Gateway LT31 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

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Revision History

Please refer to the table below for the updates made to 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.

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

- Genuine Windows® XP Home (Service Pack 3)
- Genuine Windows Vista™

Platform

- AMD Athlon™ 64 Processor L110
  - Cache size:512KB, Frequency:1.2G (No P-state)
  - TDP:13W
  - Package 638-pin lidless micro PGA package.

System Memory

- DDRII 667MHz
- 1 DDR2 SODIMM slot
- Maximum memory size up to 2GB-SODIMM

Display and graphics

- 11.6" HD WXGA high-brightness (typical 200-nit) Acer CrystalBrite™ TFT LCD, 1366 x 768 pixel resolution

Storage subsystem

- 2.5" 9.5 mm 160 GB or larger hard disk drive
- 4-in-1 Card Reader (xD, SD, MMC, MS) with push-push type

Audio subsystem

- High-definition audio support
- Two built-in stereo speakers
- MS-Sound compatible
- Built-in digital microphone
- 1 analog microphone jack, one headphone jack

Communication

- Integrated webcam, supporting 0.3-megapixel resolution
- WLAN: 802.11b/g

- LAN: 10/100 Mbps Fast Ethernet
- WPAN: Bluetooth® 2.0 or 2.1+EDR
- WWAN: GSM/GPRS/EDGE/(WCDMA) (for 3G models)

Privacy control

- Kensington lock slot

Dimensions and Weight

- 286 (W) x 203 (D) x 29 (H) mm
- 1.3 kg (2.86 lbs.) with 3-cell battery pack
- 1.46 kg (3.21 lbs.) with 6-cell battery pack

Power subsystem

- 24.4 W 2200 mAh 3-cell Li-ion battery pack
  - 4-hour battery life

-or-

- 57.7 W 5200 mAh 6-cell Li-ion battery pack
  - 8-hour battery life
- 30 W adapter with power cord

Special keys and controls

- 86/87/91-key keyboard
- Touchpad pointing device with two buttons

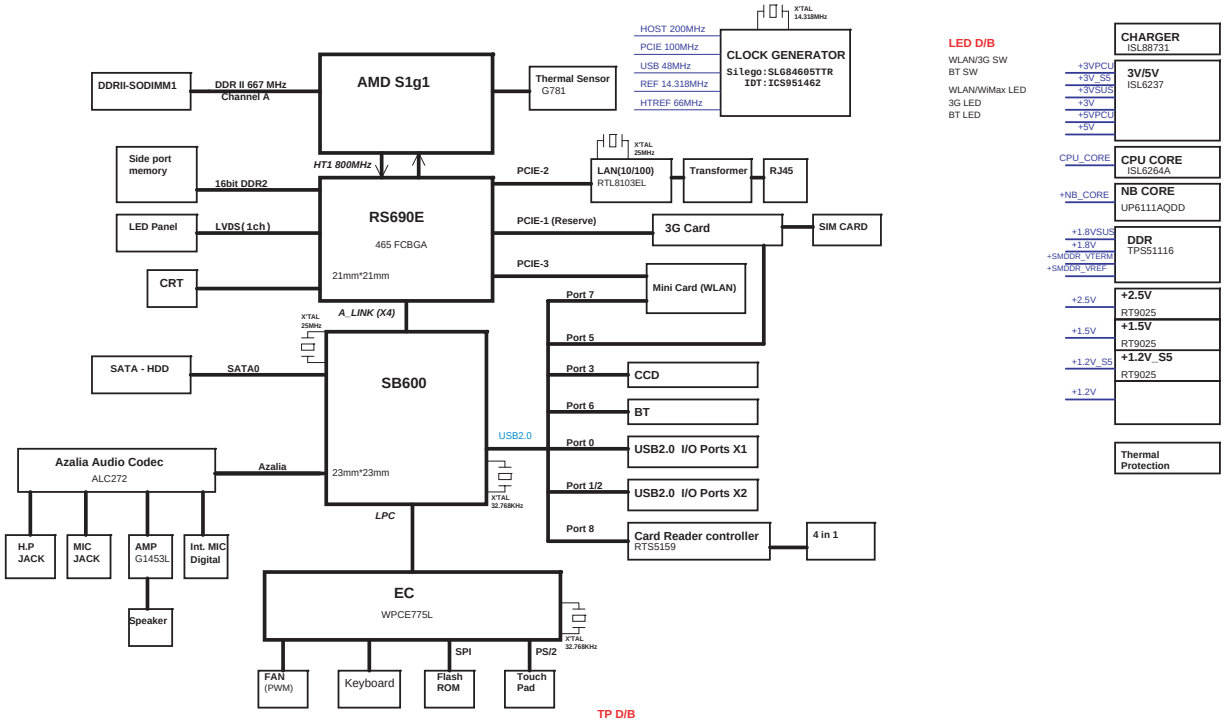
I/O interface

- Multi-in-1 card reader
- Three USB 2.0 ports
- External display (VGA) port
- Headphone/speaker/line-out jack
- Microphone-in jack
- Ethernet (RJ-45) port
- DC-in jack for AC adapter

Environment

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

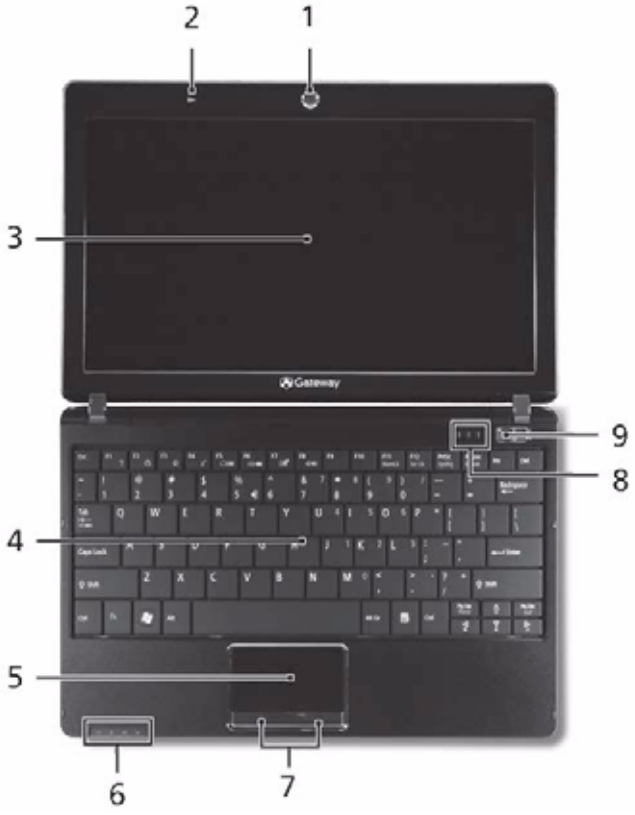
System Block Diagram



Your Gateway Notebook tour

After learning about your computer features, let us show you around your new computer.

Front View



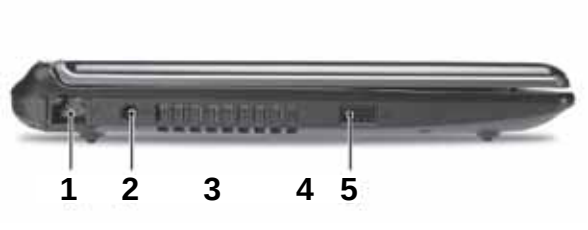
No.	Icon	Item	Description
1		Acer Crystal Eye Webcam	Web camera for video communication.
2		Microphone	Internal microphone for sound recording.
3		Display screen	Also called Liquid-Crystal Display (LCD), displays computer output.
4		Keyboard	For entering data into your computer.
5		TouchPad	Touch-sensitive pointing device which functions like a computer mouse.
6		Battery/ Bluetooth/3G/ Wireless LAN communication indicator	Indicates the status of Battery/Bluetooth/3G/ Wireless LAN communication. (only for certain models)
7		Click buttons (left and right)	The left and right buttons function like the left and right mouse buttons.

No.	Icon	Item	Description
8		Status indicators	Light-Emitting Diodes (LEDs) that light up to show the status of the computer's functions and components.
9		Power button/ indicator	Turns the computer on and off while indicating the computer’s power status.

