home Theater® v4 audio enhancement, featuring Audio Optimizer, Audio Regulator, Volume Leveler, Volume Maximizer, Intelligent EQ, Dialogue Enhancer, Surround Virtualizer for Headphones, Surround Virtualizer for Built-in Speakers, and Dolby® Digital Output technologies
- Two built-in 20mm diameter stereo speakers and the Acer Tuba CineBass booster supporting low-frequency effects
- True-5.1-channel surround sound output
- High-definition audio support
- MS-Sound compatible

- Built-in digital microphone

Optical Media Drive

- Slim DVD Super Multi double-layer drive:
 - Read: 8X DVD-R, 8X DVD-RW, 8X DVD-ROM, 8X DVD-R DL, 5X DVD-RAM, 8X DVD+R, 8X DVD+RW, 8X DVD+R DL, 24X CD-R, 24X CD-RW, 24X CD-ROM
 - Write: 8X DVD-R, 6X DVD-R DL, 6X DVD-RW, 5X DVD-RAM, 8X DVD+R, 6X DVD+R DL, 8X DVD+RW, 24X CD-R, 24X CD-RW
- Slim Blu-ray Disc™ combo:
 - Read: 6X BD-ROM, 6X BD-ROM DL, 6X BD-R, 4.8X BD-R DL, 4.8X BD-R TL, 6X BD-R LTH, 6X BD-RE, 4.8X BD-RE DL, 2X BD-RE TL, 4.8X BDMV, 8X DVD-ROM, 8X DVD-ROM DL, 8X DVD-R, 6X DVD-R DL, 8X DVD-RW, 8X DVD+R, 6X DVD+R DL, 8X DVD+RW, 5X DVD-RAM, 24X CD-R, 24X CD-RW, 24X CD-ROM
 - Write: 8X DVD-R, 6X DVD-R DL, 6X DVD-RW, 5X DVD-RAM, 8X DVD+R, 6X DVD+R DL, 8X DVD+RW, 24X CD-R, 24X CD-RW
- Slim Blu-ray Disc™ writer:
 - Read: 8X DVD-ROM, 8X DVD-R, 8X DVD+R, 8X DVD-RW, 8X DVD+RW, 8X DVD-R DL, 8X DVD+R DL, 6X BD-ROM, 6X BD-R, 6X BD-R DL, 5X BD-R L to H, 5X BD-RE, 5X BD-RE DL, 5X DVD-RAM, 24X CD-ROM, 24X CD-R, 24X CD-RW
 - Write: 8X DVD-R, 8X DVD+R, 8X DVD+RW, 6X DVD-R DL, 6X DVD+R DL, 6X BD-R, 6X BD-R DL, 6X DVD-R DL, 6X DVD+R DL, 6X DVD-RW, 6X BD-R, 6X BD-R DL, 5X DVD-RAM, 4X BD-R L to H, 2X BD-RE, 2X BD-RE DL, 24X CD-R, 24X CD-RW

Communication

Webcam

- Acer Video Conference, featuring:
 - 1.3M webcam with 1280*1024 effective resolution
 - Supports 720P resolution online video calls

Wireless and networking

- WLAN:
 - WiFi 2X2 AGN
- WPAN:
 - BT4.0 Atheros WB222
- LAN:
 - Gigabit Ethernet (10/100/1000 Mbps)

Privacy Control

- HDD password
- BIOS user, supervisor password
- Kensington lock slot

Dimensions and Weight

Dimensions

- 414.8 (L) x 275 (W) x 34~34.65 (H) mm

Weight

- 3.215 kg with 6 cell battery

Power Adapter and Battery

ACPI 3.0 CPU power management standard: supports Standby and Hibernation power-saving modes

Power adapter

- 3-pin 65 W AC adapter:
 - 95.0 (W) x 50.0 (D) x 25.4 (H) mm
 - 216 g with 180 cm power cord
- 3-pin 90W AC adapter:
 - 126.5(W) x 50.0 (D) x 30.6 (H) mm
 - 400g maximum

Battery

- 4400 mAh 6-cell Li-ion standard battery pack
- 9000 mAh 9-cell Li-ion standard battery pack

Special Keys and Controls

Keyboard

- 103-US/104-UK/107-JP keys-layout keyboard with independent standard numeric keypad, international language support

Touchpad

- Dual-mode touchpad with Media Console / multi-gesture function, supporting two-finger scroll, pinch, rotate, flip

Media keys

- Media controls: play/pause, stop, previous, next
- Volume controls: up/down

I/O Ports

- Multi-in-1 card reader (SD™, SDXC™, SDHC™, MMC, MMCplus™, MS™, xD™)
- 2 USB 2.0 ports

- 2 USB 3.0 ports
- External VGA port
- HDMI® port
- Headphone/speaker/line-out jack
- Microphone-in jack
- Ethernet (RJ-45) port
- DC-in jack for AC adapter

Software

Productivity

- Acer AUPEO
- OOBE offer Acer Edition
- Acer Backup Manager
- Acer ePower Management
- Acer eRecovery Management
- Acer Evernote
- Acer Identity Card
- Acer KOBO
- Acer Netflix Shortcut
- Acer newsXpresso
- Acer NOOK for PC
- Acer Registration
- Acer Updater
- Acer Welcome Center
- Adobe Flash Player
- Adobe Reader X
- Office 2010 Acer edition

Security

- McAfee Family Protection Shortcut
- McAfee Internet Security Suite WW
- McAfee Virus Definitions
- MyWinLocker Suite
- Norton Online Backup

Multimedia

- Acer Crystal Eye Webcam
- Acer clear.fi Tutorial
- Acer clear.fi client
- Acer clear.fi
- NTI Media Maker

Gaming

- Acer Fooz Kids
- Wild Tangent WW Acer Edition

Communication and ISP

- Skype
- Windows Live Essentials 2011

Web links and utilities

- Acer Accessory Store
- Bing Bar
- Bing Setup
- eBay Shortcut 2009
- Internet Explorer 9
- Silverlight

Environment

- Temperature:
 - Operating: 5 °C to 35 °C
 - Non-operating: -20 °C to 65 °C
- Humidity (non-condensing):
 - Operating: 20% to 80%
 - Non-operating: 20% to 80%

Notebook Tour


This section provides an overview of the features and functions of the notebook.

Top Cover View



Figure 1-1. Top Cover View

Table 1-1. Top Cover View

No	Icon	Item	Description
1		Microphone	Internal microphone for recording sound.
2		Screen	Also called Liquid-Crystal Display (LCD), displays computer output.
3		Webcam	Web camera for video communication.

Keyboard View



Figure 1-2. Keyboard View

Table 1-2. Keyboard View






No	Icon	Item	Description
1		Power button	Turns the computer on and off.
2		Keyboard	For entering data into your computer.
3		Touchpad	Touch-sensitive pointing device which functions like a computer mouse.
4		Click buttons (left and right)	The left and right buttons function like the left and right mouse buttons.
5		Speakers	Left and right speakers deliver stereo audio output.

Closed Front View



Figure 1-3. Closed Front View

Table 1-3. Closed Front View

No	Icon	Item	Description
1		Power indicator	Indicates the computer's power status.
		Battery indicator	Indicates the computer's battery status. 1. Charging: The light shows amber when the battery is charging. 2. Fully charged: The light shows blue when in AC mode.
		HDD indicator	Indicates when the hard disk drive is active
		Communication Indicator	Indicates the computer's wireless connectivity device status.
2		Multi-in-1 card reader	Accepts Secure Digital (SD), MultiMediaCard (MMC), Memory Stick (MS), Memory Stick PRO (MS PRO), xD-Picture Card (xD). Note: Push to remove/install the card. Only one card can operate at any given time.

Left View

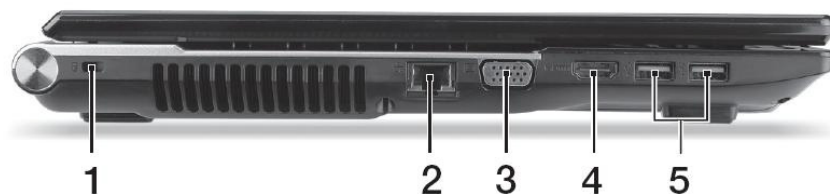

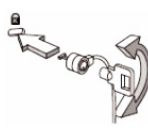






Figure 1-4. Left View

Table 1-4. Left View





No	Icon	Item	Description
1		Kensington lock slot 	Connects to a Kensington-compatible computer security lock. Wrap the computer security lock cable around an immovable object such as a table or handle of a locked drawer. Insert the lock into the notch and turn the key to secure the lock. Some keyless models are also available.
2		Ethernet (RJ-45) port	Connects to an Ethernet 10/100/1000-based network.
3		External VGA port	Connects to a display device (e.g., external monitor, LCD projector).
4		HDMI port	Supports high definition digital video connections.
5		USB 3.0 ports	Connect to USB devices. <i>A USB 3.0 port can be distinguished by its blue connector (see below).</i>

Right View



Figure 1-5. Right View

Table 1-5. Right View

No	Icon	Item	Description
1		Headphones/speaker/line-out jack	Connects to audio line-out devices (e.g., speakers, headphones).
		Microphone jack	Accepts inputs from external microphones.
2		USB 2.0 ports	Connect to USB 2.0 devices (e.g., USB mouse, USB camera).
3		Optical drive	Internal optical drive; accepts CDs or DVDs.
4		Optical disk access indicator	Lights up when the optical drive is active.
5		Optical drive eject button	Ejects the optical disk from the drive.
6		Emergency eject hole	<i>Ejects the optical drive tray when the computer is turned off.</i> Note: Insert a paper clip to the emergency eject hole to eject the optical drive tray when the computer is off.
7		DC-in jack	Connects to an AC adapter.

Base View

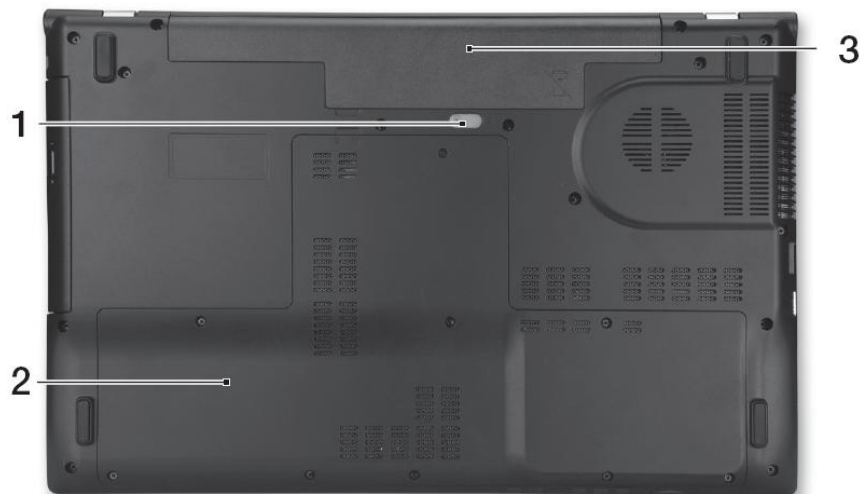





Figure 1-6. Base View





Table 1-6. Base View

No	Icon	Item	Description
1		Battery release latch	Releases the battery for removal. Insert a suitable tool into the latch and slide to release.
2		Hard disk bay	Houses the computer's hard disk (secured with screws).
		Memory compartment	Houses the computer's main memory.
3		Battery bay	Houses the computer's battery pack.

Indicators

The computer has five easy-to-read status indicators. The following indicators are visible even when the computer cover is closed.

Table 1-7. Indicators

Icon	Function	Description
	Power indicator	Indicates the computer's power status.
	Battery indicator	Indicates the computer's battery status. 1. Charging: The light shows amber when the battery is charging. 2. Fully charged: The light shows blue when in AC mode.
	HDD indicator	Indicates when the hard disk drive is active
	Communication Indicator	Indicates the computer's wireless connectivity device status.
	Optical disk access indicator	Lights up when the optical drive is active.

Touchpad Basics

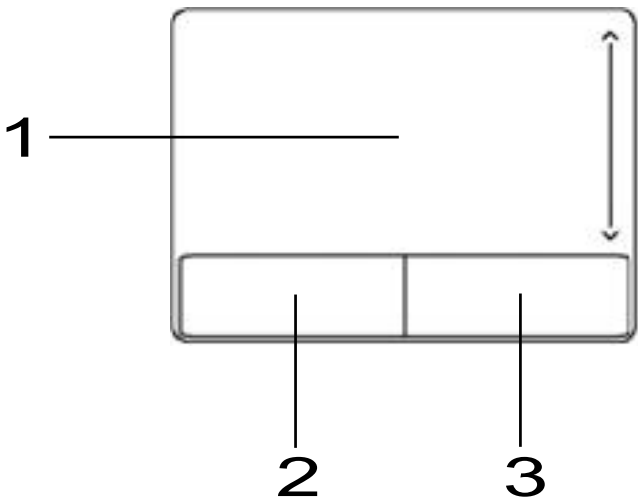


Figure 1-7. Touchpad

- Move finger across the TouchPad (1) to move the cursor.
- Press the left (2) and right (3) buttons located beneath the TouchPad to perform selection and execution functions. These two virtual buttons are the equivalent of the left and right buttons on a mouse. Tapping on the TouchPad is the same as clicking the left button.

Table 1-8. Touchpad

Function	Left Button (2)	Right Button (3)	Main Touchpad (1)
Execute	Quickly click twice.		Rapidly tap twice.
Select	Click once.		Tap once.
Access context menu		Click once.	

Using the Keyboard

The keyboard contains an embedded numeric keypad, a separate cursor, windows key, lock function keys, special and full sized keys.



Figure 1-8. Keyboard Lock Keys

Lock Keys

The keyboard has three lock keys which the user can toggle on and off.

Table 1-9. Lock Keys

Lock key	Description
Caps Lock	When on, all alphabetic characters are in uppercase.
Num Lock	<p>Off by default. When On, internal keyboard acts as numeric key padlock. If an external keyboard or keypad is present, the Num Lock will have the following definitions:</p> <ul style="list-style-type: none">• When On, the system boots with external keyboard/keypad Num Lock status On. Internal keyboard overlay numeric keys are disabled.• The key can be turned on/off via the internal keyboard (Fn+F11) or the external keyboard/keypad. Num Lock affects the external keyboard/keypad only.• Shift state is NOT used for the cursor movement by the numeric keys.• The state of the Num Lock is not changed by the attachment/removal (hot plug) of the external keyboard/keypad.
Scroll Lock <Fn> +<F12>	When On, the screen moves one line up or down when pressing up or down arrow keys. Scroll Lock is not applicable for all applications.

Windows Keys

The keyboard has two keys that perform Windows-specific functions.



-  Windows Logo key
-  Application key

Table 1-10. Windows Keys

Key	Description
Windows Logo key	<p>Pressed alone, this key has the same effect as clicking on the Windows Start button; it launches the Start menu. It can also be used with other keys to provide a variety of functions.</p> <p>Functions supported by Windows XP, Windows Vista, and Windows 7:</p> <p><⊞>: Open or close the Start menu</p> <p><⊞> + <R>: Open the Run dialog box</p> <p><⊞> + <M>: Minimizes all windows</p> <p><SHIFT> + <⊞> + M: Undo minimize all windows</p> <p><⊞> + <F1>: Show the help window</p> <p><⊞> + <E>: Open Windows Explorer</p> <p><⊞> + <F>: Search for a file or folder</p> <p><⊞> + <D>: Show the desktop</p> <p><CTRL> + <⊞> + <F>: Search for computers (search in network)</p> <p><⊞> + <L>: Lock computer (if connected to a network domain), or switch users (if not connected to a network domain)</p> <p><CTRL> + <⊞> + <TAB>: Moves focus from Start menu, to the Quick Launch toolbar, to the system tray (use RIGHT ARROW or LEFT ARROW to move focus to items on the Quick Launch toolbar and the system tray)</p> <p><⊞> + <TAB>: Cycle through programs on the taskbar</p> <p><⊞> + <BREAK>: Display the System Properties dialog box</p> <p>Functions supported by Windows XP:</p> <p><⊞> + <BREAK>: Show the System Properties dialog box</p> <p><⊞> + <U>: Open Ease of Access Center</p>
Application key	<p>This key has the same effect as clicking the right mouse button; opening the application's context menu.</p>

Hotkeys

The computer uses hotkeys or key combinations to access most computer controls.

To activate hotkeys, press and hold the **<Fn>** key before pressing the key in the combination.








Figure 1-9. Keyboard Hotkeys

Table 1-11. Hotkeys

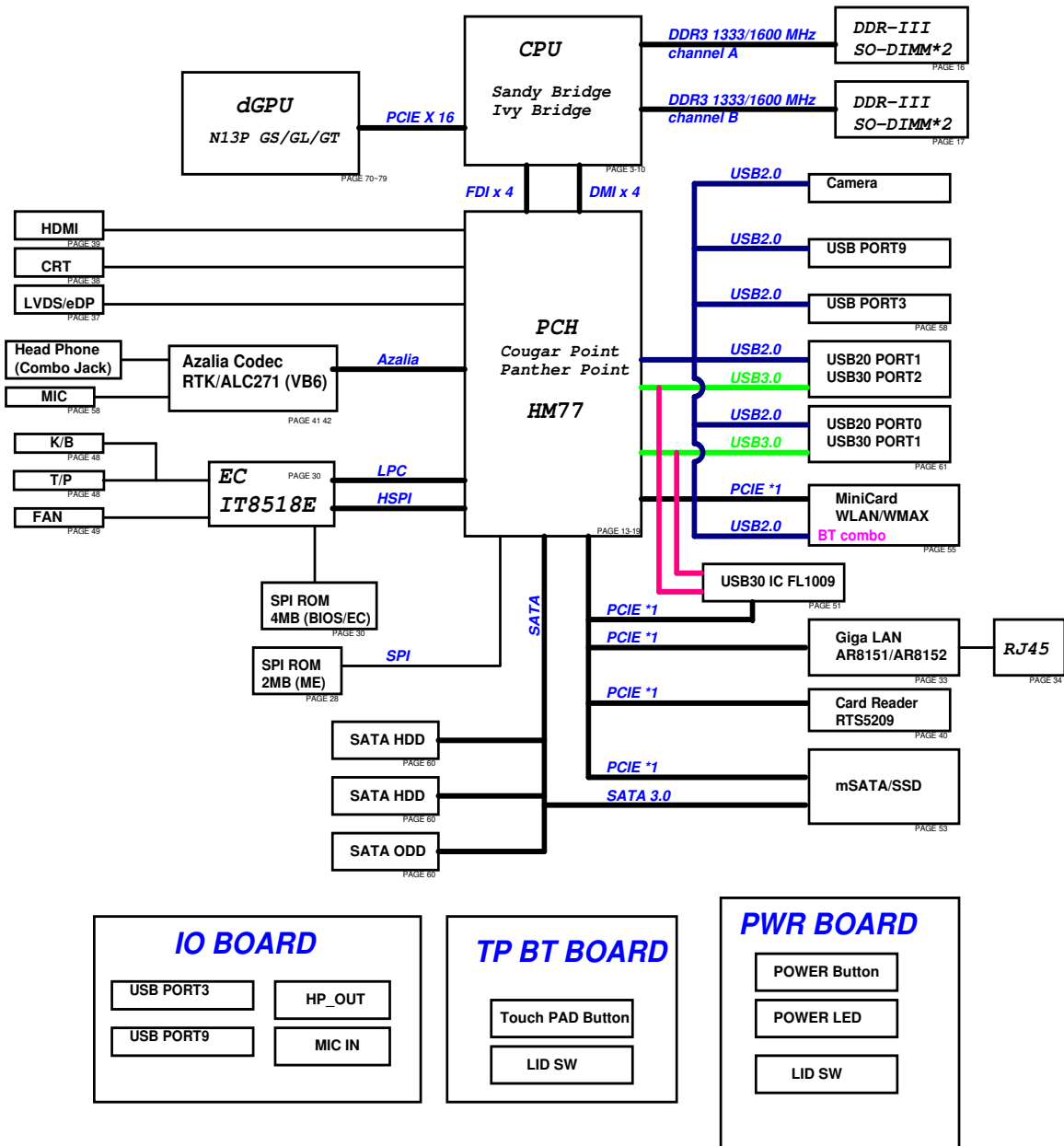
Hotkey	Icon	Function	Description
<Fn> + <F3>		Communication key	Enables / disables the computer's communication devices. (Communication devices may vary by configuration.)
<Fn> + <F4>		Sleep	Puts the computer in Sleep mode.
<Fn> + <F5>		Display toggle	Switches display output between the display screen, external monitor (if connected) and both.
<Fn> + <F6>		Display off	Turns the display screen backlight off to save power. Press any key to return.
<Fn> + <F7>		Touchpad toggle	Turns the internal touchpad on and off.
<Fn> + <F8>		Speaker toggle	Turns the speakers on and off.
<Fn> + <▷>		Brightness up	Increases the screen brightness.
<Fn> + <◁>		Brightness down	Decreases the screen brightness.
<Fn> + <△>		Volume up	Increases the sound volume.

Table 1-11. Hotkeys (Continued)

Hotkey	Icon	Function	Description
<Fn> + <▽>		Volume down	Decreases the sound volume.
<Fn> +<Home>		Play/Pause	Play or pause a selected media file.
<Fn> + <Pg Up>		Stop	Stop playing the selected media file.
<Fn> +<Pg Dn>		Previous	Return to the previous media file.
<Fn> + <End>		Next	Jump to the next media file.

System Block Diagram

VA70 BLOCK DIAGRAM



Specification Tables

Computer specifications

Item	Metric	Imperial
Dimensions		
Length	414.8 mm	16.3 in
Width	275.0 mm	10.8 in
Height	34.6 mm	1.4 in
Weight (equipped with optical drive, flash drive, and battery)	3.2 kg with HDD	7.0 lbs with HDD
Input power		
Operating voltage	19V at 3.42A Max for 90W	
Operating current	3.42A(Max)	
Temperature		
Operating	5°C to 35°C	41°F to 95°F
Nonoperating	-20°C to 65°C	-4°F to 149°F
Relative humidity		
Operating	20% to 80%	
Nonoperating	20% to 80%	
Maximum altitude (unpressurized)		
Operating	No data available	
Nonoperating	No data available	
Shock		
Operating	105 g, 2 ms, half-sine	
Nonoperating	220 g, 2 ms, half-sine	
Random vibration		
Operating	0.6 g zero-to-peak, 5 Hz to 500 Hz	
Nonoperating	1.5 g zero-to-peak, 5Hz to 500 Hz	
⇒ NOTE: Applicable product safety standards specify thermal limits for plastic surfaces. The computer operates within this range of temperatures.		

System Board Major Chips

Item	Specification
Core logic	Intel Panther Point HM77
VGA	NVIDIA Optimus™ GeForce GT630M/640M/650M
LAN	Atheros AR8151L
USB 3.0	Intel Panther Point HM77
Embedded controller	ITE 8518E
Bluetooth	Atheros AR9462(main chip of WLAN combo)
Wireless	FOXCONN T77H348.02 LITEON WCBN611AH-AA
TPM	N/A
PCMCIA	N/A
Audio codec	Realtek ALC271X-VB6
Card reader	Realtek RTS5209-GR

Processor

Item	Specification
Central Processing Unit (CPU) type	Intel® Core i7/i5/i3 Processor 2nd Generation Intel® Core® i7/i5/i3 Processor
CPU package	BGA 1023
Core Logic	Multi execution cores· <ul style="list-style-type: none">• A 32-KB instruction and 32-KB data first-level cache (L1) for each core• A 256-KB shared instruction/data second-level cache (L2) for each core• Up to 4-MB shared instruction/data third-level cache (L3), shared among all cores
Chipset	Mobile Intel® HM77

Processor Specifications

Item	CPU Speed (GHz)	Cores	Mfg Tech	Cache Size	Package
i3-2350M	2.3	2	22nm	3MB	BGA 1023
i3-2370M	2.4	2	22nm	3MB	BGA 1023
i5-2450M	2.5	2	22nm	3MB	BGA 1023
i5-2520M	2.5	2	22nm	3MB	BGA 1023
i5-2540M	2.6	2	22nm	3MB	BGA 1023
i7-2670QM	2.2	4	22nm	6MB	BGA 1023
i3-3110M	2.3	2	22nm	3MB	BGA 1023
i5-3210M	2.5	2	22nm	3MB	BGA 1023
i5-3320M	2.6	2	22nm	3MB	BGA 1023
i5-3360M	2.8	2	22nm	3MB	BGA 1023
i7-3610QM	2.3	4	22nm	6MB	BGA 1023
i7-3720QM	2.6	4	22nm	6MB	BGA 1023

DIS 35W CPU Fan True Value Table (Tj85/Tj90/Tj100/Tj105)

CPU Temperature (Tj85)	CPU Temperature (Tj90)	CPU Temperature (Tj100)	CPU Temperature (Tj105)	Fan Speed (RPM)
36	36	36	36	2400
51	51	53	51	2599
61	61	62	61	3000
70	70	70	70	3297
78	79	79	79	3698
Throttling 0%				
Tj85:OS Critical shut down at 83°C; EC Force shut down at 84°C Tj90:OS Critical shut down at 88°C; EC Force shut down at 89°C Tj100:OS Critical shut down at 97°C; EC Force shut down at 99°C Tj105:OS Critical shut down at 102°C; EC Force shut down at 104°C				

DIS 45W CPU Fan True Value Table (Tj85/Tj90/Tj100/Tj105))

CPU Temperature (Tj85)	CPU Temperature (Tj90)	CPU Temperature (Tj100)	CPU Temperature (Tj105)	Fan Speed (RPM)
36	36	36	36	2400
51	51	53	53	2599
61	61	62	62	3000
70	70	72	72	3297
78	78	82	82	3698
Throttling 0%				
Tj85:OS Critical shut down at 83°C; EC Force shut down at 84°C Tj90:OS Critical shut down at 88°C; EC Force shut down at 89°C Tj100:OS Critical shut down at 97°C; EC Force shut down at 99°C Tj105:OS Critical shut down at 102°C; EC Force shut down at 104°C				

UMA CPU Fan True Value Table (Tj85/Tj90/Tj100/Tj105)

CPU Temperature	Fan Speed (RPM)
40	2400
55	2599
60	3004
66	3302
73	3698
Throttling 0%	
Tj85:OS Critical shut down at 83°C; EC Force shut down at 84°C Tj90:OS Critical shut down at 88°C; EC Force shut down at 89°C Tj100:OS Critical shut down at 98°C; EC Force shut down at 99°C Tj105:OS Critical shut down at 103°C; EC Force shut down at 104°C	

System Memory

Item	Specification
Memory controller	Built in CPU
Memory size	4 GB DDR3 1333 RAM * 4
DIMM socket number	4
Supports memory size per slot	16 GB (Type SODIMM RC F)
Supports maximum memory size	16 GB
Supports DIMM type	Support DDR III 1333/1600MHz SDRAM memory interface design
Supports DIMM Speed	1333/1600MHz
Support DIMM voltage	1.5V
Supports DIMM package	204P

Memory Combinations

Slot 1(MB)	Slot 2(MB)	Slot 3(MB)	Slot 4(MB)	Total Memory (MB)
0	0	0	2048	2048
0	0	2048	0	2048
0	2048	0	0	2048
2048	0	0	0	2048
0	0	2048	2048	4096
0	2048	2048	0	4096
2048	2048	0	0	4096

Slot 1(MB)	Slot 2(MB)	Slot 3(MB)	Slot 4(MB)	Total Memory (MB)
2048	0	0	2048	4096
0	2048	2048	2048	6144
2048	2048	2048	0	6144
2048	2048	0	2048	6144
2048	0	2048	2048	6144
2048	2048	2048	2048	8192
0	0	0	4096	4096
0	0	4096	0	4096
0	4096	0	0	4096
4096	0	0	0	4096
0	0	4096	4096	8192
0	4096	4096	0	8192
4096	4096	0	0	8192
4096	0	0	4096	8192
0	4096	4096	4096	12288
4096	4096	4096	0	12288
4096	4096	0	4096	12288
4096	0	4096	4096	12288
4096	4096	4096	4096	16384

Graphics Controller

Item	Specification
VGA Chip	NVIDIA Optimus™ Geforce GT 630M/640M/650M
Supports	CUDA®, PhysX®, 3D Vision®, Microsoft® DirectX® 11, OpenGL® 4.1, OpenCL™ 1.1

Video Interface

Item	Specification
Chipset	NVIDIA Optimus™ Geforce GT 630M/640M/650M
Package	29mmx29mm
Interface	LVDS
Compatibility	32bpp
Sampling rate	60Hz

BIOS

Item	Specification
BIOS vendor	Insyde
BIOS Type	UEFI
BIOS ROM type	WINBOND W25Q32BVSSIG
BIOS ROM size	4MB
BIOS Features	<ul style="list-style-type: none">• Winbond code base• Flash ROM 4 MB• Support Acer UI• Support multi-boot• Suspend to RAM (S3)/Disk (S4)• Various hotkeys for system control• Support SMBIOS 2.3 ,PCI2.2.• DMI utility for BIOS serial number configurable/asset tag-Support PXE• Support WinFlash• Wake on LAN from S3• Wake on LAN from S5 in AC mode• System information• Refer to Acer BIOS specification.

LAN Interface

Item	Specification
LAN Chipset	Atheros AR8151L
LAN connector type	RJ45
LAN connector location	RJ45 at the left side
Features	Supports 10/100/1000Mbps

Keyboard

Item	Specification
Type	Chicklet keyboard
Total number of keypads	103-US/104-UK/107-JP keys
Windows logo key	Yes
Internal & external keyboard work simultaneously	Plug USB keyboard to the USB port directly: Yes
Features	<ul style="list-style-type: none">• Overlay numeric keypad• Support independent pgdn/pgup/home/end keys• Factory configurable different languages by OEM customer

Hard Disk Drive (AVL components)

Item	Specification		
Vendor & Model Name	Western Digital WD5000BPVT-22HX ZT3	Western Digital WD10JPVT-22A1YT 0	TOSHIBA MK1059GSMP
Capacity (GB)	500	1000	1000
Bytes per sector	512/4096	512/4096	512/4096
Data heads	3	4	6
Drive Format			
Height(mm)	7.0	9.5	7.0
Disks	2	2	3
Performance Specifications			
Spindle speed (RPM)	5400	5400	5400
Buffer size	8MB	8MB	8MB
Interface	SATA	SATA	SATA
Fast data transfer rate (Gbits/s, max)	3.0	3.0	3.0
DC Power Requirement			
Voltage tolerance	5V +/- 5%	5V +/- 5%	5V +/- 5%

Super-Multi Drive Interface

Item	Specification	
Vendor & Model name	HITACHI-LG Slim DVD Super Multi Drive GT51N/PLDS Slim DVD Super Multi Drive DS-8A8SH	
Performance Specification	With CD Diskette	With DVD Diskette
Transfer rate (KB/sec)	Sustained: 3600(24x)Max	Sustained: 11080(8x)Max
Buffer Memory	1MB	
Interface	SATA	

Item	Specification
Applicable disc format	Applicable disc format CD: CD-DA, CD-ROM, CD-ROM XA, Photo CD (multi-session), Video CD, Cd-Extra (CD+), CD-text DVD: DVD-VIDEO, DVD-ROM, DVD-R (3.9GB, 4.7GB) DVD-R DL, DVD-RW, DVD-RAM, DVD+R, DVD+R DL, DVD+RW CD: CD-DA (Red Book) - Standard Audio CD & CD-TEXT CD-ROM (Yellow Book Mode1 & 2) - Standard Data CD-ROM XA (Mode2 Form1 & 2) - Photo CD, Multi-Session CD-I (Green Book, Mode2 Form1 & 2, Ready, Bridge) CD-Extra/ CD-Plus (Blue Book) - Audio & Text/Video Video-CD (White Book) - MPEG1 Video CD-R (Orange Book Part) CD-RW & HSRW (Orange Book Part Volume1 & Volume 2) Super Audio CD (SACD) Hybrid type US & US+ RW DVD: DVD-ROM (Book 1.02), DVD-Dual DVD-Video (Book 1.1) DVD-R (Book 1.0, 3.9G) DVD-R (Book 2.0, 4.7G) - General & Authoring DVD+R (Version 1.0) DVD+RW DVD-RW (Non CPRM & CPRM) DVD+/-R Dual
Loading mechanism	Load: Manual Release: (a) Electrical Release (Release Button) (b) Release by ATAPI command (c) Emergency Release
Power Requirement	
Input Voltage	5 V +/- 5% (Operating)

BD Combo Drive Interface

Item	Specification		
Vendor & Model name	HITACHI-LG BD COMBO 12.7mm Tray CT40N		
Performance Specification	With CD Disc	With DVD Disc	With Blue-ray Disc
Transfer rate	Sustained: 3.6Mbytes/sec(24x) Max	Sustained: 11.08Mbytes/sec(8x) Max	Sustained: 215.79Mbits/sec(6x) Max
Buffer Memory	2MB		
Interface	SATA		

Item	Specification
Applicable disc format	Applicable disc format CD: CD-DA, CD-ROM, CD-ROM XA, Photo CD (multi-session), Video CD, Cd-Extra (CD+), CD-text DVD: DVD-VIDEO, DVD-ROM, DVD-R (3.9GB, 4.7GB) DVD-R DL, DVD-RW, DVD-RAM, DVD+R, DVD+R DL, DVD+RW CD: CD-DA (Red Book) - Standard Audio CD & CD-TEXT CD-ROM (Yellow Book Mode1 & 2) - Standard Data CD-ROM XA (Mode2 Form1 & 2) - Photo CD, Multi-Session CD-I (Green Book, Mode2 Form1 & 2, Ready, Bridge) CD-Extra/ CD-Plus (Blue Book) - Audio & Text/Video Video-CD (White Book) - MPEG1 Video CD-R (Orange Book Part) CD-RW & HSRW (Orange Book Part Volume1 & Volume 2 Super Audio CD (SACD) Hybrid type US & US+ RW DVD: DVD-ROM (Book 1.02), DVD-Dual DVD-Video (Book 1.1) DVD-R (Book 1.0, 3.9G) DVD-R (Book 2.0, 4.7G) - General & Authoring DVD+R (Version 1.0) DVD+RW DVD-RW (Non CPRM & CPRM) DVD+/-R Dual Blu-Ray: BD-R, BD-R DL, BD-RE, BD-RE DL
Loading mechanism	Load: Manual Release: (a) Electrical Release (Release Button) (b) Release by ATAPI command (c) Emergency Release
Power Requirement	
Input Voltage	5 V +/- 5% (Operating)

BD RW Drive Interface

Item	Specification		
Vendor & Model name	Panasonic BD RW 12.7mm Tray UJ260ABBA-B		
Performance Specification	With CD Disc	With DVD Disc	With Blue-Ray Disc
Transfer rate	Sustained: 3600kB/sec(24x) Max	Sustained: 10800kB/sec(8x) Max	Sustained: 27MB/sec(6x) Max
Buffer Memory	2MB		
Interface	SATA		
Applicable disc format	Applicable disc format CD: CD-DA, CD-ROM, CD-ROM XA, Photo CD (multi-session), Video CD, Cd-Extra (CD+), CD-text DVD: DVD-VIDEO, DVD-ROM, DVD-R (3.9GB, 4.7GB) DVD-R DL, DVD-RW, DVD-RAM, DVD+R, DVD+R DL, DVD+RW CD: CD-DA (Red Book) - Standard Audio CD & CD-TEXT CD-ROM (Yellow Book Mode1 & 2) - Standard Data CD-ROM XA (Mode2 Form1 & 2) - Photo CD, Multi-Session CD-I (Green Book, Mode2 Form1 & 2, Ready, Bridge) CD-Extra/ CD-Plus (Blue Book) - Audio & Text/Video Video-CD (White Book) - MPEG1 Video CD-R (Orange Book Part) CD-RW & HSRW (Orange Book Part Volume1 & Volume 2 Super Audio CD (SACD) Hybrid type US & US+ RW DVD: DVD-ROM (Book 1.02), DVD-Dual DVD-Video (Book 1.1) DVD-R (Book 1.0, 3.9G) DVD-R (Book 2.0, 4.7G) - General & Authoring DVD+R (Version 1.0) DVD+RW DVD-RW (Non CPRM & CPRM) DVD+/-R Dual Blu-Ray: BD-R, BD-R DL, BD-RE, BD-RE DL		

Item	Specification
Loading mechanism	Load: Manual Release: (a) Electrical Release (Release Button) (b) Release by ATAPI command (c) Emergency Release
Power Requirement	
Input Voltage	5 V +/- 5% (Operating)

LED 17.3"

Item	Specification
Vendor/model name	AUO 17.3"HD 16:9 Color TFT-LCD/ B173RW01 V3
Screen Diagonal (mm)	438.4
Active Area (mm)	382.08 x 214.92
Display resolution (pixels)	1600x3(RGB) x 900
Pixel Pitch (mm)	0.2388 x 0.2388
Typical White Luminance (cd/m2) also called Brightness	220 typ.187 min
Contrast Ratio	500 typ.
Response Time (Optical Rise Time/Fall Time) msec	8 typ. / 16 Max
Typical Power Consumption (watt)	6.5 max
Weight (without inverter)	570g max
Physical Size (mm)	398.6 x 233.3 x 5.8 max
Electrical Interface	2 channel LVDS
Viewing Angle (degree)Horizontal (Right) CR = 10 (Left)Vertical (Upper) CR = 10 (Lower)	45 (Right) / 45 (Left) / 15 (Upper) / 35 (Lower)

Display Supported Resolution (System Supported Resolution)

Resolution	16 bits	32 bits	Intel	NVIDIA
800x600p/60Hz	Y	Y	Y	Y
1024x768p/60Hz	Y	Y	Y	Y
1152x864/60Hz	Y	Y	Y	Y
1280x600/60Hz	Y	Y	Y	Y
1280x720/60Hz	Y	Y	Y	Y
1280x768/60Hz	Y	Y	Y	Y
1280x800/60Hz	Y	Y	Y	Y

Resolution	16 bits	32 bits	Intel	NVIDIA
1360x768/60Hz	Y	Y	Y	Y
1366x768/60Hz	Y	Y	Y	Y
1440x900/60Hz	Y	Y	Y	Y
1600x900//60Hz	Y	Y	Y	Y

Graphics Controller

Item	Specification
VGA Chip	NVIDIA Optimus™ GeForce GT630M/640M/650M with dedicated DDR3 VRAM
Supports	CUDA®, PhysX®, 3D Vision®, Microsoft® DirectX® 11, OpenGL® 4.1, OpenCL™ 1.1

Display Supported Resolution (GPU Supported Resolution)

Resolution	16 bits	32 bits	Intel	NVIDIA
640x480p/60Hz	Y	Y	Y	Y
800x600p/60Hz	Y	Y	Y	Y
1024x768p/60Hz	Y	Y	Y	Y
1152x864/60Hz	Y	Y	Y	Y
1280x600/60Hz	Y	Y	Y	Y
1280x720/60Hz	Y	Y	Y	Y
1280x768/60Hz	Y	Y	Y	Y
1280x800/60Hz	Y	Y	Y	Y
1360x768/60Hz	Y	Y	Y	Y
1366x768/60Hz	Y	Y	Y	Y
1440x900/60Hz	Y	Y	Y	Y
1400x1050/60Hz	Y	Y	Y	Y
1600x900//60Hz	Y	Y	Y	Y
1600x1024/60Hz	Y	Y	Y	Y
1680x1050/60Hz	Y	Y	Y	Y
1600x1200/60Hz	Y	Y	Y	Y
1920x1200/60Hz	Y	Y	Y	Y
2048x1536/60Hz	Y	Y	Y	Y
2560x1600/60Hz	Y	Y	Y	Y

Display Supported Resolution (LCD panel Supported Resolution)

Resolution	16 bits	32 bits	Intel	NVIDIA
800x600p/60Hz	Y	Y	Y	Y
1024x768p/60Hz	Y	Y	Y	Y
1152x864/60Hz	Y	Y	Y	Y
1280x600/60Hz	Y	Y	Y	Y
1280x720/60Hz	Y	Y	Y	Y
1280x768/60Hz	Y	Y	Y	Y
1280x800/60Hz	Y	Y	Y	Y
1360x768/60Hz	Y	Y	Y	Y
1366x768/60Hz	Y	Y	Y	Y
1440x900/60Hz	Y	Y	Y	Y
1600x900//60Hz	Y	Y	Y	Y

Bluetooth Interface

Item	Specification
Chipset	Atheros AR9462
Data throughput	<ul style="list-style-type: none"> • 1 Mbps (GFSK) • 2 Mbps ($\pi/4$-DQPSK) for EDR • 3 Mbps (8DPSK) for EDR
Protocol	Bluetooth 4.0 + HS
Host interface	USB 2.0

Bluetooth Module

Item	Specifications
Controller	Atheros AR9462
Features	<ul style="list-style-type: none"> • Support Class II(TX power maximum to +4dBm) • BT transmission speed including 1M, 2M and 3Mbps EDR operations • Support for Simple Pairing(SP) and Enhanced Inquiry Response (EIR) function • Support for SCATTERNET and PICONET

Camera

Item	Specification
Vendor and Model	LITEON 10P2SF205 LITEON 11P2BF136 CHICONY CKFB15321004970LH SUYIN HF2015-A821-OV01 SUYIN HF1318-P88B-SN04
Type	1.3M

WIFI Card

Item	Specification
Vendor and Model	FOXCONN T77H348.02 WCBN611AH-AA
Wireless LAN Standards	802.11b/g/n
Operating Frequency	2.4 GHz
Form Factor	Half-Mini card
Host Interface	PCI-Express Bus interface
PCB	4-layer design and single side
Antenna connector	2UFL type

Audio Codec and Amplifier

Item	Specification
Audio Controller	Realtek ALC271X-VB6

Item	Specification
Features	<ul style="list-style-type: none"> • Meets Microsoft WLP (Windows Logo Program) audio requirements • High performance DACs with digital >110dB and analog 98dB (A-weighting) signal-to-noise • High performance ADCs with digital > 100dB and analog 90dB (A-Weighting) signal-to-noise ratio • Six DAC channels support 16/20/24-bit PCM format for 5.1 sound playback • Two stereo ADCs support 16/20/24-bit PCM format, multiple stereo recording • All DACs supports 44.1k/48k/96k/192kHz sample rate • Primary 16/20/24-bit SPDIF-OUT supports 32k/44.1k/48k/88.2k/96k/192kHz sample rate • Secondary 16/20/24-bit SPDIF-OUT supports 32k/44.1k/48k/88.2k/96k/192kHz sample rate • Analog jacks (port-A, B, C, E and G) support stereo input and output re-tasking • Support MONO output at port-H • Port-A/D/E/F built in headphone amplifiers • Port-E and Port-F headphone amplifiers can drive earphone directly without DC blocking capacitor • Port-B/C/E/F with software selectable boost gain (+10/+20/+30dB) for analog microphone input • Supports external PCBEEP input and built-in digital BEEP generator • Software selectable 2.5V/3.2V VREFOUT • Supports legacy analog mixer architecture • Four channels of digital microphone array input for voice applications • Two jack detection pins each designed to detect up to 4 jacks plugging • 1.0dB/step playback volume control • 1.5dB/step recording volume control • High pass filter to cancel DC offset from AD converter • Jack detection function is supported when device is in power down mode (D3) • 2 GPIOs (General Purpose Input and Output) for customized applications. GPIO0 and GPIO1 share pin with digital microphone • Supports anti-pop mode when analog power AVDD is on and digital power is off • Intel low power ECR compliant and power status control for every analog converter and pin widgets • Supports 3.3V digital core power, 1.5V~ 3.3V scalable digital I/O power for HD Audio link, and • 3.0~5.0V analog power • 48-pin LQFP 'Green' package

Item	Specification
Amplifier	Embedded
Features	<ul style="list-style-type: none"> • 4 step gain control • 2-W/Ch Output Power into 3-W load from 5-V supply • Fully Differential Input • Low Supply Current and Shutdown selection • Embedded de-pop circuit

Audio Interface

Item	Specification
Audio Controller	Realtek ALC271X-VB6
Audio onboard or optional	On board
Mono or Stereo	Stereo
Resolution	Support 16/20/24bit PCM
Compatibility	HD audio Interface;
Sampling rate	Sample rate up to 192Khz resolution VSR (Variable Sampling Rate)
Internal microphone	Yes
Internal speaker/quantity	Yes/(2W speaker x1)

Battery

Item	Specifications	
Vendor & Model name	SIMPLO ICR18650 S3 SIMPLO ICR18650-22F SONY US18650G6G PANASONIC CGR18650CG	SANYO UR18650ZTA
Battery Type	Lithium lion	Lithium lion
Pack capacity	4400 mAh	9000 mAh
Number of battery cell	6	9
Package configuration	3S2P	3S3P

VRAM

Item	Specification
Chipset	HYNIX H5TQ2G63DFR-11C
Memory size	1GB
Interface	DDR3

USB Port

Item	Specification
USB compliance level	USB 3.0, USB 2.0
EHCI	2
Number of USB port(s)	USB 3.0x2, USB 2.0x2
Location	USB 3.0 two at left side USB 2.0 two at right side
Output Current	1.0A for each connector

HDMI Port

Item	Specification
Compliance level	HDMI1.4b
Data throughput	Up to 281.5 trillion colors
Number of HDMI port(s)	1
Location	HDMI at left side

AC Adapter

Item	Specification
Input rating	100-240V AC
Maximum input AC current	1.5A Max at 100V AC
Inrush current	264V AC
Efficiency	87% min. at nominal input voltage.

System Power Management

Item	Specification
Mech. Off (G3)	All devices in the system are turned off completely.
Soft Off (G2/S5)	OS initiated shutdown. All devices in the system are turned off completely.
Working (G0/S0)	Individual devices like CPU and hard disc can be power managed.
Suspend to RAM (S3)	CPU set power down, VGA Suspend, PCMCIA SuspendAudio, Power Down, Hard Disk Power Down, CD-ROM Power Down, Super I/O Low Power mode.
Save to Disk (S4)	Also called Hibernation Mode. System saves all system states and data onto the disc prior to power off the whole system.

Card Reader

Item	Specification
Chipset	REALTEK RTS5209-GR
Package	48-pin LQFP
Maximum supported size	SD: 2T, MMC: 16G, miniSD: 16G
Features	Support SD, MMC, MMC plus, MS, xD, SDHC, SDXC UHS104

System LED Indicator

Item	Specification
Power indicator	<ul style="list-style-type: none">• Blue color solid on: System on• Blue color and amber color off: System off• Amber color blinking: S3 state
Battery indicator	<p>Charging</p> <ul style="list-style-type: none">• Amber solid on - Battery charging with AC• Blue color solid on - Battery full• Amber blinking - Battery in low power state or battery abnormal <p>Discharging</p> <ul style="list-style-type: none">• Amber blinking - Battery in critical low state• Amber color off - Discharging state.

System DMA Specification

Hardware DMA	System Function
DMA0	Not applicable
DMA1	Not applicable
DMA2	Not applicable
DMA3	Not applicable
DMA4	Direct memory access controller
DMA5	Not applicable
DMA6	Not Assigned
DMA7	Not Assigned

System Interrupt Specification

Hardware IRQ	System function
IRQ00	System timer
IRQ01	Standard PS/2 Keyboard
IRQ08	System CMOS/real time clock
IRQ12	ELAN PS/2 Port Smart-Pad

Hardware IRQ	System function
IRQ13	Numeric data processor
IRQ81-IRQ 190	Microsoft ACPI-Compliant System
IRQ10	Intel(R) 7 Series/C216 Chipset Family SMBus Host Controller – 1E22
IRQ16	Intel(R) 7 Series/C216 Chipset Family USB Enhanced Host Controller- 1E2D Intel(R) 7 Series/C216 Chipset Family PCI Express Root Port 2 – 1E12 Intel(R) 7 Series/C216 Chipset Family PCI Express Root Port 6 – 1E1A Intel(R) Management Engine Interface NVIDIA GeForce GT 650M Xeon(R) processor E3-1200 v2/3rd Gen Core processor PCI Express Root Port - 0151
IRQ17	Atheros AR5BWB222 Wireless Network Adapter Atheros AR8151 PCI-E Gigabit Ethernet Controller (NDIS 6.20) Intel(R) 7 Series/C216 Chipset Family PCI Express Root Port1 – 1E10
IRQ19	Intel(R) 7 Series Chipset Family SATA AHCI Controller
IRQ22	High Definition Audio Controller
IRQ23	Intel(R) 7 Series/C216 Chipset Family USB Enhanced Host Controller - 1E26
IRQ-3	Intel(R) USB 3.0 eXtensible Host Controller
IRQ-2	Intel(R) HD Graphics 4000

System IO Address Map

I/O address (hex)	System Function (shipping configuration)
0000 - 001F	Direct memory access controller
0000 - 0CF7	PCI bus
0020 – 0021	Programmable interrupt controller
0024 – 0025	Programmable interrupt controller
0028 – 0029	Programmable interrupt controller
002C – 002D	Programmable interrupt controller
002E – 002F	Motherboard resources
0030 – 0031	Programmable interrupt controller
0034 – 0035	Programmable interrupt controller
0038 – 0039	Programmable interrupt controller

I/O address (hex)	System Function (shipping configuration)
003C – 003D	Programmable interrupt controller
0040 – 0043	System timer
004E – 004F	Motherboard resources
0050 – 0053	System timer
0060 – 0060	Standard PS/2 Keyboard
0061 – 0061	Motherboard resources
0062 – 0062	Microsoft ACPI-Compliant Embedded Controller
0063 – 0063	Motherboard resources
0064 – 0064	Standard PS/2 Keyboard
0065 – 0065	Motherboard resources
0066 – 0066	Microsoft ACPI-Compliant Embedded Controller
0067 – 0067	Motherboard resources
0070 – 0070	Motherboard resources
0070 – 0077	System CMOS/real time clock
0080 – 0080	Motherboard resources
0081 - 0091	Direct memory access controller
0092 – 0092	Motherboard resources
0093 – 009F	Direct memory access controller
00A0 – 00A1	Programmable interrupt controller
00A4 – 00A5	Programmable interrupt controller
00A8 – 00A9	Programmable interrupt controller
00AC – 00AD	Programmable interrupt controller
00B0 – 00B1	Programmable interrupt controller
00B2 – 00B3	Motherboard resources
00B4 – 00B5	Programmable interrupt controller
00B8 – 00B9	Programmable interrupt controller
00BC – 00BD	Programmable interrupt controller
00C0 – 00DF	Direct memory access controller
00F0 – 00F0	Numeric data processor
03B0 – 03BB	Intel(R) HD Graphics 4000
03C0 – 03DF	Intel(R) HD Graphics 4000
0400 – 0453	Motherboard resources
0454 – 0457	Motherboard resources

I/O address (hex)	System Function (shipping configuration)
0458 – 047F	Motherboard resources
04D0 – 04D1	Programmable interrupt controller
0500 – 057F	Motherboard resources
0680 – 069F	Motherboard resources
0D00 - FFFF	PCI bus
1000 – 100F	Motherboard resources
164E – 164F	Motherboard resources
2000 – 207F	Atheros AR8151 PCI-E Gigabit Ethernet Controller (NDIS 6.20)
2000 – 2FFF	Intel(R) 7 Series/C216 Chipset Family PCI Express Root Port 6 – 1E1A
3000 – 3FFF	Intel(R) 7 Series/C216 Chipset Family PCI Express Root Port 1 – 1E10
4000 – 4FFF	Xeon(R) processor E3-1200 v2/3rd Gen Core processor PCI Express Root Port - 0151
4F80 – 4FFF	NVIDIA GeForce GT 650M
5000 – 503F	Intel(R) HD Graphics 4000
5040 – 505F	Intel(R) 7 Series/C216 Chipset Family SMBus Host Controller – 1E22
5060 – 507F	Intel(R) 7 Series Chipset Family SATA AHCI Controller
5080 – 5087	Intel(R) 7 Series Chipset Family SATA AHCI Controller
5088 – 508F	Intel(R) 7 Series Chipset Family SATA AHCI Controller
5090 – 5093	Intel(R) 7 Series Chipset Family SATA AHCI Controller
5094 – 5097	Intel(R) 7 Series Chipset Family SATA AHCI Controller
FFFF – FFFF	Motherboard resources
FFFF – FFFF	Motherboard resources

CHAPTER 2

System Utilities

BIOS Setup Utility	2-3
Navigating the BIOS Utility	2-3
BIOS	2-4
Information	2-4
Main	2-6
Security	2-8
Boot	2-12
Exit	2-13
BIOS Flash Utilities	2-14
DOS Flash Utility	2-15
WinFlash Utility	2-17
Remove HDD/BIOS Password Utilities	2-18
Remove HDD Password Utilities	2-18
Removing BIOS Passwords	2-20
Cleaning BIOS Passwords	2-21
Using DMI Tools	2-22
LAN MAC EEPROM Utility	2-29

System Utilities

BIOS Setup Utility

A hardware configuration program built into a computer's BIOS (Basic Input/Output System). Preconfigured and optimized so users do not need to run this utility. If configuration problems occur, users may need to run Setup. Refer to Chapter 4, Troubleshooting when problem arises.

To activate the BIOS Utility, press **F2** during POST when prompted at the bottom of screen.

The default parameter of F12 Boot Menu is set to disabled. To change boot device without entering BIOS Setup Utility, set the parameter to enabled.

To change boot device without entering the BIOS SETUP, Press **<F12>** during POST to enter multi-boot menu.

Navigating the BIOS Utility

Five menu options are:

- Information
- Main
- Security
- Boot
- Exit

To navigate through the following:

- Menu - use the left and right arrow keys
- Item - use the up and down arrow keys
- Change parameter value - press **F5** or **F6**.
- Exit - Press **Esc**
- Load default settings - press **F9**. Press **F10** to save changes and exit BIOS Setup Utility

⇒ NOTE:

Parameter values can be changed if enclosed in square brackets []. Navigation keys appear at the bottom of the screen. Read parameter help carefully when making changes to parameter values. Parameter help is found in the Item Specific Help area of the screen. System information is subject to specific models.

BIOS

The following is a description of the tabs found on the InsydeH20 Setup Utility screen:

⇒ **NOTE:**

The screens provided are for reference only. Actual values may differ by model.

Information

This tab shows a summary of computer hardware information.

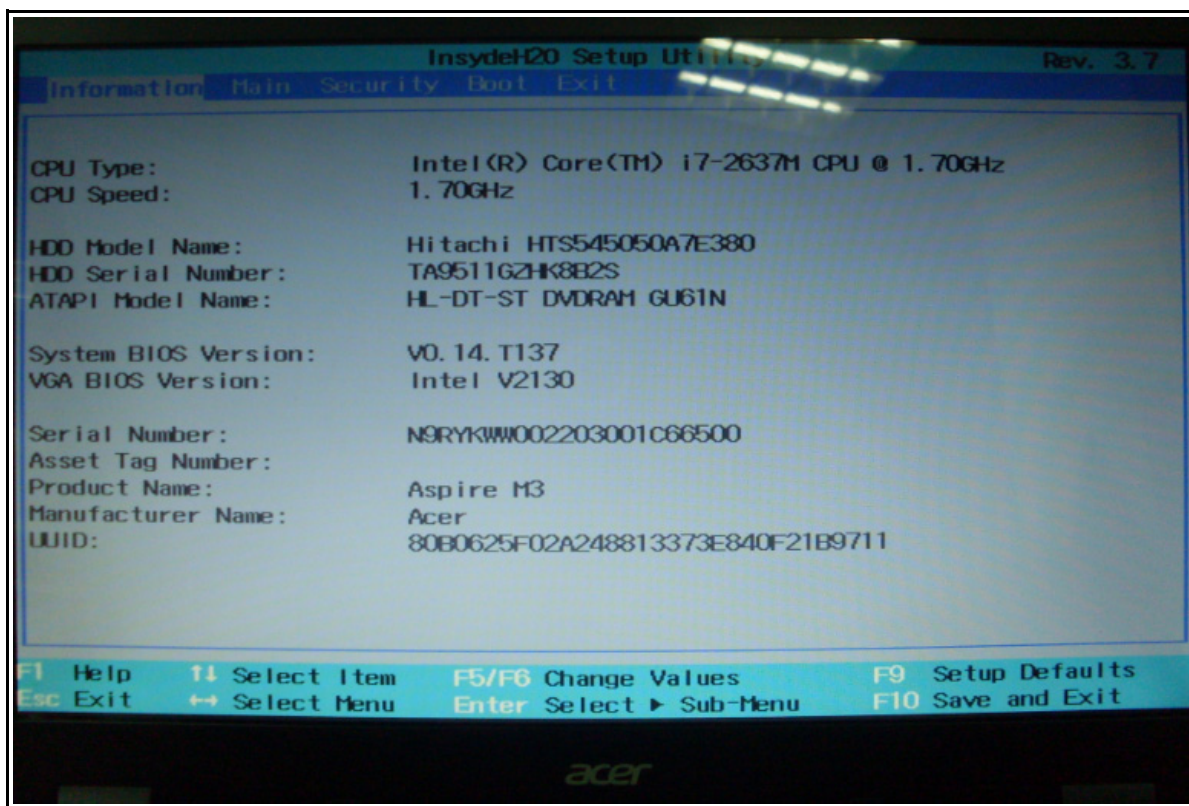


Figure 2-1. BIOS Information

Table 2-1 describes the parameters shown in Figure 2-1

Table 2-1. Parameters

Parameter	Description
CPU Type	The CPU type and speed of the system.
CPU Speed	The speed of the CPU.
HDD Model Name	The model name of HDD installed on primary IDE master.
HDD Serial Number	The serial number of HDD installed on primary IDE master.
ATAPI Model Name	The model name of the installed ODD drive.
System BIOS Version	Displays system BIOS version.
VGA BIOS Version	The VGA firmware version of the system.
Serial Number	The serial number of this unit.
Asset Tag Number	The asset tag number of the system.
Product Name	The product name of the system.
Manufacturer Name	The manufacturer Name of the system
UUID	Universally Unique Identifier (UUID) is an identifier standard used in software construction, standardized by the Open Software Foundation (OSF) as part of the Distributed Computing Environment (DCE).

Main

This tab allows the user to set system time and date, enable or disable boot option and enable or disable recovery.

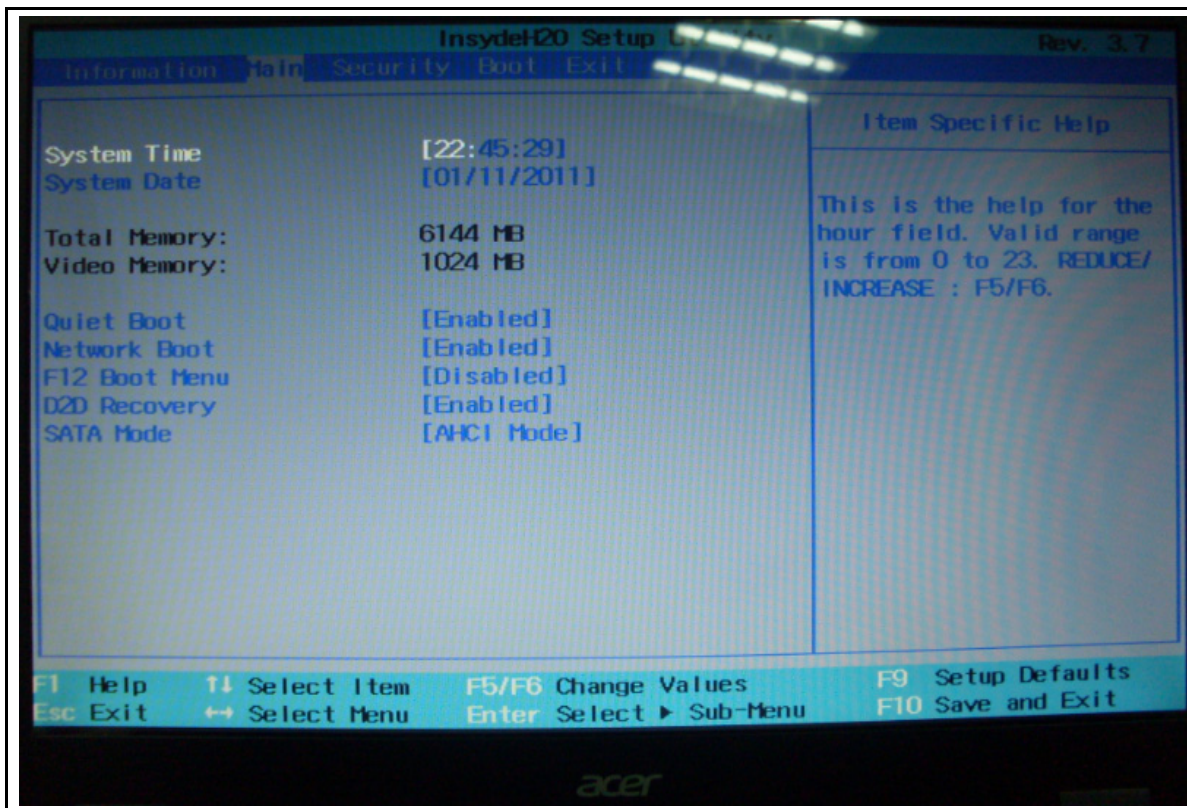


Figure 2-2. BIOS Main

Table 2-2 describes the parameters shown in Figure 2-2.

Table 2-2. BIOS Main

Parameter	Description	Format/Option
System Time	Sets the system time. The hours are shown with 24-hour format.	Format: HH:MM:SS (hour:minute:second)
System Date	Sets the system date.	Format MM/DD/YYYY (month/day/year)
Total Memory	Shows the total memory available.	N/A
Video Memory	Shows the available memory for Video.	N/A

Table 2-2. (Continued)BIOS Main

Parameter	Description	Format/Option
Quiet Boot	The notebook shows an illustration called the OEM screen during system boot instead of the traditional POST screen that shows the normal diagnostic messages.	Enabled or Disabled
Network Boot	Enables, disables the system boot from LAN (remote server).	Enabled or Disabled
F12 Boot Menu	Enables, disables Boot Menu during POST.	Enabled or Disabled
D2D Recovery	Enables, disables D2D Recovery function. The function allows the user to create a hidden partition on hard disc drive to store operation system and restore the system to factory defaults.	Enabled or Disabled
SATA Mode	Control the mode in which the SATA controller should operate.	AHCI or IDE

Security

This tab shows parameters that safeguard and protect the computer from unauthorized use.

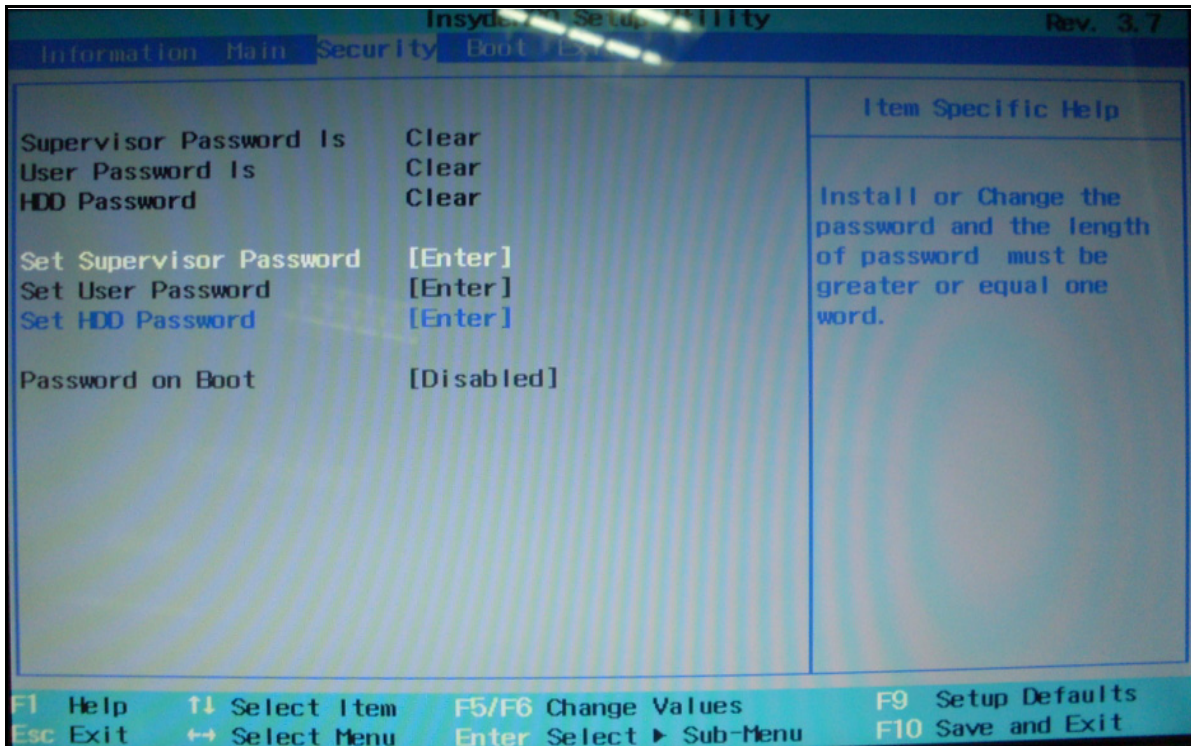


Figure 2-3. BIOS Security

Table 2-3 describes the parameters shown in Figure 2-3.

