Aspire Series
Service Guide

Service guide files and updates are available on the ACER/CSD web; for more information, please refer to http://csd.acer.com.tw

PRINTED IN TAIWAN

Revision History

Please refer to the table below for the updates made on this service guide.

Date	Chapter	Updates

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Conventions

The following conventions are used in this manual:

SCREEN MESSAGES	Denotes actual messages that appear on screen.
NOTE	Gives bits and pieces of additional information related to the current topic.
WARNING	Alerts you to any damage that might result from doing or not doing specific actions.
CAUTION	Gives precautionary measures to avoid possible hardware or software problems.
IMPORTANT	Reminds you to do specific actions relevant to the accomplishment of procedures.

NOTE: This symbol where placed in the Service Guide designates a component that should be recycled according to the local regulations.

Preface

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

1. This Service Guide provides you with all technical information relating to the BASIC CONFIGURATION decided 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 (e.g. add-on card, modem, or extra memory capability). These LOCALIZED FEATURES will NOT be covered in this generic service guide. In such cases, please contact your regional offices or the responsible personnel/channel to provide you with further technical details.
2. Please note WHEN ORDERING FRU PARTS, that you should 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 will not be noted in the printed Service Guide. For ACER-AUTHORIZED SERVICE PROVIDERS, your Acer office may have a DIFFERENT part number code to those given in the FRU list of this printed Service Guide. You MUST use the list provided by your regional Acer office to order FRU parts for repair and service of customer machines.

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System Specifications

Features

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

Operating System

•

Platform

•

System Memory

- Dual-channel DDR3 SDRAM support:·
  - Up to 4 GB of DDR3 1066 MHz memory, upgradeable to 8 GB using two soDIMM modules (for 64-bit OS)

Display

- 17" HD 1366 x 768 pixel resolution, high-brightness (200-nit) Acer CineCrystal™ LED-backlit TFT LCD, supporting simultaneous multi-window viewing via Acer GridVista™
- Mercury free, environment friendly
- 16:9 aspect ratio
- Super-slim design

Graphics

•

Storage subsystem

•

Audio subsystem

•

Optical Media Drive

•

Communication

- Acer Video Conference1, featuring:·
  - Acer Crystal Eye high-def webcam with 1280 x 1024 resolution

- WLAN1, 10, 11:·
  - Acer InviLink™ Nplify™ 802.11 b/g/n Wi-Fi CERTIFIED™·
  - Acer InviLink™ 802.11b/g Wi-Fi CERTIFIED™
- WPAN1:Bluetooth® 2.1+EDR
- WWAN1, 10, 12: UMTS/HSPA at 850/900/1900/2100 MHz and quad-band GSM/GPRS/ EDGE(850/900/1800/1900 MHz), upgradeable to 7.2 Mb/s HSDPA and 5.7 Mb/s HSUPA, supporting receiver diversity and equalizing at 2100 MHz
- LAN: Gigabit Ethernet, Wake-on-LAN ready

Privacy control

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

Dimensions and Weight

-

Power Adapter and Battery

-

Special Keys and Controls

- 103-/104-/107-key keyboard, with inverted "T" cursor layout
- 10 function keys, four cursor keys, two Windows® keys, hotkey controls, independent standard numeric keypad, international language support
- Media control keys (printed on keyboard): play/pause, stop, previous, next
- Multi-gesture touchpad, supporting two-finger scroll, pinch, rotate, flip

I/O Ports

- Multi-in-1 card reader (SD™, MMC, MS, MS PRO, xD)
- Four USB 2.0 ports
- HDMI™ port with HDCP support
- External display (VGA) port
- Headphone/speaker/line-out jack with S/PDIF support
- Microphone-in jack
- Ethernet (RJ-45) port
- DC-in jack for AC adapterr

Software

-

Optional Items

-

Warranty

-

Environment

System Block Diagram

Notebook Tour

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

Top View

#	Icon	Item	Description
1		Acer Crystal Eye webcam	Web camera for video communication. (only for certain models)
2		Microphone	Internal microphone for recording sound.
3		Display screen	Also called Liquid-Crystal Display (LCD), displays computer output (configuration may vary by model).
4		HDD indicator	Indicates when the HDD is active.
		Num Lock indicator	Lights up when the Num Lock is activated.
		Caps Lock indicator	Lights up when the Caps Lock is activated.
5		Power button/	Turns the computer on and off.
6		Keyboard	For entering data into your computer
7		Touchpad	Touch-sensitive pointing device which functions like a computer mouse.

#	Icon	Item	Description
8		Power	Indicates the computer's power status.
		Battery	Indicates the computer's battery status. 1. Charging: The light shows amber when the light is charging. 2. Fully charged: the light shows blue when in AC mode.
		Communication indicator	Indicates the computer's wireless connectivity status.
9		Click buttons (left, and right)	The left and right buttons function like the left and right mouse buttons.
10		Palmrest	Comfortable support area for your hand when using the computer.
11		Speakers	Left and right speakers deliver stereo audio output.
12	P	Programmable key	User-programmable. (only for certain models)

Closed Front View

#	Icon	Item	Description
1		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

#	Icon	Item	Description
1		Kensington lock slot	Connects to a Kensington-compatible computer security lock.
2		Ventilation slots	Enable the computer to stay cool, even after prolonged use.
3		Ethernet RJ-45) port	Connects to an Ethernet 10/100/1000-based network.
4	HDMI	HDMI port	Supports high definition digital video connections.

#	Icon	Item	Description
5		USB 2.0 port	Connects to USB 2.0 devices (e.g., USB mouse, USB camera).
6		Microphone jack	Accepts inputs from external microphones.
		Headphones/ speaker/line-out jack with S/PDIF support.	Connects to audio line-out devices (e.g., speakers, headphones).

Right View

#	Icon	Item	Description
1		USB 2.0 port	Connects to USB 2.0 devices (e.g., USB mouse, USB camera).
2		Optical drive	Internal optical drive; accepts CDs or DVDs.
3		Optical disk access indicator	Lights up when the optical drive is active.
4		Emergency eject hole	Ejects the optical drive tray when the computer is turned off.Note: Insert a paper clip to the emergency eject hole to eject the optical drive tray when the computer is off.
5		External display (VGA) port	Connects to a display device (e.g. external, LCD monitor, LCD projector).
6		DC-in jack	Connects to an AC adapter.

Base View

#	Icon	Item	Description
1		Battery bay	Houses the computer's battery pack. Note: The battery shown is for reference only. Your PC may have a different battery depending on the model purchased.
2		Battery lock	Locks the battery in position
3		Hard disk bay	Houses the computer's hard disk (secured with screws)
4		Memory compartment	Houses the computer's main memory.
5		Ventilation slots and cooling fan	Enable the computer to stay cool, even after prolonged use. Note: Do not cover or obstruct the opening the fan.
6		2nd HDD bay	Houses the computer's second HDD
6		Battery release latch	Releases the battery for removal.

Indicators

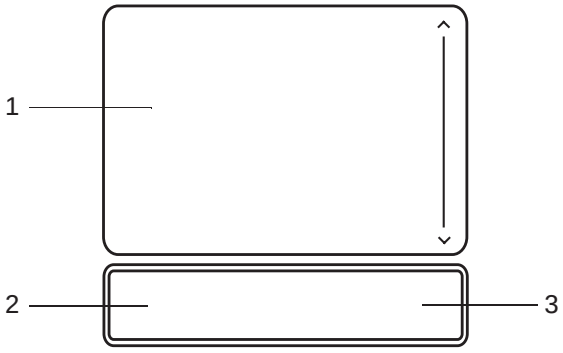
The computer has several easy-to-read status indicators. The battery indicator is visible even when the computer cover is closed.

Icon	Function	Description
	Power	Indicates the computer is on or off.
	Battery	Indicates the computer's battery status.
	Wireless LAN	Indicates the status of Wireless LAN communication.
	HDD	Indicates when the hard disk drive is active.
	Num Lock	Lights up when Num Lock is activated.
	Caps Lock	Lights up when Caps Lock is activated.

NOTE: 1. **Charging:** The battery light shows amber when the battery is charging. 2. **Fully charged:** The light shows green when in AC mode.

TouchPad Basics

The following items show you how to use the TouchPad:



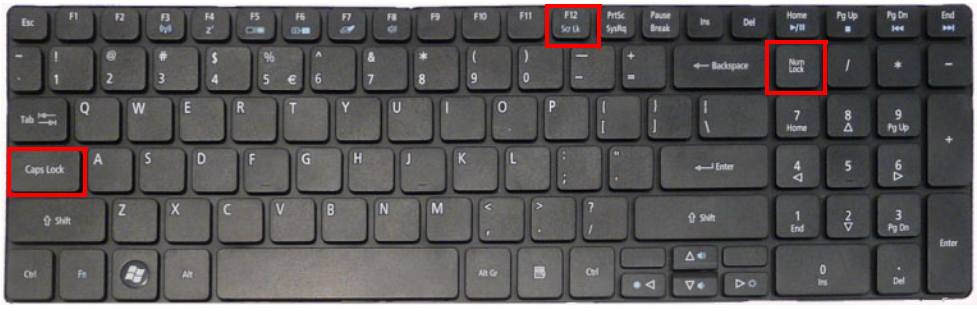
- Move your finger across the TouchPad (1) to move the cursor.
- Press the left (2) and right (3) buttons located beneath the TouchPad to perform selection and execution functions. These two buttons are the equivalent of the left and right buttons on a mouse. Tapping on the TouchPad is the same as clicking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

Function	Left Button (2)	Right Button (3)	Main TouchPad (1)
Execute	Quickly click twice.		Tap twice (at the same speed as double-clicking a mouse button).
Select	Click once.		Tap once.
Drag	Click and hold, then use finger on the TouchPad to drag the cursor.		Tap twice (at the same speed as double-clicking a mouse button); rest your finger on the TouchPad on the second tap and drag the cursor.
Access context menu		Click once.	

NOTE: When using the TouchPad, keep it - and your fingers - dry and clean. The TouchPad is sensitive to finger movement; hence, the lighter the touch, the better the response. Tapping too hard will not increase the TouchPad's responsiveness.

Using the Keyboard

Your computer has a close-to-full-sized keyboard and an embedded numeric keypad, separate cursor, lock, function and special keys.



Lock Keys and embedded numeric keypad

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

Lock key	Description
Caps Lock	When Caps Lock is on, all alphabetic characters typed are in uppercase.
Num Lock	When Num Lock is on, the embedded keypad is in numeric mode. The keys function as a calculator (complete with the arithmetic operators +, -, *, and /). Use this mode when you need to do a lot of numeric data entry. A better solution would be to connect an external keypad.
Scroll Lock **<Fn> + <F12>**	When Scroll Lock is on, the screen moves one line up or down when you press the up or down arrow keys respectively. Scroll Lock does not work with some applications.

The embedded numeric keypad functions like a desktop numeric keypad. It is indicated by small characters located on the upper right corner of the keycaps. To simplify the keyboard legend, cursor-control key symbols are not printed on the keys.

Desired access	Num Lock on	Num Lock off
Number keys on embedded keypad	Type numbers in a normal manner.	
Cursor-control keys on embedded keypad	Hold <Shift> while using cursor-control keys.	Hold <Fn> while using cursor-control keys.
Main keyboard keys	Hold **<Fn>** while typing letters on embedded keypad.	Type the letters in a normal manner.

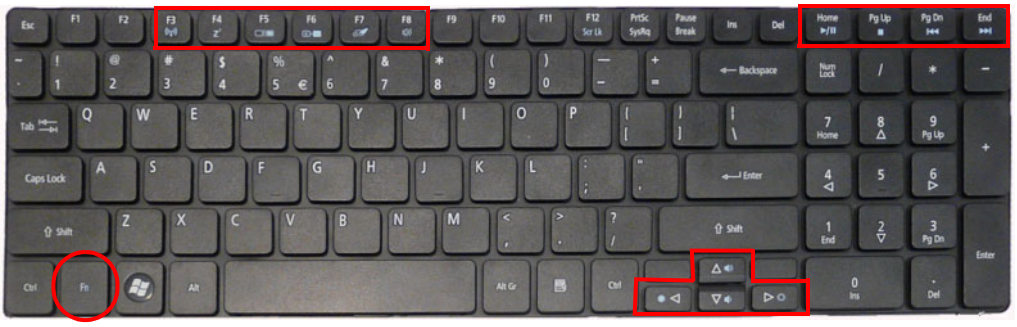
Windows Keys

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

Key	Description
Windows key	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: <**>**:** Open or close the Start menu <**> + <D>:** Display the desktop <**> + <E>:** Open Windows Explore <**> + <F>:** Search for a file or folder <**> + <L>:** Lock your computer (if you are connected to a network domain), or switch users (if you're not connected to a network domain) <**> + <M>:** Minimizes all windows <**> + <R>:** Open the Run dialog box <**> + <U>:** Open Ease of Access Center <**> + <BREAK>:** Display the System Properties dialog box <**> + <TAB>:** Cycle through programs on the taskbar <**CTRL> + <**> **+ <F>:** Search for computers (if you are on a network) **Note:** Depending on your edition of Windows 7, some shortcuts may not function as described.
Application key	This key has the same effect as clicking the right mouse button; it opens the application's context menu.

Hot Keys

The computer employs hotkeys or key combinations to access most of the computer's controls like screen brightness and volume output.



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

Hotkey	Icon	Function	Description
<Fn> + <F3>		Wireless communication switch	Enables/disables the Wireless function.
<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>		Screen blank	Turns the display screen backlight off to save power. Press any key to return.
<Fn> + <F7>		Touchpad toggle	Turns the 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.
<Fn> + <▽>		Volume down	Decreases the sound volume.
<Fn> + <Home>		Play/Pause	Plays or pauses media files
<Fn> + <Pg Up>		Stop	Stops media file
<Fn> + <Pg Dn>		Previous	Plays the previous media file in the play sequence
<Fn> + <End>		Next	Plays the next media file in the play sequence

Special Keys

On models that support the Euro symbol and the US dollar sign, the symbols can be located at the upper-center and/or bottom-right of your keyboard.

The Euro symbol

1. Open a text editor or word processor.
2. Hold <Alt Gr> and then press the <5> key at the upper-center of the keyboard.

NOTE: Some fonts and software do not support the Euro symbol. See **www.microsoft.com/typography/faq/faq12.htm** for more information.

The US dollar sign

1. Open a text editor or word processor.
2. Hold **<Shift>** and then press the **<4>** key at the upper-center of the keyboard.

NOTE: This function varies according to the language settings.

Hardware Specifications and Configurations

Processor

Item	Specification
CPU	•
Type	•
CPU Package	
Power	
On-die Cache	•
Front Side Bus	

Processor Specifications

Item	CPU Speed	Cores	Bus Speed	Cache Size	Package	Core Voltage	Acer P/N

CPU Fan True Value Table (UMA)

CPU Temperature (Celcius)	Fan Speed (RPM)	SPL Spec (dBA)

Throttling 50%: On= 100°C; OFF=85°C

OS shut down at 105°C; H/W shut down at 110°C

CPU Fan True Value Table (Discrete)

CPU Temperature (Celcius)	Fan Speed (RPM)	SPL Spec (dBA)

Throttling 50%: On= 100°C; OFF=85°C

OS shut down at 105°C; H/W shut down at 110°C

Core Logic Specifications

Item	Specification
Chipset	
Package	
Features	•

System Memory

Item	Specification
Memory size	0MB (No on-board Memory)
DIMM socket number	2 sockets
Supports memory size per socket	4GB
Supports maximum memory size	8GB
Supports DIMM type	DDR3 64 bit
Supports DIMM Speed	1066/1333 MHz

Video Specifications

Item	Specification	
Chipset		
Type		
Package		•
Features	•	•

Hard Disk Drive Interface

Item	Specification			
Vendor & Model Name	Seagate	HGST	Toshiba	Western Digital
Capacity (GB)	160, 250, 320, 500	160, 250, 320, 500	160, 250, 320, 500	160, 250, 320, 500, 640
Bytes per sector	512			
Data heads	2-4			
Drive Format				
Disks	1-2			
Spindle speed (RPM)	5400			
Performance Specifications				
Buffer size	8 MB			
Interface	SATA			
DC Power Requirements				
Voltage tolerance	5V ±5%	5V ±5%	5V ±5%	5V ±5%

BIOS

Item	Specification
BIOS vendor	Insyde BIOS
BIOS version	3.5
BIOS ROM type	Flash

Item	Specification
Features	• Flash ROM 4MB • Support ISIPP • Support Acer UI • Support multi-boot • Suspend to RAM (S3)/Disk (S4) • Various hot-keys for system control • Support SMBIOS 2.3, PCI2.2. • Refer to Acer BIOS specification. • DMI utility for BIOS serial number configurable/asset tag • Support PXE • Support Y2K solution • Support WinFlash • Wake on LAN from S3 • Wake on LAN form S4 in AC mode • System information

LCD 17.3”

Item	Specification			
Vendor/model name	AUO/	ChiMei	LG	Samsung
Screen Diagonal (mm)	17.3 inches			
Display resolution (pixels)	1600x3(RGB) x 900			
Pixel Pitch	0.2388X0.2388			
Display Mode	Normally White			
Typical White Luminance (cd/m^2) (also called Brightness)	220 typical			
Contrast Ratio	500 typical	500	600	600
Response Time (Optical Rise Time/Fall Time) msec	8/16	2/8	8/16	8
Luminance Uniformity	1.25 max			
Electrical Interface	LVDS			
Support Color	262K			
Viewing Angle (up/down/right/ left)	15/35/45/45	20/45/45/45	10/30/40/40	15/30/40/40
Temperature Range (°C) Operating Storage (shipping)	 0 to +50 -20 to +60			

Bluetooth

Item	Specification	
Bluetooth Controller	Foxconn BCM2046 BT2.1+EDR Module (T60H928.33)	Foxconn AR3011 BT Module (T77H056.00)

Item	Specification	
Features	• Fully Qualified Bluetooth v2.1 with Class 2 specification RF output power. • Enhanced Data Rate (EDR) compliant. • Full Piconet and Scatternet operation. • Integrated PIFA Antenna with better RF performance. • USB 2.0 compliant interface. • F/W upgradable via Flash downloads. • Very low power consumption. • Support Coexistence with Intel WCS (Wireless Coexistence System) & AFH (Adaptive Frequency Hopping).	• Single-chip Bluetooth v2.1 + EDR solution • USB 2.0 full-speed device interface with support for Device Firmware Upgrade(DFU) • SPI interface supports external serial flash devices • Two on-chip 1.2V linear voltage regulators • Integrated 32-bit CPU with 32KB data RAM and 256KB program RAM • On-board PLL • On-chip low power oscillator(LPO) • WLAN coexistence interface • Standard USB HCI interface

Audio Codec and Amplifier

Item	Specification
Audio Controller	
Package	
Features	•

LAN Interface

Item	Specification
LAN Chipset	
Package	
Features	•

Keyboard

Item	Specification
Type	
Total number of keypads	
Windows logo key	
Internal & external keyboard work simultaneously	
Features	•

Media Card Reader

Item	Specification
Chipset	
Package	
Features	•

Camera 1.3M

Item	Specifications		
Vendor and model	SUYIN HF1315-S32B-OV0	Chicony CNF9157	Liteon 09P2BF127 / Liteon 09P2SF119

Item	Specifications		
Type	CMOS image sensor with SXGA	CMOS image sensor with SXGA	CMOS image sensor with SXGA
Interface	USB Port 2.0	USB Port 2.0	USB Port 2.0
Focusing distance	70cm	70 cm	60 cm
Dimensions (L x W x H mm)	65 x 8.0 x 3.74 mm	65.0±0.3 X 8.0±0.1 X 3.69+0.11/-0.2 mm	65.0 x 8.0 x 3.53 ± 0.2mm
Sensor type	OV9665	TBC	OV9665
Pixel resolution	1280x1024	1280x1024	1280x1024
Pixel size	2 µm x 2 µm	TBC	2 µm x 2 µm
Image size	3.89mm(H) X 2.43mm(V)Part number	TBC	TBC

Wireless LAN

	Specification		
Type	Realtek RTL819SE	Atheros AR5B93	Intel WiFi Link 1000
Wireles Standards Supported	b, g,n	b, g, n	b, g, Draft-N

Battery

Item	Specification
	6 Cell
Vendor & model name	
Battery Type	
Pack capacity	
Number of battery cell	
Package configuration	

System Utilities

BIOS Setup Utility

The BIOS Setup Utility is a hardware configuration program built into your computer's BIOS (Basic Input/ Output System).

Your computer is already properly configured and optimized, and you do not need to run this utility. However, if you encounter configuration problems, you may need to run Setup. Please also refer to Chapter 4 Troubleshooting when problem arises.

To activate the BIOS Utility, press **F2** during POST (when **Press <F2> to enter Setup** message is prompted on the bottom of screen).

Press **F2** to enter setup. The default parameter of F12 Boot Menu is set to "disabled". If you want to change boot device without entering BIOS Setup Utility, please set the parameter to "enabled".

Press **<F12>** during POST to enter multi-boot menu. In this menu, user can change boot device without entering BIOS SETUP Utility.

Navigating the BIOS Utility

There are five menu options: Information, Main, Security, Boot, and Exit.

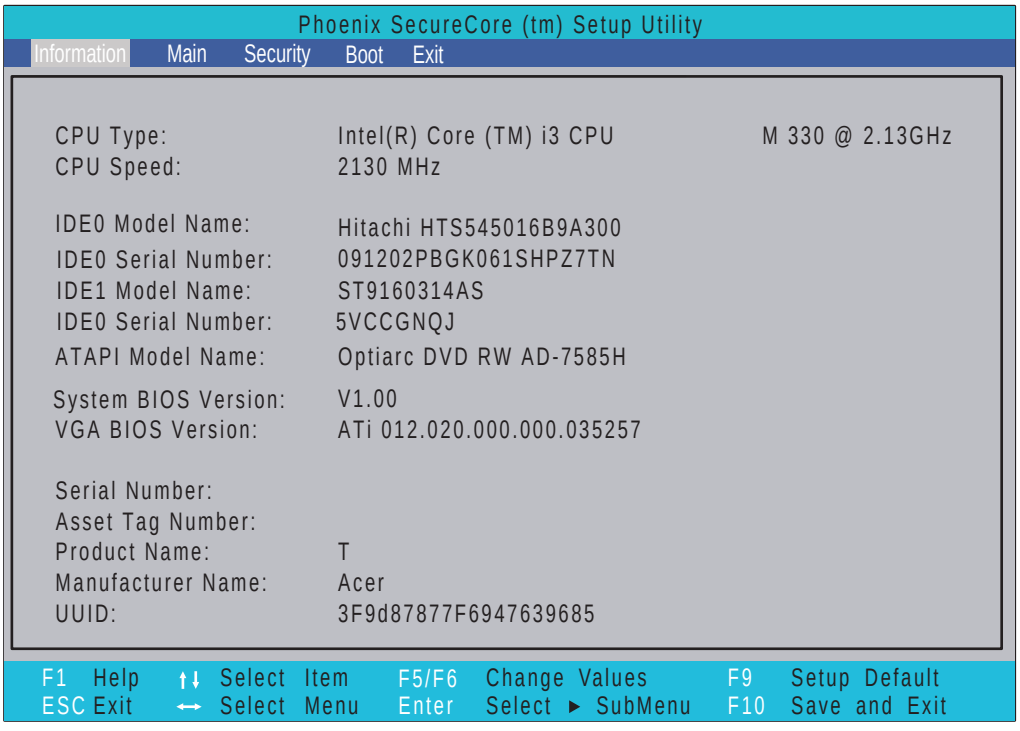
Follow these instructions:

- To choose a menu, use the left and right arrow keys.
- To choose an item, use the up and down arrow keys.
- To change the value of a parameter, press **F5** or **F6**.
- Press **Esc** while you are in any of the menu options to go to the Exit menu.
- In any menu, you can load default settings by pressing **F9**. You can also press **F10** to save any changes made and exit the BIOS Setup Utility.

NOTE: You can change the value of a parameter if it is enclosed in square brackets. Navigation keys for a particular menu are shown on the bottom of the screen. Help for parameters are found in the Item Specific Help part of the screen. Read this carefully when making changes to parameter values. **Please note that system information is subject to different models**.

Information

The Information screen displays a summary of your computer hardware information.

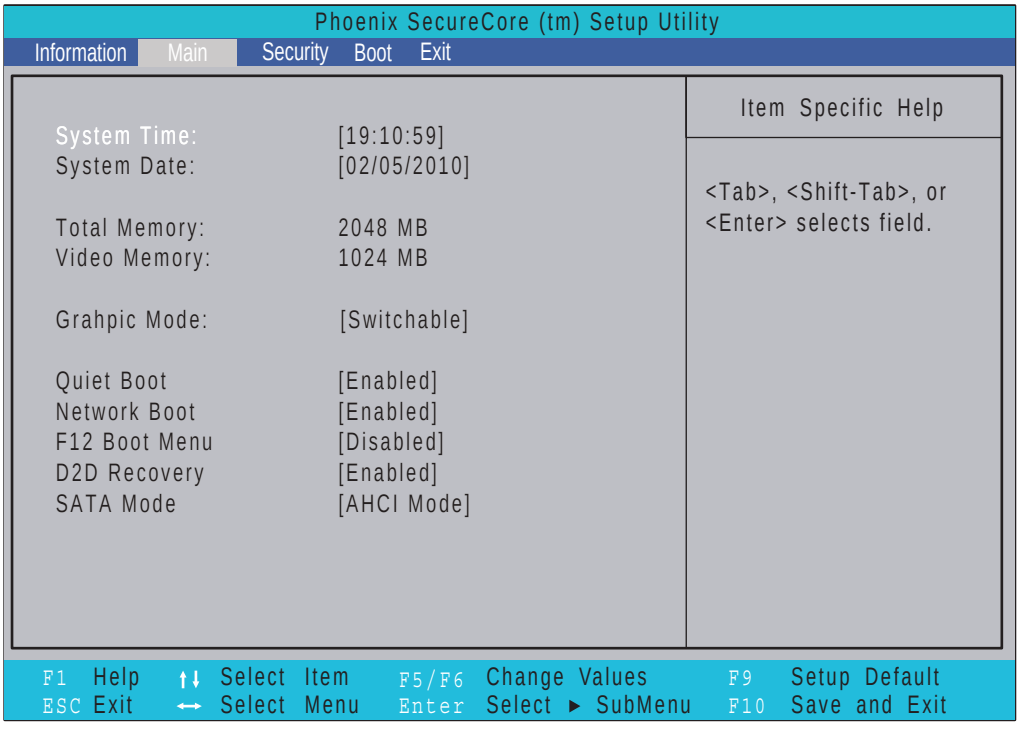


NOTE: The system information is subject to different models.

Parameter	Description
CPU Type	This field shows the CPU type and speed of the system.
CPU Speed	This field shows the speed of the CPU.
IDE0 Model Name	This field shows the model name of HDD installed on primary IDE master.
IDE0 Serial Number	This field displays the serial number of HDD installed on primary IDE master.
IDE1 Serial Number	This field shows the model name of the device nstalled on secondary IDE master.
IDE1 Serial Number	This field displays the serial number of the device installed on secondary IDE master.
ATAPI Model Name	This field displays the model name of the installed ODD drive.
System BIOS Version	Displays system BIOS version.
VGA BIOS Version	This field displays the VGA firmware version of the system.
Serial Number	This field displays the serial number of this unit.
Asset Tag Number	This field displays the asset tag number of the system.
Product Name	This field shows product name of the system.
Manufacturer Name	This field displays the manufacturer of this system.
UUID Number	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

The Main screen allows the user to set the system time and date as well as enable and disable boot option and recovery.



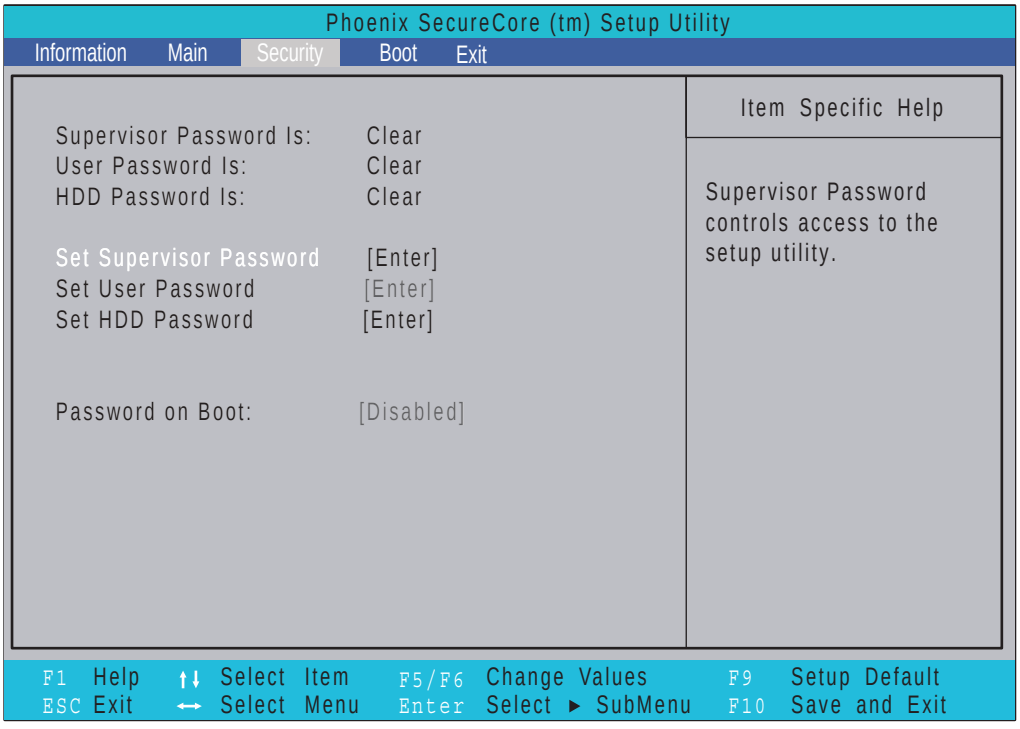
NOTE: The screen above is for your reference only. Actual values may differ.

The table below describes the parameters in this screen. Settings in **boldface** are the default and suggested parameter settings.

Parameter	Description	Format/Option
System Time	Sets the system time. The hours are displayed 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	This field reports the memory size of the system.	N/A
Video Memory	Shows the video memory size. VGA Memory size=32 MB	N/A
Graphic Mode	Sets discrete VGA only for systems with XP or Linux OS.	Option: **Switchable** or Discrete
Quiet Boot	This will hide POST messages while booting.	Option: **Enabled** or Disabled
Network Boot	Enables, disables the system boot from LAN (remote server).	Option: **Enabled** or Disabled
F12 Boot Menu	Enables, disables Boot Menu during POST.	Option: **Disabled** or Enabled
D2D Recovery	Enables, disables D2D Recovery function. The function allows the user to create a hidden partition on hard disc drive to store the operation system and restore the system to factory defaults.	Option: **Enabled** or Disabled
SATA Mode	Control the mode in which the SATA controller should operate.	Option: **AHCI mode** or IDE mode

Security

The Security screen contains parameters that help safeguard and protect your computer from unauthorized use.



The table below describes the parameters in this screen. Settings in **boldface** are the default and suggested parameter settings.

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
HDD Password Is	Shows the setting of the HDD 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.	
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.	
Set HDD Password	Press Enter to set the HDD password. When set this protects the HDD from unauthorized access.	
Password on Boot	Defines whether a password is required or not while the events defined in this group happened. The sub-options all require the Supervisor password for changes and should be grayed out if the user password was used to enter setup.	**Disabled** or Enabled

NOTE: When you are prompted to enter a password, you have three tries before the system halts. Don't forget the password. If you forget the password, you may have to reset the computer.

Setting a Password

Follow these steps as you set the user or the supervisor password:

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

2. Type a password in the “Enter New Password” field. The password length can not exceeds 8 alphanumeric characters (A-Z, a-z, 0-9, not case sensitive). Retype the password in the “Confirm New Password” field.

IMPORTANT: Be very careful when typing your password because the characters do not appear on the screen.

3. Press **Enter**. After setting the password, the computer sets the User Password parameter to “Set”.
4. If desired, you can opt to enable the Password on boot parameter.
5. When you are done, press F10 to save the changes and exit the BIOS Setup Utility.

Removing a Password

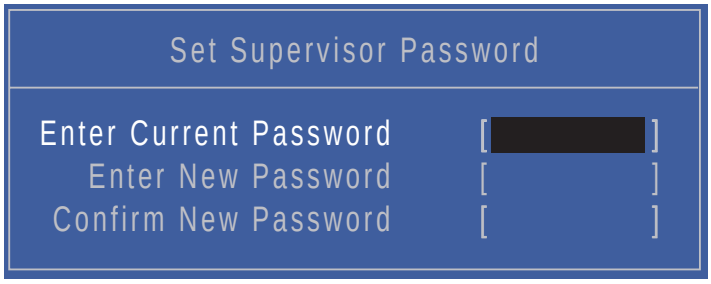
Follow these steps:

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

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. When you have changed the settings, press **F10** to save the changes and exit the BIOS Setup Utility.