Closed Front View

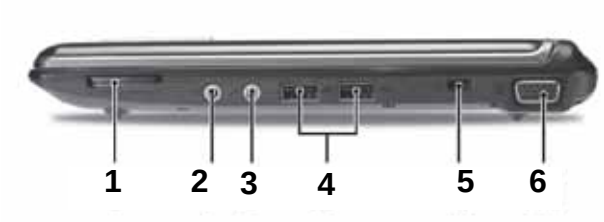
No.	Icon	Item	Description
1		Bluetooth communication switch	Enables/disables the Bluetooth function.
2		3G/Wireless LAN communication switch	Enables/disables the 3G/Wireless LAN

Left View



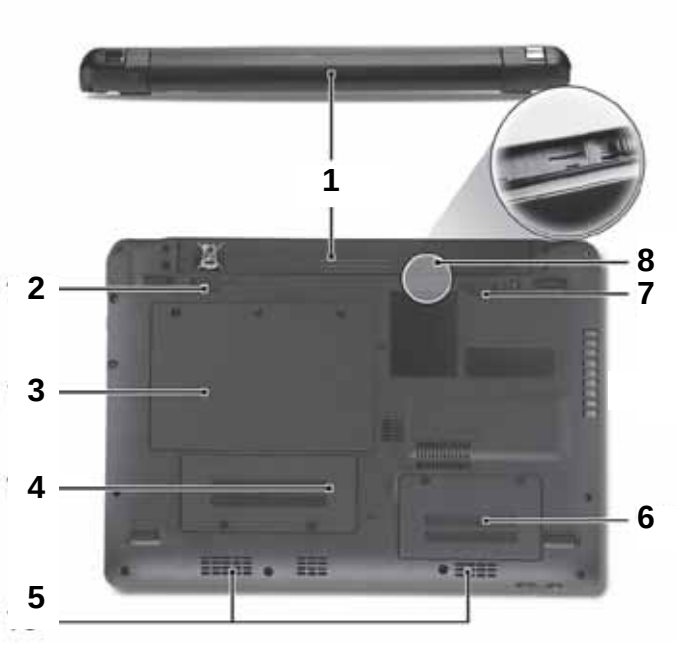
No.	Icon	Item	Description
1		Ethernet (RJ-45) port	Connects to an Ethernet 10/100-based network.
2		DC-in jack	Connects to an AC adapter
3		USB 2.0 ports	Connect to USB 2.0 devices (e.g. USB mouse).

Right View



No.	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.
2		Microphone-in jack	Accepts input from external microphones.
3		Headphones/ speaker/line-out jack	Connects to line-out audio devices (e.g. speakers, headphones).
4		USB 2.0 port	Connects to USB 2.0 devices (e.g. USB mouse).
5		Kensington lock slot	Connects to a Kensington-compatible computer security lock.
6		External display (VGA) port	Connects to a display device (e.g. external monitor, projector).

Rear and Base View



No.	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 release latch	Releases the battery for removal.
3		Hard disk bay	Houses the computer's hard disk (secured with screws).
4		3G module bay	Houses the computer's 3G communication module.
5		Ventilation slots and/or cooling fan	Vents enable the computer to stay cool, even after prolonged use. **Note**: Do not cover or obstruct the cooling vents.
6		Memory compartment	Houses the computer's main memory.
7		Battery lock	Locks the battery in position.
8		3G SIM card slot	Accepts a 3G SIM card for 3G connectivity (only for certain models).

Indicators

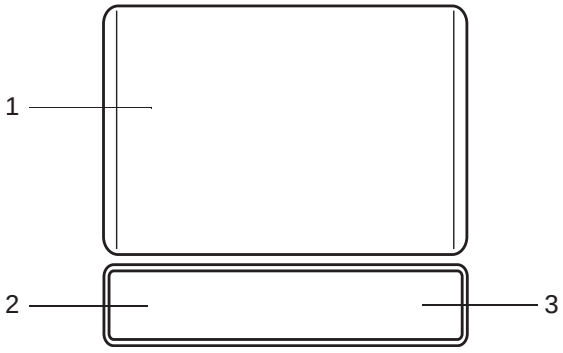
The computer has several easy-to-read status indicators. The battery indicator is visible even when the computer cover is closed.

Icon	Function	Description
	Bluetooth	Indicates the status of Bluetooth communication.
	Wireless LAN	Indicates the status of Wireless LAN communication.
	3G communication	Indicates the status of 3G 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.
	Battery	Indicates the computer's battery status.

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 similar to 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 Packard Bell dot Series 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 **<Fn> + <F11>**	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 XP, 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> + <F1>		Power Options	Display the Power Options Properties dialog box.
<Fn> + <F2>		System Properties	Display the System Properties dialog box.
<Fn> + <F3>		Bluetooth communication switch	Enables/disables the Bluetooth 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 internal TouchPad on and off.
<Fn> + <F8>		Speaker toggle	Turns the speakers on and off.
<Fn> + <▷>		Brightness up	Increases the screen brightness.
<Fn> + <◁>		Brightness down	Decreases the screen brightness.
<Fn> + <△>		Volume up	Increases the sound volume.
<Fn> + <▽>		Volume down	Decreases the sound volume.

Special Keys

You can locate the Euro symbol and the US dollar sign 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	AMD Athlon™ 64 Processor L110
CPU package	638-pin lidless micro PGA package.
Core Logic	• North Bridge-RS690E • South Bridge SB600
Chipset	• Mobile Intel® US15W Express Chipset
Features	• Cache size: 512 KB, Frequency:1.2G (No P-state) • TDP:13W • Execute Disable Bit

Processor Specifications

Item	CPU Speed	Cores	Mfg Tech	Cache Size	Package	Core Voltage	Acer P/N
L110	1.2 GHz	1	65 nm	512 KB	Micro-PGA	Variable	KC.AL002.110

CPU Fan True Value Table

CPU Temperature of Diode	Fan Speed (RPM)
40.3	4900
39.1	4400
36.3	4000

North Bridge Specifications

Item	Specification
Chipset	North Birdge-RS690E
Package	465-Pin FCBGA (21 x 21 mm)
Features	• Supports the mobile and desktop Athlon 64/Athlon 64 FX/ Athlon X2/AMD Sempron/AMD Turion 64 processors, including both AM2 and S1 socket CPUs. • Supports 200, 400, 600, 800, and 1000MHz HyperTransport (HT) interface speeds. • Supports LDTSTP interface, CPU throttling, and stutter mode. • Supports ATI HyperMemory™* technology. • Supports Side-port GDDR 128M • Compliant with the PCI Express (PCI-E) 1.1a Specification. • A four-port, x4 PCI Express general purpose interface. • One x4 A-Link Express II interface (PCI Express 1.1 compliant) for connection to an AMD Southbridge • Multiple Display Features(LCD+CRT) • Integrated LVDS-Integrated dual-link 24-bit LVDS interface Power +1.2V,+3V, +1.8V, +NB_ • TDP:8W

South Bridge Specifications

Item	Specification
Chipset	South Bridge SB600
Package	549-FCBGA (23mm x 23mm)

Item	Specification

Features	• Support PCI bus at 33MHz
	• Supports four SATA ports, complying with the SATA 1.0a specification
	• 5 OHCI and 1 EHCI Host controllers to support 10 USB ports,
	• audio
	  • 4 Independent output stream(DMA).
	  • 4 Independent input stream(DMA).
	  • Up to 16 channels of audio output per stream.
	  • Support up to 4 Codecs.
	  • Up to 192Khz sample.
	• IDE Controller
	  • Single PATA Channel support.
	  • Supports PIO, Multi-word DMA, and Ultra DMA 33/66/100/133.
	• AC Link Interface
	  • Support for both audio and modem Codecs.
	  • 6/8 channel support on audio codec.
	  • Power +3V,+1.2V, +3V_S5, +1.2V_S5, +1.8V, VCC_SB
	• TDP:4W

System Memory

Item	Specification
Memory size	Up to 2GB
DIMM socket number	1
Supports memory size per socket	2GB
Supports maximum memory size	2GB
Supports DIMM type	DDR2
Supports DIMM Speed	667MHz

Hard Disk Drive Interface

Item	Specification				
Vendor & Model Name	Hitachi HTS543216L9 SA00	Hitachi HTS545016B9 A300	Hitachi HTS545025B9 A300	Seagate ST9160310AS	Seagate ST9160315AS
Capacity (GB)	160	160	250	160	250
Bytes per sector	512	512	512	512	512
Data heads	2	2	2	2	2
Drive Format					
Disks	1	1	2	1	1
Spindle speed (RPM)	5400	5400	5400	5400	5400
Performance Specifications					
Buffer size	8 MB	8 MB	8 MB	8 MB	8 MB
Interface	SATA	SATA	SATA	SATA	SATA
Fast data transfer rate (Mbits/sec, max)	1500	3000	3000	3000	3000

Item	Specification				
Media data transfer rate (Mbytes/sec max)	830	729	775	830	830
DC Power Requirements					
Voltage tolerance	5V ±5%	5V ±5%	5V ±5%	5V ±5%	5V ±5%