Table 2-3. BIOS Security

Parameter	Description	Option
Supervisor Password Is	Shows the setting of the supervisor password	Clear or Set
User Password Is	Shows the setting of the user password.	Clear or Set
Set Supervisor Password	Press Enter to set the supervisor password. When set, this password protects the BIOS Setup Utility from unauthorized access. The user can not either enter the Setup menu nor change the value of parameters.	N/A
Set User Password	Press Enter to set the user password. When user password is set, this password protects the BIOS Setup Utility from unauthorized access. The user can enter Setup menu only and does not have right to change the value of parameters.	N/A
Set HDD Password	Enter HDD Password.	N/A
Password on Boot	Defines whether a password is required or not while the events defined in this group happened. The following sub-options are all requires the Supervisor password for changes and should be grayed out if the user password was used to enter setup.	Disabled or Enabled
⇒ NOTE: When prompted to enter a password, three attempts are allowed before the system halts. Resetting the BIOS password may require the computer be returned to the dealer.		

Setting a Password

Perform the following to set the user or supervisor password:

1. Use the ↑ and ↓ keys to highlight the Set Supervisor Password parameter and press **Enter** key. The Set Supervisor Password box appears.

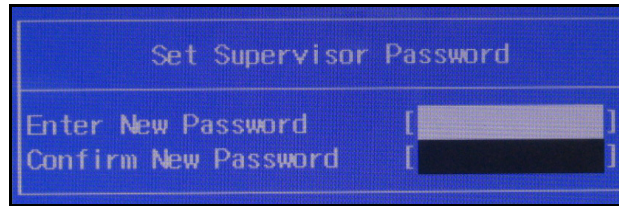


Figure 2-4. Set Supervisor Password

2. Type a new password in the *Enter New Password* field. Password length is not to exceed 8 alphanumeric characters (A-Z, a-z, 0-9, not case sensitive). Retype the password in the *Confirm New Password* field.

+ **IMPORTANT:**

Use care when typing a password. Characters do not appear on the screen.

3. Press **Enter**. After setting the password, the computer sets the User Password parameter to Set.

⇒ **NOTE:**

Users can opt to enable the Password on boot parameter.

4. Press **F10** to save changes and exit the BIOS Setup Utility.

Removing a Password

Perform the following:

1. Use the ↑ and ↓ keys to highlight Set Supervisor Password and press **Enter**. The Set Supervisor Password box appears:

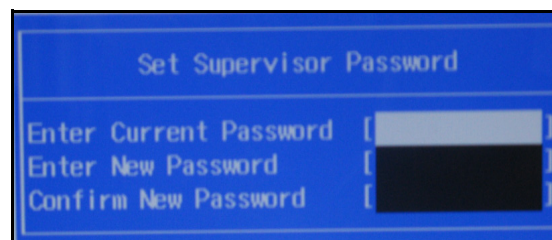


Figure 2-5. Set Supervisor Password

2. Type the current password in the *Enter Current Password* field and press **Enter**.
3. Press **Enter** twice without typing anything in the *Enter New Password* and *Confirm New Password* fields. The computer then sets the Supervisor Password parameter to Clear.
4. Press **F10** to save changes and exit the BIOS Setup Utility.

Changing a Password

1. Use the ↑ and ↓ keys to highlight Set Supervisor Password and press the **Enter**. The Set Supervisor Password box appears.

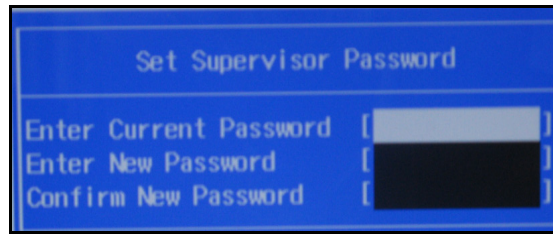


Figure 2-6. Set Supervisor Password

2. Type the current password in the *Enter Current Password* field and press **Enter**.
3. Type a password in the *Enter New Password* field. Retype the password in the *Confirm New Password* field.

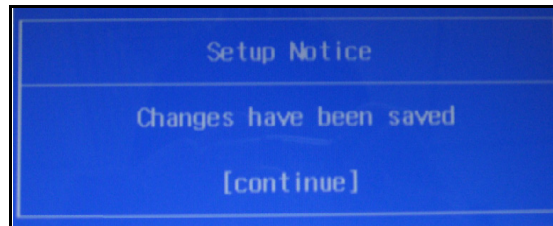


Figure 2-7. Setup Notice

4. Press **Enter**. The computer sets User Password parameter to Set.

⇒ NOTE:

Users can enable the Password on boot parameter.

5. Press **F10** to save changes and exit the BIOS Setup Utility.

If the verification is OK, the screen will show as following.

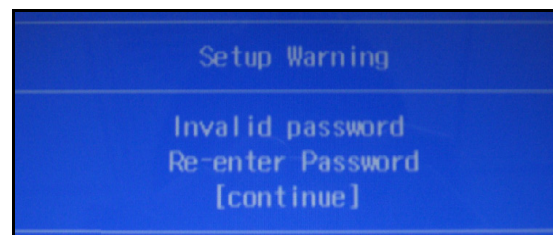


Figure 2-8. This Setup Warning

The password setting is complete after the user presses **Enter**.

If the current password entered does not match the actual current password, the screen will show the Setup Warning (Figure 2-9).

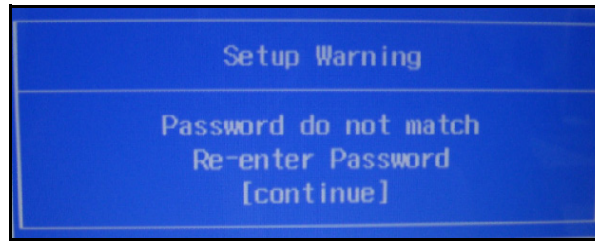


Figure 2-9. Setup Warning

Boot

This tab allows changes to the order of boot devices used to load the operating system. Bootable devices include the:

- USB diskette drives
- Onboard hard disk drive
- DVD drive in the module bay

Use ↑ and ↓ keys to select a device and press **F5** or **F6** to move it up or down the list.

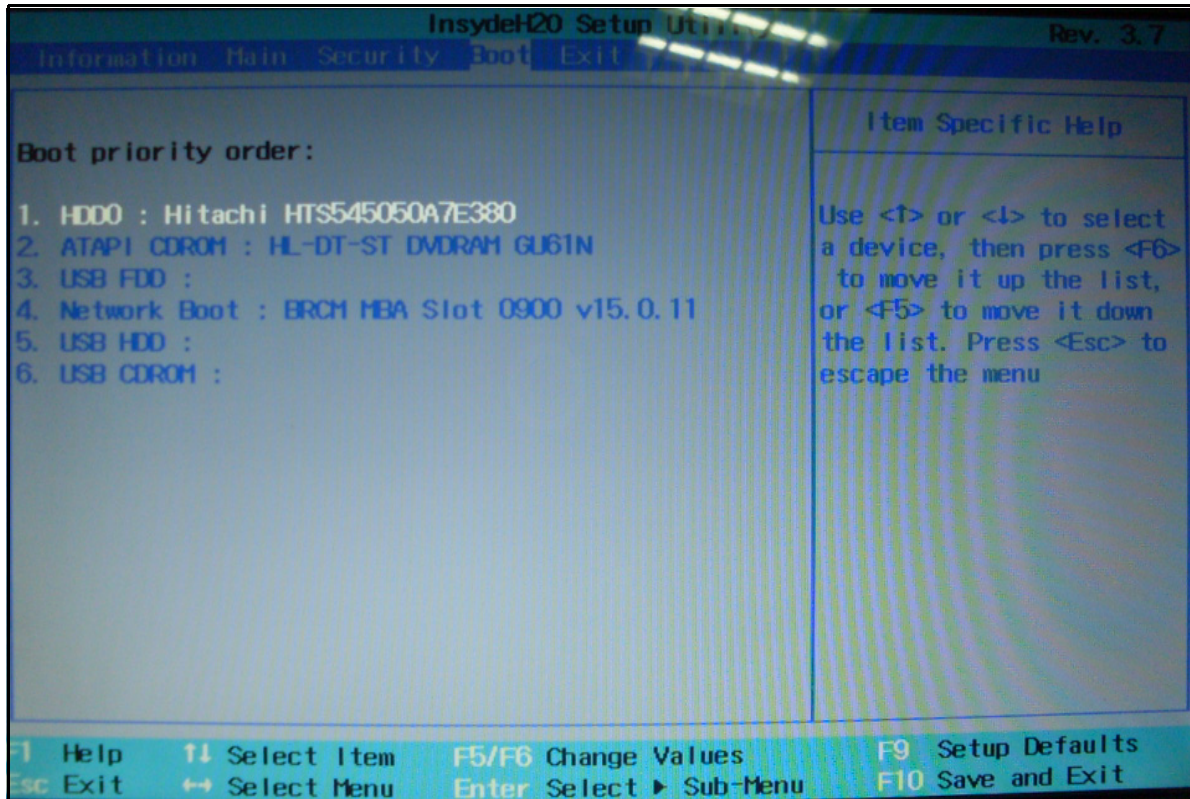


Figure 2-10. BIOS Boot

Exit

The Exit tab allows users to save or discard changes and quit the BIOS Utility.

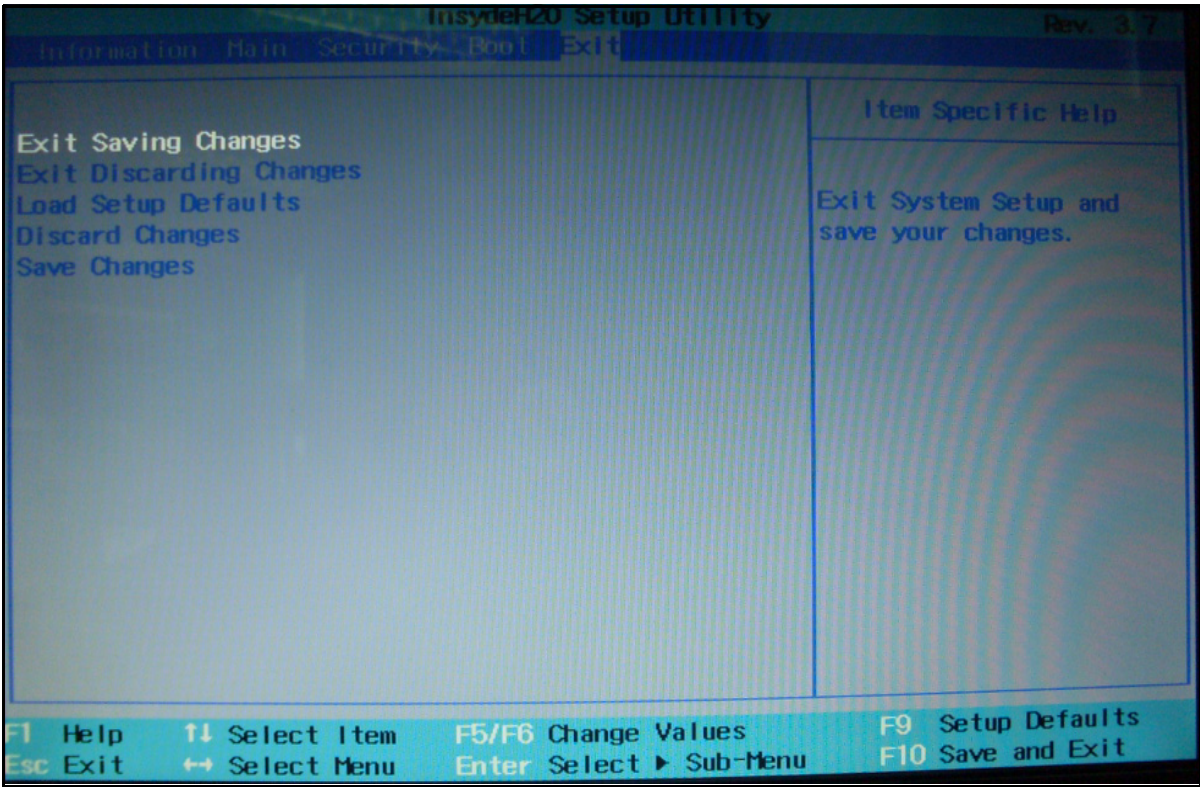


Figure 2-11. BIOS Exit

Table 2-4 describes the parameters in Figure 2-11.

Table 2-4. Exit Parameters

Parameter	Description
Exit Saving Changes	Exit System Setup and save changes to the system.
Exit Discarding Changes	Exit utility without saving setup data to.
Load Setup Default	Load default values for all setup item.
Discard Changes	Load previous values all setup items.
Save Changes	Save setup data.

BIOS Flash Utilities

BIOS Flash memory updates are required for the following conditions:

- New versions of system programs
- New features or options
- Restore a BIOS when it becomes corrupted.

Use the Flash utility to update the system BIOS Flash ROM.

⇒ NOTE:

Create a Crisis Recovery Disc, if one is not available, before the Flash utility is used.

⇒ NOTE:

Do not install memory related drivers (XMS, EMS, DPML) when the Flash is used.

⇒ NOTE:

Use the AC adaptor power supply when running the Flash utility. If battery pack does not contain power to finish loading of the BIOS Flash, do not boot the system.

Perform the following to run the Flash:

1. Prepare a bootable diskette.
2. Copy the Flash utilities to the bootable diskette.
3. Boot the system from the bootable diskette.

⇒ NOTE:

The Flash utility has auto execution function.

DOS Flash Utility

Perform the following to use the DOS Flash Utility:

1. Press **F2** during boot to enter the Setup Menu.
2. Select *Boot Menu* to modify the boot priority order.

Example: If using USB HDD to Update BIOS, move USB HDD to position 1.

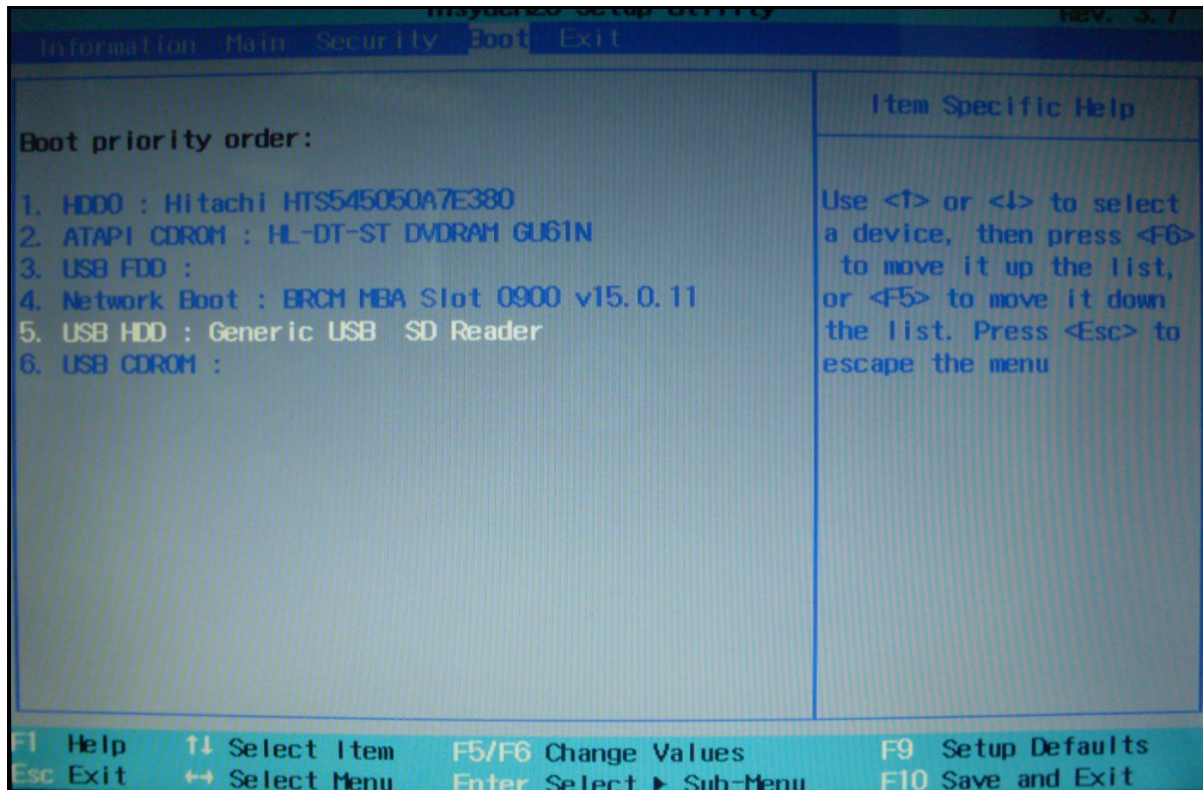


Figure 2-12. BIOS Boot

3. Execute the *< UPDATE.BAT >* batch file to update BIOS. The flash process begins as shown in Figure 2-13.

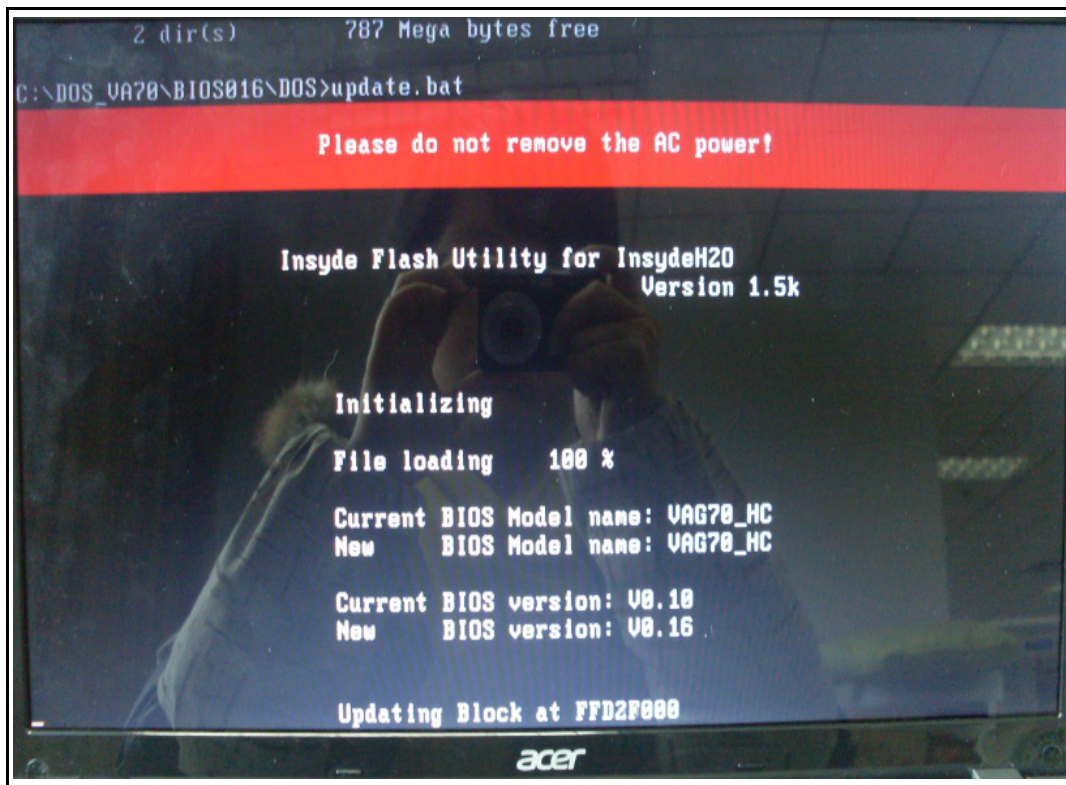


Figure 2-13. DOS Flash

4. In flash BIOS, the message *Please do not remove AC Power Source* is shown.

⇒ **NOTE:**

If AC power is not connected, the following message (Figure 2-14) is shown.

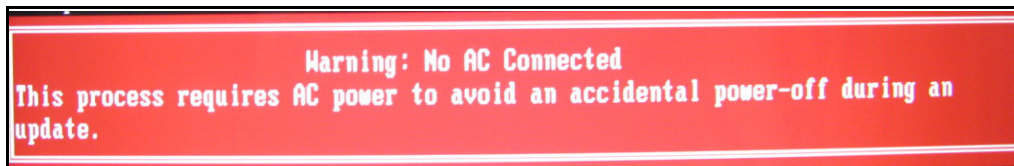


Figure 2-14. AC Power Warning

⇒ **NOTE:**

Plug in the AC power to continue.

5. Flash is complete when the message *Flash Programming Complete* is shown.

WinFlash Utility

Perform the following to use the WinFlash Utility:

1. Double click the WinFlash executable.
2. Click **OK** to begin the update. A progress screen is shown (Figure 2-15).

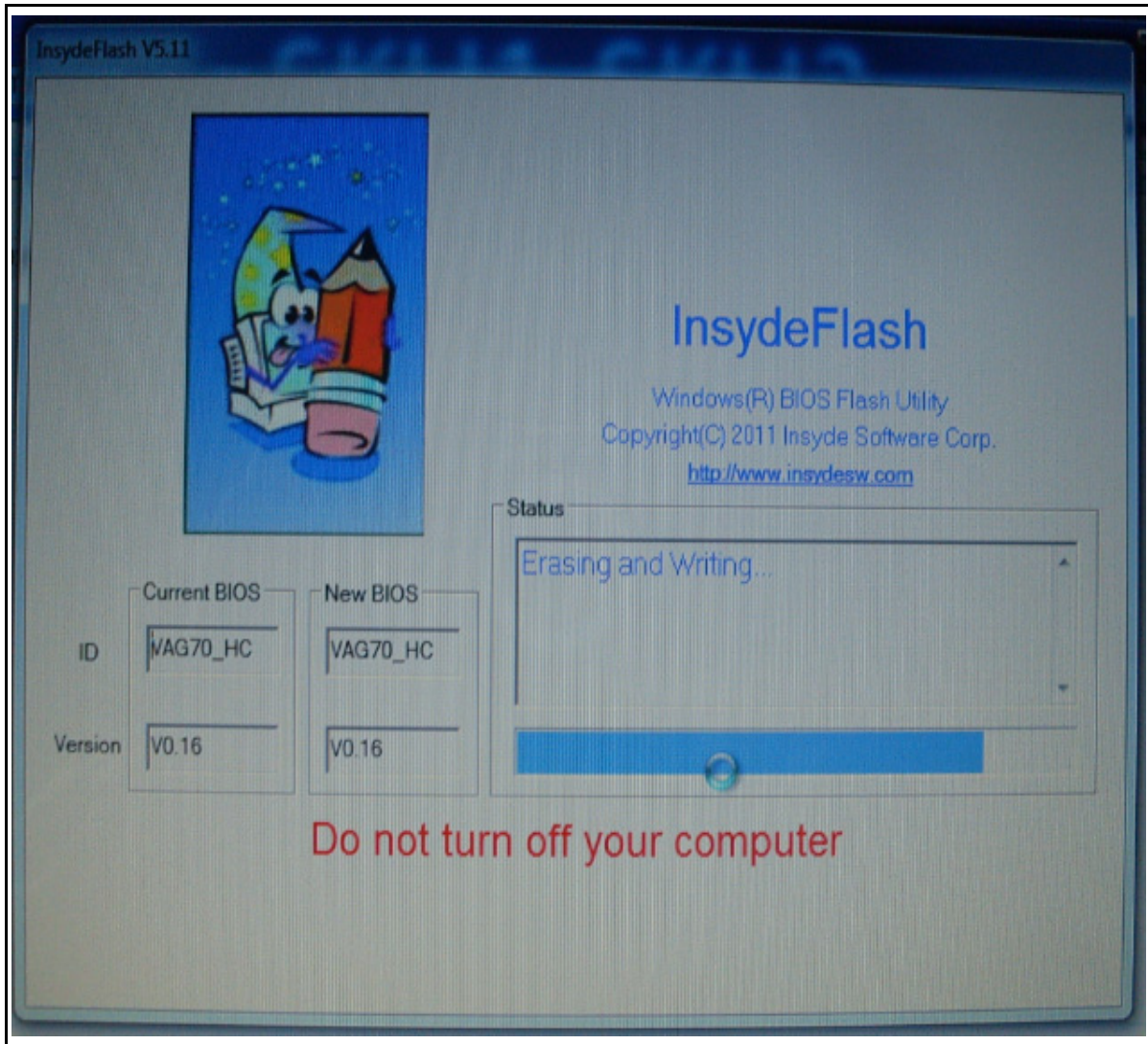


Figure 2-15. InsydeFlash

Remove HDD/BIOS Password Utilities

This section provides details for removing HDD/BIOS passwords.

Remove HDD Password Utilities

This section provides details for removing HDD passwords.

Remove HDD Password as follows:

⇒ NOTE:

If the HDD password is incorrectly entered three times, an error is generated, you will see below menu (Figure 2-16).

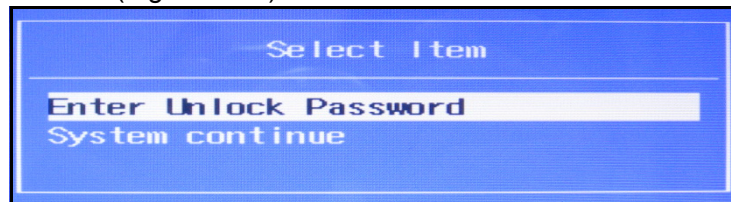


Figure 2-16. HDD Security

To reset the HDD password, perform the followings:

1. Select *Enter Unlock Password* option.

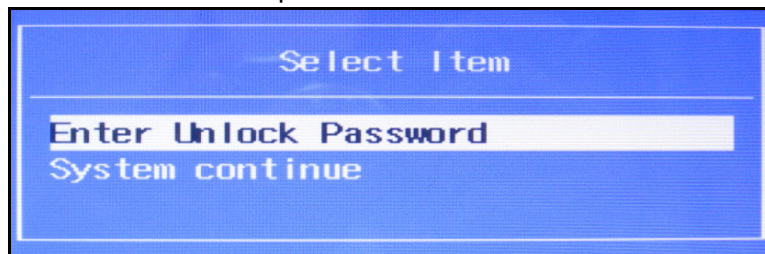


Figure 2-17. Select Item

⇒ NOTE:

An Encode key is generated for unlocking utilities. Make note if this key.

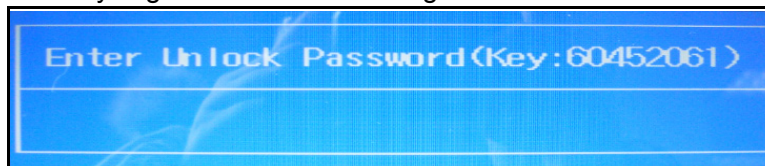


Figure 2-18. Unlock Password

2. Execute the UnlockHD.EXE file to create the unlock code in DOS Mode using the format **<UnlockHD [Encode code] >** with the code noted in the previous step.

Example: UnlockHD 60452061

The command generates a password which can be used for unlocking the HDD.
Password: 75530067

Enter the password from the Step 1 to unlock the HDD (Figure 2-19).

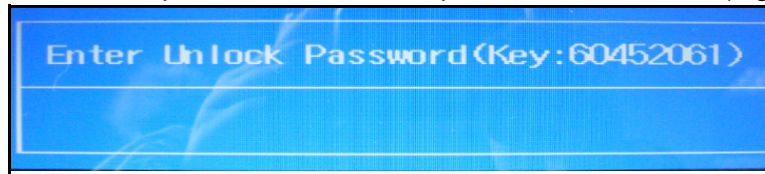


Figure 2-19. Unlock Password

⇒ **NOTE:**

After customer clearing the HDD password, HDD maybe in “Frozen” state. Please power off system. Then, power on to Win system, HDD Password will be in normal.

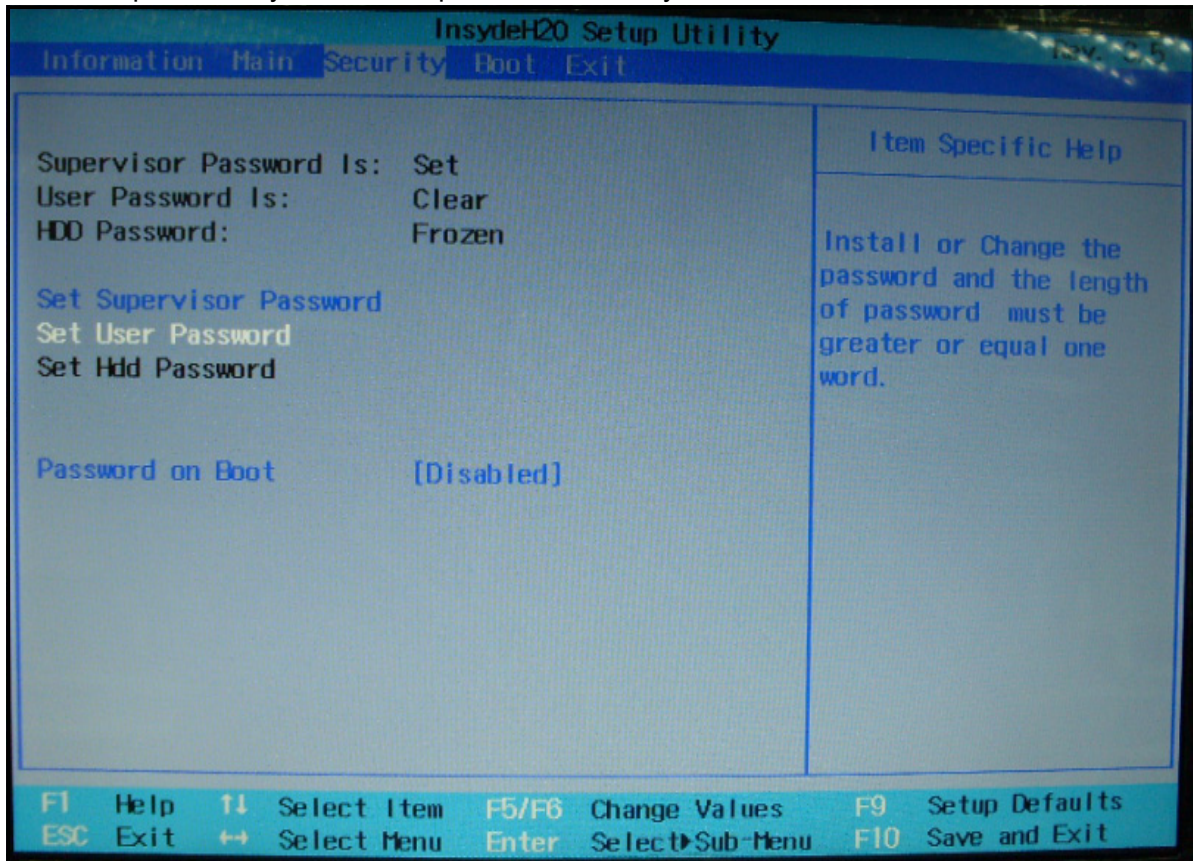


Figure 2-20. HDD Password Frozen

Removing BIOS Passwords

To clear User or Supervisor passwords, open the Main door and remove the mylar from DIMM then use a metal instrument to short the RTCRST# point.(Figure 2-21 and Figure 2-22)

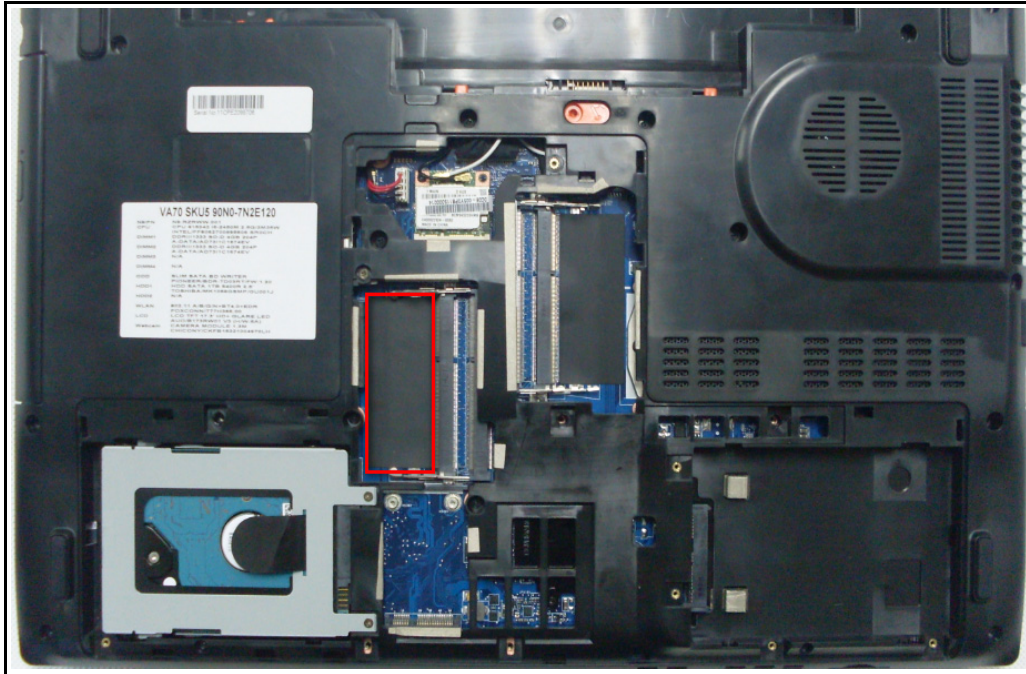


Figure 2-21. CMOS Jumper

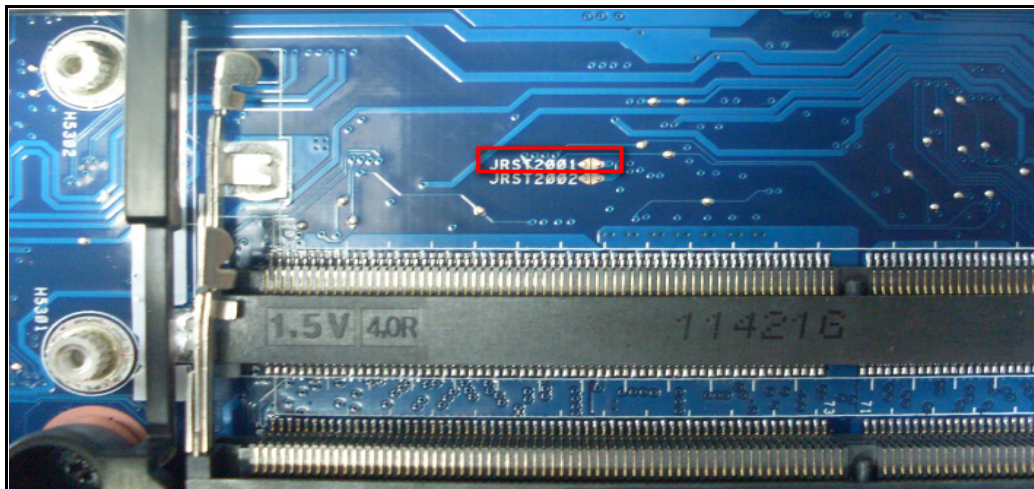
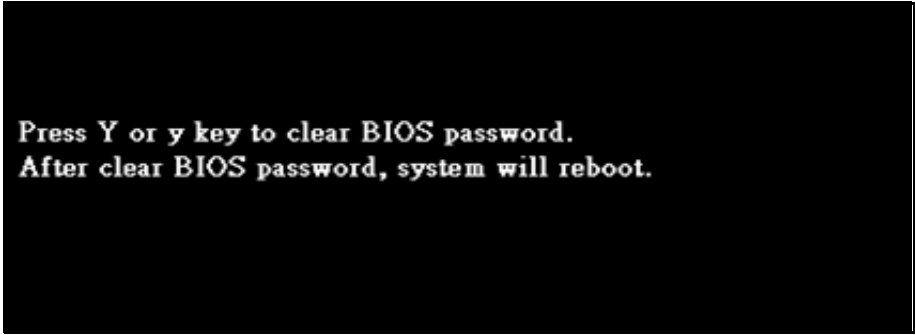


Figure 2-22. CMOS Jumper

Cleaning BIOS Passwords

When customer forgets the BIOS supervisor/user password, he could clear the password as below:

1. Prepare a USB flash disk with FAT32 file system and copy Disablepassword.efi file to root directory.
2. After pressing power button, to hold **Ctrl** and **Alt** key and then continually stroke **Enter** key until POST LOGO finish.
3. System will display “Press Y or y key to clear BIOS password.”.
4. After press Y/y key, BIOS will clear BIOS password and reboot system.



Press Y or y key to clear BIOS password.
After clear BIOS password, system will reboot.

Figure 2-23. Clear BIOS Password

The on screen message indicates the function success.

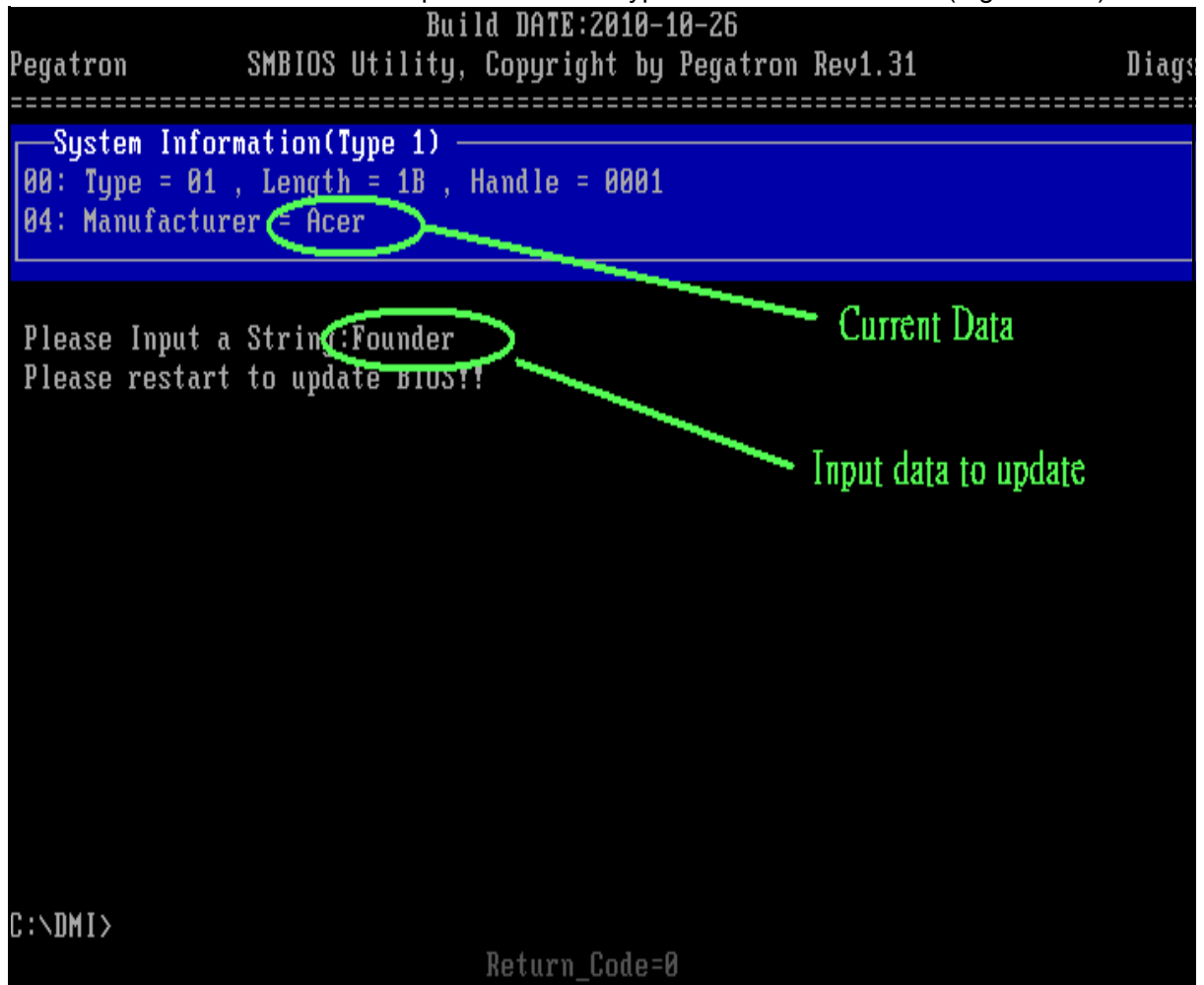
⇒ **NOTE:**

This document is for Pegatron Acer project in 2012.

Using DMI Tools

The DMI (Desktop Management Interface) Tool copies BIOS information to EEPROM. Used in the DMI pool for hardware management.

1. Execute < **MN.bat** > to update SMBIOS Type 1 Manufacturer Name(Figure 2-23).



The screenshot shows a DOS-based utility window titled "SMBIOS Utility, Copyright by Pegatron Rev1.31". At the top, it displays "Build DATE:2010-10-26" and "Diags". A blue-bordered box contains "System Information(Type 1)" with details: "00: Type = 01 , Length = 1B , Handle = 0001" and "04: Manufacturer = Acer". The word "Acer" is circled in green. Below this, a green prompt "Please Input a String:Founder" is shown, with "Founder" circled in green. A green arrow points from the circled "Acer" to the text "Current Data". Another green arrow points from the circled "Founder" to the text "Input data to update". At the bottom left is the command prompt "C:\DMI>" and at the bottom right is "Return_Code=0".

```
Build DATE:2010-10-26
Pegatron      SMBIOS Utility, Copyright by Pegatron Rev1.31      Diags
=====
System Information(Type 1)
00: Type = 01 , Length = 1B , Handle = 0001
04: Manufacturer = Acer

Please Input a String:Founder
Please restart to update BIOS!!

C:\DMI>
Return_Code=0
```

Figure 2-24. Manufacture Name

2. Execute < **PN.bat** > to update SMBIOS Type 1 Product Name(Figure 2-24).

```
Build DATE:2010-10-26
Pegatron      SMBIOS Utility, Copyright by Pegatron Rev1.31      Diags
=====
System Information(Type 1)
00: Type = 01 , Length = 1B , Handle = 0001
05: Product Name = Aspire 3750

Please Input a String:R310_HR
Please restart to update BIOS!!

::\DMI>

Return_Code=0
```

The diagram shows a green oval around 'Aspire 3750' in the 'System Information' section, with a green arrow pointing to the text 'Current Data'. Another green oval is around 'R310_HR' in the 'Please Input a String:' prompt, with a green arrow pointing to the text 'Input data to update'.

Figure 2-25. Update Product Name

3. Execute < **SN.bat** > to update SMBIOS Type 1 Serial Number(Figure 2-25).

```
Build DATE:2010-10-26
Pegatron      SMBIOS Utility, Copyright by Pegatron Rev1.31      Diags
=====
System Information(Type 1)
00: Type = 01 , Length = 1B   Handle = 0001
07: Serial Number = 111PE2098103

Please Input a String:1234567890
Please restart to update BIOS!!

C:\>DMI>

Return_Code=0
```

Figure 2-26. Update Serial Number

4. Execute < **AT.bat** > to update SMBIOS Type 3 Asset Tag Number(Figure 2-26).

```
Build DATE:2010-10-26
Pegatron      SMBIOS Utility, Copyright by Pegatron Rev1.31      Diags
=====
--System Enclosure or Chassis(Type 3) --
00: Type = 03 , Length = 17 , Handle = 0003
08: Asset Tag Number = Asset Tag

Please Input a String:Tag123456
Please restart to update BIOS!!

C:\DMI>

Return_Code=0
```

Current Data

Input data to update

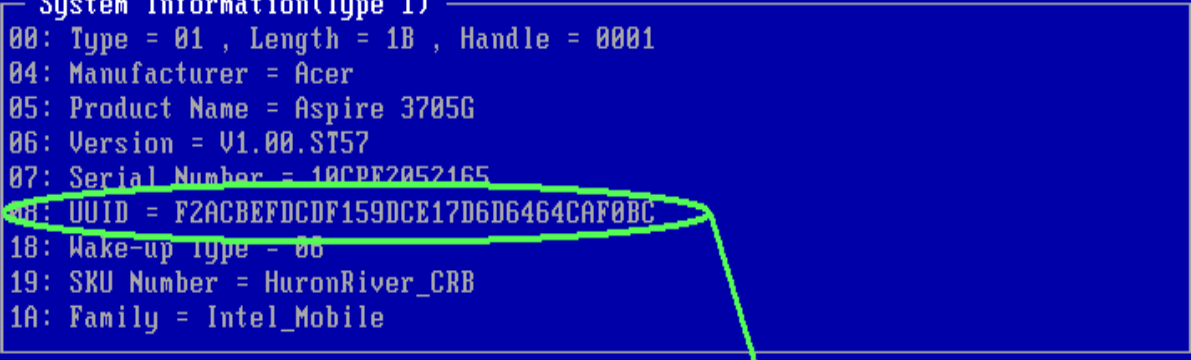
Figure 2-27. Update Asset Tag

5. Execute < **RU.bat** > to read SMBIOS Type 1 UUID(Figure 2-27).

```
Build DATE:2010-10-26
Pegatron      SMBIOS Utility, Copyright by Pegatron Rev1.31      Diags
=====
-- System Information(Type 1) --
00: Type = 01 , Length = 1B , Handle = 0001
04: Manufacturer = Acer
05: Product Name = Aspire 3705G
06: Version = V1.00.ST57
07: Serial Number = 10CPE2052165
08: UUID = F2ACBEFDCDF159DCE17D6D6464CAF0BC
18: Wake-up Type = 06
19: SKU Number = HuronRiver_CRB
1A: Family = Intel_Mobile

C:\DMI>

Return_Code=255
```



The screenshot shows a command-line window with a black background and white text. At the top, it displays 'Build DATE:2010-10-26', 'Pegatron SMBIOS Utility, Copyright by Pegatron Rev1.31', and 'Diags'. A separator line of equals signs follows. The main content is titled '-- System Information(Type 1) --' and lists various SMBIOS fields. The field '08: UUID = F2ACBEFDCDF159DCE17D6D6464CAF0BC' is highlighted with a green oval. A green arrow points from this oval to the text 'Current UUID' on the right side of the window. Below the list, the prompt 'C:\DMI>' is visible, followed by 'Return_Code=255' at the bottom right.

Figure 2-28. Read UUID

6. Execute < **WU.bat** > to write SMBIOS Type 1 UUID(Figure 2-28).

```
Build DATE:2010-10-26
Pegatron      SMBIOS Utility, Copyright by Pegatron Rev1.31      Diags
=====
System Information(Type 1)
00: Type = 01 , Length = 1B , Handle = 0001
04: UUID = F2ACBEFDCDF159DCE17D6D6464CAF0BC
-----

Please Input [16 Bytes] [Hex] [NOSPACE] Data:11223344556677889900112233445566
Please restart to update BIOS!!

C:\DMI>

Return_Code=0
```

Figure 2-29. Write UUID

7. Execute < **GU.bat** > to generate and write SMBIOS Type 1 UUID (Figure 2-29).

```
Build DATE:2010-10-26
Pegatron      SMBIOS Utility, Copyright by Pegatron Rev1.31      Diags
=====
System Information(Type 1)
00: Type = 01 , Length = 1R , Handle = 0001
08: UUID = C906C9466AF6F3C0104C07AE0939FF
Please Input [16 Bytes] [Hex] [NOSPACE] Data: Please restart to update BIOS!!

C:\DMI>

Return_Code=0
```

Current UUID

UUID is updated. Restart system to take effect.

Figure 2-30. Generate and write UUID

LAN MAC EEPROM Utility

LAN EEPROM Utility enables to change the MAC address.

Perfer the following steps to use the LAN EEPROM Utility:

1. Create a DOS bootable USB HDD.
2. Copy the AN MAC EEPROM Utility to the HDD and remove the HDD form the computer.
3. Reboot the computer and press **F2** during the boot sequence to enter the setup menu.
4. Select the Boot menu item and move the entry "USB HDD" to the first position. Refer to Boot.
5. Insert the USB HDD and reboot the computer.
6. At the command prompt, navigate to the C Root folder.
7. Open the file Mac.ini, edit the MAC.ini file, change the MAC address, fill in the xx-xx-xx-xx-xx-xx, and save it.
Current_MAC_address = xx-xx-xx-xx-xx-xx
Command = 00-00-00-4C-14-A0 (Figure 2-31).

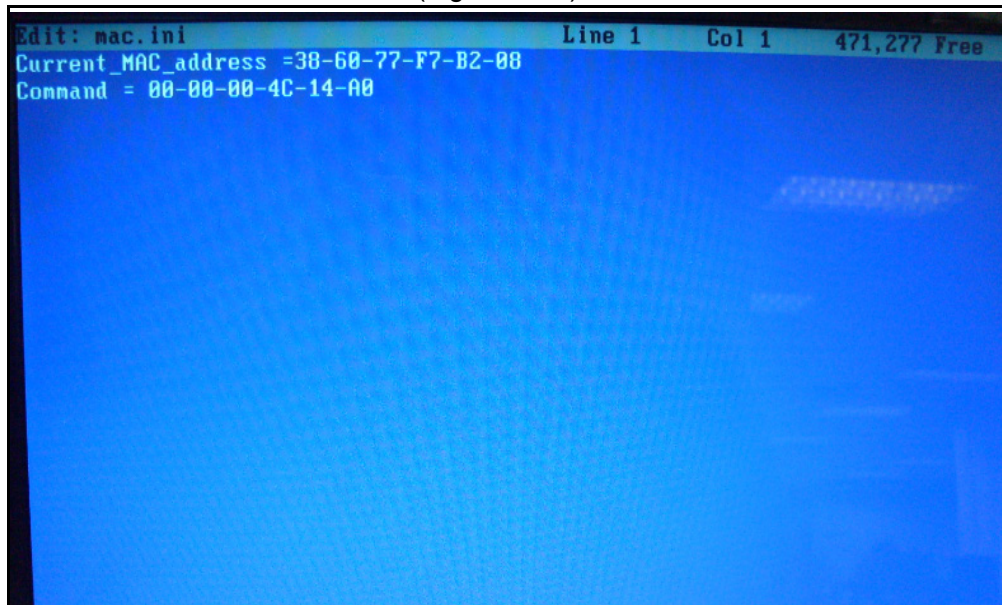
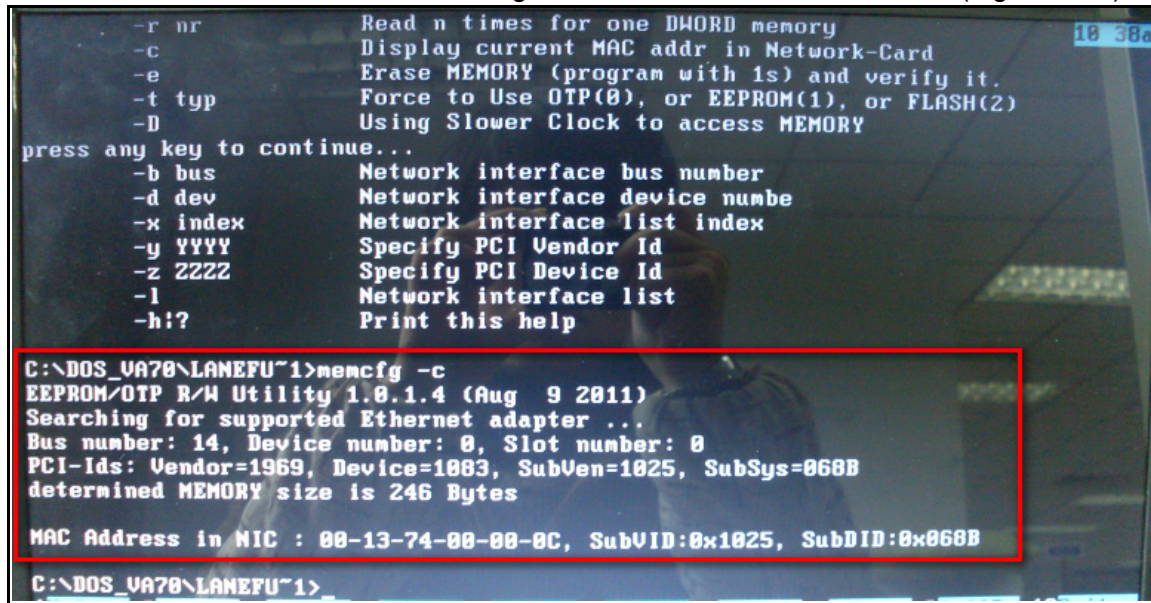


Figure 2-31. Edit MAC.ini file

8. Under DOS, run command “memcfg -c” to check current MAC address (Figure 2-32).



```
-r nr      Read n times for one DWORD memory
-c         Display current MAC addr in Network-Card
-e         Erase MEMORY (program with 1s) and verify it.
-t typ     Force to Use OTP(0), or EEPROM(1), or FLASH(2)
-D         Using Slower Clock to access MEMORY
press any key to continue...
-b bus     Network interface bus number
-d dev     Network interface device numbe
-x index   Network interface list index
-y YYYY    Specify PCI Vendor Id
-z ZZZZ    Specify PCI Device Id
-l         Network interface list
-h!?!     Print this help

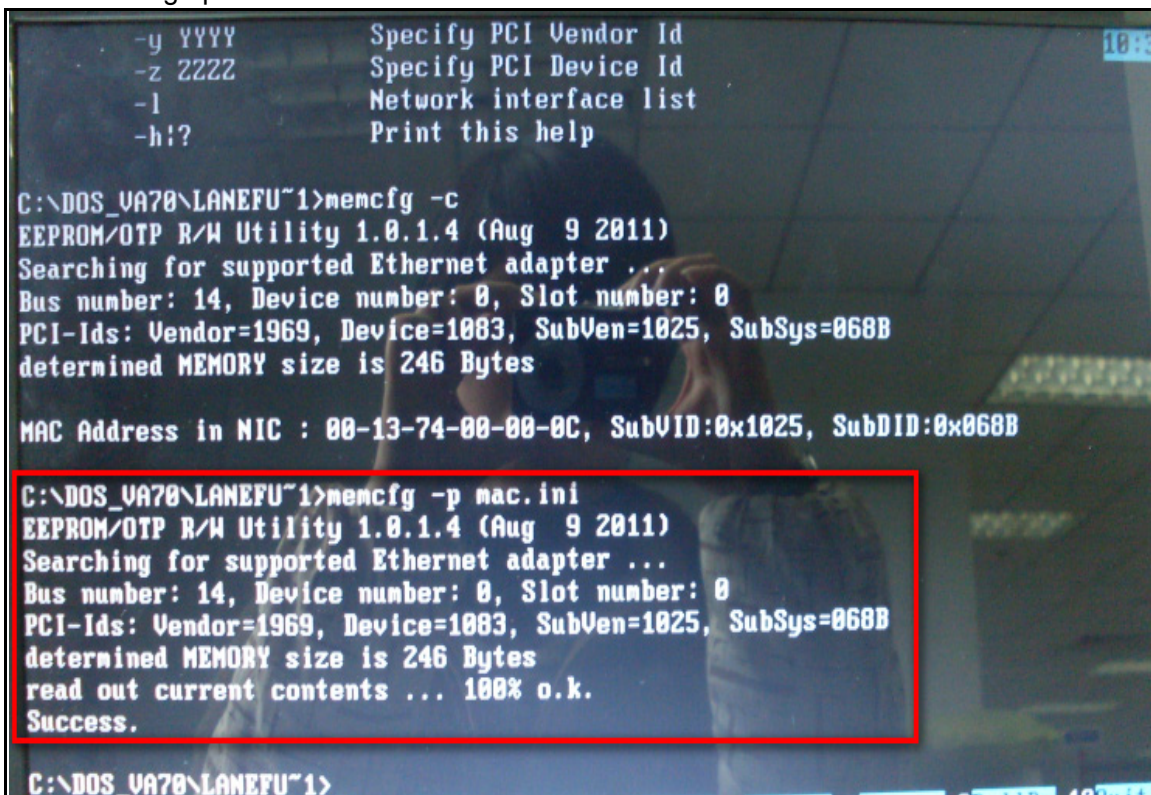
C:\DOS_VA70\LANEFU~1>memcfg -c
EEPROM/OTP R/W Utility 1.0.1.4 (Aug 9 2011)
Searching for supported Ethernet adapter ...
Bus number: 14, Device number: 0, Slot number: 0
PCI-Ids: Vendor=1969, Device=1083, SubVen=1025, SubSys=068B
determined MEMORY size is 246 Bytes

MAC Address in NIC : 00-13-74-00-00-0C, SubVID:0x1025, SubDID:0x068B

C:\DOS_VA70\LANEFU~1>
```

Figure 2-32. Execute MAC Tool

9. Run command to program the MAC address (Figure 2-33).
memcfg -p MAC.ini



```
-y YYYY    Specify PCI Vendor Id
-z ZZZZ    Specify PCI Device Id
-l         Network interface list
-h!?!     Print this help

C:\DOS_VA70\LANEFU~1>memcfg -c
EEPROM/OTP R/W Utility 1.0.1.4 (Aug 9 2011)
Searching for supported Ethernet adapter ...
Bus number: 14, Device number: 0, Slot number: 0
PCI-Ids: Vendor=1969, Device=1083, SubVen=1025, SubSys=068B
determined MEMORY size is 246 Bytes

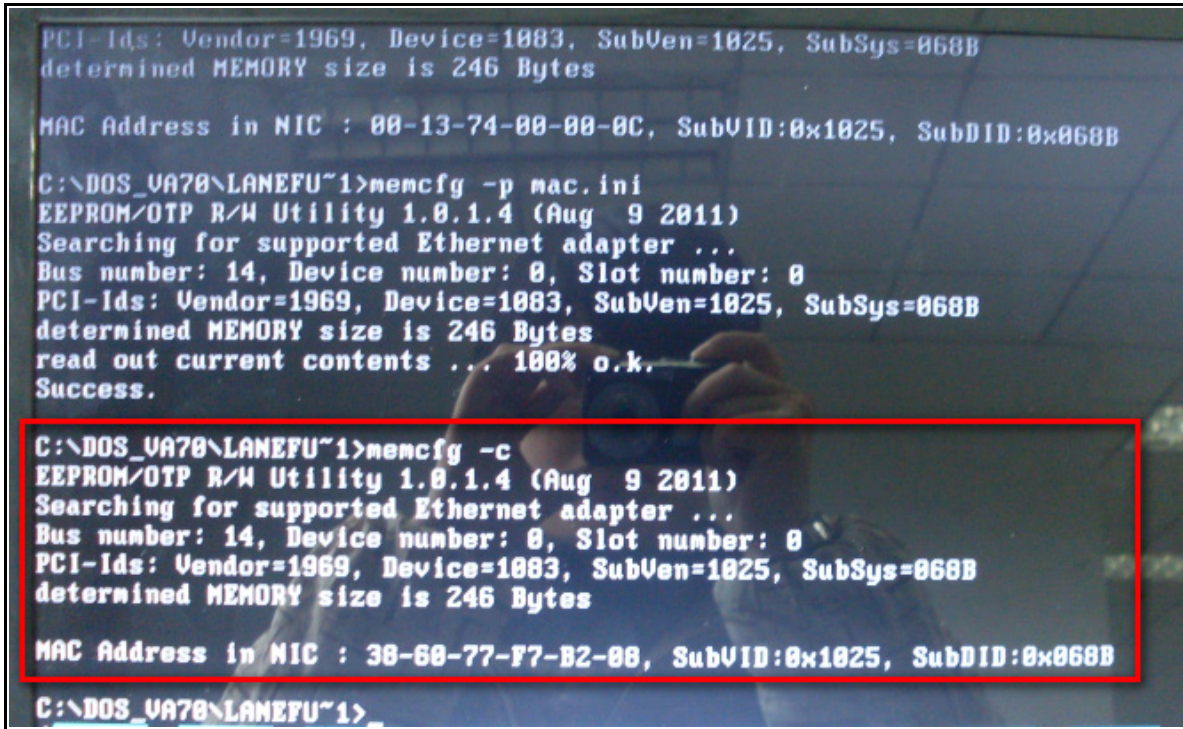
MAC Address in NIC : 00-13-74-00-00-0C, SubVID:0x1025, SubDID:0x068B

C:\DOS_VA70\LANEFU~1>memcfg -p mac.ini
EEPROM/OTP R/W Utility 1.0.1.4 (Aug 9 2011)
Searching for supported Ethernet adapter ...
Bus number: 14, Device number: 0, Slot number: 0
PCI-Ids: Vendor=1969, Device=1083, SubVen=1025, SubSys=068B
determined MEMORY size is 246 Bytes
read out current contents ... 100% o.k.
Success.

C:\DOS_VA70\LANEFU~1>
```

Figure 2-33. Program MAC addressScreen

10. Run command “memcfg -c” to check the MAC address programmed correctly (Figure 2-34).



```
PCI-Ids: Vendor=1969, Device=1083, SubVen=1025, SubSys=068B
determined MEMORY size is 246 Bytes

MAC Address in NIC : 00-13-74-00-00-0C, SubVID:0x1025, SubDID:0x068B

C:\DOS_VA70\LANEFU~1>memcfg -p mac.ini
EEPROM/OTP R/W Utility 1.0.1.4 (Aug 9 2011)
Searching for supported Ethernet adapter ...
Bus number: 14, Device number: 0, Slot number: 0
PCI-Ids: Vendor=1969, Device=1083, SubVen=1025, SubSys=068B
determined MEMORY size is 246 Bytes
read out current contents ... 100% o.k.
Success.

C:\DOS_VA70\LANEFU~1>memcfg -c
EEPROM/OTP R/W Utility 1.0.1.4 (Aug 9 2011)
Searching for supported Ethernet adapter ...
Bus number: 14, Device number: 0, Slot number: 0
PCI-Ids: Vendor=1969, Device=1083, SubVen=1025, SubSys=068B
determined MEMORY size is 246 Bytes

MAC Address in NIC : 30-60-77-F7-B2-00, SubVID:0x1025, SubDID:0x068B

C:\DOS_VA70\LANEFU~1>
```

Figure 2-34. MAC address changed

11. When this process has completed, exit to C root folder then reboot.

CHAPTER 3

Machine Maintenance

Machine Disassembly and Replacement	3-5
Recommended Equipment	3-5
Replacement Requirements	3-5
Pre-disassembly Instructions	3-6
Disassembly Process	3-7
External Module Disassembly Process	3-8
External Modules Disassembly Flowchart	3-8
Removing the Memory Card	3-9
Removing the Battery	3-10
Removing the Main Door	3-12
Removing the Memory Module	3-14
Removing the HDD Module	3-17
Removing the WLAN Card	3-21
Removing the ODD Module	3-23
Main Unit Disassembly Process	3-26
Main Unit Disassembly Flowchart	3-26
Removing the Top Case Palmrest	3-27
Removing the Touchpad Switch Board	3-30
Removing the Top Case	3-33
Removing the Speaker Module	3-37
Remove the Power Switch Board	3-40
Removing the Keyboard Bracket	3-42
Removing the Keyboard	3-45
Removing the IO Board	3-46
Removing the Motherboard	3-48
Removing the Thermal Module	3-52
Removing the CPU	3-54
Removing the Bottom Case	3-56
LCD Module Disassembly Process	3-61
LCD Module Disassembly Flowchart	3-61
Removing the LCD Bezel	3-62
Removing the LCD Panel	3-66
Removing the Hinges	3-69
Removing the Camera	3-71
Removing the LVDS Combo Cable	3-72
LCD Reassembly Procedure	3-76
Replacing the Camera	3-76
Replacing the LCD Panel	3-77
Replacing the LCD Bezel	3-84
Replacing the Bottom Case	3-87
Replacing the CPU	3-90

Replacing the Thermal Module	3-92
Replacing the Motherboard	3-95
Replacing the IO Board	3-98
Replacing the Keyboard	3-100
Replacing the Power Switch Board	3-103
Replacing the Speaker Module	3-105
Replacing the Top Case	3-108
Replacing the Top Case Palmrest	3-111
Replacing the ODD Module	3-116
Replacing the WLAN Card	3-119
Replacing the HDD Module	3-121
Replacing the DIMM Module	3-125
Replacing the Main Door	3-127
Replacing the Battery	3-128

Machine Disassembly and Replacement

This chapter contains step-by-step procedures on how to disassemble the notebook computer for maintenance and troubleshooting.

Cable paths and positioning may not represent the actual model. During the removal and installation of the components, ensure all available cable channels and clips are used and that the cables are replaced in the same position.

The screws for the different components vary in size. During the disassembly process, group the screws with the corresponding components to avoid mismatch when putting back the components.

The product previews seen in the disassembly procedures may not represent the final product color or configuration.

Recommended Equipment

To disassemble the computer, the following tools are recommended:

- **Wrist grounding strap and conductive mat for preventing electrostatic discharge**
- **Flat screwdriver**
- **Philips screwdriver**
- **Plastic flat screwdriver**
- **Plastic tweezers**
- **Cyanoacrylate glue**

Replacement Requirements

⇒ NOTE:

Cabling and components require adhesive to be applied during the replacement and reassembly process.

Pre-disassembly Instructions

Before proceeding with the disassembly procedure, make sure to do the following:

1. Turn off the power to the system and all peripherals.
2. Unplug the AC adapter and all power and signal cables from the system.



Figure 3-1. AC Adapter

3. Place the system on a flat, stable surface.

Disassembly Process

The disassembly process is divided into the following sections:

- **External components disassembly**
- **Main unit disassembly**
- **LCD module disassembly**

The flowcharts provided in the succeeding disassembly sections illustrate the entire disassembly sequence. Observe the order of the sequence to avoid damage to any of the hardware components. For example, when removing the mainboard, remove first the keyboard, and LCD module then disassemble the inside assembly frame in that order.