Changing a Password

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



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.
4. Press **Enter**. After setting the password, the computer sets the User Password parameter to “Set”.
5. If desired, you can enable the Password on boot parameter.
6. When you are done, press **F10** to save the changes and exit the BIOS Setup Utility.

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

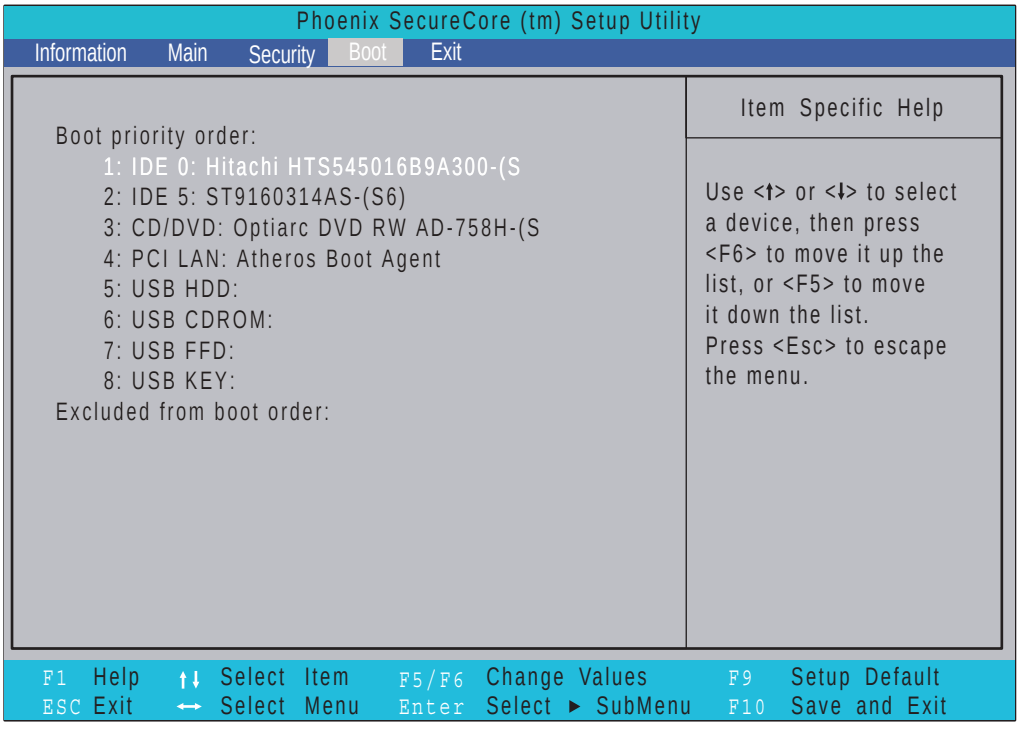
The password setting is complete after the user presses **Enter**.

If the current password entered does not match the actual current password, the screen will show you the Setup Warning.

If the new password and confirm new password strings do not match, the screen displays the following message.

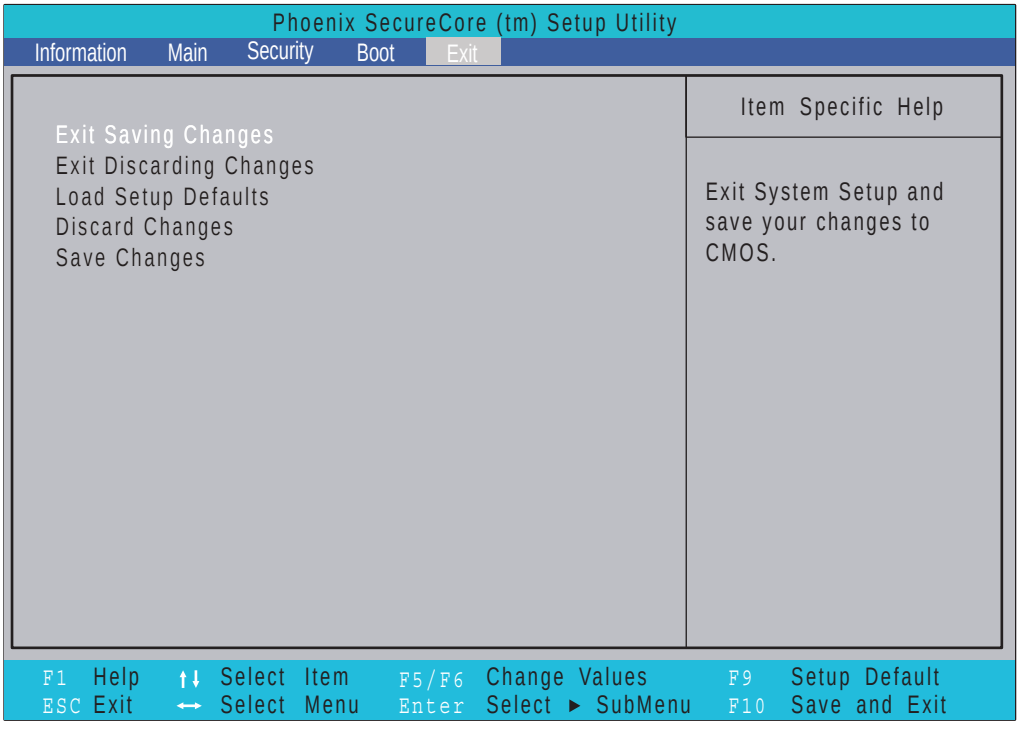
Boot

This menu allows the user to decide the order of boot devices to load the operating system. Bootable devices includes the USB diskette drives, the onboard hard disk drive and the DVD drive in the module bay.



Exit

The Exit screen allows you to save or discard any changes you made and quit the BIOS Utility.



The table below describes the parameters in this screen.

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

BIOS Flash Utility

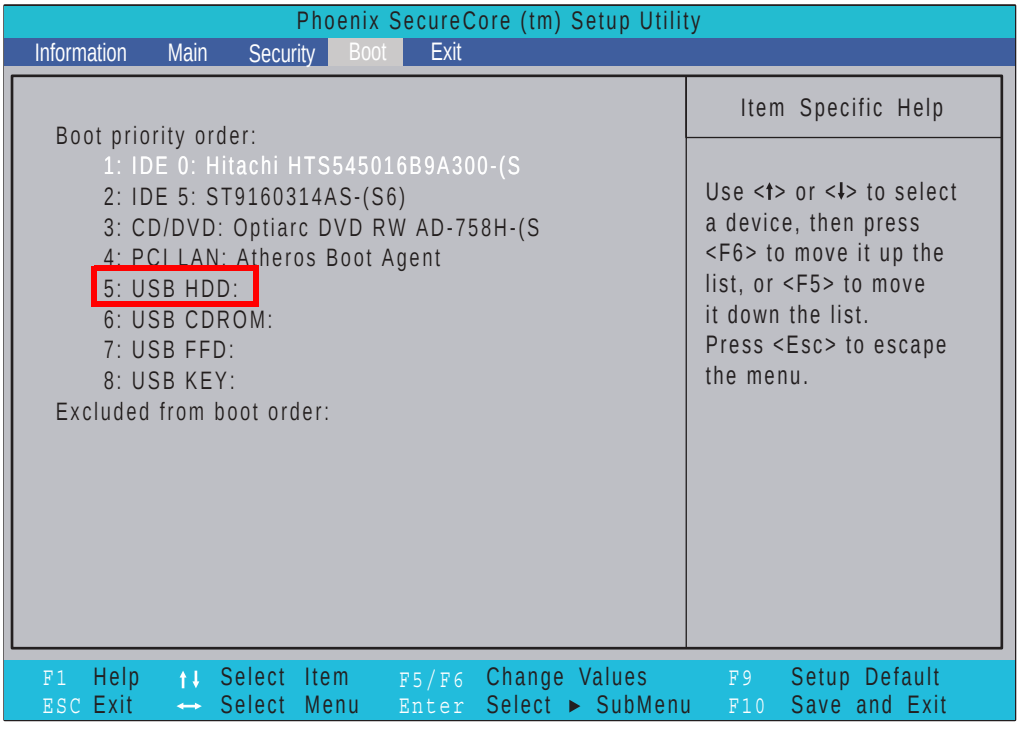
The BIOS flash memory update is required for the following conditions:

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

DOS Flash Utility

Perform the following steps 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, for example, if using USB HDD to Update BIOS, move USB HDD to position 1.



3. Execute the **FLASH.BAT** batch file to update BIOS. Or enter C:\ **Flash it bios ver.fd/dc**

The flash process begins as shown.

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

NOTE: If the AC power is not connected, the following message displays.

Plug in the AC power to continue.

5. Flash is complete when the message Flash programming complete displays.

WinFlash Utility

Perform the following steps to use the WinFlash Utility:

1. Double click the WinFlash executable.
2. Click **OK** to begin the update. A progress screen displays.

3. When the process is complete, close all programs and applications and reboot the system.

Remove HDD/BIOS Password Utilities

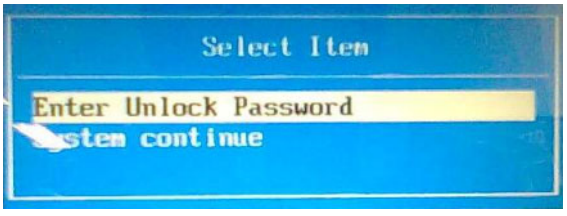
This section provide you with removing HDD/BIOS method:

Remove HDD Password:

When the user keys in the wrong password three times, the system reports the following error code to user.

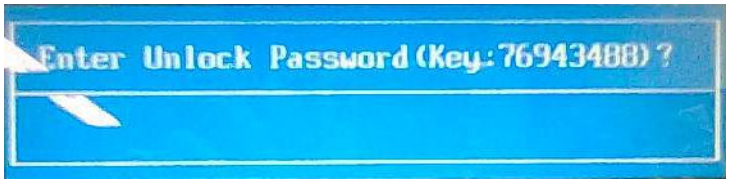
To unlock the HDD password, perform the following steps:

1. Press **Enter** to display the Select Item screen.



2. Select **Enter Unlock Password** and press **Enter**.

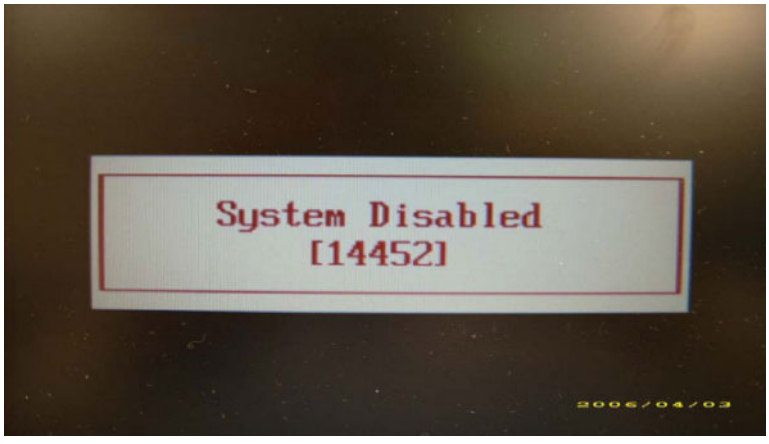
An Unlock Password displays.



3. Make a note of the key, **76943488** in the example.
4. Boot up the system to a removable bootable drive containing DOS and the UnlockHD.EXE program and open a DOS prompt. For instructions on changing boot priority see “Boot” on page 25.
5. From the DOS prompt, enter the **UnlockHD.EXE** command and input the key to create an unlock code. Make a note of the result, for example **46548274**.
6. Reboot to the hard disk and wait for the error code to reappear.
7. Press **Enter** to display the Select Item screen.
8. Select **Enter Unlock Password** and press **Enter**.
9. Enter the unlock code generated by UnlockHD.EXE.
10. Save and exit the BIOS to complete the process.

Removing BIOS Passwords:

If you key in the wrong Supervisor Password three times, System Disabled displays on the screen. See the image below.



To reset the BIOS password, run clnpwd.exe as follows:

1. From a DOS prompt, Execute **clnpwd.exe**

2. Press 1 or 2 to clean the desired password shown on the screen.

The onscreen message determines whether the function is successful or not.

Miscellaneous Utilities

Using Boot Sequence Selector

Boot Sequence Selector allows the boot order to be changes without accessing the BIOS. To use Boot Sequence Selector, perform the following steps:

1. Enter into DOS.
2. Execute BS.exe to display the usage screen.

```
d:\BOOTSEQ>bs

*** Boot Sequence Selecter Version 0.03 ***
Create by Rockwell Chuang 10/01/2005.

Usage:
       BS [ 1 | 2 | 3 | 4 ]

BS 1 : [ Floppy ] => [HardDisk] => [ CD-ROM ] => [  LAN   ]
BS 2 : [HardDisk] => [ CD-ROM ] => [  LAN   ] => [ Floppy ]
BS 3 : [ CD-ROM ] => [HardDisk] => [  LAN   ] => [ Floppy ]
BS 4 : [  LAN   ] => [ Floppy ] => [HardDisk] => [ CD-ROM ]

d:\BOOTSEQ>
```

3. Select the desired boot sequence by entering the corresponding sequence, for example, enter BS2 to change the boot sequence to HDD|CD ROM|LAN|Floppy.

Using DMITools

The DMI (Desktop Management Interface) Tool copies BIOS information to eeprom to be used in the DMI pool for hardware management.

When the BIOS displays **Verifying DMI pool data** it is checking the table correlates with the hardware before sending to the operating system (Windows, etc.).

To update the DMI Pool, perform the following steps:

1. Enter into DOS.
2. Execute **qdmitools.exe**. The following messages show dmitools usage:

```
*** Compal DMI String R/W Utility Ver1.40 for 2006/03/14 ***

 Usage:

   DMITOOLS [ /R | /WP | /WS | /WU ] [ STRING ]

      [/R]    : Read DMI Information from Memory
      [/WM]   : Write Manufacturer Name to EEPROM. (Max.= 16 characters)
      [/WP]   : Write Product Name to EEPROM.      (Max.= 16 characters)
      [/WS]   : Write Serial Number to EEPROM      (Max.= 22 characters)
      [/WU]   : Write UUID to EEPROM.              (Ignore String      )
      [/WA]   : Write Asset Tag to EEPROM.         (Max.= 32 characters)
```

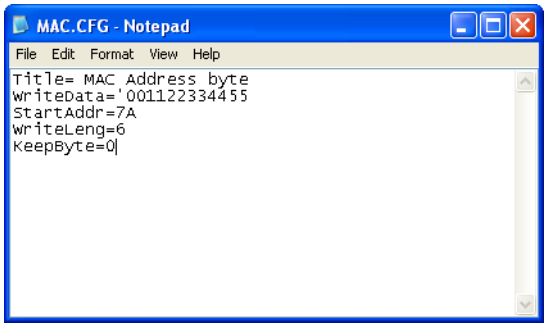
3. Enter the required key number of the feature required to be modified. See the following table.

Key No.	Function Description
1	Enter **1** to modify the Asset Tag
2	Enter **2** to modify the Product Name
3	Enter **3** to modify the Serial Number
4	Enter **4** to modify the 1394 GUID Number
0	Enter **0** to exit the program

Using the LAN MAC Utility

Perform the following steps to write MAC information to eeprom:

1. Use a text editor, for example Notepad, to edit the MAC.CFG file as shown:



- WriteData= '001122334455' <------- MAC value
- StartAddr=7A <------- MAC address
- WriteLeng=6 <------- MAC value length
- KeepByte=0 <------- can be any value

2. Boot into DOS.
3. Execute **MAC.BAT** to write MAC information to eeprom.

Machine Disassembly and Replacement

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

Disassembly Requirements

To disassemble the computer, you need the following tools:

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

NOTE: 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.

Related Information

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

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

Replacement Requirements

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

NOTE: During manufacture a cyanoacrylate glue is used provided by Holdtite Adhesives LTD. This is not a specified requirement. The reassembler is free to select an alternative appropriate adhesive.

Pre-disassembly Instructions

Before proceeding with the disassembly procedure, make sure that you 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.

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, if you want to remove the Mainboard, you must first remove the Keyboard, and LCD Module then disassemble the inside assembly frame in that order.

Main Screw List

Screw	Quantity	Acer Part Number
M2.0*3L(BK)	14	
M2.5*5L(NI)	8	
M2.5*4L(BNI)	12	
M3.0*3.5L(NI)	6	
M2.5*5L(BNI)	7	
M2.0*5L	4	
M2.5*6L(BNI)	38	
M2.5*2L(NI)	4	

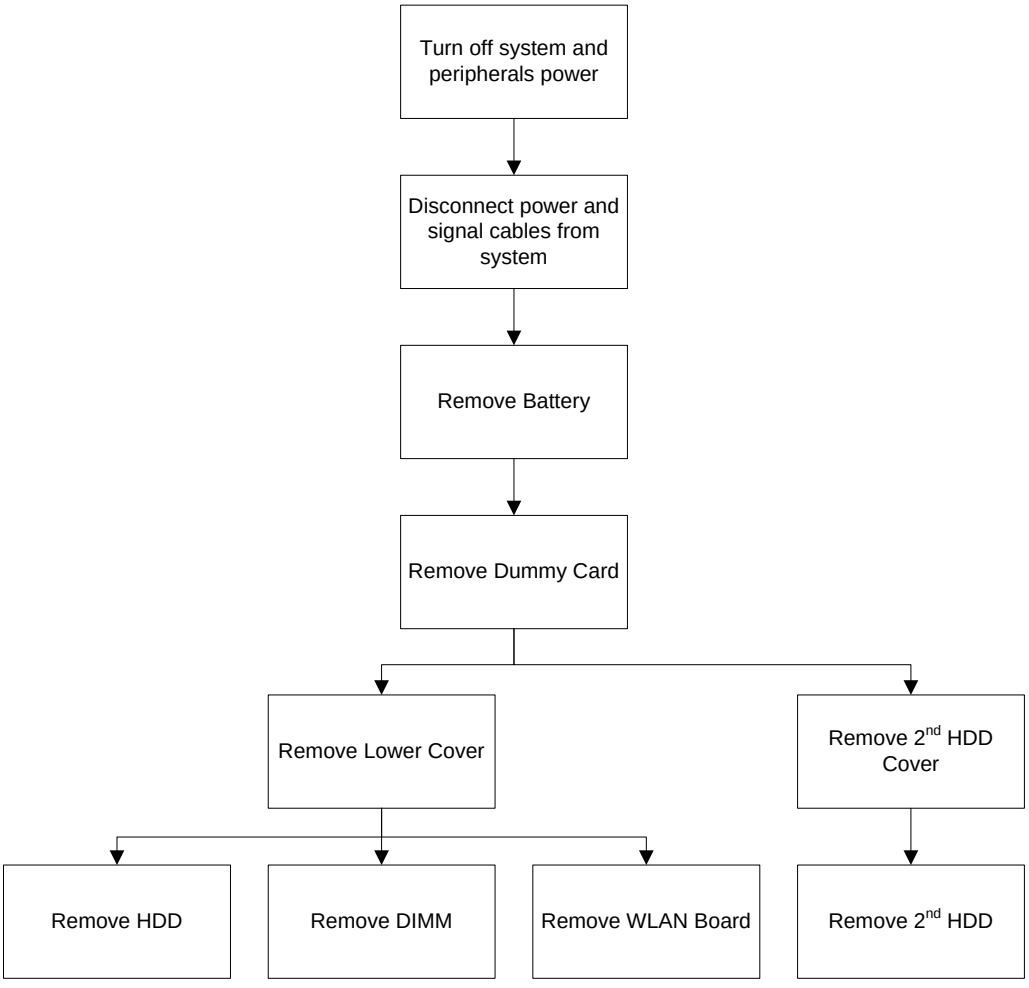
External Module Disassembly Process

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

Screw List

Step	Screw	Quantity	Part No.
Base Cover Disassembly	M2.5*5L(BNI)	6	
2nd HDD Cover Disassembly	M2.5*5L(BNI)	1	
WLAN Module Disassembly	M2.0*3L(BK)	1	
HDD Disassembly	M3.0*3.5L(NI)	2	
2nd HDD Disassembly	M3.0*3.5L(NI)	4	
ODD Module Disassembly	M2.0*3L(BK)	1	

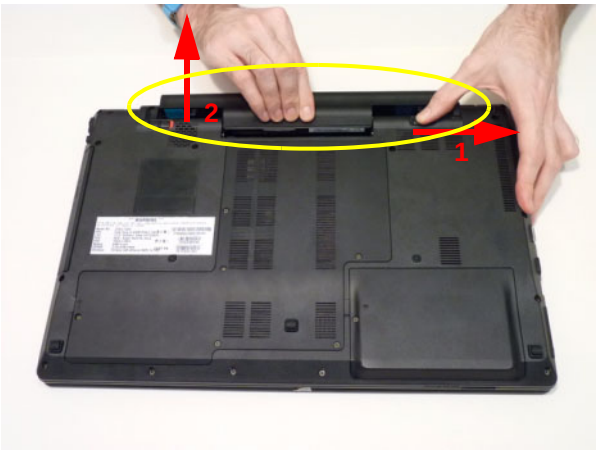
External Modules Disassembly Flowchart



Removing the Battery Pack

1. Turn the computer over.
2. Slide the battery lock/unlock latch to the unlock position.

3. Slide and hold the battery release latch to the release position (1), then slide out the battery pack from the main unit (2).



NOTE: The battery has been highlighted with a yellow oval as shown in the above image. Please detach the battery and follow local regulations for disposal.

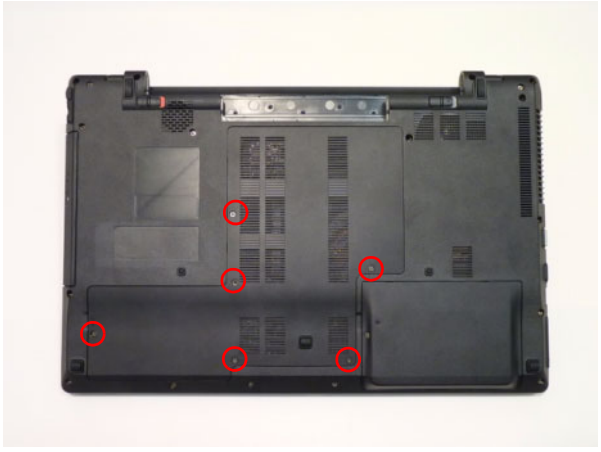
Removing the Dummy Card

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

2. Pull the dummy card out.

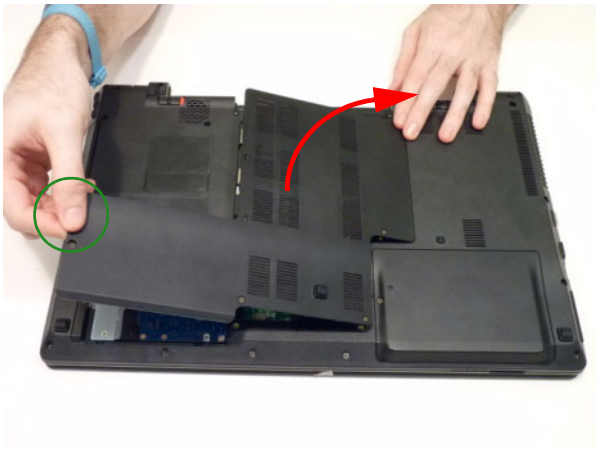
Removing the Base Door

1. See “Removing the Battery Pack” on page 37.
2. Remove the six (6) screws.



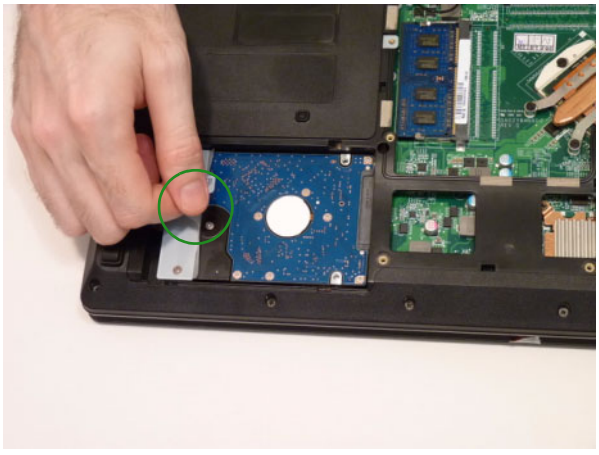
Step	Screw	Quantity	Screw Type
Base Door Disassembly	M2.5*5L(BNI)	6	

3. Lift the base door up at the finger indentation location provided in the bottom cover.

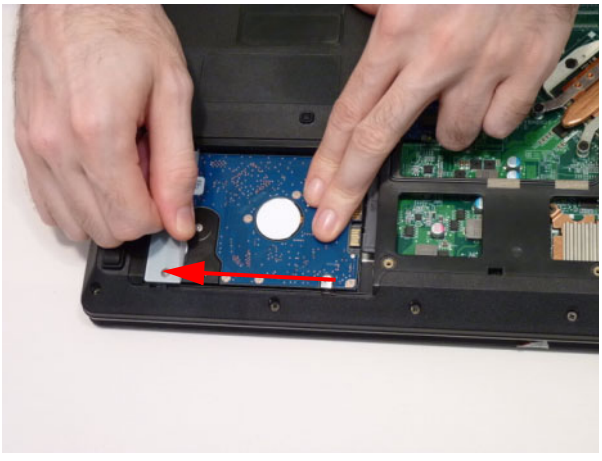


Removing the Hard Disk Drive Module

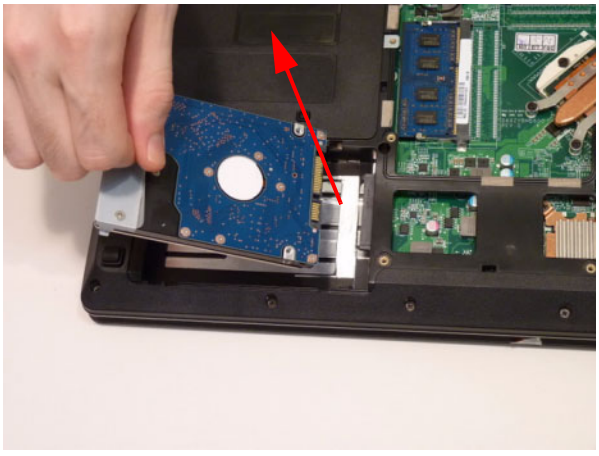
1. See “Removing the Battery Pack” on page 37.
2. See “Removing the Base Door” on page 39.
3. Grasp the pull tab on the top of the HDD.



4. Pull the tab horizontally to slide the HDD out of the connector dock.



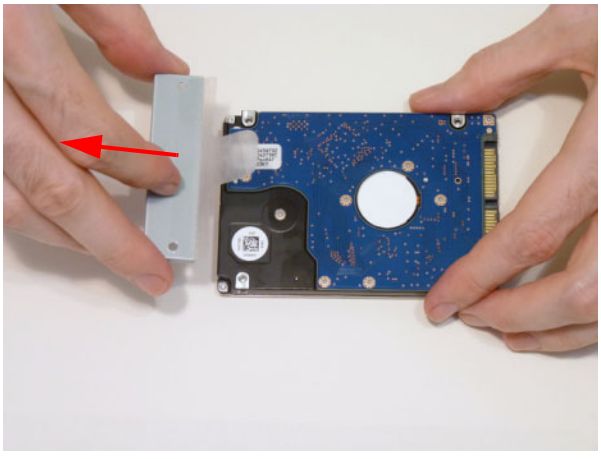
5. Lift the HDD out of the lower cover.



6. Remove the two (2) screws of the HDD bracket.

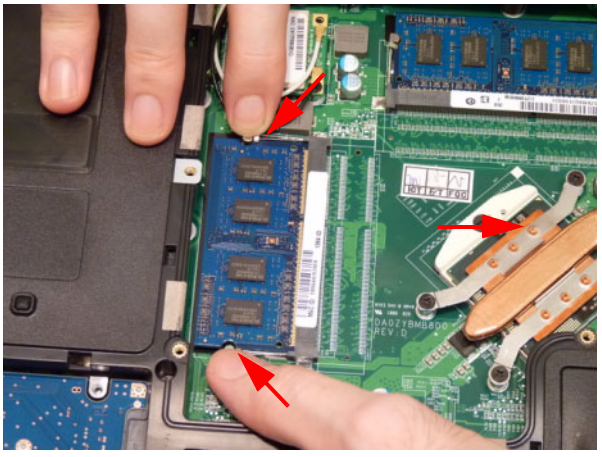
Step	Screw	Quantity	Screw Type
HDD Bracket Disassembly	M3.0*3.5L(NI)	2	

7. Lift the bracket away from the HDD.

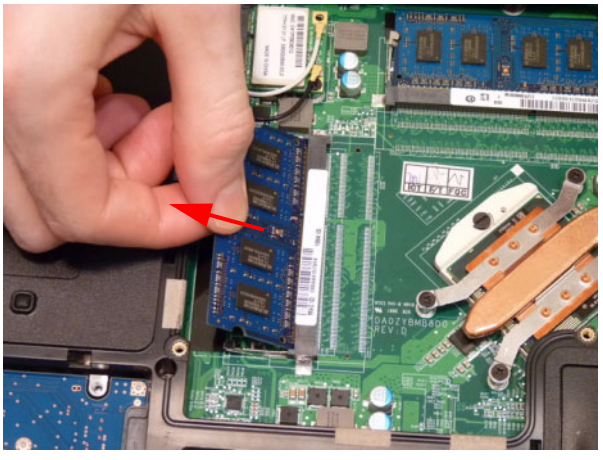


Removing the DIMM Module

1. See “Removing the Battery Pack” on page 37.
2. See “Removing the Base Door” on page 39.
3. Push the memory module clips outwards.



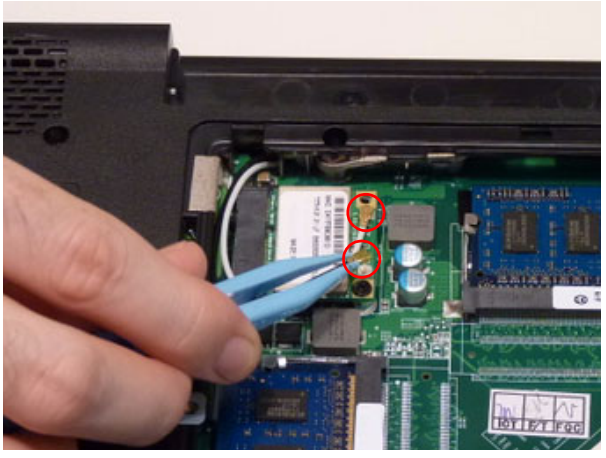
4. Pull the memory module out.



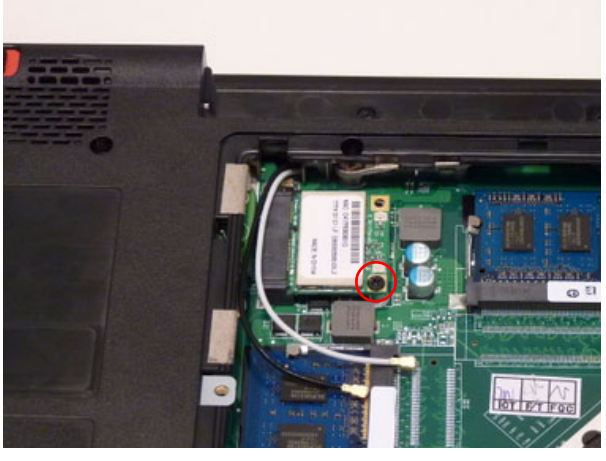
Removing the WLAN Module

1. See “Removing the Battery Pack” on page 37.
2. See “Removing the Base Door” on page 39.
3. Detach the two (2) cables from the Wireless LAN module.

IMPORTANT: Take note of the position of the Main (black) and Auxiliary (white) connectors.