Item	Specification			
Vendor & Model Name	WD WD1600BEVT	WD WD2500BEVT	Toshiba MK1655GSX	Toshiba MK2555GSX
Capacity (GB)	160	250	160	250
Bytes per sector	512	512	512	512
Data heads	2	2	2	2
Drive Format				
Disks	1	1	1	1
Spindle speed (RPM)	5400	5400	5400	5400
Performance Specifications				
Buffer size	8 MB	8 MB	8	8
Interface	SATA	SATA	SATA	SATA
Fast data transfer rate (Mbits/sec, max)	3000	3000	3000	3000
Media data transfer rate (Mbytes/sec max)	850	850	363 - 952 typical	363 - 952 typical
DC Power Requirements				
Voltage tolerance	5V ±5%	5V ±5%	5V ±5%	5V ±5%

BIOS

Item	Specification
BIOS vendor	Phoenix BIOS
BIOS Version	V0.2105
BIOS ROM type	Flash

LED 11.6”

Item	Specifications			
Vendor/model name	AUO B11.6XW02	CMO N116B6-L02	LG LP116WH1-TLA1	Samsung LTN116AT01-A01
Screen Diagonal (mm)	11.6”	11.6”	11.6”	11.6”
Active Area (mm)	256.125 x 144	256.125 x 144	256.13 x 144	256.125 x 144
Display resolution (pixels)	1366 x 768	1366 x 768	1366 x 768	1366 x 768
Pixel Pitch (mm)	0.1875 x 0.1875	0.1875 x 0.1875	0.1875 x 0.1875	0.2265(H) x 0.2265(V)
Typical White Luminance (cd/m^2) also called Brightness	200	200	200	200
Contrast Ratio	500:1	500:1	500:1	500:1
Response Time (Optical Rise Time/Fall Time) msec	8	7	8	8

Item	Specifications			
Typical Power Consumption (watt)	4.0	4	4	2.85
Weight (without inverter)	255g	225g	255g	255g
Physical Size (mm)	268 (L) x 161.5 (W)	268 x 161.5 x 5	268.0 x 161.5	268.0 x 161.5
Electrical Interface	LVDS	LVDS	LVDS	LVDS
Viewing Angle (degree) Horizontal (Right) / (Left) Vertical (Upper) / (Lower)	 45/45 20/40	 45/45 20/45	 45/45 20/40	 TBD

Bluetooth

Item	Specification
Bluetooth Controller	T60H928.11 miniUSB module
Features	• Bluetooth 2.0 plus EDR qualified Embedded USB Module • Extremely small size (26mmX 14mm) • Class 2 specification RF output power • Full piconet and scatternet operation • Full Bluetooth data rate • USB 2.0 full-speed compliant interface • F/W upgrade via Flash download • Very low power consumption • Support AFH (Adaptive Frequency Hopping) • Support BCM WLAN co-existence

Audio Codec and Amplifier

Item	Specification
Audio Controller	Realtek ALC272 Azalia Codec and Amplifier G1454
Features	• HD Audio • SNR > 85,High-performance DACs with 95dB SNR (A-Weighting), ADCs with 85dB SNR (A-Weighting) • Internal Digital Microphone • Two speakers, max. 1W output each

LAN Interface

Item	Specification
LAN Chipset	Realtek RTL8103EL
Package	48pin-LQFP package
Features	• Integrated 10/100 BASE -T transceiver • PCIe V1.1 compliant supports • Wake on LAN and remote wake-up support

Keyboard

Item	Specification
Type	New Acer flat keyboard
Total number of keypads	86/87/91
Windows logo key	Yes

Item	Specification
Internal & external keyboard work simultaneously	Yes
Features	• Supports Application keys for Windows XP version

Mini Card

Item	Specification
Number Supported	2
Features	• 1 for 3G (full size) • 1 for WLAN (half size)

Camera

Item	Specifications		
Vendor and model	Chicony CNF9011	Liteon 09P2SF001	SuyinCN0316-S30C-OV06-1
Type	640 x 480 VGA (0.3M) size 1/6” CMOS	640 x 480 VGA (0.3M) size 1/6” CMOS	640 x 480 VGA (0.3M) size CMOS
Interface	USB 2.0	USB 2.0	USB 2.0
Optical aperture	F2.4 ± 5%		F2.4
Focusing range	17.4cm ~ Infinity, focus on 40cm	18.65cm~Infinite, focus on 48cm	40 cm ~ infinity
Dimensions (L x W x H mm)	64.8±0.3 X 7.9±0.1 X 3.64+0.15/-0.25 mm	65 x 8 x 3.84 ± 0.25(H) mm,	65X 7.9X 3.8+/-0.2mm
Sensor type	CMOS	CMOS	CMOS
Pixel resolution	640 x 480	640 x 480	640 x 480
Pixel size	TBD	TBD	3.6um x 3.6um
Image size	TBD	TBD	2.36mm(H) x 1.76mm(V)

Wireless LAN

Item	Specification	Specification	Specification	Specification
Type	Atheros HB63	Atheros HB95	Atheros XB63	Broadcom 4312H
802.11g				
Radio Technology	IEEE 802.11g standard compliant			
Operating Frequency	2412 ~ 2484MHz ISM band			
Modulation Schemes	OFDM, DQPSK, DBPSK and CCK			
Channel Numbers	• 1---11 channels for active channels • 12---13 channels for passive channels			
Data Rate	54Mbps with fall back rates of 48, 36, 24, 18, 12, 9 and 6Mbps			
Media Access Protocol	CSMA/CA with ACK			
Transmitter Output Power	Typical 13.5 dBm for 54Mbps			
802.11b				
Radio Technology	IEEE 802.11b Direct Sequence Spread Spectrum			
Operating Frequency	2412 ~ 2484MHz ISM band			

Item	Specification	Specification	Specification	Specification
Modulation Schemes	DQPSK, DBPSK and CCK			
Channel Number	• 1---11 channels for active channels • 12---13 channels for passive channels			
Data Rate	11Mbps with fall back rates of 5.5, 2, and 1Mbps			
Media Access Protocol	CSMA/CA with ACK			
Transmitter Output Power	18dBm typically			

3G Module

Battery

Item	Specification	
	3 Cell	6 Cell
Vendor & model name	Sanyo UM-2009A/AW Sony UM-2009A/AW Panasonic UM-2009A/AW Simplo UM-2009A/AW	Sanyo UM-2009B 2.2/2.6 Sony UM-2009B 2.2/2.6 Panasonic UM-2009B Simplo UM-2009B
Battery Type	Li-ion	Li-ion
Pack capacity	2200 mAh	4400/5200 mAh
Number of battery cell	3	6
Package configuration	3S1P	3S2P

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 six menu options: Information, Main, Advanced, Security, Power, Boot, and Exit.

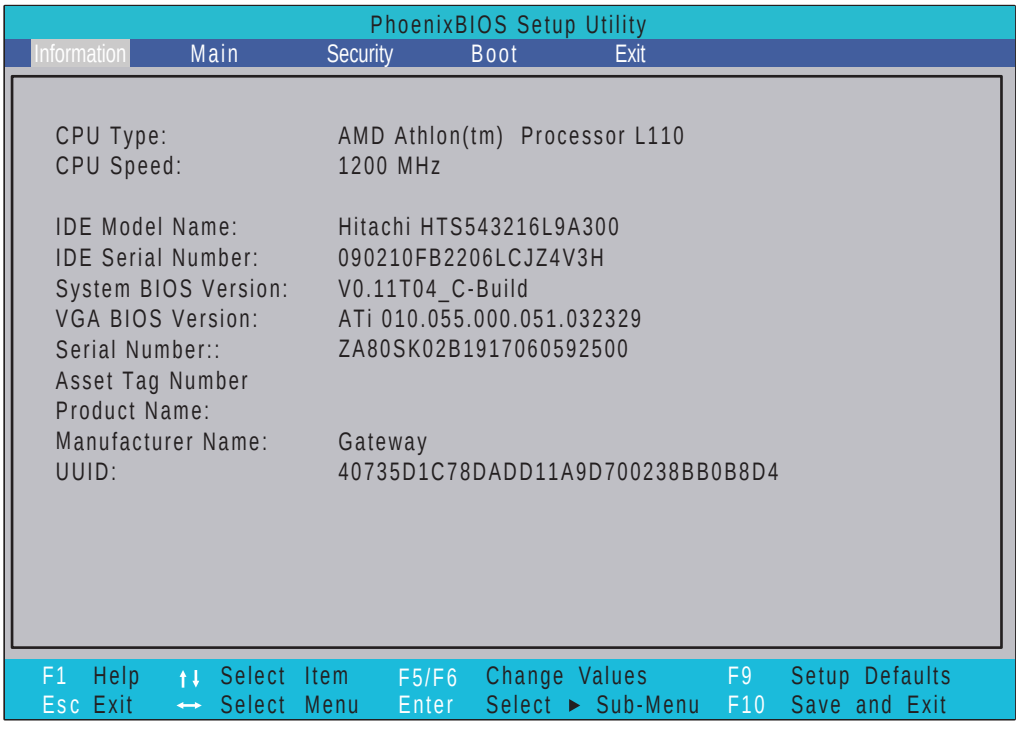
Follow these instructions:

- 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**.
- A plus sign (+) indicates the item has sub-items. Press **Enter** to expand this item.
- 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.