Table 3-1. Main Screw List

Screw	Quantity	Acer Part Number
M3*3	4	
M2.5*5	18	
M2.5*7	19	
M2*2.2+5.7	4	
M1.6*2.5	9	
M2*3	37	

External Module Disassembly Process

Table 3-2. Screw List

Step	Screw	Quantity	Part No.
HDD Module Disassembly	M2*3	2	
HDD Bracket Disassembly	M3*3	4	
WLAN Module Disassembly	M2*3	1	
ODD Module Disassembly	M2*3	1	
ODD Bracket Disassembly	M2*3	2	

External Modules Disassembly Flowchart

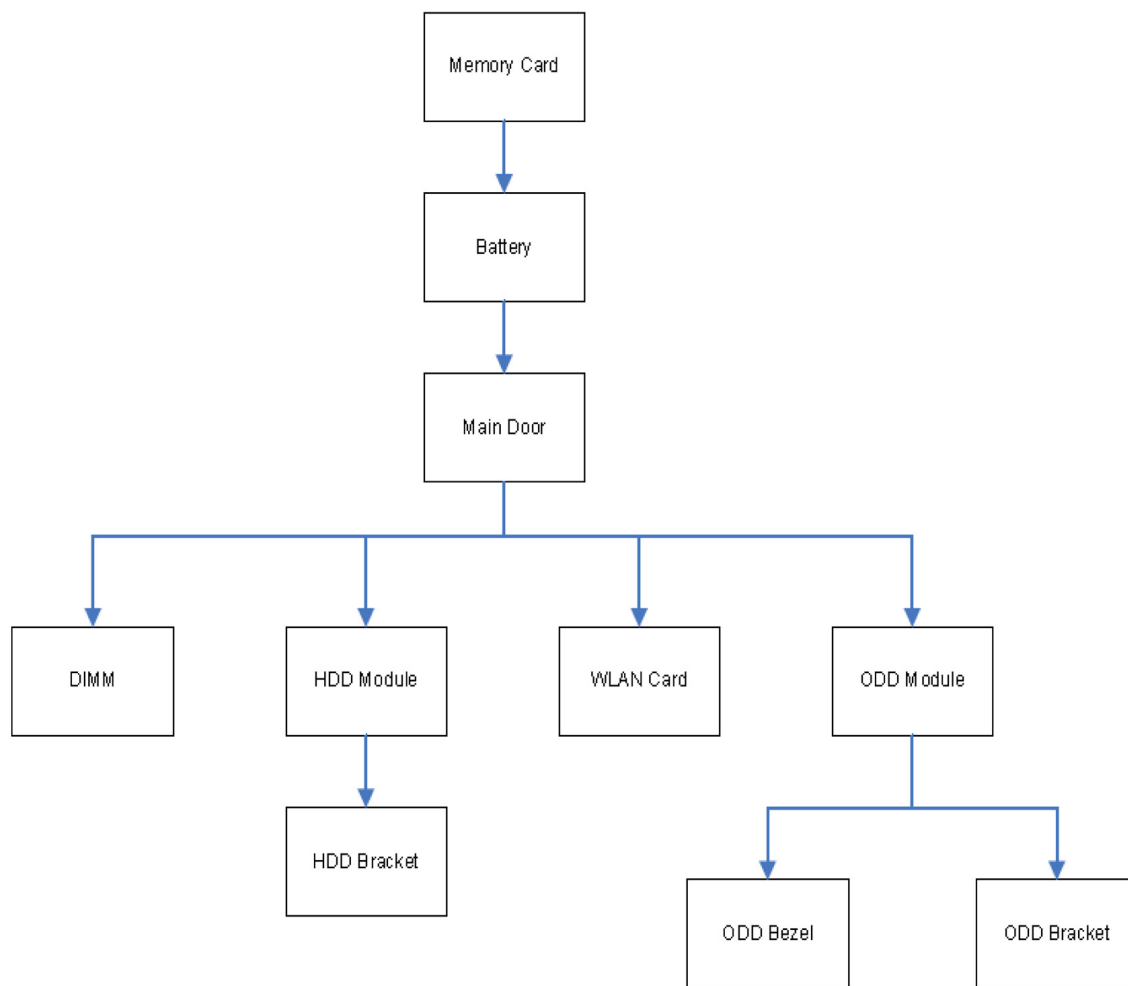


Figure 3-2. External Module Disassembly Flowchart

Removing the Memory Card

1. Press the memory card in to allow it to spring out.



Figure 3-3. Memory Card

2. Pull the memory card out.

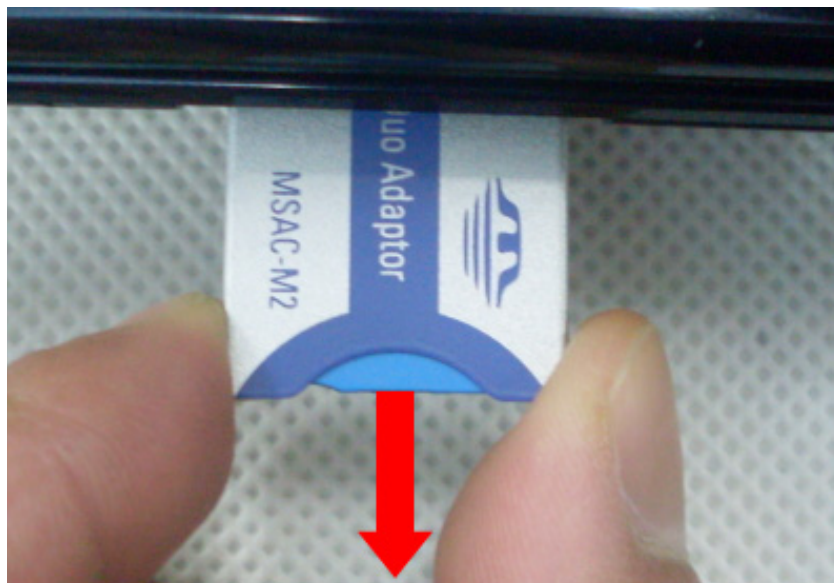


Figure 3-4. Memory Card

Removing the Battery

1. Shut down the operating system, close the LCD panel, then turn over the notebook and place it on a level platform.



Figure 3-5. Bottom side

2. Use a phillips screwdriver to insert the pit of battery latch, release the latch to spring the battery.

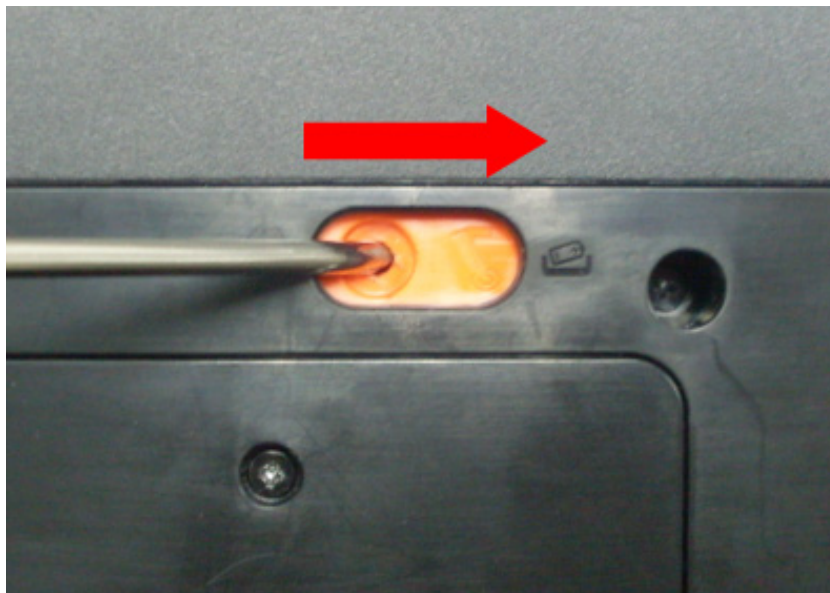


Figure 3-6. Battery Latch

3. Lift the bottom edge of battery bar first to remove the battery.



Figure 3-7. Battery

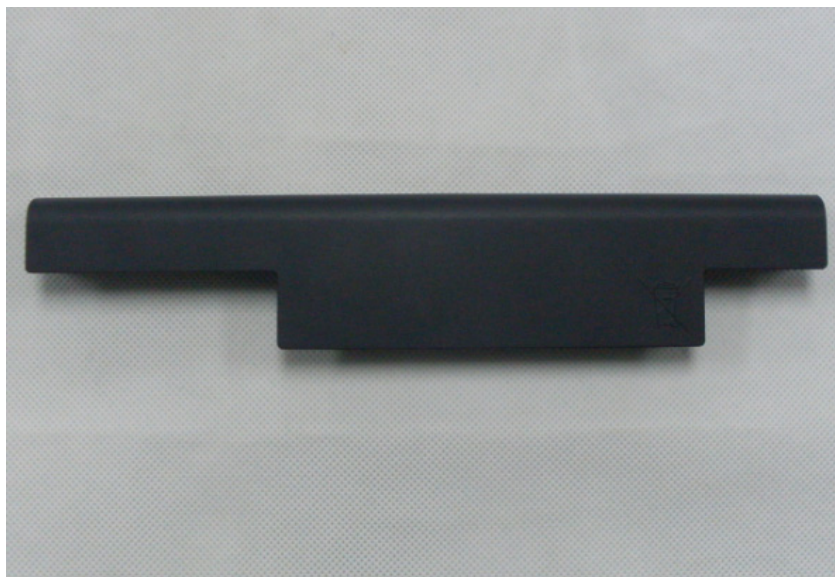


Figure 3-8. Battery

Removing the Main Door

1. Loose 9 captive screws on the main door..



Figure 3-9. Screws on Main Door

2. Dig out the top edge of main door with a finger, lift the top edge first.

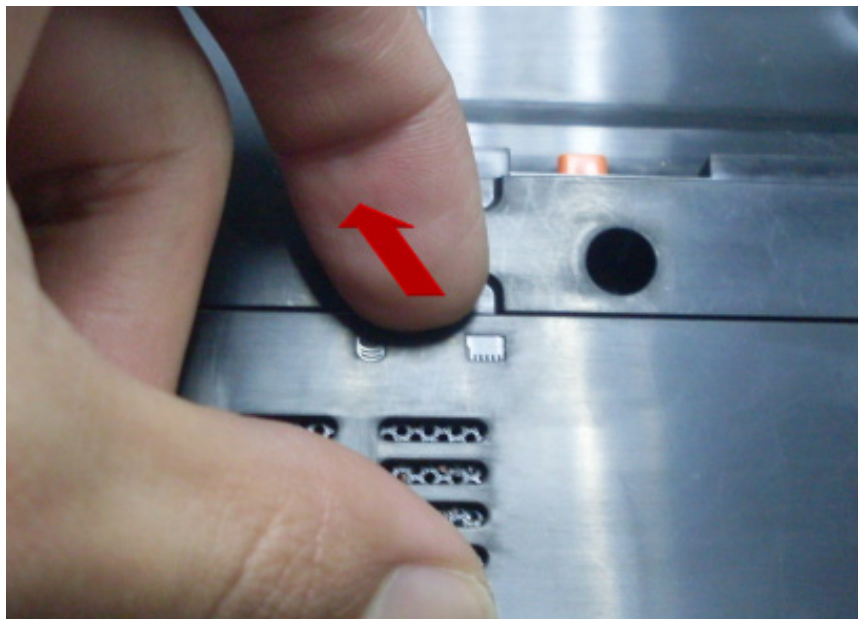


Figure 3-10. Main Door

3. Lift to remove the main door.



Figure 3-11. Main Door

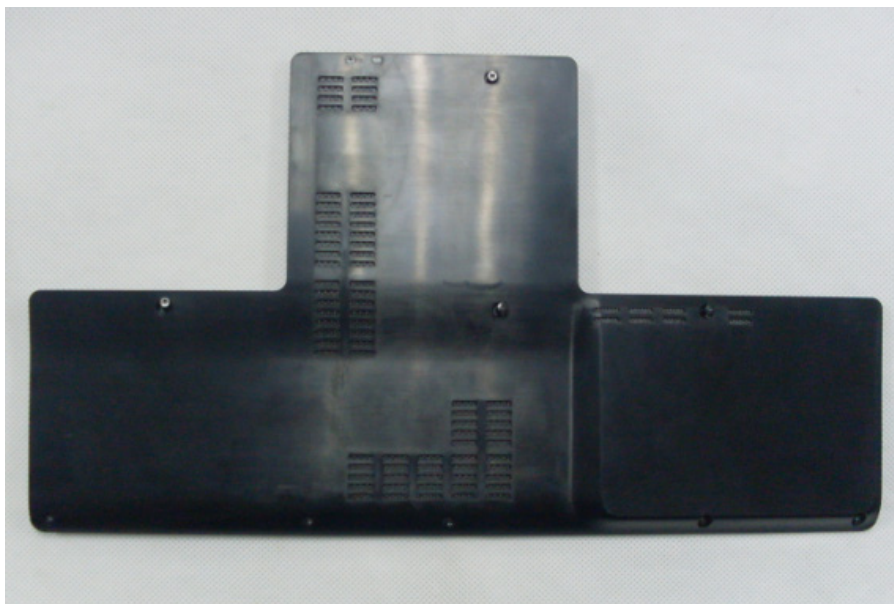


Figure 3-12. Main Door

Removing the Memory Module

1. Use two fingers, push the memory module clips outwards to spring the memory.

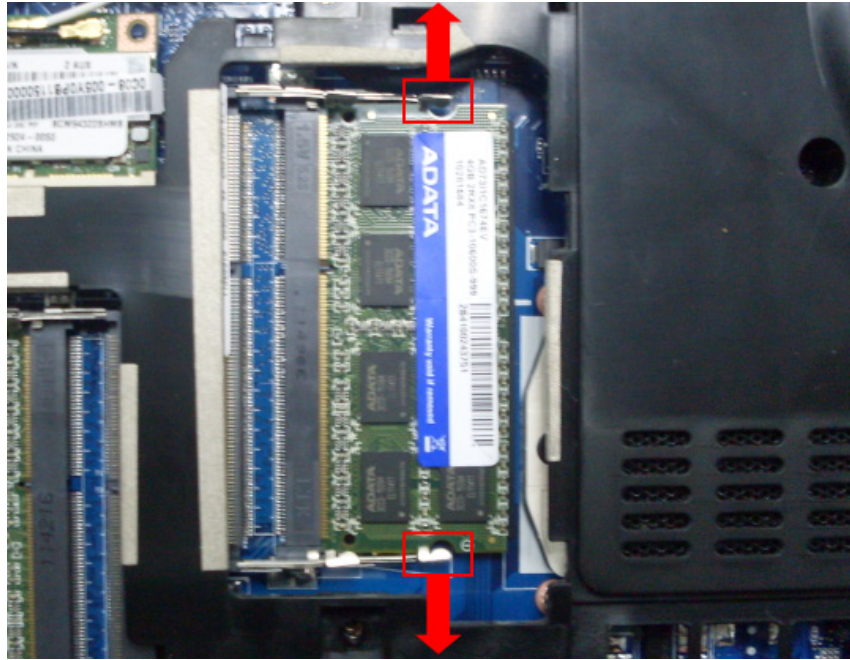


Figure 3-13. Memory Module

2. Pull out the memory from its slot.



Figure 3-14. Memory Module

3. Use two fingers, push the memory module clips outwards to spring another memory bar.

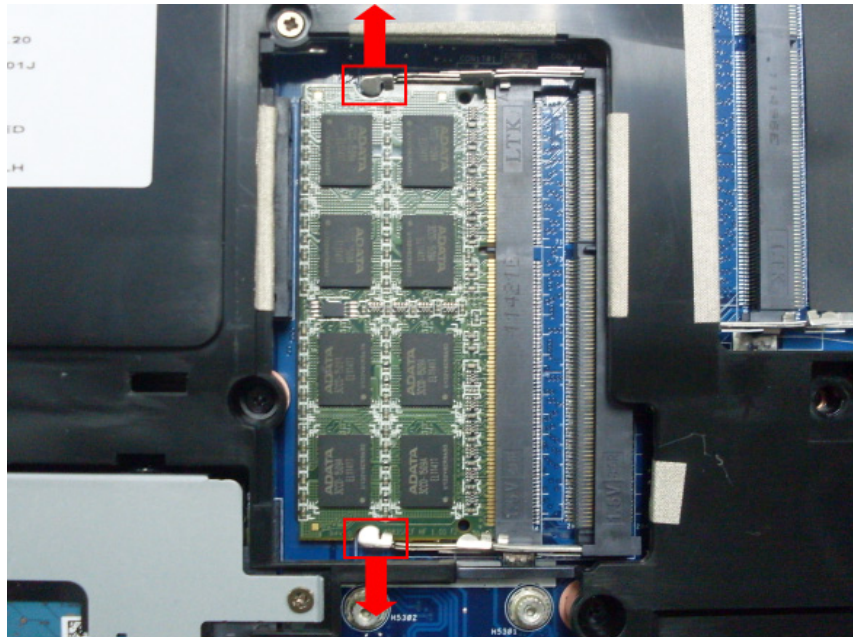


Figure 3-15. Memory Module

4. Pull out the memory from its slot.

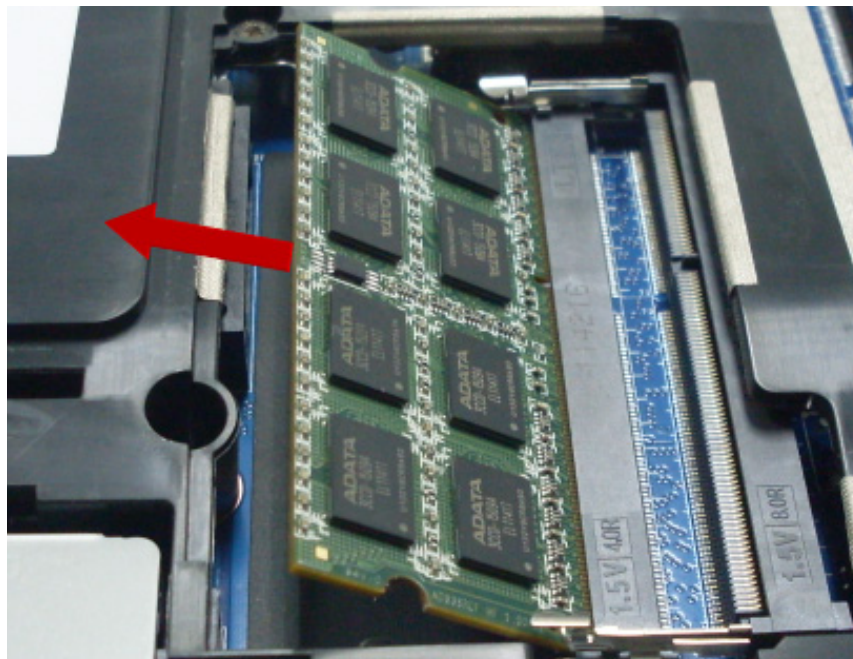


Figure 3-16. Memory Module



Figure 3-17. Memory Module


Removing the HDD Module

1. Remove 2 screws on HDD bracket.



Figure 3-18. Screws on HDD Bracket

Table 3-3. Screws

Step	Screw	Quantity	Screw Type
HDD Module Disassembly	M2*3	2	

2. Pull the handling mylar to disconnect the HDD from motherboard.

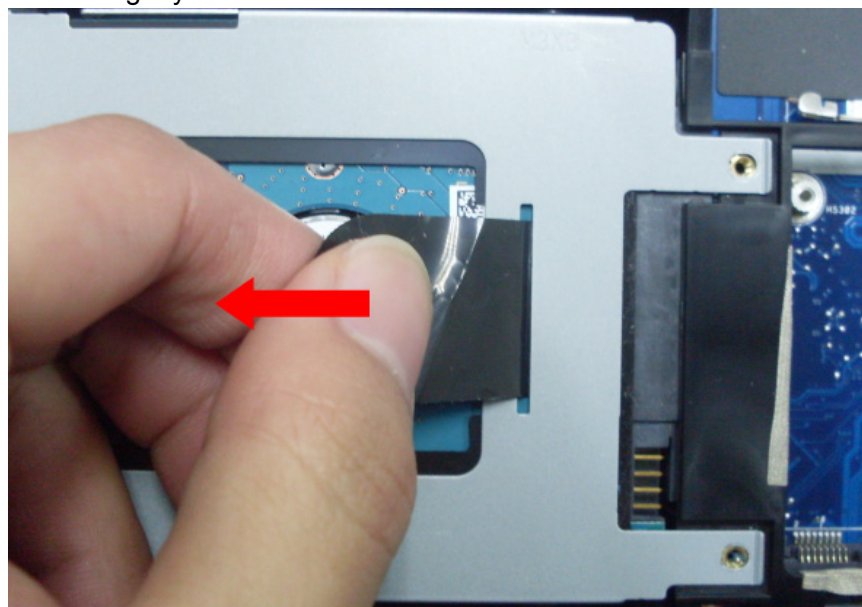


Figure 3-19. HDD Module

3. Use two fingers to hold the notches of HDD bracket, lift to remove HDD module.

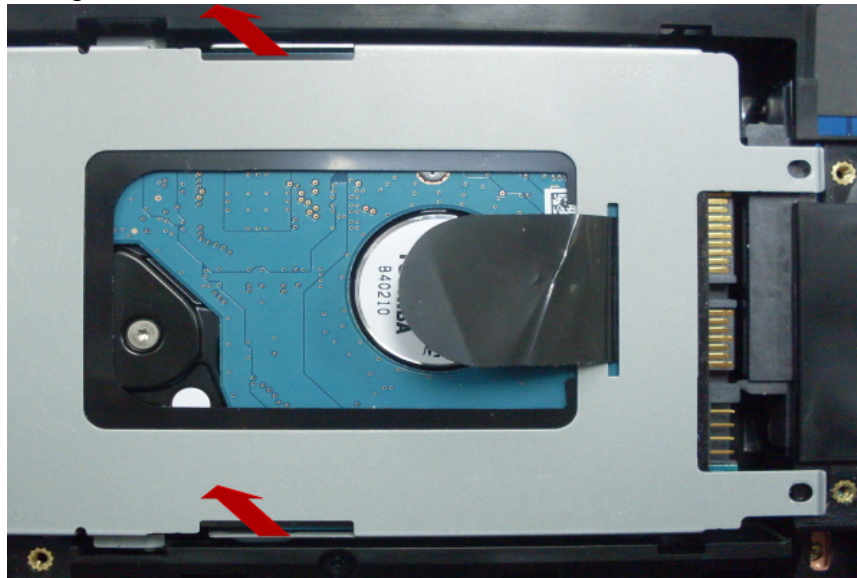


Figure 3-20. HDD Module

4. Remove 4 screws on HDD bracket to separate the HDD from the bracket.



Figure 3-21. HDD Module

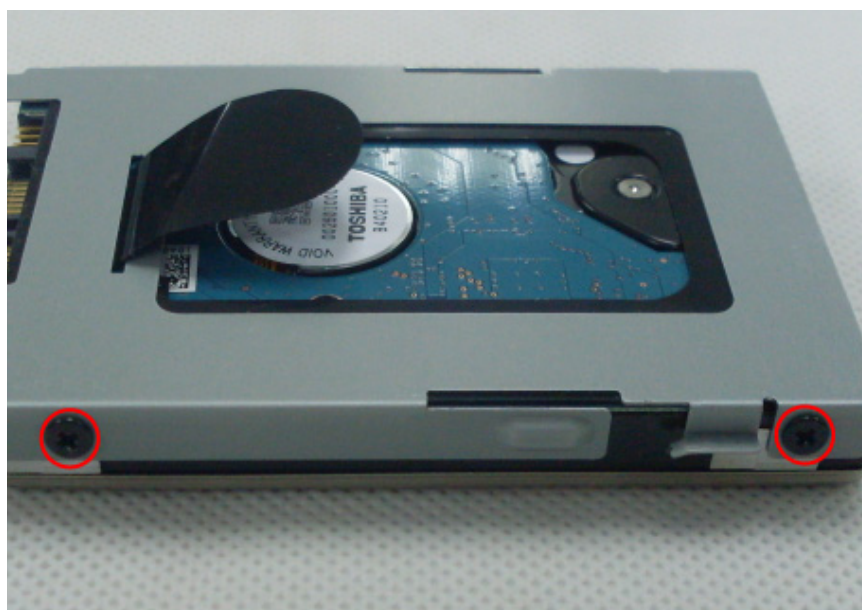



Figure 3-22. HDD Module

Table 3-4. Screws

Step	Screw	Quantity	Screw Type
HDD Disassembly	M3*3	4	

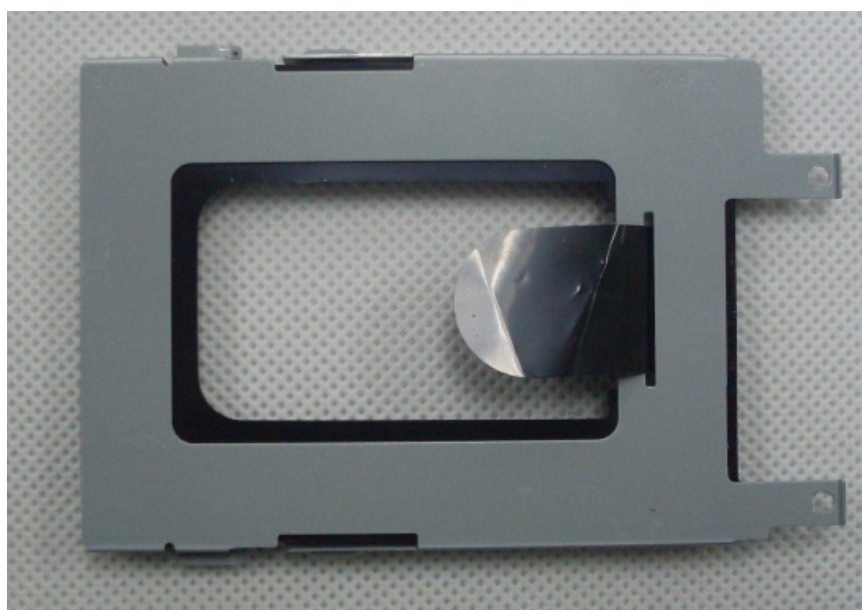


Figure 3-23. HDD Bracket

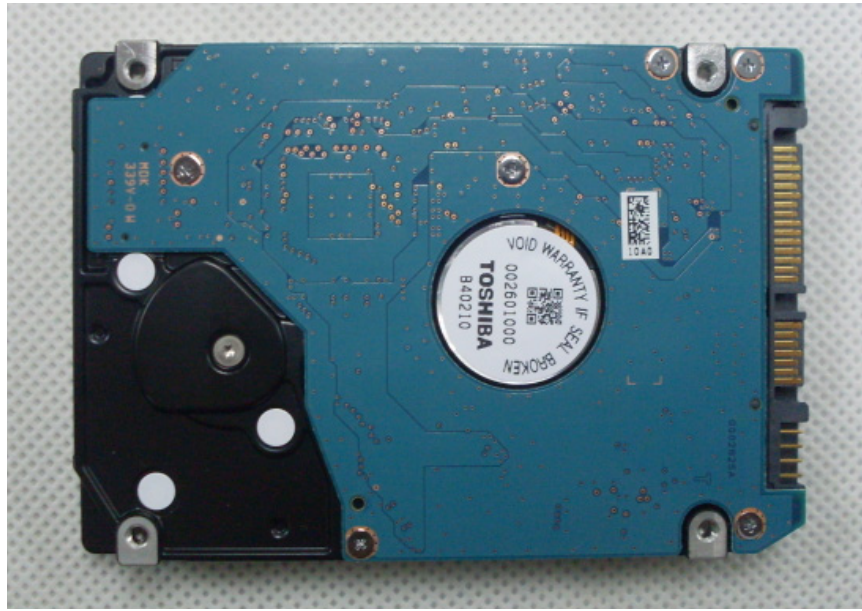


Figure 3-24. HDD

5. Repeat the procedures above to remove the second HDD module.

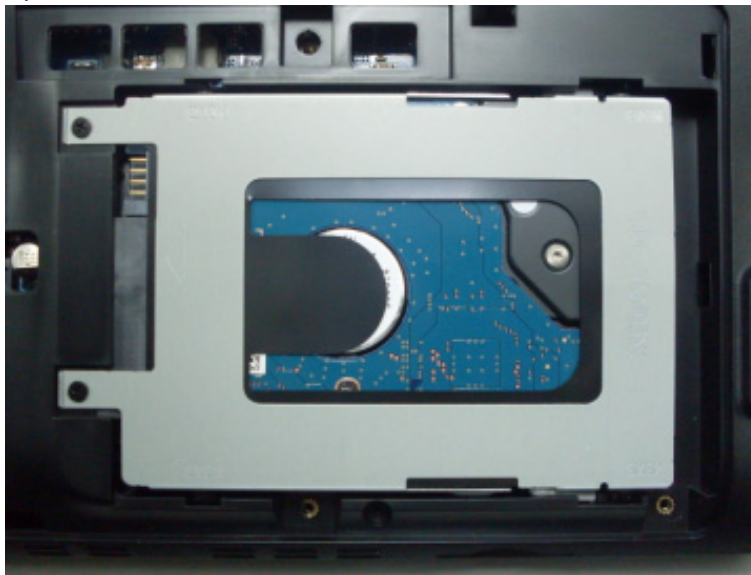


Figure 3-25. Second HDD Module

Removing the WLAN Card

1. Use a pair of plastic tweezers to clamp the antenna cable connectors, disconnect 2 cables from the WLAN module.

+ **IMPORTANT:**

Note the connector positions of the Main (black) and Auxiliary (white) cables.




Figure 3-26. WLAN Card

2. Remove 1 screw and ensure the cables are well clear of the WLAN module.



Figure 3-27. WLAN Card

Table 3-5. Screws

Step	Screw	Quantity	Screw Type
WLAN Module Disassembly	M2*3	1	

3. Pull the WLAN module out from its slot.



Figure 3-28. WLAN Card



Figure 3-29. WLAN Card


Removing the ODD Module

1. Remove 1 screw from the bottom case.



Figure 3-30. ODD Module

Table 3-6. Screws

Step	Screw	Quantity	Screw Type
ODD Module Disassembly	M2*3	1	

2. Pull the ODD module completely out of the housing.



Figure 3-31. ODD Module

3. Pull the ODD bezel to separate it from the ODD.



Figure 3-32. ODD Module



Figure 3-33. ODD Bezel

4. Remove 2 screws to remove ODD bracket.



Figure 3-34. ODD Bracket

Table 3-7. Screws


Step	Screw	Quantity	Screw Type
ODD Bracket Disassembly	M2*3	2	



Figure 3-35. ODD Bracket

Main Unit Disassembly Process

Main Unit Disassembly Flowchart

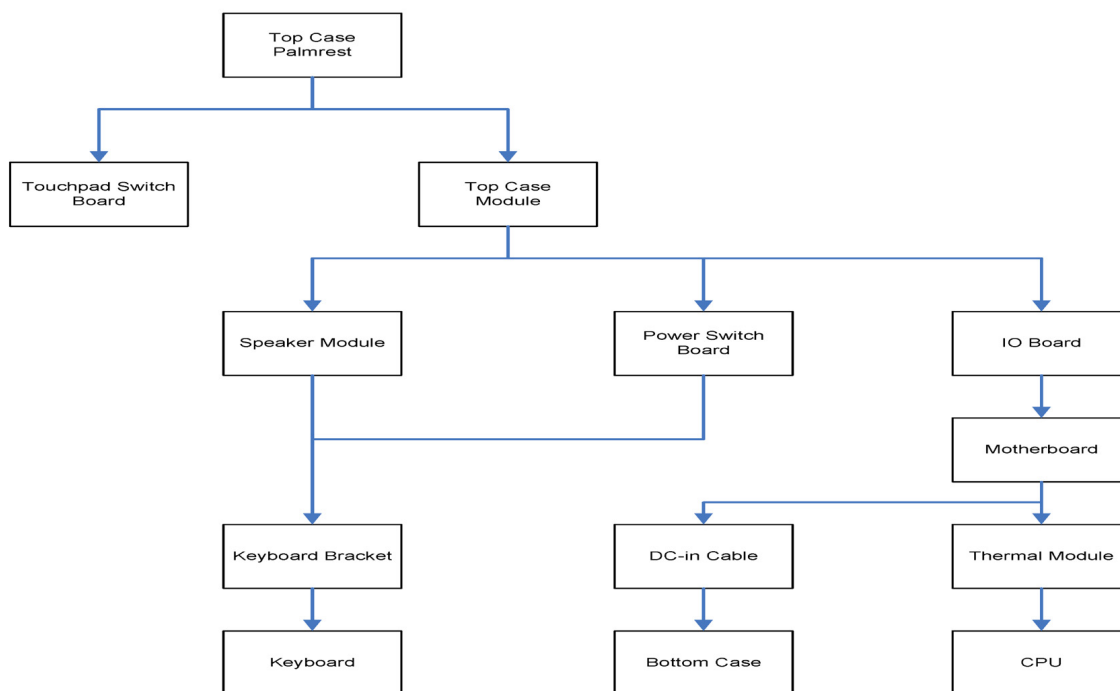


Figure 3-36. Main Unit Disassembly Flowchart

Table 3-8. Screws

Step	Screw	Quantity	Part No.
Top Case and Palmrest Disassembly	M2.5*7	19	
	M2*3	5	
	M2*2	2	
Touchpad Switch Board Disassembly	M2*3	2	
Top Case Module Disassembly	M2.5*5	1	
Speaker Module Disassembly	M2*2.2+5.7	4	
Power Switch Board Disassembly	M2*3	2	
Keyboard Bracket Disassembly	M2*3	6	
	M1.6*2.5	9	
IO Board Disassembly	M2.5*5	1	
Motherboard Disassembly	M2.5*5	4	
Thermal Module Disassembly	M2*3	6	

Removing the Top Case Palmrest

1. Remove 19 screws(M2.5*7) , 5 screws(M2*3) and 2 screws(M2*2)on the Bottom case.

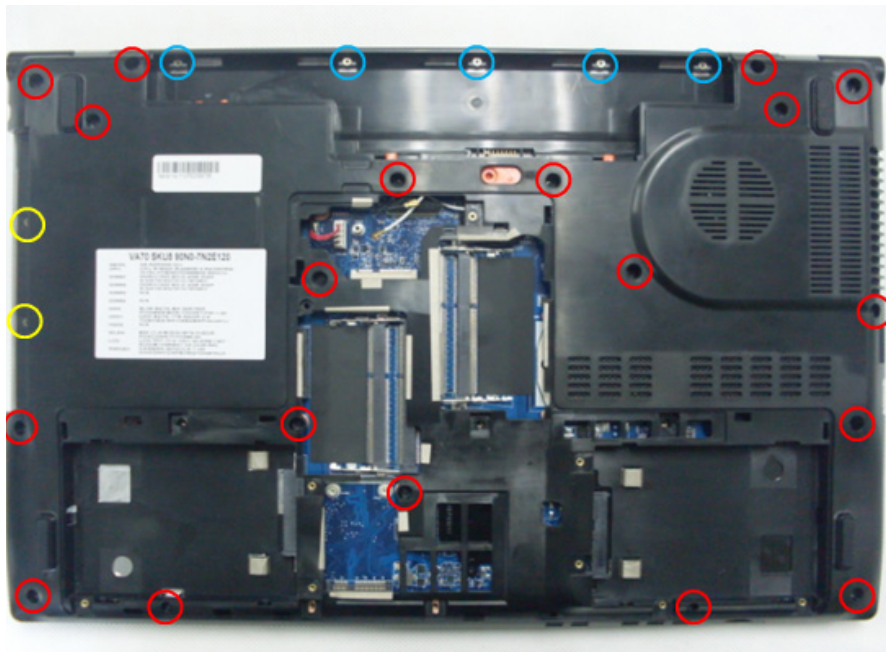





Figure 3-37. Screws on Bottom Case

Table 3-9. Screws

Step	Screw	Quantity	Screw Type
Bottom Case Disassembly	M2.5*7 (red cycled)	19	
	M2*3 (blue cycled)	5	
	M2*2 (yellow cycled)	2	

2. Turn over the notebook, open the LCD panel. Use a plastic pry slice to insert to the gap between top case palmrest and bottom case.pry to release all latches,then lift the bottom edge of top case palmrest.



Figure 3-38. Top Case Palmrest

3. Pry to release all latches, then lift the bottom edge of top case palmrest to reveal the touchpad switch board cable connector.

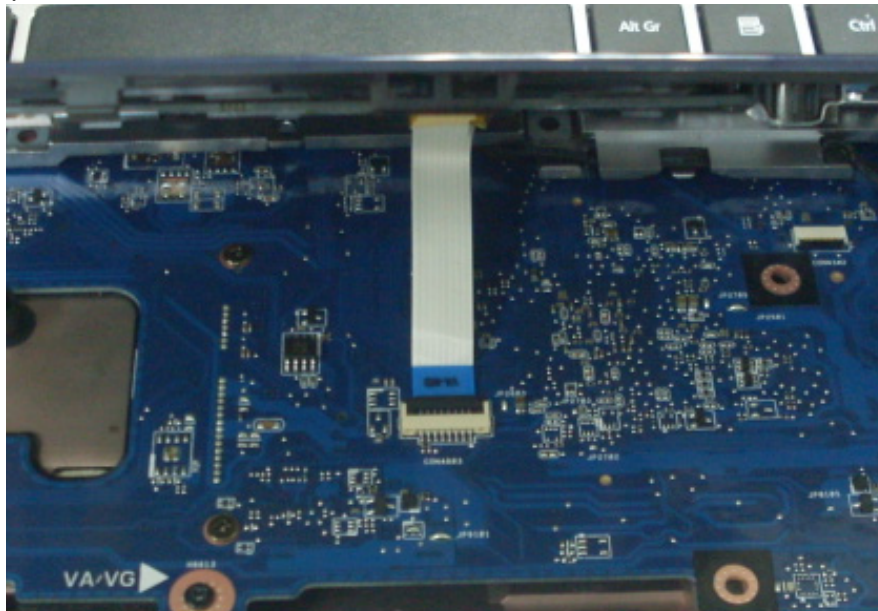


Figure 3-39. Top Case Palmrest

4. Disconnect the cable from the motherboard.

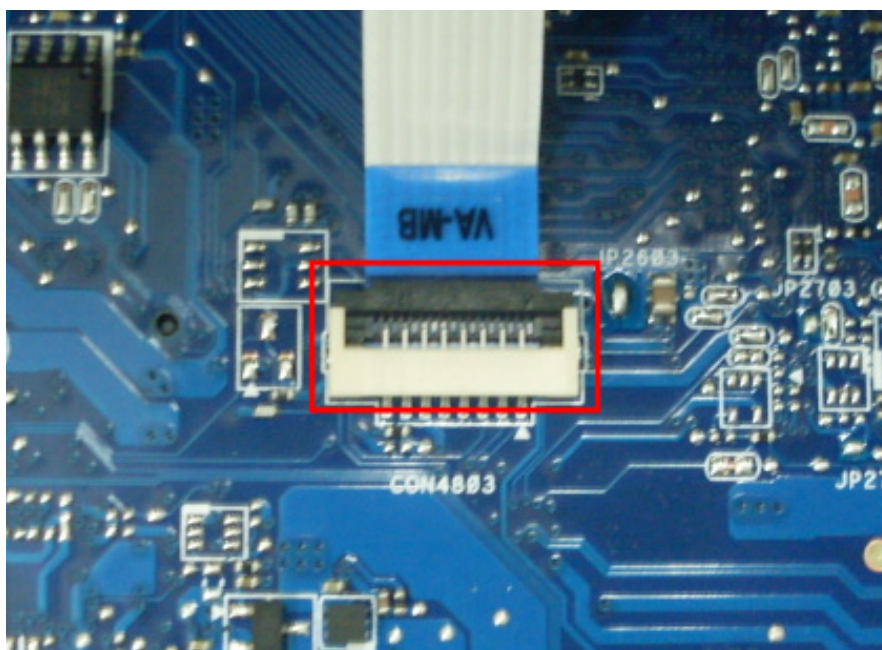


Figure 3-40. Touchpad Switch Board FFC

5. Remove the top case palmrest



Figure 3-41. Top Case Palmrest

Removing the Touchpad Switch Board

1. Turn over the top case palmrest. Tear off the touchpad switch board cable from the touchpad.

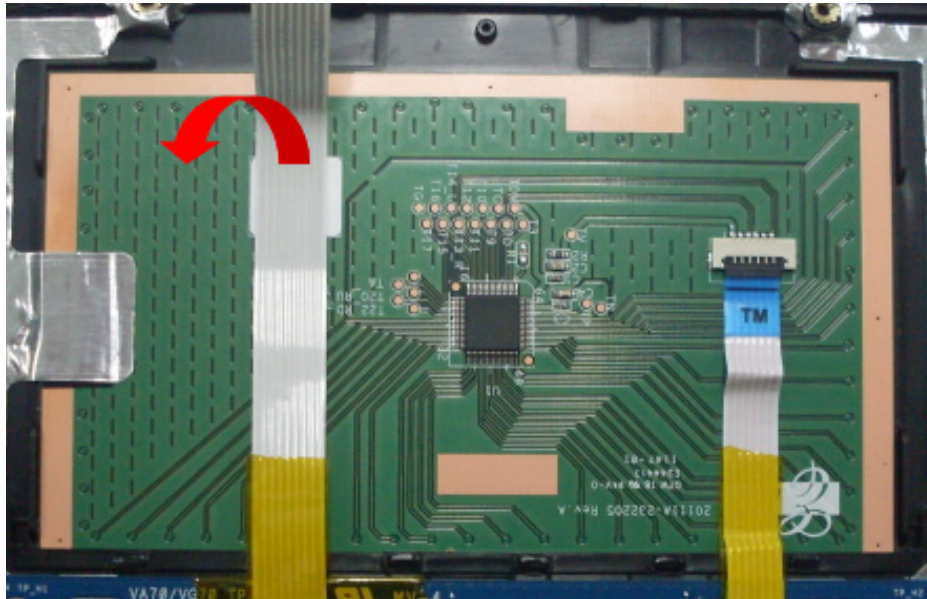


Figure 3-42. Touchpad Switch Board FFC

2. Disconnect the touchpad FFC from touchpad.

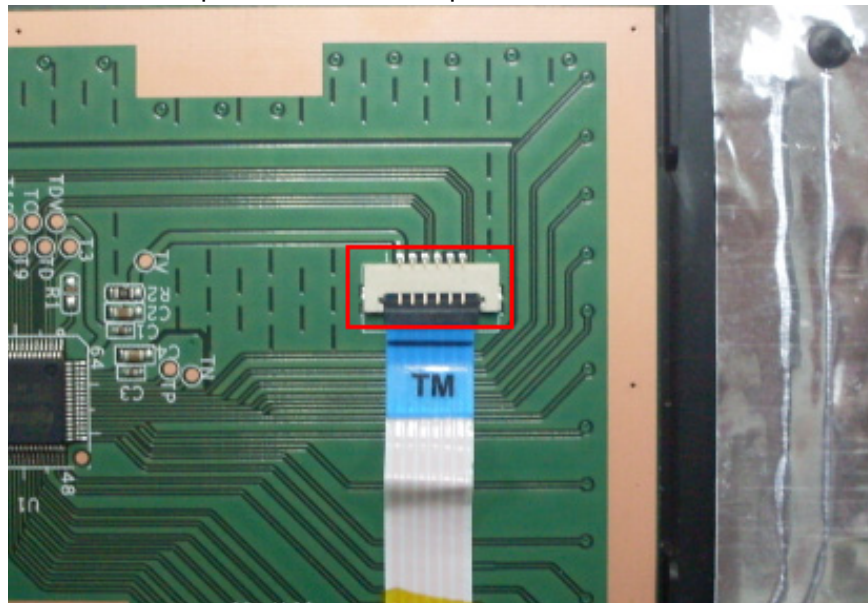


Figure 3-43. Touchpad FFC

3. Tear off the touchpad FFC from touchpad.

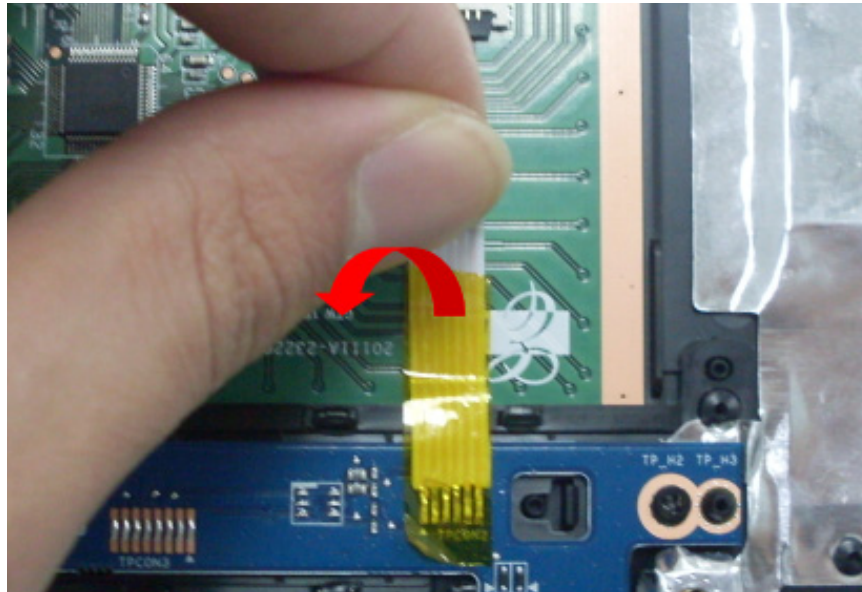


Figure 3-44. Touchpad FFC

4. Remove 2 screws from touchpad switch board.

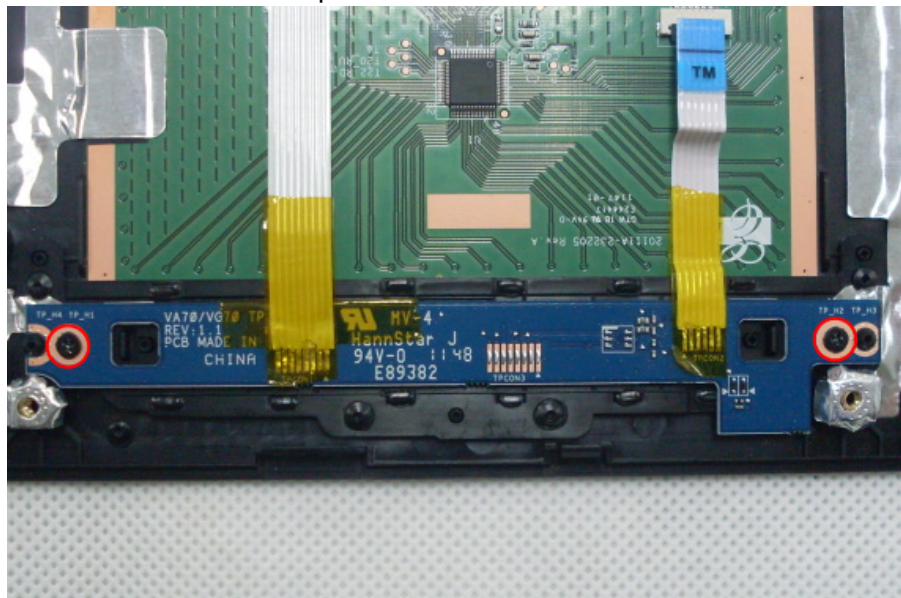



Figure 3-45. Touchpad Switch Board

Table 3-10. Screws

Step	Screw	Quantity	Screw Type
Touchpad Switch Board Disassembly	M2*3	2	

5. Lift to remove touchpad switch board.

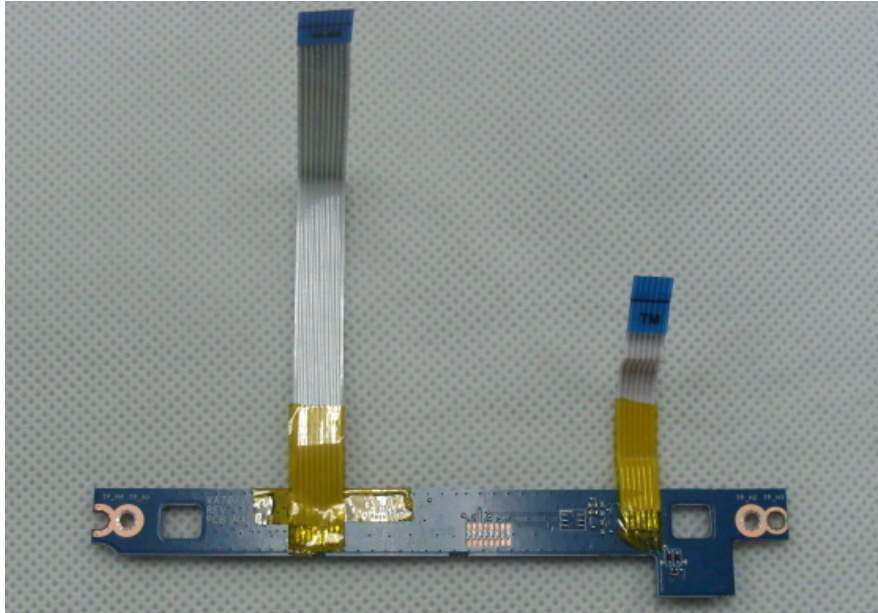


Figure 3-46. Touchpad Switch Board

Removing the Top Case

1. Disconnect the power switch board cable from motherboard.

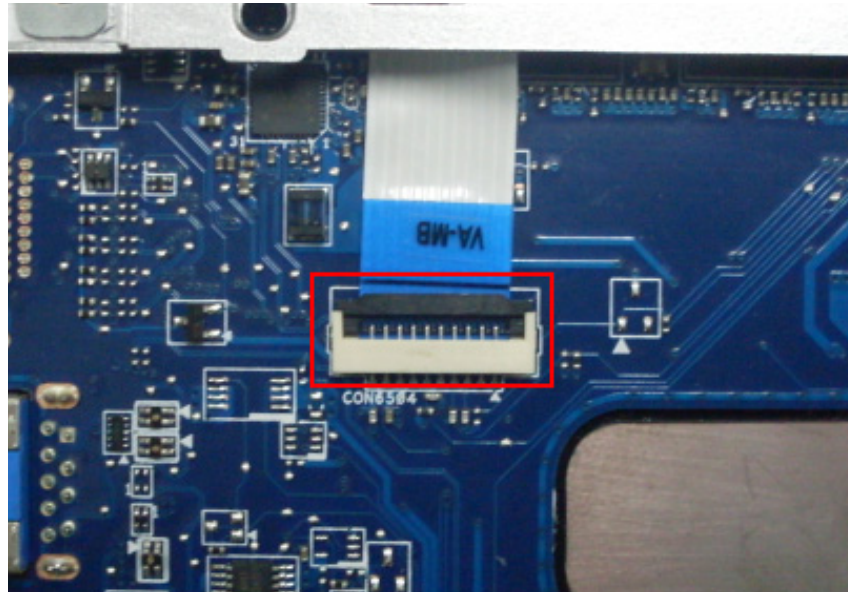


Figure 3-47. Power Switch Board FFC

2. Disconnect the speaker cable from motherboard.

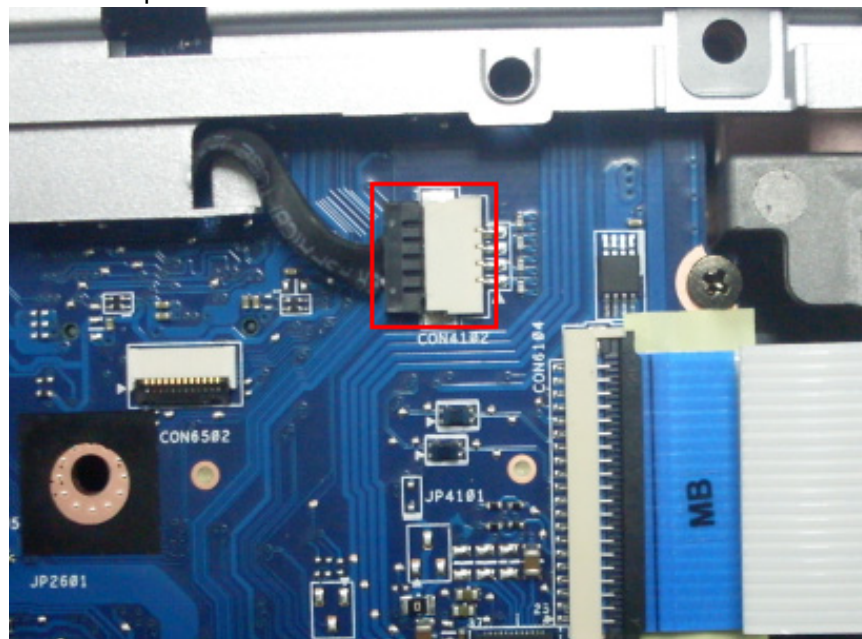


Figure 3-48. Speaker Cable

3. Remove 1 screw from the keyboard bracket.

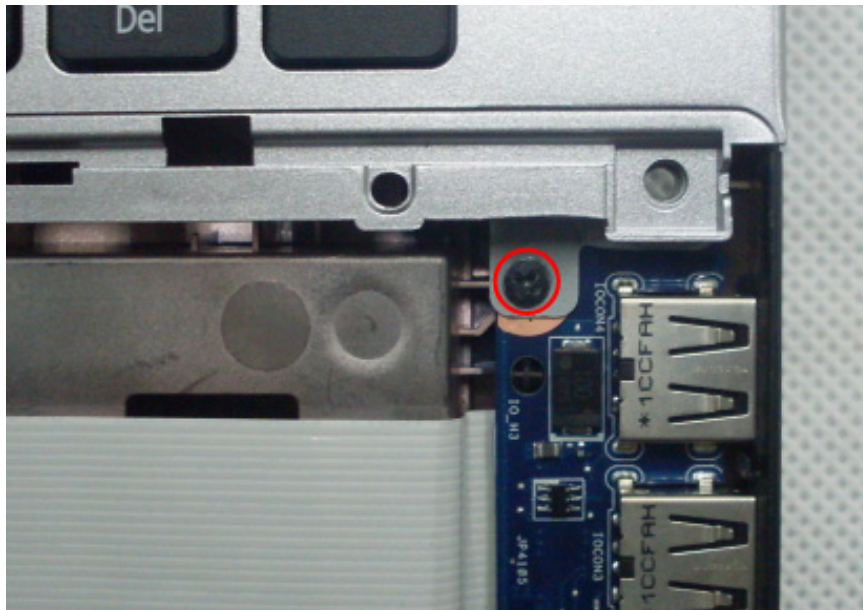



Figure 3-49. Keyboard Bracket Screw

Table 3-11. Screws

Step	Screw	Quantity	Screw Type
Top Case Disassembly	M2.5*5	1	

+ IMPORTANT:

Do not forget to remove this screw.

4. Use a plastic pry slice to insert to the gap between top case and bottom case, pry to release all latches.



Figure 3-50. Top Case

5. Lift the upper edge of top case to an about 60-degree angle to reveal the keyboard connector.



Figure 3-51. Top Case

6. Disconnect the keyboard cable from motherboard.



Figure 3-52. Keyboard cable

7. Lift to remove the top case.



Figure 3-53. Top Case Module

Removing the Speaker Module

1. Turn over the top case module. Tear off the adhesive paper from speaker cable.

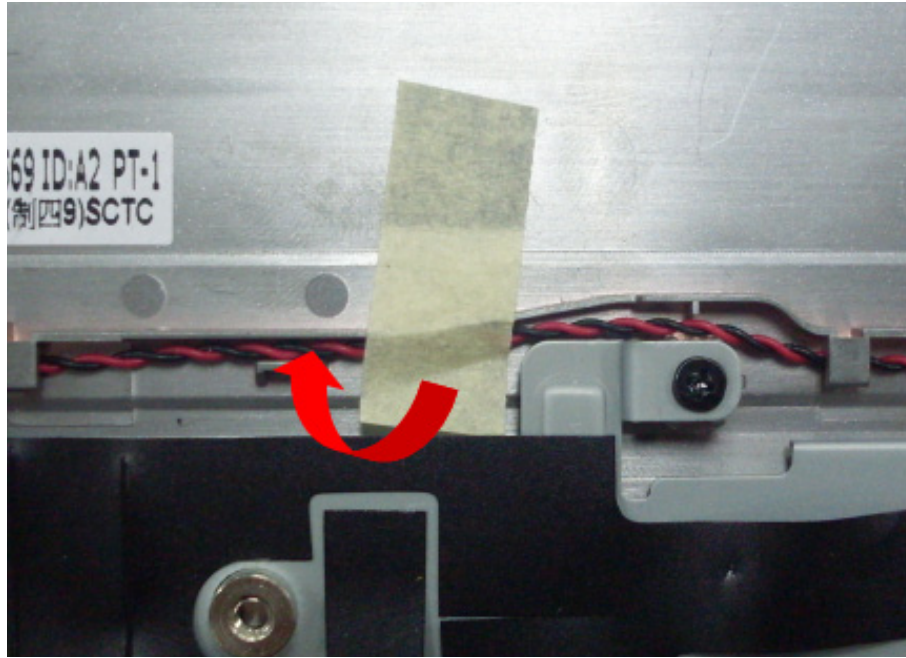


Figure 3-54. Adhesive Paper

2. Tear off the keyboard bracket mylar, pull out speaker cable from its position groove.

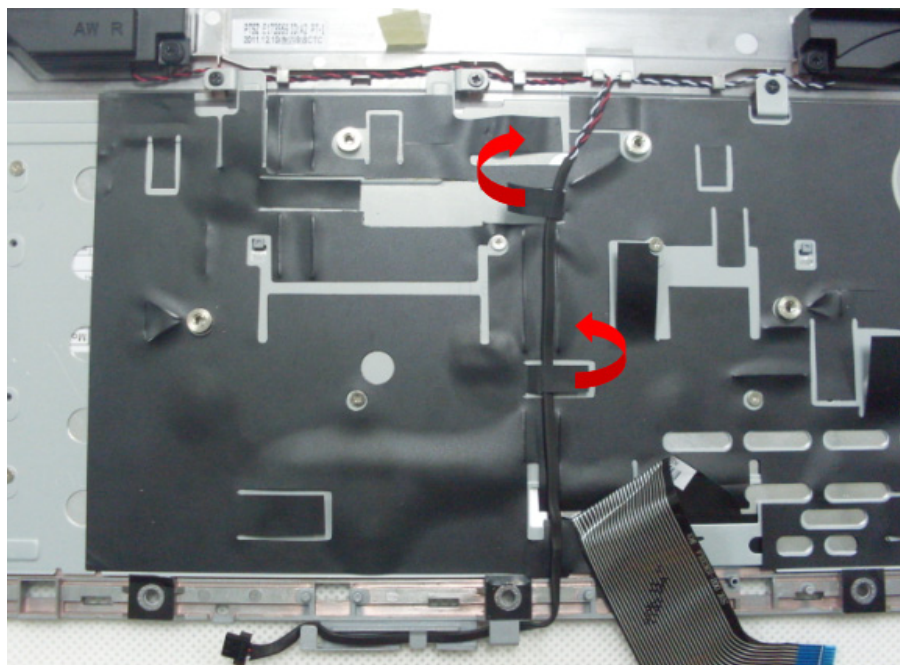


Figure 3-55. Speaker Cable

3. Remove 4 screws from the speakers.



Figure 3-56. Screws on Speakers

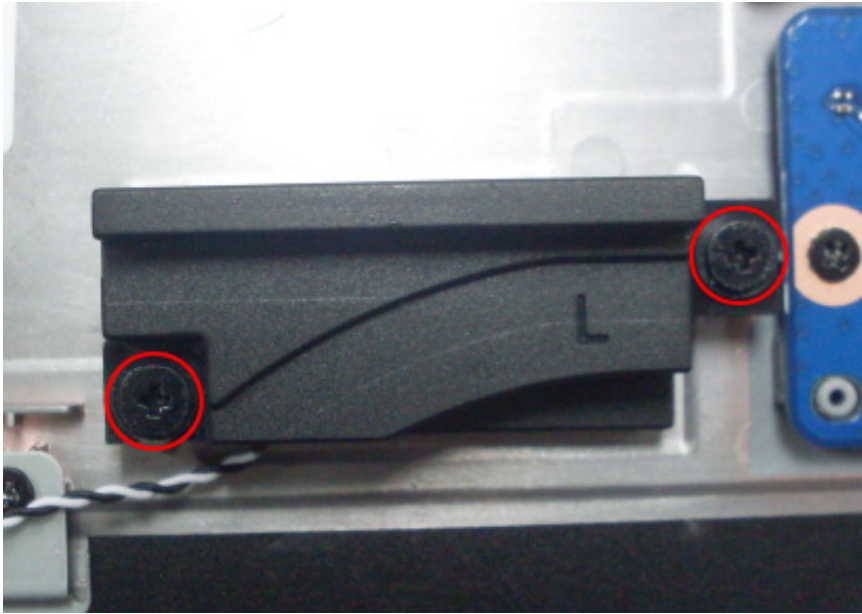



Figure 3-57. Screws on Speakers

Table 3-12. Screws

Step	Screw	Quantity	Screw Type
Speaker Module Disassembly	M2*2.2+5.7	4	

4. Lift to remove the speaker module.

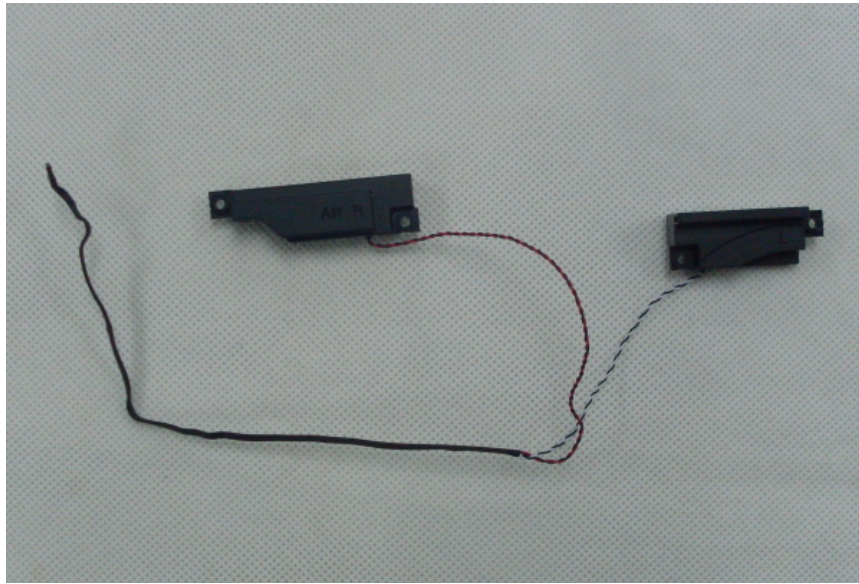


Figure 3-58. Speaker Module

Remove the Power Switch Board

1. Tear off the keyboard bracket mylar, tear off the power switch board cable from the keyboard bracket.

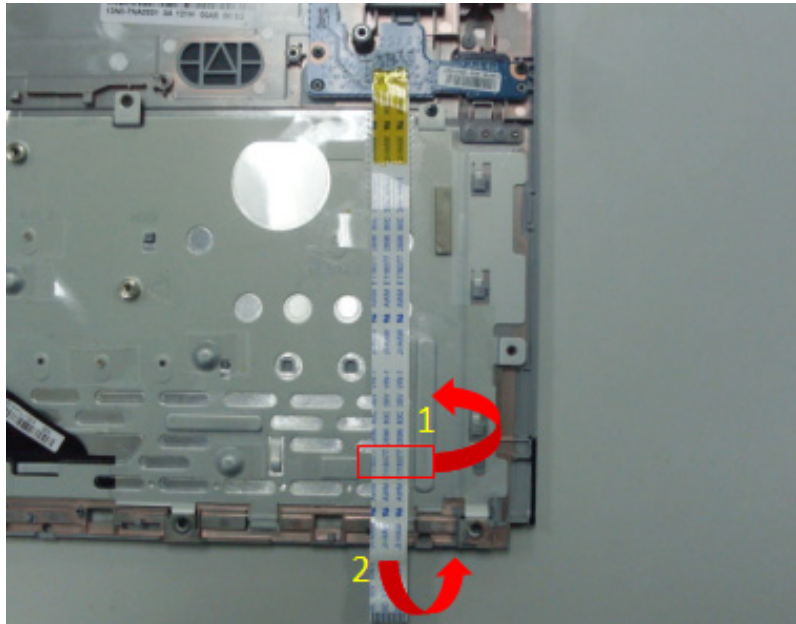


Figure 3-59. Power Switch Board Cable

2. Remove 2 screws from power switch board.

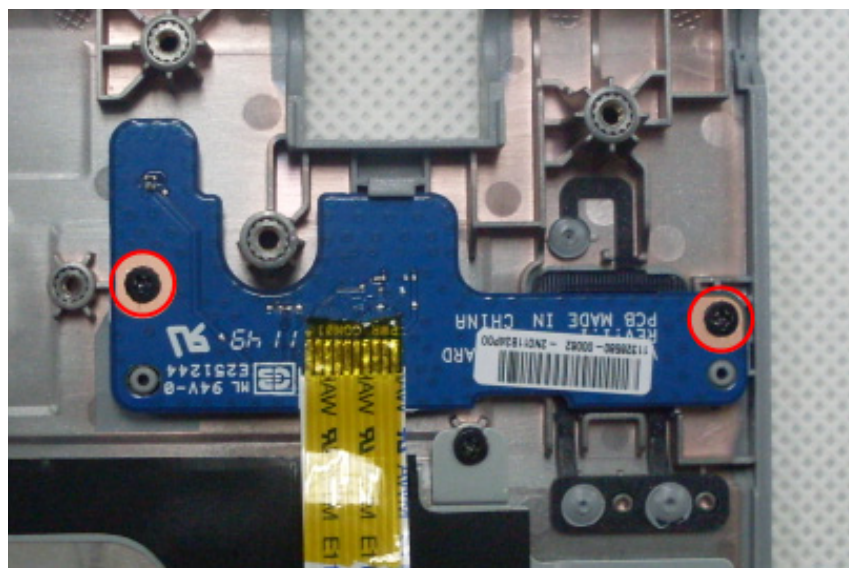



Figure 3-60. Power Switch Board

Table 3-13. Screws

Step	Screw	Quantity	Screw Type
Power Switch Board Disassembly	M2*3	2	

3. Lift to remove the power switch board from top case.

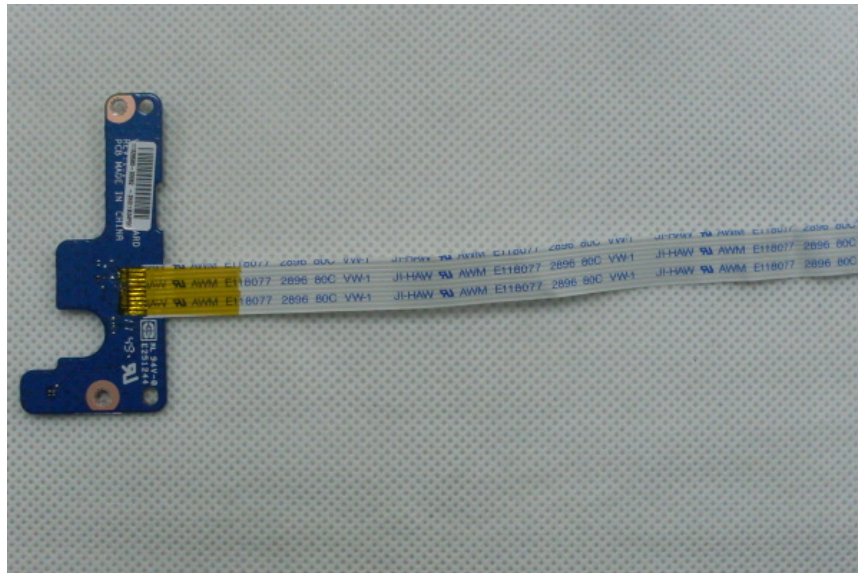


Figure 3-61. Power Switch Board

Removing the Keyboard Bracket

- 1. Remove 6 screws(M2*3) and 9 screws(M1.6*2.5) from the keyboard bracket.