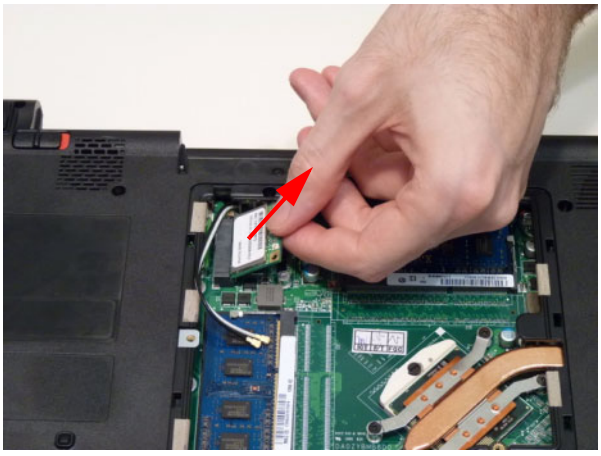


4. Remove the one (1) screw. Ensure the cables are well clear of the module.



Step	Screw	Quantity	Screw Type
WLAN Module Disassembly	M2.0*3L(BK)	1	

5. Pull the WLAN module out and away.

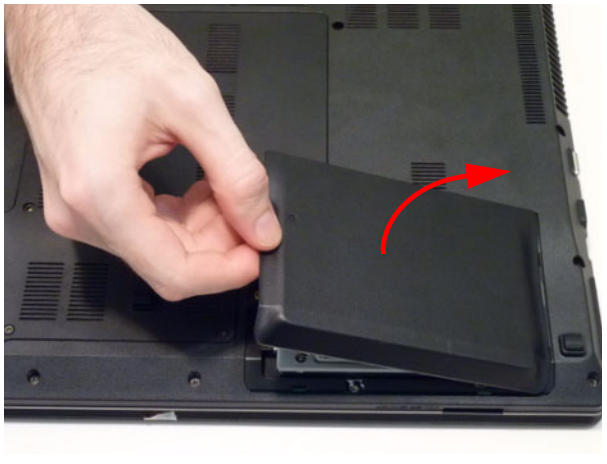


Removing the 2nd HDD Module

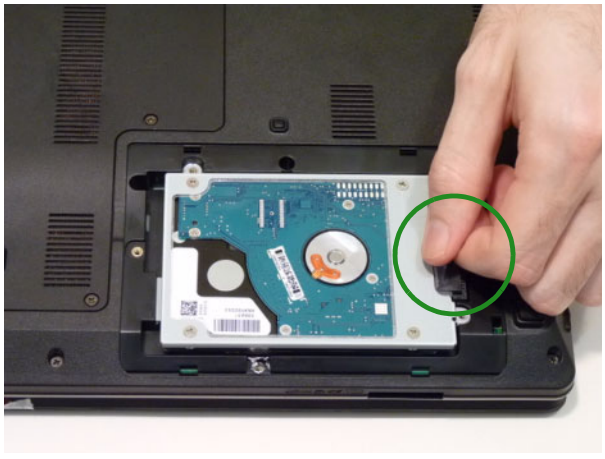
1. See “Removing the Battery Pack” on page 37.
2. Remove the one (1) screw from the 2nd HDD module door.

Step	Screw	Quantity	Screw Type
2nd HDD Module Disassembly	M2.5*5L(BNI)	1	

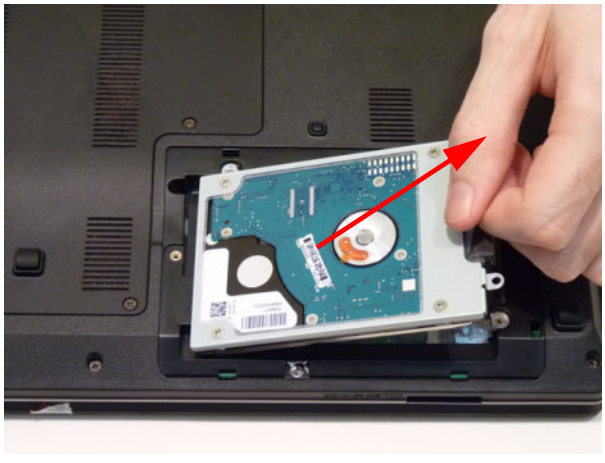
3. Remove the HDD module door from the lower cover.



4. Grasp the pull tab on the top of the HDD.



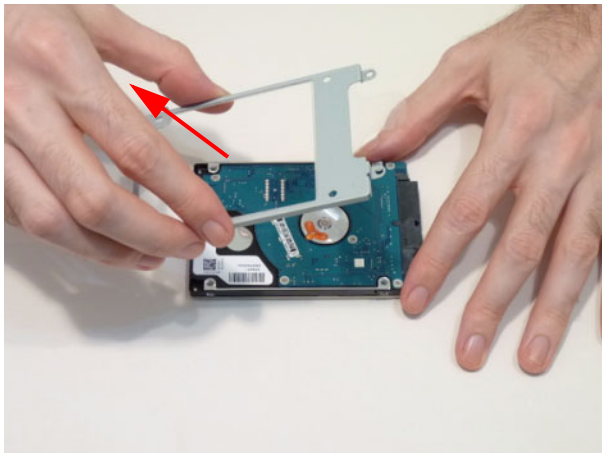
5. Lift the HDD out of the lower cover.



6. Remove the four (4) screws from the HDD bracket.

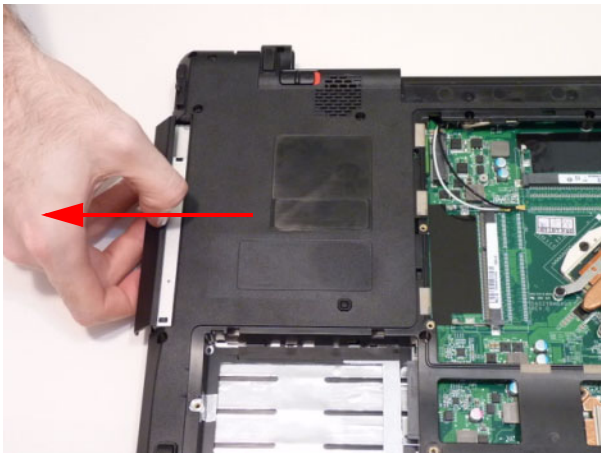
Step	Screw	Quantity	Screw Type
HDD Bracket Disassembly	M3.0*3.5L(NI)	4	

7. Lift the bracket away from the HDD.



Removing the ODD Module

1. See “Removing the Battery Pack” on page 37.
2. See “Removing the Base Door” on page 39.
3. Pry the ODD from the chassis and pull the ODD completely out of the bay.



4. Remove the two (2) screws from the ODD bracket.

Step	Screw	Quantity	Screw Type
ODD Module Disassembly	M2.0*3L(BK)	2	

5. Remove the ODD bracket.

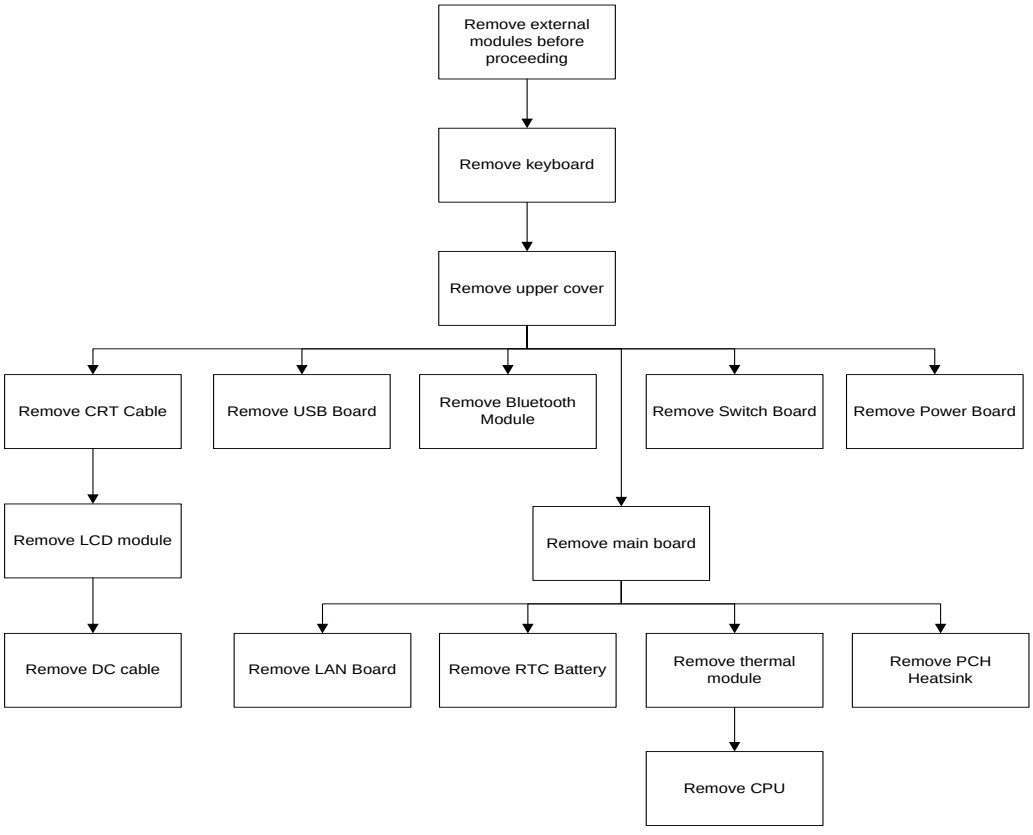
6. Pry the ODD bezel off of the ODD module.

Main Unit Disassembly Process

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

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

Main Unit Disassembly Flowchart



Screw List

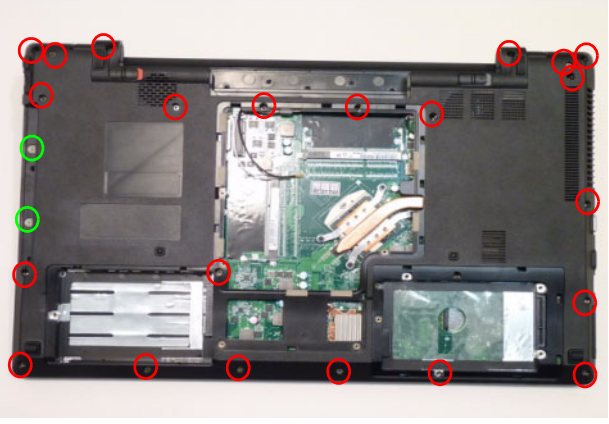
Step	Screw	Quantity	Part No.
Upper Cover Disassembly	TBD		
Lower Cover Disassembly	TBD		
Switch Board Disassembly	M2.5*2L(NI)	2	
Power Module Disassembly	M2.0*3L(BK)	3	
USB board Disassembly	M2.5*6L(BNI)	1	

Step	Screw	Quantity	Part No.
Bluetooth Module Disassembly	TBD		
LAN Board Disassembly	TBD		
PCH Heatsink Disassembly	TBD		
LCD Module Disassembly	M2.5*6L(BNI)	4	

Removing the Keyboard

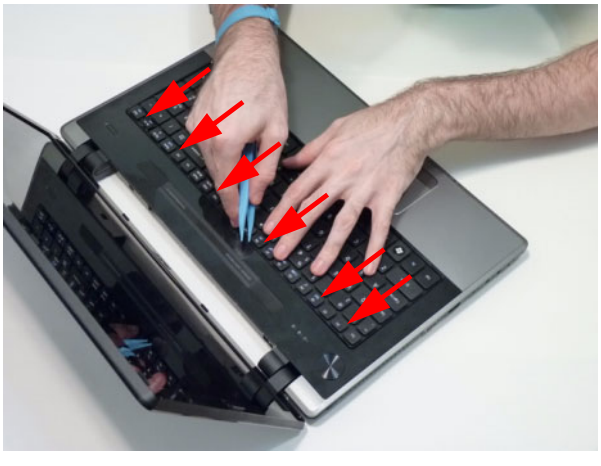
IMPORTANT: The keyboard is easily warped or damaged during the removal process. Take care not to use excessive force when removing to prevent damage.

1. See “Removing the Battery Pack” on page 37.
2. See “Removing the Base Door” on page 39.
3. See “Removing the DIMM Module” on page 42.
4. See “Removing the WLAN Module” on page 43.
5. See “Removing the 2nd HDD Module” on page 45.
6. See “Removing the ODD Module” on page 48.
7. Remove the twenty two (22) screws in the lower cover.



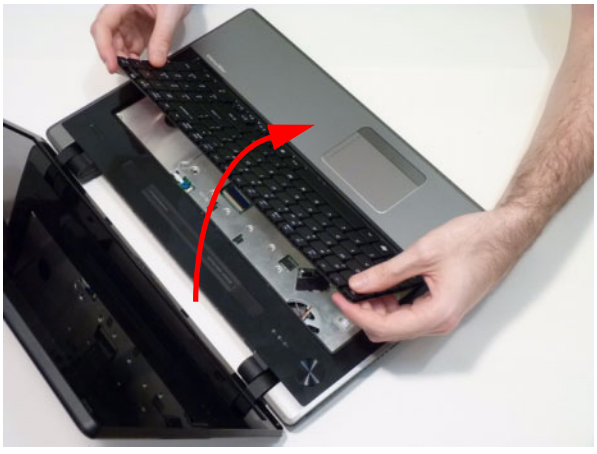
Step	Screw	Quantity	Screw Type
Lower Cover Disassembly	M2.5*6.0 (red callouts)	22	
	M2.5*2L(NI) (green callouts)	2	

8. Using plastic tweezers, release the six (6) clips holding the keyboard in place.

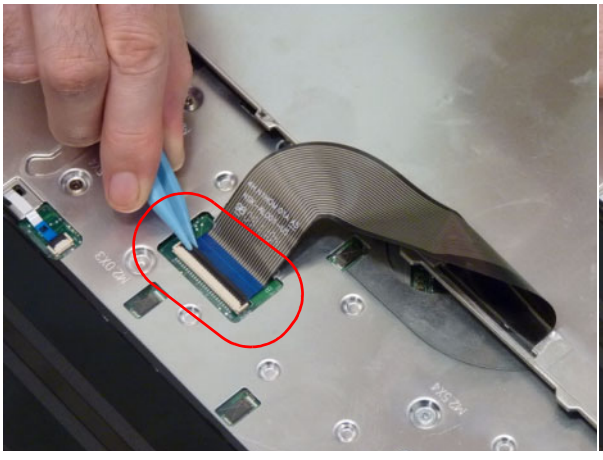


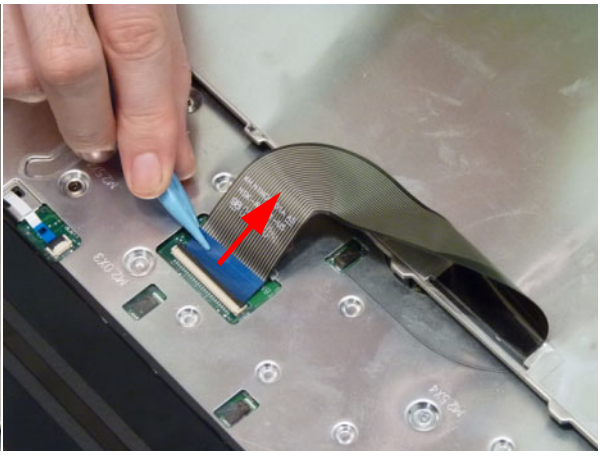
9. Gently pry up the keyboard.

10. Carefully flip the keyboard over.



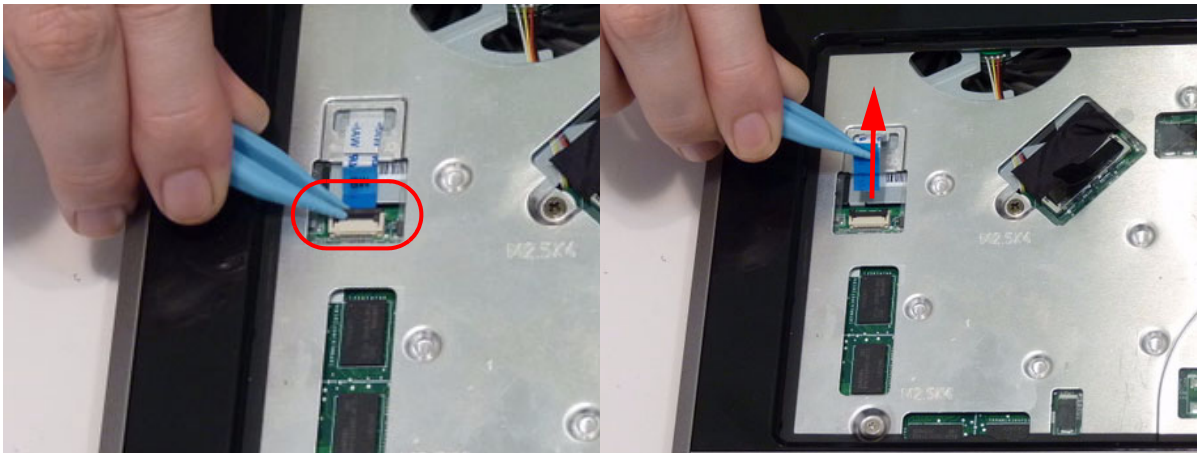
11. Detach the keyboard FCC and remove the keyboard.



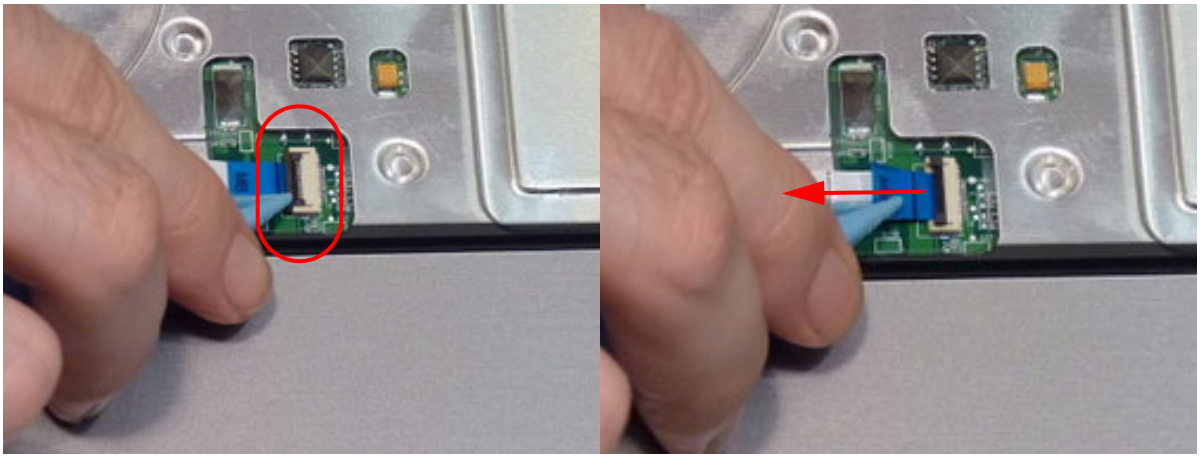


Removing the Upper Cover

1. See “Removing the Keyboard” on page 52.
2. Disconnect the power board FFC.

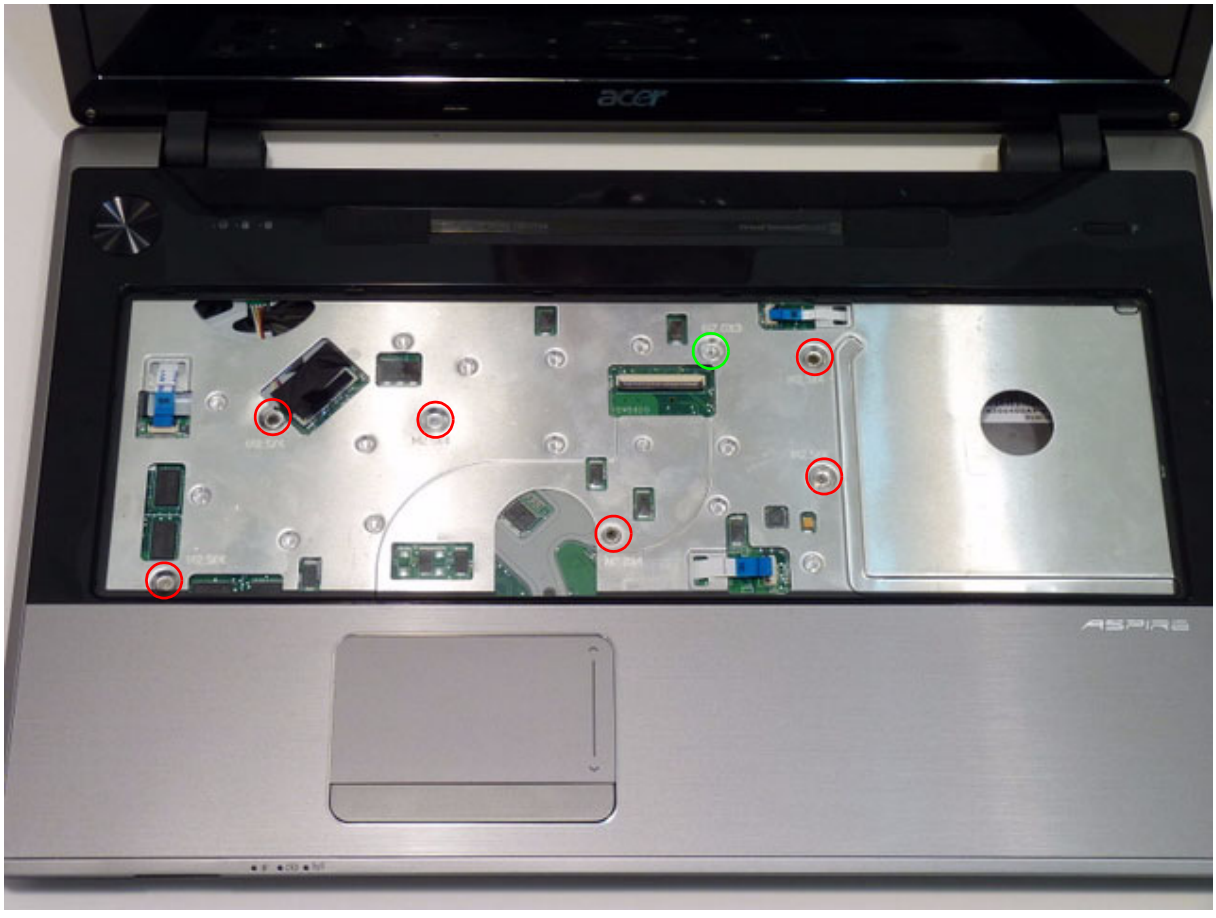


3. Unlock and disconnect the touchpad board FFC.



4. Unlock and disconnect the speaker cable.

5. Remove the seven (7) screws from the upper cover.

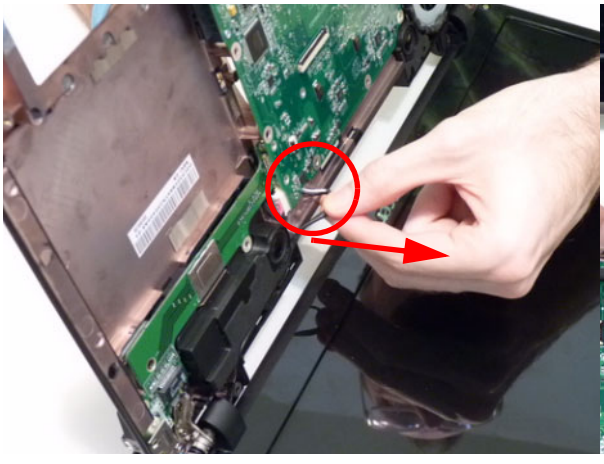


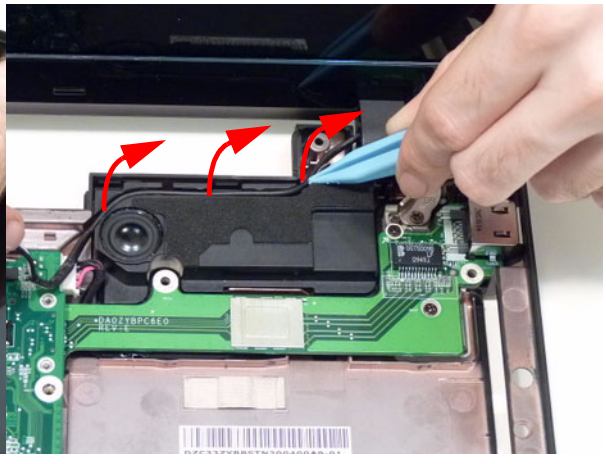
Step	Screw	Quantity	Screw Type
Upper Cover Disassembly	2.5*4.0 (red callouts)	6	
	2.0*3.0 (green callout)	1	

6. Lift the upper cover away from the lower cover as shown.

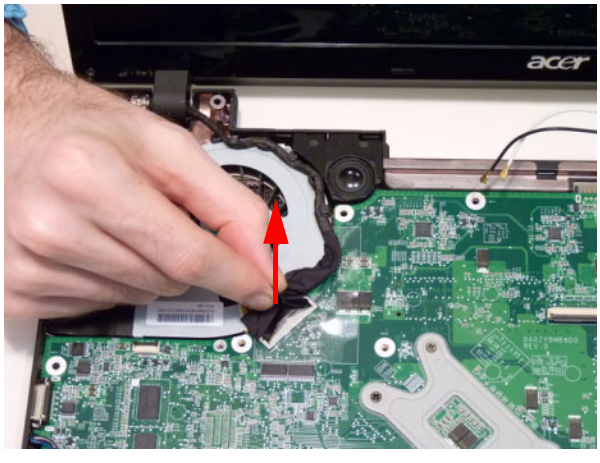
Removing the LCD Module

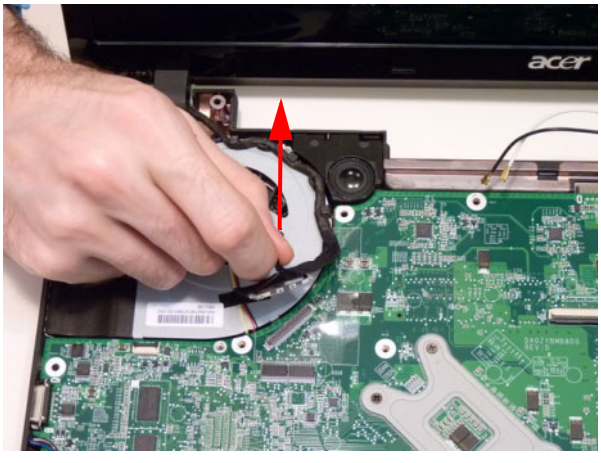
1. See "Removing the Upper Cover" on page 54
2. Pull the WLAN antenna up through the upper cover and free it from the cable channel.



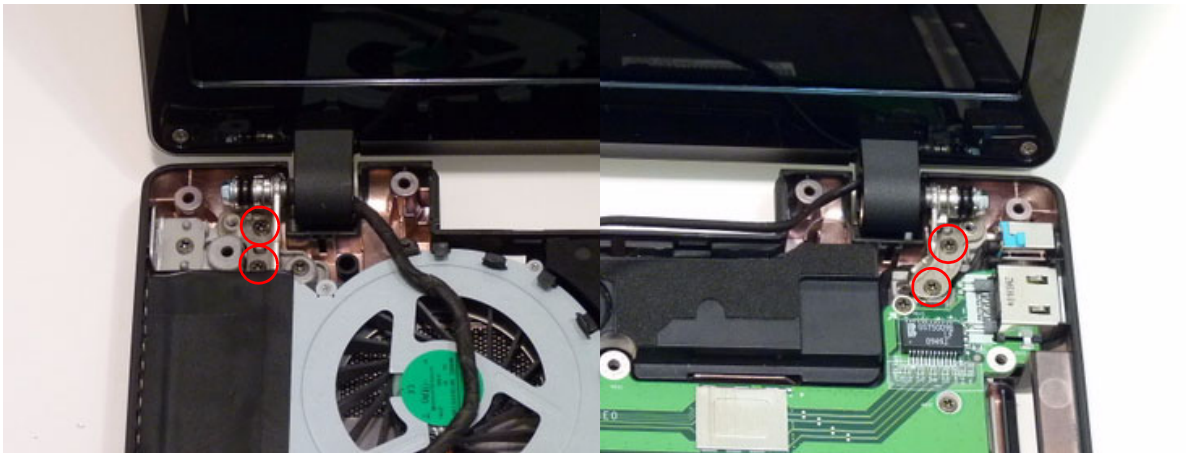


3. Using the pull tab, release the LVDS cable from the connector.





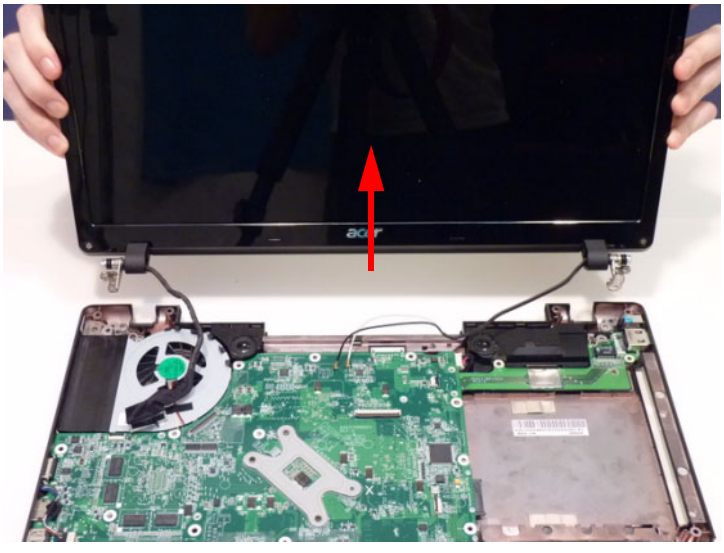
4. Remove the four (4) screws from the hinges.



Step	Screw	Quantity	Screw Type
Remove LCD Module	M2.5*6.0	4	

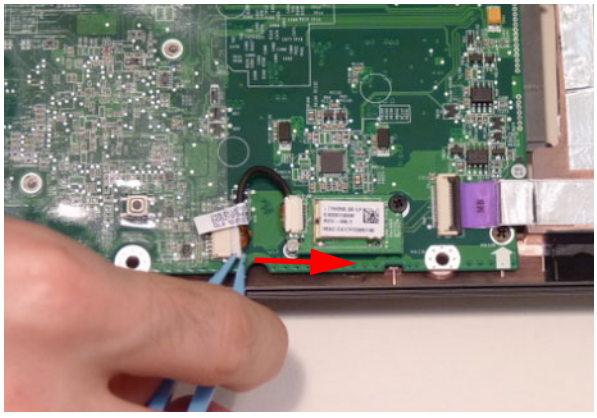
5. Remove the LCD module from the chassis.

CAUTION: Make sure all cables are pulled back and away from the device to avoid damage during removal.

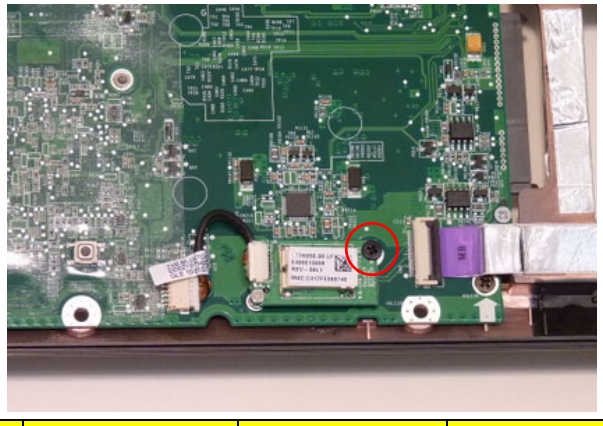


Removing the Bluetooth Module

1. See “Removing the Upper Cover” on page 54.
2. Disconnect the Bluetooth cable from the mainboard..

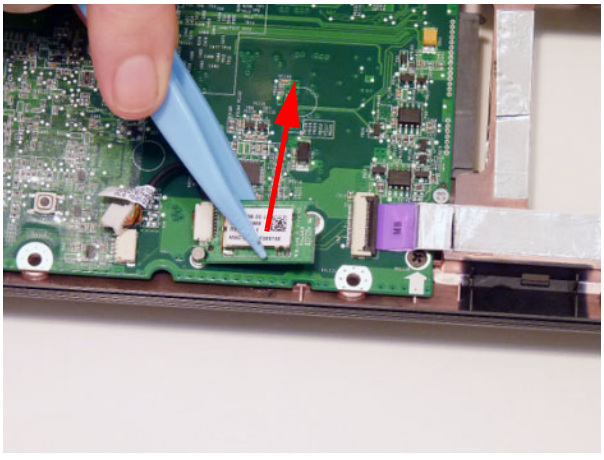


3. Remove the one (1) screw from the Bluetooth module.

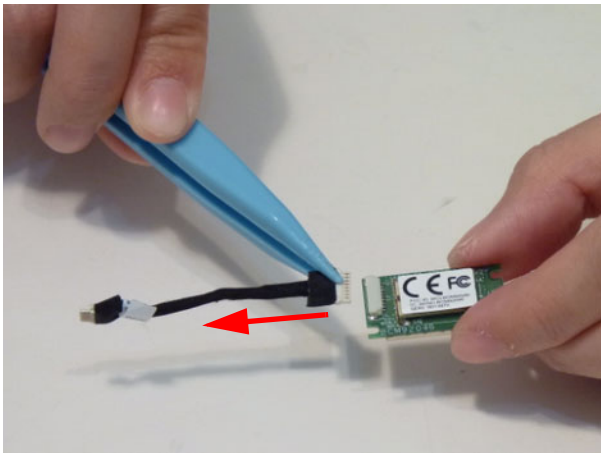


Step	Screw	Quantity	Screw Type.
Bluetooth Module Disassembly	M2.5*3	1	

4. LIft the Bluetooth module away from the upper cover.

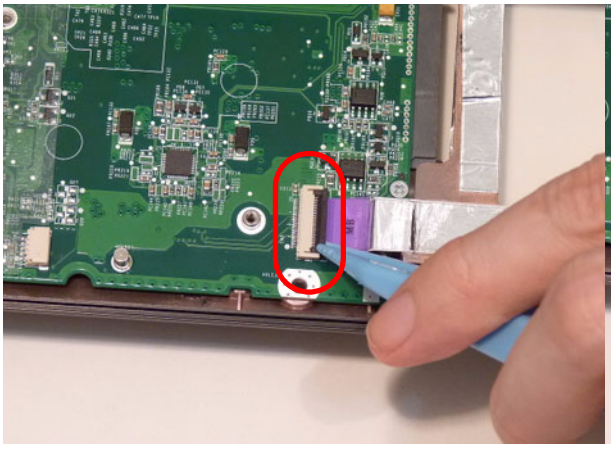


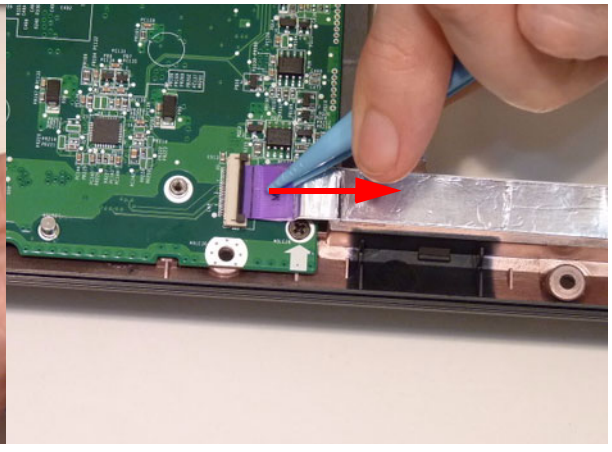
5. Detach the Bluetooth module cable from the module.