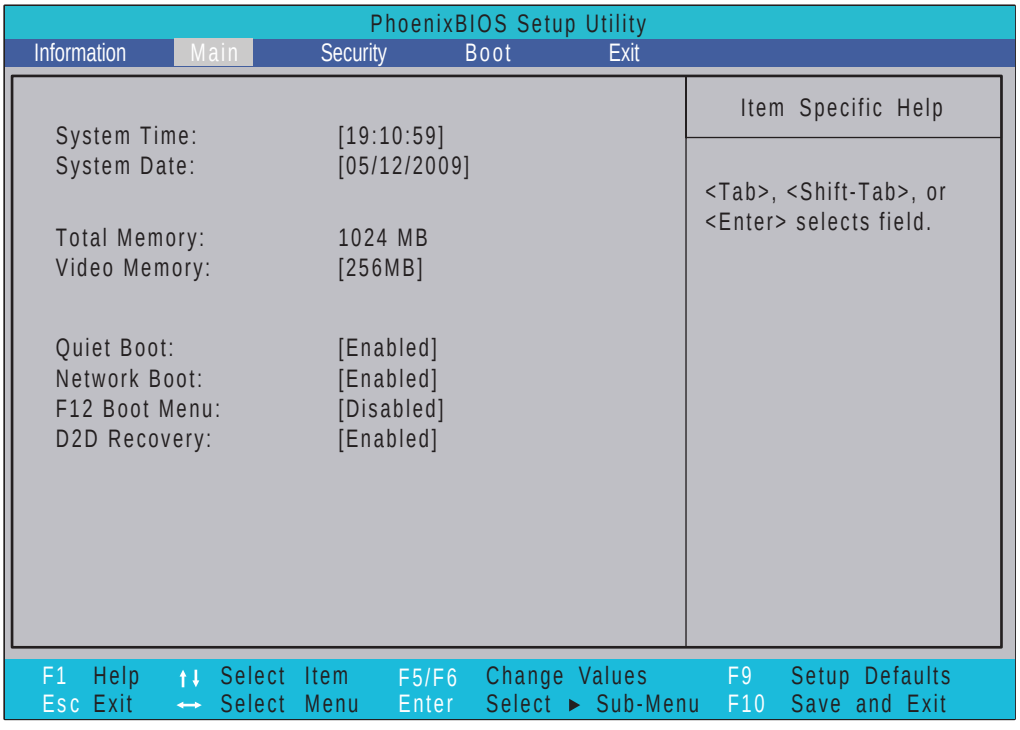


NOTE: The system information is subject to different models.

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.
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	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.



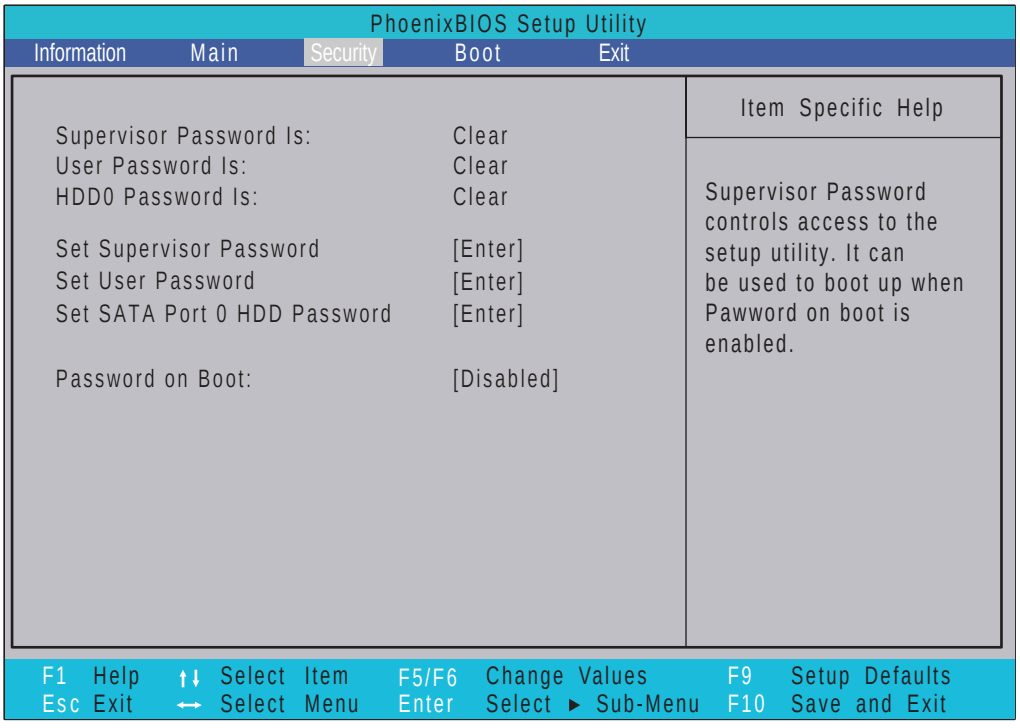
NOTE: The screen above is for your reference only. Actual values may differ.

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)
System Memory	This field reports the total memory size of the system. Memory size is fixed to 1015 MB.	N/A
Primary Master	Specifies the primary IDE master.	N/A
Quiet Boot	Allows startup to skip normal POST messages while booting, decreasing the time needed to boot the system.	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: **Enabled** 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 operation system and restore the system to factory defaults.	Option: **Enabled** or Disabled

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
HDD0 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 HDD0 Password	Enter HDD password.	
Password on Boot	Defines whether a password is required or not while the events defined in this group happened. The following sub-options are all requires the Supervisor password for changes and should be grayed out if the user password was used to enter setup.	**Enabled** or Disabled

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

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.

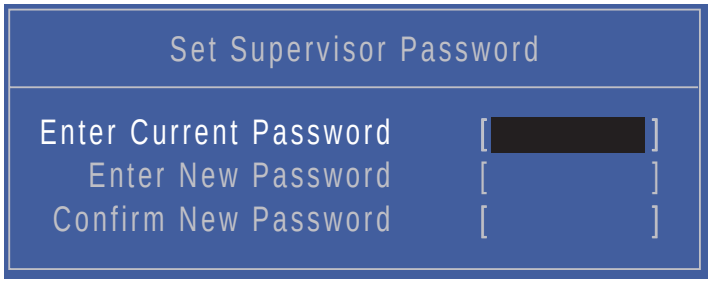
IMPORTANT: Be very careful when typing your password because the characters do not appear on the screen.

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:

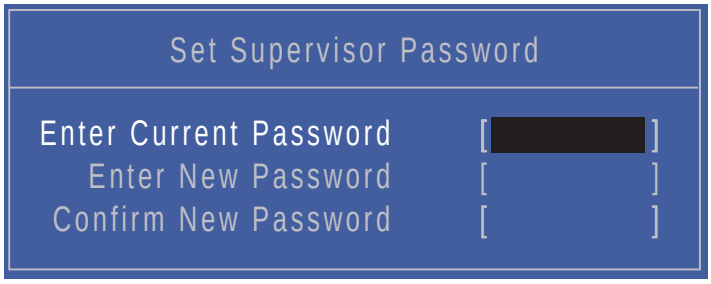
1. Use the ↑ and ↓ keys to highlight the Set Supervisor Password parameter and press the **Enter** key. The Set Password box appears:



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 u 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.