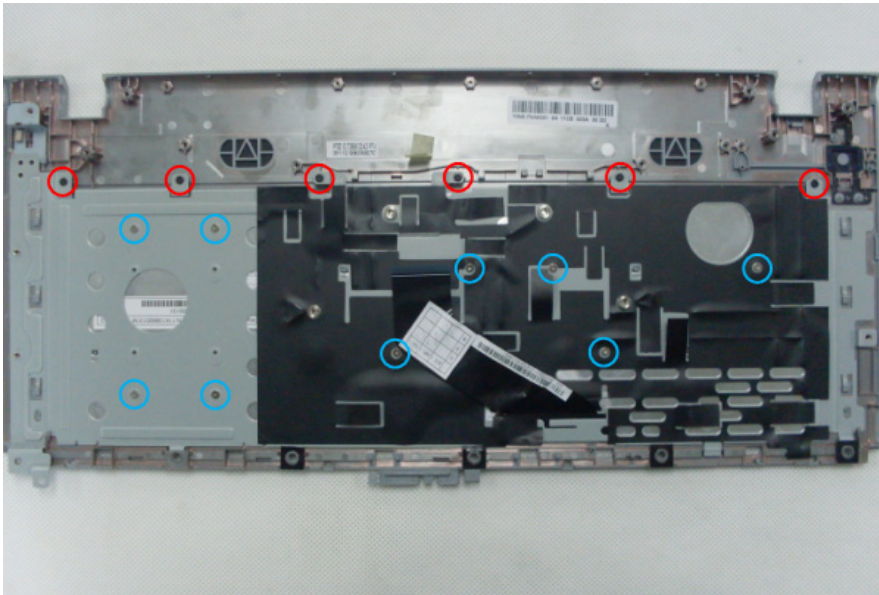




Figure 3-62. Screws on Keyboard Bracket

Table 3-14. Screws

Step	Screw	Quantity	Screw Type
Keyboard Bracket Disassembly	M2*3	6	
	M1.6*2.5	9	

2. Push the keyboard bracket forward to release all latches.

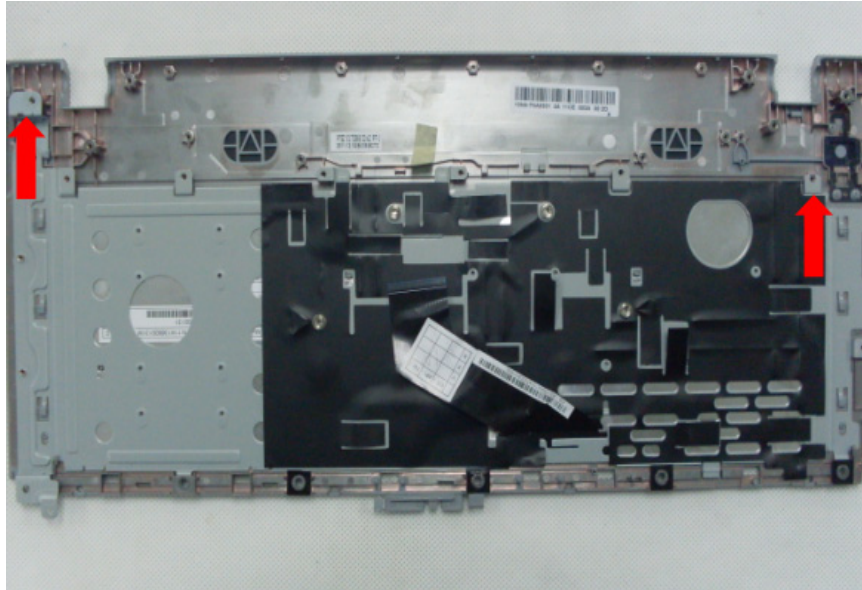


Figure 3-63. Keyboard Bracket

3. Lift the top edge of keyboard bracket first.

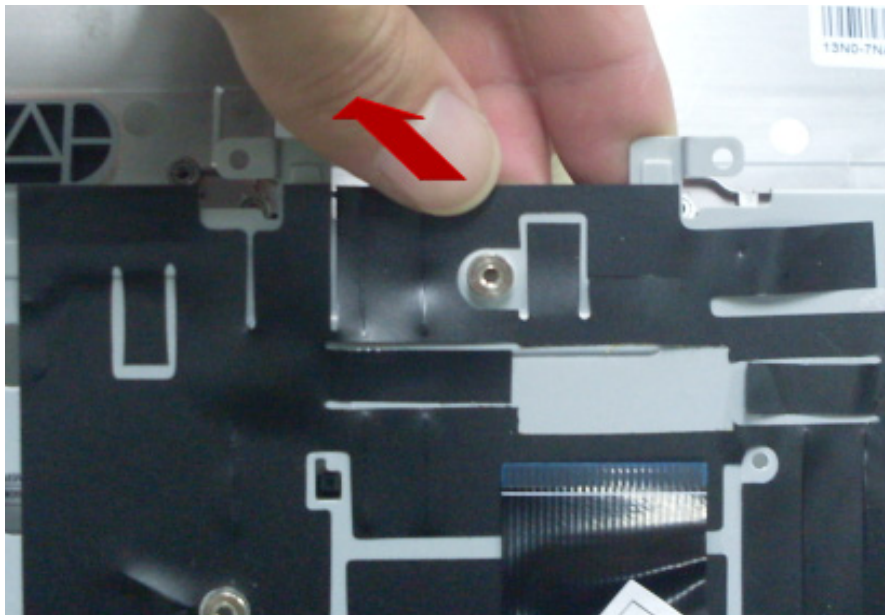


Figure 3-64. Keyboard Bracket

4. Lift the keyboard bracket by passing keyboard cable through the cable slot.

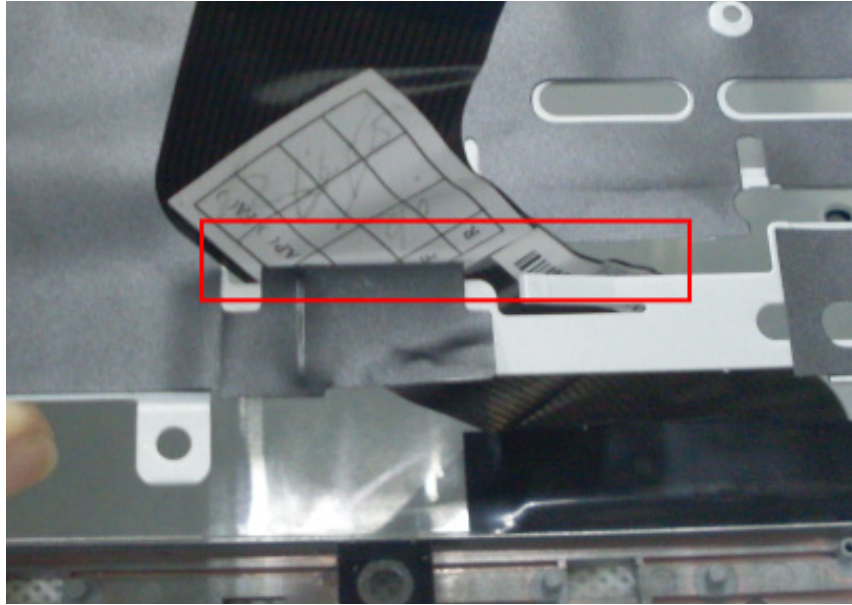


Figure 3-65. Keyboard Cable

+ **IMPORTANT:**

Take care not to damage the cable during removal.

5. Remove the keyboard bracket.

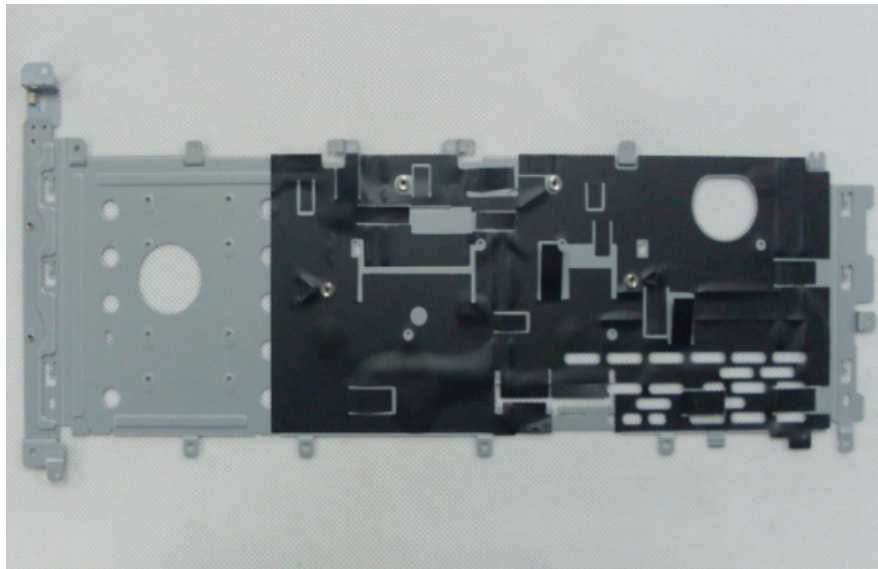


Figure 3-66. Keyboard Bracket

Removing the Keyboard

1. Lift to separate the keyboard from the top case.



Figure 3-67. Keyboard on Top Case

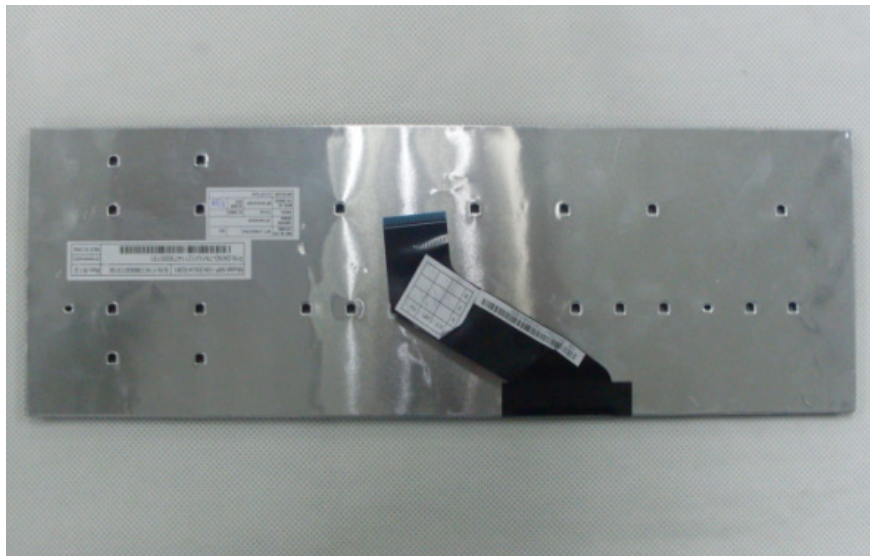


Figure 3-68. Keyboard

Removing the IO Board

1. Disconnect the IO board cable from motherboard.

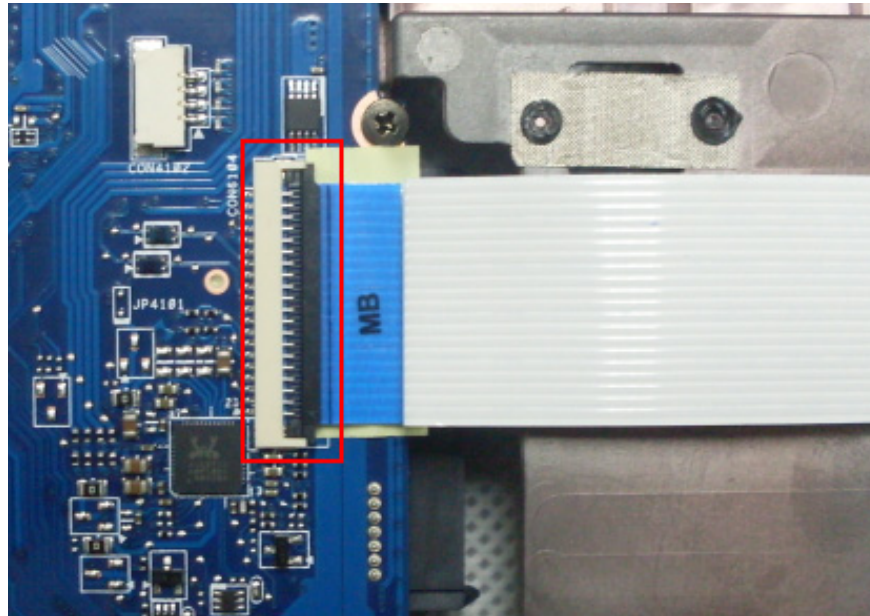


Figure 3-69. IO Board cable connector

2. Tear off the IO board cable from bottom case.



Figure 3-70. IO Board Cable

3. Remove 1 screw from IO board.

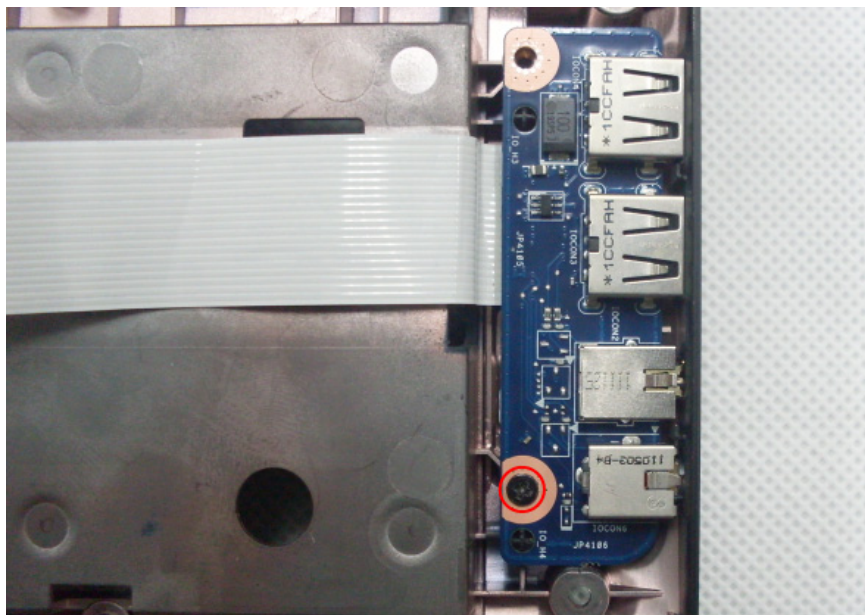



Figure 3-71. IO Board

Table 3-15. Screws

Step	Screw	Quantity	Screw Type
IO Board Disassembly	M2.5*5	1	

4. Lift the left edge of IO board first, and pull out the board from connector holes of bottom case.

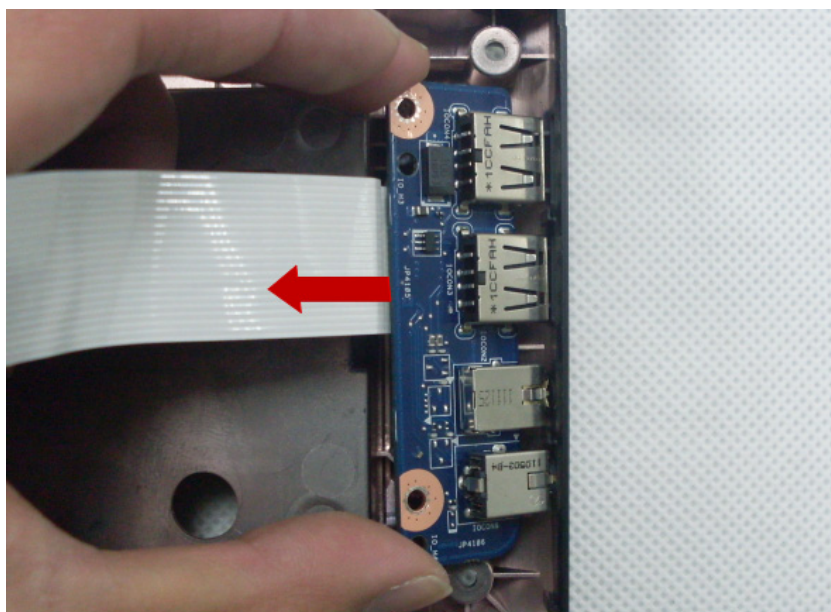


Figure 3-72. IO Board

Removing the Motherboard

1. Close the LCD panel and turn over the machine. Lift the DC-in cable connector perpendicularly to disconnect them from motherboard.

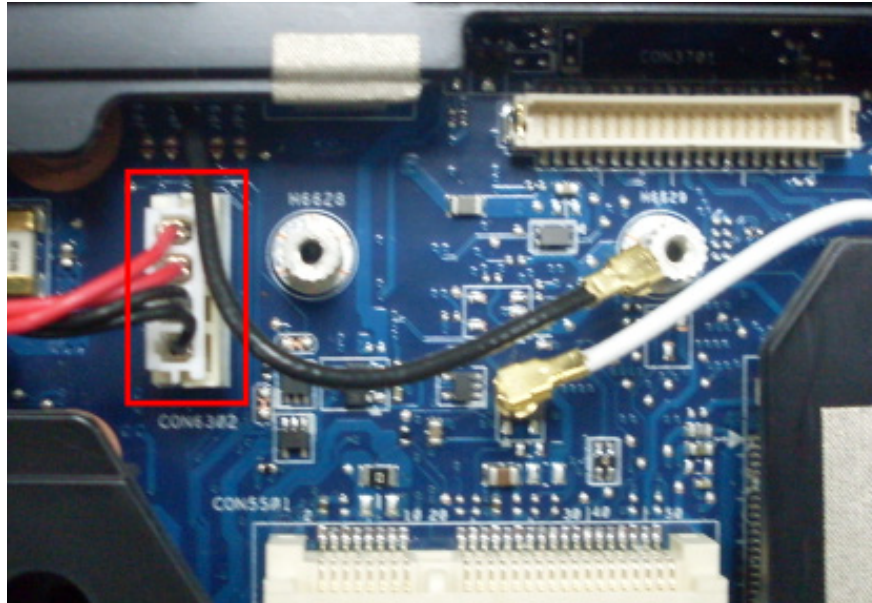


Figure 3-73. DC-in cable connector

2. Turn over the machine and open the LCD panel. Lift the LVDS cable connector perpendicularly to disconnect it from motherboard.

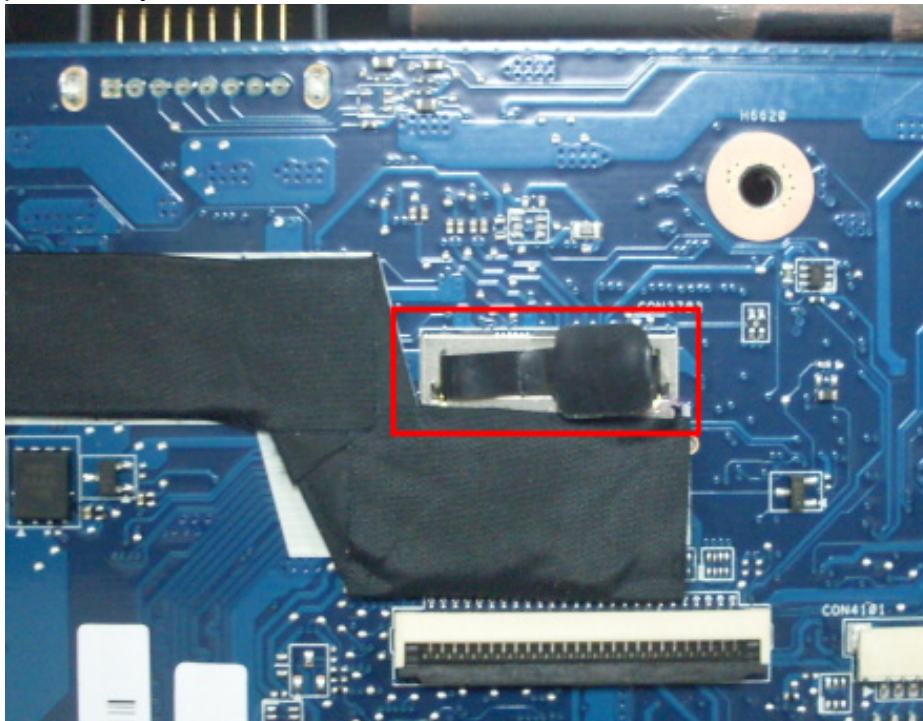


Figure 3-74. LVDS Cable Connector

3. Tear off the LVDS cable from motherboard.

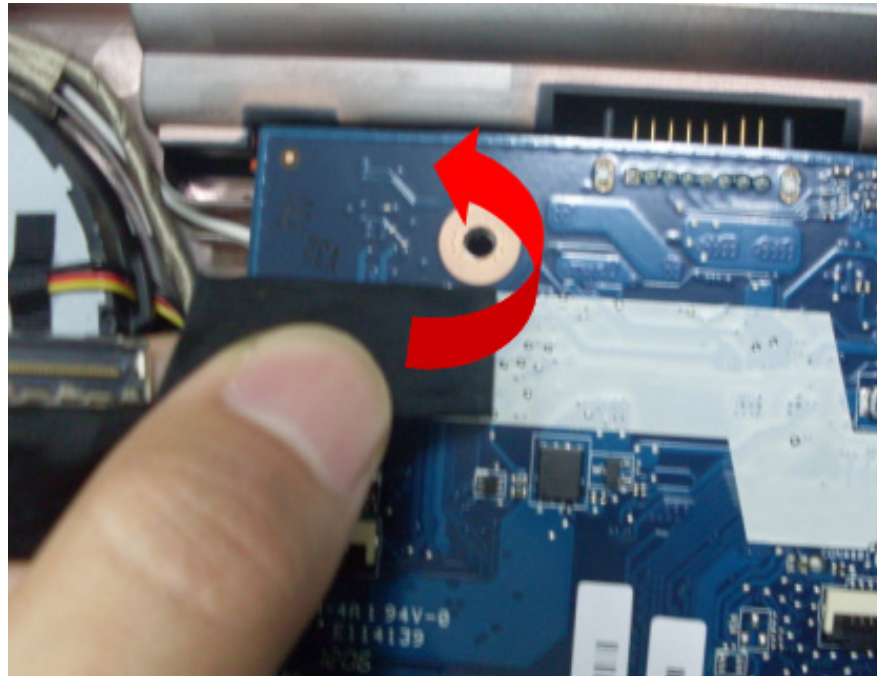


Figure 3-75. LVDS Cable

4. Tear off the LED acetate fabric from the LED pipe.

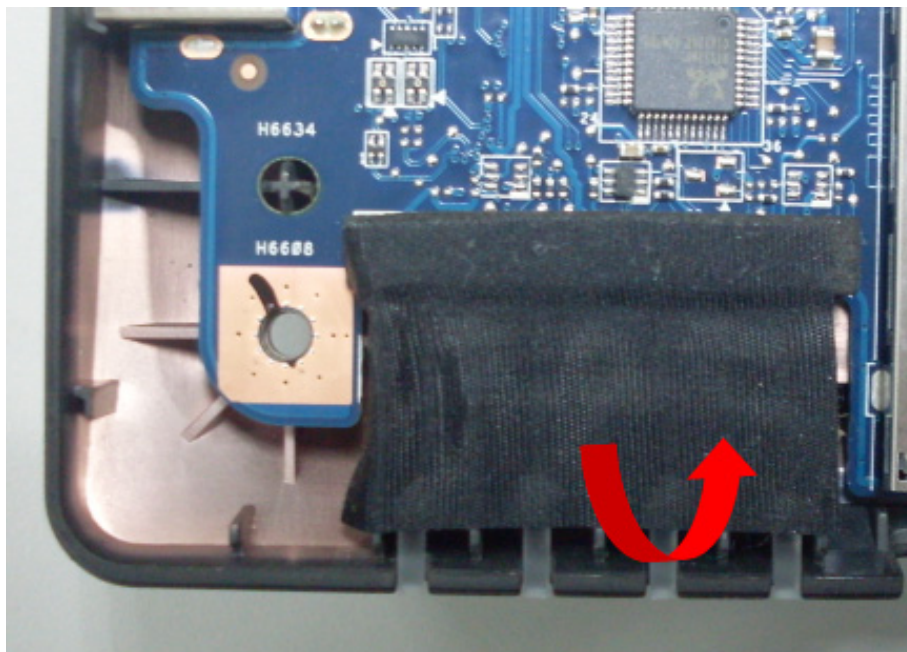


Figure 3-76. LED Acetate Fabric

5. Remove 4 screws from motherboard and thermal fan.

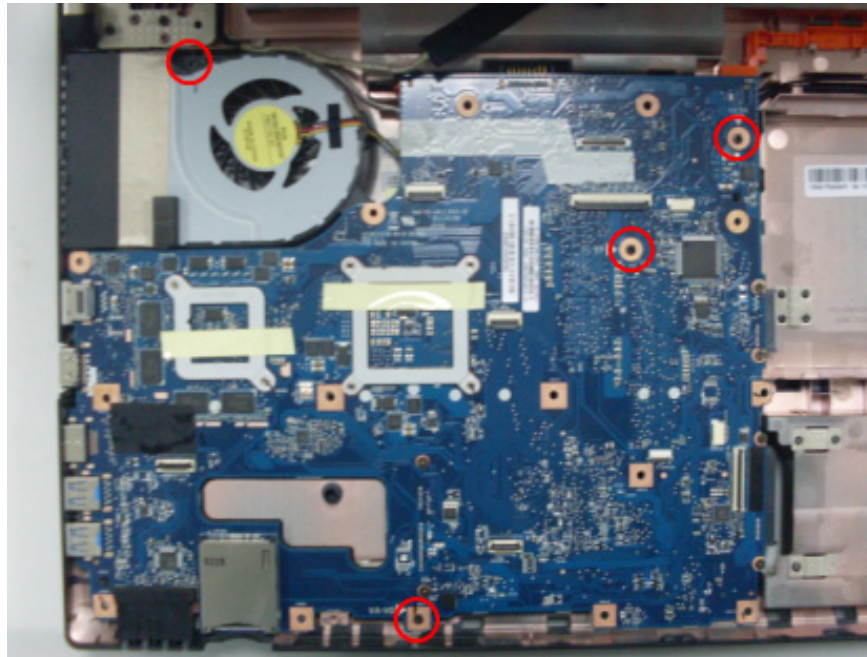



Figure 3-77. Motherboard

Table 3-16. Screws

Step	Screw	Quantity	Screw Type
Motherboard Disassembly	M2.5*5	4	

6. Lift the right edge of motherboard first to pull out the motherboard from the connector holes of bottom case.

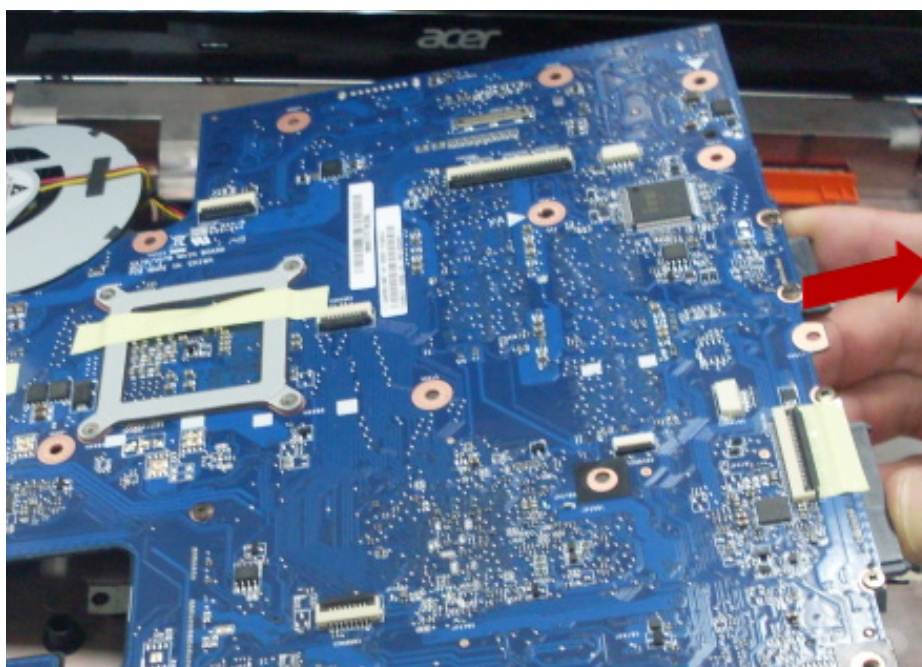


Figure 3-78. Motherboard

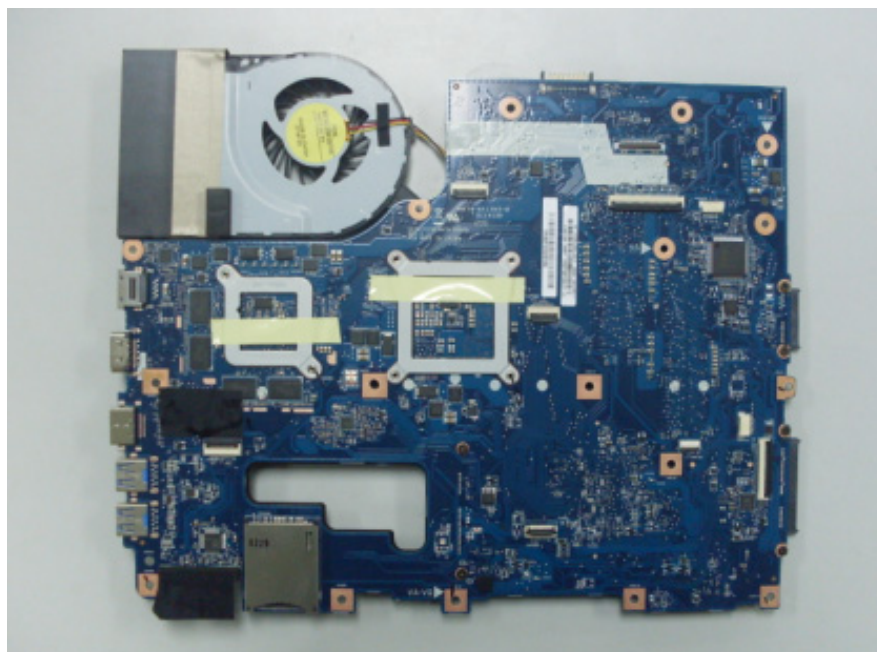


Figure 3-79. Motherboard

Removing the Thermal Module

- 1. Disconnect the fan cable from motherboard.

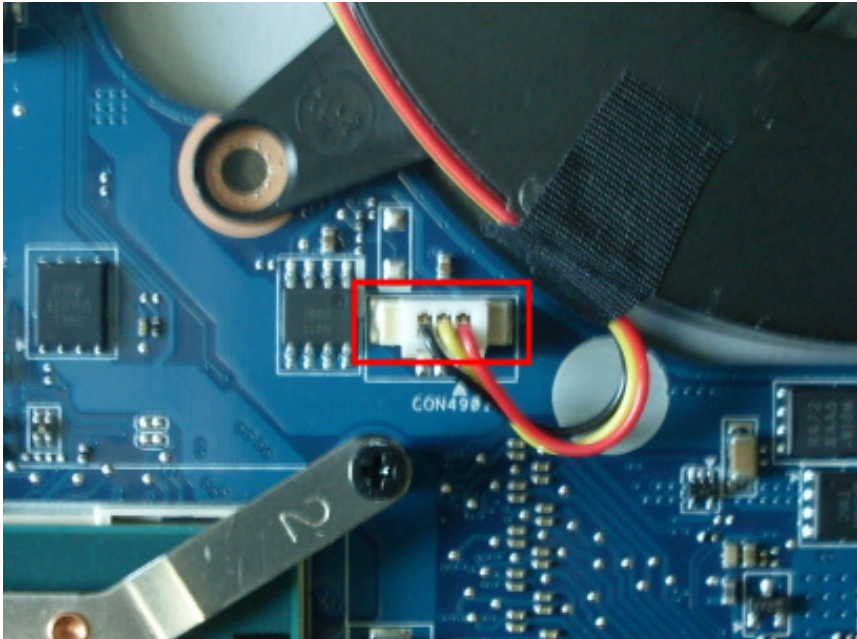


Figure 3-80. Thermal module

- 2. Remove 6 screws from the thermal module.

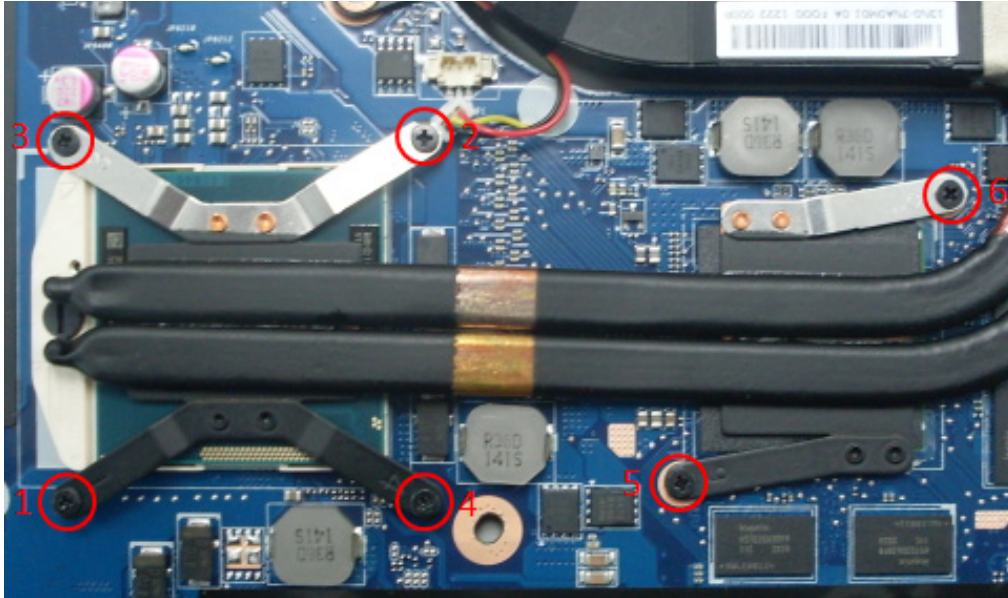



Figure 3-81. Thermal module

Table 3-17. Screws

Step	Screw	Quantity	Screw Type
Thermal module Disassembly	M2*3	6	

3. Lift to remove the thermal module.

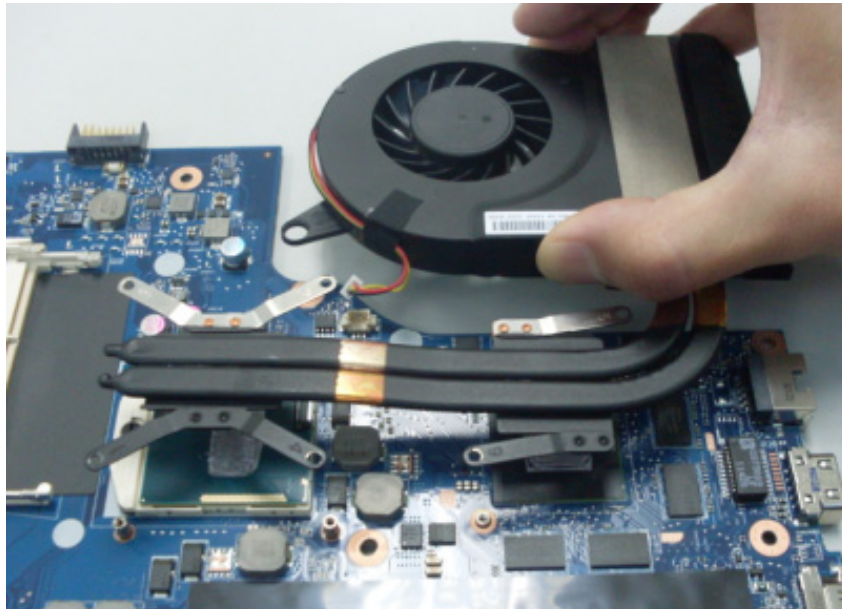


Figure 3-82. Thermal Module

Removing the CPU

1. Use a flat-head screwdriver to insert to the CPU socket lock slot, rotate the slot along anticlock direction to 180 degrees.

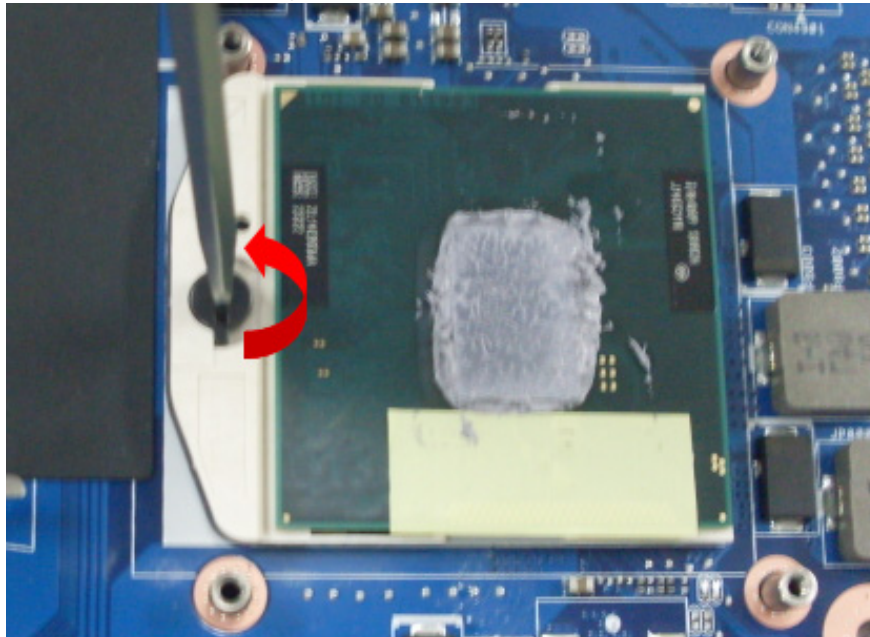


Figure 3-83. CPU Socket

2. Eject the air in the rubber handle of vacuum pump.

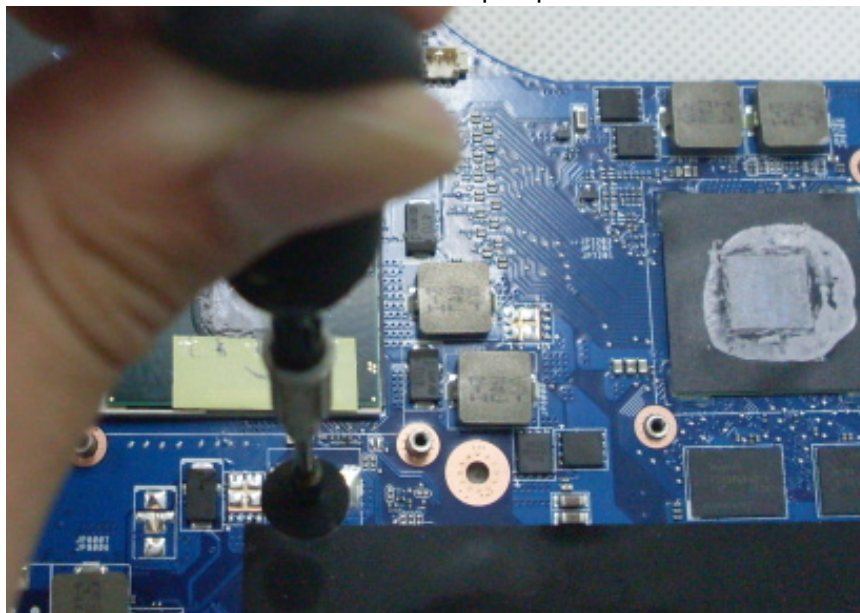


Figure 3-84. Vacuum Pump

3. Press the vacuum pump on CPU die, release the rubber handle and lift to remove CPU.

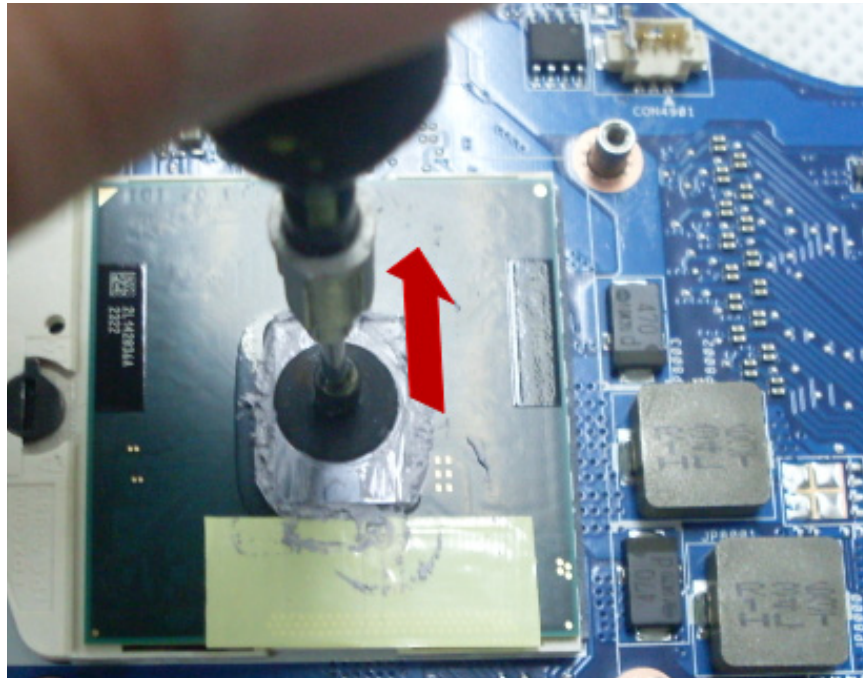


Figure 3-85. Vacuum Pump

Removing the Bottom Case

1. Tear off the conductive fabric of LVDS cable, pull out LVDS cable and antenna cables from position groove of bottom case.

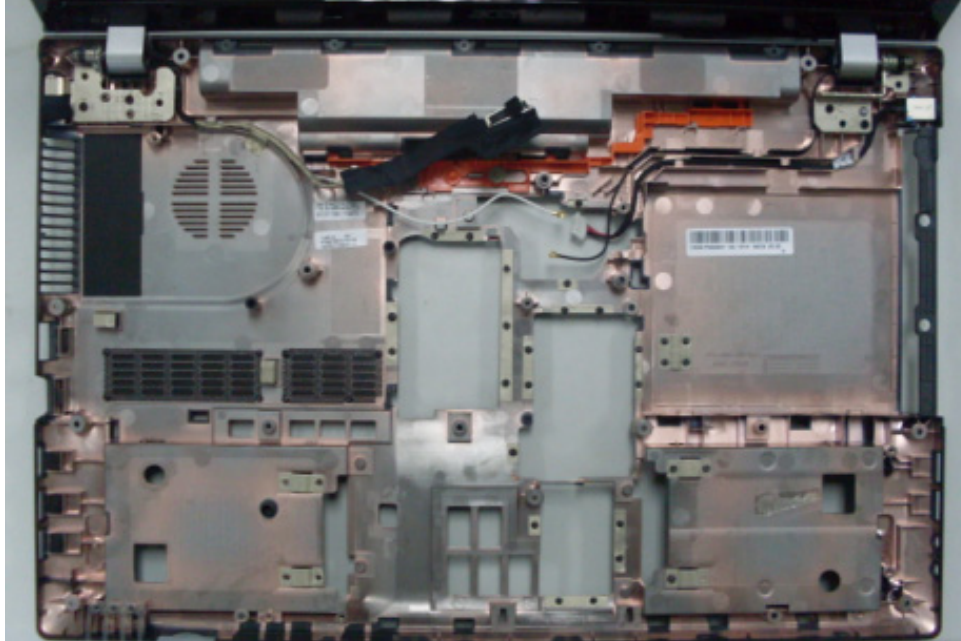


Figure 3-86. Cables on Bottom Case

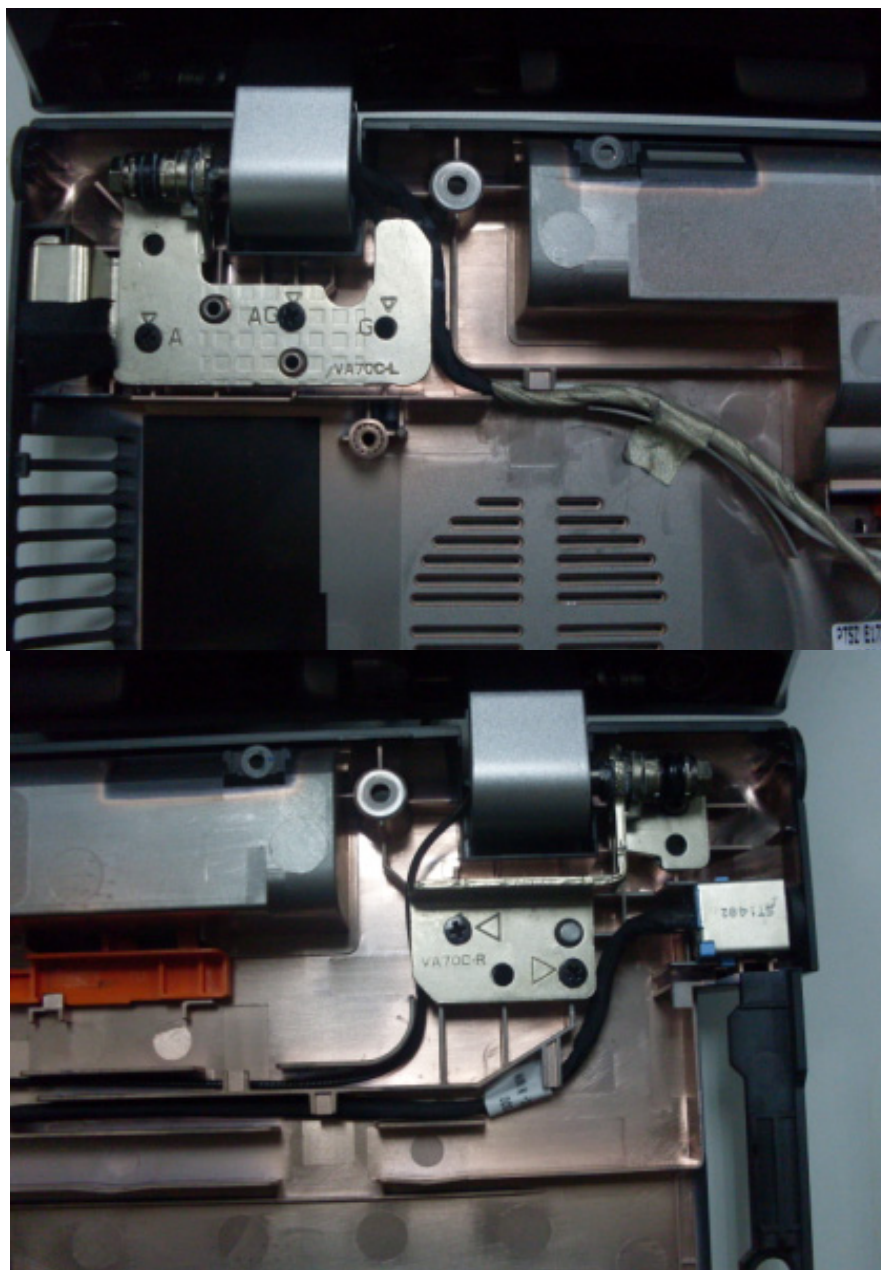


Figure 3-87. Cables on Bottom Case

2. Pull out DC-in cable from position groove and lift the connector to remove DC-in cable.

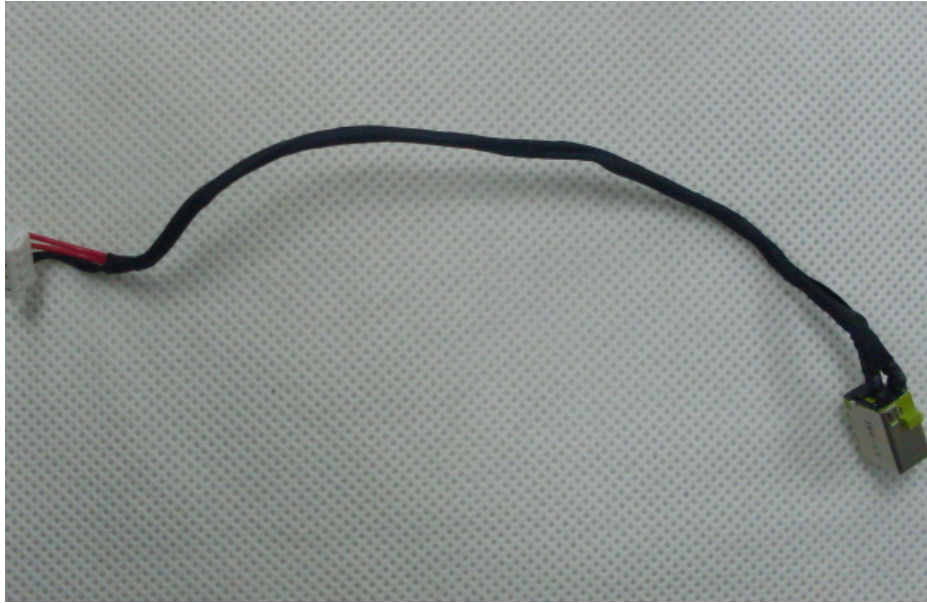


Figure 3-88. DC-in Cable

3. Remove 4 screws from the hinges.

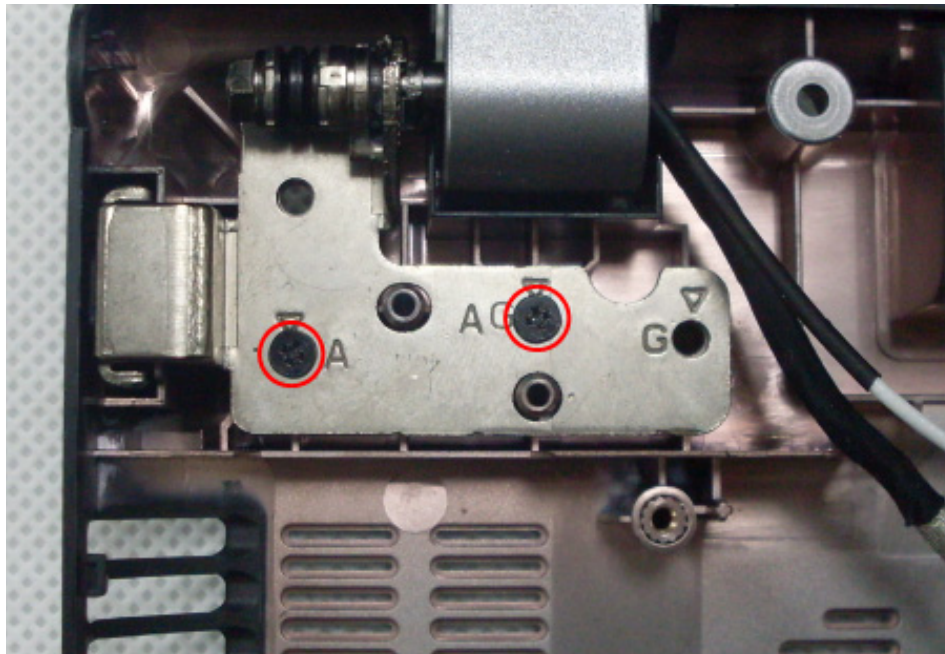


Figure 3-89. Screws on Hinges

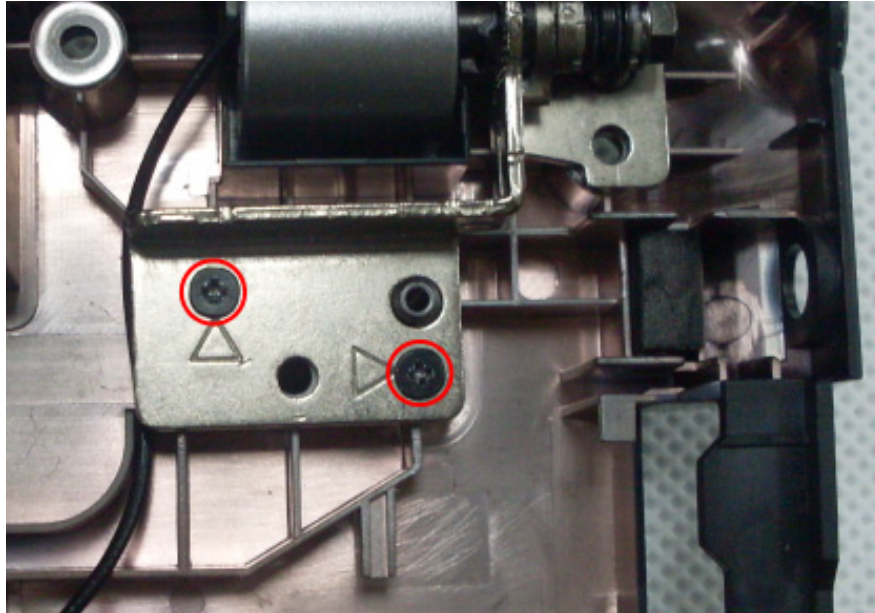



Figure 3-90. Screws on Hinges

Table 3-18. Screws

Step	Screw	Quantity	Screw Type
Bottom Case Disassembly	M2.5*5	4	

4. Lift LCD module to separate it from bottom case.

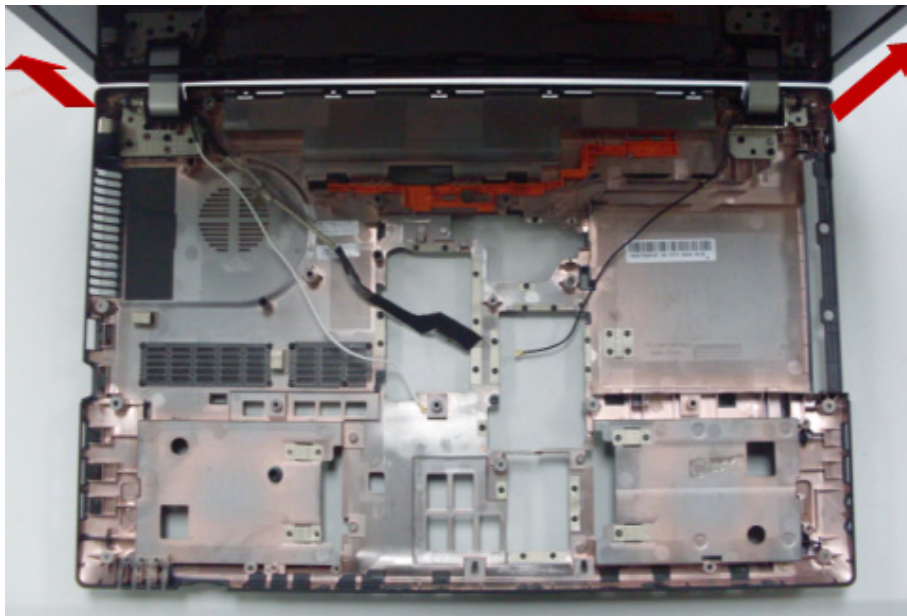


Figure 3-91. Bottom Case

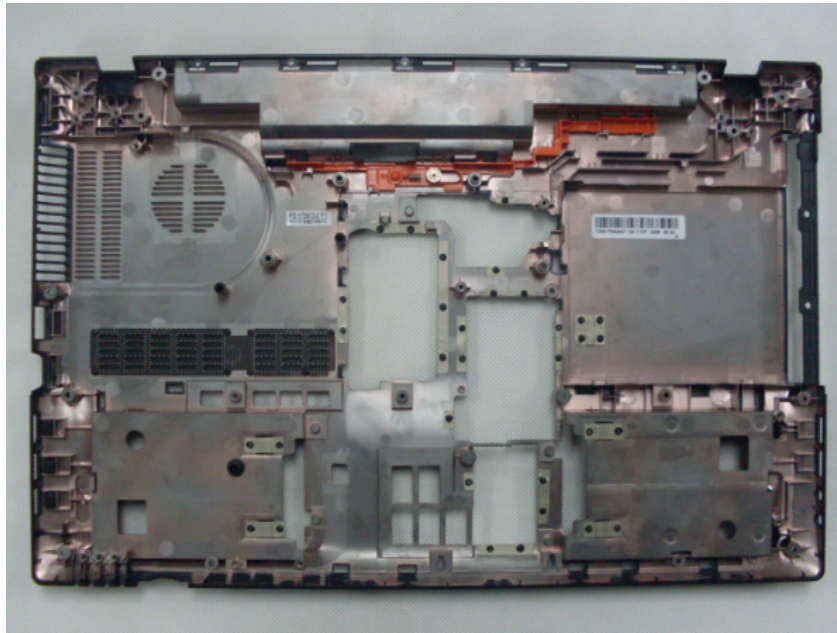


Figure 3-92. Bottom Case

LCD Module Disassembly Process

LCD Module Disassembly Flowchart

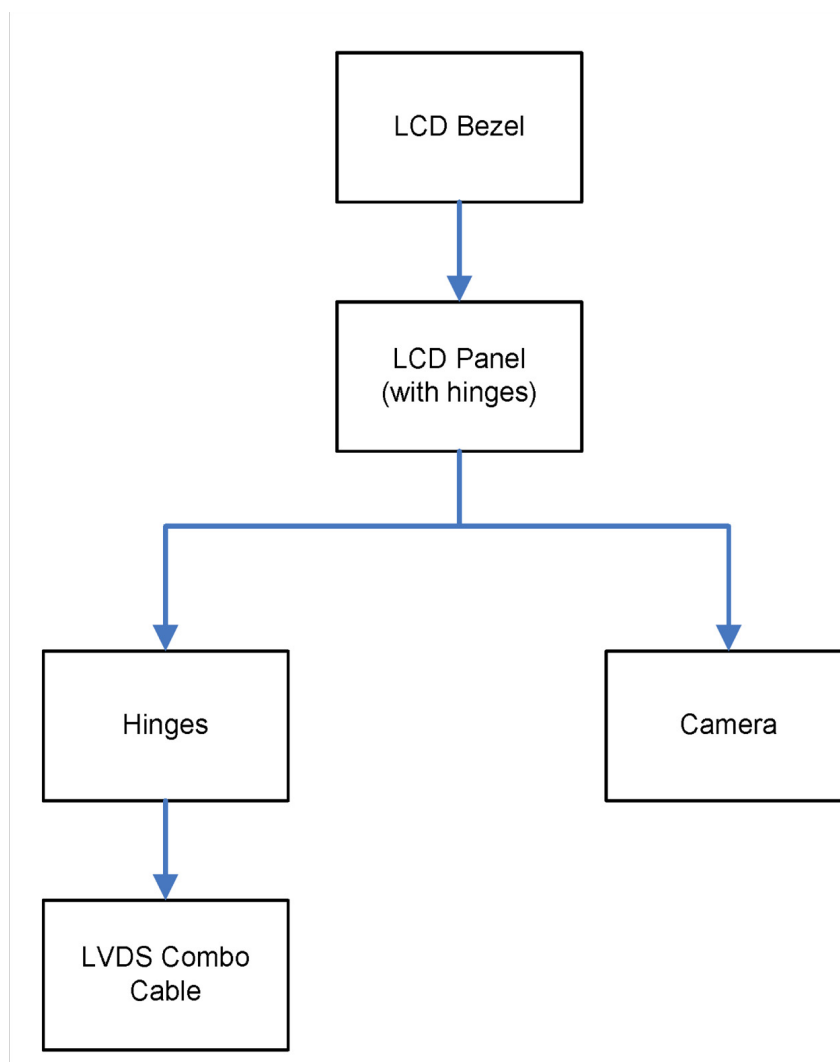


Figure 3-93. LCD Module Disassembly Flowchart

Table 3-19. Screws

Step	Screw	Quantity	Part No.
LCD Bezel Disassembly	M2.5*5	2	
LCD Panel Disassembly	M2.5*5	6	
LCD Hinges Disassembly	M2*3	8	