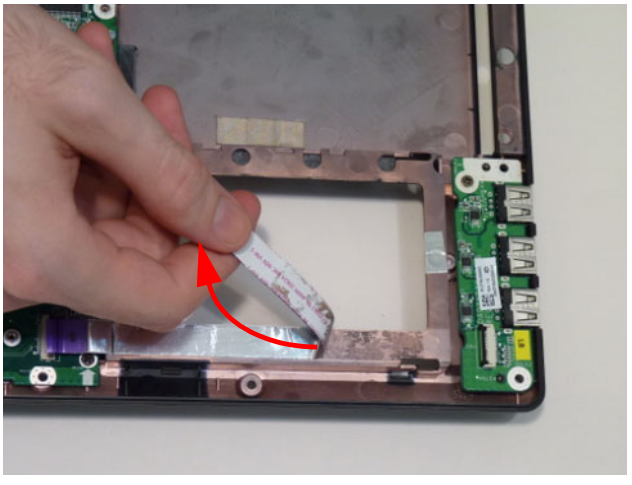
Removing the USB Board

1. See “Removing the Upper Cover” on page 54.
2. Unlock the USB board connector and disconnect the cable from the mainboard.



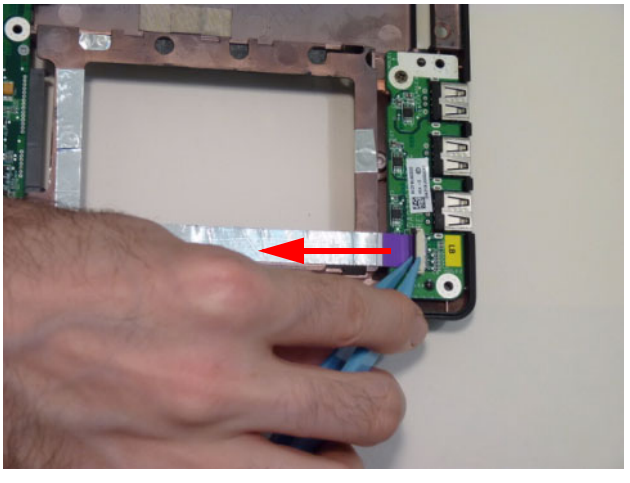


3. Peel the cable off the adhesive.

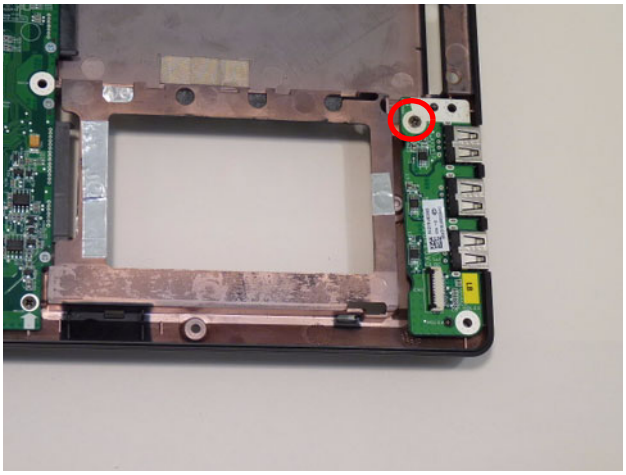


IMPORTANT: Take care not to tear the FFC pull tab during removal.

4. Unlock the USB board cable connector and disconnect the cable from the board.

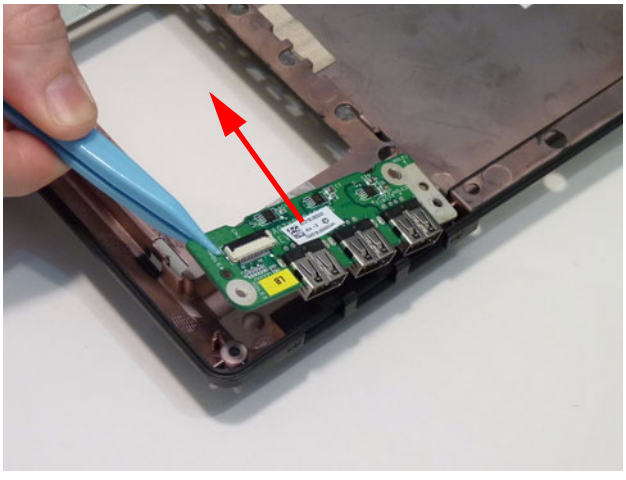


5. Remove one (1) screw from the USB board.



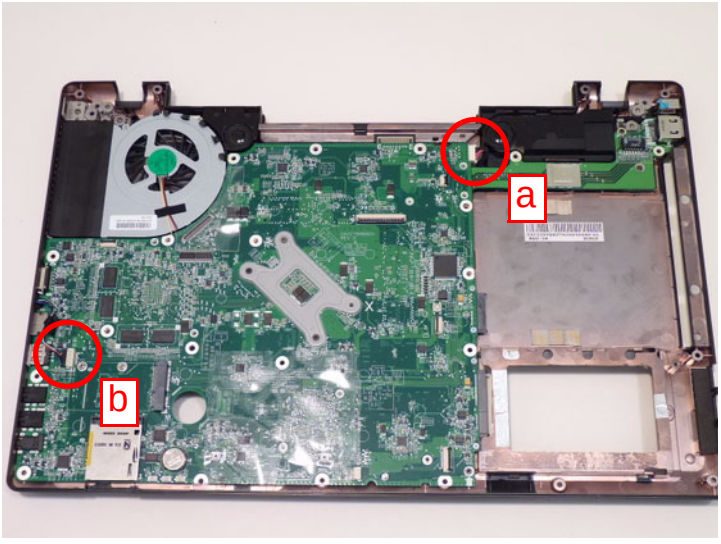
Step	Screw	Quantity	Screw Type.
USB Module Disassembly	2.5*6	1	

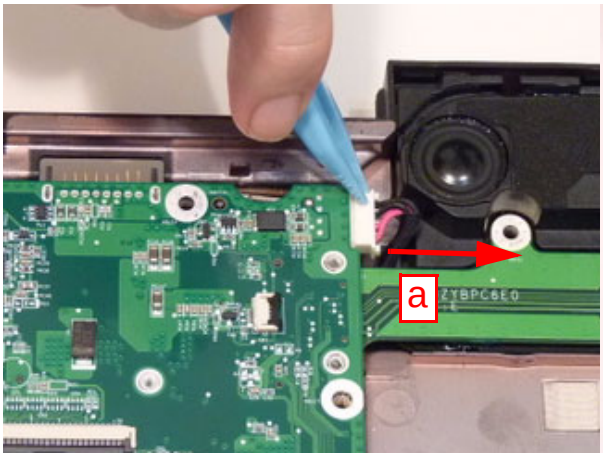
6. Lift the USB board clear of the chassis.

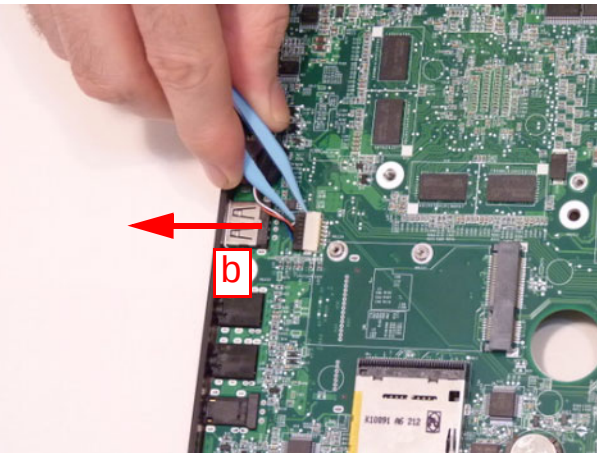


Removing the Mainboard

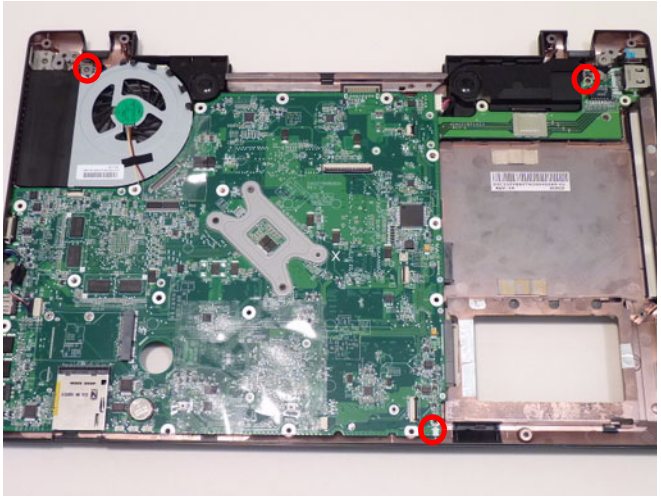
1. See “Removing the Upper Cover” on page 54.
2. Disconnect the following cables (a,b) from the mainboard.





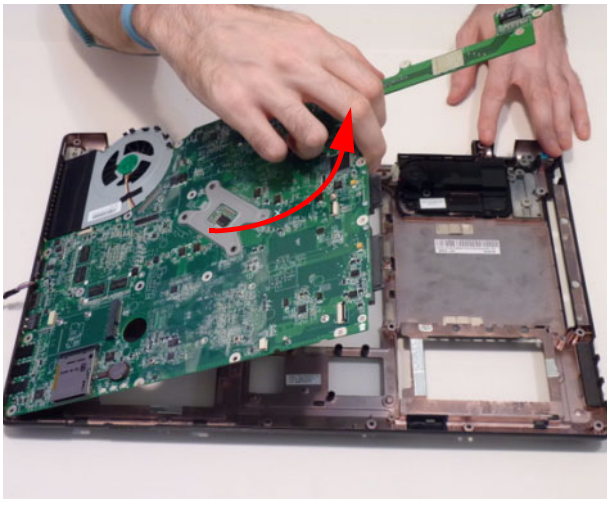


3. Remove three (3) screws from the mainboard.



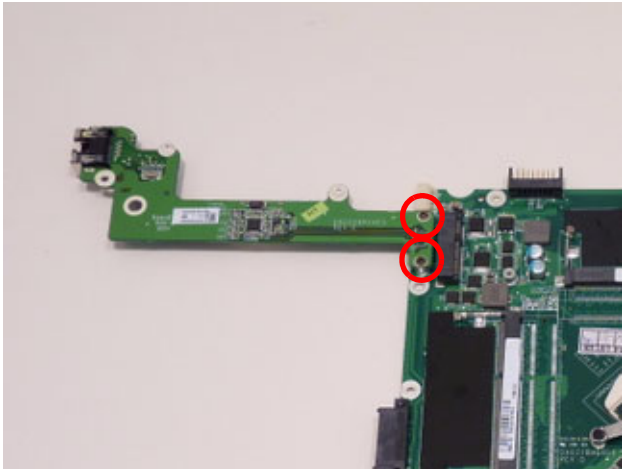
Step	Screw	Quantity	Screw Type.
Main Board Disassembly	M2.5*6	2	

4. Lift the mainboard out of the chassis as shown.



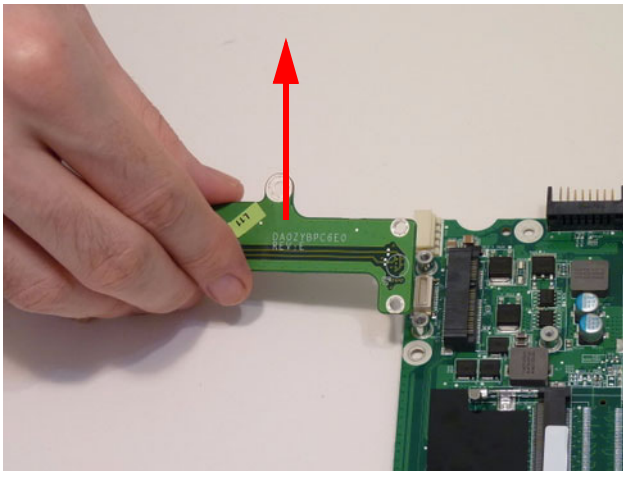
Removing the LAN Board

1. See “Removing the Mainboard” on page 62.
2. Remove two (2) screws from the LAN board.



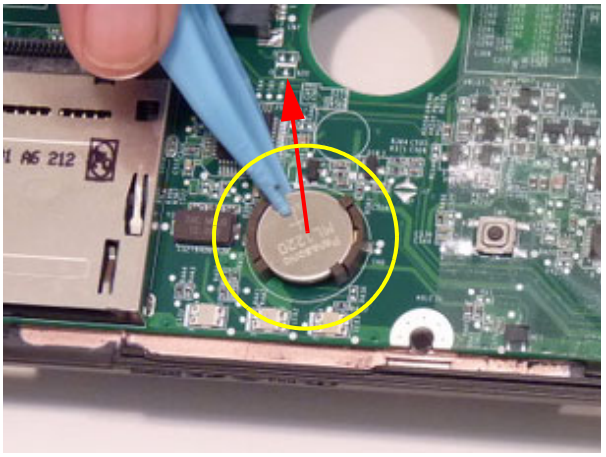
Step	Screw	Quantity	Screw Type.
LAN Module Disassembly	M2.5*6.0	2	

3. Lift the LAN board clear of the chassis.



Removing the RTC Battery

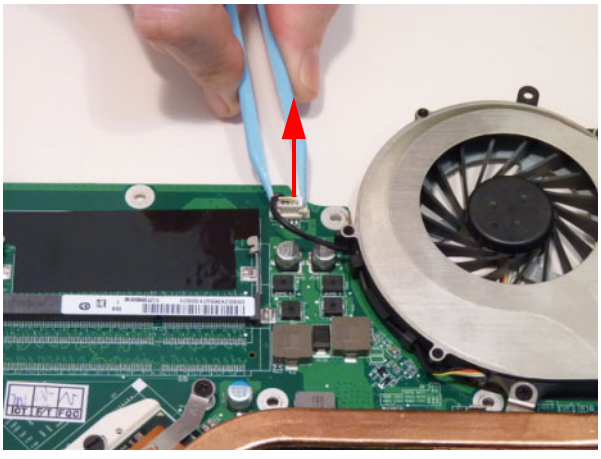
1. See “Removing the Mainboard” on page 62.
2. Pull the RTC battery off the mainboard.



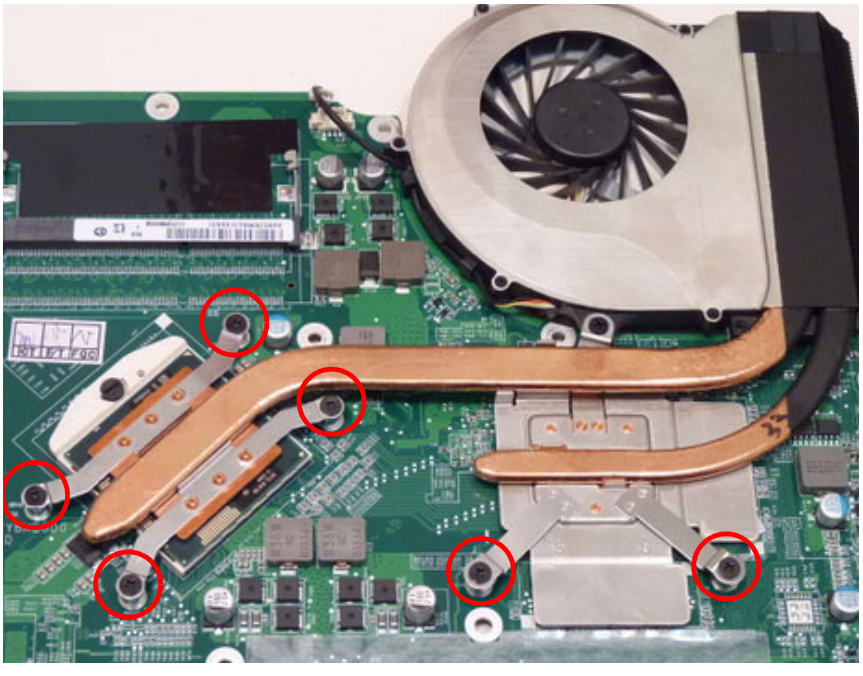
NOTE: The RTC battery has been highlighted with the yellow circle as shown in the previous image. Please detach the RTC battery and follow local regulations for disposal.

Removing the Thermal Module

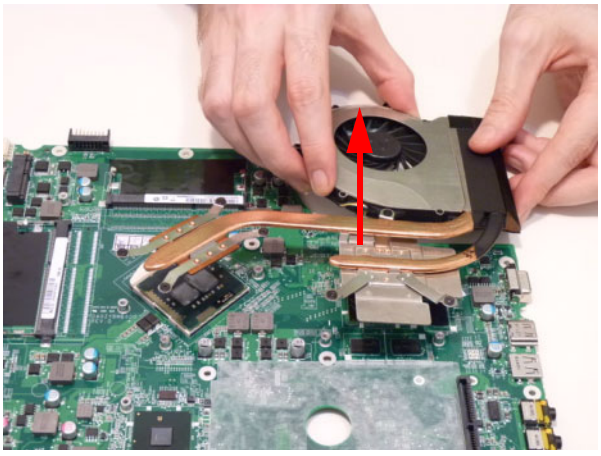
1. See “Removing the Mainboard” on page 62.
2. Disconnect the thermal module fan connector.



3. Loosen the six (6) captive screws from the thermal module.

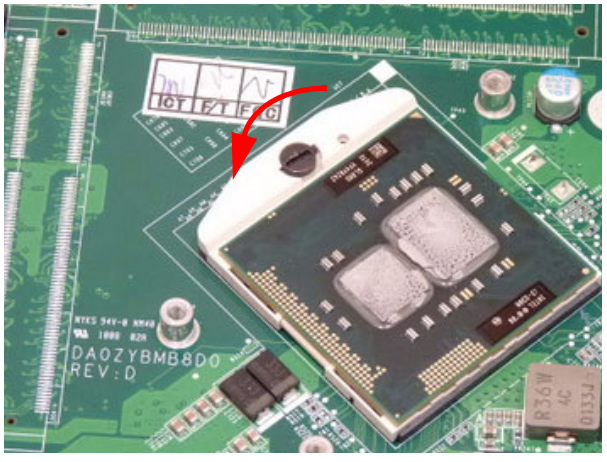


4. Lift the thermal module away from the main board.

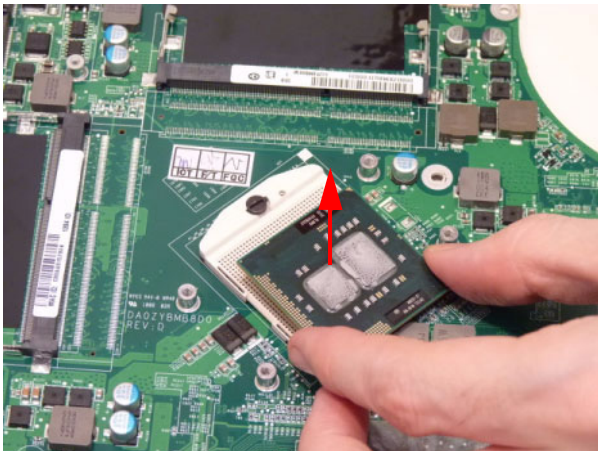


Removing the CPU

1. See “Removing the Thermal Module” on page 66.
2. Unlock the CPU. Use a flathead screw driver to turn the screw 180°.

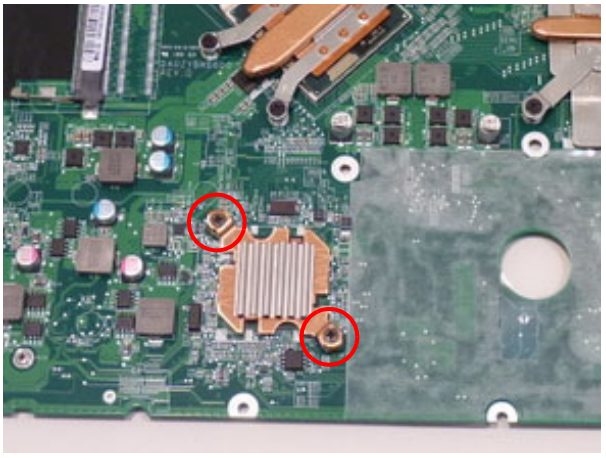


3. Lift the CPU out of the socket.

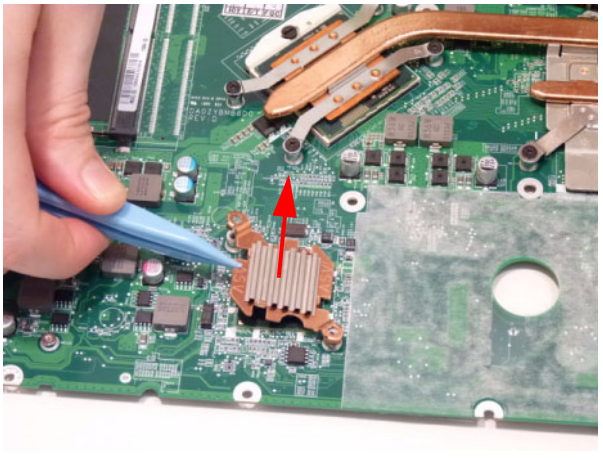


Removing the PCH Heatsink

1. See “Removing the Mainboard” on page 62.
2. Loosen the two (2) captive screws.



3. Lift the thermal unit away.

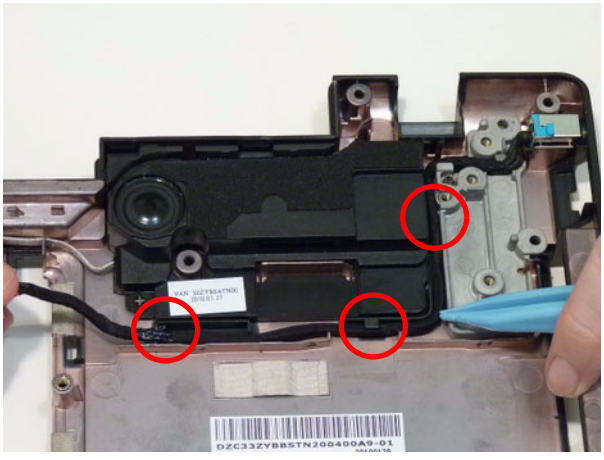


Step	Screw	Quantity	Screw Type.
Removing the PCH Heatsink	M2.5*6.0	2	

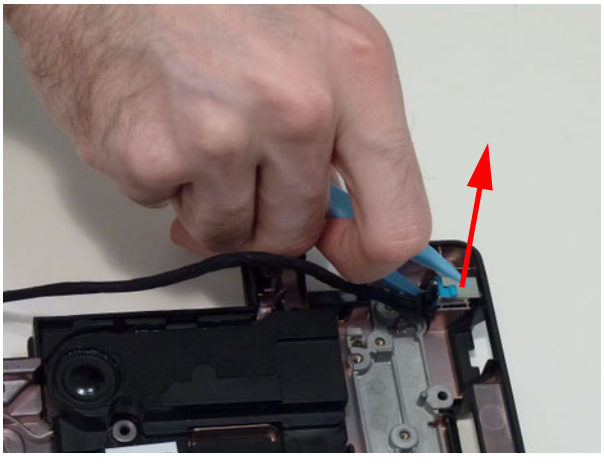
NOTE: Circuit boards >10 cm² have been highlighted with a yellow rectangle as shown in the previous image. Please detach the circuit board and follow local regulations for disposal.

Removing the DC-IN Cable Assembly

1. See “Removing the Mainboard” on page 62.
2. See “Removing the Upper Cover” on page 54.
3. Remove the DC-IN cable from the retention guides.

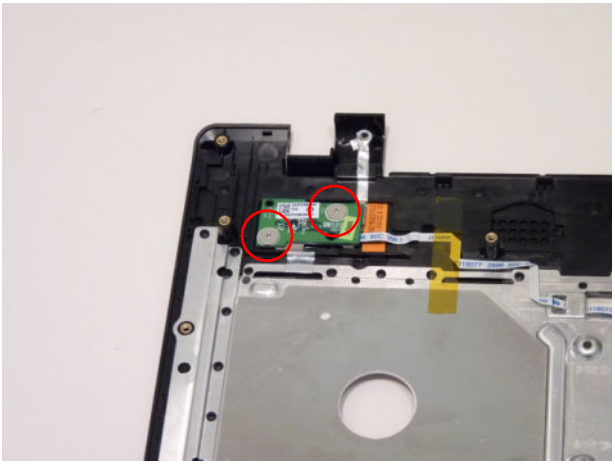


4. Lift the DC-IN cable assembly out of the chassis.



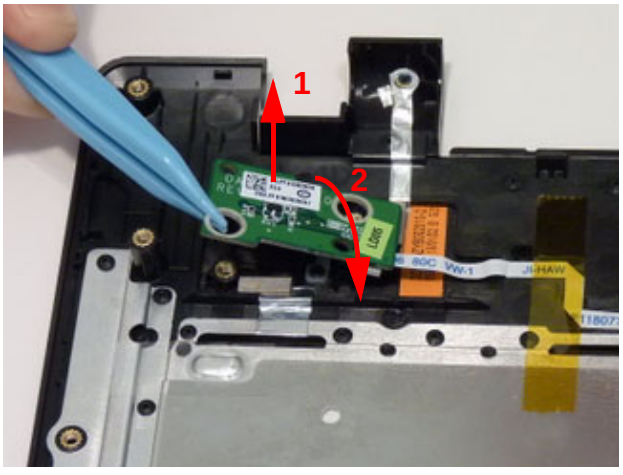
Removing the Switch Board

1. See “Removing the Upper Cover” on page 54.
2. Remove the two (2) screws.

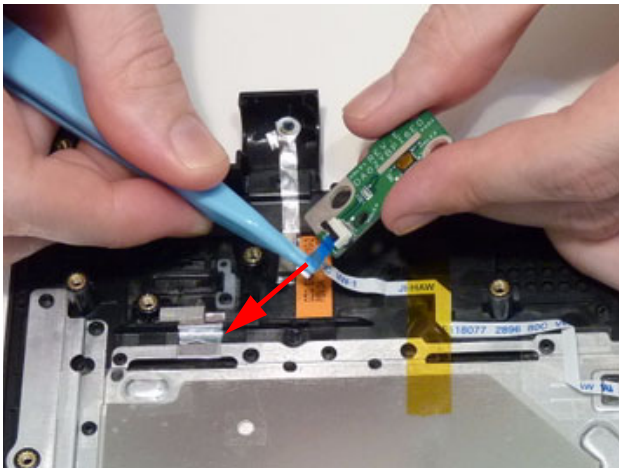


Step	Screw	Quantity	Screw Type
Switch Board Disassembly	M2.5*2Ni	2	

3. Lift the switch board away from the upper cover (1) and turn it over (2).

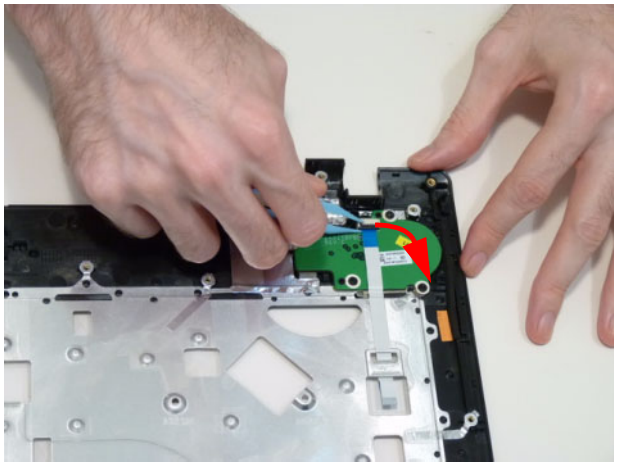


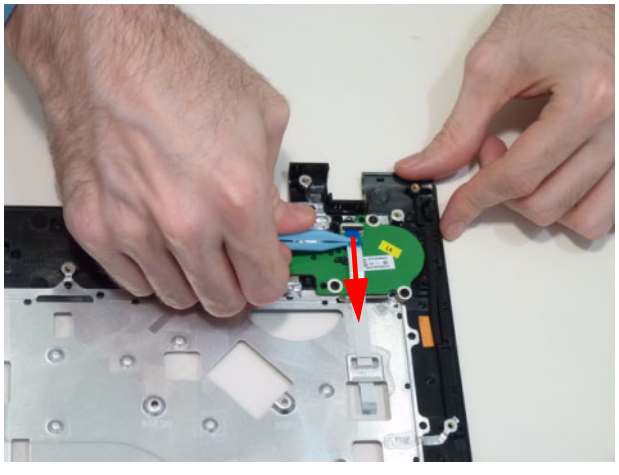
4. Unlock and disconnect the switch board FFC.