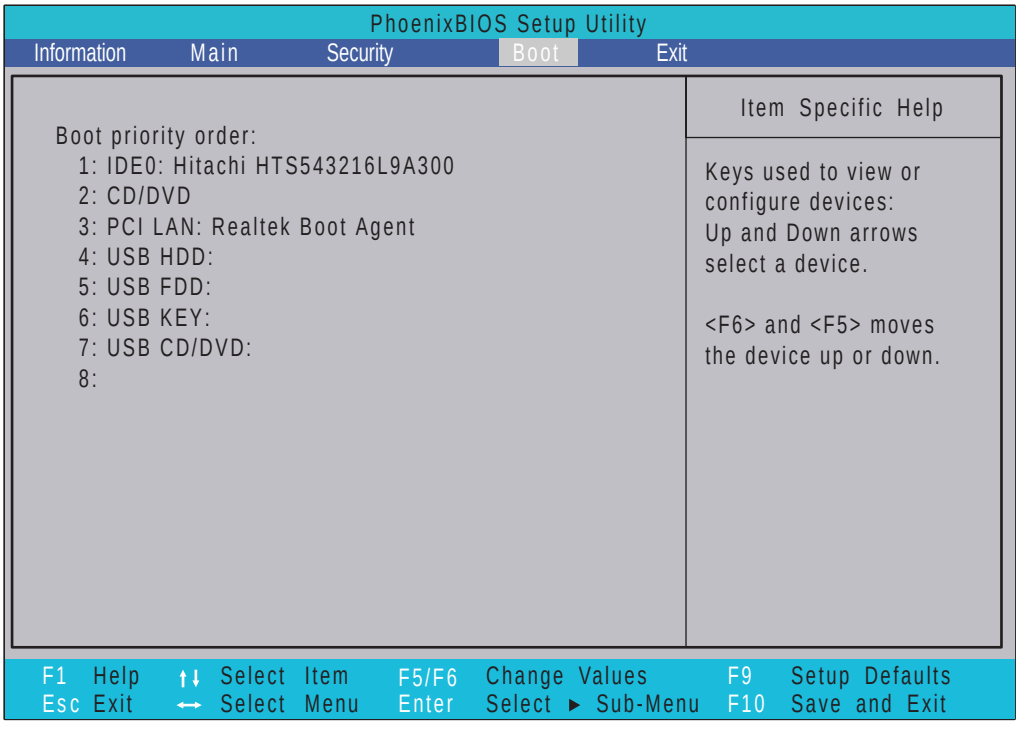
The password setting is complete after the user presses **Enter**.

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.

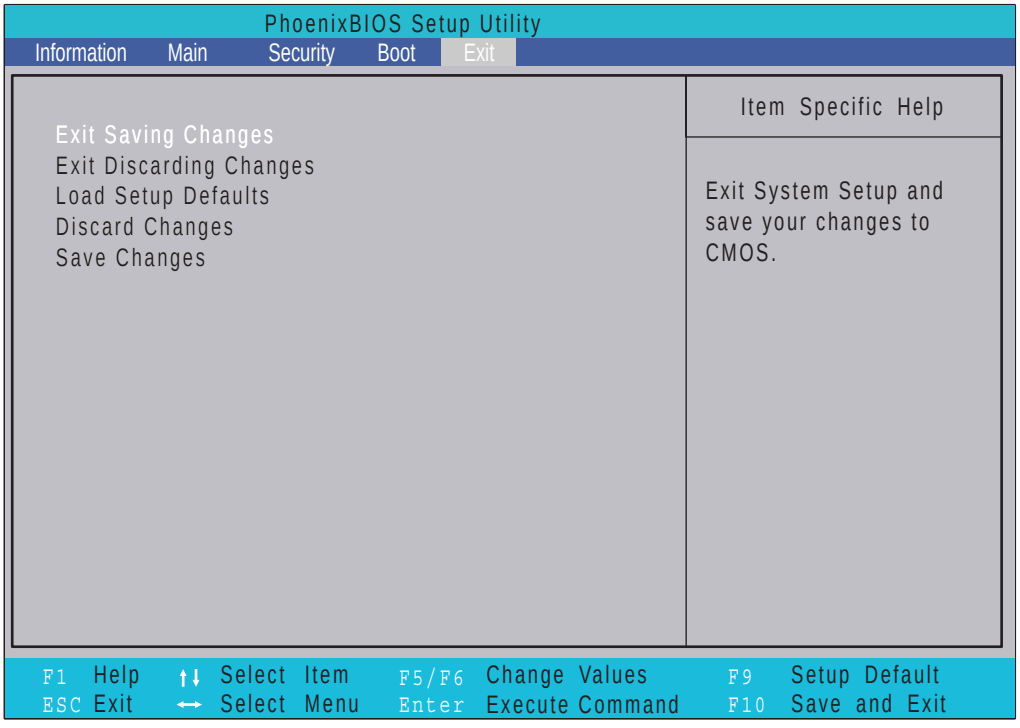
Boot

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.

Use the Phlash utility to update the system BIOS flash ROM.

NOTE: If you do not have a crisis recovery diskette at hand, then you should create a **Crisis Recovery Diskette** before you use the Phlash utility.

NOTE: Do not install memory-related drivers (XMS, EMS, DPMI) when you use the Phlash.

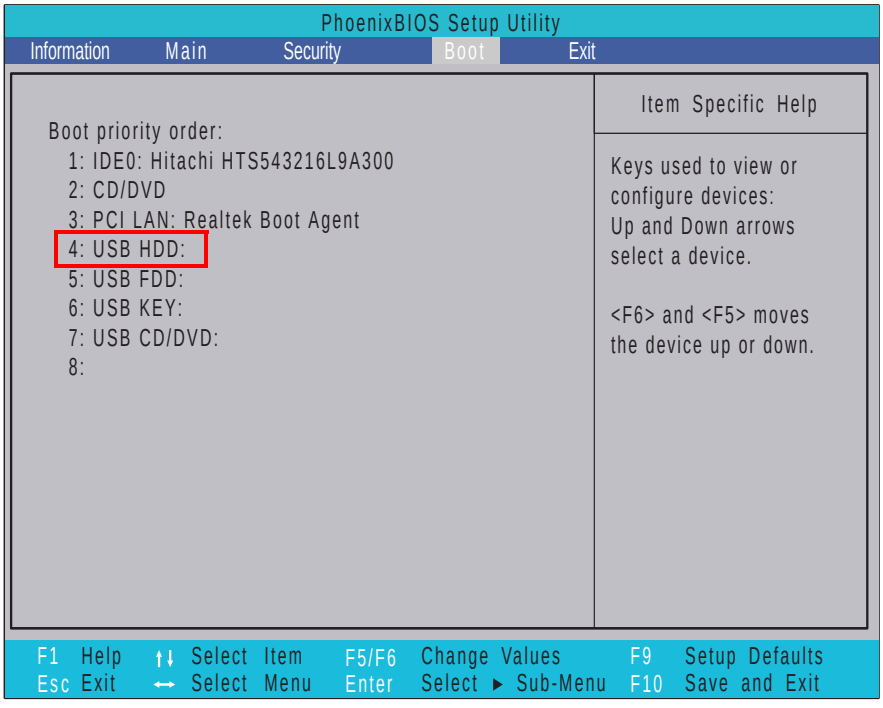
NOTE: Please use the AC adaptor power supply when you run the Phlash utility. If the battery pack does not contain enough power to finish BIOS flash, you may not boot the system because the BIOS is not completely loaded.

DOS Flash Utility

Perform the following steps to use the DOS Flash Utility:

1. Copy the flash utilities to the bootable diskette.
2. Press F2 during boot to enter the Setup Menu.
3. Select **Boot Menu** to modify the boot priority order, for example, if using USB HDD to Update BIOS, move USB HDD to position 1.

IMPORTANT: Please use a device that can be booted in DOS mode (FAT 16 or FAT 32 partitions only)



4. Execute the **BIOS.BAT** batch file to update BIOS.

The flash process begins as shown.

5. In flash BIOS, the message **Please do not remove AC Power Source** displays. If the AC adapter is not plugged in the following message appears.

Plug in the AC adapter and rerun the Phlash utility if the above message appears.

6. If the AC adapter is connected, the following screen appears.

7. Flash is complete when the message **Flash programming complete** displays.

WinFlash Utility

The Winflash utility consists of two files:

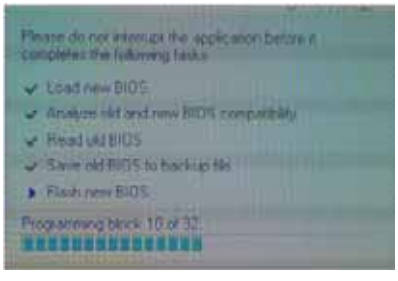
- ZA8_3101.WPH (BIOS ROM file)
- WinPhlash2.0.3.4 (BIOS windows flash tool)

Perform the following steps to use the WinFlash Utility:

1. Double click the WinFlash executable (WinPhlash2.0.3.4) to run the program.
2. In the Specify New BIOS file field, enter the BIOS ROM file name and path.