Removing the LCD Bezel

1. Use a pair of tweezers to remove 2 screw mylar on LCD bezel.

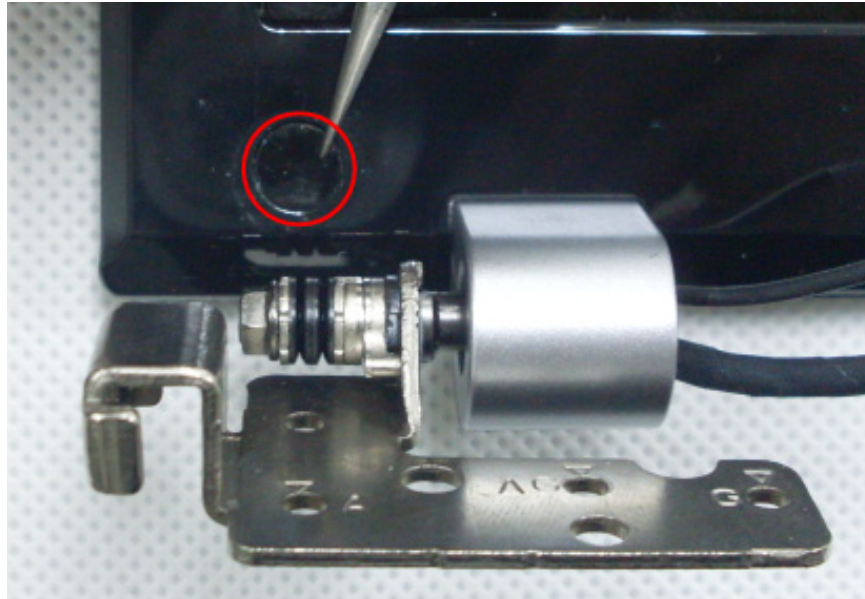


Figure 3-94. Screw Mylar on LCD Bezel

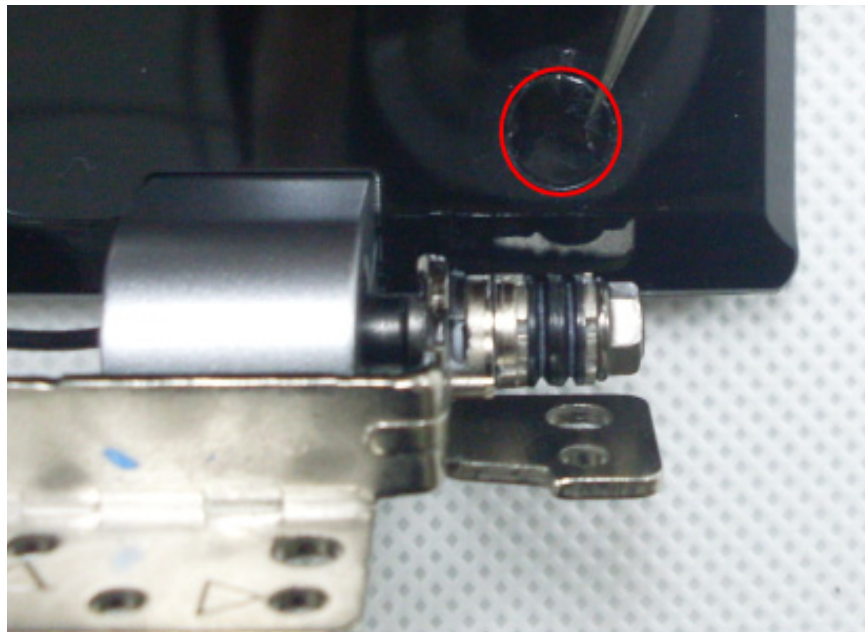


Figure 3-95. Screw Mylar on LCD Bezel

2. Remove 2 screws on LCD bezel.

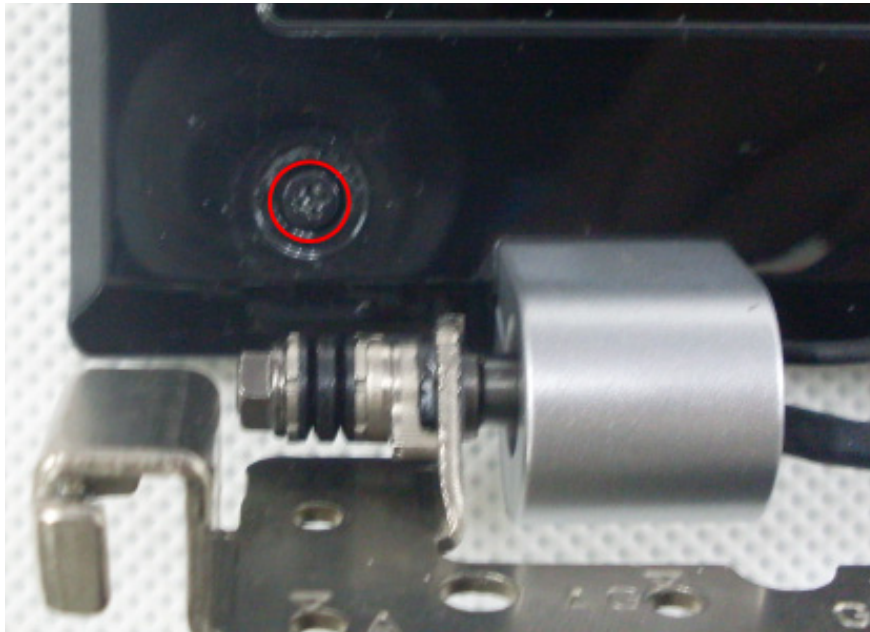



Figure 3-96. Screws on LCD Bezel



Figure 3-97. Screws on LCD Bezel

Table 3-20. Screws

Step	Screw	Quantity	Screw Type
LCD Bezel Disassembly	M2.5*5	2	

3. Use a plastic pry slice to insert to the crevice between LCD bezel and LCD cover, pry to release all latches.

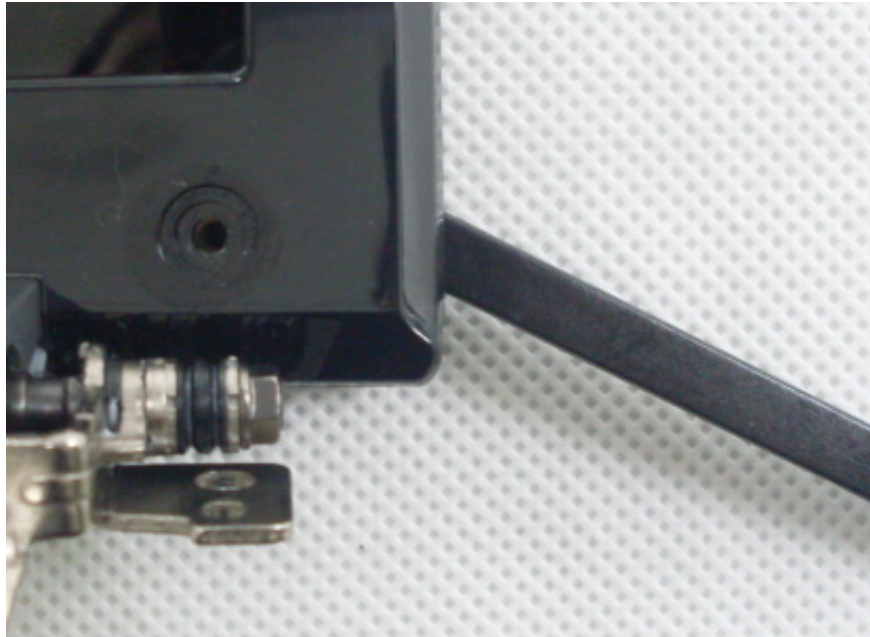


Figure 3-98. LCD Bezel

4. Lift to remove the LCD bezel.

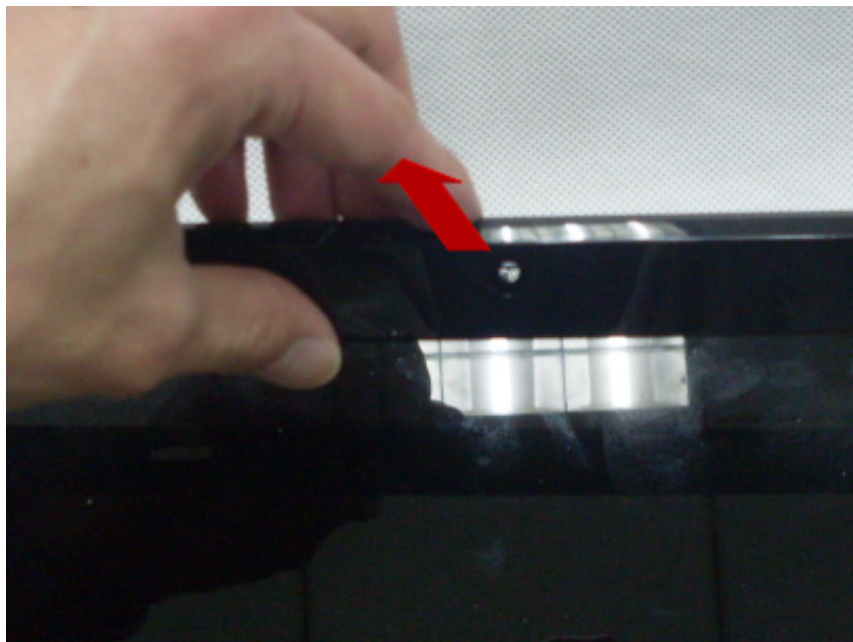


Figure 3-99. LCD Bezel



Figure 3-100. LCD Bezel

Removing the LCD Panel

1. Disconnect the cable from the camera.

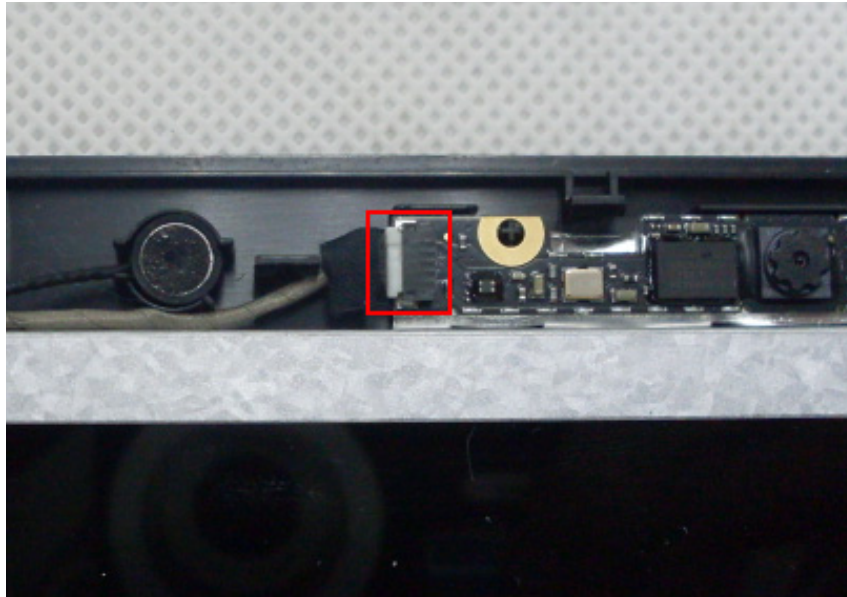


Figure 3-101. Camera Connector

2. Use a pair of tweezers to pry up the microphone from LCD cover.

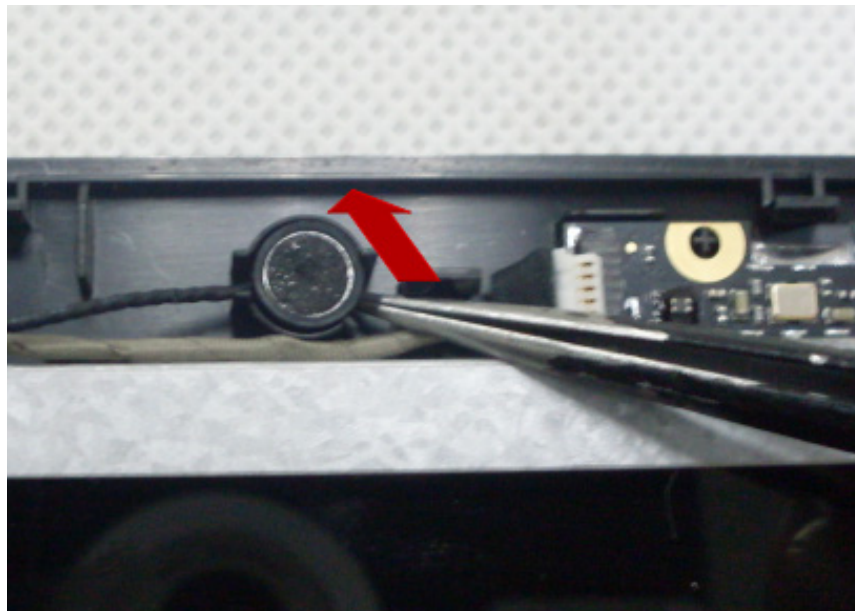


Figure 3-102. Microphone

3. Pull out the LVDS cable from position groove.

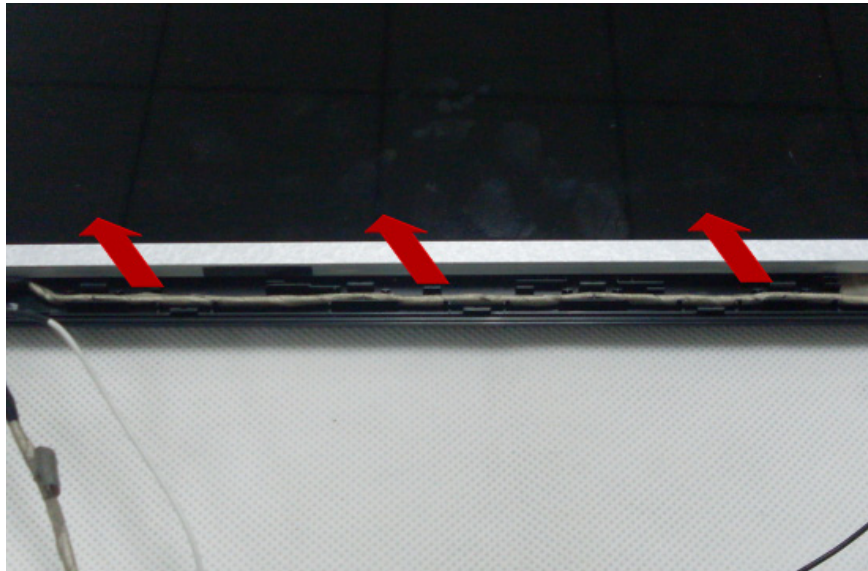


Figure 3-103. LVDS Cable

4. Remove 6 screws on LCD hinges.

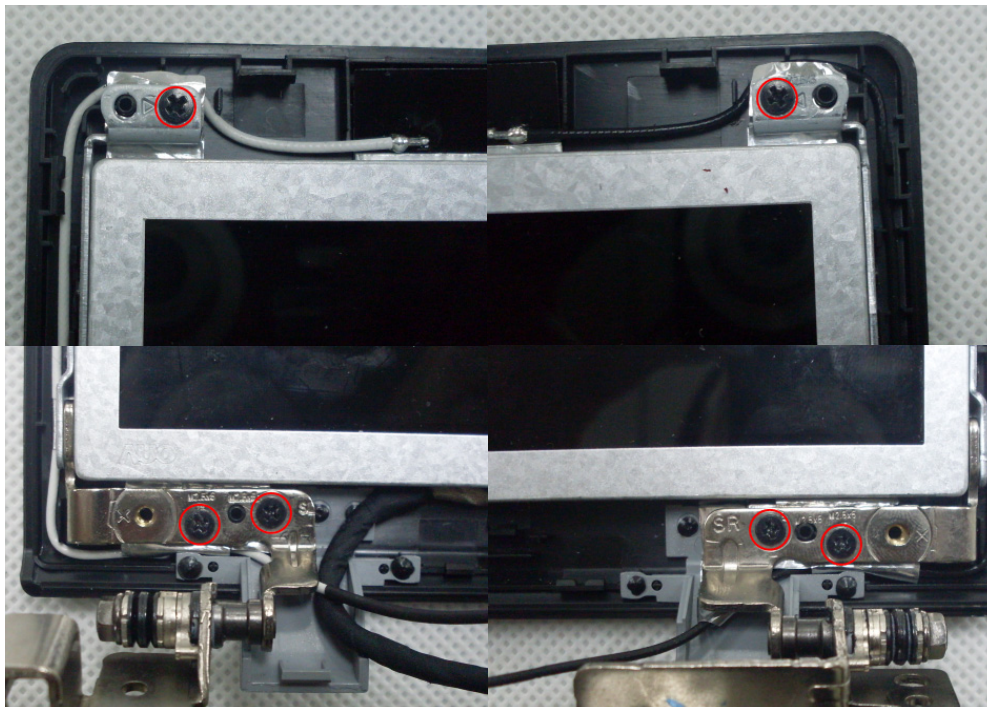



Figure 3-104. LCD Panel

Table 3-21. Screws

Step	Screw	Quantity	Screw Type
LCD Panel Disassembly	M2.5*5	6	

5. Lift to separate LCD panel from LCD cover.



Figure 3-105. LCD Module

Removing the Hinges

1. Remove 8 screws to separate the hinges from LCD panel.




Figure 3-106. LCD Hinge



Figure 3-107. LCD Hinge

Table 3-22. Screws

Step	Screw	Quantity	Screw Type
LCD Hinge Disassembly	M2*3	8	

Removing the Camera

1. Lift to remove the camera from LCD cover carefully.

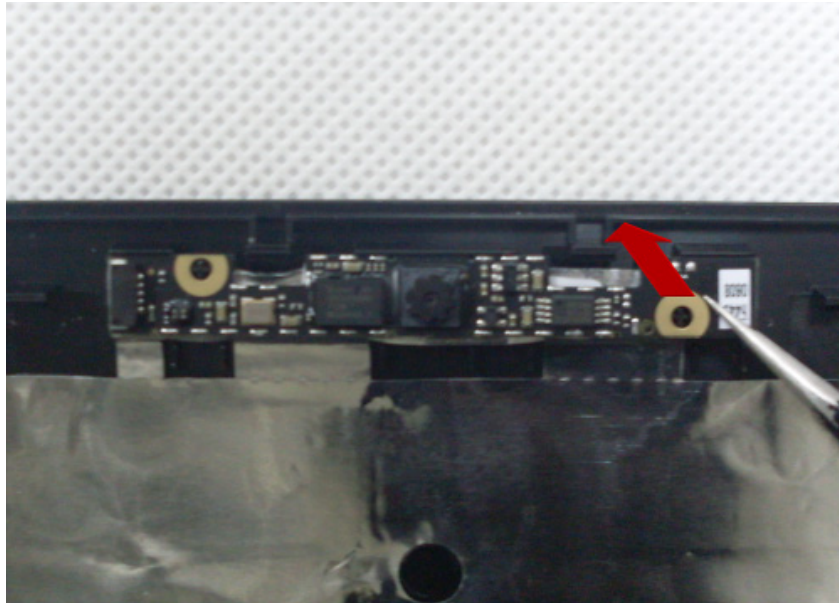


Figure 3-108. Camera

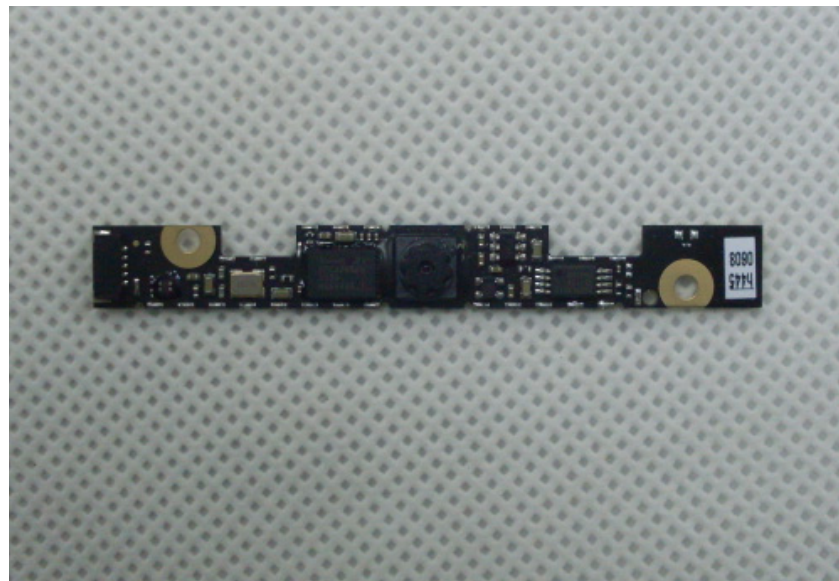


Figure 3-109. Camera

Removing the LVDS Combo Cable

1. Turn over the LCD panel to reveal LVDS Combo cable.



Figure 3-110. LVDS Combo Cable on LCD Panel

2. Tear off the adhesive paper from LVDS Combo cable and LCD panel.

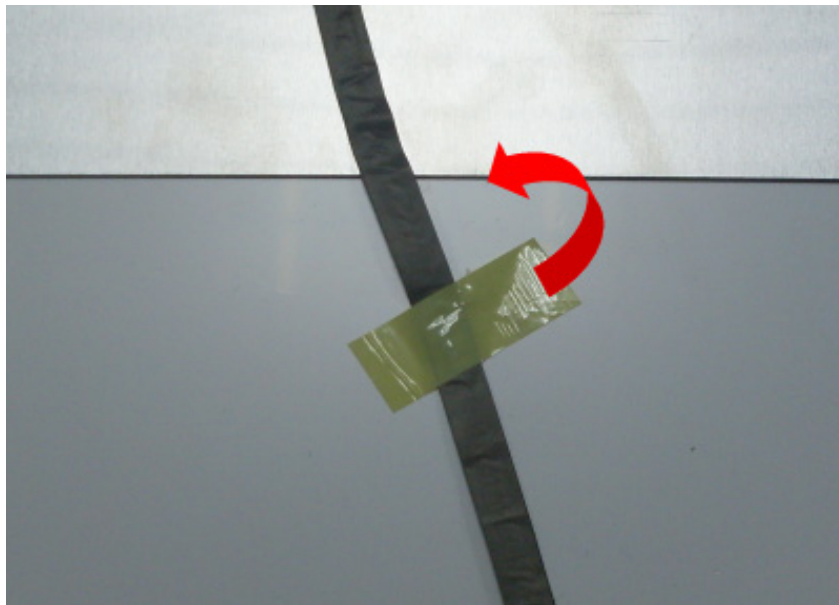


Figure 3-111. LVDS Combo Cable on LCD Panel

3. Tear off the LVDS Combo cable from the top of LCD panel.

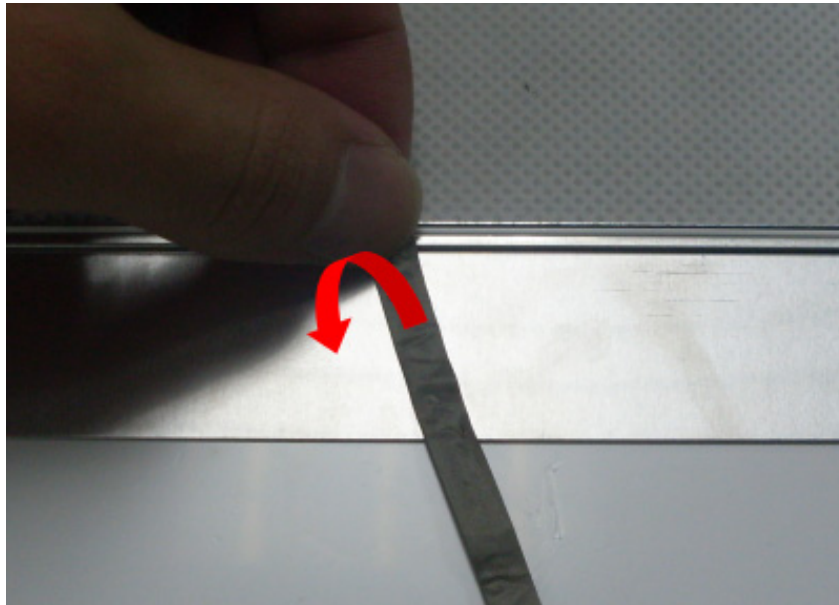


Figure 3-112. LVDS Combo Cable on LCD Panel

4. Tear off the LVDS Combo cable from the bottom of LCD panel.

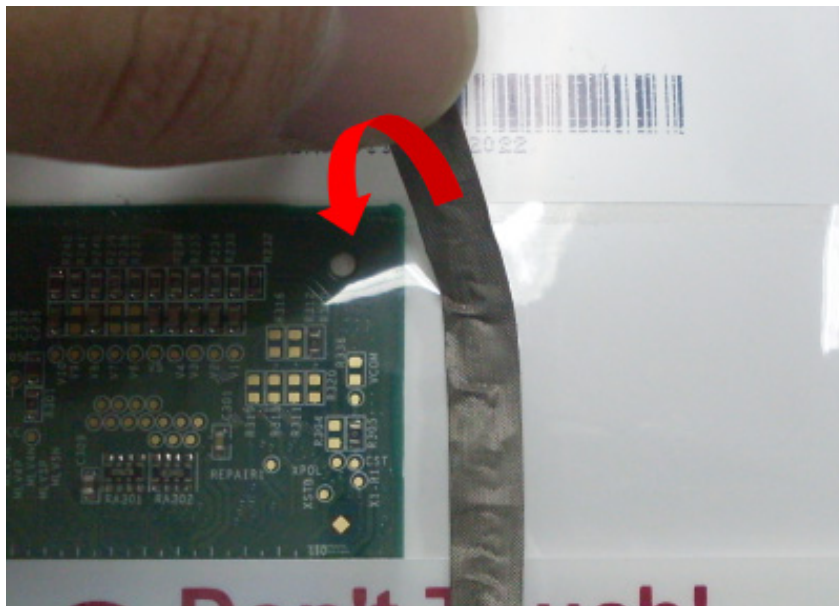


Figure 3-113. LVDS Combo Cable on LCD Panel

5. Tear off the transparent handle tape of LVDS connector from LCD panel.

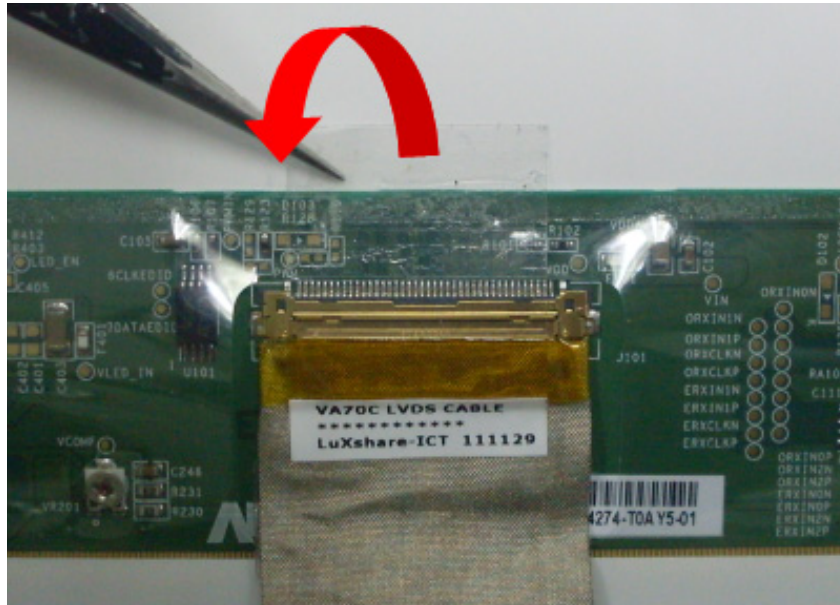


Figure 3-114. LVDS Combo Cable on LCD Panel

6. Tear off the conductive fabric of LVDS connector from LCD panel.



Figure 3-115. LVDS Combo Cable on LCD Panel

7. Disconnect the LVDS cable from LCD panel to remove it.

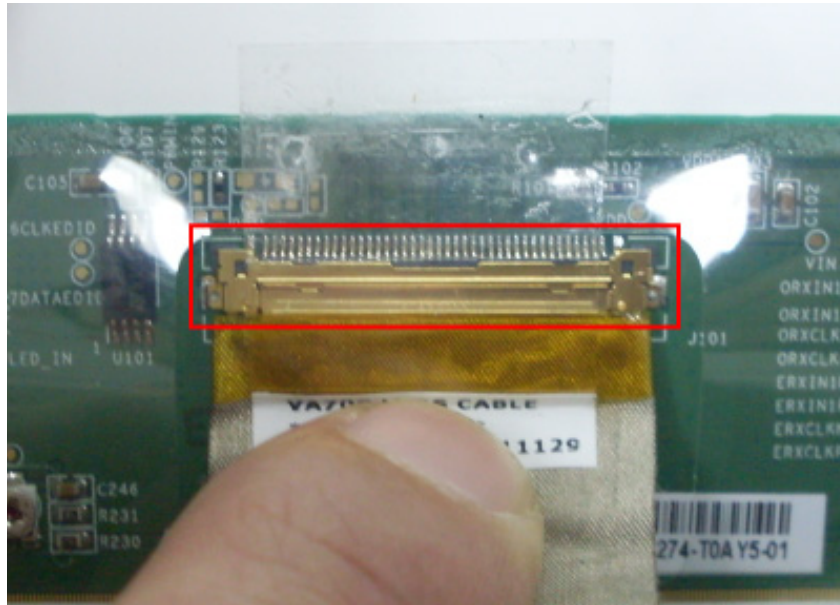


Figure 3-116. LVDS Combo Cable on LCD Panel



Figure 3-117. LVDS Combo Cable

LCD Reassembly Procedure

Replacing the Camera

1. Position the camera on the LCD cover.

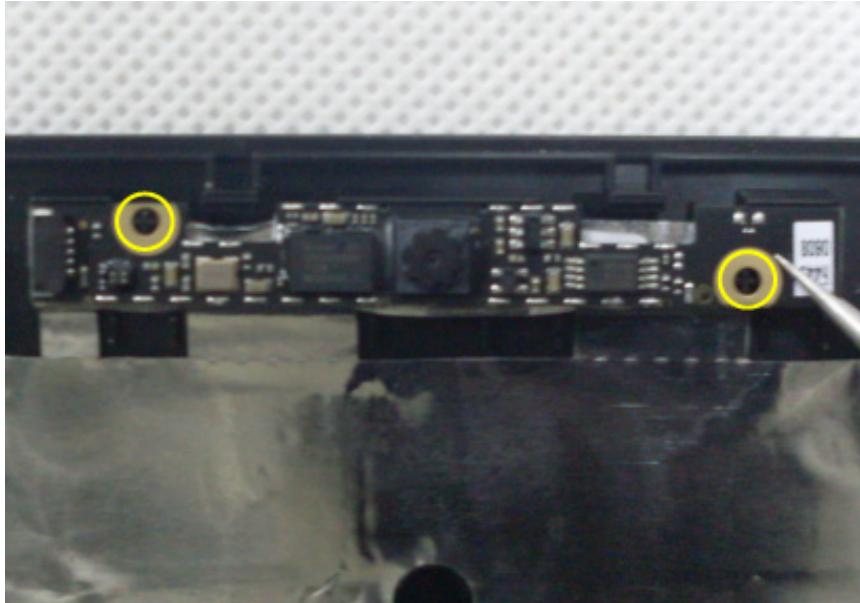


Figure 3-118. Camera

Replacing the LCD Panel

1. Connect the LVDS cable to LVDS connector of LCD panel.

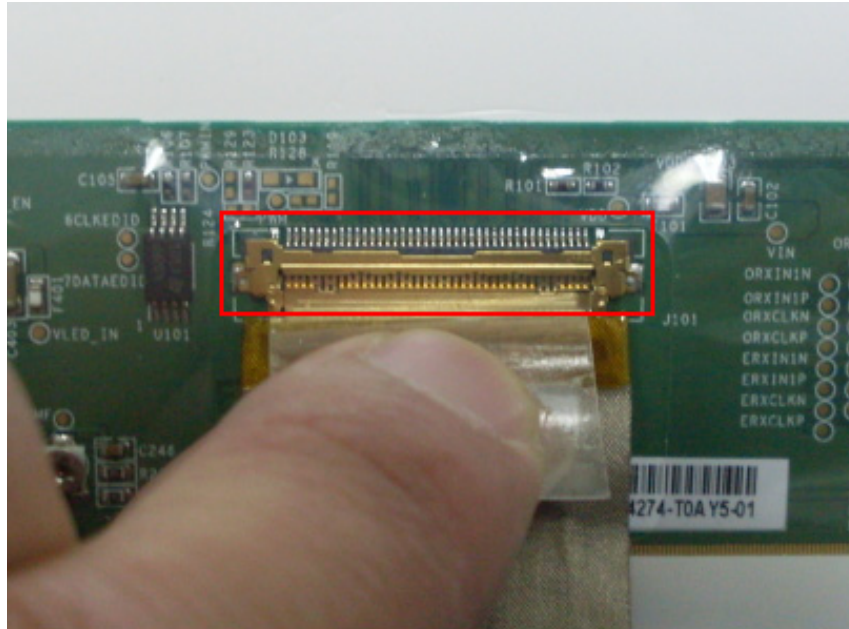


Figure 3-119. LVDS Connector

2. Adhere the transparent handle tape on LCD panel.



Figure 3-120. LVDS Connector

3. Pull the LVDS cable right and adhere it on the bottom of LCD panel.



Figure 3-121. LCD Panel

4. Pull the camera cable up and adhere it on the top of LCD panel.



Figure 3-122. LCD Panel

5. Adhere the waterproof tape to fix the camera cable on LCD panel.

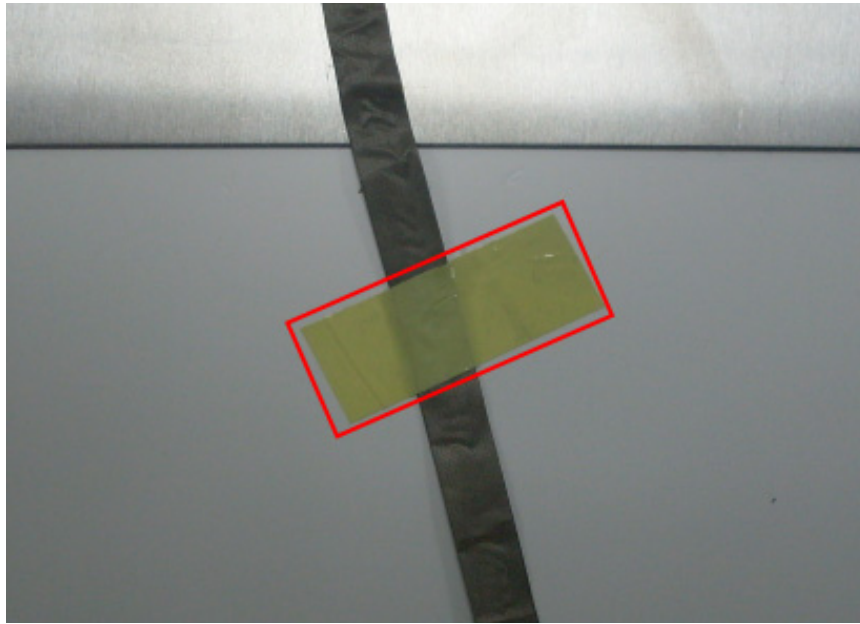


Figure 3-123. LCD Panel

6. Turn over the LCD panel. Consolidate the hinges and the LCD panel with 8 screws.

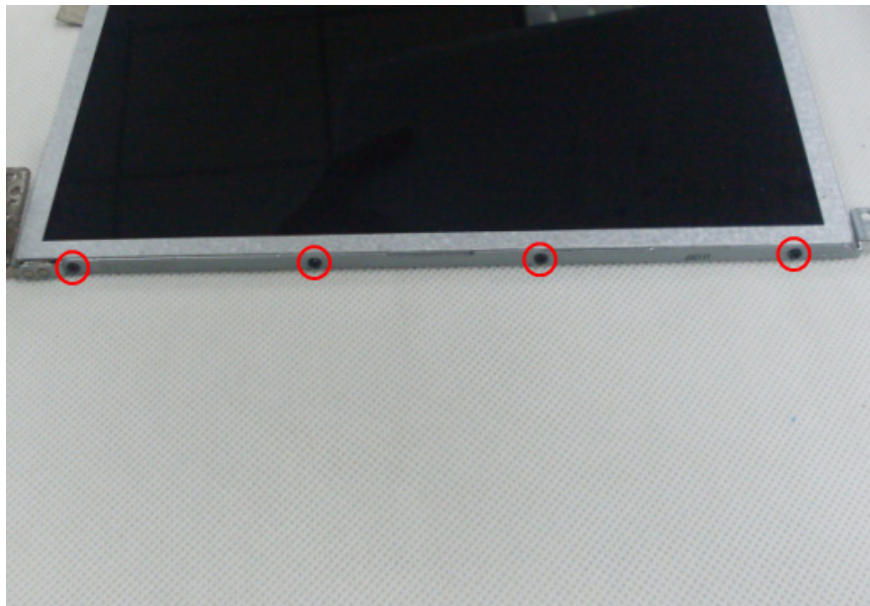



Figure 3-124. LCD Panel



Figure 3-125. LCD Panel

Table 3-23. Screws

Step	Screw	Quantity	Screw Type
LCD Hinge Assembly	M2*3	8	

⚠ CAUTION:

Distinguish the left and right hinge before assembling.

7. Replace the top edge of LCD panel on LCD cover, then lay the bottom edge down to position LCD hinges.

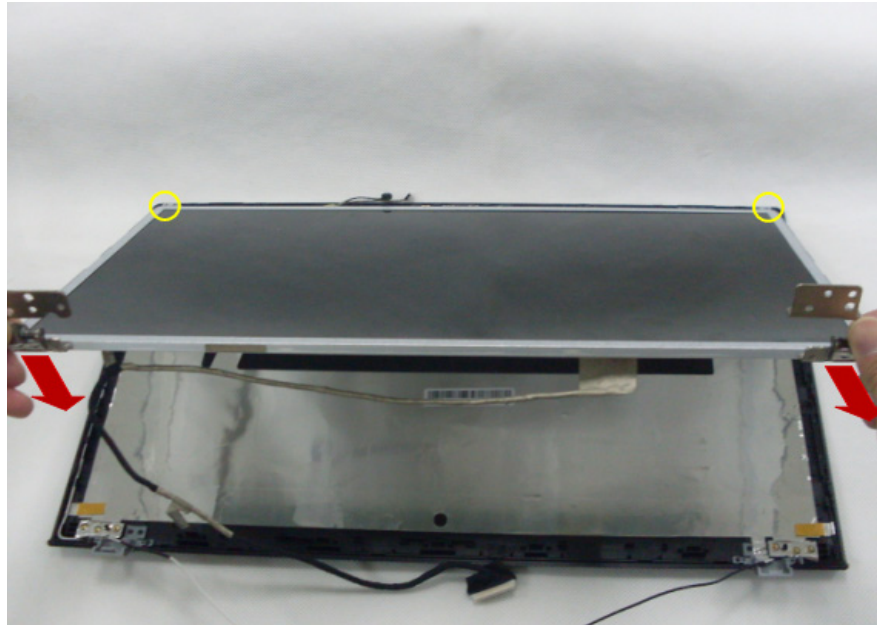


Figure 3-126. LCD Panel

8. Consolidate the LCD panel and LCD cover with 6 screws.

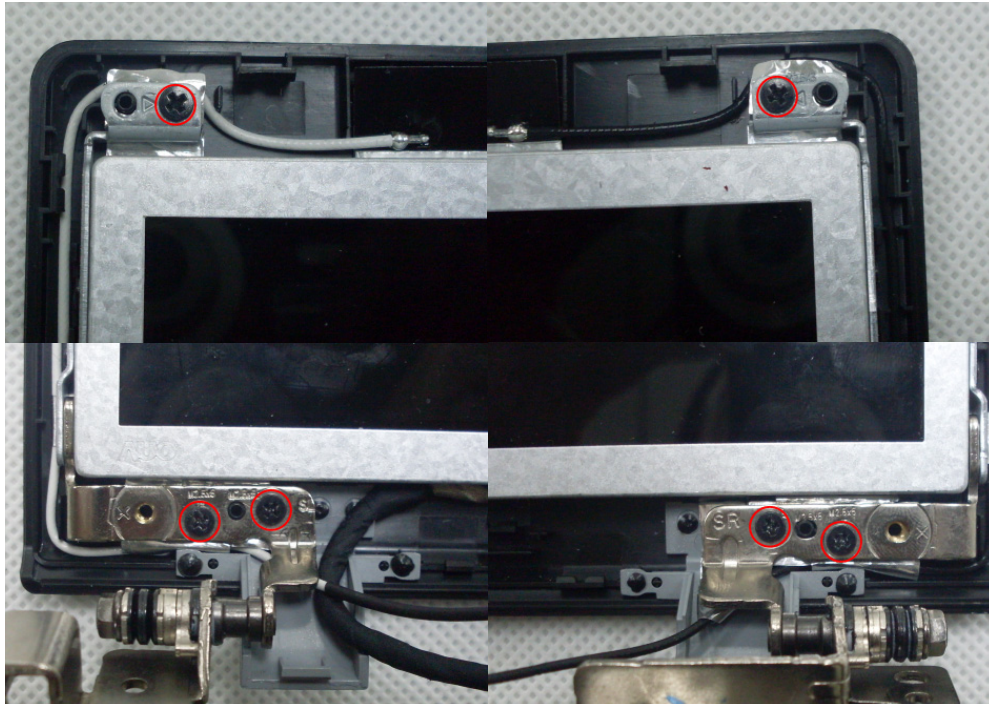



Figure 3-127. LCD Panel

Table 3-24. Screws

Step	Screw	Quantity	Screw Type
LCD Panel Assembly	M2.5*5	6	

9. Route LVDS cable in the position groove of LCD cover.

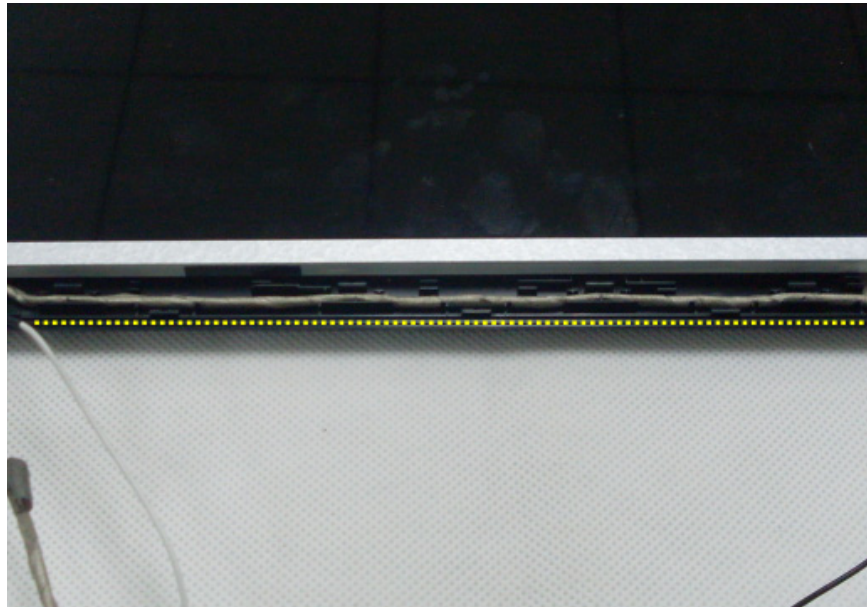


Figure 3-128. LVDS Cable

10. Connect CMOS cable to the camera, press the microphone on the top edge of LCD cover.

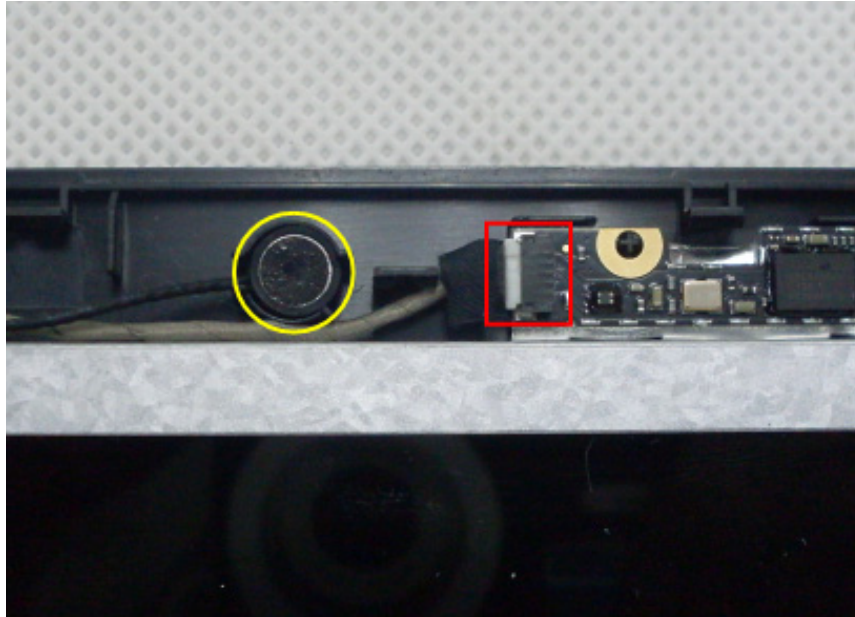


Figure 3-129. Camera Connector and Microphone

Replacing the LCD Bezel

1. Position LCD bezel on LCD cover, press the edges of LCD bezel to lock all latches.



Figure 3-130. LCD Bezel

2. Consolidate LCD bezel and LCD cover with 2 screws.




Figure 3-131. Screws on LCD Bezel



Figure 3-132. Screws on LCD Bezel

Table 3-25. Screws

Step	Screw	Quantity	Screw Type
LCD Bezel Assembly	M2.5*5	2	

3. Cover 2 screw mylar on bezel screws.

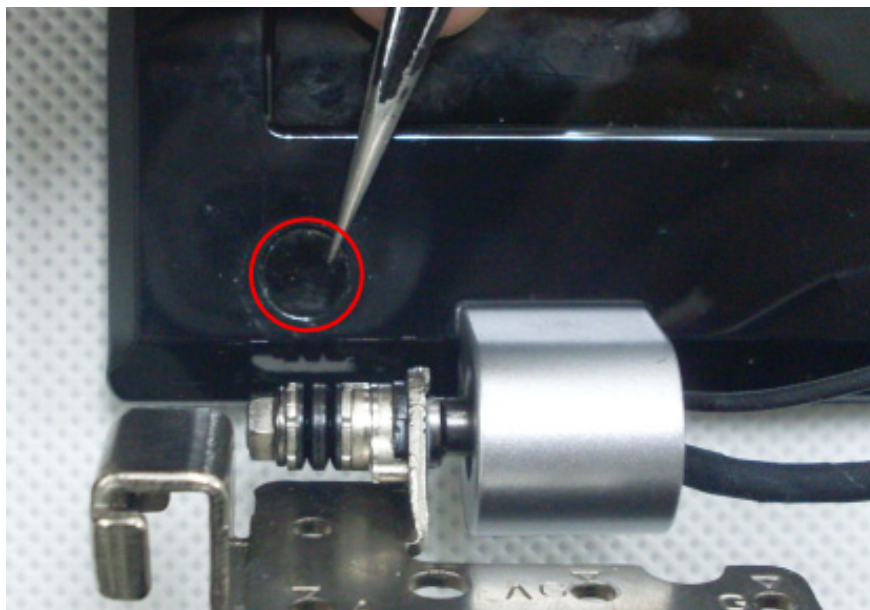


Figure 3-133. Screw Mylar on LCD Bezel

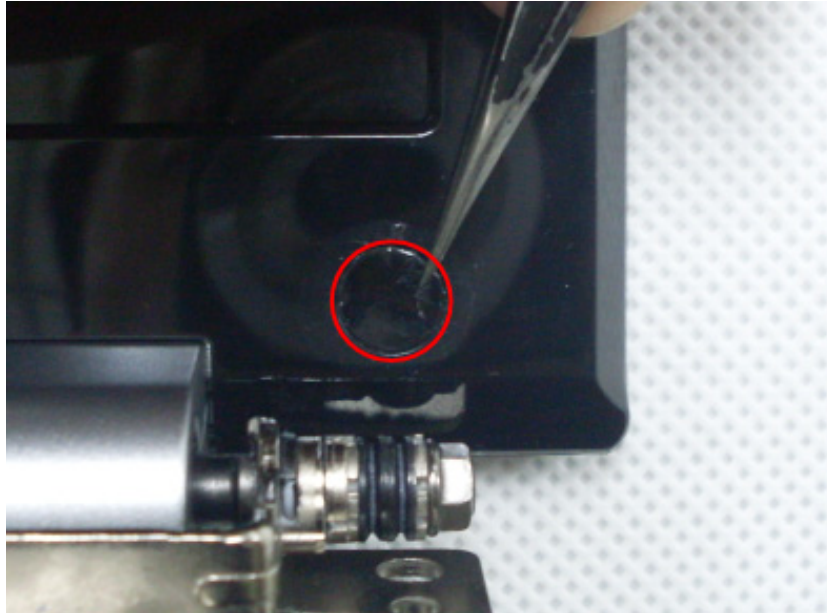


Figure 3-134. Screw Mylar on LCD Bezel

Replacing the Bottom Case

1. Open the hinges to an about 75-degree angle to the LCD panel, replace LCD module on the bottom case by aiming the position pillars of bottom case at the position holes of hinges.

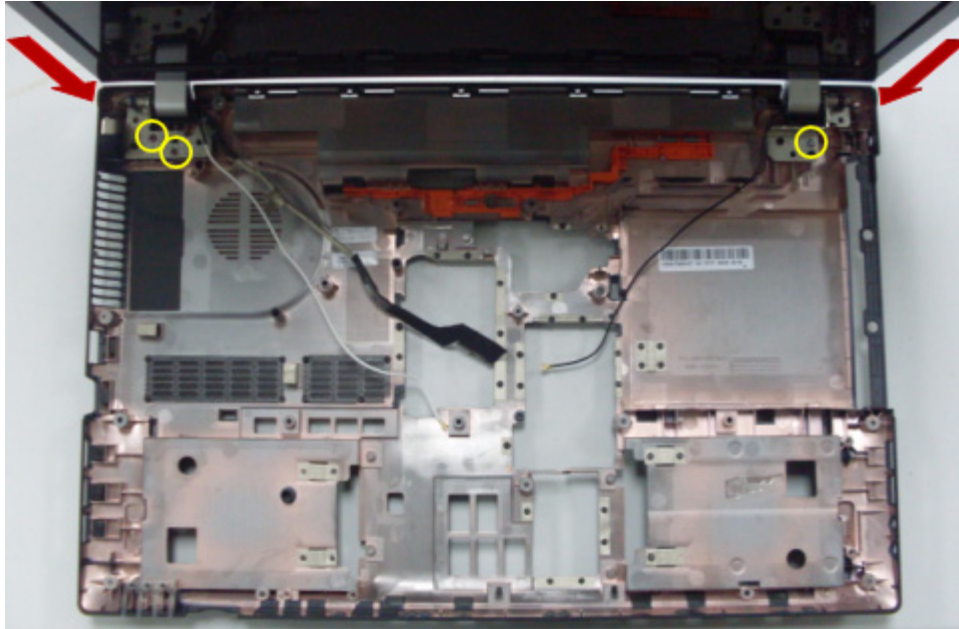


Figure 3-135. Bottom Case

2. Consolidate the hinges and bottom case with 4 screws.

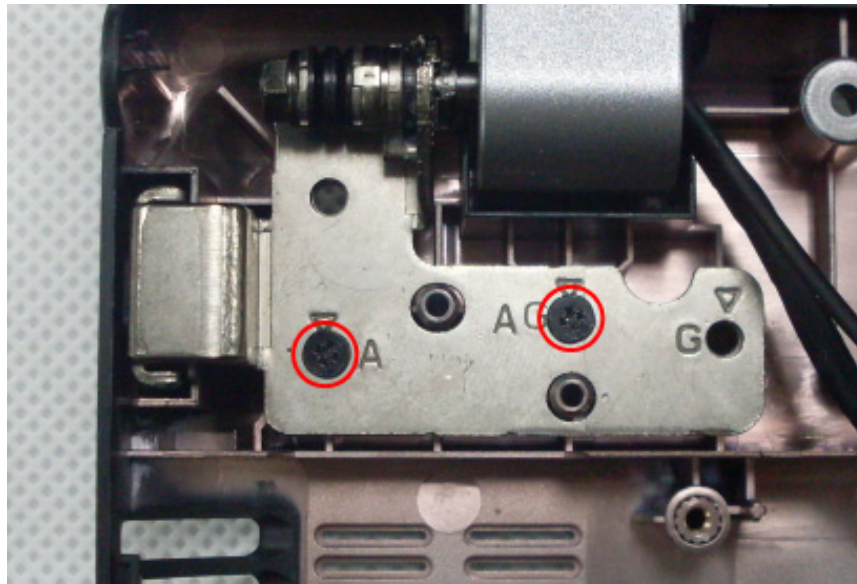


Figure 3-136. Screws on Hinges

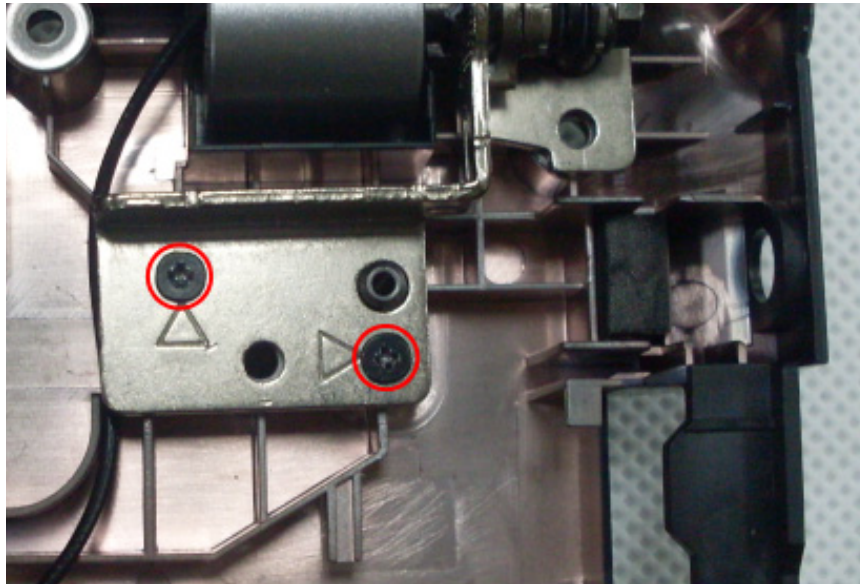



Figure 3-137. Screws on Hinges

Table 3-26. Screws

Step	Screw	Quantity	Screw Type
Bottom Case Assembly	M2.5*5	4	

3. Route antenna cables and LVDS cable in position groove of bottom case, adhere the conductive fabric to fix LVDS cable. Replace DC-in cable in the position groove of bottom case.

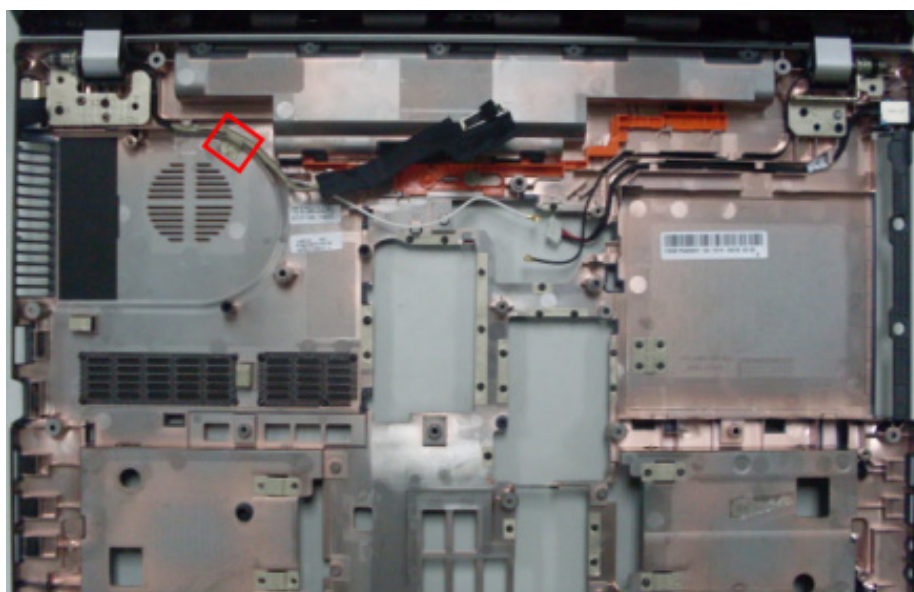


Figure 3-138. Cables on Bottom Case

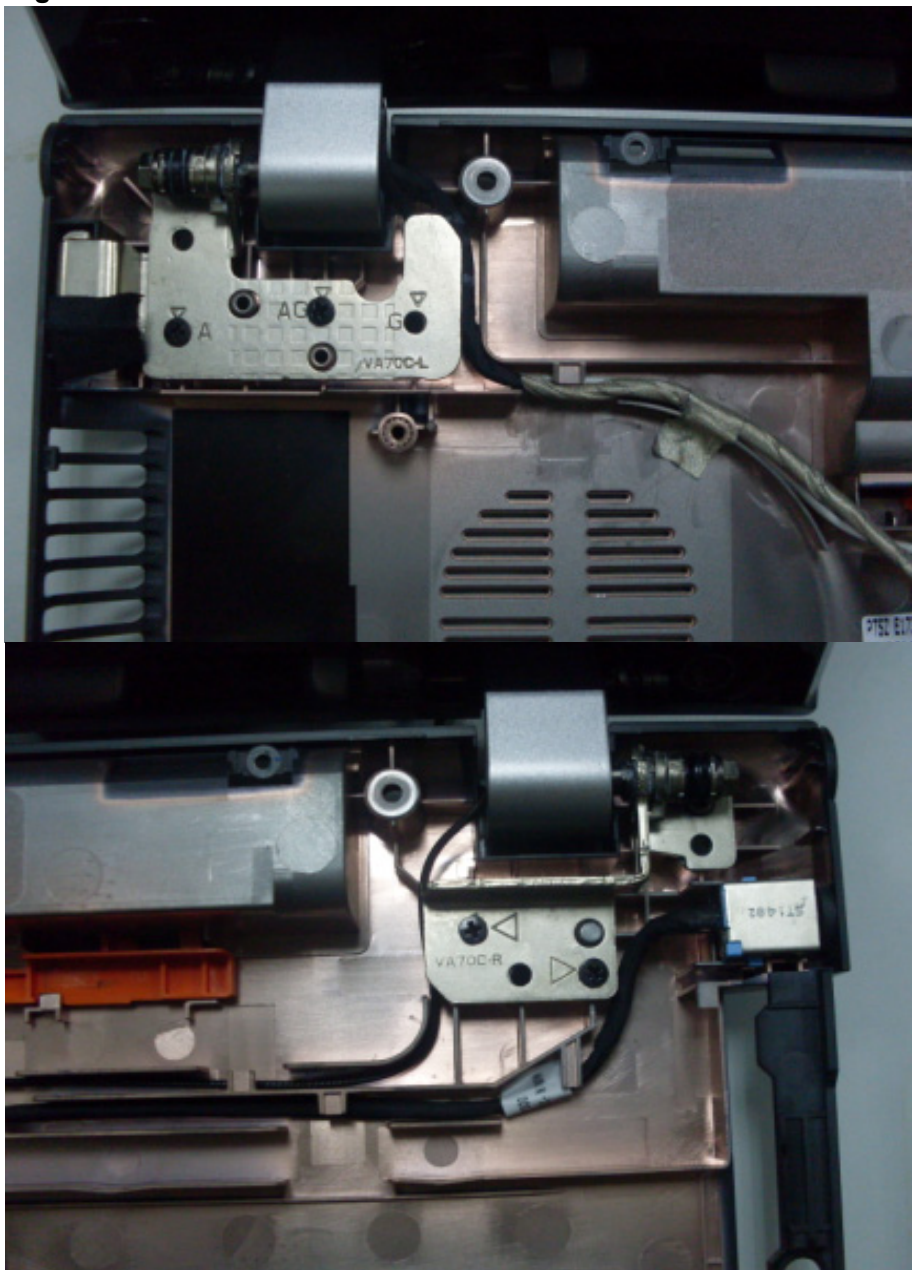


Figure 3-139. Cables on Bottom Case

Replacing the CPU

1. Use a vacuum pump to suck up CPU and position it on CPU socket by aiming the golden triangle on CPU at the triangle mark on CPU socket.



Figure 3-140. CPU

2. Use a flat-head screwdriver to insert to the slot of CPU socket lock, rotate the slot clockwise to 180 degrees.

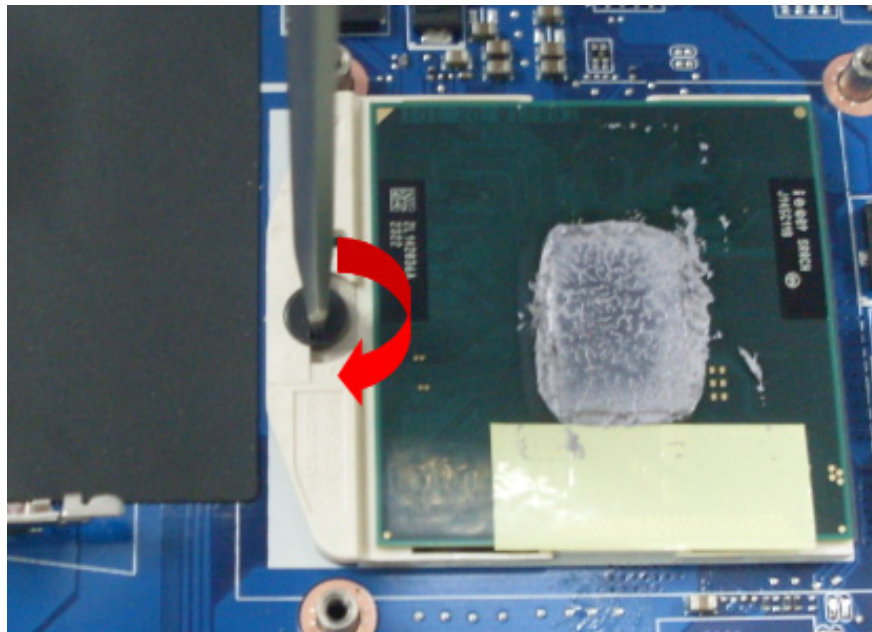


Figure 3-141. CPU Socket Lock

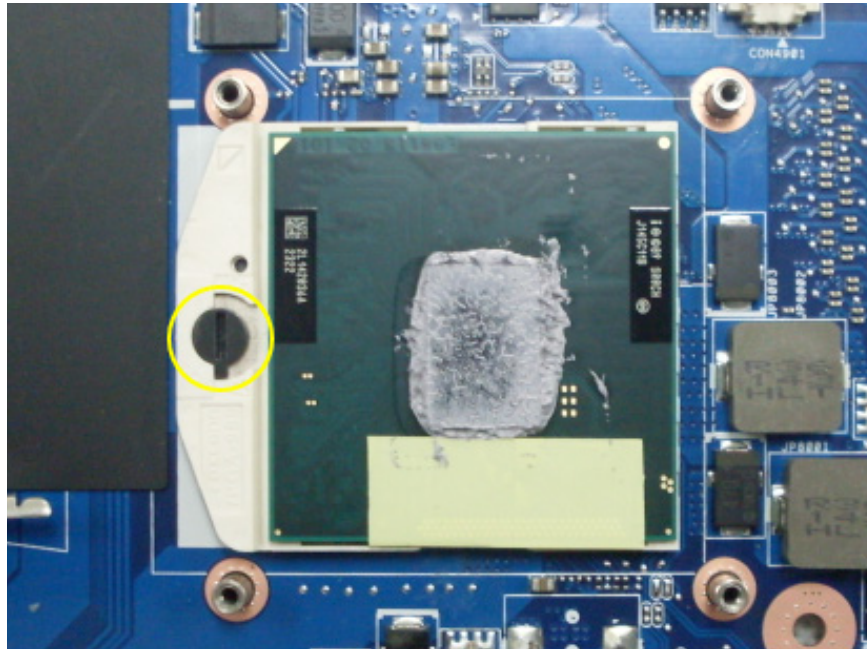


Figure 3-142. CPU Socket Locked Position

Replacing the Thermal Module

+ **IMPORTANT:**

Apply an appropriate thermal grease and ensure all heat pads are in place before replacing the thermal module.

1. Align the screw holes on the thermal module and mainboard then replace the module. Keep the module as level as possible to spread the thermal grease evenly.

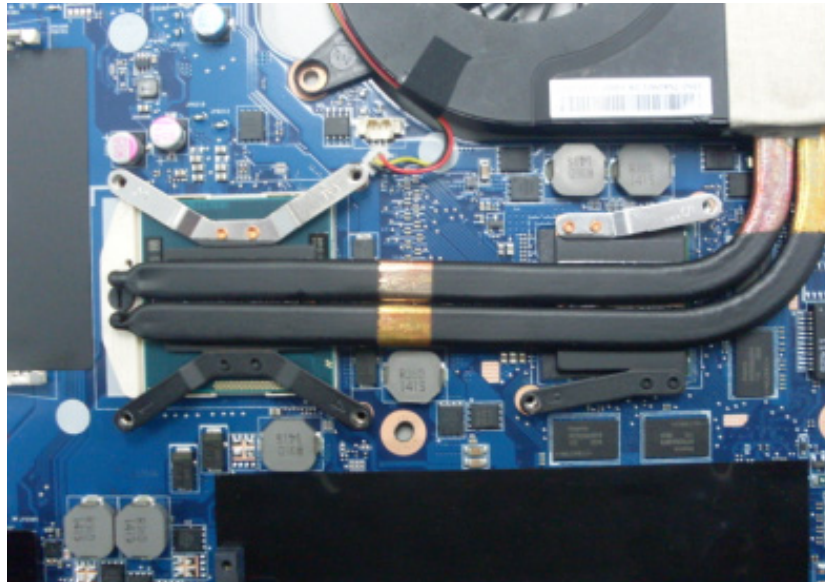


Figure 3-143. Thermal Module

2. Replace two groups of diagonal screws and rotate them several rounds to secure the thermal module first. Do not tighten these screws directly.

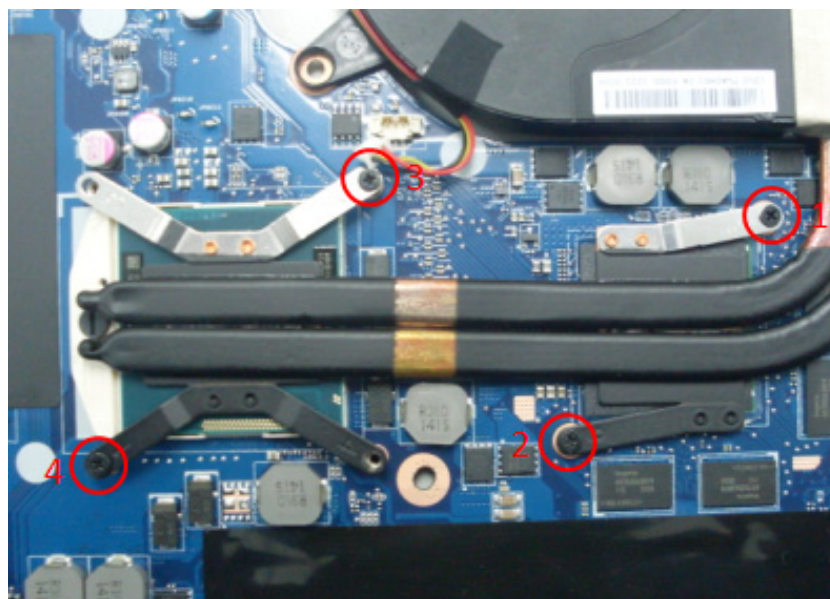



Figure 3-144. Thermal Module

Table 3-27. Screws

Step	Screw	Quantity	Screw Type.
Thermal module Assembly	M2*3	4	

3. Replace the other 2 diagonal screws on the thermal block spring, tighten all screws slowly and alternately to fix thermal module.