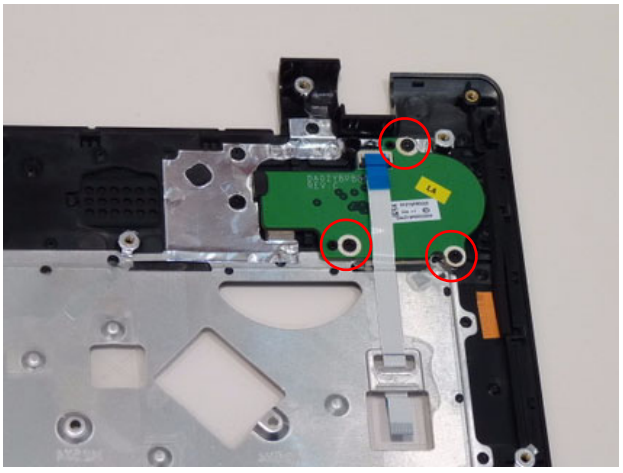
Removing the Power Board

1. See “Removing the Upper Cover” on page 54.
2. Unlock and disconnect the power board FFC.



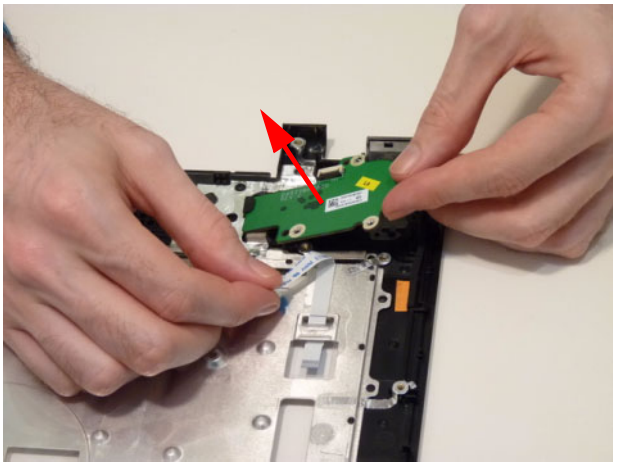


3. Remove the three (3) screws.



Step	Screw	Quantity	Screw Type
Power Board Disassembly	2.0*3	3	

4. Lift the power board away.

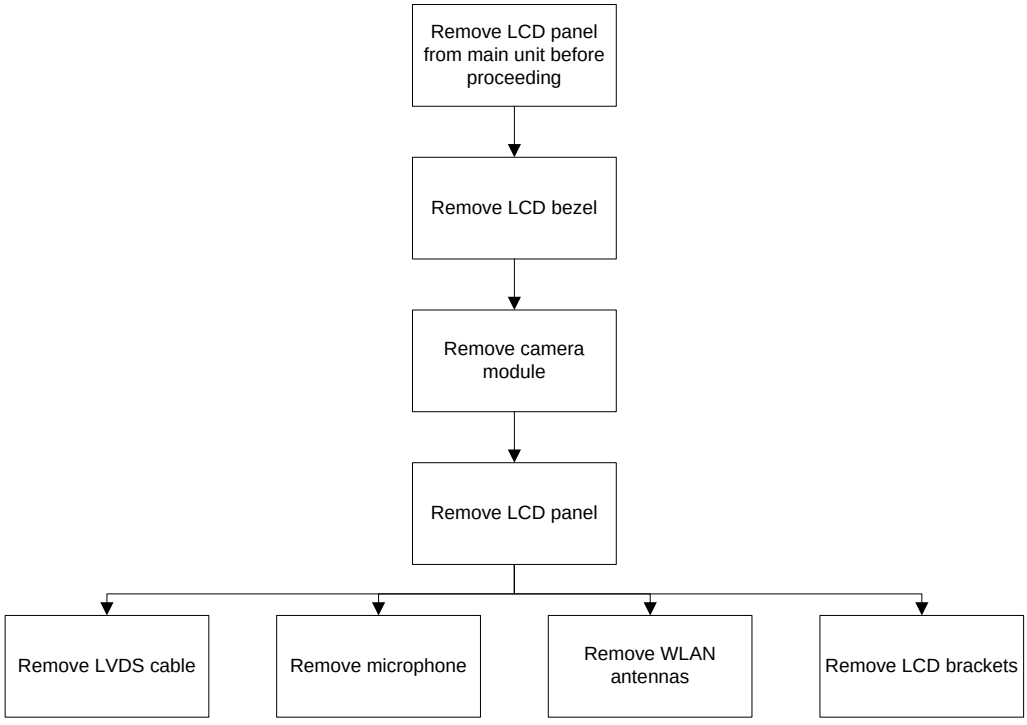


LCD Module Disassembly Process

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

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

LCD Module Disassembly Flowchart



Screw List

Step	Screw	Quantity	Part No.
LCD Bezel Disassembly			
LCD Panel Disassembly			
Left Hinge Disassembly			
Right Hinge Disassembly			

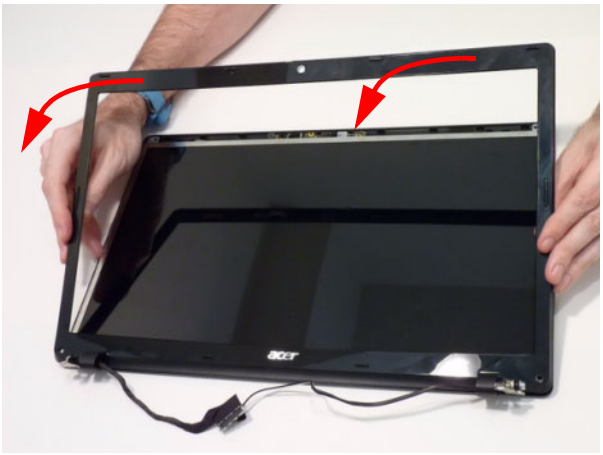
Removing the LCD Bezel

1. See “Removing the Upper Cover” on page 54.
2. Remove the two (2) screws from the LCD bezel as shown.

Step	Screw	Quantity	Screw Type.
Removing the LCD Bezel	2.5*4	2	

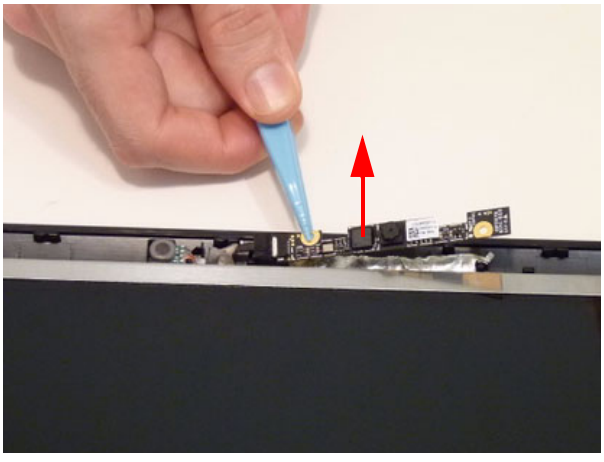
3. Pry the bezel away from the top-center and then work around until the entire bezel is detached.

4. Remove the bezel from the LCD module.

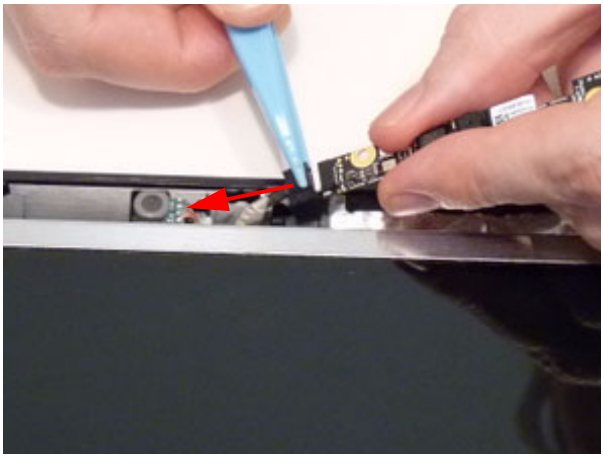


Removing the Camera Board

1. See “Removing the LCD Bezel” on page 76.
2. Pull up the camera board.



3. Disconnect the camera connector.

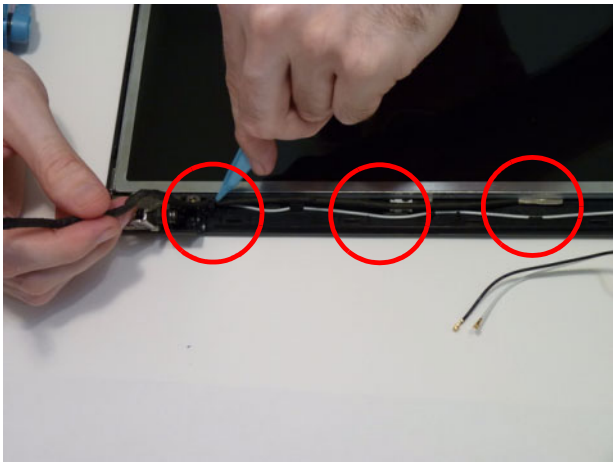


Removing the LCD Panel

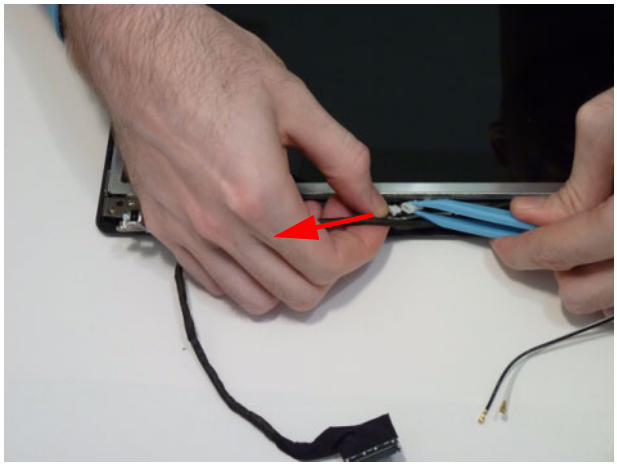
1. See “Removing the LCD Bezel” on page 76.
2. Remove the six (6) screws from the LCD panel.

Step	Screw	Quantity	Screw Type
LCD Panel Disassembly	2.5*4	6	

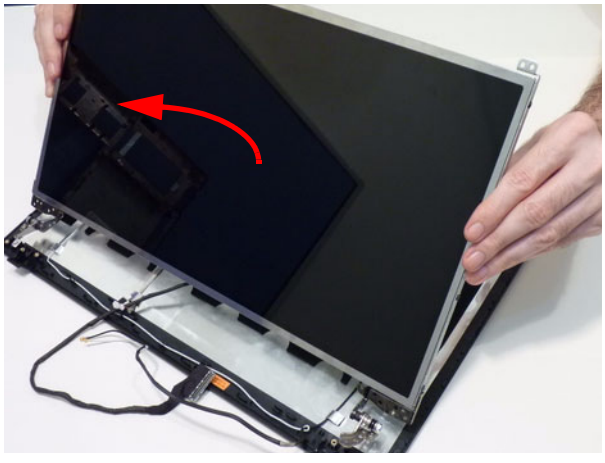
3. Remove LVDS cable from cable guides



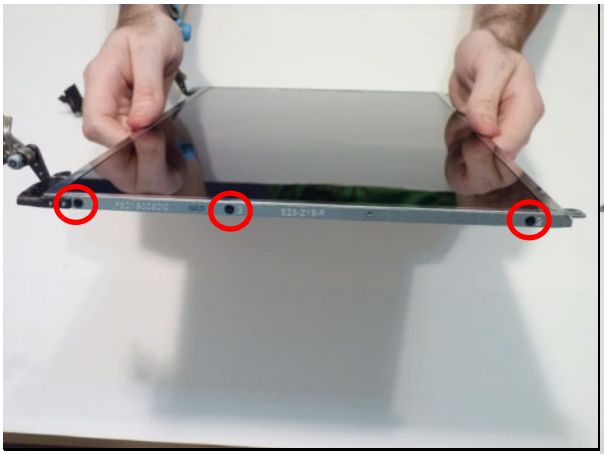
4. Disconnect the microphone cable.

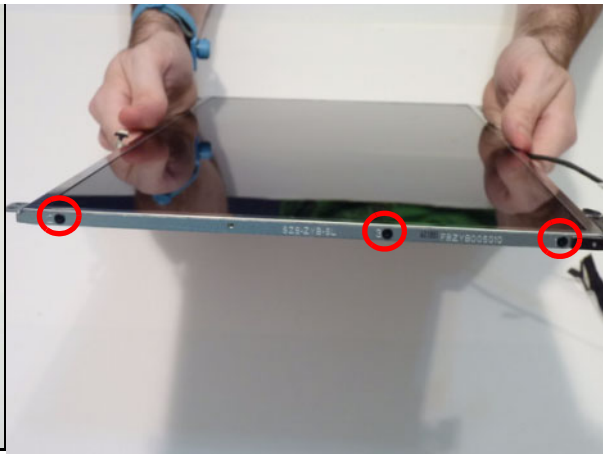


5. Lift the LCD panel out.



6. Remove 6 screws from the LCD brackets (3 on each side).

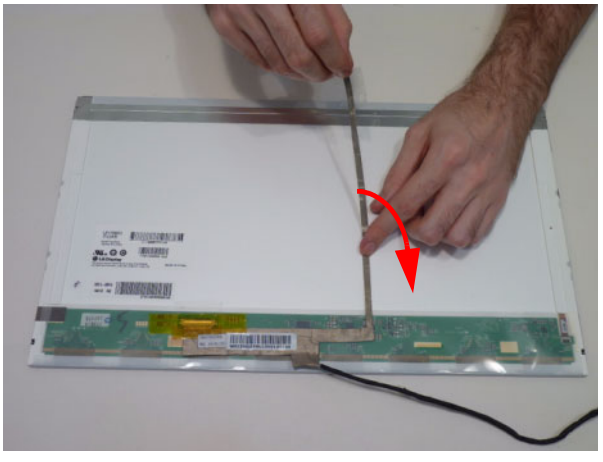




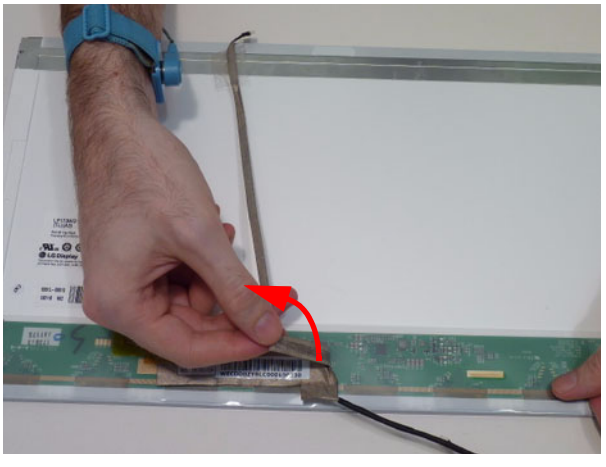
Step	Screw	Quantity	Screw Type
LCD Bracket Disassembly	2.5*4	6	

7. Separate the brackets from the panel as shown.

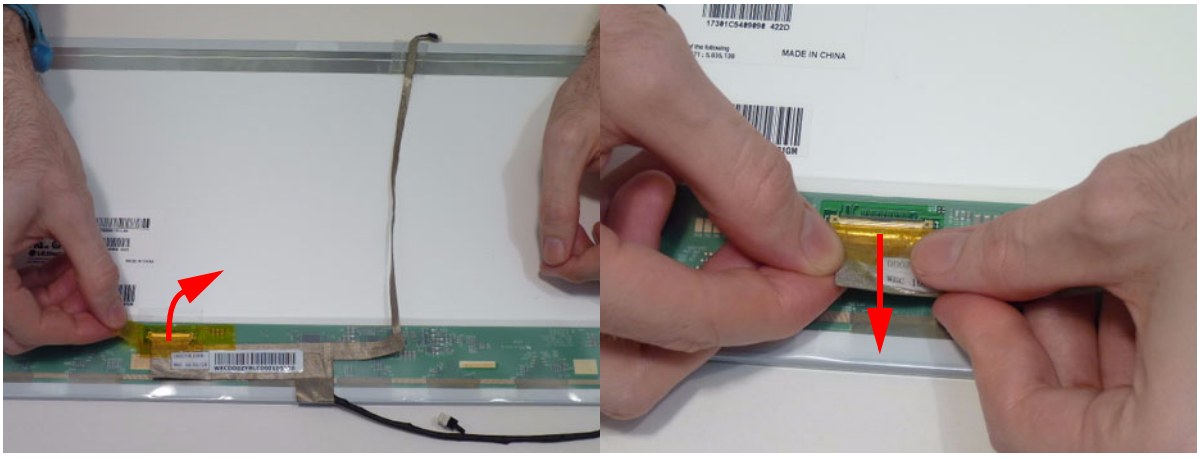
8. Peel the LVDS cable off the panel.



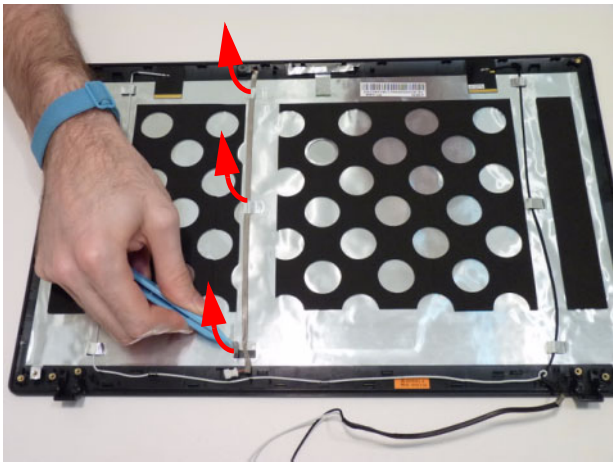
9. Continue peeling the cable off the LCD panel.



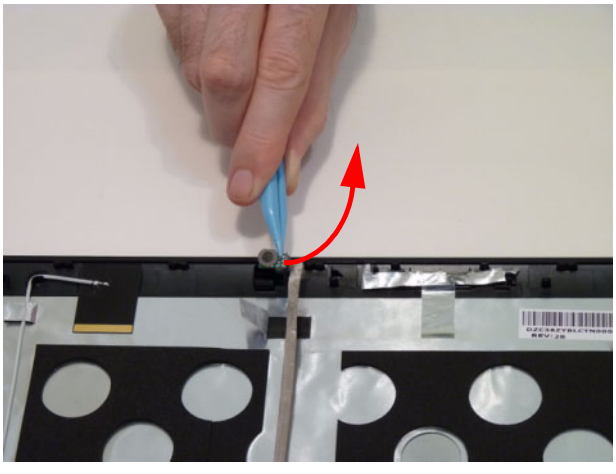
10. Peel back the mylar tape and disconnect the LVDS cable.



11. Remove the adhesive foil tabs covering the microphone cable.

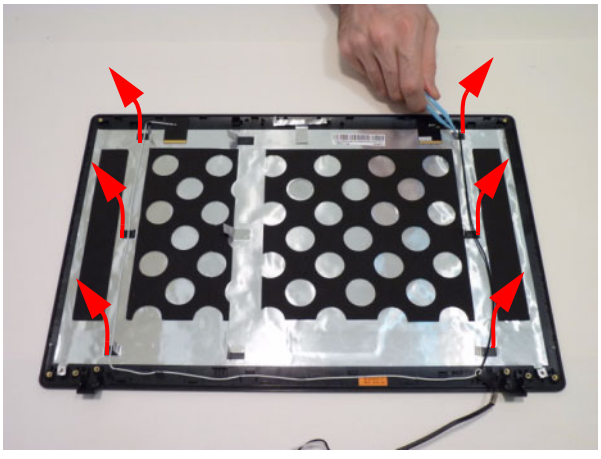


12. Lift up the microphone cable and remove it from the LCD cover.

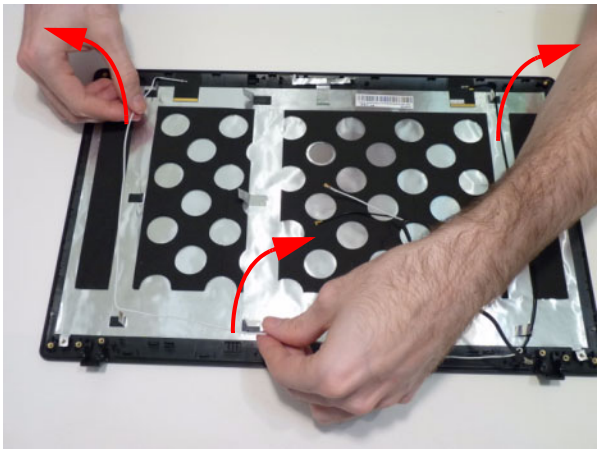


Removing the Antennas

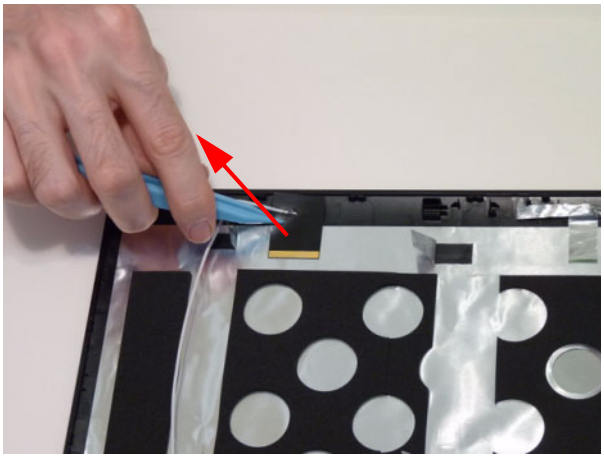
1. See “Removing the LCD Panel” on page 79.
2. Remove the antenna cables from the retention guides.



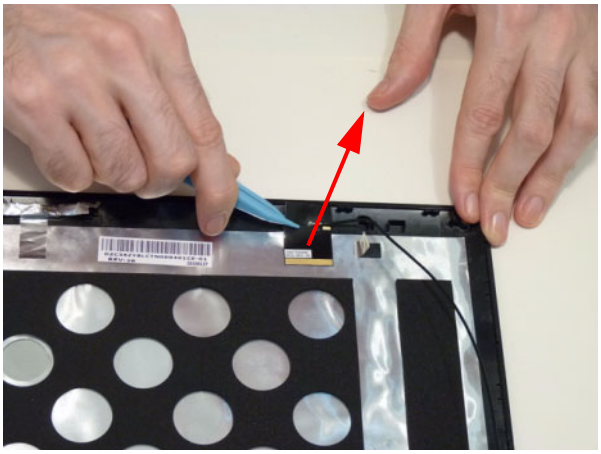
3. Free the cables completely.



4. Pry the left antenna from the casing.



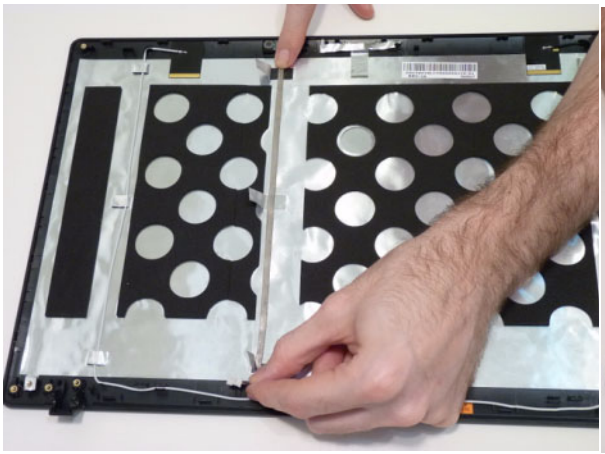
5. Pry the right antenna from the casing.

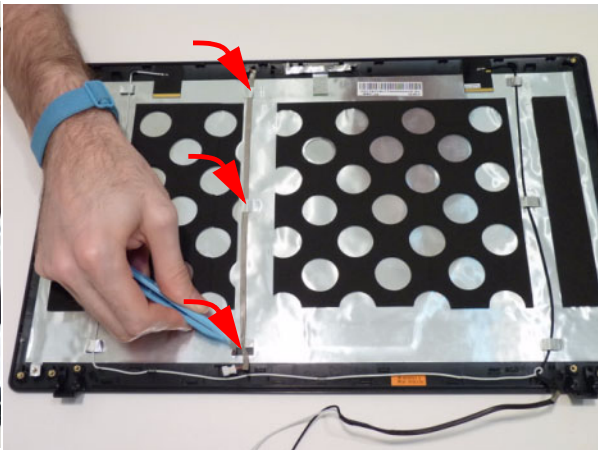


LCD Reassembly Procedure

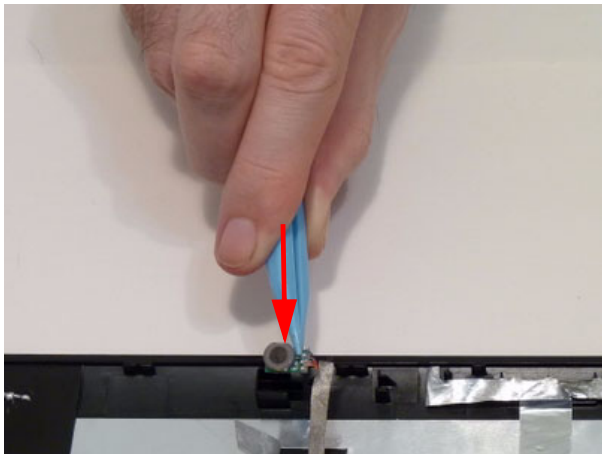
Replacing the Microphone

1. Lay the microphone cable in the LCD cover and replace the adhesive foil tabs.



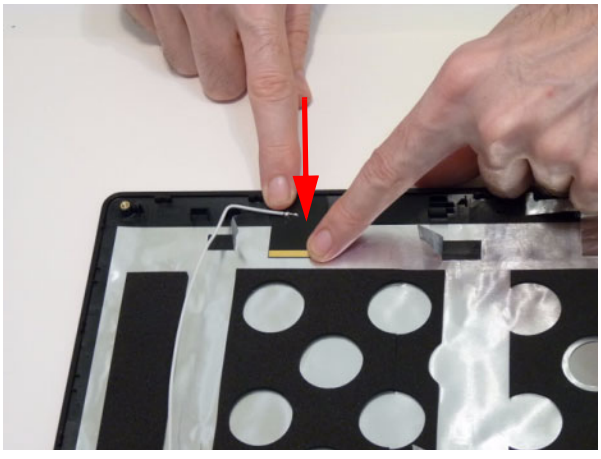


2. Replace the microphone.

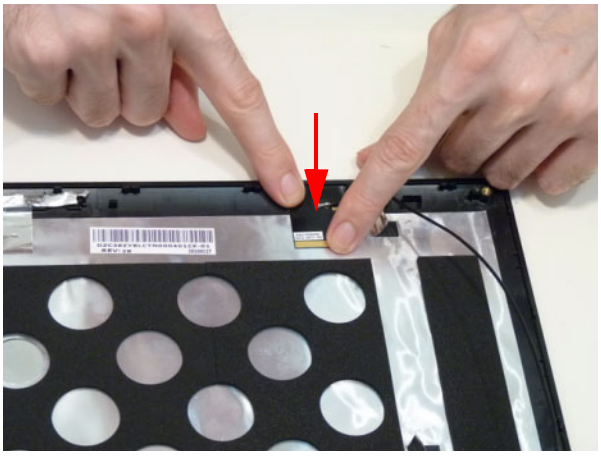


Replacing the Antennas

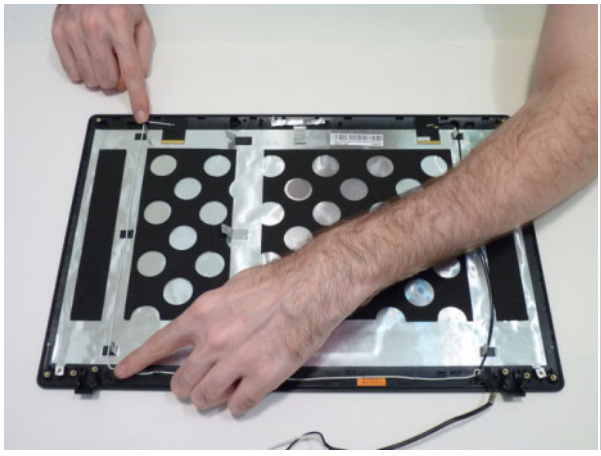
1. See See “Replacing the Microphone” on page 85.
2. Adhere the left antenna down firmly onto the LCD module casing.

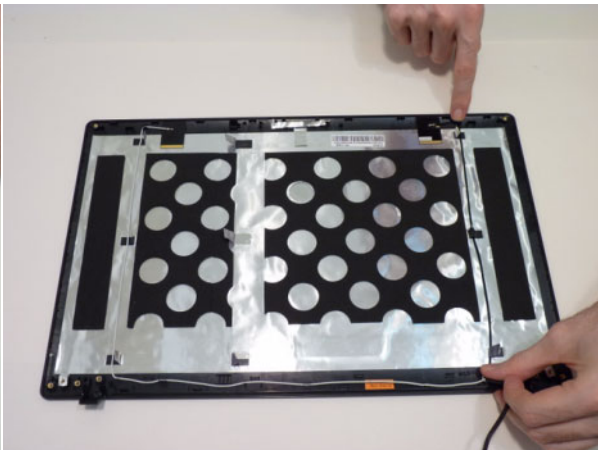


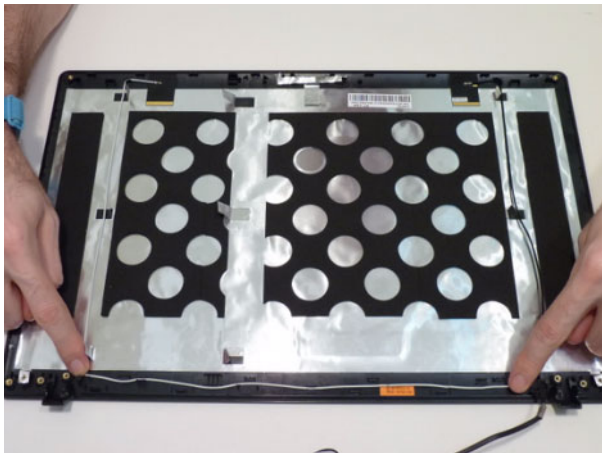
3. Adhere the right antenna down firmly onto the LCD module casing.



4. Lay the cables around the module edge.

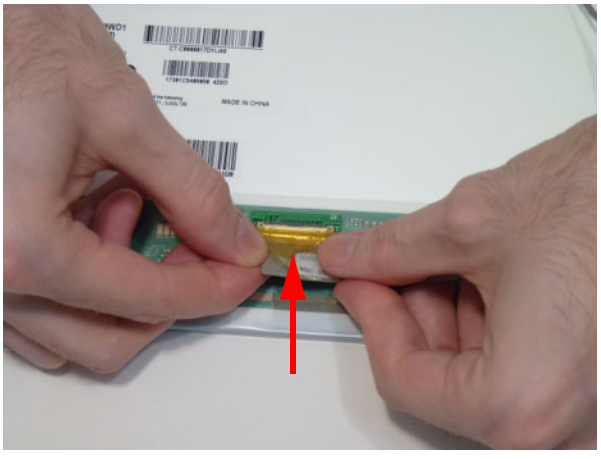




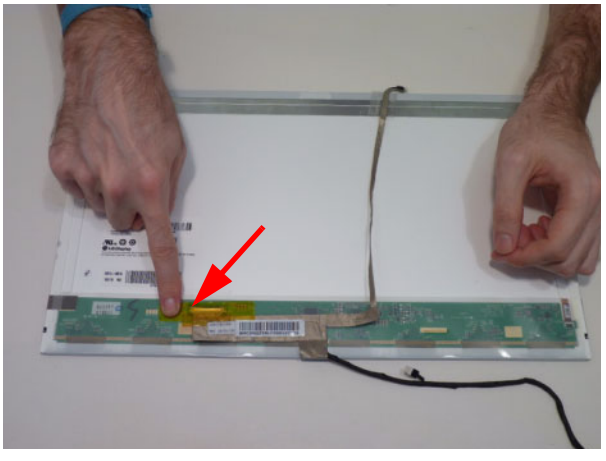


Replacing the LCD Panel

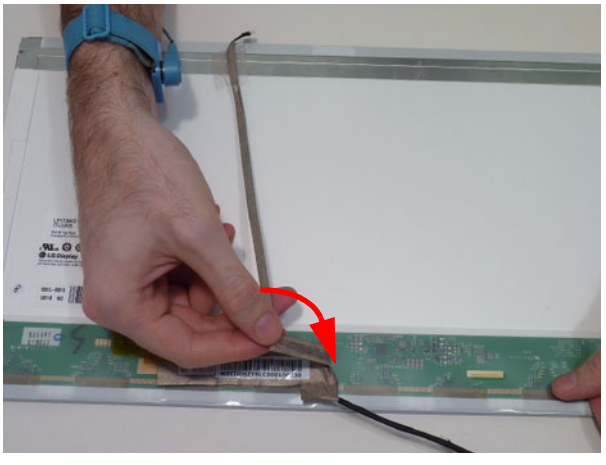
1. See “Replacing the Antennas” on page 86.
2. Connect the FPC cable connector.



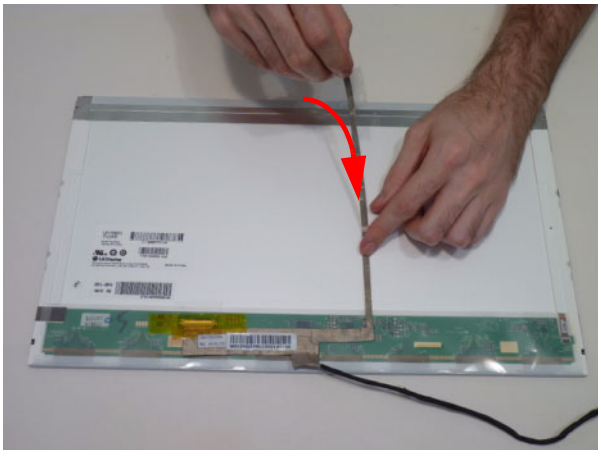
3. Place the protective clear adhesive mylar tape down firmly over the connector.



4. Continue adhering the webcam cable to the LCD panel.

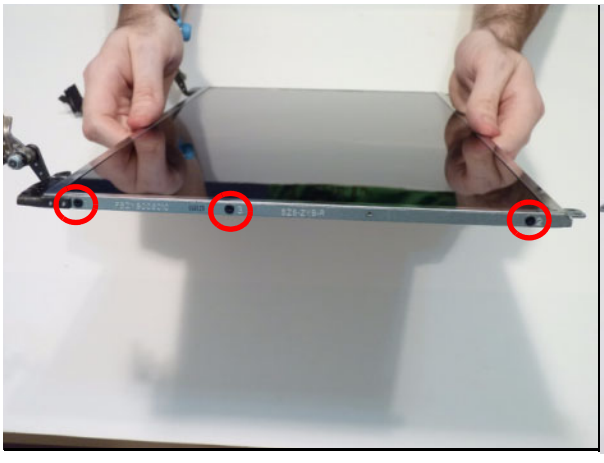


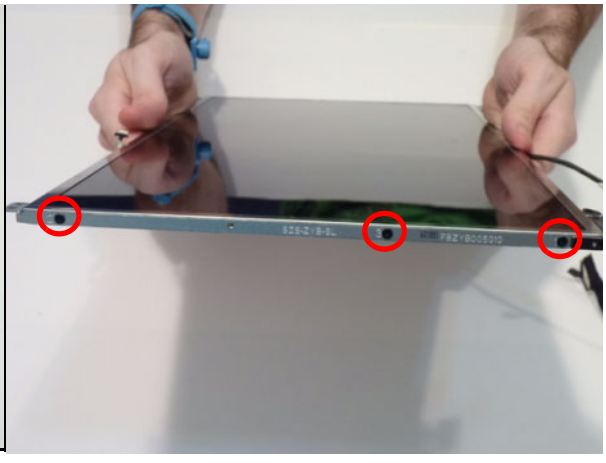
5. Adhere the webcam cable to the back of the LCD panel, in parallel with the panel edges.