IMPORTANT: Be sure the AC power is plugged in. If not, the following error message displays:

3. Click **OK** to begin the update. A progress screen displays.



4. When the process is complete the system will reboot automatically.

Remove HDD/BIOS Password Utilities

This section provides you with details about removing HDD/BIOS password methods:

Removing HDD Password:

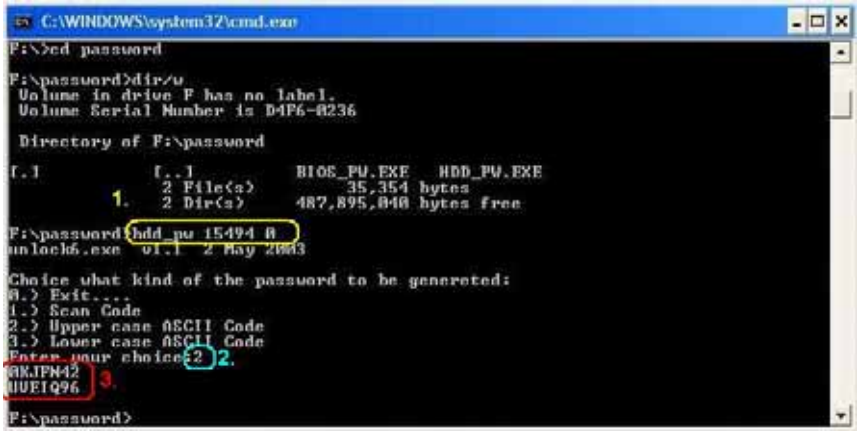
If you key in the wrong HDD password three times, an error code is generated.

To reset the HDD password, perform the following steps:

1. On a different machine, run the **HDD_PW.EXE** file along with the error code generated. For example:

   hdd_pw 15494 0

2. Select an option to generate upper case or lower case ASCII code for unlocking the HDD.
3. Two strings are generated as output. Select and note down either one of the strings.



4. Reboot the machine with the locked HDD and then use either one of the strings as the HDD user password.

Removing BIOS Passwords:

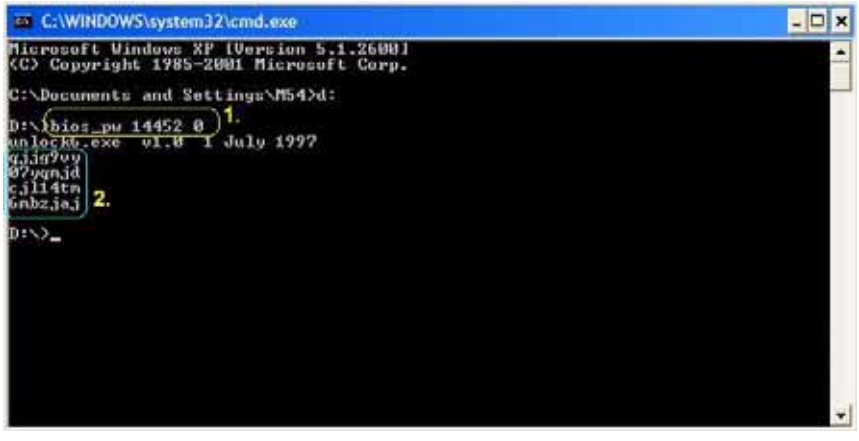
If you key in the wrong Supervisor password three times, an error code is generated and system is disabled.

To unlock the BIOS, perform the following steps:

1. On a different machine, run the **BIOS_PW.EXE** file along with the error code generated. For example:

   bios_pw 14452 0

2. Four ASCII strings are generated as output. Select and note down any one of the strings.



3. Reboot the machine with the locked BIOS and then use either any of the strings as the BIOS user password.

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.

General Information

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.
4. Remove the battery pack.

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.

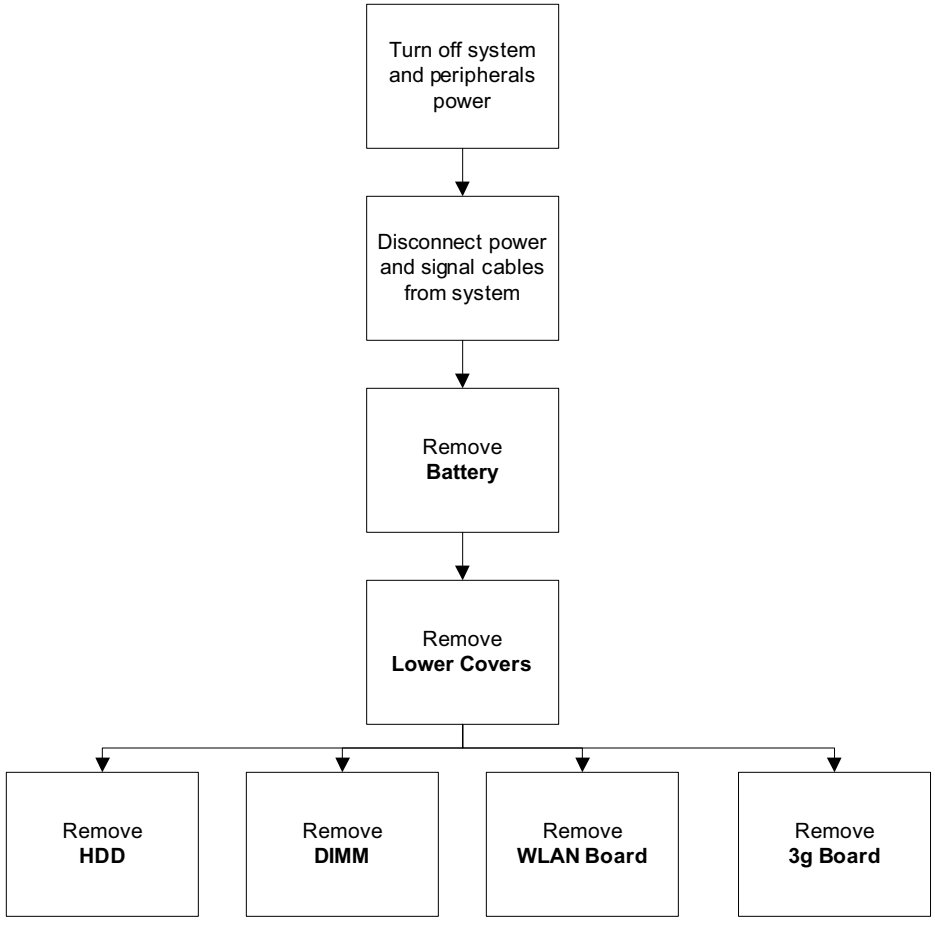
Main Screw List

Screw	Quantity	Part Number
M2.0*3.0-I IRON	29	86.S0207.001
2.0*4.0	12	86.W0107.003
M2.0*6.0-I	7	86.S6507.001
M3*0.5+3.5I	4	86.TDY07.003
M2.0*4-I(BZN)(NYLOK)IRON		86.S6507.003
M2*5-I(BZN)(NYLOK)	6	86.TG607.004
M2*10	2	MM20100IL61

External Module Disassembly Process

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

External Modules Disassembly Flowchart



Screw List

Step	Screw	Quantity	Part No.
HDD Carrier	M3*0.5+3.5I	4	86.TDY07.003
WLAN Board	M2*3	1	86.S0207.001
HDD Module	M2*3	2	86.S0207.001
3g Card	M2*3	2	86.S0207.001

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).

Removing the Hard Disk Drive Module

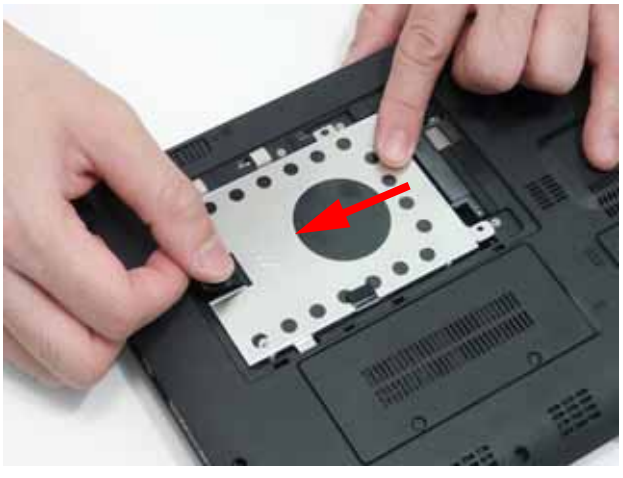
1. See “Removing the Battery Pack” on page 38.
2. Loosen the three captive screws in the HDD Cover.