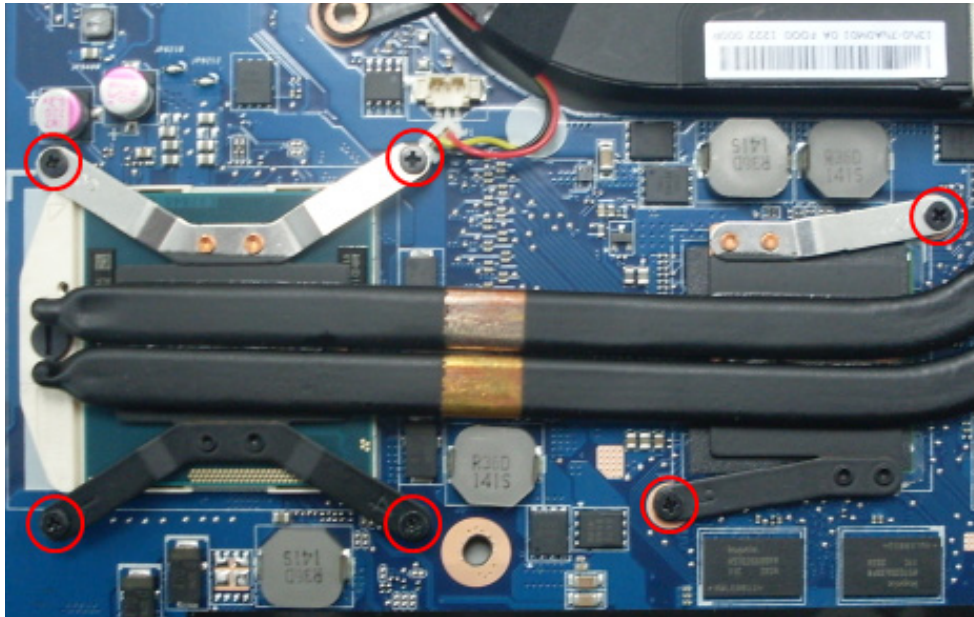



Figure 3-145. Thermal Module

Table 3-28. Screws

Step	Screw	Quantity	Screw Type.
Thermal module Assembly	M2*3	2	

4. Connect thermal fan cable to the mainboard, adhere the waterproof tape to fix fan cable.

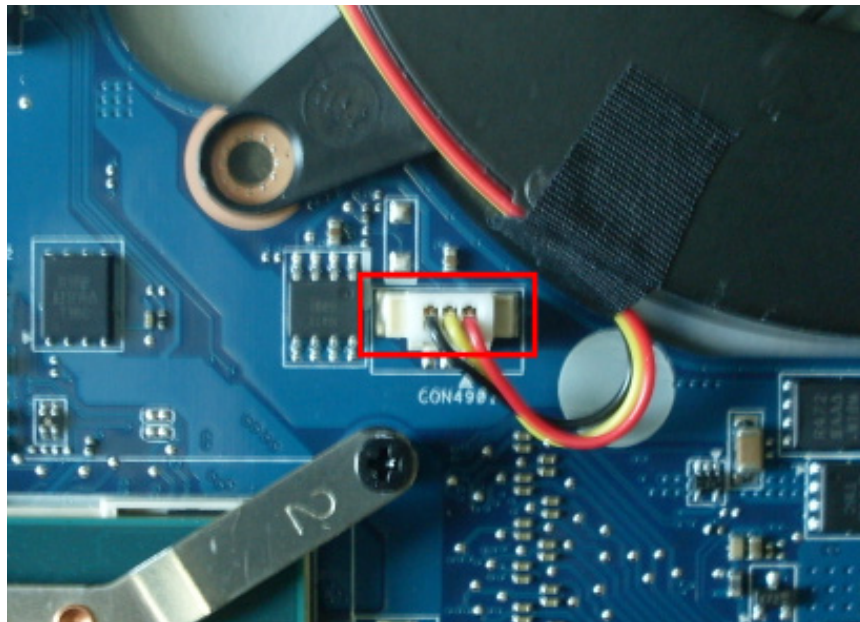


Figure 3-146. Thermal Fan Cable

Replacing the Motherboard

1. Turn over the motherboard. Replace the motherboard by inserting the IO connectors to corresponding holes on bottom case, then lay the motherboard down to position it.

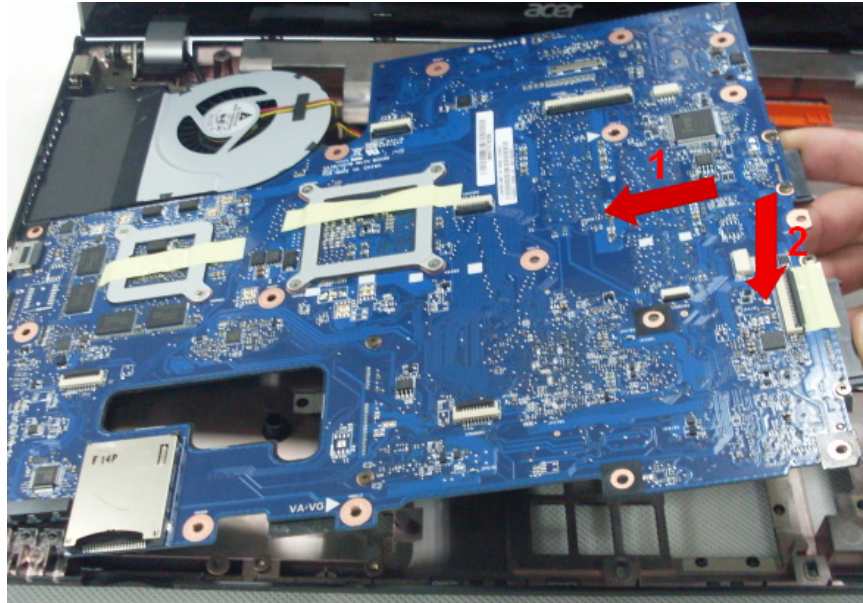


Figure 3-147. Motherboard

2. Consolidate the motherboard and bottom case with 4 screws.

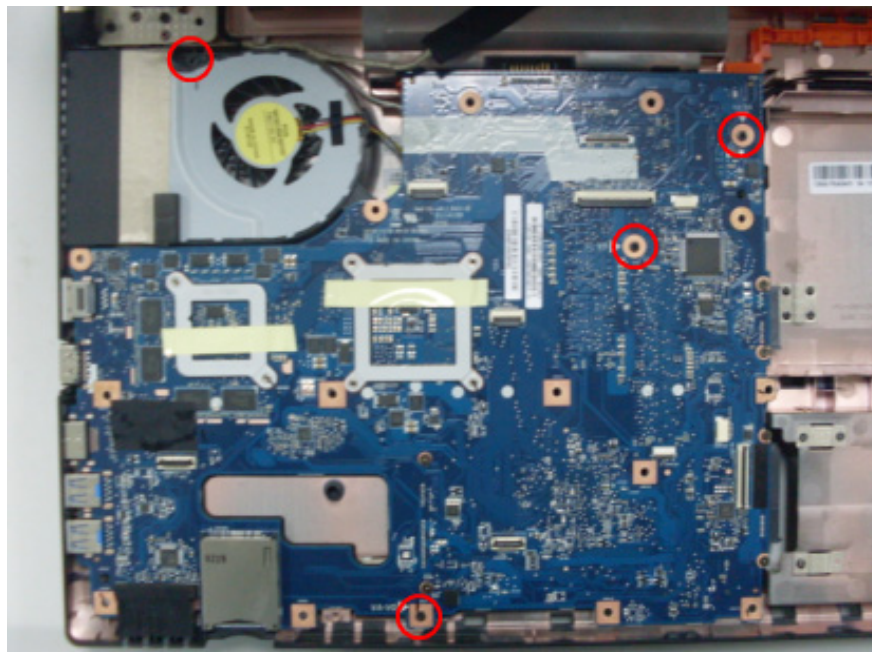



Figure 3-148. Motherboard

Table 3-29. Screws

Step	Screw	Quantity	Screw Type
Motherboard Assembly	M2.5*5	4	

3. Connect the LVDS cable to motherboard and paste the cable fabric.

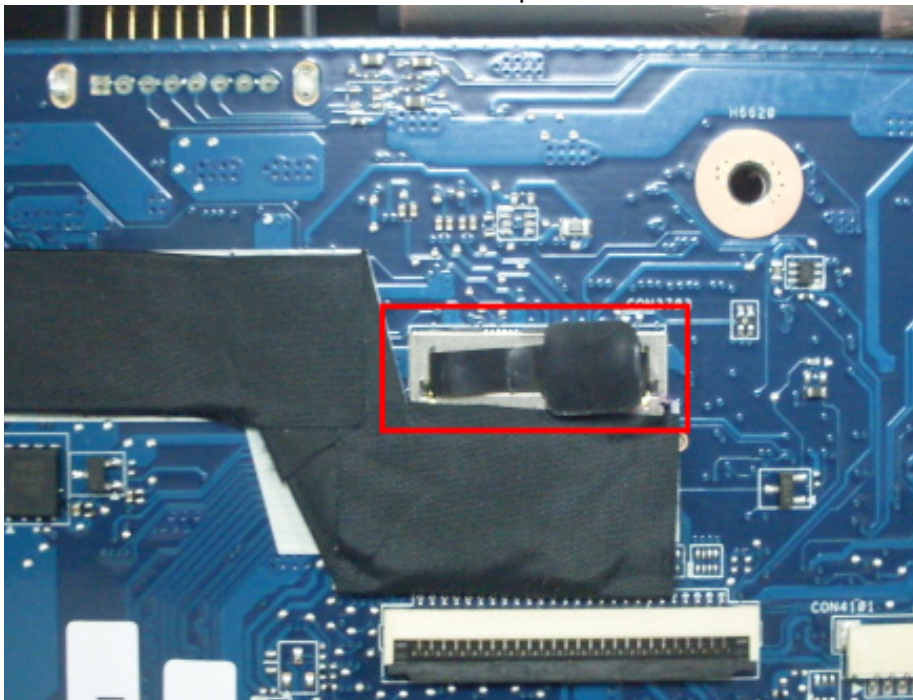


Figure 3-149. Motherboard

4. Paste the LED acetate fabric on the LED pipe.

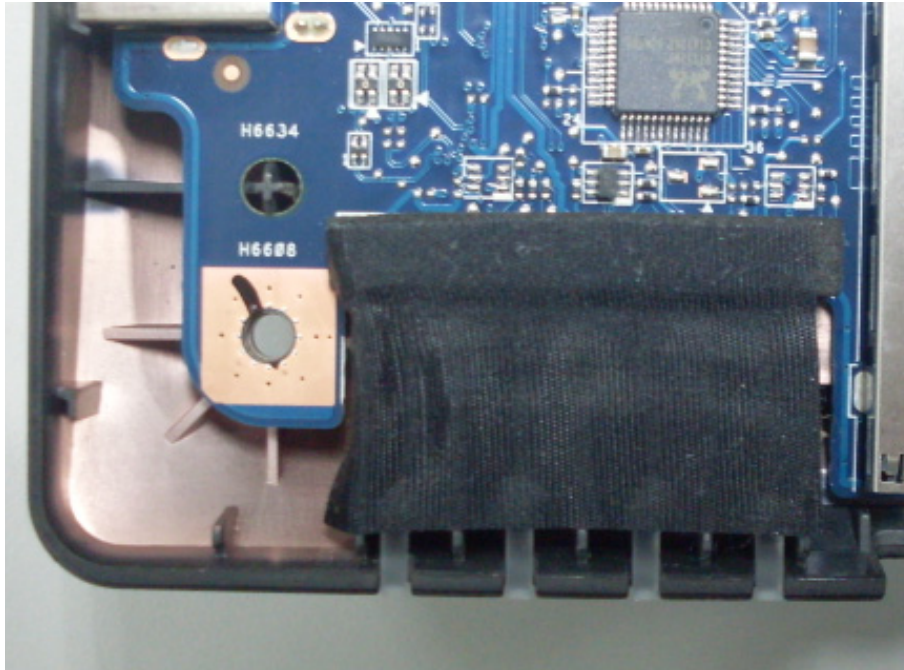


Figure 3-150. LED Acetate Fabric

5. Close the LCD panel and turn over the machine. Press the DC-in connector perpendicularly to connect the cable to motherboard.

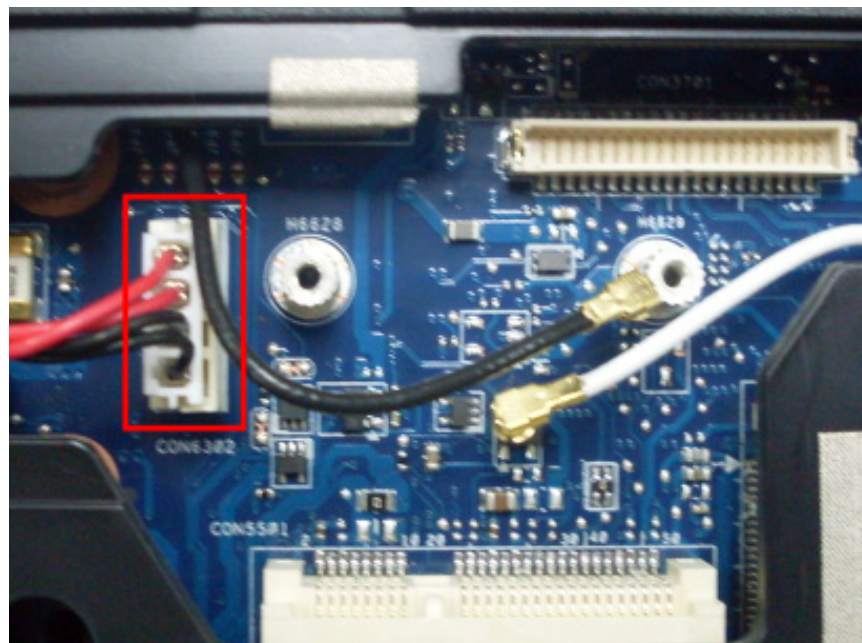


Figure 3-151. DC-in Cable Connector

Replacing the IO Board

1. Turn over the machine and open the LCD panel. Position the IO board on bottom case by aiming the IO connectors at corresponding holes of bottom case first.

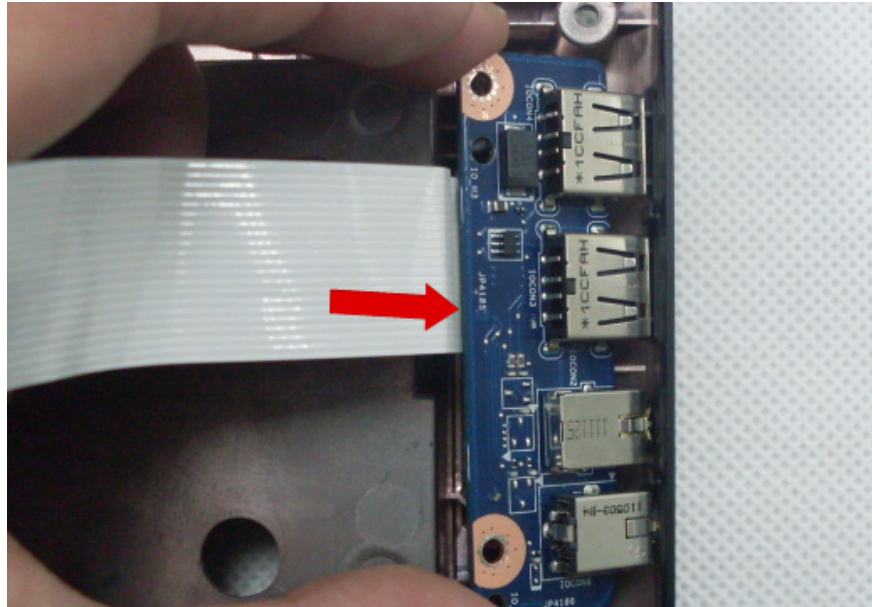


Figure 3-152. IO Board

2. Lay the IO board down to position it on bottom case.

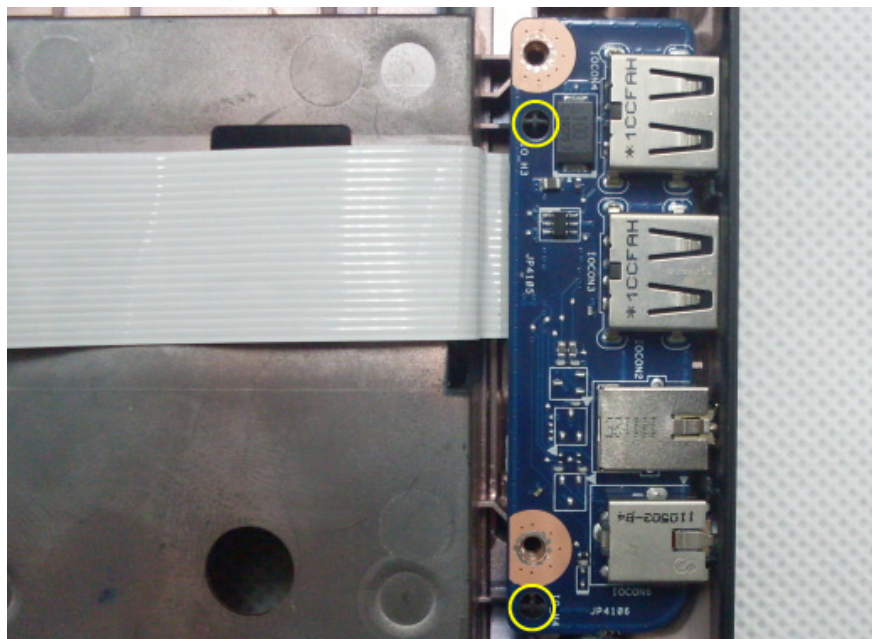


Figure 3-153. IO Board

3. Consolidate the IO board with 1 screw.

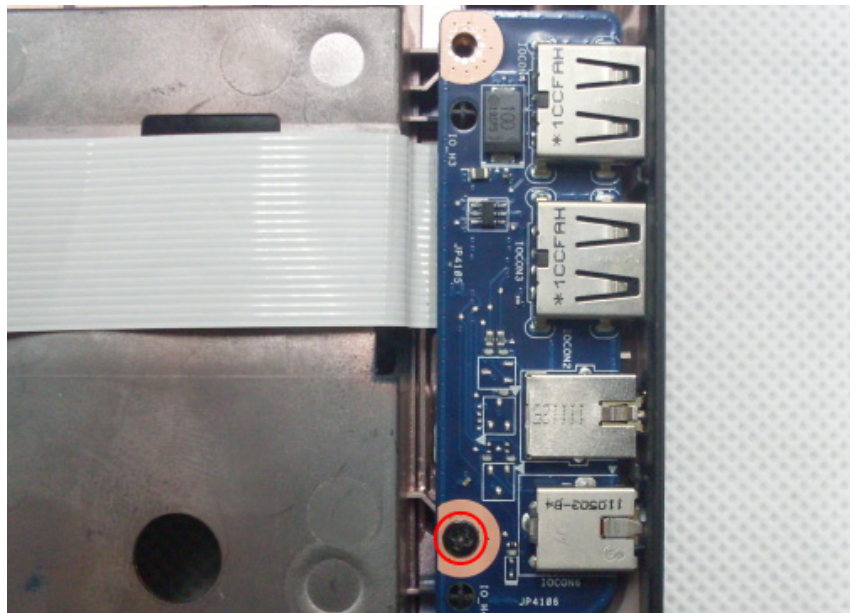



Figure 3-154. IO Board

Table 3-30. Screws

Step	Size	Quantity	Screw Type
IO Board Assembly	M2.5*5	1	

4. Connect the IO board cable to motherboard.

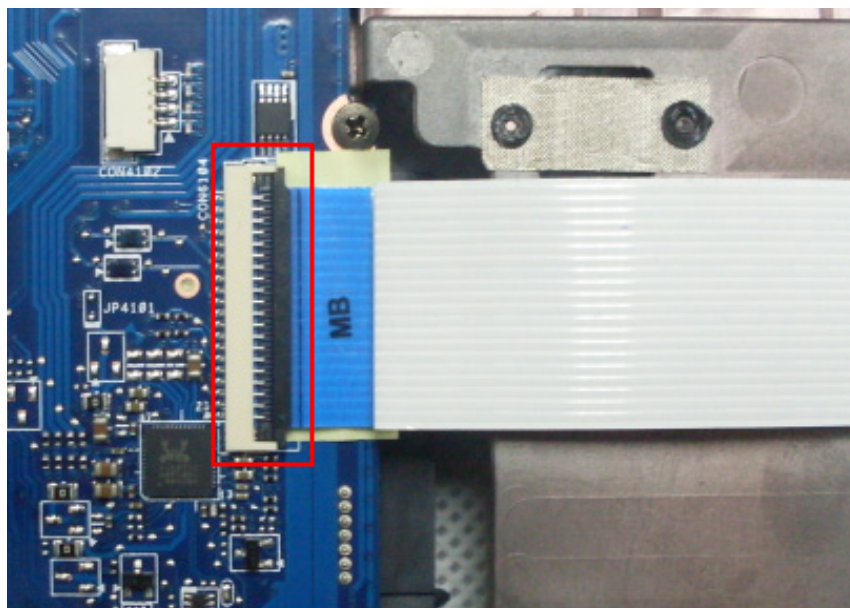


Figure 3-155. IO Board Cable

Replacing the Keyboard

1. Turn over the keyboard and position it on the back side of top case.



Figure 3-156. Keyboard

2. Cover the keyboard bracket on the keyboard by passing keyboard cable through the cable slot of bracket first.

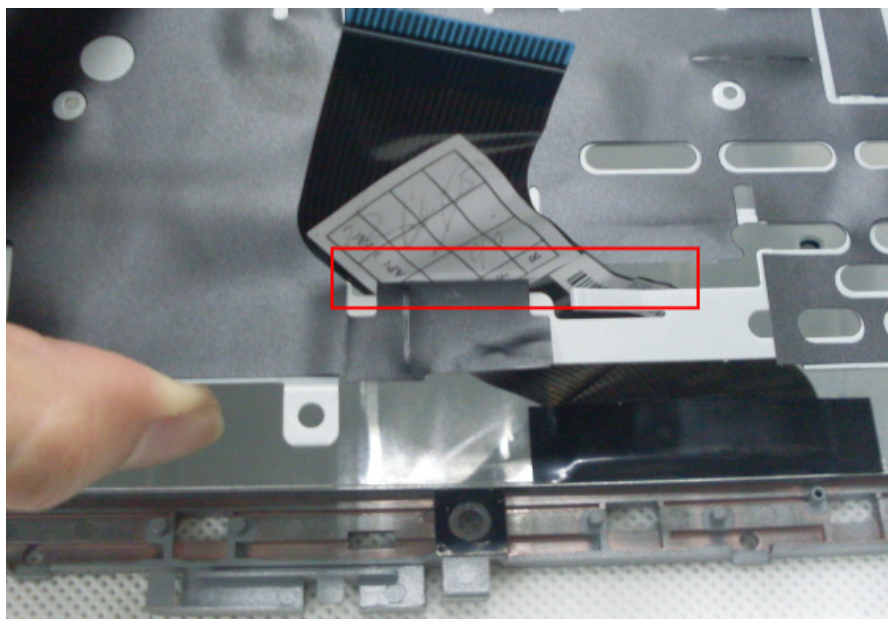


Figure 3-157. Keyboard Bracket

3. Lay the bracket down and shift it to lock all latches and aim the screw holes on bracket

and top case.

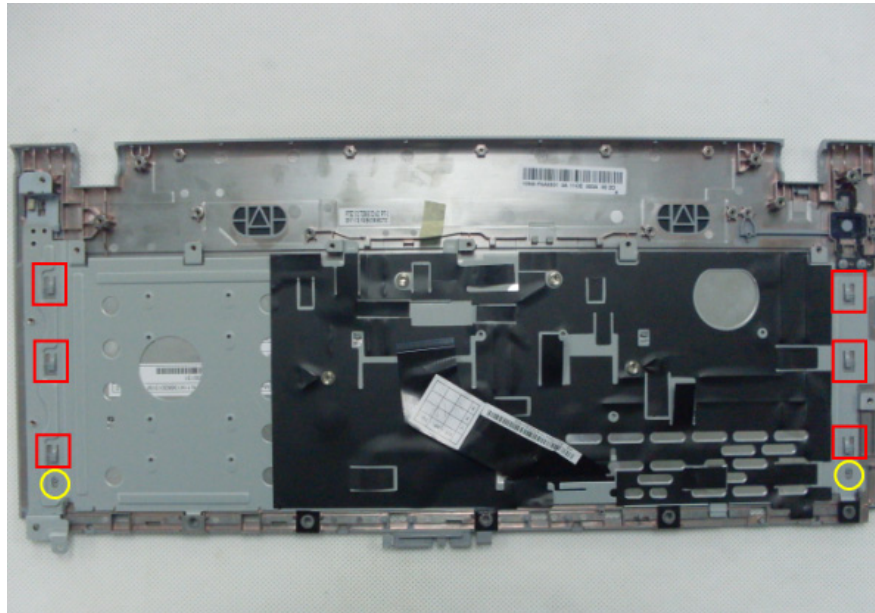


Figure 3-158. Keyboard Bracket

4. Consolidate the keyboard bracket and the top case with 6 screws(M2*3) and 9 screws(M1.6*2.5).

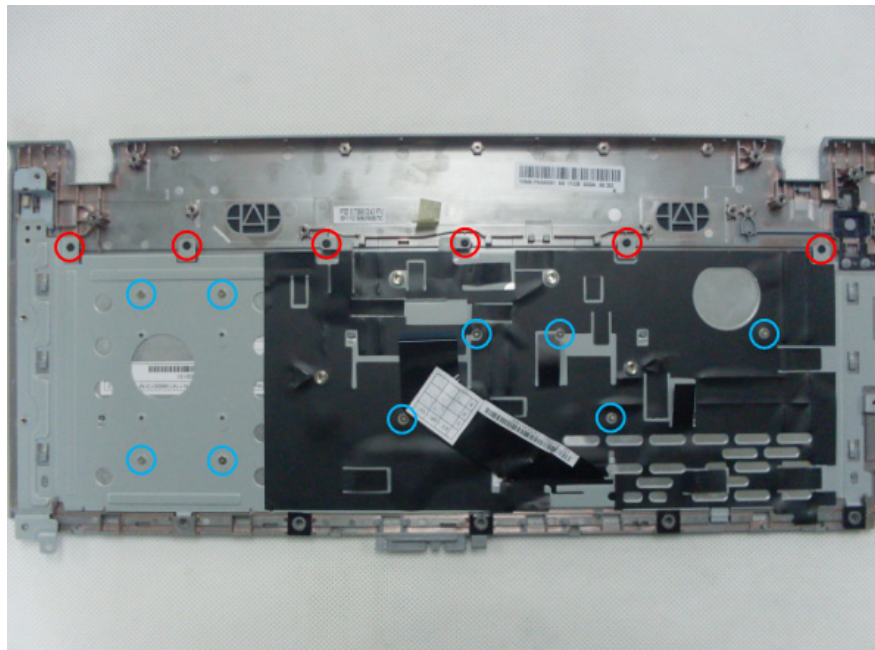




Figure 3-159. Keyboard Bracket

Table 3-31. Screws

Step	Screw	Quantity	Screw Type
Keyboard Bracket Assembly	M2*3(red cycled)	6	
	M1.6*2.5(blue cycled)	9	

Replacing the Power Switch Board

1. Replace the power switch board on the top case by aiming the position pillars of top case at the position holes of the board.

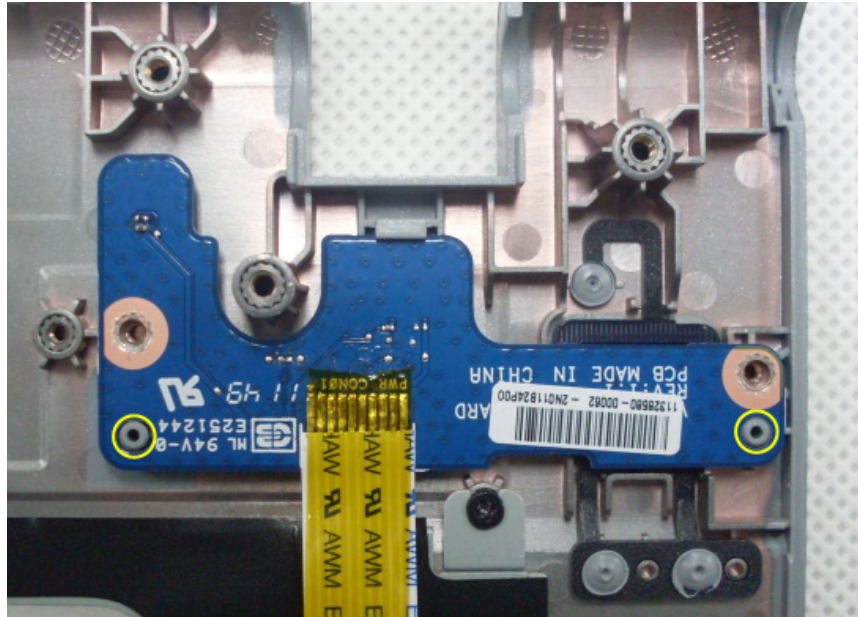


Figure 3-160. Power Switch Board

2. Consolidate the power switch board with 2 screws.

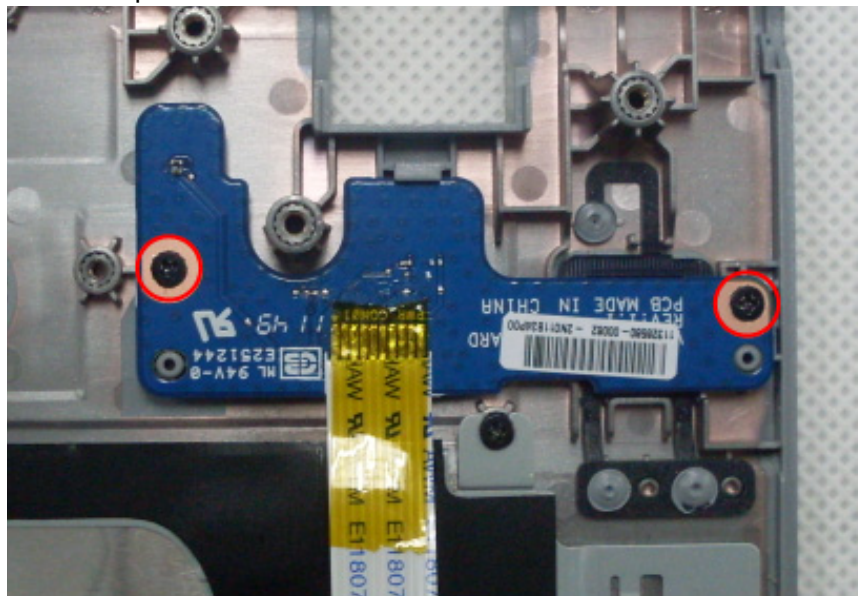



Figure 3-161. Power Switch Board

Table 3-32. Screws

Step	Screw	Quantity	Screw Type
Power Switch Board Assembly	M2*3	2	

3. Cover the keyboard bracket mylar to fix the power switch board cable.

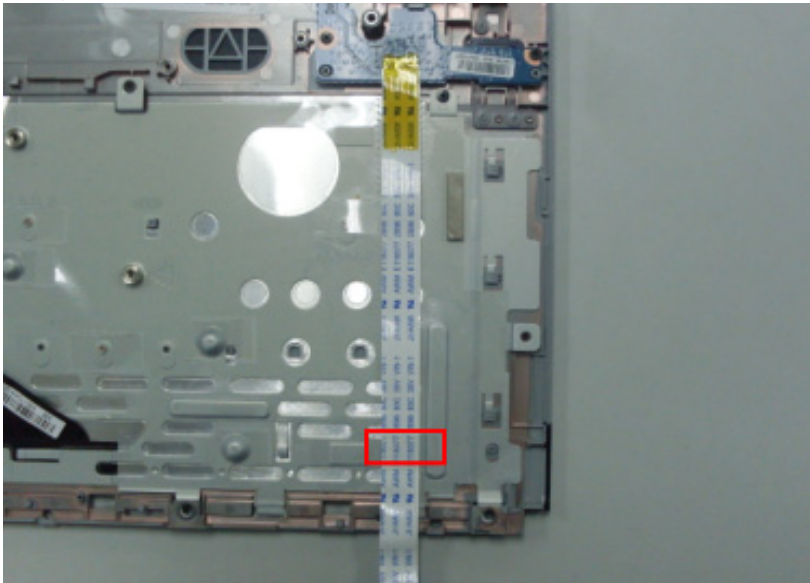


Figure 3-162. Power Switch Board Cable

Replacing the Speaker Module

1. Position the speakers on the top case.

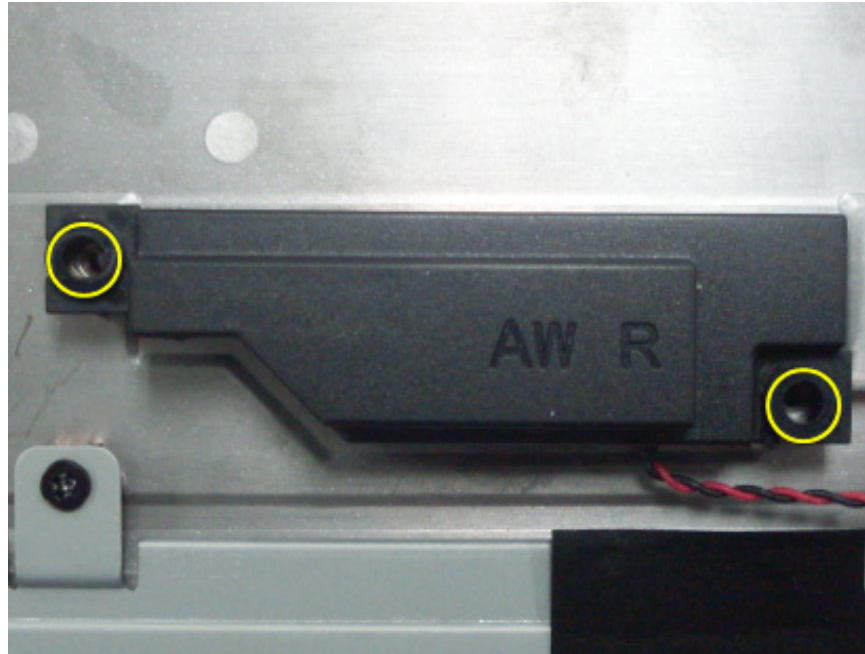


Figure 3-163. Speaker

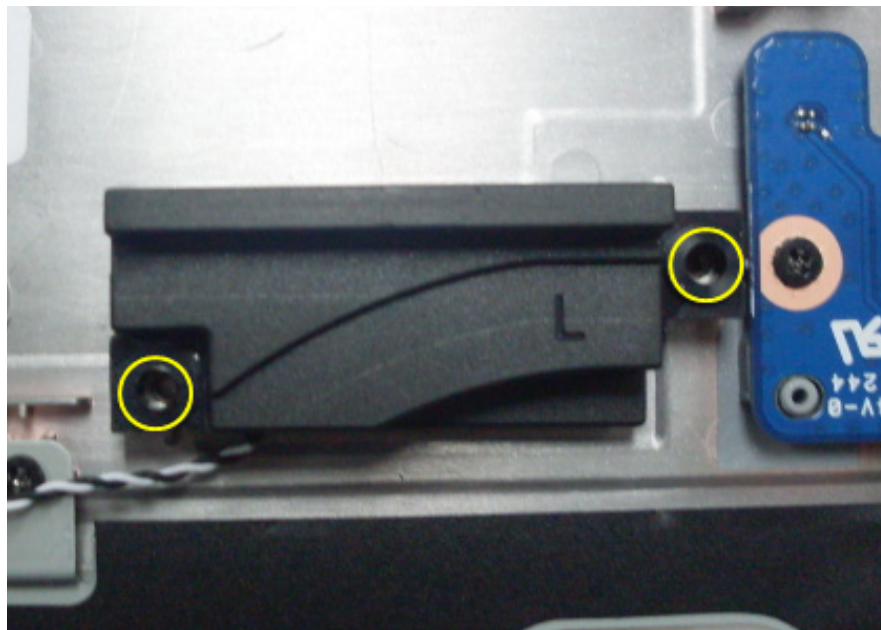


Figure 3-164. Speaker

2. Consolidate the speakers with 4 screws.



Figure 3-165. Speaker

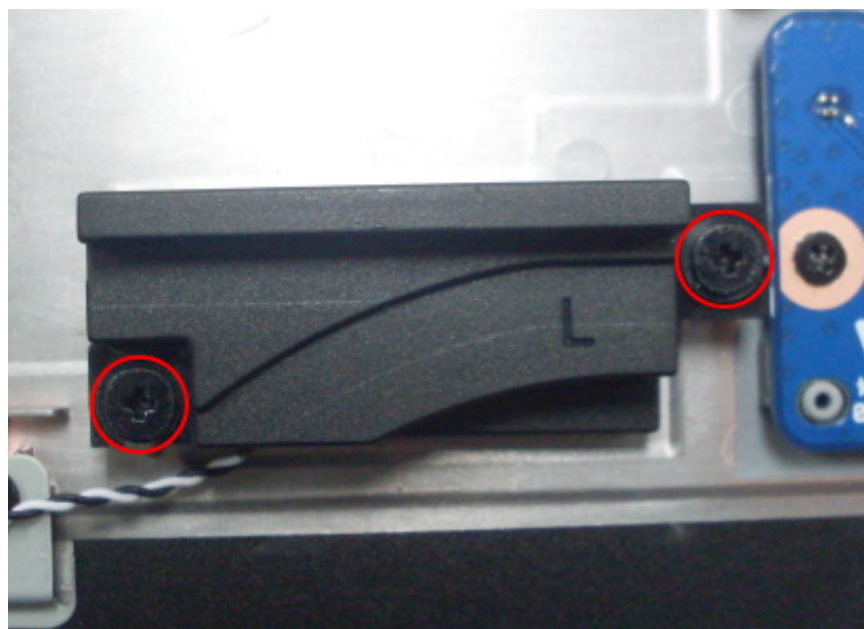



Figure 3-166. Speaker

Table 3-33. Screws

Step	Screw	Quantity	Screw Type
Speaker Module Assembly	M2*2.2+5.7	4	

3. Route speaker cable in position groove of top case, cover the keyboard bracket mylar to fix the cable.

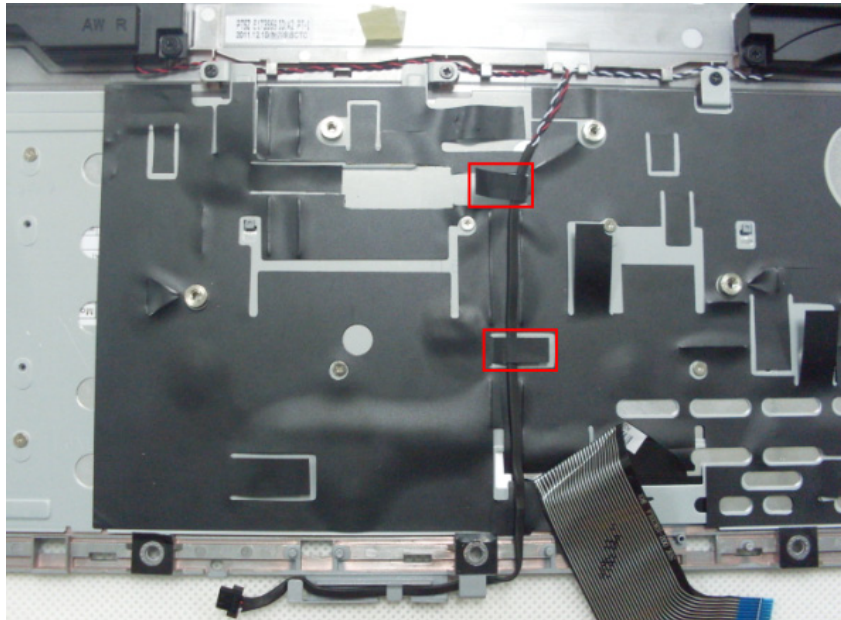


Figure 3-167. Speaker Cable

4. Adhere the mylar on top case to fix speaker cable.

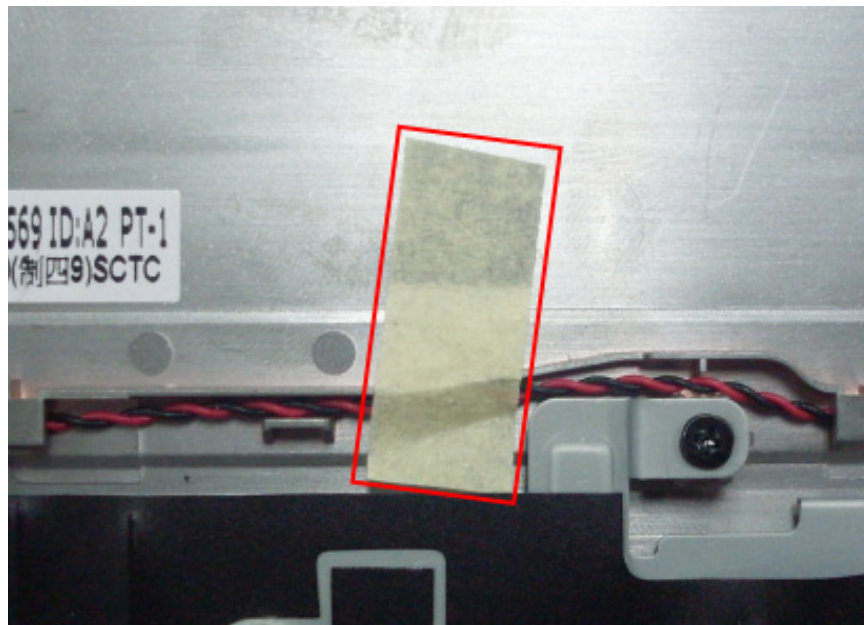


Figure 3-168. Speaker Cable

Replacing the Top Case

1. Turn over the top case module. Place the top case module on the bottom case with an about 45-degree angle. Connect the keyboard cable to the motherboard.

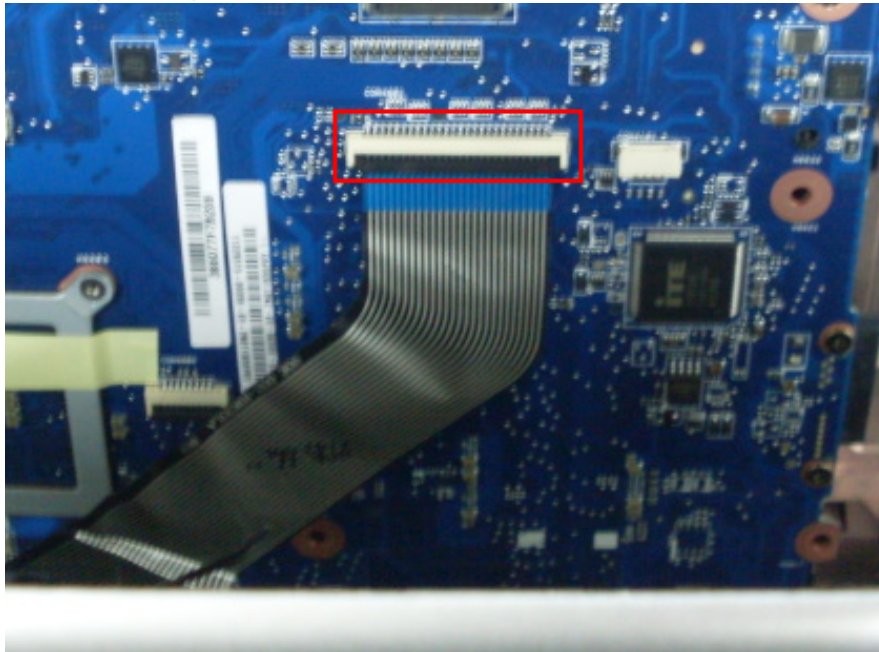


Figure 3-169. Keyboard Cable

2. Lay the top case module down to position it on the bottom case.

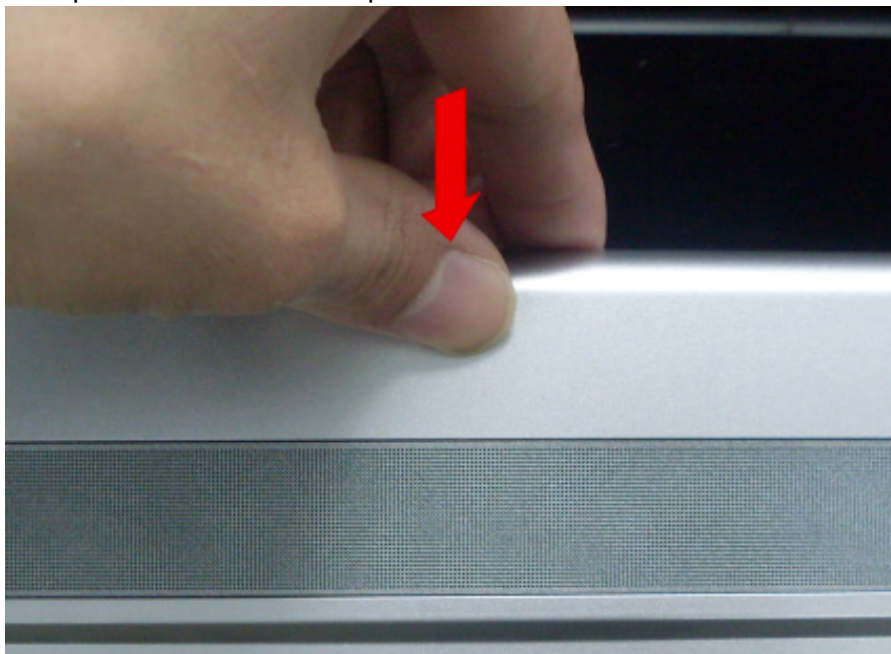


Figure 3-170. Top Case Module

3. Press the edges of top case to lock all latches. Then consolidate the top case with 1 screw.

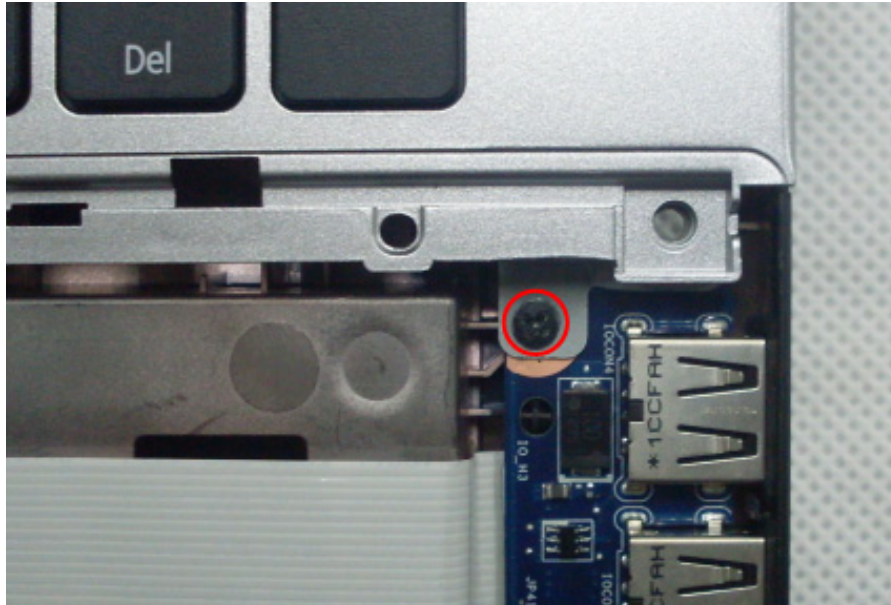



Figure 3-171. Top Case Module

Table 3-34. Screws

Step	Screw	Quantity	Screw Type
Top Case Module Assembly	M2.5*5	1	

4. Connect the power switch board cable and speaker cable to the motherboard.

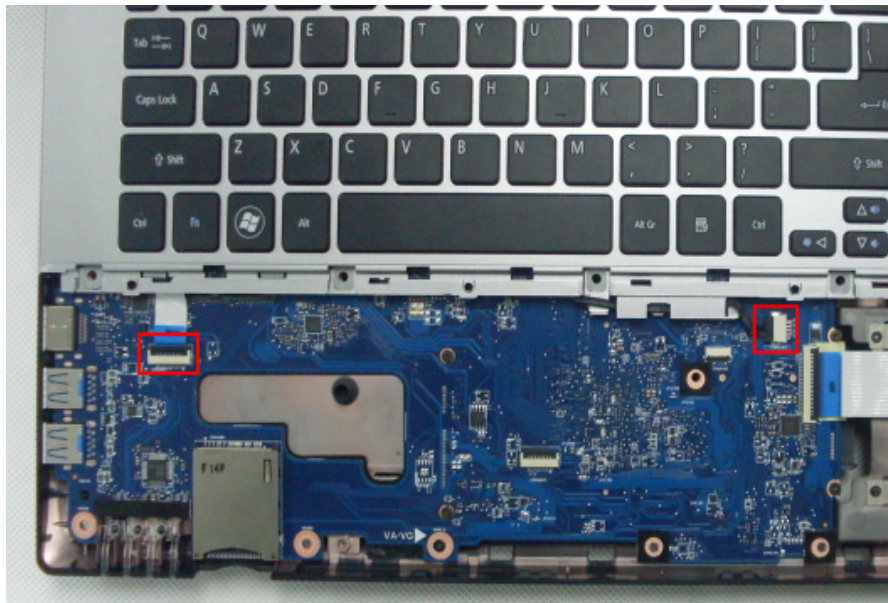


Figure 3-172. Power Switch Board Cable and Speaker Cable

Replacing the Top Case Palmrest

1. Position the touchpad switch board on the back side of top case palmrest.

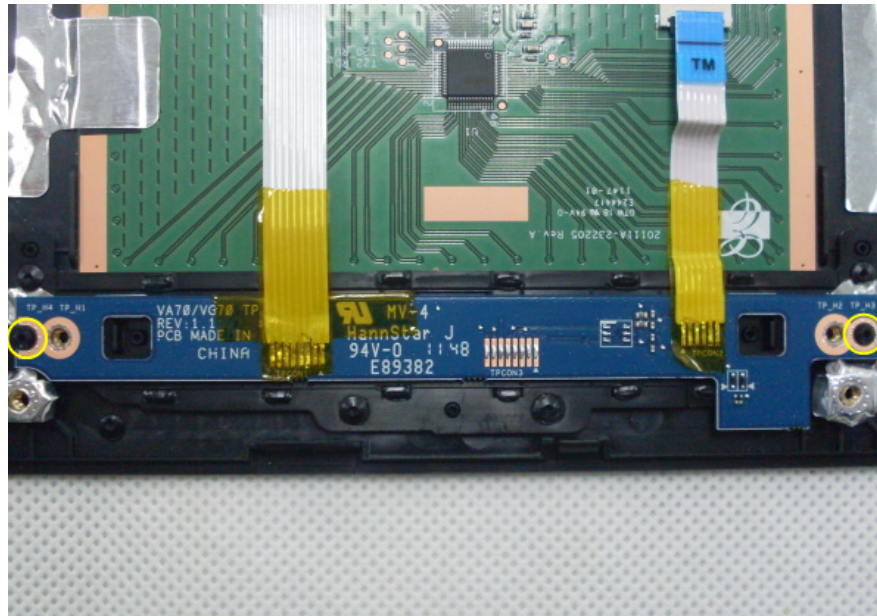


Figure 3-173. Touchpad Switch Board

2. Consolidate the touchpad switch board with 2 screws.

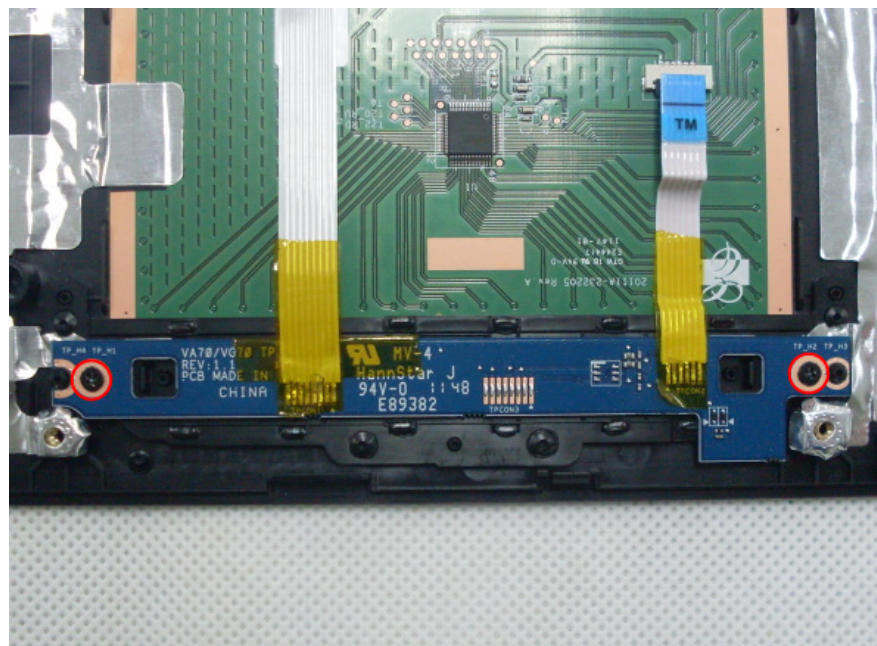



Figure 3-174. Touchpad Switch Board

Table 3-35. Screws

Step	Screw	Quantity	Screw Type
Touchpad Switch Board Assembly	M2*3	2	

3. Connect the touchpad cable to the touchpad.

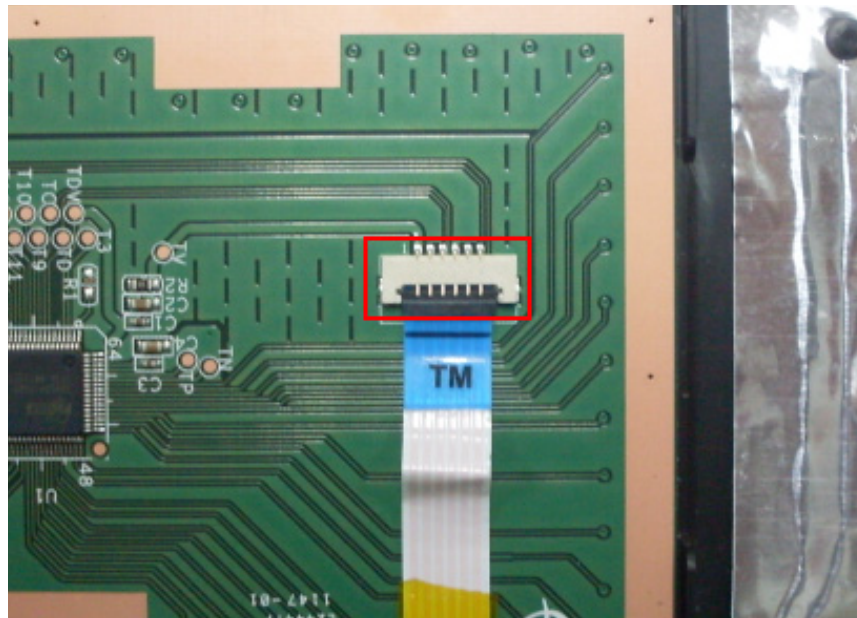


Figure 3-175. Touchpad Cable

4. Turn over the top case palmrest. Place the top case palmrest on the bottom case with an about 45-degree angle. Connect the touchpad switch board cable to motherboard.

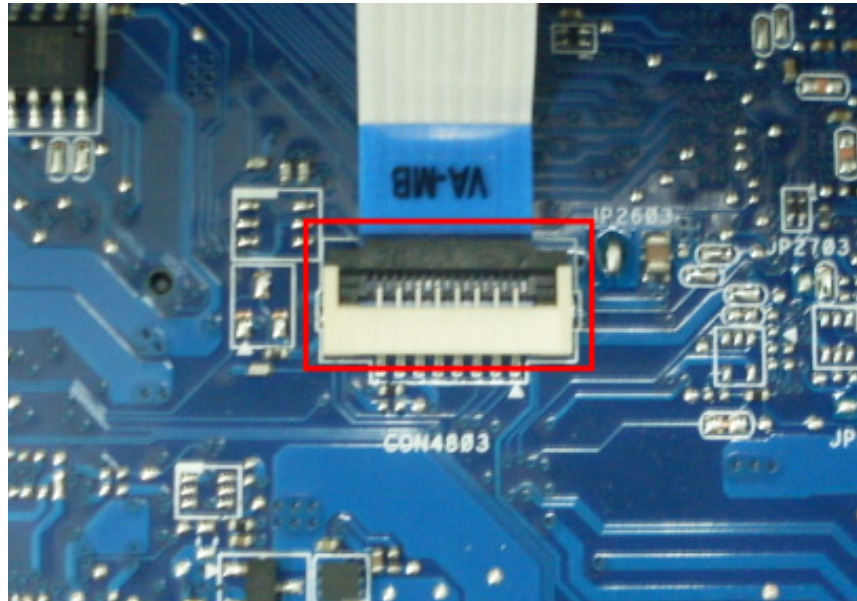


Figure 3-176. Touchpad Switch Board Cable

5. Lay down the top case palmrest to position it on the bottom case.

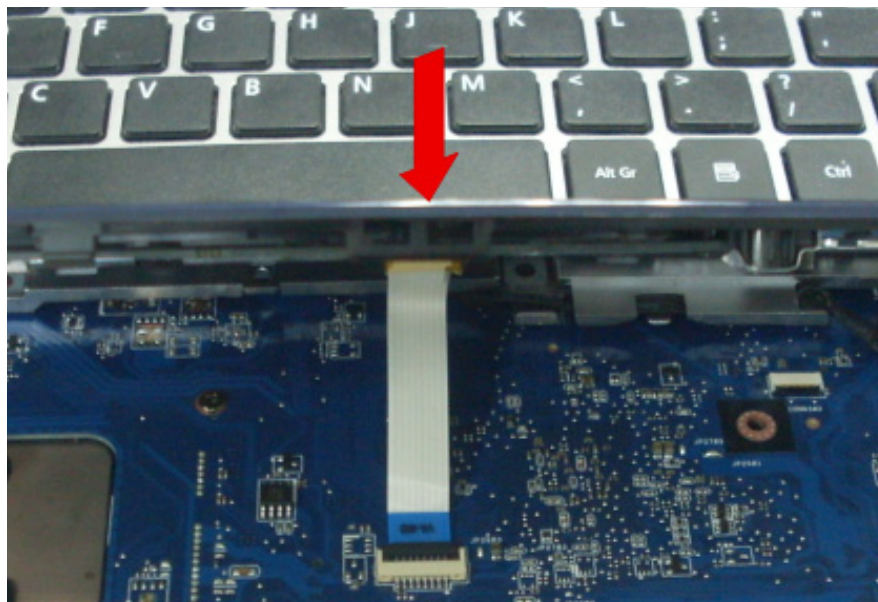


Figure 3-177. Top Case Palmrest

6. Press the edges of top case palmrest to lock all latches.



Figure 3-178. Top Case Palmrest

7. Close the LCD panel and turn over the machine. Tighten 19 screws(M2.5*7) , 5 screws(M2*3) and 2 screws(M2*2)on the bottom case.

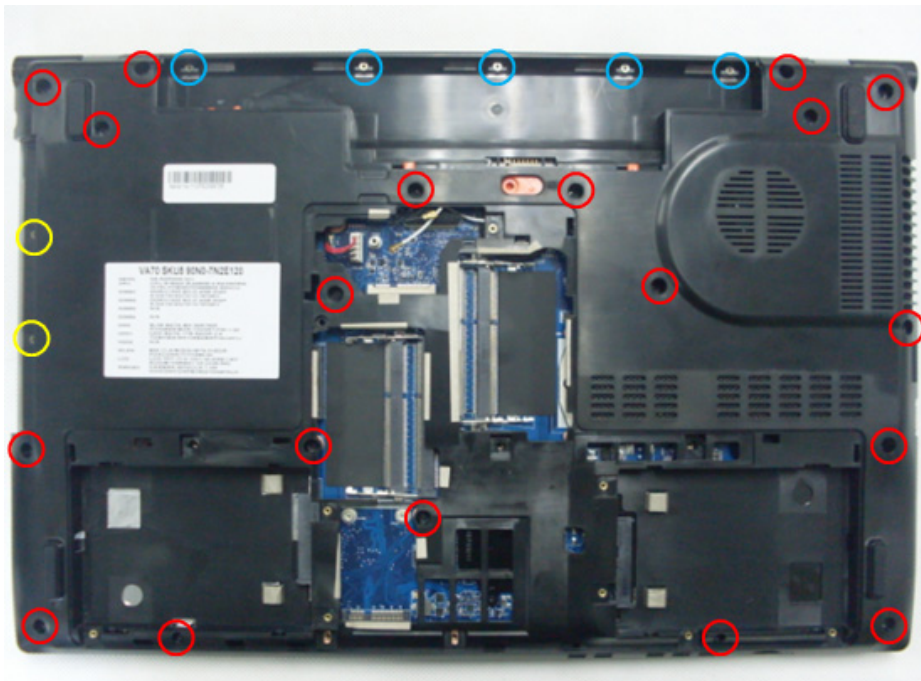





Figure 3-179. Screws on Bottom Case

Table 3-36. Screws

Step	Screw	Quantity	Screw Type
Top Case and Top Case Palmrest Assembly	M2.5*7 (red cycled)	19	
	M2*3 (blue cycled)	5	
	M2*2(yellow cycled)	2	


Replacing the ODD Module

- 1. Consolidate the ODD bracket and ODD with 2 screws.



Figure 3-180. ODD Bracket

Table 3-37. Screws

Step	Screw	Quantity	Screw Type
ODD Bracket Assembly	M2*3	2	

- 2. Combine the ODD bezel with ODD by inserting the bezel to the drive's front panel.



Figure 3-181. ODD Bezel

3. Turn over the ODD module.

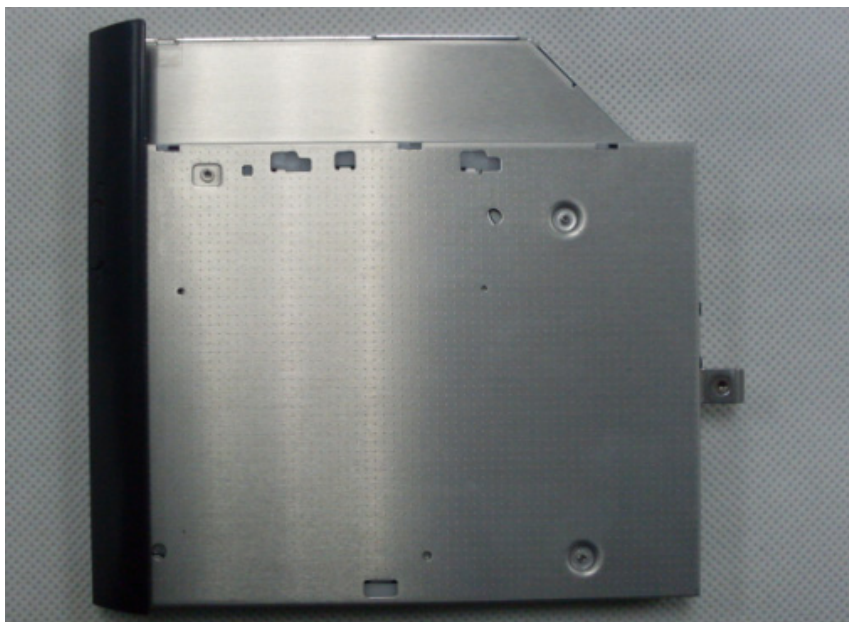



Figure 3-182. ODD Module

4. Insert the ODD module to the housing of bottom case. Consolidate the ODD bracket with 1 screw.



Figure 3-183. ODD Module

Table 3-38. Screws

Step	Screw	Quantity	Screw Type
ODD Module Assembly	M2*3	1	

Replacing the WLAN Card

1. Insert the WLAN card to its slot on motherboard with a 30-degree angle, press down the card and release it three times for perfect contact of golden fingers.

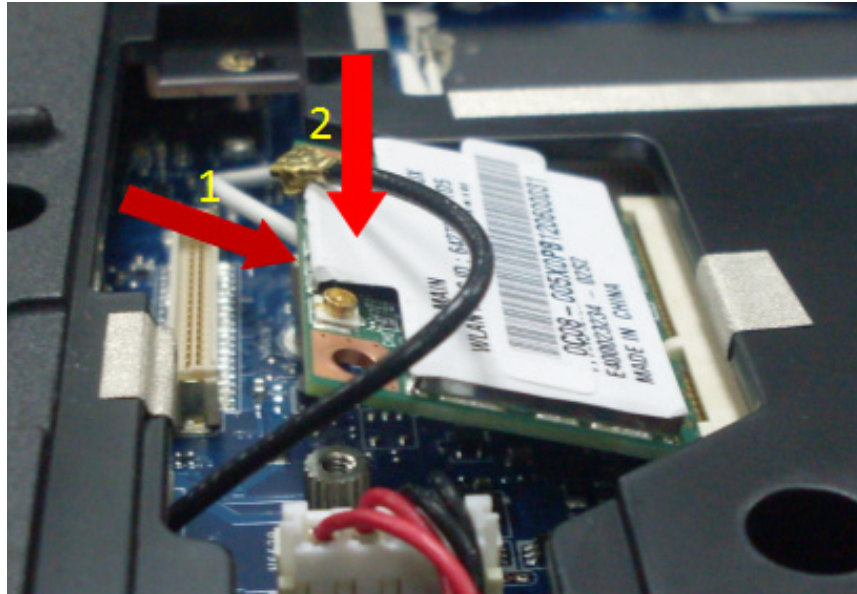



Figure 3-184. WLAN Card

2. Press down the WLAN card and consolidate it with 1 screw.



Figure 3-185. WLAN Card

Table 3-39. Screws

Step	Screw	Quantity	Screw Type
WLAN Card Assembly	M2*3	1	

3. Connect the antenna cables to the WLAN card.



Figure 3-186. WLAN Card

+ IMPORTANT:

The black cable connector is on the left and the white cable connector is on the right.