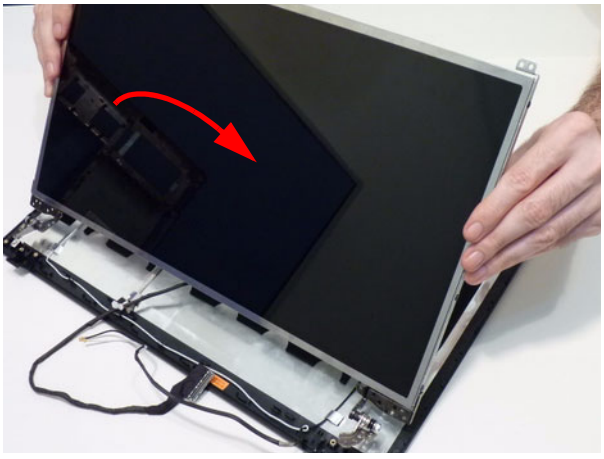
6. Replace the brackets to the panel as shown.

7. Replace the six (6) screws to the LCD brackets (3 on each side).



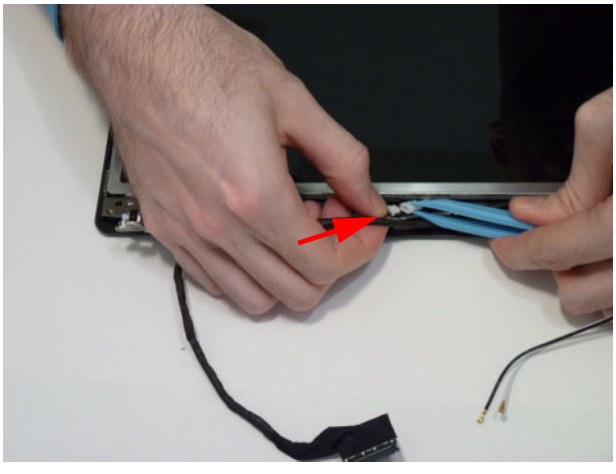


8. Replace the LCD panel into the top cover.

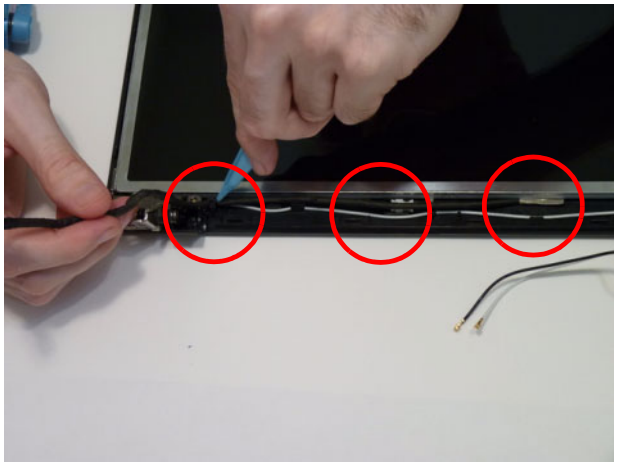


9. Replace the six (6) screws to the LCD panel.

10. Connect the microphone cable.

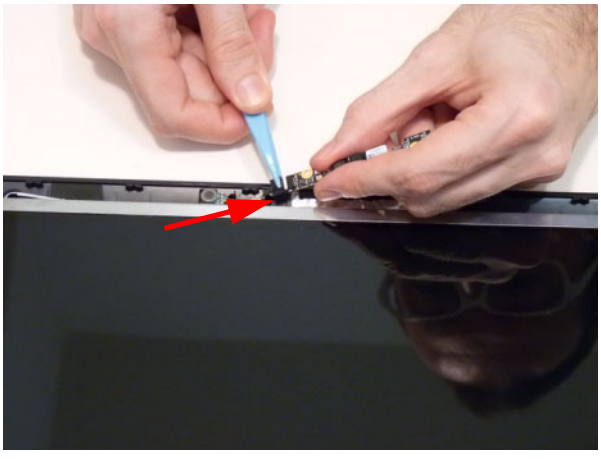


11. Place the LVDS cable into cable guides

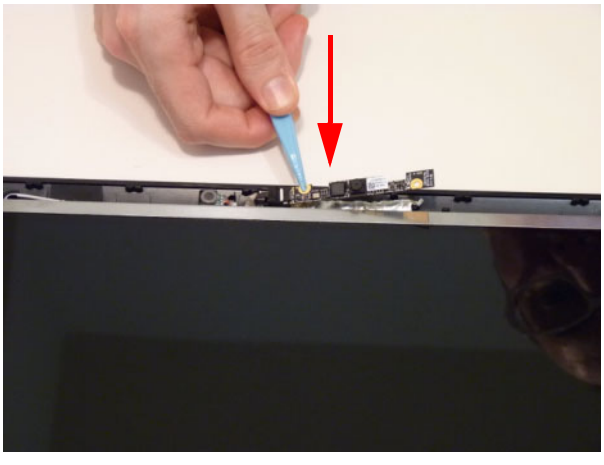


Replacing the Camera Board

1. See “Replacing the LCD Panel” on page 88.
2. Connect the cable to the Camera Board.

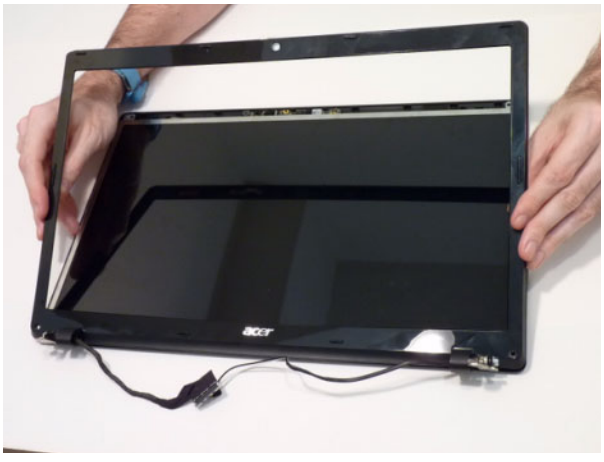


3. Lay the Camera board down and press firmly to apply the adhesive.



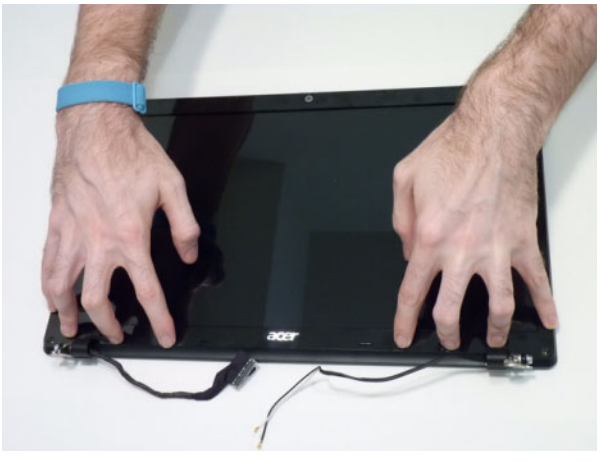
Replacing the LCD Bezel

1. See “Replacing the Camera Board” on page 92.
2. Place the bezel hinge covers over the hinges. Ensure the cables are correctly exiting the hinges.



3. Press down on the top middle edge of the bezel to engage the locking clips.

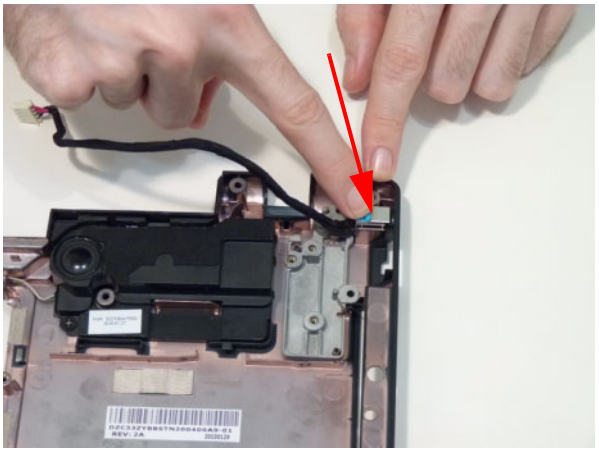
4. Press down on the bezel edge working simultaneously around the edges to the bottom.



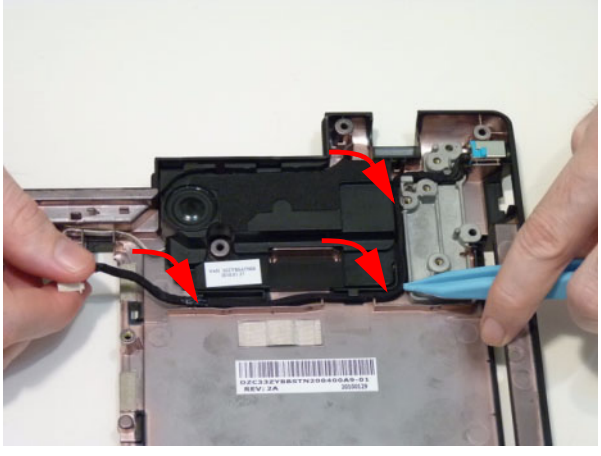
5. Replace the two (2) bezel screws.

Replacing the Power Assembly

6. Place the DC jack into the lower cover.

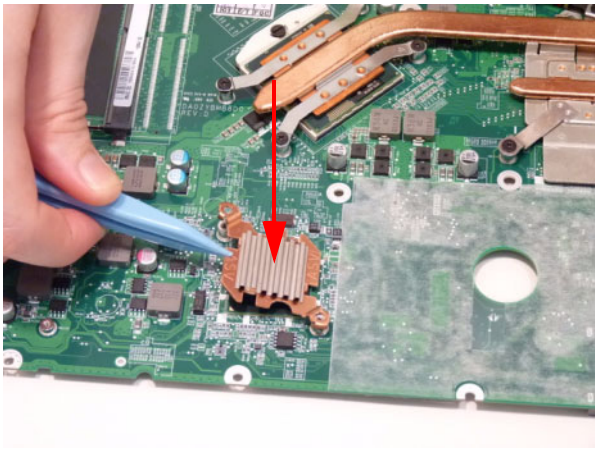


7. Lay the cables in the retention guides.

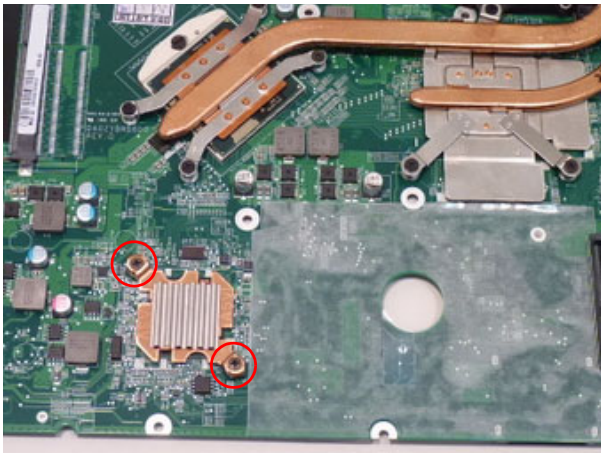


Replacing the PCH Thermal Module

1. Place the PCH thermal module on the PCH chip.



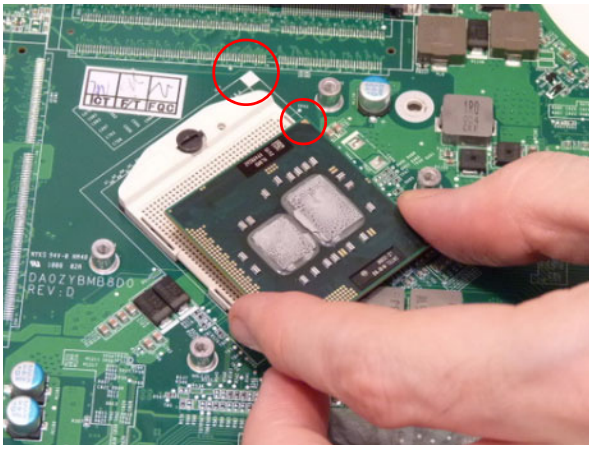
2. Replace the two (2) screws.



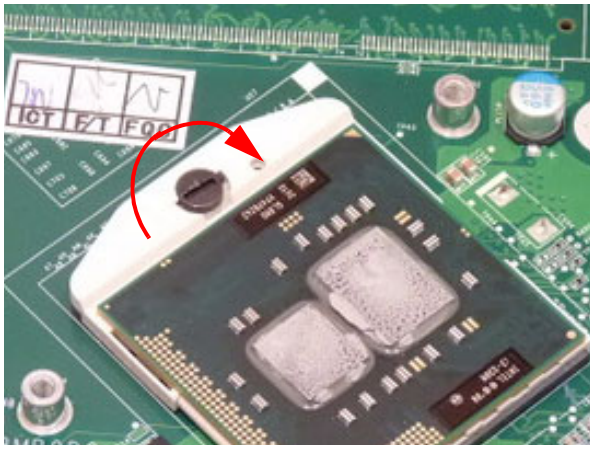
Replacing the CPU

IMPORTANT: The CPU has a Pin1 locator that must be positioned corresponding to the marker on the CPU socket.

1. Place the CPU into the CPU socket as shown, taking note of the Pin1 locator.



2. Using a flat-bladed screw driver, rotate the CPU locking screw 180° clockwise to secure the CPU in place.



Replacing the Thermal Module

IMPORTANT: Apply a suitable thermal grease and ensure all heat pads are in place before replacing the Thermal Module.

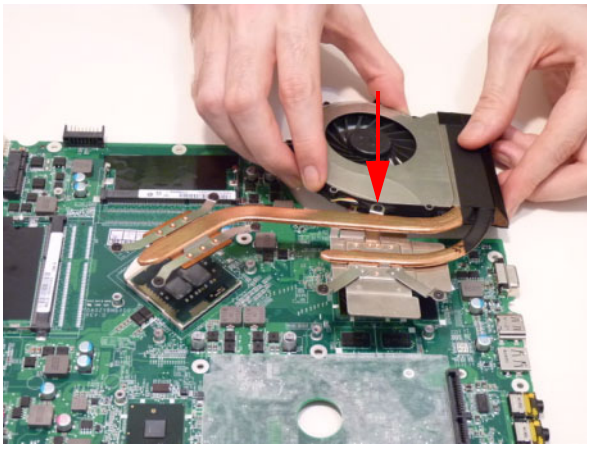
The following thermal grease types are approved for use:

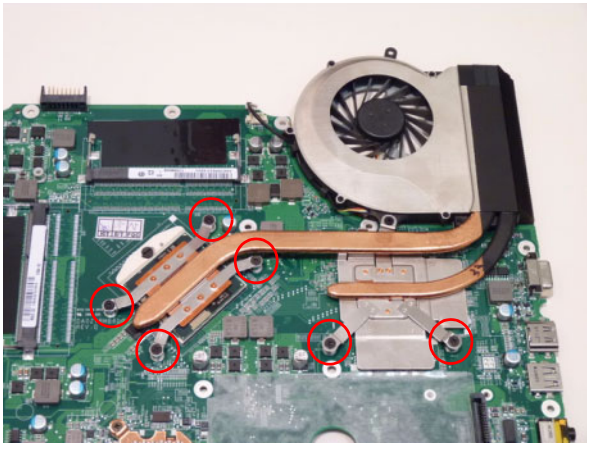
- Silmore GP50
- Honeywell
- Jet Motor 7762

The following thermal pads are approved for use:

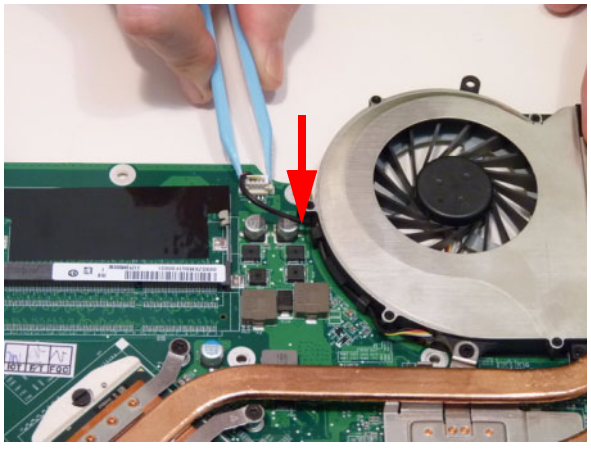
- Eapus XR-PE

1. See “Replacing the CPU” on page 96.
2. Remove all traces of thermal grease from the CPU using a lint-free cloth or cotton swab and Isopropyl Alcohol, Acetone, or other approved cleaning agent.
3. Apply a small amount of thermal grease to the centre of the CPU—there is no need to spread the grease manually, the force used during the installation of the Thermal Module is sufficient.
4. 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.
5. Replace the six (6) securing screws to secure the Thermal Module in place.



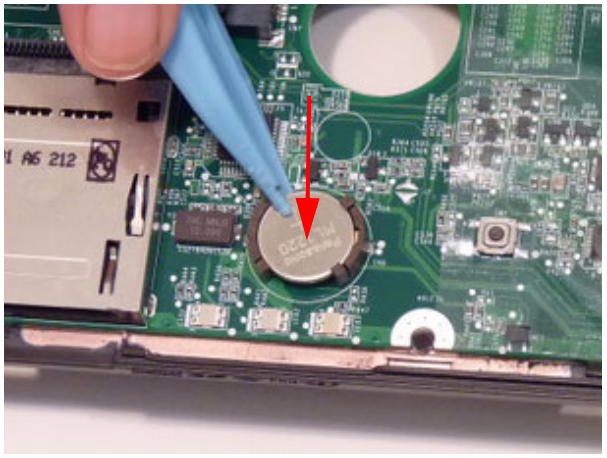


6. Connect the fan cable.



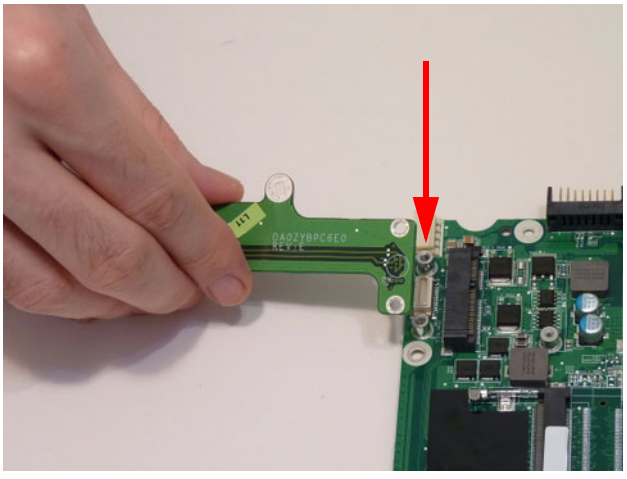
Replacing the RTC Battery

1. Push the RTC battery into the cradle on the mainboard, plus (+) side up.

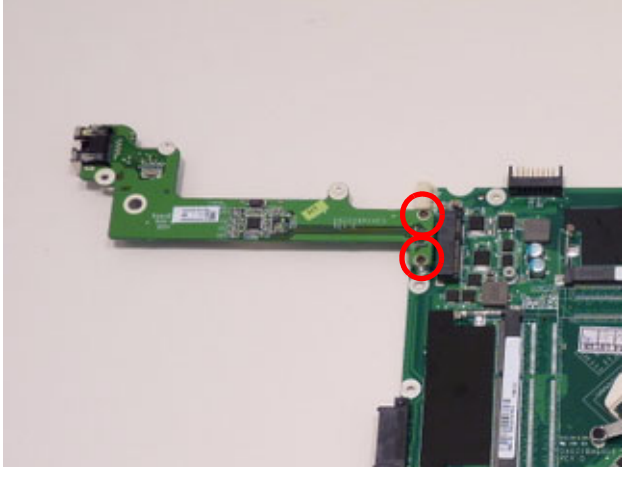


Removing the LAN Board

1. Line up the screw holes, then replace the LAN board onto the mainboard.

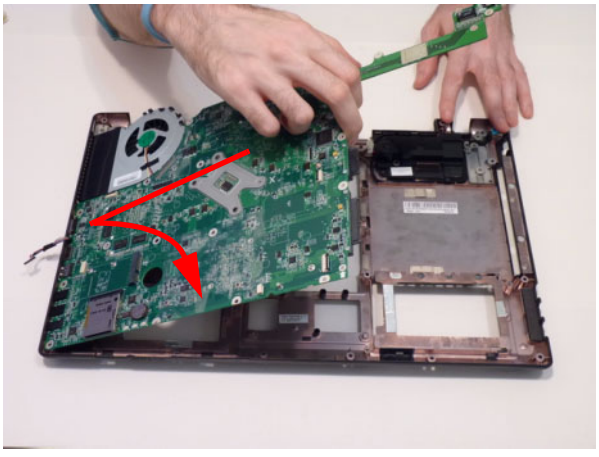


2. Replace the two (2) screws.

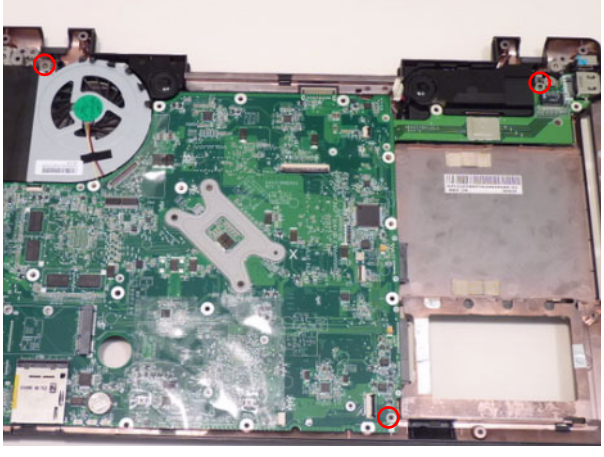


Replacing the Main Board

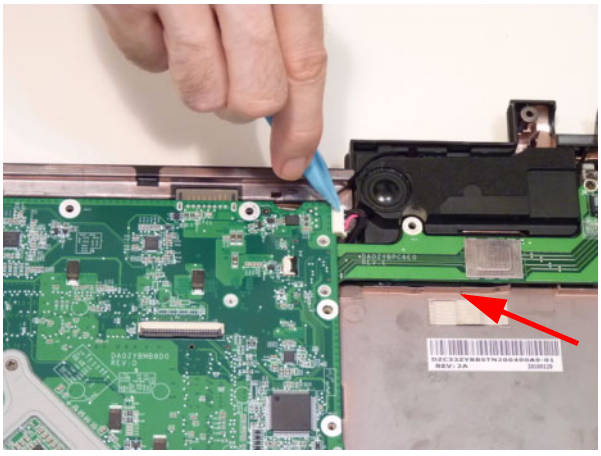
1. See “Replacing the Power Assembly” on page 95.
2. See “Replacing the PCH Thermal Module” on page 96.
3. See “Replacing the CPU” on page 96.
4. See “Replacing the Thermal Module” on page 98.
5. See “Replacing the RTC Battery” on page 99.
6. See “Removing the LAN Board” on page 100.
7. Slide the main board external connector edge in first to the lower case, then lower into place.



8. Replace the three (3) screws to secure the mainboard to the lower cover.

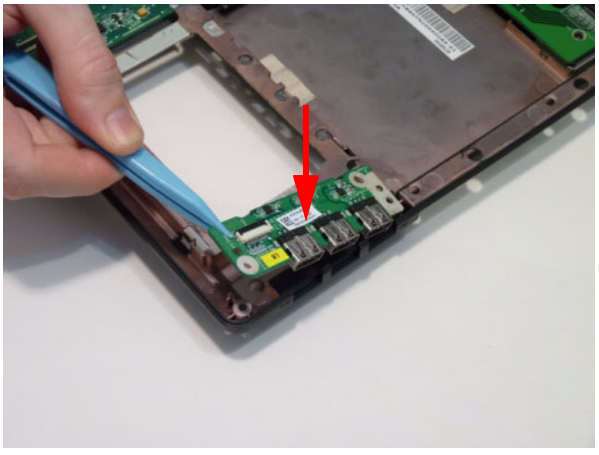


9. Connect the CD-IN connector.

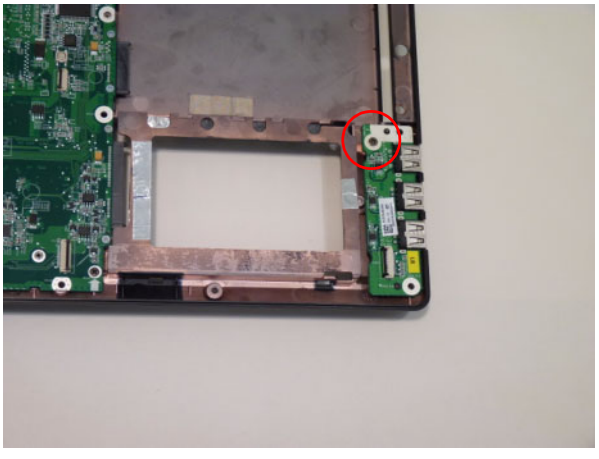


Replacing the USB board

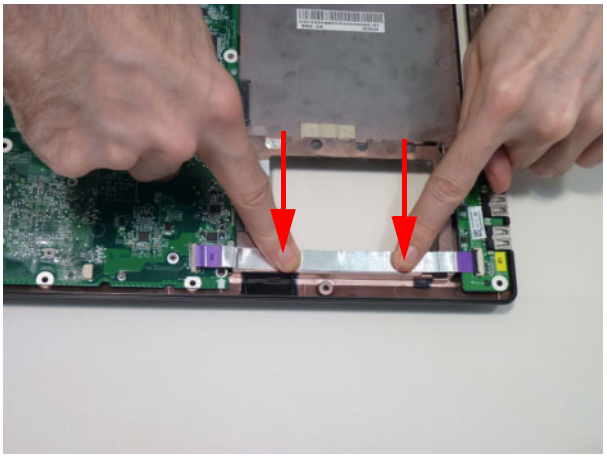
1. See “Replacing the Main Board” on page 101.
2. Place the USB board into the lower case edge first.



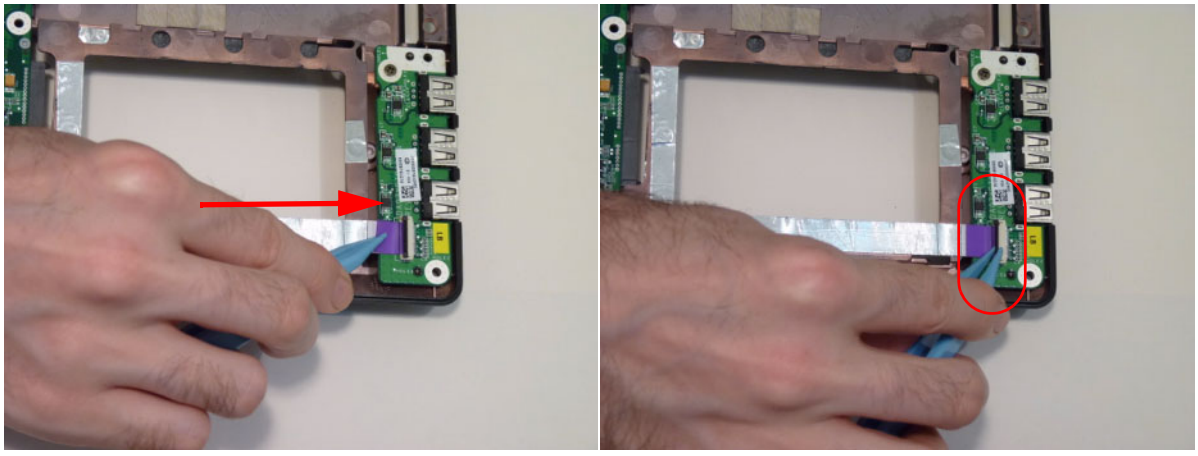
3. Replace the one (1) screw.



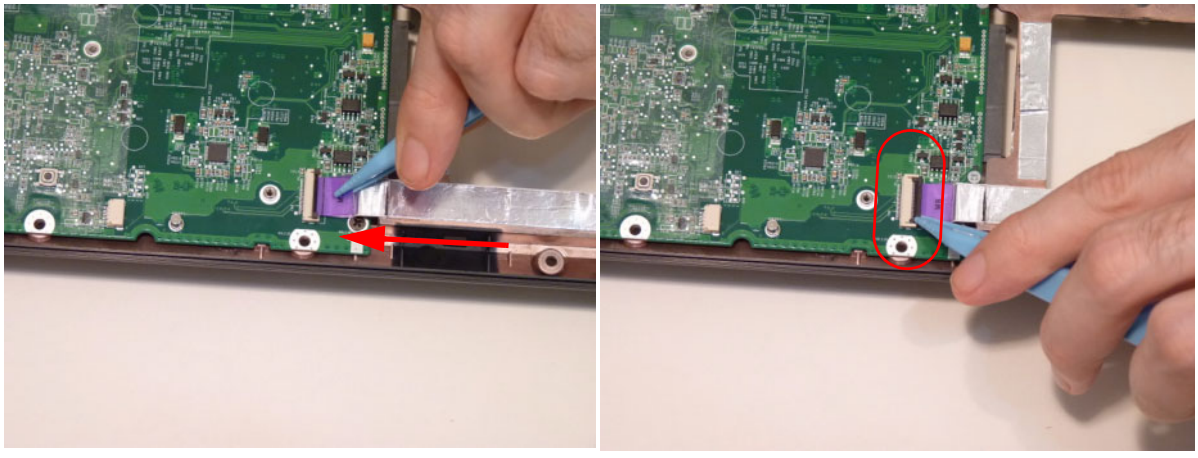
4. Adhere the USB board FFC to the chassis.



5. Connect and lock the USB board FFC to the USB board.

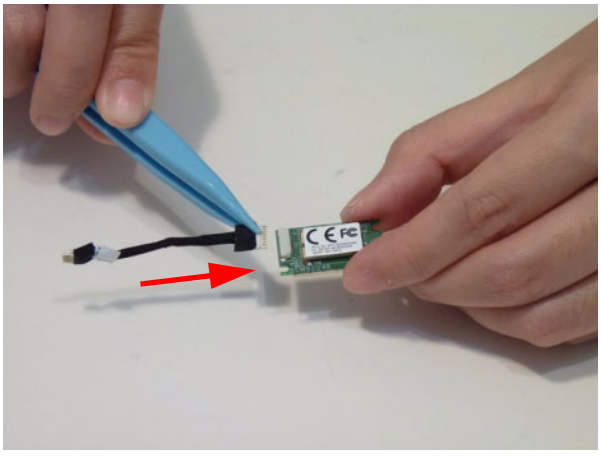


6. Connect and lock the USB board FFC to the mainboard.

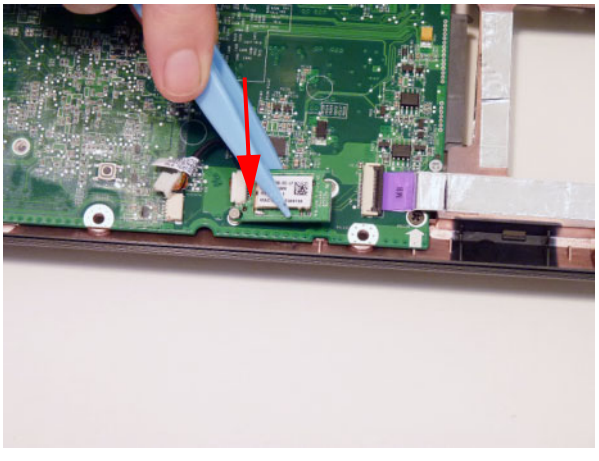


Replacing the Bluetooth Module

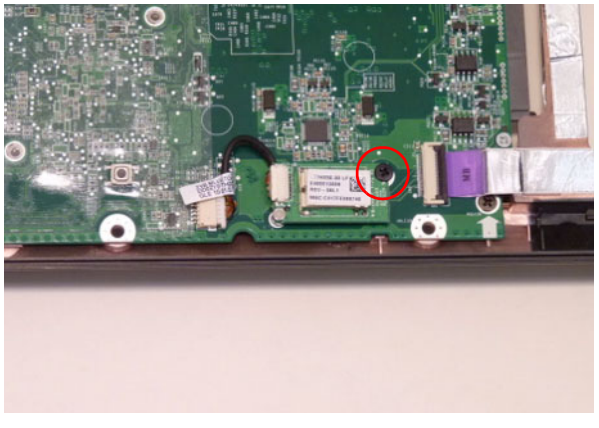
1. See “Replacing the Main Board” on page 101.
2. Connect the Bluetooth cable to the Bluetooth module.



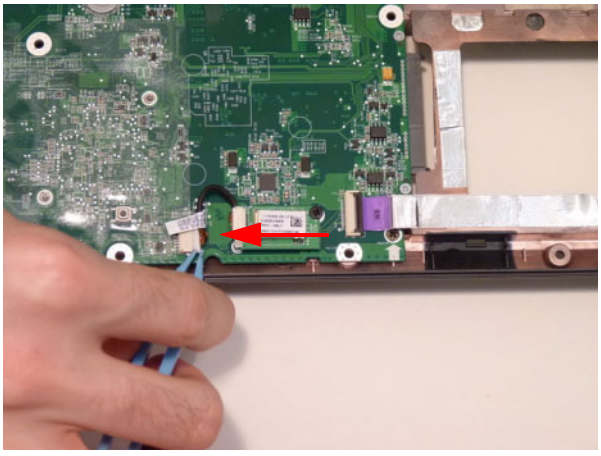
3. Place the Bluetooth module onto the mainboard pressing down firmly.