3. Lift the HDD cover up to remove.

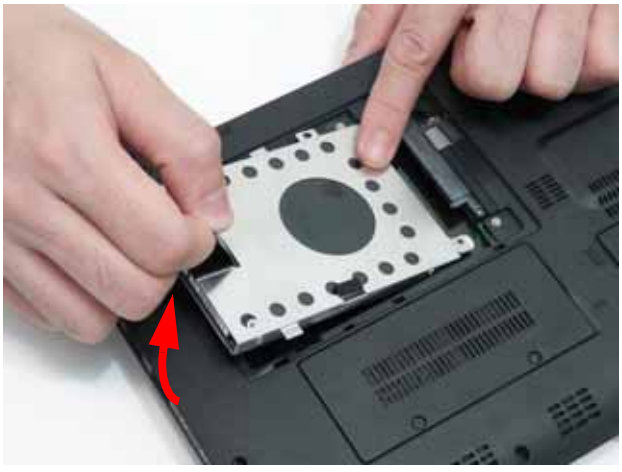
4. Remove the single screw securing the HDD Module in place.

Step	Size	Quantity	Screw Type
HDD Module	M2*3	2	

5. Slide the HDD in the direction of the arrow to disconnect the HDD from the interface connector.



6. Lift the hard disk drive module out of the bay.

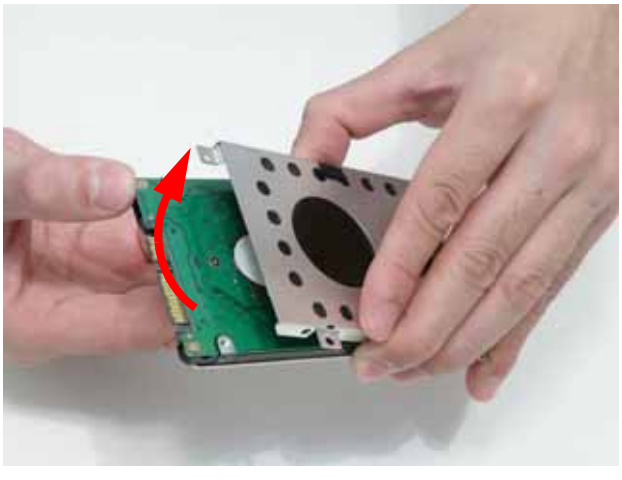


NOTE: To prevent damage to device, avoid pressing down on it or placing heavy objects on top of it.

7. Remove the four screws (two each side) securing the hard disk to the carrier.

Step	Size	Quantity	Screw Type
HDD Carrier	M3*0.5+3.5I	4	

8. Remove the HDD from the carrier.



Removing the DIMM Module

1. See “Removing the Battery Pack” on page 38.
2. Loosen the two captive screws in the Memory Cover.

3. Lift the Memory cover up to remove.

4. Push out the release latches on both sides of the DIMM socket to release the DIMM module.

5. Remove the DIMM module.

Removing the WLAN Board

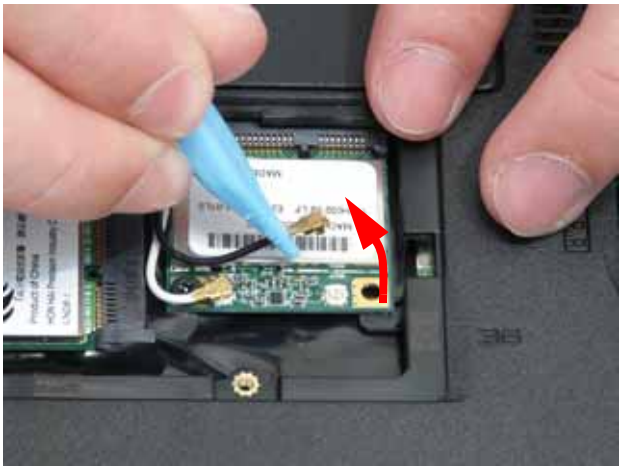
1. See “Removing the Battery Pack” on page 38.
2. Loosen the two captive screws in the 3G Cover.

3. Lift the 3G cover up to remove.

NOTE: The 3g card is also located under this cover.

4. Disconnect the Antenna cables from the WLAN Board.

NOTE: Cable placement is White to the MAIN terminal (right) and Black to the AUX terminal (left).



5. Remove the single screw securing the WLAN Board in place.

Step	Size	Quantity	Screw Type
WLAN Board	M2*3	1	

6. Remove the WLAN Board from the Mainboard.

Removing the 3g Board

1. See “Removing the Battery Pack” on page 38.
2. Loosen the two captive screws in the 3G Cover.

3. Lift the 3G cover up to remove.

NOTE: The WLAN card is also located under this cover.

4. Disconnect the Antenna cables from the 3g Board.

NOTE: Cable placement is Yellow to the MAIN terminal (right) and Blue to the AUX terminal (left).

5. Remove the two screws securing the 3g Board in place.

Step	Size	Quantity	Screw Type
3g Board	M2*3	2	

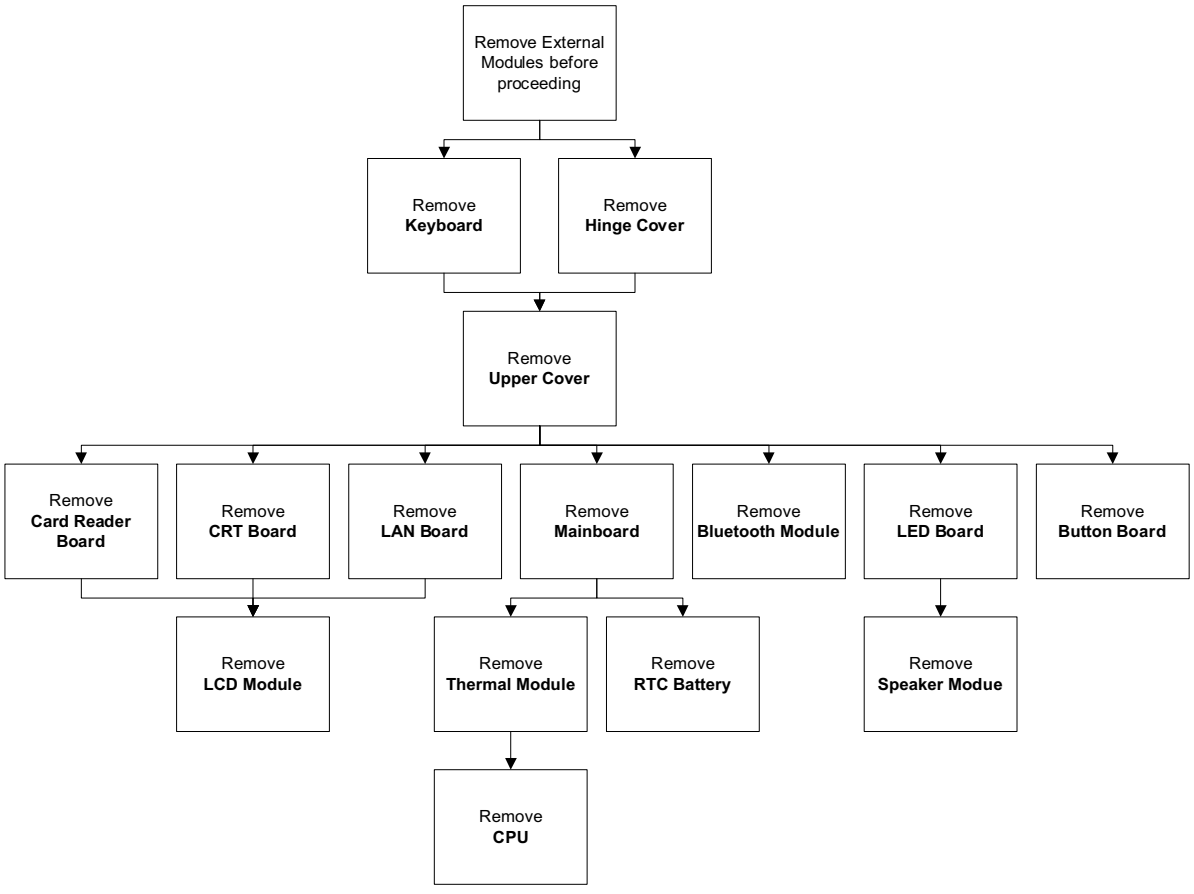
6. Remove the 3g Board from the Mainboard.