Replacing the HDD Module

1. Consolidate the HDD and HDD bracket with 4 screws.




Figure 3-187. HDD Bracket



Figure 3-188. HDD Bracket

Table 3-40. Screws

Step	Screw	Quantity	Screw Type
HDD Bracket Assembly	M3*3	4	

2. Place the HDD module into the left housing of bottom case.

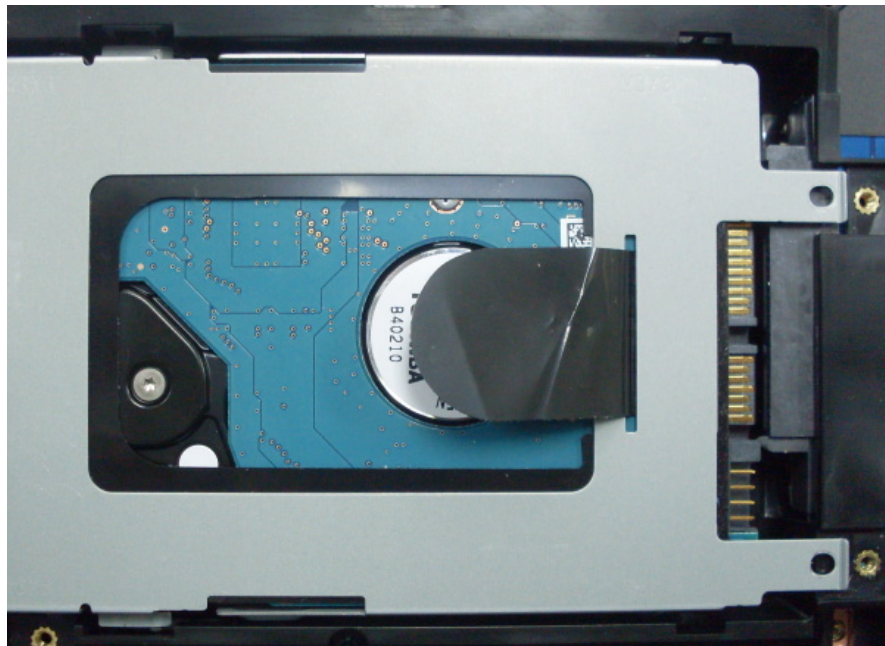


Figure 3-189. HDD Module

⇒ NOTE:

The left housing enables HDD with the height of 12.5 mm.

3. Pull the handling mylar right to connect the SATA power and data interface to the motherboard.




Figure 3-190. HDD Module

4. Consolidate the HDD module with 2 screws.



Figure 3-191. HDD Module

Table 3-41. Screws

Step	Screw	Quantity	Screw Type
HDD Module Assembly	M2*3	2	

5. Repeat the procedures above to assemble the second HDD module in the right housing of bottom case.

⇒ NOTE:

The right housing enables HDD with the height of 9.5 mm.

Replacing the DIMM Module

1. Insert one memory bar to the socket on motherboard with a 45-degree angle, press down the DIMM and release it three times for perfect contact of golden fingers.

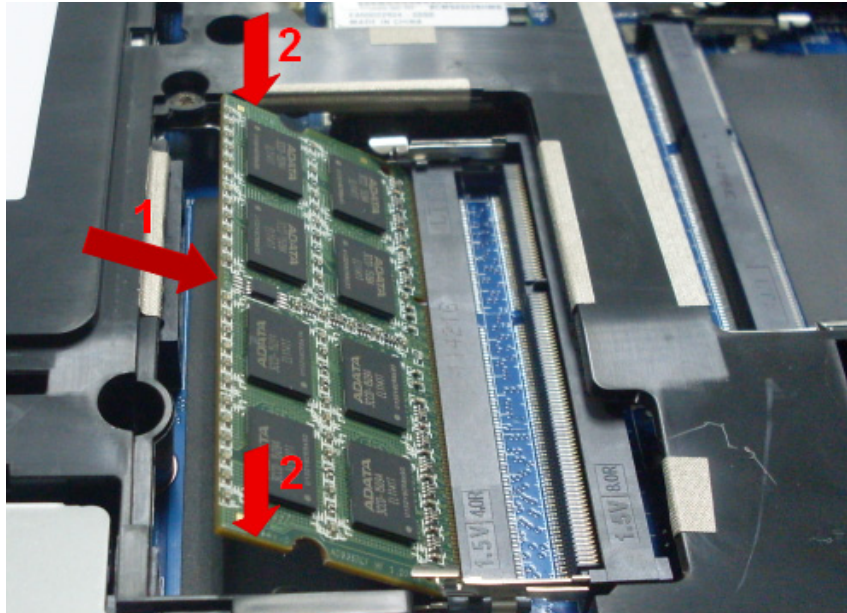


Figure 3-192. DIMM Module

2. Press down the DIMM until it clicks into the spring latches.

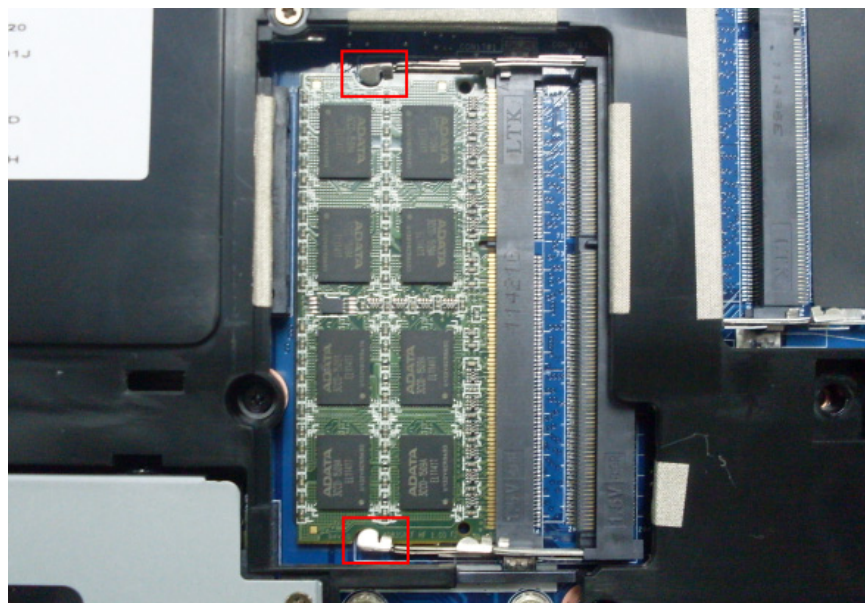


Figure 3-193. DIMM Module

3. Insert the other memory bar to the other socket on motherboard with a 45-degree angle, press down the DIMM and release it three times for perfect contact of golden fingers.

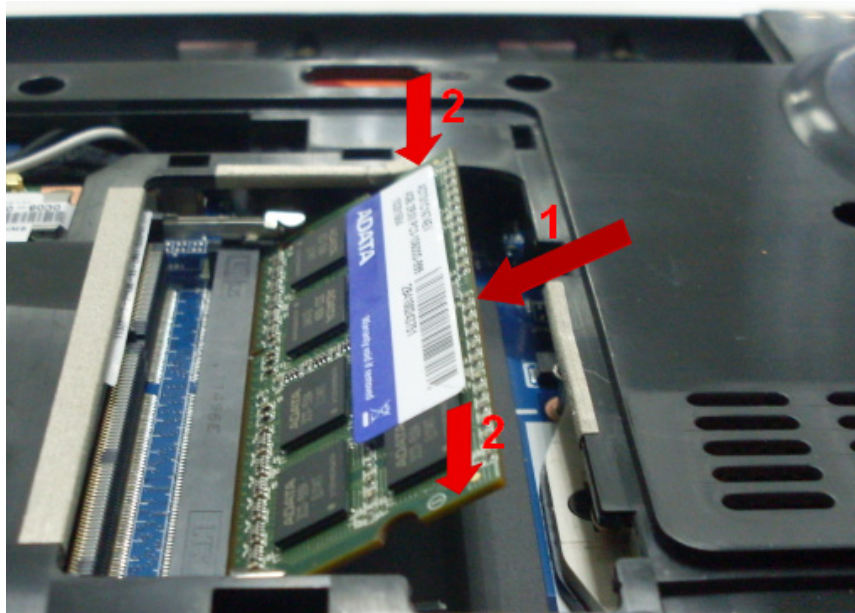


Figure 3-194. DIMM Module

4. Press down the DIMM until it clicks into the spring latches.

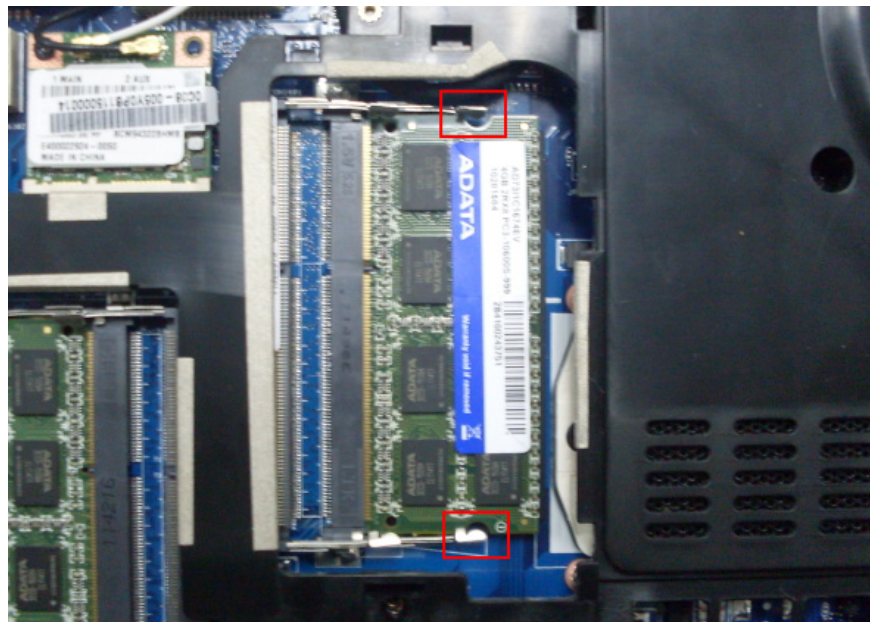


Figure 3-195. DIMM Module

Replacing the Main Door

1. Replace the bottom edge of main door first and press down the top edge.



Figure 3-196. Main Door

2. Tighten 9 captive screws to consolidate the main door and the bottom case.



Figure 3-197. Screws on Main Door

Replacing the Battery

1. Place the top edge of the battery to its housing, press down the bottom edge to lock the spring latch.

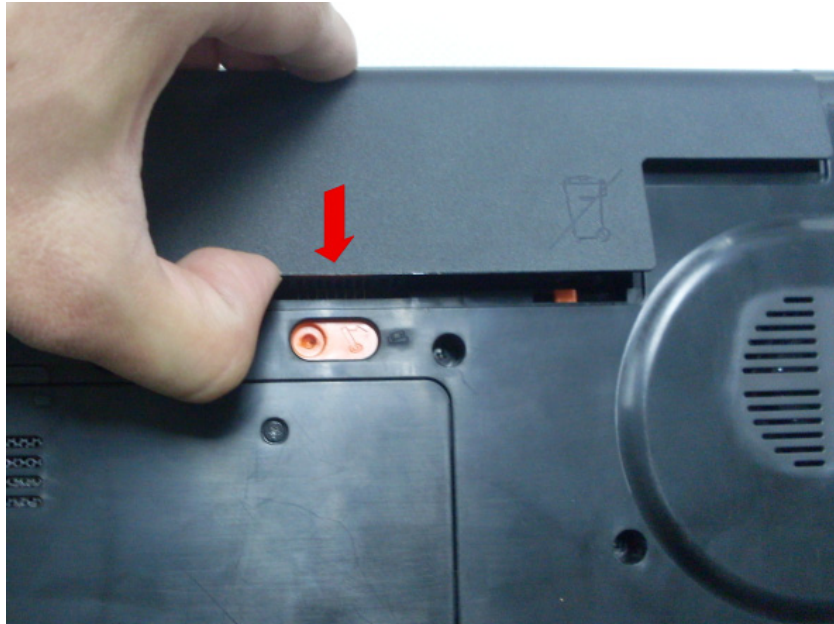


Figure 3-198. Battery



Figure 3-199. Battery

CHAPTER 4

Troubleshooting

Introduction	4-3
General Information	4-3
Power On Issues	4-4
No Display Issues	4-5
LCD Failure	4-7
Keyboard Failure	4-8
Touchpad Failure	4-9
Internal & External Speaker Failure	4-10
Microphone Failure	4-12
USB Failure	4-13
WLAN Failure	4-14
Card Reader Failure	4-15
Thermal Unit Failure	4-16
HDMI and CRT Failure	4-17
CD-ROM/DVD Failure	4-18
Other Functions Failure	4-19
Intermittent Problems	4-19
Undetermined Problems	4-19
Post Codes	4-20
POST Code Range	4-20

Troubleshooting

Introduction

This chapter contains information about troubleshooting common problems associated with the notebook.

General Information

The following procedures are a guide for troubleshooting computer problems. The step by step procedures are designed to be performed as described.

⇒ **NOTE:**

The diagnostic tests are intended for Acer products only. Non-Acer products, prototype cards, or modified options can give false errors and invalid system responses.

1. Obtain as much detailed information as possible about the problem.
2. If possible, verify the symptoms by re-creating the failure through diagnostic tests or repeating the operation that led to the problem.
3. Use Table 4-1 with the verified symptom to determine the solution.

Table 4-1. Common Problems

Symptoms (Verified)
Power On Issues
No Display Issues
LCD Failure
Keyboard Failure
Touchpad Failure
Internal & External Speaker Failure
Microphone Failure
USB Failure
WLAN Failure
Card Reader Failure
Thermal Unit Failure
HDMI and CRT Failure
CD-ROM/DVD Failure
Other Functions Failure
Intermittent Problems
Undetermined Problems

4. If the Issue is still not resolved, refer to [Online Support Information](#).

Power On Issues

If the system does not power on, perform the following, one at a time, to correct the problem. Do not replace a non-defective FRU:

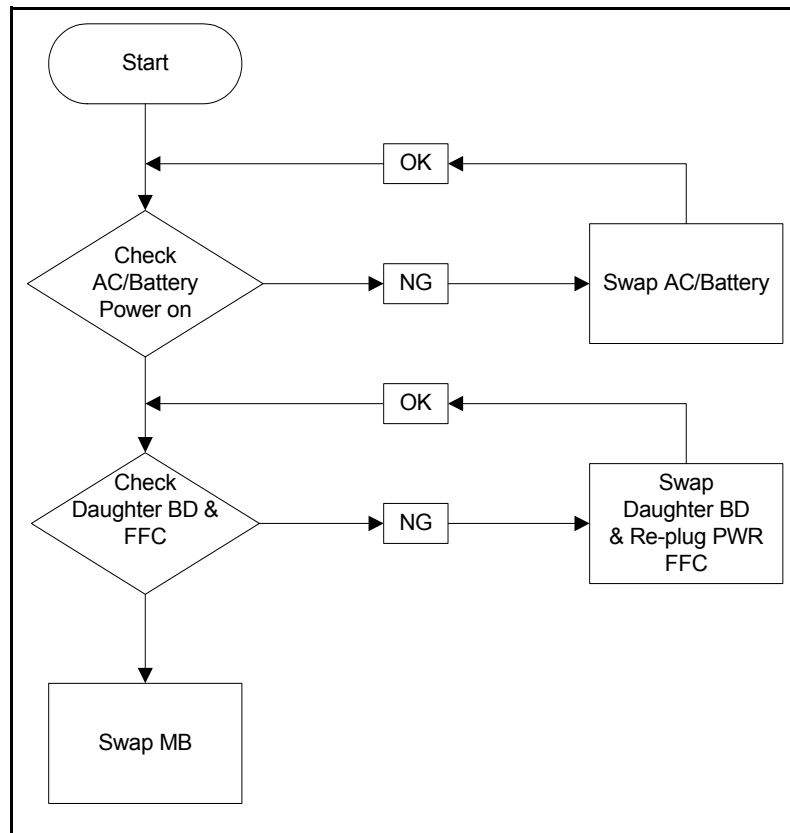


Figure 4-1. Power On Issue

Please wait for 3 min. after removing all power (AC adapter and Battery), then re-insert to try power on.

Computer Shuts Down Intermittently

If the system powers off at intervals, perform the following.

1. Make sure the power cable is properly connected to the computer and the electrical outlet.
2. Remove all extension cables between the computer and the outlet.
3. Remove all surge protectors between the computer and the electrical outlet. Plug the computer directly into a known serviceable electrical outlet.
4. Disconnect the power and open the casing to check the Thermal Unit (refer to Thermal Unit Failure) and fan airways are free of obstructions.
5. Remove all external and non-essential hardware connected to the computer that are not necessary to boot the computer to the failure point.
6. Remove any recently installed software.
7. If the Issue is still not resolved, refer to [Online Support Information](#).

No Display Issues

If the Display does not work, perform the following, one at a time. Do not replace a non-defective FRU:

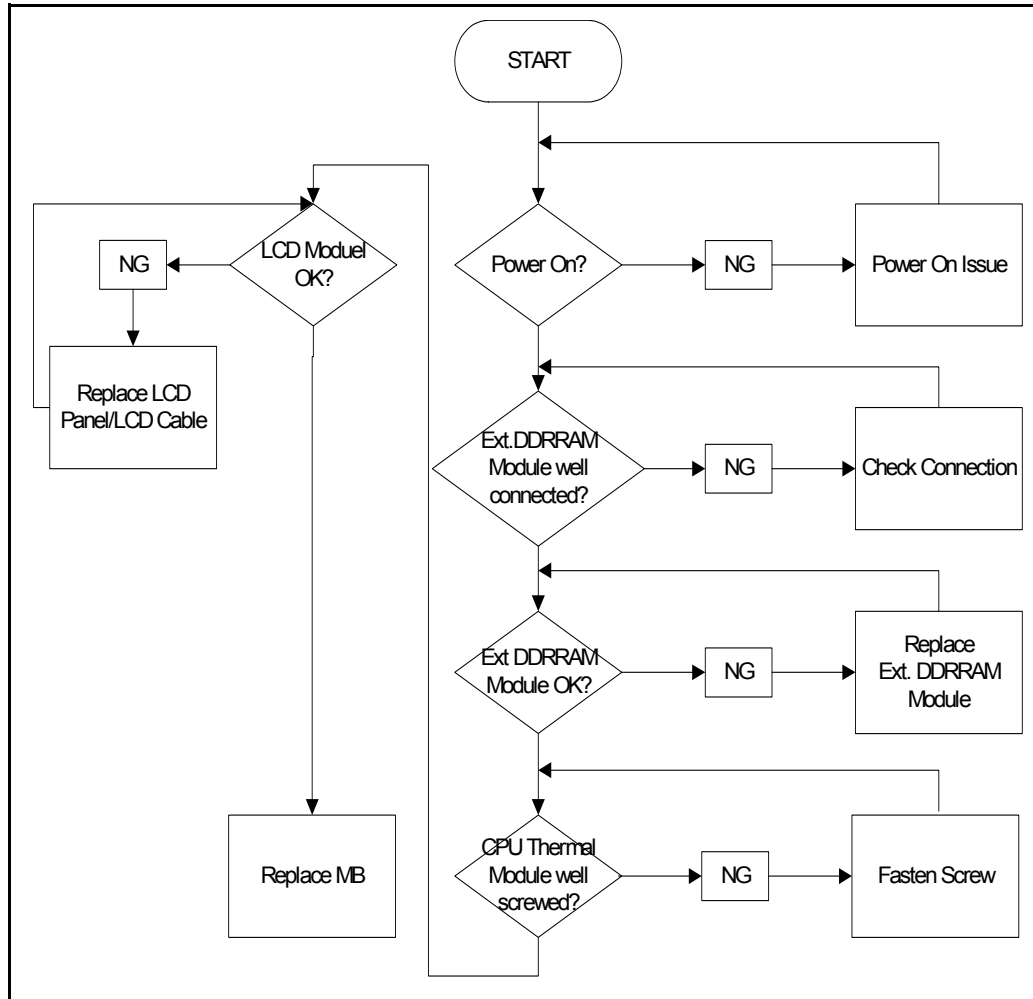


Figure 4-2. No Display Issue

No POST or Video

If the POST or video does not appear, perform the following, one at a time.

1. Make sure that internal display is selected. Switching between internal and external by pressing **Fn+F5**. Reference Product pages for specific model procedures.
2. Make sure the computer has power by checking for one of the following:

- Fans start up
- Status LEDs illuminate

If no power, refer to [Power On Issues](#).

3. Drain stored power by removing the power cable and battery. Hold the power button for 10 seconds.
4. Connect the power and reboot the computer.

5. Connect an external monitor to the computer and switch between the internal display and the external display is by pressing **Fn+F5**.
6. If the POST or video appears on the external display only, refer to [LCD Failure](#).
7. Disconnect power and all external devices including port replicators or docking stations. Remove any memory cards and CD/DVD discs.
8. Start the computer. If the computer boots correctly, add the devices one by one until the failure point is discovered.
9. Re-set the memory modules.
10. Remove the drives (refer to [Disassembly Process](#)).
11. If the Issue is still not resolved, refer to [Online Support Information](#).

Abnormal Video

If the video appears abnormal, perform the following, one at a time.

1. Boot the computer.
 - If permanent vertical/horizontal lines or dark spots appear in the same location, the LCD is faulty and should be replaced. Refer to [Disassembly Process](#).
 - If extensive pixel damage is present (different colored spots in the same locations on the screen), the LCD is faulty and should be replaced. Refer to [Disassembly Process](#).

⇒ NOTE:

Make sure that the computer is not running on battery alone as this may reduce display brightness.

2. Adjust the brightness to its highest level. Refer to the User Manual for instructions on adjusting the settings. If the display is too dim at the highest brightness setting, the LCD is faulty and should be replaced. Refer to [Disassembly Process](#).
3. Check the display resolution is correctly configured:
 - Minimize or close all Windows.
 - If display size is only abnormal in an application, check the view settings and control/mouse wheel zoom feature in the application.
 - If desktop display resolution is not normal, right-click on the desktop and select Personalize Display Settings.
 - Click and drag the Resolution slider to the desired resolution.
 - Click **Apply** and check the display. Readjust if necessary.
4. Roll back the video driver to the previous version if updated.
5. Remove and reinstall the video driver.
6. Check the Device Manager to determine that:
 - The device is properly installed. There are no red Xs or yellow exclamation marks
 - There are no device conflicts
 - No hardware is listed under Other Devices
7. If the Issue is still not resolved, refer to [Online Support Information](#).
8. Run the Windows Memory Diagnostic from the operating system DVD and follow the on-screen prompts.
9. If the Issue is still not resolved, refer to [Online Support Information](#).

LCD Failure

If the LCD fails, perform the following, one at a time. Do not replace a non-defective FRU:

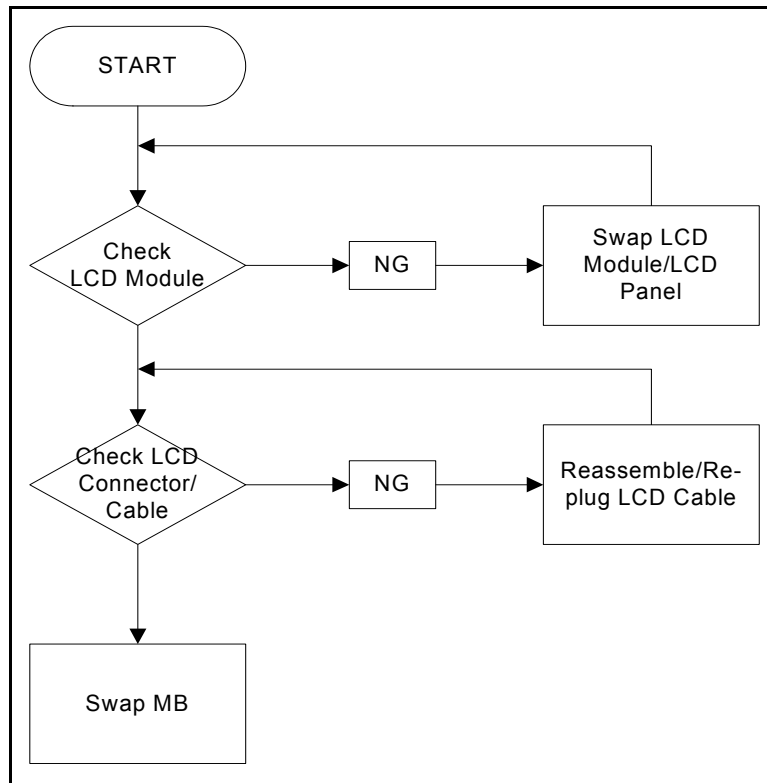


Figure 4-3. LCD Failure

Keyboard Failure

If the Keyboard fails, perform the following, one at a time. Do not replace a non-defective FRU:

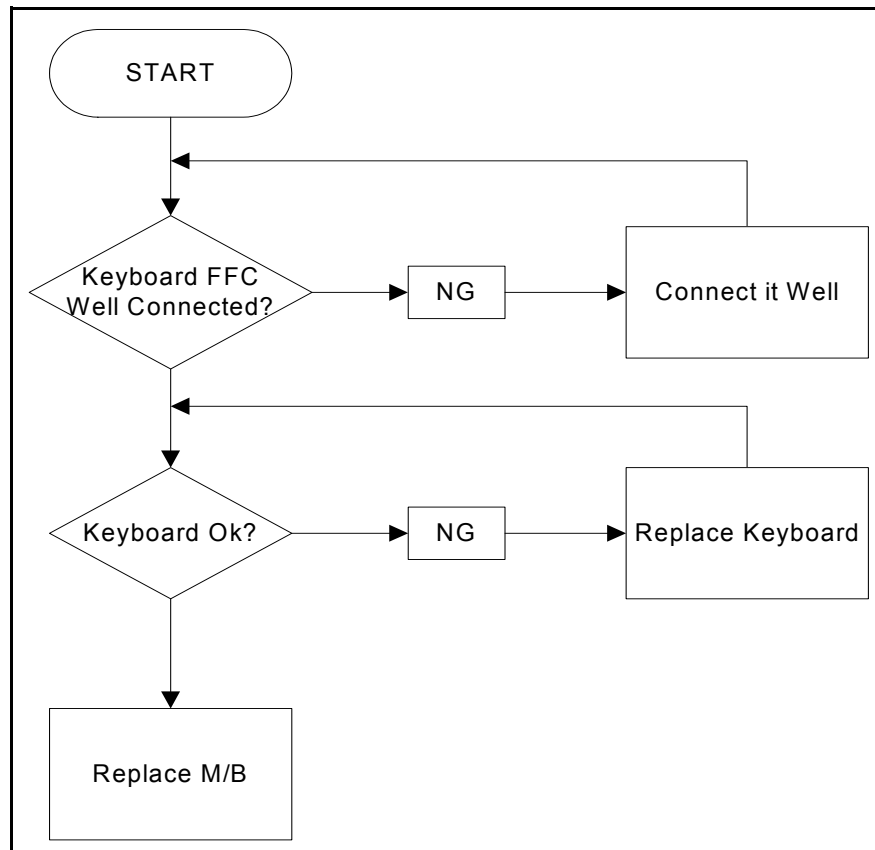


Figure 4-4. Keyboard Failure

Touchpad Failure

If the Touchpad fails, perform the following, one at a time. Do not replace a non-defective FRU:

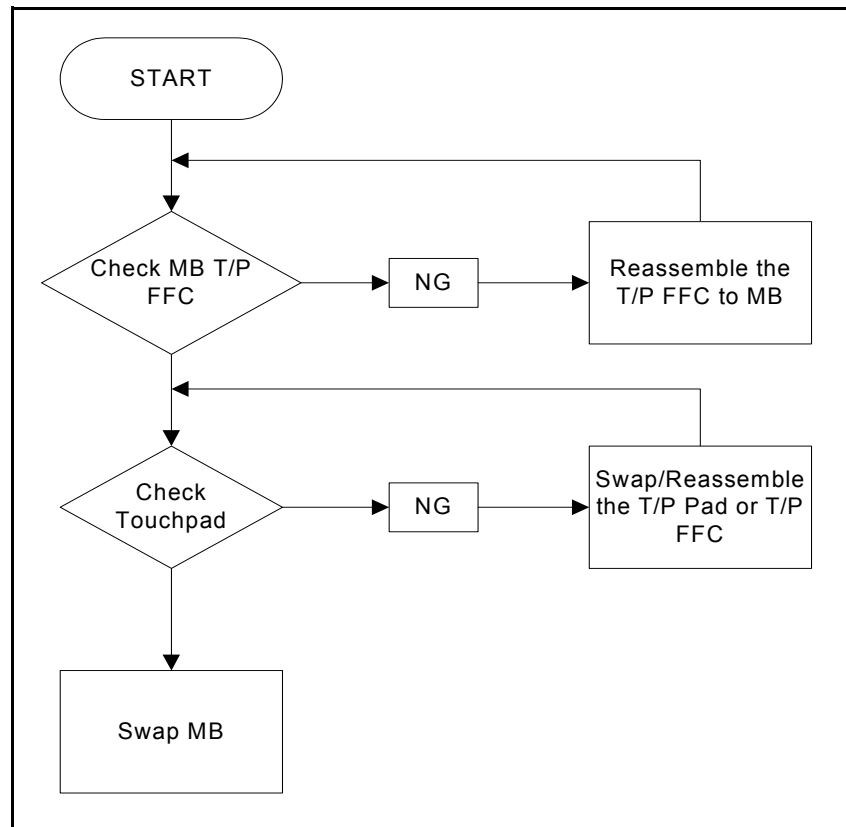


Figure 4-5. Touchpad Failure

Internal & External Speaker Failure

If internal Speakers fail, perform the following, one at a time. Do not replace a non-defective FRU:

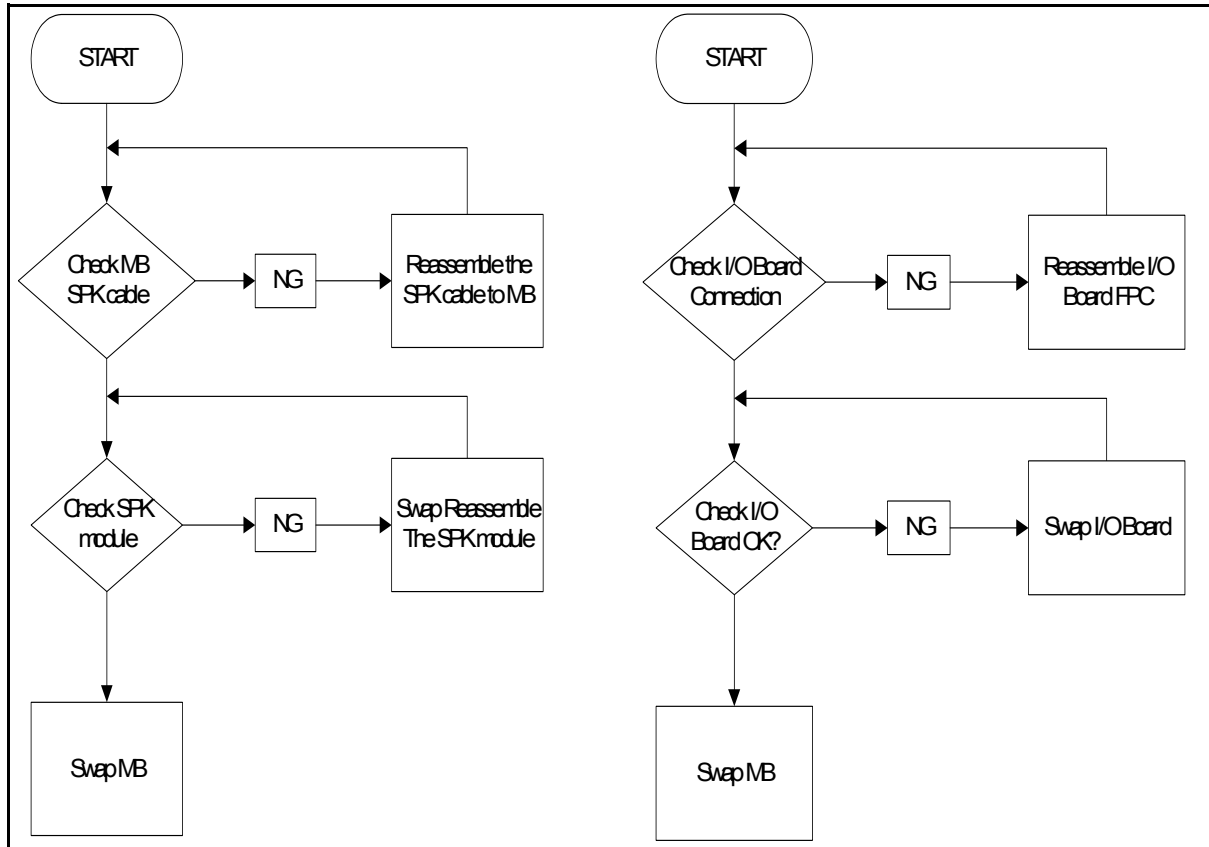


Figure 4-6. Internal Speaker Failure

Sound Problems

Perform the following, one at a time.

1. Boot the computer.
2. Navigate to *Start* → *Control Panel* → *System and Security* → *System* → *Device Manager*. Check the Device Manager to determine that:
 - The device is properly installed
 - There are no red X or yellow exclamation marks
 - There are no device conflicts
 - No hardware is listed under Other Devices
3. If updated recently, roll back the audio driver to the previous version.
4. Remove and reinstall the audio driver.
5. Make sure that all volume controls are set mid range:
 - Click the volume icon on the task bar
 - Drag the slider to 50. Confirm that the volume is not muted.

- Click Mixer to verify that other audio applications are set to 50 and not muted.
6. Navigate to *Start* → *Control Panel* → *Hardware and Sound* → *Sound*. Confirm that Speakers are selected as the default audio device (green check mark).

⇒ **NOTE:**

If Speakers do not show, right-click on the Playback tab and select Show Disabled Devices (clear by default).

7. Select Speakers and click Configure to start Speaker Setup. Follow the on-screen prompts to configure the speakers.
8. Remove any recently installed hardware or software.
9. Restore system and file settings from a known good date using System Restore.
10. If the issue is remains, repeat step 9, selecting an earlier time and date.
11. Reinstall the Operating System.
12. Connect a set of earphones or external speakers. If these function correctly, the internal speaker or I/O board may be defective. If they do not function correctly, the mother board may be defective or damaged.
13. If the Issue is still not resolved, refer to [Online Support Information](#).

Microphone Failure

If internal or external Microphones fail, perform the following, one at a time.

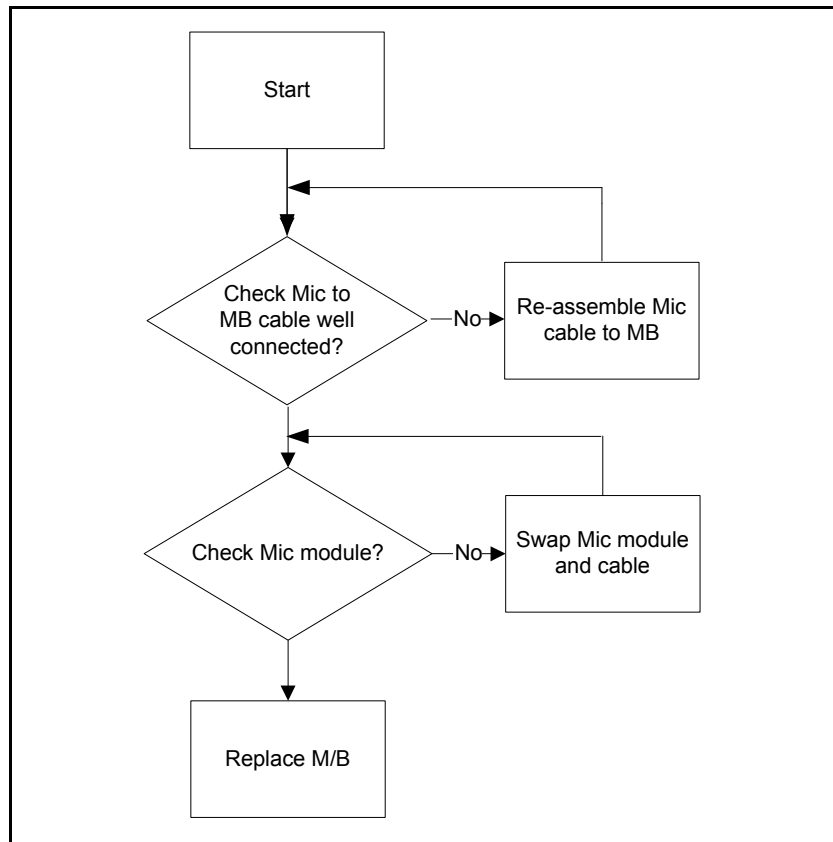


Figure 4-7. Microphone Failure

1. Check that the microphone is enabled. Navigate to *Start-> Control Panel->Hardware and Sound-> Sound* and select the Recording tab.
2. Right click on the Recording tab and select Show Disabled Devices (clear by default). The microphone appears on the Recording tab.
3. Right click on the microphone and select Enable.
4. Select the microphone then click Properties. Select the Levels tab.
5. Increase the volume to the maximum setting and click OK.
6. Test the microphone hardware:
 - Select the microphone and click Configure.
 - Select Set up microphone.
 - Select the microphone type from the list and click Next.
 - Follow the on-screen prompts to complete the test.
7. If the Issue is still not resolved, refer to [Online Support Information](#).

USB Failure

If the USB fails, perform the following, one at a time. Do not replace a non-defective FRU:

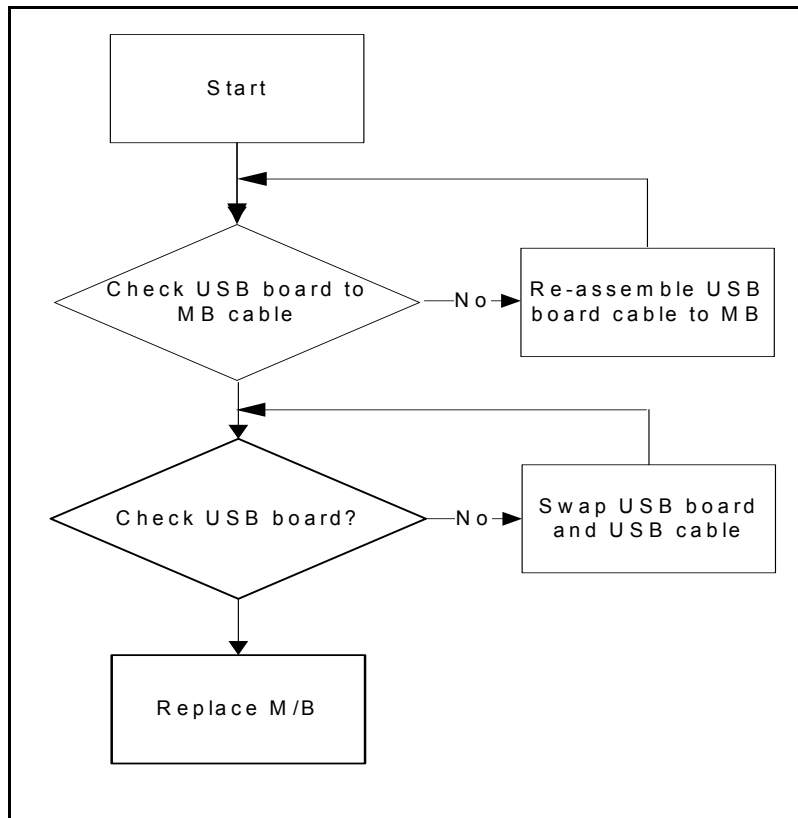


Figure 4-8. USB Failure.

WLAN Failure

If the WLAN fails, perform the following, one at a time. Do not replace a non-defective FRU:

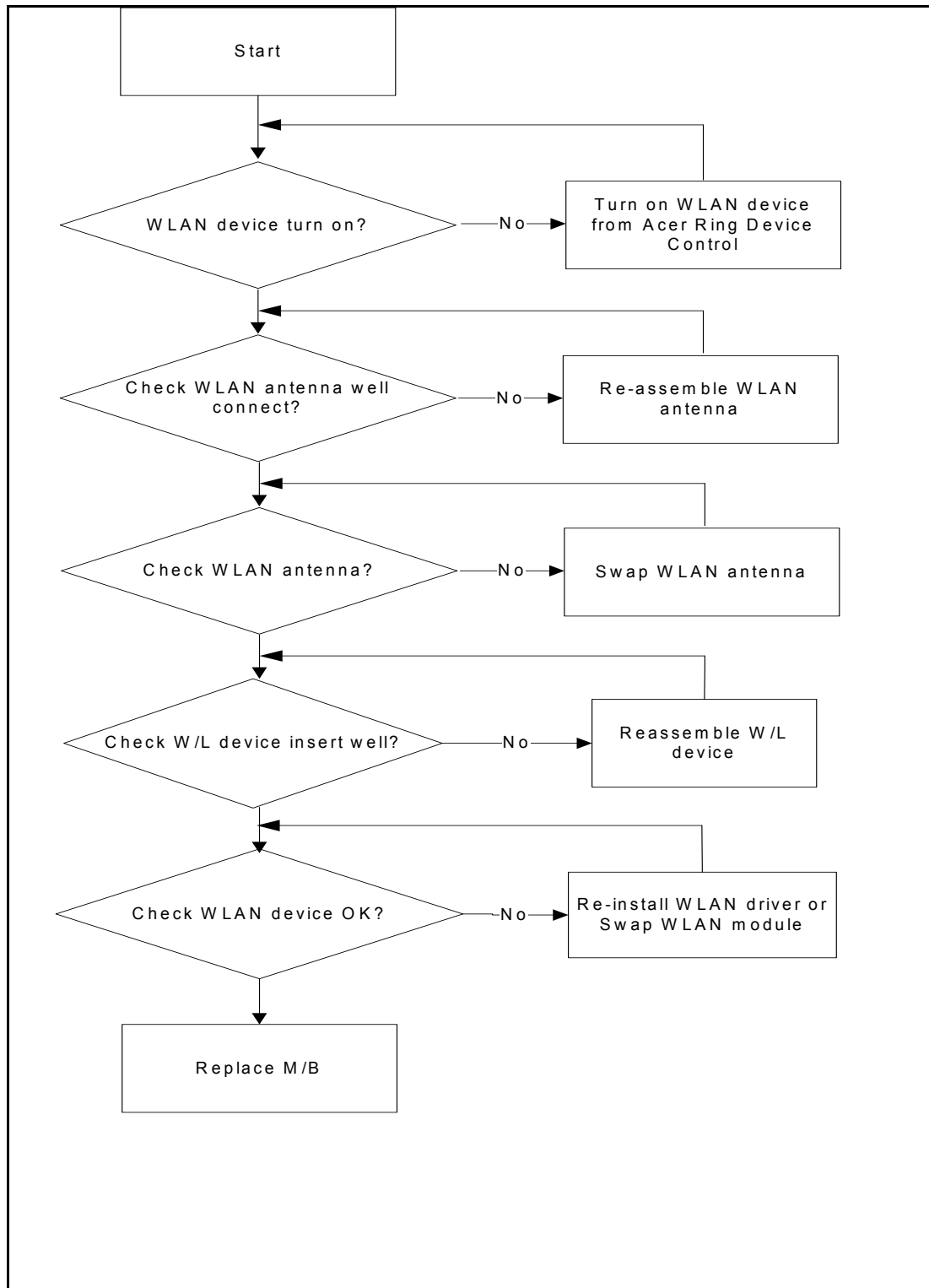


Figure 4-9. WLAN Failure

Card Reader Failure

If the Card Reader fails, perform the following, one at a time. Do not replace a non-defective FRU:

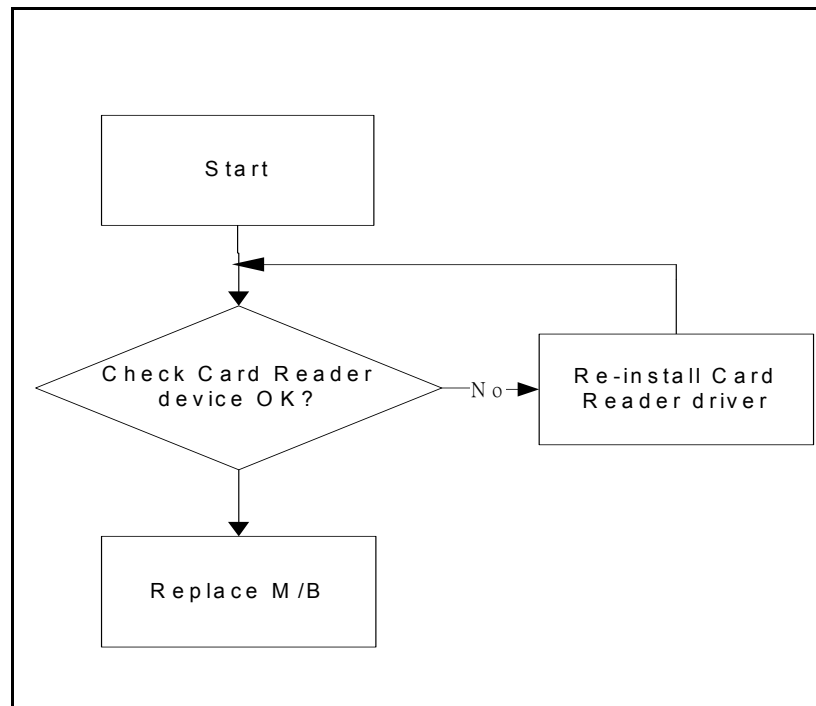


Figure 4-10. Card Reader Failure

The Card Reader device will disappear in device manager for power saving if there is no card inserted. Try to insert card, then the Card Reader appear in device manager.

Thermal Unit Failure

If the Thermal Unit fails, perform the following, one at a time. Do not replace a non-defective FRU:

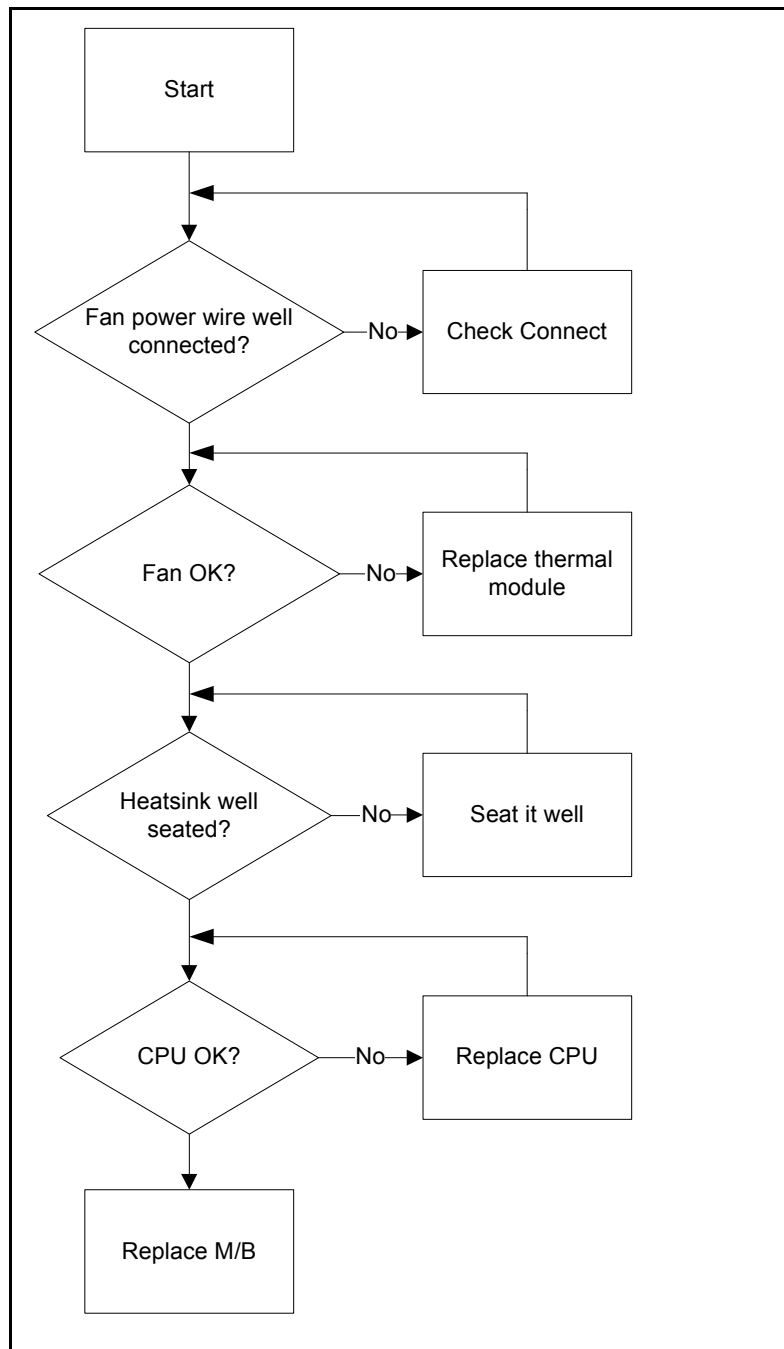


Figure 4-11. Thermal Unit Failure

HDMI and CRT Failure

If the HDMI or CRT function fails, perform the following, one at a time. Do not replace a non-defective FRU:

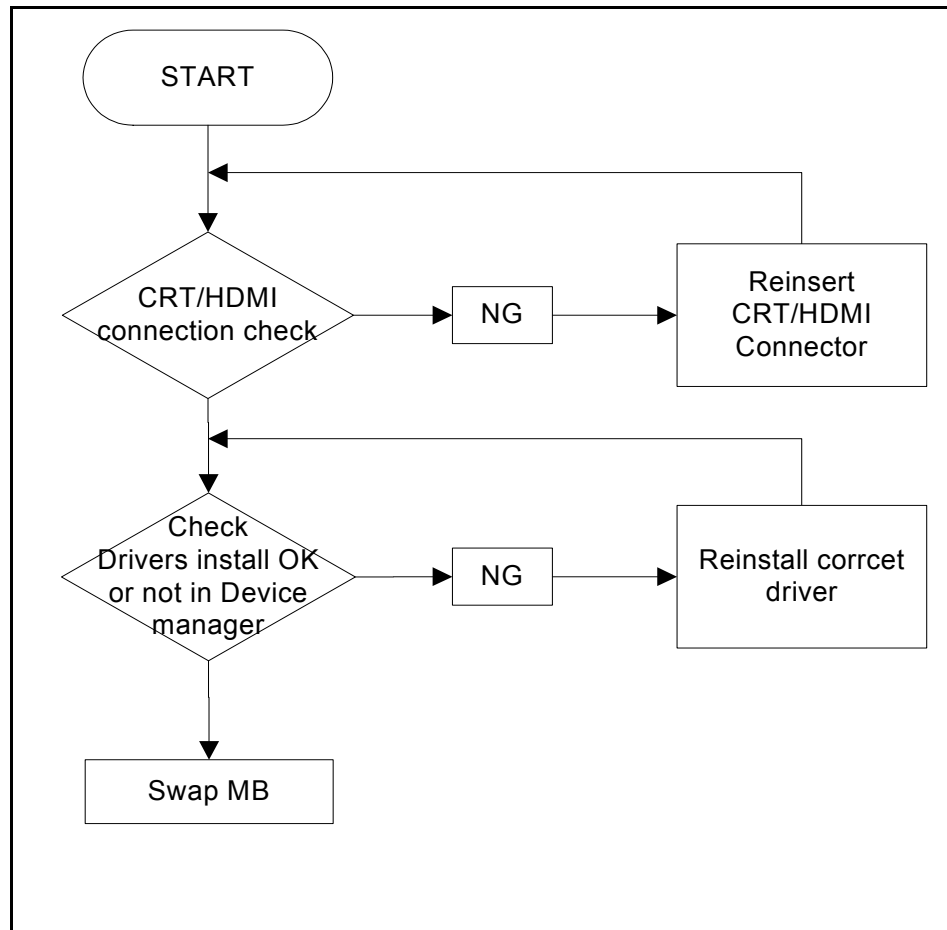


Figure 4-12. HDMI and CRT Failure

CD-ROM/DVD Failure

If the CD-ROM/DVD function fail, perform the following, one at a time. Do not replace a non-defective FRU:

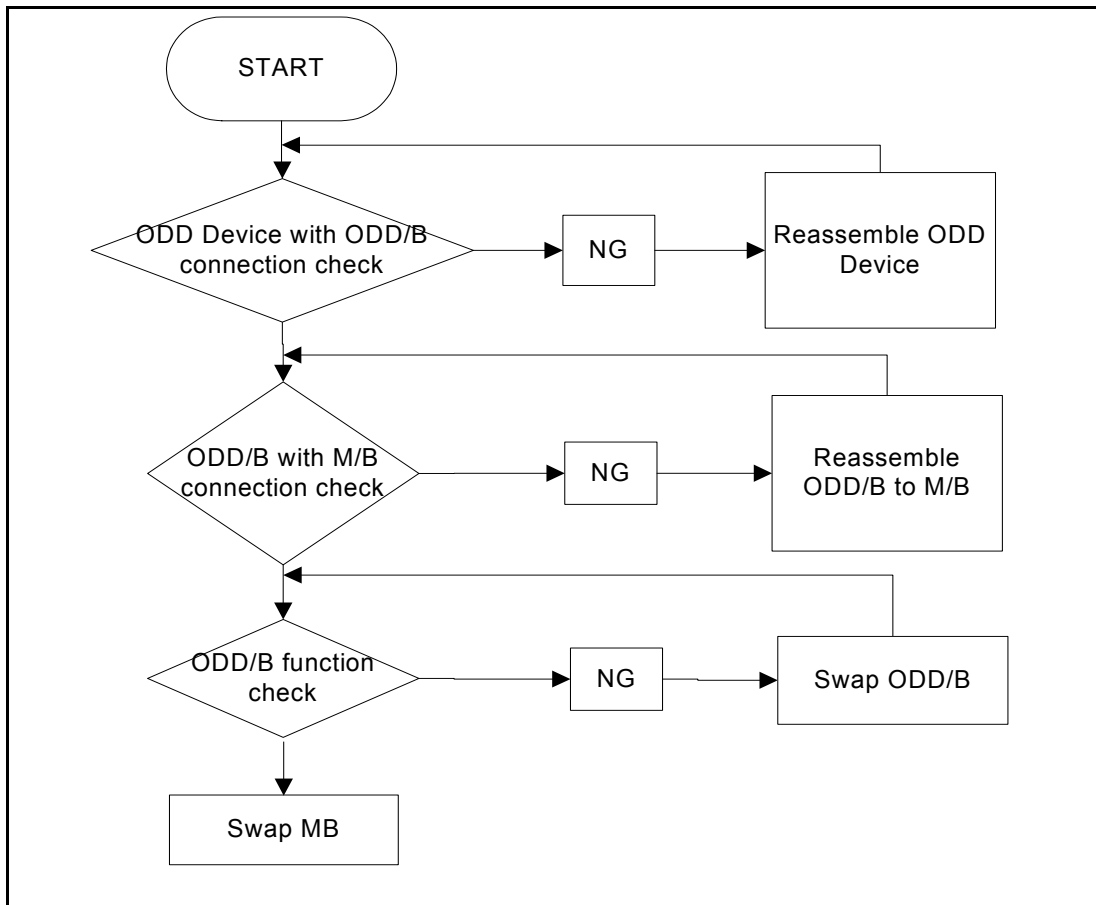


Figure 4-13. CD-ROM/DVD Failure

Other Functions Failure

1. Check if drives are functioning correctly.
2. Check if external modules are functioning correctly.
3. Change main board to check if current one is defective.

Intermittent Problems

Intermittent system hang problems can be caused by a variety of reasons that have nothing to do with a hardware defect, such as: cosmic radiation, electrostatic discharge, or software errors. FRU replacement should be considered only when a recurring problem exists.

When analyzing an intermittent problem, perform the following:

1. Run the advanced diagnostic test for the system board in loop mode at least 10 times.
2. If no error is detected, do not replace any FRU.
3. If an error is detected, replace the FRU. Rerun the test to verify that there are no more errors.

Undetermined Problems

The diagnostic problems does not identify which adapter or device failed, which installed devices are incorrect, whether a short circuit is suspected, or whether the system is inoperative.

Perform the following procedures to isolate the failing FRU (do not isolate non-defective FRU).

⇒ **NOTE:**

Verify that all attached devices are supported by the computer.

⇒ **NOTE:**

Verify that the power supply being used at the time of the failure is operating correctly. (Refer to [Power On Issues](#)).

1. Remove power from the computer.
2. Visually check the components for damage. If any problems are found, replace the FRU.
3. Remove or disconnect all of the following devices:
 - Non-Acer devices
 - Printer, mouse, and other external devices
 - Battery pack
 - Hard disk drive
 - DIMM
 - CD-ROM/Diskette drive Module
 - PC Cards
4. Apply power to the computer.
5. Determine if the problem has changed.
6. If the problem does not recur, connect the removed devices one at a time until failing FRU is found.
7. If the problem remains, replace the following FRUs one at a time. Do not replace a non-defective FRU:
 - System board
 - LCD assembly

Post Codes

The following are the InsydeH2O™ Functionality POST code tables. The components of the POST code table includes: SEC phase, PEI phase, DXE phase, BDS phase, CSM functions, S3 functions and ACPI functions.

POST Code Range

Table 4-2. POST Code Range

Phase	POST Code Range
SEC	0x01 - 0x0F
PEI	0x70 - 0x9F
DXE	0x40 - 0x6F
BDS	0x10 - 0x3F
SMM	0xA0 - 0xBF
S3	0xC0 - 0xCF
ASL	0x51 – 0x55 0xE1 – 0xE4
PostBDS	0xF9 – 0xFE
InsydeH2ODDT™ Reserve	0xD0 – 0xD7
OEM Reserve	0xE8 – 0xEB
Reserved	0xD8 – 0xE0 0xE5 – 0xE7 0xEC – 0xF8

Table 4-3. SEC Phase POST Code Table

Functionality Name (Include\ PostCode.h)	Phase	Post Code	Description
SEC_SYSTEM_POWER_ON	SEC	1	CPU power on and switch to Protected mode
SEC_BEFORE_MICROCODE_PATCH	SEC	2	Patching CPU microcode
SEC_AFTER_MICROCODE_PATCH	SEC	3	Setup Cache as RAM
SEC_ACCESS_CSR*	SEC	4	PCIE MMIO Base Address initial
SEC_GENERIC_MSRRINIT*	SEC	5	CPU Generic MSR initialization
SEC_CPU_SPEEDCFG*	SEC	6	Setup CPU speed

Table 4-3. SEC Phase POST Code Table (Continued)

Functionality Name (Include\ PostCode.h)	Phase	Post Code	Description
SEC_SETUP_CAR_OK	SEC	7	Cache as RAM test
SEC_FORCE_MAX_RATIO*	SEC	8	Tune CPU frequency ratio to maximum level
SEC_GO_TO_SECSTARTUP	SEC	9	Setup BIOS ROM cache
SEC_GO_TO_PEICORE	SEC	0A	Enter Boot Firmware Volume
* 3rd party relate functions – Platform dependence.			

Table 4-4. PEI Phase POST Code Table

Functionality Name (Include\ PostCode.h)	Phase	Post Code	Description
PEI_SIO_INIT	PEI	70	Super I/O Initialization
PEI_CPU_REG_INIT	PEI	71	CPU Early Initialization
PEI_CPU_AP_INIT*	PEI	72	Multi-processor Early Initial
PEI_CPU_HT_RESET*	PEI	73	HyperTransport Initialization
PEI_PCIE_MMIO_INIT	PEI	74	PCIE MMIO BAR Initialization
PEI_NB_REG_INIT	PEI	75	North Bridge Early Initialization
PEI_SB_REG_INIT	PEI	76	South Bridge Early Initialization
PEI_PCIE_TRAINING*	PEI	77	PCIE Training
PEI_TPM_INIT	PEI	78	TPM Initialization
PEI_SMBUS_INIT	PEI	79	SMBUS Early Initialization
PEI_PROGRAM_CLOCK_GEN	PEI	7A	Clock Generator Initialization
PEI_IGD_EARLY_INITIAL *	PEI	7B	Internal Graphic device early Initialization
PEI_HECI_INIT*	PEI	7C	HECI Initialization
PEI_WATCHDOG_INIT*	PEI	7D	Watchdog timer Initialization
PEI_MEMORY_INIT	PEI	7E	Memory Initial for Normal boot.
PEI_MEMORY_INIT_FOR_CRISIS	PEI	7F	Memory Initial for Crisis Recovery
PEI_MEMORY_INSTALL	PEI	80	Simple Memory test
PEI_TXTPEI*	PEI	81	TXT function early Initialization
PEI_SWITCH_STACK	PEI	82	Start to use Memory
PEI_MEMORY_CALLBACK	PEI	83	Set cache for physical memory

Table 4-4. PEI Phase POST Code Table

Functionality Name (Include\ PostCode.h)	Phase	Post Code	Description
PEI_ENTER_RECOVERY_MODE	PEI	84	Recovery device Initialization
PEI_RECOVERY_MEDIA_FOUND	PEI	85	Found Recovery image
PEI_RECOVERY_MEDIA_NOT_FOUND	PEI	86	Recovery image not found
PEI_RECOVERY_LOAD_FILE_DONE	PEI	87	Load Recovery Image completed
PEI_RECOVERY_START_FLASH	PEI	88	Start Flash BIOS with Recovery image
PEI_ENTER_DXEIPL	PEI	89	Loading BIOS image to RAM
PEI_FINDING_DXE_CORE	PEI	8A	Loading DXE core
PEI_GO_TO_DXE_CORE	PEI	8B	Enter DXE core
* 3rd party relate functions – Platform dependence.			

Table 4-5. DXE Phase POST Code Table

Functionality Name (Include\ PostCode.h)	Phase	Post Code	Description
DXE_TCGDXE*	DXE	40	TPM initial in DXE
DXE_SB_SPI_INIT*	DXE	41	South bridge SPI initialization
DXE_CF9_RESET*	DXE	42	Setup Reset service
DXE_SB_SERIAL_GPIO_INIT*	DXE	43	South bridge Serial GPIO initialization
DXE_SMMACCESS*	DXE	44	Setup SMM ACCE SS service
DXE_SIO_INIT*	DXE	46	Super I/O DXE initialization
DXE_LEGACY_REGION*	DXE	47	Setup Legacy Region service
DXE_SB_INIT*	DXE	48	South Bridge Middle initialization
DXE_IDENTIFY_FLASH_DEVICE*	DXE	49	Identify Flash device
DXE_FTW_INIT	DXE	4A	Fault Tolerant Write verification
DXE_VARIABLE_INIT	DXE	4B	Variable Service initialization
DXE_VARIABLE_INIT_FAIL	DXE	4C	Fail to initial Variable Service
DXE_MTC_INIT	DXE	4D	MTC Initial
DXE_CPU_INIT	DXE	4E	CPU Middle Initialization
DXE_MP_CPU_INIT	DXE	4F	Multi-processor MiddleInitialization
DXE_SMBUS_INIT	DXE	50	SMBUS Driver Initialization

Table 4-5. DXE Phase POST Code Table

Functionality Name (Include\ PostCode.h)	Phase	Post Code	Description
DXE_SMART_TIMER_INIT	DXE	51	8259 Initialization
DXE_PCRTC_INIT	DXE	52	RTC Initialization
DXE_SATA_INIT*	DXE	53	SATA Controller earlyInitialization
DXE_SMM_CONTROLER_INIT*	DXE	54	Setup SMM Control service
DXE_LEGACY_INTERRUPT*	DXE	55	Setup Legacy Interrupt service
DXE_RELOCATE_SMBASE	DXE	56	Relocate SMM BASE
DXE_FIRST_SMI	DXE	57	SMI test
DXE_VTD_INIT*	DXE	58	VTD Initial
DXE_BEFORE_CSM16_INIT	DXE	59	Legacy BIOS Initialization
DXE_AFTER_CSM16_INIT	DXE	5A	Legacy interrupt function Initialization
DXE_LOAD_ACPI_TABLE	DXE	5B	ACPI Table Initialization
DXE_SB_DISPATCH*	DXE	5C	Setup SB SMM Dispatcher service
DXE_SB_IOTRAP_INIT*	DXE	5D	Setup SB IOTRAP Service
DXE_SUBCLASS_DRIVER*	DXE	5E	Build AMT Table
DXE_PPM_INIT*	DXE	5F	PPM Initialization
DXE_HECIDRV_INIT*	DXE	60	HECIDRV Initialization
* 3rd party relate functions – Platform dependence.			