4. Replace the one (1) screw.

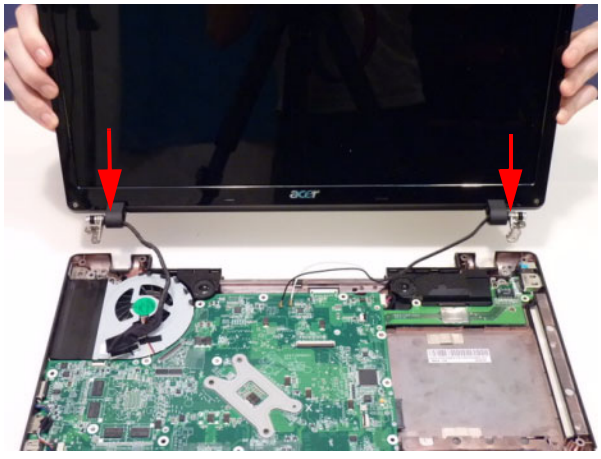


5. Connect the Bluetooth module cable to the main board.



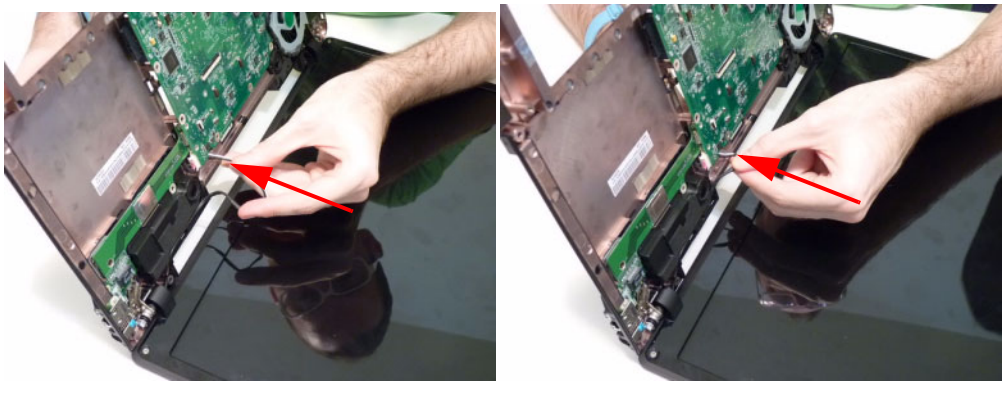
Replacing the LCD Module

1. See “Replacing the Main Board” on page 101.
2. Place the LCD module hinges into position on the lower case.

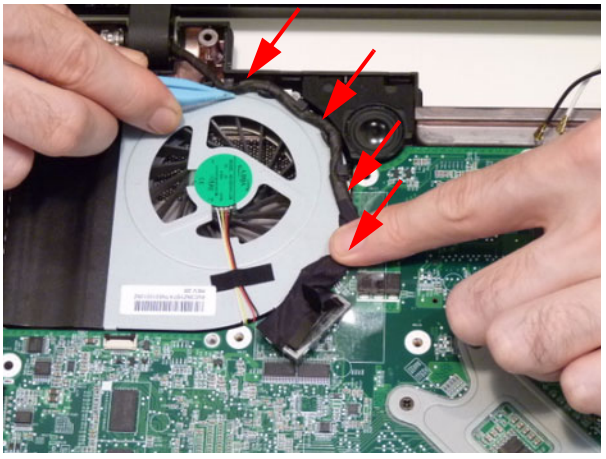


3. Replace the four (4) screws, two each in the left and right hinges.

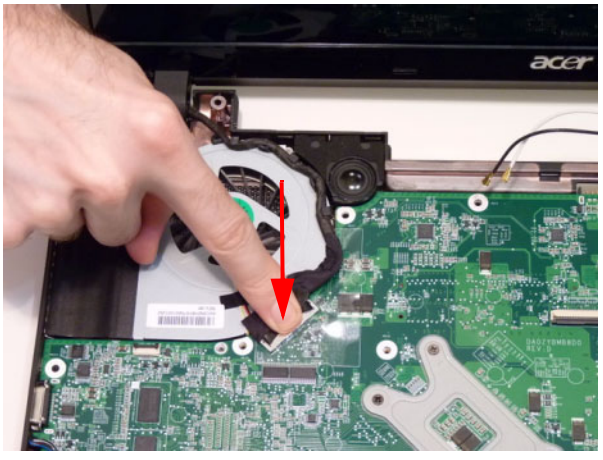
4. Insert the antenna cables through the lower cover and pull through from the other side.



5. Lay the LVDS cable across the assembly as shown and press down firmly.

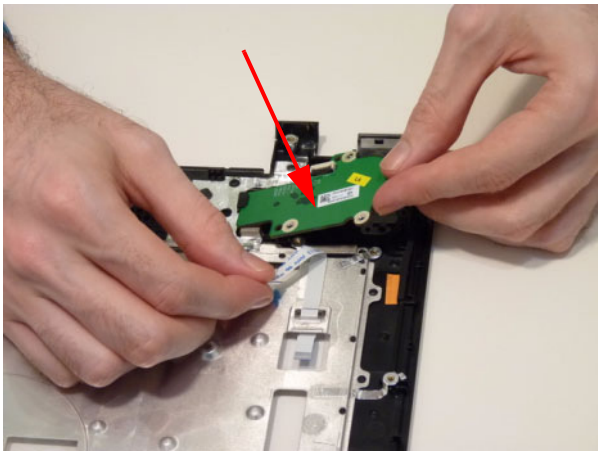


6. Connect the LVDC cable.

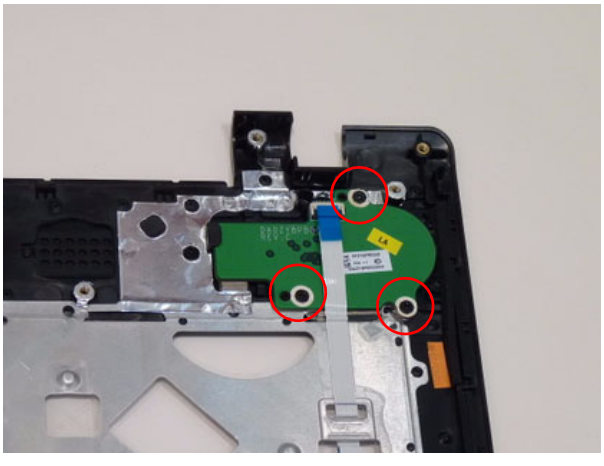


Replacing the Power Board

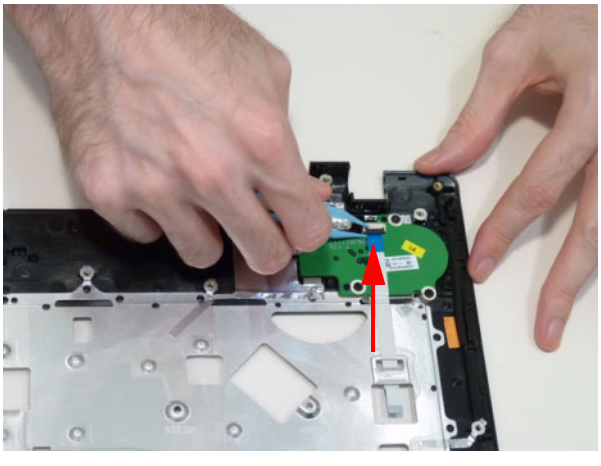
1. Place the power board into the upper cover.



2. Replace the three (3) screws.

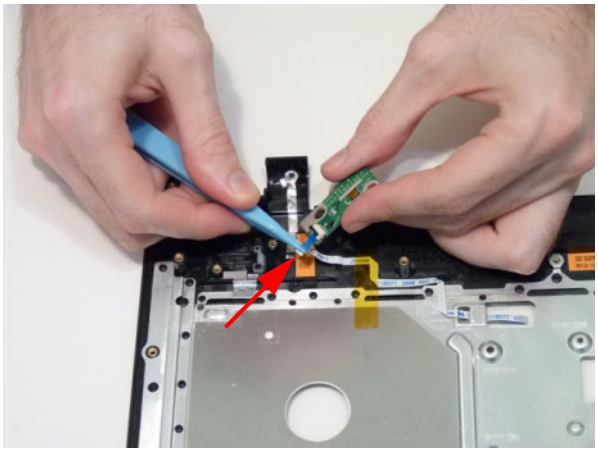
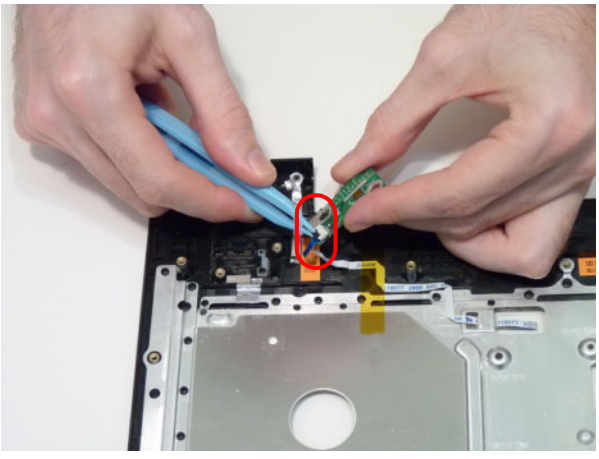


3. Connect and lock the FFC.

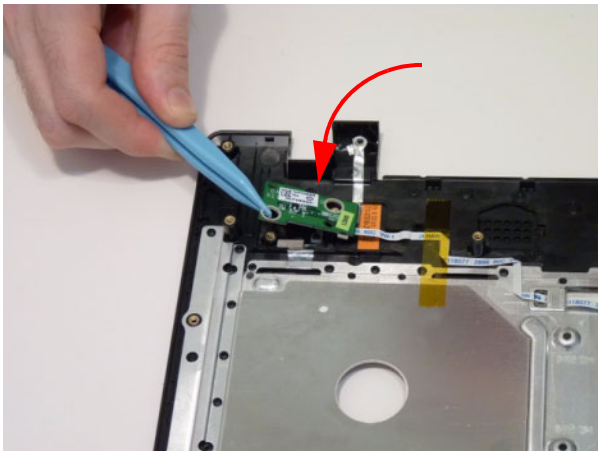


Replacing the Switch Board

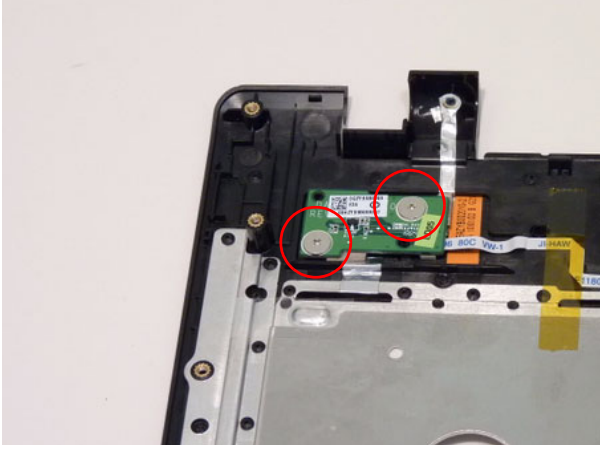
1. Connect and lock the FFC.

2. Turn the switch board over and place into the upper cover.



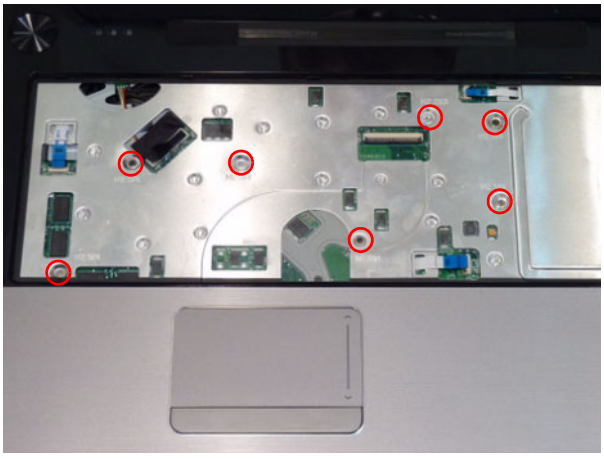
3. Replace the two (2) screws.



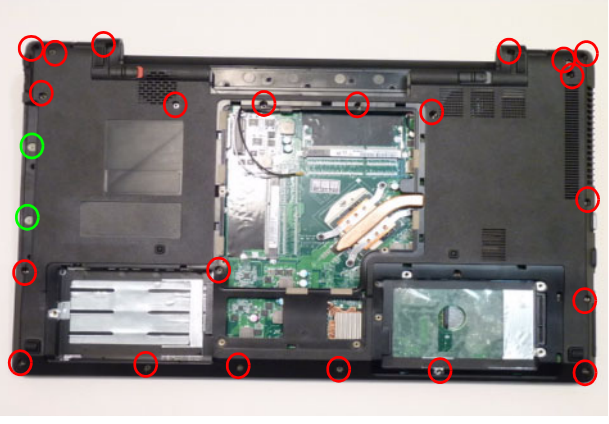
Replacing the Upper Cover

1. See “Replacing the Main Board” on page 101.
2. See “Replacing the LCD Module” on page 107.
3. See “Replacing the Bluetooth Module” on page 105.
4. See “Replacing the USB board” on page 103.
5. See “Replacing the Power Board” on page 109.
6. See “Replacing the Switch Board” on page 110.
7. Place the upper cover onto the lower cover aligning the hinges first and then press down around the edges.

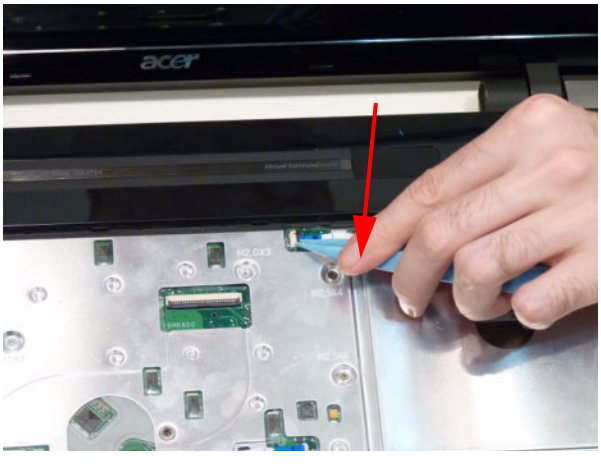
8. Replace the seven (7) screws.



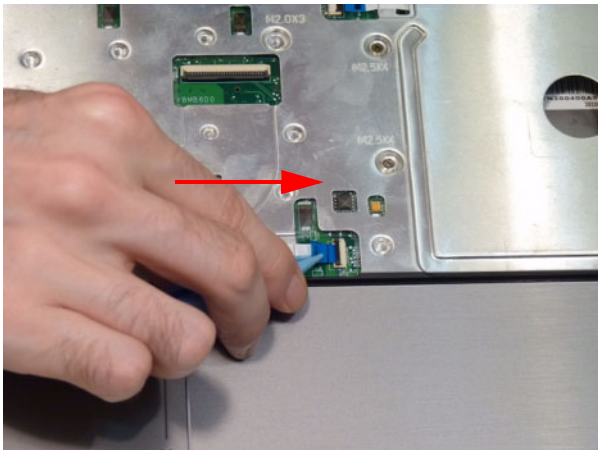
9. Turn the computer over and replace the twenty (24) screws on the bottom cover.



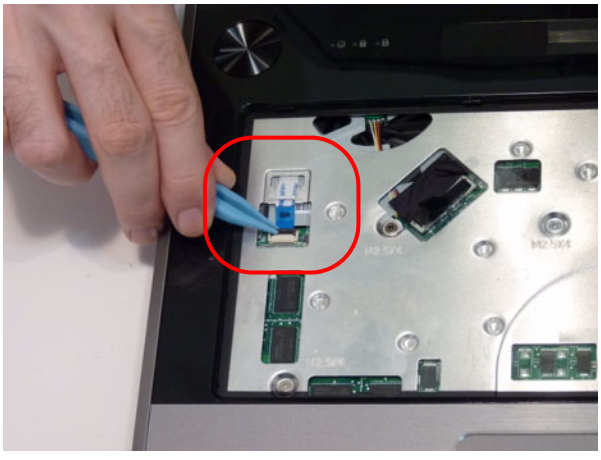
10. Connect the speaker cable.



11. Connect and lock the Switch Board FFC.

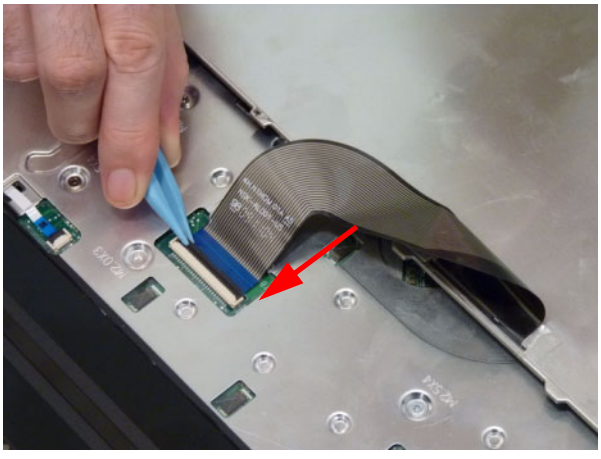


12. Connect and lock the Power board FFC.



Replacing the Keyboard

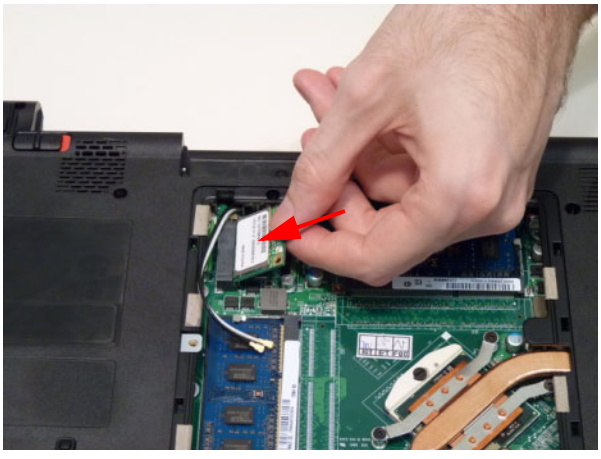
1. See “Replacing the Upper Cover” on page 111.
2. Connect and lock the FFC to the mainboard.



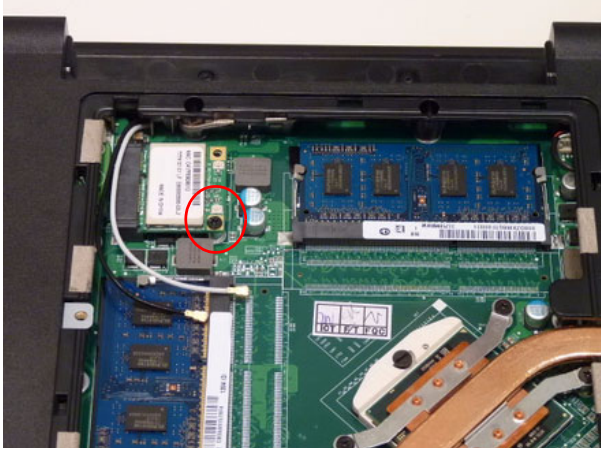
3. Turn the keyboard over and insert the bottom edge in first, then push to down ensure the five latches across the top are fully secured.

Replacing the Wireless LAN Module

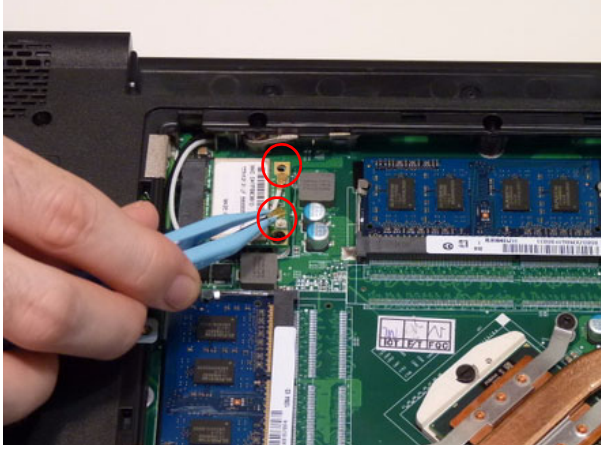
1. See “Replacing the Keyboard” on page 114.
2. Insert the wireless LAN module into the connector.



3. Replace the one screw.

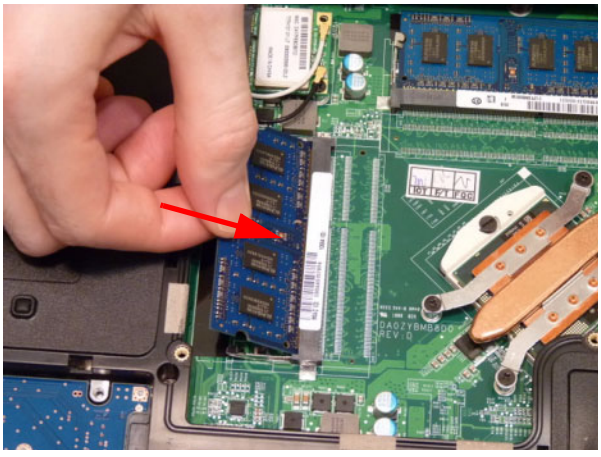


4. Replace the connectors. The white (Aux) cable attaches to the connector marked **2** on the board. The black (Main) cable attaches to the connector marked **1** on the board.

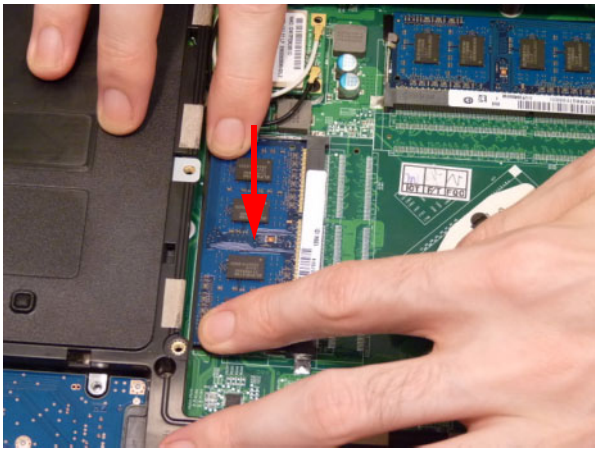


Replacing the DIMM Module

1. See “Replacing the Keyboard” on page 114.
2. Slide the DIMM module into the connector.

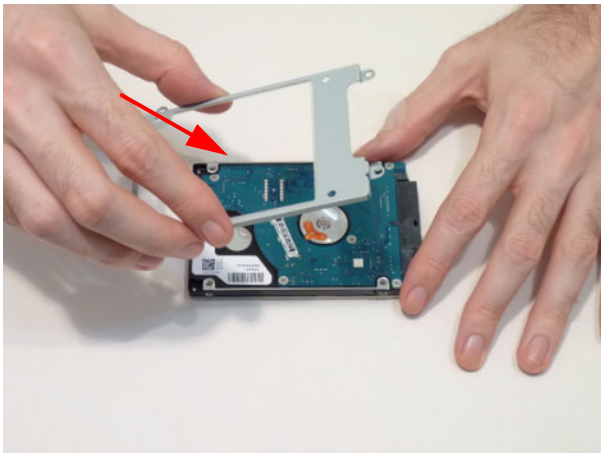


3. Press down till the locking springs click into place.



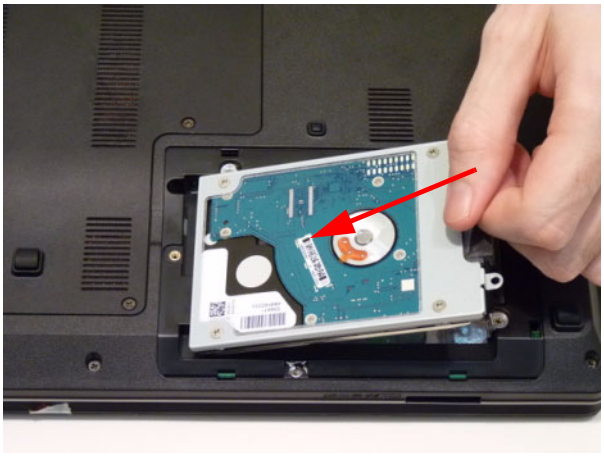
Replacing the 2nd HDD Module

1. See “Replacing the Keyboard” on page 114.
2. Replace the HDD bracket.

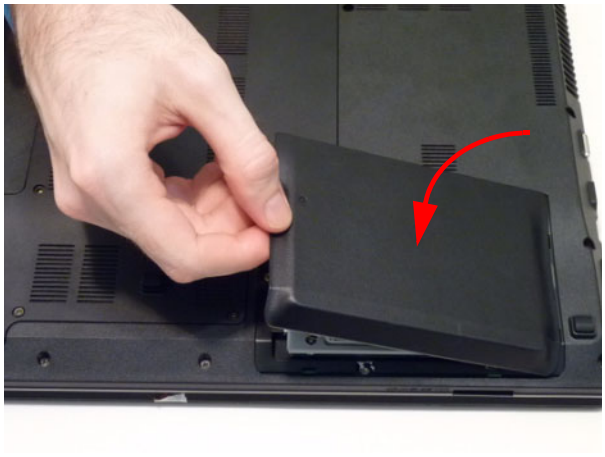


3. Replace the four (4) screws.

4. Place the HDD into the lower cover.



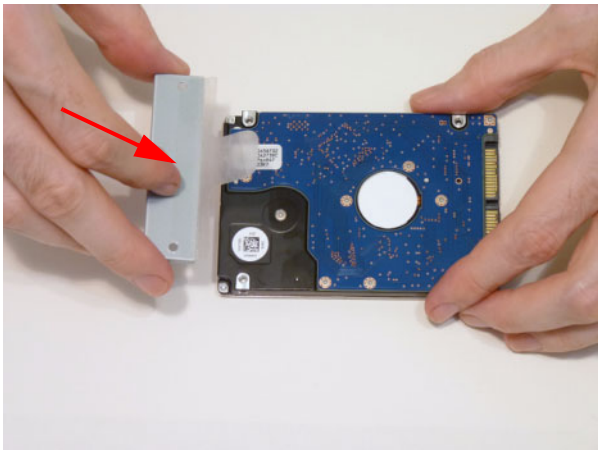
5. Replace the HDD cover.



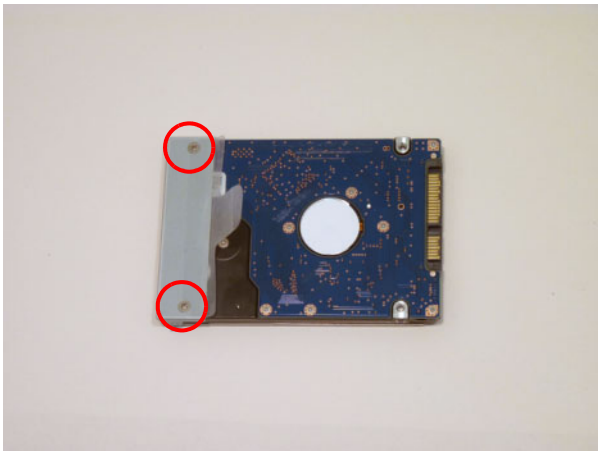
6. Replace the one (1) screw.

Replacing the Hard Disk Drive

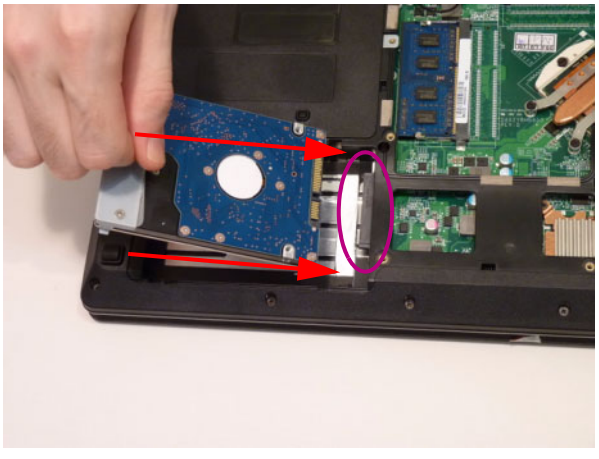
1. See “Replacing the Keyboard” on page 114.
2. Place the HDD bracket onto the HDD.



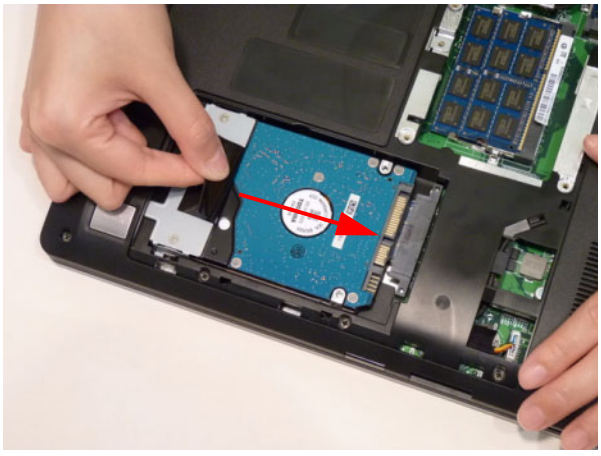
3. Replace the two (2) screws.



4. Insert the HDD into the bay inserting the bracket flanges into the lower cover slot first.



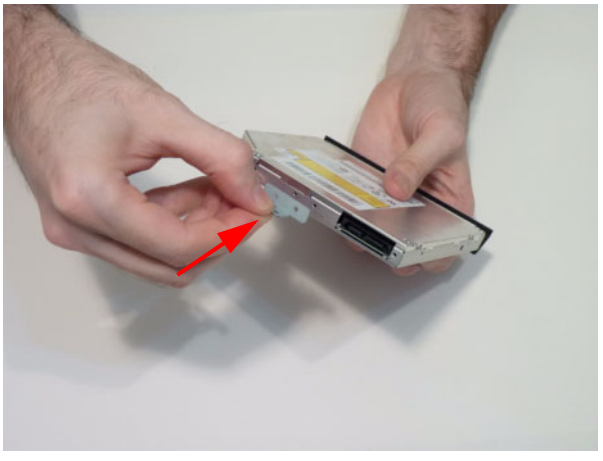
5. Grasp the tab and slide the HDD firmly into the docking connector.



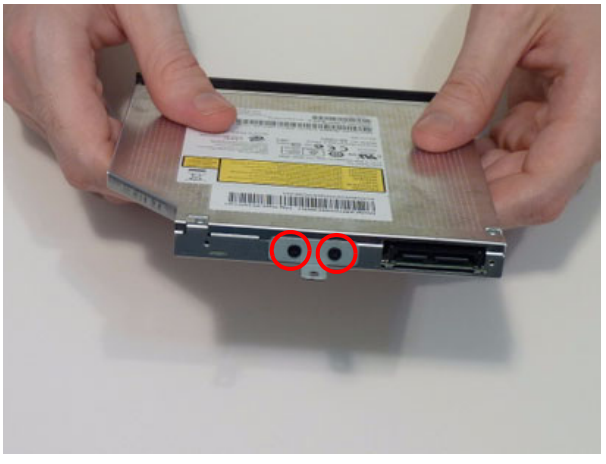
Replacing the ODD Module

1. See “Replacing the Keyboard” on page 114.
2. Replace the ODD bezel.

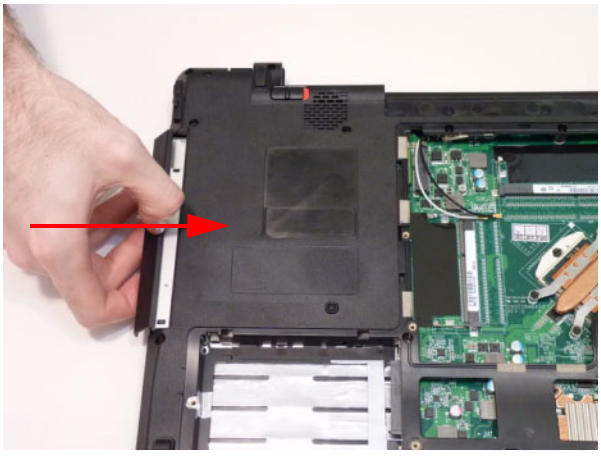
3. Replace the ODD bracket.



4. Replace the two (2) screws of the ODD bracket.

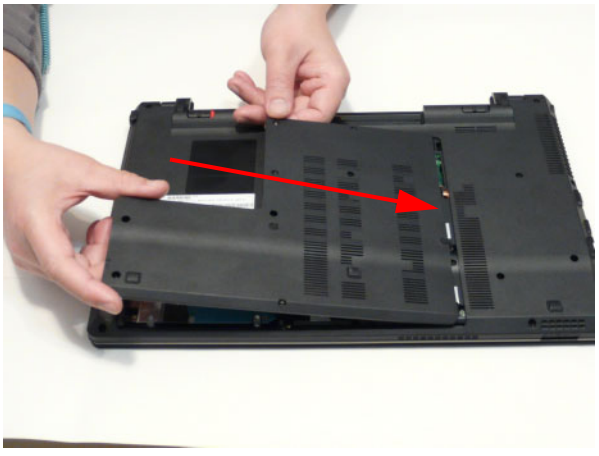


5. Push the ODD completely into the bay until flush with the lower cover.

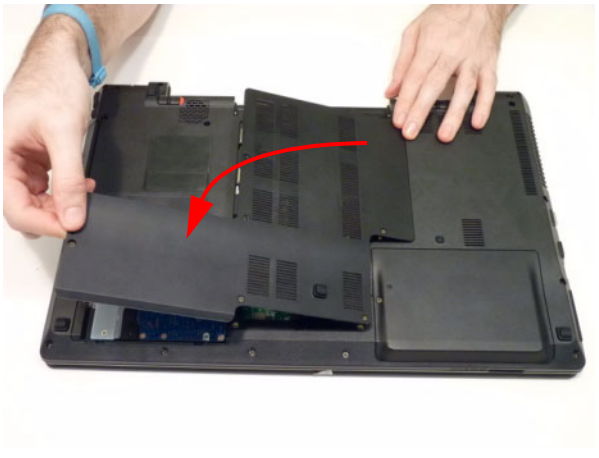


Replacing the Base Door

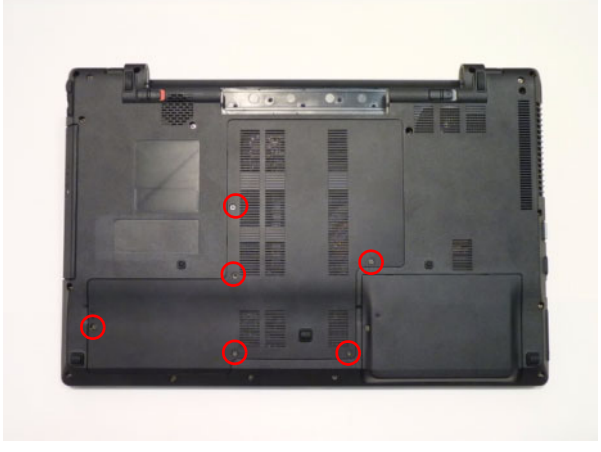
1. See “Replacing the Wireless LAN Module” on page 115.
2. See “Replacing the DIMM Module” on page 116.
3. See “Replacing the Hard Disk Drive” on page 119.
4. See “Replacing the ODD Module” on page 121.
5. Insert the base door edge flanges into the slots.



6. Lower the base door.

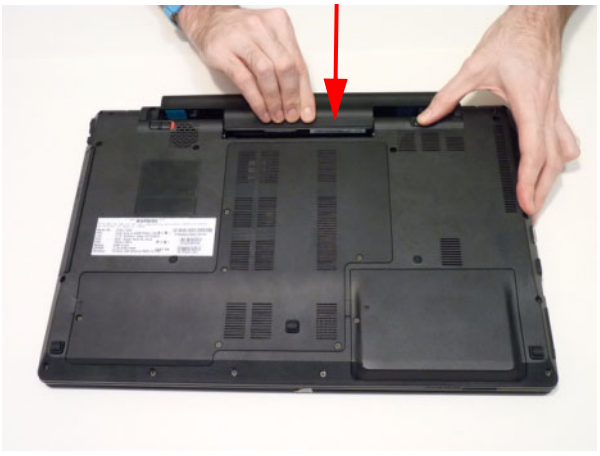


7. Tighten the six (6) screws.



Replacing the Battery

1. See “Replacing the Base Door” on page 123.
2. Slide the battery into position.



3. Close the locking latch.

Replace the Dummy Card

Push the dummy card into the slot until it clicks into place.

Troubleshooting

Common Problems

Use the following procedure as a guide for computer problems.

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

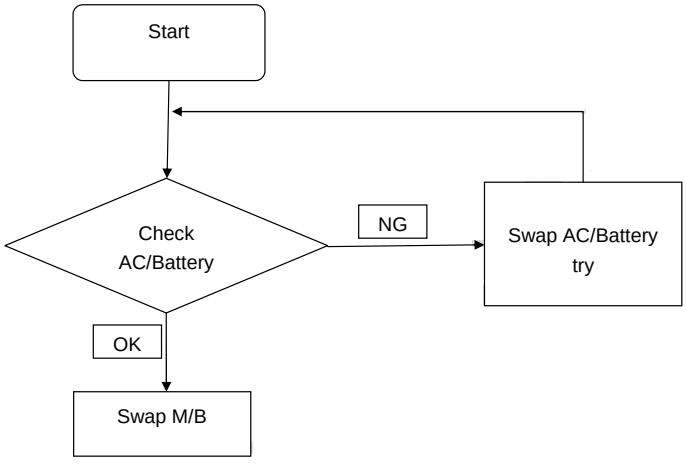
1. Obtain the failing symptoms in as much detail as possible.
2. Verify the symptoms by attempting to re-create the failure by running the diagnostic test or by repeating the same operation.
3. Use the following table with the verified symptom to determine which page to go to.

Symptoms (Verified)	Go To
Power On Issue	Page 126
No Display Issue	Page 127
LCD Failure	Page 129
Internal Keyboard Failure	Page 130
TouchPad Failure	Page 131
Internal Speaker Failure	Page 132
Internal Microphone Failure	Page 133
USB Failure	Page 135
Other Function Failure	Page 135

4. If the Issue is still not resolved, see “Online Support Information” on page 157.

Power On Issue

If the system doesn't power on, perform the following actions one at a time to correct the problem. Do not replace non-defective FRUs:



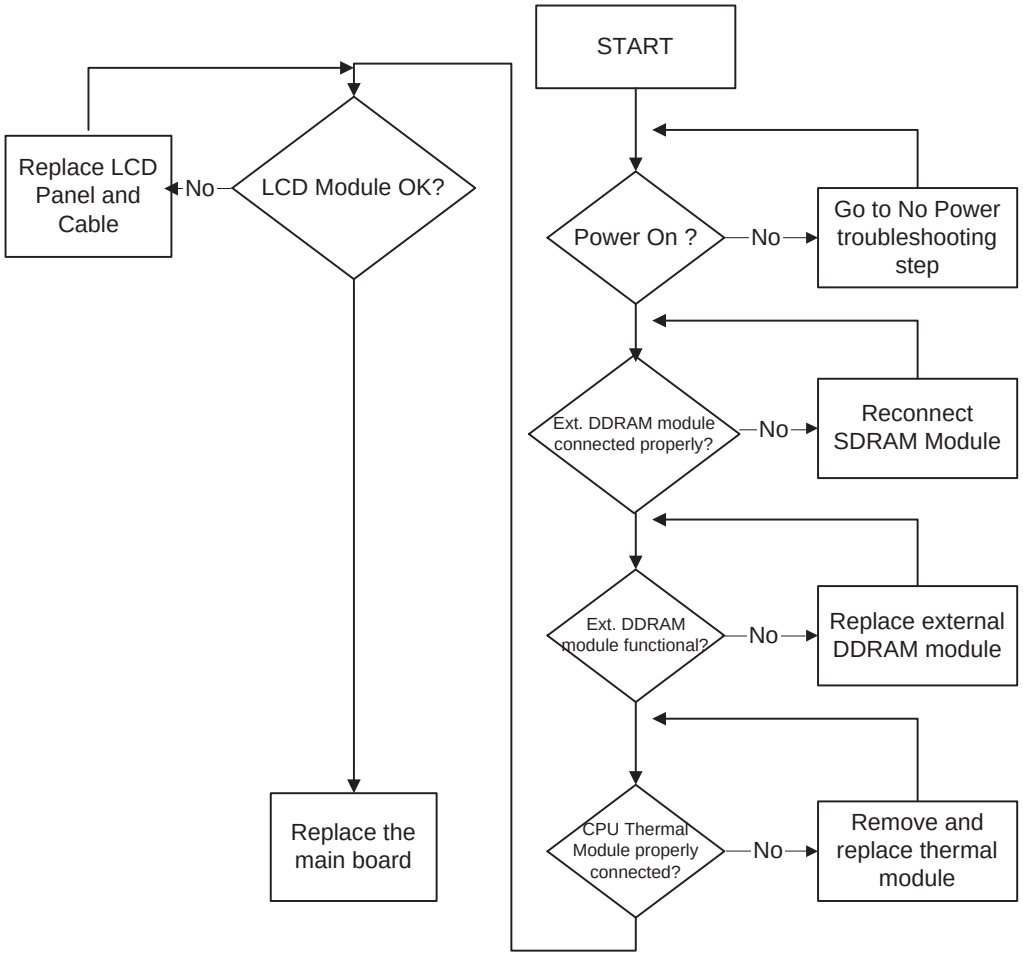
Computer Shuts down Intermittently

If the system powers off at intervals, perform the following actions one at a time to correct the problem.

1. Check the power cable is properly connected to the computer and the electrical outlet.
2. Remove any extension cables between the computer and the outlet.
3. Remove any surge protectors between the computer and the electrical outlet. Plug the computer directly into a known good electrical outlet.
4. Remove all external and non-essential hardware connected to the computer that are not necessary to boot the computer to the failure point.
5. Remove any recently installed software.
6. If the Issue is still not resolved, see "Online Support Information" on page 157.

No Display Issue

If the **Display** doesn't work, perform the following actions one at a time to correct the problem. Do not replace non-defective FRUs:



No POST or Video

If the POST or video doesn't display, perform the following actions one at a time to correct the problem.

1. Make sure that the internal display is selected. On this notebook model, switching between the internal display and the external display is done by pressing **Fn+F5**. Reference Product pages for specific model procedures.
2. Make sure the computer has power by checking at least one of the following occurs:
   - Fans start up
   - Status LEDs light up

   If there is no power, see "Power On Issue" on page 126.
3. Drain any stored power by removing the power cable and battery and holding down the power button for 10 seconds. Reconnect the power and reboot the computer.
4. Connect an external monitor to the computer and switch between the internal display and the external display is by pressing **Fn+F5** (on this model).

   If the POST or video appears on the external display, see "LCD Failure" on page 129.
5. Disconnect power and all external devices including port replicators or docking stations. Remove any memory cards and CD/DVD discs. Restart the computer.

If the computer boots correctly, add the devices one by one until the failure point is discovered.

6. Reseat the memory modules.
7. Remove the drives (see “Disassembly Process” on page 35).
8. If the Issue is still not resolved, see “Online Support Information” on page 157.

Abnormal Video Display

If video displays abnormally, perform the following actions one at a time to correct the problem.

1. Reboot the computer.
2. If permanent vertical/horizontal lines or dark spots display in the same location, the LCD is faulty and should be replaced. See “Disassembly Process” on page 35.
3. If extensive pixel damage is present (different colored spots in the same locations on the screen), the LCD is faulty and should be replaced. See “Disassembly Process” on page 35.
4. Adjust the brightness to its highest level. See the User Manual for instructions on adjusting settings.

   NOTE: Ensure that the computer is not running on battery alone as this may reduce display brightness.

   If the display is too dim at the highest brightness setting, the LCD is faulty and should be replaced. See “Disassembly Process” on page 35.
5. Check the display resolution is correctly configured:
   a. Minimize or close all Windows.
   b. If display size is only abnormal in an application, check the view settings and control/mouse wheel zoom feature in the application.
   c. If desktop display resolution is not normal, right-click on the desktop and select **Personalize→ Display Settings**.
   d. Click and drag the Resolution slider to the desired resolution.
   e. Click **Apply** and check the display. Readjust if necessary.
6. Roll back the video driver to the previous version if updated.
7. Remove and reinstall the video driver.
8. 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.
9. If the Issue is still not resolved, see “Online Support Information” on page 157.
10. Run the Windows Memory Diagnostic from the operating system DVD and follow the onscreen prompts.
11. If the Issue is still not resolved, see “Online Support Information” on page 157.

Random Loss of BIOS Settings

If the computer is experiencing intermittent loss of BIOS information, perform the following actions one at a time to correct the problem.

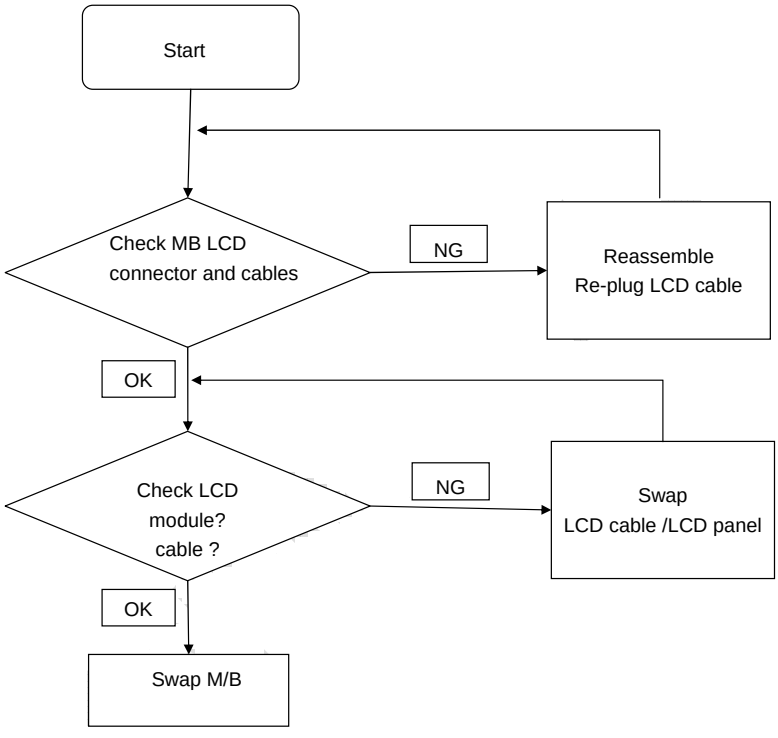
1. If the computer is more than one year old, replace the CMOS battery.
2. Run a complete virus scan using up-to-date software to ensure the computer is virus free.
3. If the computer is experiencing HDD or ODD BIOS information loss, disconnect and reconnect the power and data cables between devices.

   If the BIOS settings are still lost, replace the cables.
4. If HDD information is missing from the BIOS, the drive may be defective and should be replaced.
5. Replace the Motherboard.

6. If the Issue is still not resolved, see “Online Support Information” on page 157.

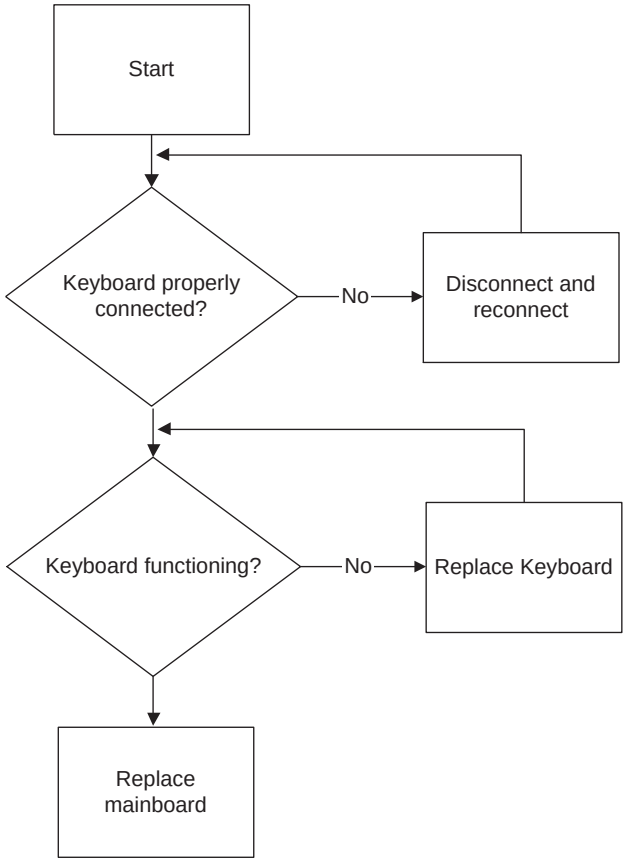
LCD Failure

If the **LCD** fails, perform the following actions one at a time to correct the problem. Do not replace non-defective FRUs:



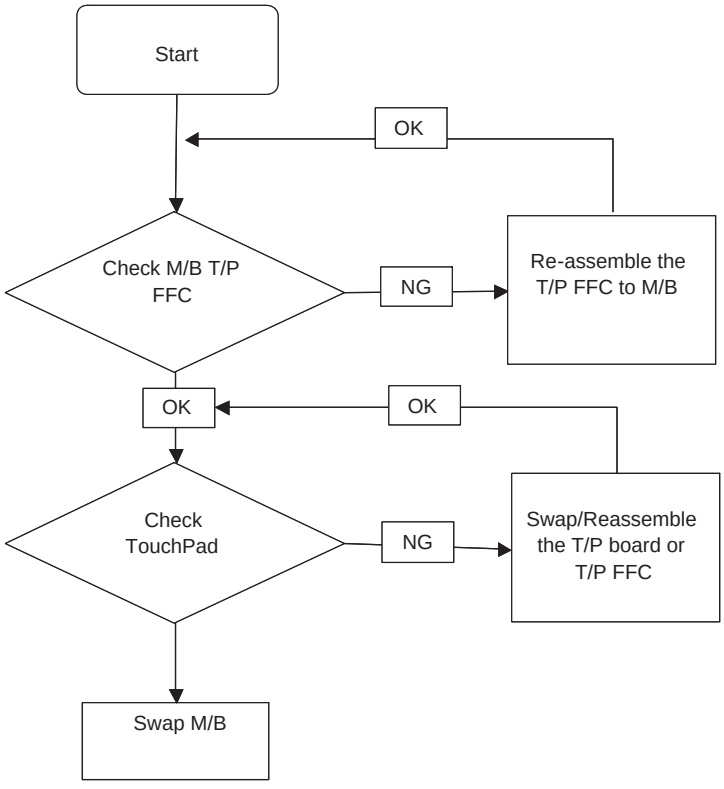
Built-In Keyboard Failure

If the built-in **Keyboard** fails, perform the following actions one at a time to correct the problem. Do not replace non-defective FRUs:



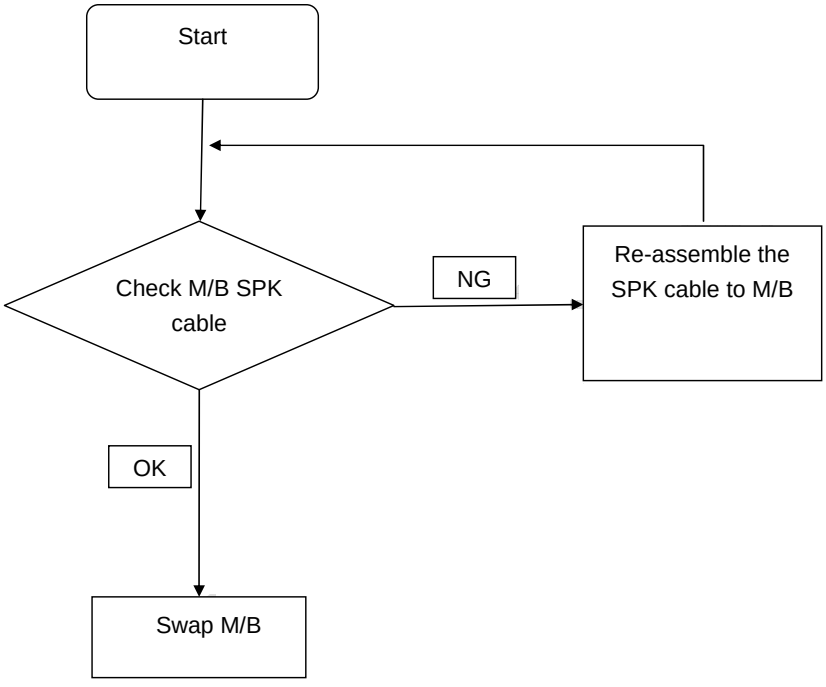
TouchPad Failure

If the **TouchPad** doesn't work, perform the following actions one at a time to correct the problem. Do not replace non-defective FRUs:



Internal Speaker Failure

If the internal **Speakers** fail, perform the following actions one at a time to correct the problem. Do not replace non-defective FRUs:



Sound Problems

If sound problems are experienced, perform the following actions one at a time to correct the problem.

1. Reboot the computer.
2. Navigate to **Start**→ **Control Panel**→ **System and Maintenance**→ **System**→ **Device Manager**. 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.
3. Roll back the audio driver to the previous version, if updated recently.
4. Remove and reinstall the audio driver.
5. Ensure that all volume controls are set mid range:
   a. Click the volume icon on the taskbar and drag the slider to 50. Ensure that the volume is not muted.
   b. 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**. Ensure that Speakers are selected as the default audio device (green check mark).
   NOTE: If Speakers does 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 onscreen prompts to configure the speakers.
8. Remove and recently installed hardware or software.

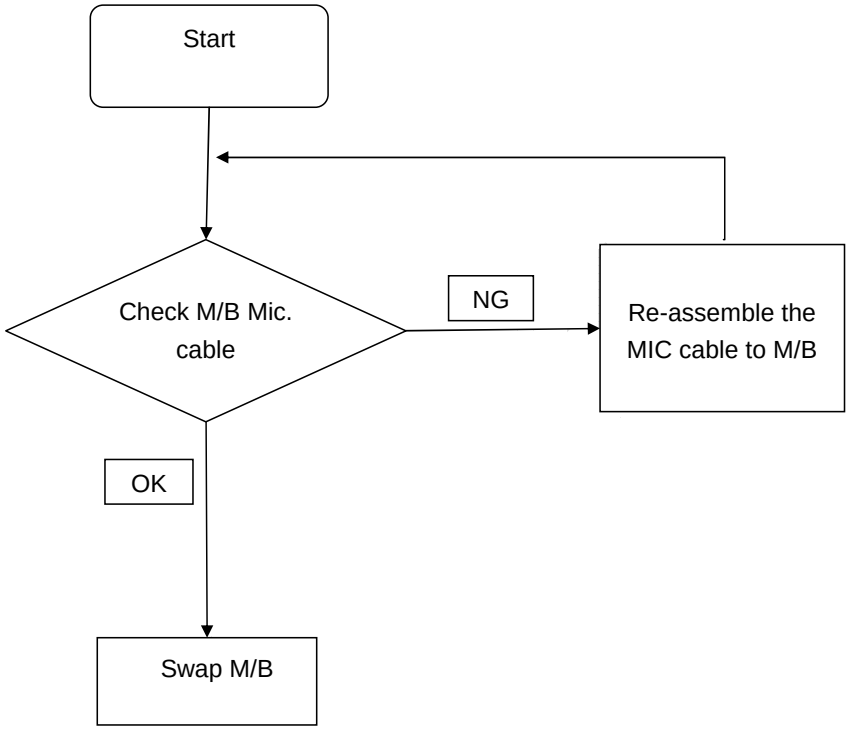
9. Restore system and file settings from a known good date using **System Restore**.

   If the issue is not fixed, repeat the preceding steps and select an earlier time and date.

10. Reinstall the Operating System.
11. If the Issue is still not resolved, see “Online Support Information” on page 157.

Internal Microphone Failure

If the internal **Microphone** fails, perform the following actions one at a time to correct the problem. Do not replace non-defective FRUs:



Microphone Problems

If internal or external **Microphones** do no operate correctly, perform the following actions one at a time to correct the problem.

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).
3. The microphone appears on the **Recording** tab.
4. Right-click on the microphone and select **Enable**.
5. Select the microphone then click **Properties**. Select the **Levels** tab.
6. Increase the volume to the maximum setting and click **OK**.
7. Test the microphone hardware:
   a. Select the microphone and click **Configure**.
   b. Select **Set up microphone**.
   c. Select the microphone type from the list and click **Next**.
   d. Follow the onscreen prompts to complete the test.

8. If the Issue is still not resolved, see “Online Support Information” on page 157.

HDD Not Operating Correctly

If the **HDD** does not operate correctly, perform the following actions one at a time to correct the problem.

1. Disconnect all external devices.
2. Run a complete virus scan using up-to-date software to ensure the computer is virus free.
3. Run the Windows 7 Startup Repair Utility:
   a. insert the Windows 7 Operating System DVD in the ODD and restart the computer.
   b. When prompted, press any key to start to the operating system DVD.
   c. The **Install Windows** screen displays. Click **Next**.
   d. Select **Repair your computer**.
   e. The **System Recovery Options** screen displays. Click **Next**.
   f. Select the appropriate operating system, and click **Next**.

   NOTE: Click **Load Drivers** if controller drives are required.

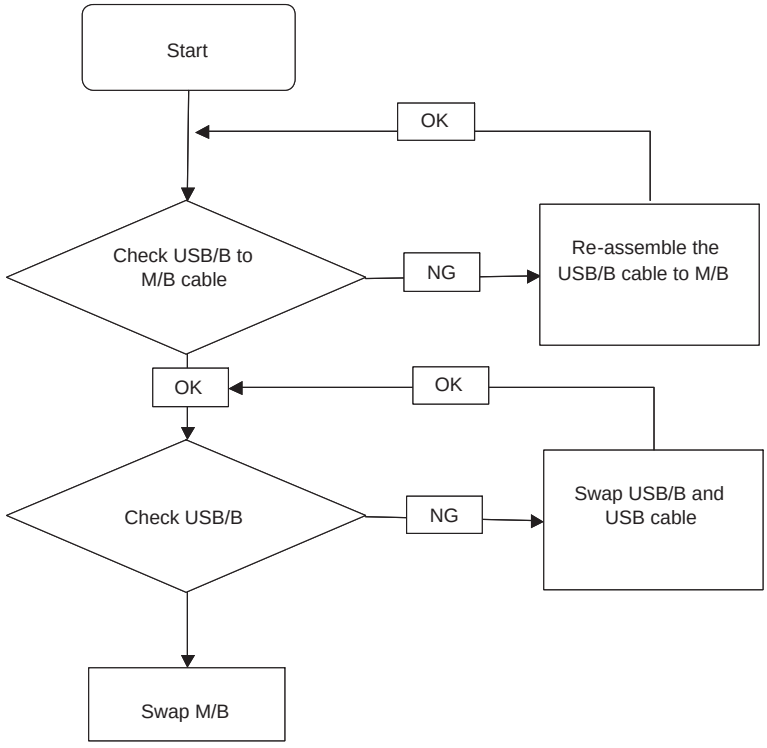
   g. Select **Startup Repair**.
   h. Startup Repair attempts to locate and resolve issues with the computer.
   i. When complete, click **Finish**.

   If an issue is discovered, follow the onscreen information to resolve the problem.
4. Run the Windows Memory Diagnostic Tool. For more information see Windows Help and Support.
5. Restart the computer and press F2 to enter the BIOS Utility. Check the BIOS settings are correct and that CD/DVD drive is set as the first boot device on the Boot menu.
6. Ensure all cables and jumpers on the HDD and ODD are set correctly.
7. Remove any recently added hardware and associated software.
8. Run the Windows Disk Defragmenter. For more information see Windows Help and Support.
9. Run Windows Check Disk by entering **chkdsk /r** from a command prompt. For more information see Windows Help and Support.
10. Restore system and file settings from a known good date using **System Restore**.

    If the issue is not fixed, repeat the preceding steps and select an earlier time and date.
11. Replace the HDD. See “Disassembly Process” on page 35.

USB Failure (Right up/down side)

If the rightside **USB** port fails, perform the following actions one at a time to correct the problem. Do not replace non-defective FRUs:



Other Failures

If the VGA board, LAN Port, external MIC or Speakers, PCI Express Card, 5-in-1 Card Reader or Volume Wheel fail, perform the following general steps to correct the problem. Do not replace non-defective FRUs:

1. Check whether the drive is OK.
2. Verify that the Test Fixture is OK.
3. Swap the mainboard and retest.

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, do 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 any 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.

Follow these 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. (See “Power On Issue” on page 126.):

1. Power-off the computer.
2. Visually check them 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. Power-on the computer.
5. Determine if the problem has changed.
6. If the problem does not recur, reconnect the removed devices one at a time until you find the failing FRU.
7. If the problem remains, replace the following FRU one at a time. Do not replace a non-defective FRU:
    - System board
    - LCD assembly

Post Code Reference Tables

These tables describe the POST codes and descriptions during the POST.

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

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_MSRINIT	SEC	5	CPU Generic MSR initialization
SEC_CPU_SPEEDCFG	SEC	6	Setup CPU speed
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

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_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_TPM_INIT	PEI	78	TPM Initialization
PEI_SMBUS_INIT	PEI	79	SMBUS Early Initialization

Functionality Name (Include\ PostCode.h)	Phase	Post Code	Description
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
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

DXE Phase POST Code Table:

Functionality Name (Include\ PostCode.h)	Phase	PostCode	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_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
DXE_SMART_TIMER_INIT	DXE	51	8259 Initialization
DXE_PCRTC_INIT	DXE	52	RTC Initialization

Functionality Name (Include\ PostCode.h)	Phase	PostCode	Description
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

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
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

Functionality Name (Include\ PostCode.h)	Phase	Post Code	Description
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
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.

PostBDS POST Code Table

Functionality Name (Include\ PostCode.h)	Phase	Post Code	Description
POST_BDS_NO_BOOT_DEVICE	POST_BDS	F9	No Boot Device
POST_BDS_START_IMAGE	POST_BDS	FB	UEFI Boot Start Image
POST_BDS_ENTER_INT19	POST_BDS	FD	Legacy 16 boot entry
POST_BDS_JUMP_BOOT_SECTOR	POST_BDS	FE	Try to Boot with INT 19

S3 Functions POST Code Table

Functionality Name (Include\ PostCode.h)	Phase	Post Code	Description
POST_BDS_NO_BOOT_DEVICE	POST_BDS	F9	No Boot Device
POST_BDS_START_IMAGE	POST_BDS	FB	UEFI Boot Start Image
POST_BDS_ENTER_INT19	POST_BDS	FD	Legacy 16 boot entry
POST_BDS_JUMP_BOOT_SECTOR	POST_BDS	FE	Try to Boot with INT 19

ACPI Functions POST Code 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

Functionality Name (Include\ PostCode.h)	Phase	Post Code	Description
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

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

InsydeH2ODDT Debugger POST Code Table

Functionality Name (Include\ PostCode.h)	PostCode	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
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)

Jumper and Connector Locations

Mainboard Top View

Item	Description	Item	Description

Mainboard Bottom View

Item	Description	Item	Description

Clearing Password Check and BIOS Recovery

This section provides a procedure for clearing the password and BIOS. The Hardware Open Gap on the main board clears the CMOS of all user settings and restores factory defaults.

Mainboard CMOS Discharge

Discharging the CMOS clears all user settings.

1. Disassemble the notebook and take out the 2nd HDD. See “Removing the 2nd HDD Module” on page 45.
2. Remove the RTC battery. See “Removing the RTC Battery” on page 65.

TBD - Check this with Charles

3. Turn the mainboard over and short the G2 pad.

4. Reconnect the RTC battery and reassemble the unit.

BIOS Recovery by Crisis Disk

BIOS Recovery Boot Block

The BIOS Recovery Boot Block is a special block of BIOS. It is used to boot up the system with minimum BIOS initialization. Users can enable this feature to restore the BIOS firmware to the factory settings if a BIOS flash process fails.

BIOS Recovery Hotkey

The system provides a function hotkey: **Fn+Esc**, to enable the BIOS Recovery process when a 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

Before performing this procedure, prepare a Crisis USB key. The Crisis USB key can be made by executing the Crisis Disk program in a functioning system with a Windows 7 OS.

IMPORTANT: The Crisis Disk program will overwrite all data on any drive that you use as a crisis disk.

Follow the steps below:

1. Modify the archive name from " "
2. Save ROM file (file name:) to the root directory of the USB storage.
3. Plug the USB storage into a USB port.
4. Press **Fn + ESC** button then plug in AC.

   The Power button flashes once.
5. Press **Power** button to initiate system CRISIS mode.

   When CRISIS is complete, the system auto restarts with a workable BIOS.
6. Update the latest version BIOS for this machine by the regular BIOS flashing process.

FRU (Field Replaceable Unit) List

This chapter gives you the FRU (Field Replaceable Unit) listing in global configurations of the computer. Refer to this chapter whenever ordering for parts to repair or for RMA (Return Merchandise Authorization).

Please note that WHEN ORDERING FRU PARTS, you should check the most up-to-date information available on your regional web or channel. For whatever reasons a part number change is made, it will not be noted on the printed Service Guide. For ACER AUTHORIZED SERVICE PROVIDERS, your Acer office may have a DIFFERENT part number code from those given in the FRU list of this printed Service Guide. You MUST use the local FRU list provided by your regional Acer office to order FRU parts for repair and service of customer machines.

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

Exploded Diagrams

Main Assembly

Item	Description	Part Number

Item	Description	Part Number

NOTE: Part numbers may be different depending on your model. Please refer to the FRU List for a full listing of part numbers.

LCD Assembly

Item	Description	Part Number

NOTE: Part numbers may be different depending on your model. Please refer to the FRU List for a full listing of part numbers.

FRU List

Screw Table

Model Definition and Configuration

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.

Online Support Information

This section describes online technical support services available to help you repair your Acer Systems.

If you are a distributor, dealer, ASP or TPM, please refer your technical queries to your 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 you convenient and valuable support resources whenever you need them.

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

- Service guides for all models
- User's manuals
- 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 Traveler'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 your technical queries.

We are always looking for ways to optimize and improve our services, so if you have any suggestions or comments, please do not hesitate to communicate these to us.

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