Table 4-6. BDS Phase POST Code Table

Functionality Name (Include\ PostCode.h)	Phase	Post Code	Description
BDS_ENTER_BDS	BDS	10	Enter BDS entry
BDS_INSTALL_HOTKEY	BDS	11	Install Hotkey service
BDS_ASF_INIT*	BDS	12	ASF Initialization
BDS_PCI_ENUMERATION_START	BDS	13	PCI enumeration
BDS_BEFORE_PCIIO_INSTALL	BDS	14	PCI resource assign complete
BDS_PCI_ENUMERATION_END	BDS	15	PCI enumeration complete
BDS_CONNECT_CONSOLE_IN	BDS	16	Keyboard Controller, keyboard and mouse initialization
BDS_CONNECT_CONSOLE_OUT	BDS	17	Video device initialization

Table 4-6. BDS Phase POST Code Table

Functionality Name (Include\ PostCode.h)	Phase	Post Code	Description
BDS_CONNECT_STD_ERR	BDS	18	Error report device initialization
BDS_CONNECT_USB_HC	BDS	19	USB host controller initialization
BDS_CONNECT_USB_BUS	BDS	1A	USB BUS driver initialization
BDS_CONNECT_USB_DEVICE	BDS	1B	USB device driver initialization
BDS_NO_CONSOLE_ACTION	BDS	1C	Console device initial fail
BDS_DISPLAY_LOGO_SYSTEM_INFO	BDS	1D	Display logo or system information
BDS_START_IDE_CONTROLLER	BDS	1E	IDE controller initialization
BDS_START_SATA_CONTROLLER	BDS	1F	SATA controller initialization
BDS_START_ISA_ACPI_CONTROLLER	BDS	20	SIO controller initialization
BDS_START_ISA_BUS	BDS	21	ISA BUS driver initialization
BDS_START_ISA_FDD	BDS	22	Floppy device initialization
BDS_START_ISA_SEIRAL	BDS	23	Serial device initialization
BDS_START_IDE_BUS	BDS	24	IDE device initialization
BDS_START_AHCI_BUS	BDS	25	AHCI device initialization
BDS_CONNECT_LEGACY_ROM	BDS	26	Dispatch option ROMs
BDS_ENUMERATE_ALL_BOOT_OPTION	BDS	27	Get boot device information
BDS_END_OF_BOOT_SELECTION	BDS	28	End of boot selection
BDS_ENTER_SETUP	BDS	29	Enter Setup Menu
BDS_ENTER_BOOT_MANAGER	BDS	2A	Enter Boot manager
BDS_BOOT_DEVICE_SELECT	BDS	2B	Try to boot system to OS
BDS_EFI64_SHADOW_ALL_LEGACY_ROM	BDS	2C	Shadow Misc Option ROM
BDS_ACPI_S3SAVE	BDS	2D	Save S3 resume required data in RAM
BDS_READY_TO_BOOT_EVENT	BDS	2E	Last Chipset initial before boot to OS
BDS_GO_LEGACY_BOOT	BDS	2F	Start to boot Legacy OS
BDS_GO_UEFI_BOOT	BDS	30	Start to boot UEFI OS
BDS_LEGACY16_PREPARE_TO_BOOT	BDS	31	Prepare to Boot to Legacy OS
BDS_EXIT_BOOT_SERVICES*	BDS	32	Send END of POST Message to ME via HECI

Table 4-6. BDS Phase POST Code Table

Functionality Name (Include\ PostCode.h)	Phase	Post Code	Description
BDS_LEGACY_BOOT_EVENT	BDS	33	Last Chipset initial before boot to Legacy OS.
BDS_ENTER_LEGACY_16_BOOT	BDS	34	Ready to Boot Legacy OS.
BDS_RECOVERY_START_FLASH	BDS	35	Fast Recovery Start Flash.
* 3rd party relate functions – Platform dependence.			

Table 4-7. S3 Function POST Code Table

Functionality Name (Include\ PostCode.h)	Phase	Post Code	Description
S3_RESTORE_MEMORY_CONTROLLER	PEI	C0	Memory initial for S3 resume
S3_INSTALL_S3_MEMORY	PEI	C1	Get S3 resume required data from memory
S3_SWITCH_STACK	PEI	C2	Start to use memory during S3 resume
S3_MEMORY_CALLBACK	PEI	C3	Set cache for physical memory during S3 resume
S3_ENTER_S3_RESUME_PEIM	PEI	C4	Start to restore system configuration
S3_BEFORE_ACPI_BOOT_SCRIPT	PEI	C5	Restore system configuration stage1
S3_BEFORE_RUNTIME_BOOT_SCRIPT	PEI	C6	Restore system configuration stage2
S3_BEFORE_RELOCATE_SMM_BASE	PEI	C7	Relocate SMM BASE during S3 resume
S3_BEFORE_MP_INIT	PEI	C8	Multi-processor initial during S3 resume
S3_BEFORE_RESTORE_ACPI_CALLBACK	PEI	C9	Start to restore system configuration in SMM
S3_AFTER_RESTORE_ACPI_CALLBACK	PEI	CA	Restore system configuration in SMM complete
S3_GO_TO_FACS_WAKING_VECTOR	PEI	CB	Back to OS

Table 4-8. ACPI Function POST Table

Functionality Name (Include\ PostCode.h)	Phase	Post Code	Description
ASL_ENTER_S1	ASL	51	Prepare to enter S1
ASL_ENTER_S3	ASL	53	Prepare to enter S3
ASL_ENTER_S4	ASL	54	Prepare to enter S4
ASL_ENTER_S5	ASL	55	Prepare to enter S5
ASL_WAKEUP_S1	ASL	E1	System wakeup from S1
ASL_WAKEUP_S3	ASL	E3	System wakeup from S3
ASL_WAKEUP_S4	ASL	E4	System wakeup from S4

Table 4-9. SMM Functions POST Code Table

Functionality Name (Include\ PostCode.h)	Phase	Post Code	Description
SMM_IDENTIFY_FLASH_DEVICE	SMM	0xA0	Identify Flash device in SMM
SMM_SMM_PLATFORM_INIT	SMM	0xA2	SMM service initial
SMM_ACPI_ENABLE_START	SMM	0xA6	OS call ACPI enable function
SMM_ACPI_ENABLE_END	SMM	0xA7	ACPI enable function complete
SMM_S1_SLEEP_CALLBACK	SMM	0xA1	Enter S1
SMM_S3_SLEEP_CALLBACK	SMM	0xA3	Enter S3
SMM_S4_SLEEP_CALLBACK	SMM	0xA4	Enter S4
SMM_S5_SLEEP_CALLBACK	SMM	0xA5	Enter S5
SMM_ACPI_DISABLE_START	SMM	0xA8	OS call ACPI disable function
SMM_ACPI_DISABLE_END	SMM	0xA9	ACPI disable function complete

Table 4-10. InsydeH2ODDT Debugger POST Code Table

Functionality Name (Include\ PostCode.h)	Post Code	Description
Used by Insyde debugger	0x0D	Waiting for device connect
Used by Insyde debugger	0xD0	Waiting for device connect
Used by Insyde debugger	0xD1	InsydeH2ODDT Ready
Used by Insyde debugger	0xD2	EHCI not found

Table 4-10. InsydeH2ODDT Debugger POST Code Table (Continued)

Functionality Name (Include\ PostCode.h)	Post Code	Description
Used by Insyde debugger	0xD3	Debug port connect low speed device
Used by Insyde debugger	0xD4	DDT Cable become low speed device
Used by Insyde debugger	0xD5	DDT Cable Transmission Error (Get descriptor fail)
Used by Insyde debugger	0xD6	DDT Cable Transmission Error (Set Debug mode fail)
Used by Insyde debugger	0xD7	DDT Cable Transmission Error (Set address fail)

CHAPTER 5

Jumper and Connector Locations

Clearing Password Check and BIOS Recovery	5-6
Clearing Password Check	5-6
Clear CMOS Jumper	5-7
BIOS Recovery by Crisis Disk.	5-7

Jumper and Connector Locations

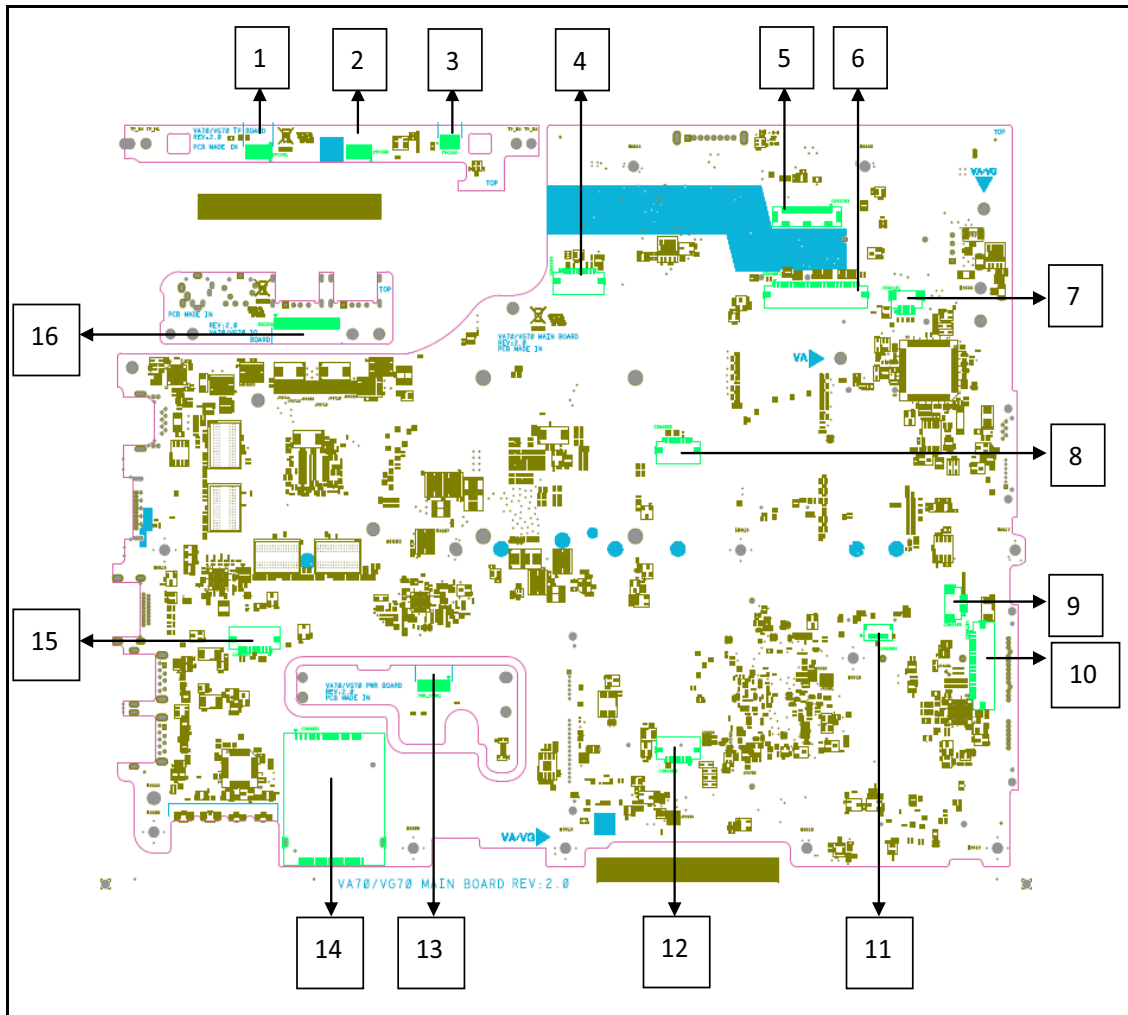


Figure 5-1. Mainboard Top

Table 5-1. Mainboard Top

Item	Connector	Description
1	TPCON1	TP BTN Board connector
2	TPCON3	TP BTN Board connector
3	TPCON2	TP BTN Board connector
4	CON6503	Power board MB connector
5	CON3703	eDP connector
6	CON4801	Keyboard connector
7	CON4101	AUDIO connector
8	CON4802	Touch Pad Button connector

Table 5-1. Mainboard Top

Item	Connector	Description
9	CON4102	AUDIO connector
10	CON6104	IO Board connector
11	CON6502	DEBUG Card connector
12	CON4803	Touch Pad Button connector
13	PWR_CON01	Power board IO connector
14	CON4001	Card Reader connector
15	CON6504	Power board MB connector
16	IOCON5	IO board connector

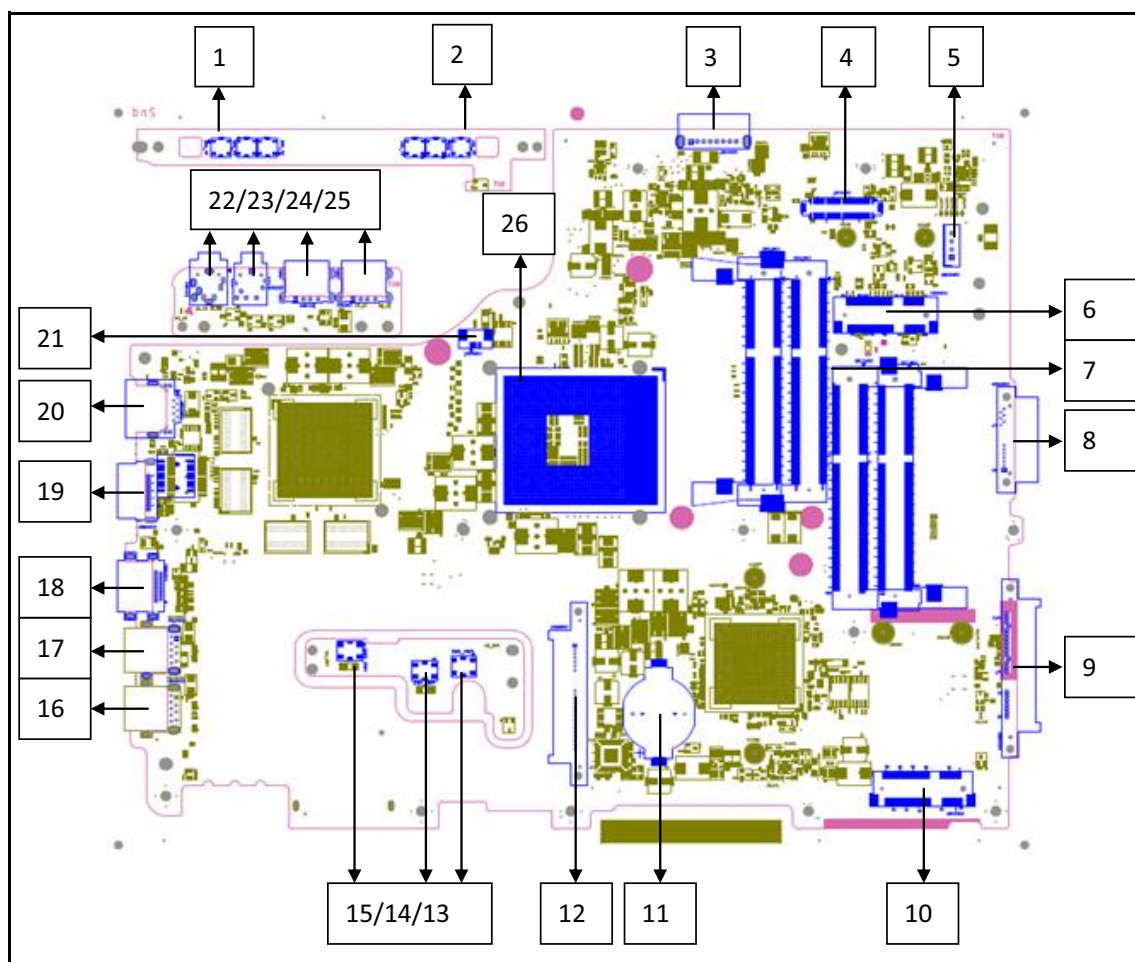


Figure 5-2. Mainboard Bottom

Table 5-2. Mainboard Bottom

Item	Connector	Description
1	TP_SW5/TP_SW3/TP_SW2	TP BTN board switch
2	TP_SW4/TP_SW6/TP_SW1	TP BTN board switch
3	CON6301	DC-IN connector
4	CON3701	LVDS connector
5	CON6302	AC Power cable connector
6	CON5501	WiFi/WiMAX connector
7	CON1601/CON1602 CON1701/CON1702	DDR3-SO-DIMMN Connector
8	CON6603	ODD Connector
9	CON6602	HDD Connector
10	CON5301	PCIE/mSATA Connector
11	J2001	RTC Battery Connector
12	CON6001	HDD Connector
13/14/15	PWR_SW2/PWR_SW3 PWR_SW01	WLAN Switch Connector/Power Switch Connector/Power Switch Connector
16	CON6101	USB3.0 Connector
17	CON6105	USB3.0 Connector
18	CON3901	HDMI Connector
19	CON3801	VGA Connector
20	CON3401	LAN Connector
21	CON4901	Fan Connector
22/23	IOCON6/IOCON2	Headphone JACK/ MIC JACK
24/25	IOCON3/IOCON4	USB2.0 Connector
26	U0301	CPU Connector

Clearing Password Check and BIOS Recovery

This section provides procedures for:

Clearing Passwords

BIOS Recovery.

This Machine has one Hardware Open Gap on the main board for clearing password check and one Hotkey for enabling BIOS Recovery.

Clearing Password Check

⇒ NOTE:

The following procedure is only for clearing BIOS Password (Supervisor Password and User Password).

Steps for Clearing BIOS Password Check

If users set BIOS Passwords (Supervisor Password and/or User Password) for a security reason, BIOS will ask the password during systems POST or when system enters the BIOS Setup menu. If it is necessary to bypass the password check, short the HW Gap to clear the password by performing the following steps:

1. Remove power from the system.
2. Remove HDD, AC and Battery.
3. Disconnect the RTC Battery (Figure 5-3).

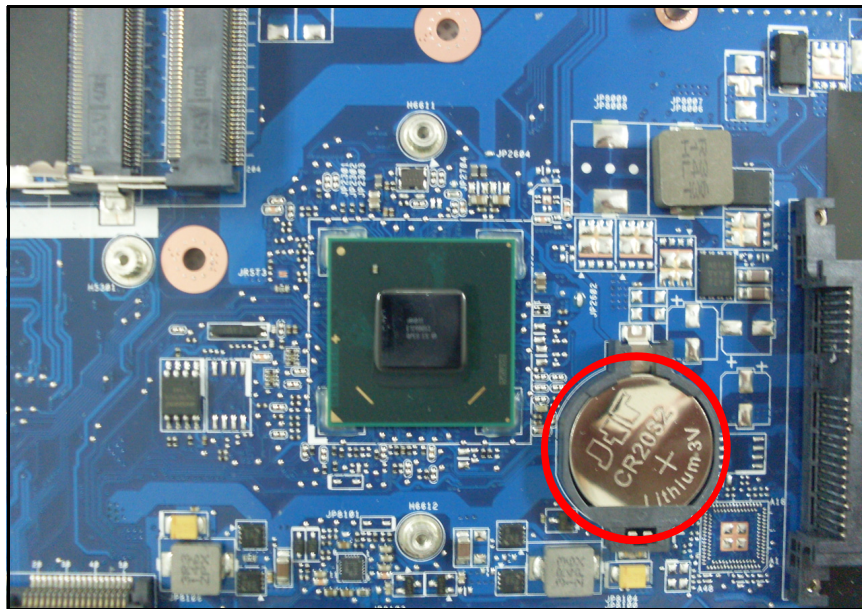


Figure 5-3. RTC Battery

4. Locate the RTCRST# jumper.
5. Use an electric conductivity tool to short the two points of the RTCRST# jumper.
6. Plug in AC, keeping the RTCRST# jumper shorted.

7. Press *Power Button* until BIOS POST is finished, then remove the conductivity tool from the RTCRST# jumper.
8. Restart the system. Press **F2** to enter BIOS Setup menu.
9. If there is no Password request, BIOS Password is cleared.
10. If a password is requested, repeat Steps 1 through 9.

Clear CMOS Jumper

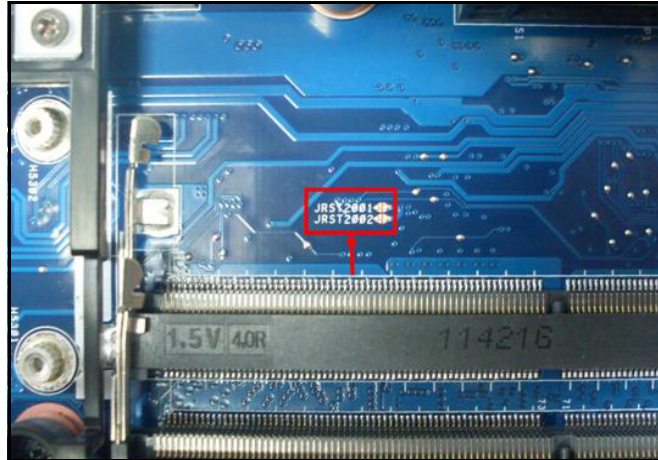


Figure 5-4. CMOS Jumper

Table 5-3. CMOS Jumper

Item	Description
RTCRST#	Clear CMOS Jumper

BIOS Recovery by Crisis Disk

BIOS Recovery Boot Block

BIOS Recovery Boot Block is a special block of BIOS, used to boot the system with minimum BIOS initialization. Users can enable this feature to restore the BIOS firmware once the previous BIOS flashing process failed.

BIOS Recovery Hotkey

A function hotkey- **<Fn+Esc>**, used to enable the BIOS Recovery process when system is powered On during BIOS POST. To use this function, it is strongly recommended to have the AC adapter and Battery present. If this function is enabled, the system will force the BIOS to enter a special BIOS block, called Boot Block.

Steps for BIOS Recovery from USB Storage

⇒ NOTE:

Prior to performing the recovery, prepare a Crisis USB key. The Crisis USB key is created by executing the Crisis Disk program in another system with Windows 7 OS.

To Create a Crisis USB key, perform the following:

1. Format the USB storage disk using the Fast Format option.
2. Save ROM file (file name: VAG70X64.fd) to the root directory of USB storage. Make sure that there is no other BIOS file saved in the same directory.
3. Plug USB storage into USB port.
4. Press **<Fn+ESC>** button then plug in AC power.
5. The Power button flashes once.
6. Press **Power** button to initiate system CRISIS mode.
7. When CRISIS is complete, the system auto restarts with a workable BIOS.
8. Update the latest version BIOS for this machine by regular BIOS flashing process.

CHAPTER 6

FRU List

V3-771/V3-771G Exploded Diagrams 6-4

 Main Assembly6-4

FRU List..... 6-6

Screw List 6-13

FRU (Field Replaceable Unit) List

This chapter provides users with a FRU (Field Replaceable Unit) listing in global configurations for the V3-771/V3-771G. Refer to this chapter whenever ordering for parts to repair or for RMA (Return Merchandise Authorization).

⇒ NOTE:

WHEN ORDERING FRU PARTS, check the most up-to-date information available on the regional web or channel. Part number changes will not be noted on the printed Service Guide. For ACER AUTHORIZED SERVICE PROVIDERS, the Acer office may have a DIFFERENT part number code from those given in the FRU list of this printed Service Guide. Users MUST use the local FRU list provided by the regional Acer office to order FRU parts for repair and service of customer machines.

⇒ NOTE:

To scrap or to return the defective parts, users should follow the local government ordinance or regulations on how to dispose it properly, or follow the rules set by the regional Acer office on how to return it.

V3-771/V3-771G Exploded Diagrams

Main Assembly

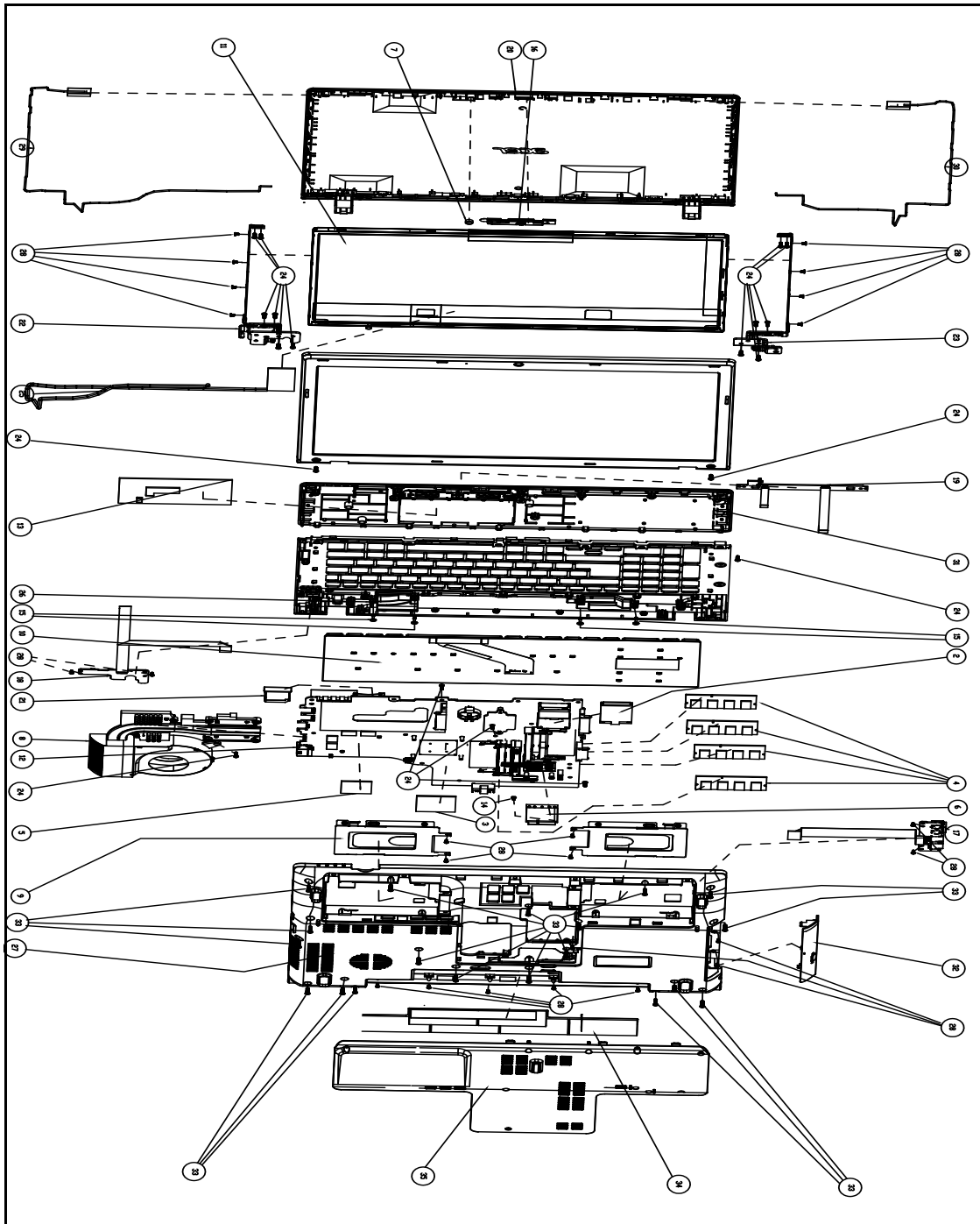


Figure 6-1. Main Assembly Exploded Diagram

Table 6-1. Main Assembly Exploded Diagram

Item	Description	Part Number	Item	Description	Part Number
1			19	Touch pad board	
2	3G card		20	LCD cover	
3	CPU		21	SD dummy card	
4	Memory card		22	Left Hinge	
5	GPU		23	Right Hinge	
6	WLAN Card		24	Screw	
7	Microphone		25	LVDS cable	
8	Fan & Heatsink module		26	Speaker	
9	HDD		27	Bottom case	
10	Keyboard		28	Screw	
11	LCD panel		29	Antenna	
12	Main board		30	Antenna	
13	Touch pad		31	Top case	
14	Screw		32	ODD bezel	
15	Screw		33	Screw	
16	Camera module		34	Battery	
17	USB Board		35	Main door	
18	Power switch board		36		

FRU List

Table 6-2. FRU List

Category	Acer Description	Acer Part No
ADAPTER		
	Adapter DELTA 65W 19V 1.7x5.5x11 Yellow ADP-65VH BA, LV5, Low profile LED LF	AP.06501.033
	Adapter LITE-ON 65W 19V 1.7x5.5x11 Yellow PA-1650-69AW, LV5, Low profile LED LF	AP.06503.029
	Adapter Chicony Power 65W 19V 1.7x5.5x11 Yellow CPA09-A065N1, LV5, low profile LF	AP.0650A.017
	Adapter Chicony Power 65W 19V 1.7x5.5x11 Yellow A065R035L / A11-065N1A, LV5, low profile LF	AP.0650H.003
	Adapter LITE-ON 65W 19V 1.7x5.5x11 Yellow PA-1650-86AW, LV5, Low profile LF	AP.06503.031
	Adapter DELTA 90W 19V 1.7x5.5x11 Blue ADP-90MD BBA, low profile, LV5 LF	AP.09001.032
	Adapter Chicony Power 90W 19V 1.7x5.5x11 Blue A10-090P3A / A090A029L, LV5 low profile LF	AP.0900H.001
	Adapter LITE-ON 90W 19V 1.7x5.5x11 Blue PA-1900-32AW, LV5, Low profile LF	AP.09003.024
BATTERY		
	Battery SIMPLO AS10D Li-Ion 3S2P LGC 6 cell 4400mAh Main COMMON ID:AS10D73	BT.00607.126
	Battery SIMPLO AS10D Li-Ion 3S2P SAMSUNG 6 cell 4400mAh Main COMMON ID:AS10D	BT.00607.127
	Battery PANASONIC AS10D51, for new IC max1787 Li-Ion 3S2P PANASONIC 6 cell 4400mAh Main COMMON	BT.00605.072
	Battery SANYO AS10G Li-Ion 3S3P SANYO 9 cell 9000mAh Main COMMON ID:AS10G3E	BT.00903.013
BOARD		
	Liteon 3rd WiFi 2x2 AGN+ BT4.0 Atheros WB222	NI.23600.103
	Foxconn 3rd WiFi 2x2 AGN+ BT4.0 Atheros WB222	NI.23600.102
	USB BOARD	

Table 6-2. FRU List (Continued)


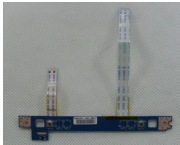



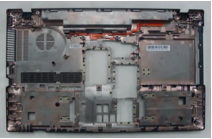

Category	Acer Description	Acer Part No
	POWER BOARD W/CABLE	
	Touch pad BOARD W/ CABLE	
CABLE		
	AC POWER CORD MAXDATA/3C,L80cm	
	AC POWER CORD MAXDATA/3C,L80cm	
	POWER CORD 1.8M BLACK 3 PIN US	27.RGV0U.006
	POWER CODE EU 3P 0.8M	
	DC-IN CABLE 120W VA70C-1A	
	DC-IN CABLE 120W VA70C-1A	
	DC-IN CABLE 65W VA70C-1A	
	DC-IN CABLE 65W VA70C-1A	
	DC-IN CABLE 90W VA70C-1A	
	DC-IN CABLE 90W VA70C-1A	
CASE/COVER/BRACKET ASSEMBLY		
	VA70C-1A TOP CASE ASSY	
	VA70C-1A BOTTOM CASE ASSY	
	VA70C-1A MAIN DOOR ASSY	

Table 6-2. FRU List (Continued)

Category	Acer Description	Acer Part No
	VA70C-1A HDD BRKT ASSY	
	VA70C-1A KEYBOARD BRKT ASSY	
	VA70C-1A SD DUMMY CARD	
CPU		
	CPU Intel Core i5 i5-3320M PGA 2.6G 1600 35W Ivy Bridge	KC.33201.DMP
	CPU Intel Core i3 i3-3110M PGA 2.3G 1600 35W Ivy Bridge	KC.31101.DMP
	CPU 918614 IVB QC 2.7G/8M 45W	
	CPU Intel Pentium Dual-Core B970 PGA 2.3G 35W DDR3-1333	KC.97001.DPB
HDD		
	HDD WD 2.5" 5400rpm 500GB WD5000BPVT-22HXZT3, ML375M-AF2, 375G/P, 4K drive SATA 8MB LF+HF F/W:01.01A01	KH.50008.024
	HDD WD 2.5" 5400rpm 750GB WD750BPVT-22HXZT3, ML375M-AF2, 375G/P, 4K drive SATA 8MB LF+HF F/W:01.01A01	KH.75008.011
	HDD WD 2.5" 5400rpm 320GB WD3200BPVT-22JJ5T0, ML320S-AF2, 320G/P, 4K drive SATA 8MB LF+HF F/W:01.01A01	KH.32008.024
	HDD WD 2.5" 5400rpm 1000GB WD10JPVT-22A1YT0, 1TB, 500G/P, ML500M SATA 8MB LF+HF F/W:01.01A01 4K drive	KH.01K08.017
	HDD TOSHIBA 2.5" 5400rpm 1000GB MK1059GSMP/HDD2K61EUL, Capricorn 3BS, 4K SATA 8MB LF+HF F/W:GU001J 4K	KH.01K04.003

Table 6-2. FRU List (Continued)

Category	Acer Description	Acer Part No
KEYBOARD		
	KEYBOARD VA70C (UI) BLACK	KB.I170A.410
	KEYBOARD VA70C (AR) BLACK	KB.I170A.384
	KEYBOARD VA70C (BE) BLACK	KB.I170A.385
	KEYBOARD VA70C (BR) BLACK	KB.I170A.386
	KEYBOARD VA70C (BG) BLACK	KB.I170A.387
	KEYBOARD VA70C (E2) BLACK	KB.I170A.388
	KEYBOARD VA70C (TW) BLACK	KB.I170A.389
	KEYBOARD VA70C (DE) BLACK	KB.I170A.390
	KEYBOARD VA70C (A1) BLACK	KB.I170A.391
	KEYBOARD VA70C (FR) BLACK	KB.I170A.392
	KEYBOARD VA70C (GE) BLACK	KB.I170A.393
	KEYBOARD VA70C (GR) BLACK	KB.I170A.394
	KEYBOARD VA70C (HU) BLACK	KB.I170A.395
	KEYBOARD VA70C (IT) BLACK	KB.I170A.396
	KEYBOARD VA70C (JP) BLACK	KB.I170A.397
	KEYBOARD VA70C (KO) BLACK	KB.I170A.398
	KEYBOARD VA70C (ND) BLACK	KB.I170A.399
	KEYBOARD VA70C (NW) BLACK	KB.I170A.400
	KEYBOARD VA70C (PO) BLACK	KB.I170A.401
	KEYBOARD VA70C (RU) BLACK	KB.I170A.402
	KEYBOARD VA70C (WB) BLACK	KB.I170A.403
	KEYBOARD VA70C (SP) BLACK	KB.I170A.404
	KEYBOARD VA70C (SD) BLACK	KB.I170A.405
	KEYBOARD VA70C (SF) BLACK	KB.I170A.406
	KEYBOARD VA70C (TA) BLACK	KB.I170A.407
	KEYBOARD VA70C (TU) BLACK	KB.I170A.408
	KEYBOARD VA70C (UK) BLACK	KB.I170A.409
	KEYBOARD VA70C (UK) BLACK	KB.I170A.410
	KEYBOARD VA70C (HE) BLACK	KB.I170A.411
	KEYBOARD VA70C (CB) BLACK	KB.I170A.412

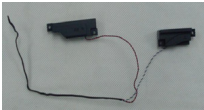
Table 6-2. FRU List (Continued)

Category	Acer Description	Acer Part No
DVD RW DRIVE		
	ODD HLDS Super-Multi DRIVE 12.7mm Tray DL 8X GT51N LF W/O bezel SATA Zero Power Supported (HF + Windows 7)	KU.0080D.059
	ODD PLDS Super-Multi DRIVE 12.7mm Tray 8X DS-8A8SH LF+HF W/O bezel SATA	KU.0080F.021
	ODD HLDS BD COMBO 12.7mm Tray 6X CT40N LF+HF W/O bezel SATA support BDXL & WIN7	KO.0060D.008
	ODD PANASONIC BD RW 12.7mm Tray 6X UJ260ABAA-B LF W/O bezel SATA	KU.00607.001
	VA70C-1A ODD BEZEL ASSY/BD	
	VA70C-1A ODD BEZEL ASSY/SM	
	ARID ODD BRACKET BACK	
LCD		
	LED LCD AUO 17.3" WXGA+ Glare B173RW01-V3 LF 220nit 8ms 500:1	LK.17305.002
	LED LCD LPL 17.3" WXGA+ Glare LP173WD1-TLA4 LF 220nit 8ms 600:1	LK.17308.004
	LED LCD CMO 17.3" WXGA+ Glare N173FGE-L21 LF 220nit 8ms 650:1	LK.1730D.002
	LED LCD AUO 17.3" WXGA+ Glare B173RTN01.1 LF 200nit 8ms 500:1 (eDP)	LK.17305.004
	LED LCD LPL 17.3" WXGA+ Glare LP173WD1-TPA1 LF 220nit 8ms 500:1	LK.17308.005
	VA70C-1A LCD COVER ASSY	
	VA70C-1A LCD BEZEL ASS	13N0-7NA0201
	VA70C-1A HINGE R	13N0-7NM0101

Table 6-2. FRU List (Continued)

Category	Acer Description	Acer Part No
	VA70C-1A HINGE L	13N0-7NM0201
	CAMERA MODULE 1.3M	AM.21400.095
	CAMERA MODULE 1.3M	AM.21400.097
	CAMERA MODULE 1.3M	AM.21400.116
	CAMERA MODULE 1.3M	AM.21400.117
	CAMERA MODULE 1.3M	AM.21400.122
	LVDS COMBO CABLE VA70C-1A	1422-0166000
	LVDS COMBO CABLE VA70C-1A	1422-0165000
	LVDS COMBO CABLE VA70C-1A	1422-0161000
	LCD EDP CABLE VA70C-1A	1422-0163000
	LCD EDP CABLE VA70C-1A	1422-0162000
	LCD EDP CABLE VA70C-1A	1422-0164000
MAINBOARD		
	VA70 MB	
MEMORY		
	Memory KINGSTON SO-DIMM DDRIII 1333 2GB ACR256X64D3S13C9G LF+HF	KN.2GB07.006
	DDRIII1333 SO-D NANYA 2GB	
	DDRIII1333 SO-D NANYA 4GB	
	Memory ELPIDA SO-DIMM DDRIII 1600 4GB EBJ40UG8BBU0-GN-F LF+HF 512*8 38nm	KN.4GB09.005
HEATSINK		
	VA70C UMA TH MOD ASSY	
	VA70C DIS-GS TH MOD ASSY	
	VA70C DIS-GL TH MOD ASSY	

Table 6-2. FRU List (Continued)

Category	Acer Description	Acer Part No
SPEAKER		
	SPEAKER VA70C-1A	
Others		
	VA70C-1A LCD BEZEL SCREW MYLAR	13N0-7NL0A01
	VA70C-1A LCD BEZEL SCREW MYLAR	13N0-7NL0A02
	VA70C-1A LCD BEZEL SCREW MYLAR	13N0-7NL0A03

Screw List

Table 6-3. Screw List

Category	Description	Acer Part No.
Screw		
	SCREW M2*5L (K) B-NI,NY	86.RGV0U.006
	SCREW M2.5*5L (K) B-ZN NY #1	
	SCREW M2.5*7L (K) B-ZN #1 NY	
	SCREW M3*3L (K) B-ZN #1 NY	
	SCREW M2*2L (K) B-ZN #1 NY	
	SCREW M2*6L (K) B-ZN #1 NY	
	SCREW M2.5*8L (K) B-ZN #1 NY	
	SCREW M2*3.5L K B-NI #1 NY	
	SCREW M2.5*15L K B-ZN #1 NY	
	SCREW M2*2.2L+5.7 K B-ZN #1	
	SCREW M1.6*2.5L K W-NI #0	
	M51TA SB HEAT SINK ASSY	
	RKY50-1A SCR M2x0.4x3 D4 H0.6	

CHAPTER 7

Test Compatible Components

Microsoft® Windows® 7 Environment Test	7-4
V3 771/771G	7-4

Test Compatible Components

This computer's compatibility is tested and verified by Acer's internal testing department. All of its system functions are tested under Windows® 7 environment.

Refer to the following lists for components, adapter cards, and peripherals which have passed these tests. Regarding configuration, combination and test procedures, please refer to the Compatibility Test Report released by the Acer Mobile System Testing Department.

Microsoft® Windows® 7 Environment Test

V3 771/771G

Table 8-1. V3 771/771G

Vendor	Type	Description	Acer Part No.
Adapter			
60036752 LITE-ON SINGAPORE	120W-DE	Adapter LITE-ON 120W-DE 19V 1.7x5.5x12.5 Green PA-1121-16AW LV5 LF	AP.12003.005
60016453 CHICONY POWER	120W-DE	Adapter Chicony Power 120W-DE 19V A11-120P1A / A120A003L, LV5 + OBL LF	AP.1200H.001
10001081 DELTA	65W	Adapter DELTA 65W 19V 1.7x5.5x11 Yellow ADP-65VH BA, LV5, Low profile LED LF	AP.06501.033
10001023 LITE-ON	65W	Adapter LITE-ON 65W 19V 1.7x5.5x11 Yellow PA-1650-69AW, LV5, Low profile LED LF	AP.06503.029
60036752 LITE-ON SINGAPORE	65W	Adapter LITE-ON 65W 19V 1.7x5.5x11 Yellow PA-1650-86AW, LV5, Low profile LF	AP.06503.031
60016453 CHICONY POWER	65W	Adapter Chicony Power 65W 19V 1.7x5.5x11 Yellow CPA09-A065N1, LV5, low profile LF	AP.0650A.017
60016453 CHICONY POWER	65W	Adapter Chicony Power 65W 19V 1.7x5.5x11 Yellow A065R035L / A11-065N1A, LV5, low profile LF	AP.0650H.003
10001045 DELTA-MAC AO	90W	Adapter DELTA 90W 19V 1.7x5.5x11 Blue ADP-90MD BBA, low profile, LV5 LF	AP.09001.032
10001023 LITE-ON	90W	Adapter LITE-ON 90W 19V 1.7x5.5x11 Blue PA-1900-32AW, LV5, Low profile LF	AP.09003.024
60016453 CHICONY POWER	90W	Adapter Chicony Power 90W 19V 1.7x5.5x11 Blue A10-090P3A / A090A029L, LV5 low profile LF	AP.0900H.001
Audio Codec			
10004786 REALTEK	ALC271X_VB6	Realtek ALC271X_VB6 QFN-48	LZ.21000.161
Battery			

Table 8-1. V3 771/771G

Vendor	Type	Description	Acer Part No.
60001921 SANYO	6CELL2.2	Battery SANYO AS10D Li-Ion 3S2P SANYO 6 cell 4400mAh Main COMMON new IC BQ8055	BT.00603.124
10001063 SONY	6CELL2.2	Battery SONY AS10D Li-Ion 3S2P SONY 6 cell 4400mAh Main COMMON ID:AS10D41	BT.00604.049
60001535 PANASONIC	6CELL2.2	Battery PANASONIC AS10D51, for new IC max1787 Li-Ion 3S2P PANASONIC 6 cell 4400mAh Main COMMON	BT.00605.072
60002162 SIMPLO	6CELL2.2	Battery SIMPLO AS10D Li-Ion 3S2P LGC 6 cell 4400mAh Main COMMON ID:AS10D73	BT.00607.126
60002162 SIMPLO	6CELL2.2	Battery SIMPLO AS10D Li-Ion 3S2P SAMSUNG 6 cell 4400mAh Main COMMON ID:AS10D	BT.00607.127
60032811 LGC	6CELL2.2	Battery LGC AS10D Li-Ion 3S2P LGC 6 cell 4400mAh Main COMMON ID:AS10D81	BT.0060G.001
60001921 SANYO	9CELL3.0	Battery SANYO AS10G Li-Ion 3S3P SANYO 9 cell 9000mAh Main COMMON ID:AS10G3E	BT.00903.013
Camera			
PLM00012 Suyin	1.3M HD	Suyin 1.3M HD SY_6A1(CSP)_SP	AM.21400.094
10001023 LITE-ON	1.3M HD	Liteon 1.3M HD LT_2659_AU	AM.21400.095
PLM00012 Suyin	1.3M HD	Suyin 1.3M HD SY_2659_AU	AM.21400.097
10001023 LITE-ON	1.3M HD	Liteon 1.3M HD LT_6A1(TSV)_SP (9A)	AM.21400.100
PLM00012 Suyin	1.3M HD	Suyin 1.3M HD SY_6A1(TSV)_SP (9A)	AM.21400.102
PLM00012 Suyin	1.3M HD	Suyin 1.3M HD SY_HN161_AU	AM.21400.112
10001023 LITE-ON	1.3M HD	Liteon 1.3M HD LT_HN161_SP	AM.21400.115
10001044 CHICONY	1.3M HD	Chicony 1.3M HD CH_SONY119_SP	AM.21400.117
PLM00012 Suyin	1.3M HD	Suyin 1.3M HD SY_SONY119_SP	AM.21400.122

Table 8-1. V3 771/771G

Vendor	Type	Description	Acer Part No.
10001023 LITE-ON	HD	Liteon HD LT_OV9726_SP 3.5mm	NC.21411.002
10001044 CHICONY	HD	Chicony HD CH_OV9726_AU 3.5mm	NC.21411.006
Card Reader			
PLM00014 ODM	5 in 1-Build in	5 in 1-Build in MS, MS Pro, SD, SC, XD	CR.21500.013
CPU			
10001067 INTEL	Ci32350M	CPU Intel Core i3 i3-2350M PGA 2.3G 35W 2/4	KC.23501.DMP
10001067 INTEL	Ci32370M	CPU Intel Core i3 i3-2370M PGA 2.4G 35W 2/4	KC.23701.DMP
10001067 INTEL	Ci33110M	CPU Intel Core i3 i3-3110M PGA 2.3G 1600 35W Ivy Bridge	KC.31101.DMP
10001067 INTEL	Ci52450M	CPU Intel Core i5 i5-2450M PGA 2.5G 35W 2/4	KC.24501.DMP
10001067 INTEL	Ci52520M	CPU Intel Core i5 i5-2520M PGA 2.5G 35W 2/4	KC.25201.DMP
10001067 INTEL	Ci52540M	CPU Intel Core i5 i5-2540M PGA 2.6G 35W 2/4	KC.25401.DMP
10001067 INTEL	Ci53210M	CPU Intel Core i5 i5-3210M PGA 2.5G 1600 35W Ivy Bridge	KC.32101.DMP
10001067 INTEL	Ci53320M	CPU Intel Core i5 i5-3320M PGA 2.6G 1600 35W Ivy Bridge	KC.33201.DMP
10001067 INTEL	Ci53360M	CPU Intel Core i5 i5-3360M PGA 2.8G 1600 35W Ivy Bridge	KC.33601.DMP
10001067 INTEL	Ci72670QM	CPU Intel Core i7 i7-2670QM PGA 2.2G 45W 4/8	KC.26701.QMP
10001067 INTEL	Ci73610QM	CPU Intel Core i7 i7-3610QM PGA 2.3G 1600 45W Ivy Bridge	KC.36101.QMP
10001067 INTEL	Ci73720QM	CPU Intel Core i7 i7-3720QM PGA 2.6G 1600 45W Ivy Bridge	KC.37201.QMP
10001067 INTEL	PMDB960	CPU Intel Pentium Dual-Core B960 PGA 2.2G 35W DDR3-1333	KC.96001.DPB
10001067 INTEL	PMDB970	CPU Intel Pentium Dual-Core B970 PGA 2.3G 35W DDR3-1333	KC.97001.DPB
HDD			

Table 8-1. V3 771/771G

Vendor	Type	Description	Acer Part No.
60002005 HGST SG	N1000GB5.4K S	HDD HGST 2.5" 5400rpm 1000GB Dummy P/N SATA 8MB LF F/W: Dummy p.n	KH.01K07.005
60001922 TOSHIBA DIGI	N1000GB5.4K S_4K	HDD TOSHIBA 2.5" 5400rpm 1000GB MK1059GSMP/HDD2K61EUL, Capricorn 3BS, 4K SATA 8MB LF+HF F/W:GU001J 4K	KH.01K04.003
60001994 WD	N1000GB5.4K S_4K_9.5	HDD WD 2.5" 5400rpm 1000GB WD10JPVT-22A1YT0, 1TB, 500G/P, ML500M SATA 8MB LF+HF F/W:01.01A01 4K drive	KH.01K08.017
60002005 HGST SG	N320GB5.4KS	HDD HGST 2.5" 5400rpm 320GB DUMMY P.N for BOM use SATA 8MB LF F/W:NA	KH.32007.015
60001922 TOSHIBA DIGI	N320GB5.4KS _4K	HDD TOSHIBA 2.5" 5400rpm 320GB MK3259GSXP, Capricorn 3BS, 375G/P, 4K drive SATA 8MB LF+HF F/W:GN003J 4K	KH.32004.005
60001994 WD	N320GB5.4KS _4K	HDD WD 2.5" 5400rpm 320GB WD3200BPVT-22JJ5T0, ML320S-AF2, 320G/P, 4K drive SATA 8MB LF+HF F/W:01.01A01	KH.32008.024
60002036 SEAGATE	N500GB5.4KS	HDD SEAGATE 2.5" 5400rpm 500GB ST9500325AS,9HH134-189, Wyatt with new pcb SATA 8MB LF F/W:0001SDM1	KH.50001.017
60002005 HGST SG	N500GB5.4KS	HDD HGST 2.5" 5400rpm 500GB Dummy P.N for 500G SATA 8MB LF+HF F/W:	KH.50007.015
60001922 TOSHIBA DIGI	N500GB5.4KS _4K	HDD TOSHIBA 2.5" 5400rpm 500GB MK5059GSXP, Capricron 3BS, 375G/P SATA 8MB LF+HF F/W:GN003J 4K	KH.50004.003
60002005 HGST SG	N500GB5.4KS _4K	HDD HGST 2.5" 5400rpm 500GB HTS545050A7E380, Jaguar B7,0J23335, 500G/P SATA 8MB LF+HF F/W:DA4837	KH.50007.023
60001994 WD	N500GB5.4KS _4K	HDD WD 2.5" 5400rpm 500GB WD5000BPVT-22HXZT3, ML375M-AF2, 375G/P, 4K drive SATA 8MB LF+HF F/W:01.01A01	KH.50008.024
60001994 WD	N500GB5.4KS _4K	HDD WD 2.5" 5400rpm 500GB WD5000BPVT-22A1YT0, ML500M, 500G/P SATA 8MB LF+HF F/W:01.01A01	KH.50008.036

Table 8-1. V3 771/771G

Vendor	Type	Description	Acer Part No.
60002005 HGST SG	N640GB5.4KS	HDD HGST 2.5" 5400rpm 640GB 640G Dummy P.N SATA 8MB LF+HF F/W:NA	KH.64007.004
60002005 HGST SG	N750GB5.4KS	HDD HGST 2.5" 5400rpm 750GB Dummy P.N SATA 8MB LF+HF F/W: 0000	KH.75007.005
60002036 SEAGATE	N750GB5.4KS _4K	HDD SEAGATE 2.5" 5400rpm 750GB ST750LM022, HN-M750MBB, M8, 500G/P SATA 8MB LF+HF F/W:2AR10001	KH.75001.014
60001922 TOSHIBA DIGI	N750GB5.4KS _4K	HDD TOSHIBA 2.5" 5400rpm 750GB MK7559GSXP, 375G/P, Capricorn BS, 4K drive SATA 8MB LF+HF F/W:GN003J	KH.75004.001
60002005 HGST SG	N750GB5.4KS _4K	HDD HGST 2.5" 5400rpm 750GB HTS547575A9E384, Jet B, 375G/P SATA 8MB LF F/W:DA3872	KH.75007.004
60001994 WD	N750GB5.4KS _4K	HDD WD 2.5" 5400rpm 750GB WD7500BPVT-22HXZT3, ML375M-AF2, 375G/P, 4K drive SATA 8MB LF+HF F/W:01.01A01	KH.75008.011
60001994 WD	N750GB5.4KS _4K	HDD WD 2.5" 5400rpm 750GB WD7500BPVT-22A1YT0, ML500M,500G/P SATA 8MB LF+HF F/W:01.01A01	KH.75008.017
10001067 INTEL	SSD25120	Flash Disk INTEL SSD NAND 120GB SSDSA2BW120G3A LF+HF	KF.1200N.002
60002050 MICRON SG	SSD25256	Flash Disk MICRON SSD NAND 256GB MTFDDAK256MAM-1K1(F/W:0609) LF+HF Firmware: 0609	KN.25604.035
60002005 HGST SG	N320GB5.4KS	HDD HGST 2.5" 5400rpm 320GB HTS543232A7A384, Eagle B7, 320G/P SATA LF+HF F/W:A60W 7mmzh	KH.32007.013
60002005 HGST SG	N500GB5.4KS _4K	HDD HGST 2.5" 5400rpm 500GB HTS545050A7E380,Jaguar B7, 500G/P SATA 8MB LF+HF F/W:DA4466	KH.50007.016
60001922 TOSHIBA DIGI	N640GB5.4KS _4K	HDD TOSHIBA 2.5" 5400rpm 640GB MK6459GSXP, Capricorn 3BS, 375G/P SATA 8MB LF+HF F/W:GN003J 4K	KH.64004.003
60001994 WD	N640GB5.4KS _4K	HDD WD 2.5" 5400rpm 640GB WD6400BPVT-22HXZT3, ML375M-AF2, 375G/P, 4K drive SATA 8MB LF+HF F/W:01.01A01	KH.64008.006

Table 8-1. V3 771/771G

Vendor	Type	Description	Acer Part No.
60002036 SEAGATE	N750GB5.4KS _4K	HDD SEAGATE 2.5" 5400rpm 750GB ST9750423AS,9ZW14G-188, Desaru5, 375G/P. SATA 8MB LF+HF F/W:0001SDM1	KH.75001.011
60001922 TOSHIBA DIGI	N750GB5.4KS _4K	HDD TOSHIBA 2.5" 5400rpm 750GB MK7559GSXP, 750G, Capricorn 3BS SATA 8MB LF+HF F/W:GN001A for external HDD market only	KH.75004.003
Keyboard			
10001044 CHICONY	GF7T_A10B	Keyboard ACER GF7T_A10B GF7T Internal 17 Standard Black NONE Y2010 Acer Legend Texture	KB.I170A.293
LAN			
10017383 Atheros	AR8151L	Atheros AR8151L	NI.22400.048
MEM			
60002041 QIMONDA	SO2GBIII	Memory NONE SO-DIMM DDRIII 2GB dummy LF+HF	KN.2GB00.004
60024207 KINGSTON-F AR EAST	SO2GBIII	Memory KINGSTON SO-DIMM DDRIII 1600 2GB ACR256X64D3S16C11G LF+HF 256*8 38nm	KN.2GB07.008
60001993 NANYA	SO2GBIII13	Memory NANYA SO-DIMM DDRIII 1333 2GB NT2GC64B88G0NS-CG LF+HF	KN.2GB03.025
60002050 MICRON SG	SO2GBIII13	Memory MICRON SO-DIMM DDRIII 1333 2GB MT8KTF25664HZ-1G4M1 LF+HF 256*8 46nm V79D	KN.2GB04.019
60024207 KINGSTON-F AR EAST	SO2GBIII13	Memory KINGSTON SO-DIMM DDRIII 1333 2GB ACR256X64D3S13C9G LF+HF	KN.2GB07.006
60004668 ELPIDA	SO2GBIII13	Memory ELPIDA SO-DIMM DDRIII 1600 2GB EBJ20UF8BDU0-GN-F LF+HF 256*8 38nm	KN.2GB09.012
60001955 A-DATA	SO2GBIII13	Memory A-DATA SO-DIMM DDRIII 1333 2GB AD7311B0873EV LF+HF	KN.2GB0C.008
60002045 HYNIX	SO2GBIII13	Memory HYNIX SO-DIMM DDRIII 1333 2GB HMT325S6CFR8C-H9 LF+HF 256x8 38nm	KN.2GB0G.031
60002041 QIMONDA	SO4GBIII	Memory NONE SO-DIMM DDRIII 4GB dummy LF+HF	KN.4GB00.003

Table 8-1. V3 771/771G

Vendor	Type	Description	Acer Part No.
60024207 KINGSTON-F AR EAST	SO4GBIII	Memory KINGSTON SO-DIMM DDRIII 1600 4GB ACR512X64D3S16C11G LF+HF 256*8 38nm	KN.4GB07.003
60001993 NANYA	SO4GBIII13	Memory NANYA SO-DIMM DDRIII 1333 4GB NT4GC64B8HG0NS-CG LF+HF 46nm	KN.4GB03.009
60002050 MICRON SG	SO4GBIII13	Memory MICRON SO-DIMM DDRIII 1333 4GB MT16KTF51264HZ-1G4M1 LF+HF 256*8 46nm V79D	KN.4GB04.005
60024207 KINGSTON-F AR EAST	SO4GBIII13	Memory KINGSTON SO-DIMM DDRIII 1333 4GB ACR512X64D3S13C9G LF+HF	KN.4GB07.001
60004668 ELPIDA	SO4GBIII13	Memory ELPIDA SO-DIMM DDRIII 1600 4GB EBJ40UG8BBU0-GN-F LF+HF 512*8 38nm	KN.4GB09.005
60001955 A-DATA	SO4GBIII13	Memory A-DATA SO-DIMM DDRIII 1333 4GB AD7311C1674EV LF+HF	KN.4GB0C.001
60002045 HYNIX	SO4GBIII13	Memory HYNIX SO-DIMM DDRIII 1333 4GB HMT351S6CFR8C-H9 LF+HF 256x8 38nm	KN.4GB0G.012
NB Chipset			
10001067 INTEL	HM77	NB Chipset Intel CS HM77 Chief River	KI.G7501.002
ODD			
60001535 PANASONIC	NBDCB	ODD PANASONIC BD COMBO 12.7mm Tray 6X UJ160 W/O bezel SATA dummy PN	KO.00607.002
60001939 PIONEER	NBDCB4XS	ODD PIONEER BD COMBO 12.7mm Tray DL 4X BDC-TD03RT LF W/O bezel 1.01 SATA Zero Power + BUS Encryption (Windows 7)	KO.00405.008
60001939 PIONEER	NBDCB6XS	ODD PIONEER BD COMBO 12.7mm Tray 6X BDC-TD03RT LF+HF W/O bezel SATA (Win7)	KO.00605.002
60001535 PANASONIC	NBDCB6XS	ODD PANASONIC BD COMBO 12.7mm Tray 6X UJ160ABAA1-B LF+HF W/O bezel SATA win7	KO.00607.001
60001944 LG HK	NBDCB6XS	ODD HLDS BD COMBO 12.7mm Tray 6X CT40N LF+HF W/O bezel SATA support BDXL & WIN7	KO.0060D.008

Table 8-1. V3 771/771G

Vendor	Type	Description	Acer Part No.
60001535 PANASONIC	NBDRW	ODD PANASONIC BD RW 12.7mm Tray 6X UJ240 W/O bezel SATA dummy PN	KO.00607.003
60001939 PIONEER	NBDRW4XS	ODD PIONEER BD RW 12.7mm Tray DL 4X BDR-TD03RT LF W/O bezel 1.01 SATA HF + ZP + BE	KU.00405.019
60001535 PANASONIC	NBDRW6XS	ODD PANASONIC BD RW 12.7mm Tray 6X UJ260ABAA-B LF W/O bezel SATA	KU.00607.001
60001939 PIONEER	NSM8XS	ODD PIONEER Super-Multi DRIVE 12.7mm Tray DL 8X DVR-TD11RS LF W/O bezel 1.01 SATA HF + ZP (HME OPU)	KU.00805.051
60001535 PANASONIC	NSM8XS	ODD PANASONIC Super-Multi DRIVE 12.7mm Tray DL 8X UJ8C0ADAA1-B LF+HF W/O bezel SATA Win7	KU.00807.081
60003901 HITACHI EAST	NSM8XS	ODD HLDS Super-Multi DRIVE 12.7mm Tray DL 8X GT51N LF W/O bezel SATA Zero Power Supported (HF + Windows 7)	KU.0080D.059
60001929 PHILIPS & LITE-ON	NSM8XS	ODD PLDS Super-Multi DRIVE 12.7mm Tray 8X DS-8A8SH LF+HF W/O bezel SATA	KU.0080F.021
VGA Chip			
60001915 NVIDIA	N13PGL	VGA Chip nVidia N13P-GL-A1 40nm, 29x29mm, GB4-128 package	KG.PGL0V.001
60001915 NVIDIA	N13PGS	VGA Chip nVidia N13P-GS-A2 28nm, 29x29, GB4-128 package	KG.PGS0V.003
60001915 NVIDIA	N13PGT	VGA Chip nVidia N13P-GT-A2 28nm, 29mmx29mm, GB4-128	KG.PGT0V.001
10001067 INTEL	UMA	UMA (Intel)	KI.23200.038
VRAM			
10000981 MISC	1G-DDR3 (64*16*8)	1G-DDR3 64*16*8	KI.23300.018
10000981 MISC	2G-DDR3 (128*16*8)	2G-DDR3 128*16*8	KI.23300.028
9999995 ONE TIME VENDER	N	N no VRAM	KI.23300.014
60002045 HYNIX	VR1GbIII9	VRAM HYNIX Graphic DDRIII 900 1Gb H5TQ1G63DFR-11C LF 64*16 46nm	VR.1GB0G.006

Table 8-1. V3 771/771G

Vendor	Type	Description	Acer Part No.
60002045 HYNIX	VR2GBIII9	VRAM HYNIX Graphic DDRIII 900 2Gb H5TQ2G63BFR-11C LF 128*16 46nm	VR.2GB0G.002
60002045 HYNIX	VR2GBIII9	VRAM HYNIX Graphic DDRIII 900 2Gb H5TQ2G63DFR-11C LF+HF 128*16 38nm Gemma die	VR.2GB0G.005
Wireless LAN			
10001023 LITE-ON	3rd WiFi 2x2 AGN+ BT4.0	Liteon 3rd WiFi 2x2 AGN+ BT4.0 Broadcom 43228+20702 (WiFi 43228 2x2 DB AGN+BT4.0 20702)	NC.23611.003
10001018 HON HAI	3rd WiFi 2x2 AGN+ BT4.0	Foxconn 3rd WiFi 2x2 AGN+ BT4.0 Broadcom 43228+20702 (WiFi 43228 2x2 DB AGN+BT4.0 20702)	NI.23600.100
10001018 HON HAI	3rd WiFi 2x2 AGN+ BT4.0	Foxconn 3rd WiFi 2x2 AGN+ BT4.0 Atheros WB222	NI.23600.102
10001023 LITE-ON	3rd WiFi 2x2 AGN+ BT4.0	Liteon 3rd WiFi 2x2 AGN+ BT4.0 Atheros WB222	NI.23600.103
WiFi Antenna			
10000105 WNC	PIFA	PIFA	LZ.23500.006
A cover			
60014273 NISSHA	Glossy Black IMR VA57AP	A Cover Glossy Black IMR VA57AP	LZ.21000.183
60014273 NISSHA	Glossy Blue IMR VA57AP	A Cover Glossy Blue IMR VA57AP	LZ.21000.191
60014273 NISSHA	Glossy Gray IMR VA57AP	A Cover Glossy Gray IMR VA57AP	LZ.21000.187
B cover			
9999995 ONE TIME VENDER	Mirror w/Camera	Mirror w/Camera	LZ.21000.009
Palmrest Cover			
60014273 NISSHA	Glossy Black IMR VA57AP	Palmrest Cover Glossy Black IMR VA57AP	LZ.21000.182
60014273 NISSHA	Glossy Blue IMR VA57AP	Palmrest Cover Glossy Blue IMR VA57AP	LZ.21000.190
60014273 NISSHA	Glossy Gray IMR VA57AP	Palmrest Cover Glossy Gray IMR VA57AP	LZ.21000.186
Software			

Table 8-1. V3 771/771G

Vendor	Type	Description	Acer Part No.
10000981 MISC	McAfee	Antivirus application McAfee	SR.23900.001

CHAPTER 8

Online Support Information

Introduction 8-3

Online Support Information

Introduction

This section describes online technical support services available to help users repair their Acer Systems.

For distributors, dealers, ASP or TPM, please refer the technical queries to a local Acer branch office. Acer Branch Offices and Regional Business Units may access our website. However some information sources will require a user i.d. and password. These can be obtained directly from Acer CSD Taiwan.

Acer's Website offers convenient and valuable support resources.

In the Technical Information section users can download information on all of Acer's Notebook, Desktop and Server models including:

- Service guides for all models
- Bios updates
- Software utilities
- Spare parts lists
- TABs (Technical Announcement Bulletin)

For these purposes, we have included an Acrobat File to facilitate the problem-free downloading of our technical material.

Also contained on this website are:

- Detailed information on Acer's International Traveller's Warranty (ITW)
- Returned material authorization procedures
- An overview of all the support services we offer, accompanied by a list of telephone, fax and email contacts for all technical queries.

We are always looking for ways to optimize and improve our services, so do not hesitate to direct any suggestions or comments to us.