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	M2*6	7	86.S6507.001
	M2*4	12	86.W0107.003
Hinge Cover	M2*10	2	
Button Board	M2*3	2	86.S0207.001
I/O Board	M2*3	2	86.S0207.001
VGA Board	M2*3	1	86.S0207.001
LCD Module	M2*3	2	86.S0207.001
LED Board	M2*3	2	86.S0207.001
Speaker Module	M2*3	3	86.S0207.001
Mainboard	M2*3	3	86.S0207.001
Thermal Module	M2*3	5	86.S0207.001

Removing the Keyboard

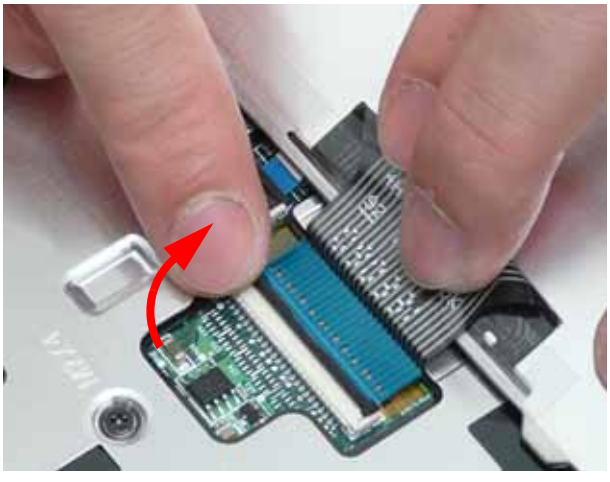
1. See “Removing the Battery Pack” on page 38.
2. Turn the computer rightside up and open the lid to the full extent.
3. Unlock the four securing latches by pressing down with a suitable plastic tool.

IMPORTANT: The use of metal tools may damage the outer casing. Use plastic tools where available.

4. Lift the Keyboard away from the Upper Cover as shown.

IMPORTANT: Do not remove the Keyboard from the Upper Cover; the Keyboard FFC is still attached.

5. Turn the Keyboard over and open Keyboard FFC securing latch as shown.



6. Disconnect the FFC and remove the Keyboard.

Removing the Hinge Covers

1. See “Removing the Battery Pack” on page 38.
2. Remove the two screws securing the hinge covers.

Step	Size	Quantity	Screw Type
Hinge Cover	M2*10	2	

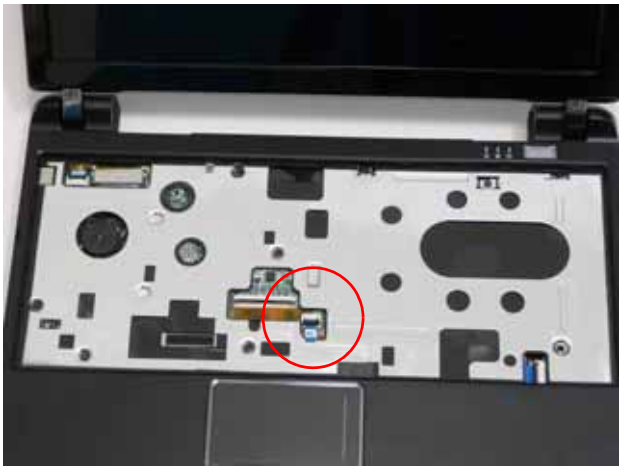
3. Pull the Hinge Covers away from the Upper Cover as shown.

Removing the Upper Cover

1. See “Removing the Hinge Covers” on page 52.
2. Remove the 11 screws securing the Upper Cover to the Lower Cover.

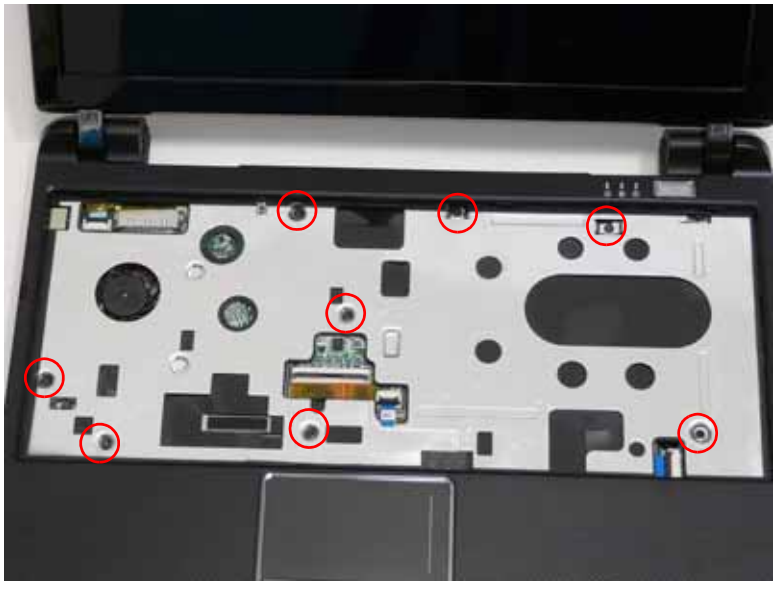
Step	Size	Quantity	Screw Type
Upper Cover (Red callouts)	M2*6	7	
Upper Cover (Cyan callouts)	M2*4	4	

3. Turn the computer over and disconnect the following cable from the Mainboard.



Release the locking latch and disconnect the FFC as shown.

4. Remove the eight securing screws from the Upper Cover.



Step	Size	Quantity	Screw Type
Upper Cover (red callout)	M2*4	8	

5. Starting at the front the cover, pry apart the Upper and Lower Covers as shown.

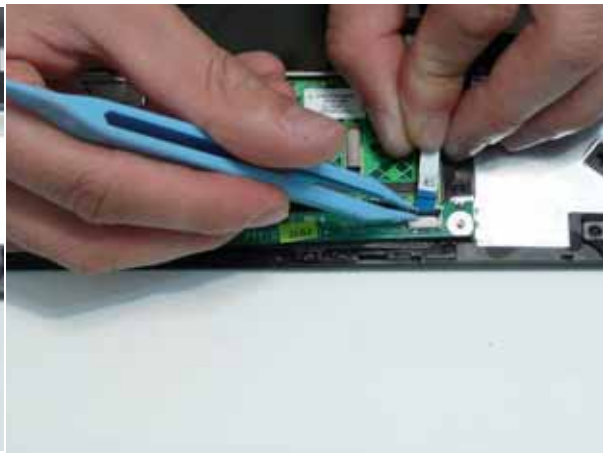
6. Working along the front and to the right, pry apart the covers as shown.

7. Lift the upper cover up and rotate it leftwards along the left hinge until the hinge is cleared, then lift the cover away.

Removing the Button Board

IMPORTANT: The TouchPad Board cannot be removed individually. To replace the TouchPad Board, replace the entire Upper Cover.

1. See “Removing the Upper Cover” on page 53.
2. Open the locking latches and disconnect the two FFCs from the Button Board as shown.

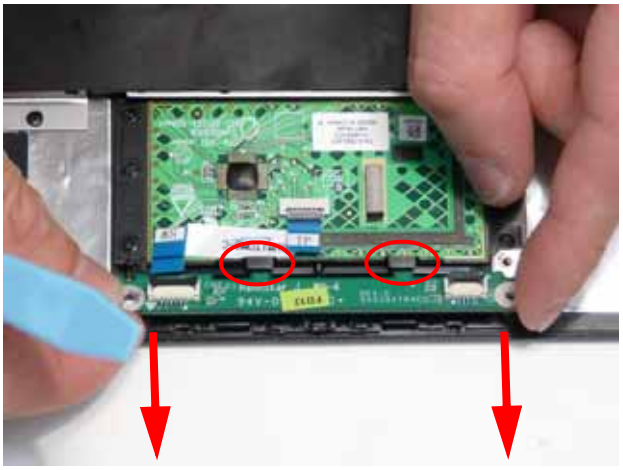


3. Remove the two screws securing the button board to the Upper Cover.

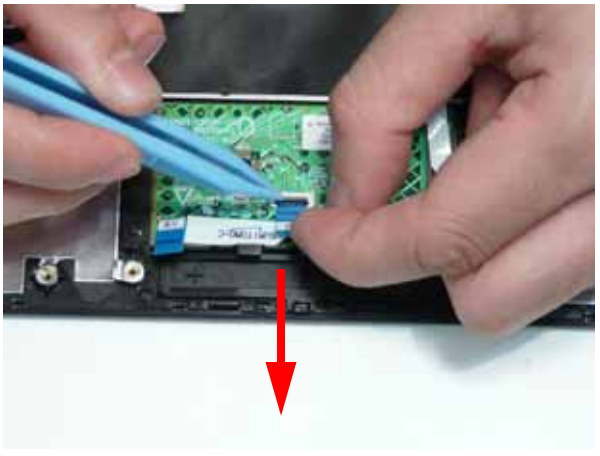
Step	Size	Quantity	Screw Type
TouchPad	M2*3	2	

IMPORTANT: Ensure that the FFCs are disconnected before attempting to remove the Button Board.

4. Slide the Button Board out from under the securing tabs in the Upper Cover as shown.



5. Open the FFC locking latch and disconnect the FFC from the TouchPad connector.



6. Pull the Mainboard FFC through the cover as shown.

IMPORTANT: Ensure that the FFC pull tab is not torn off during removal.

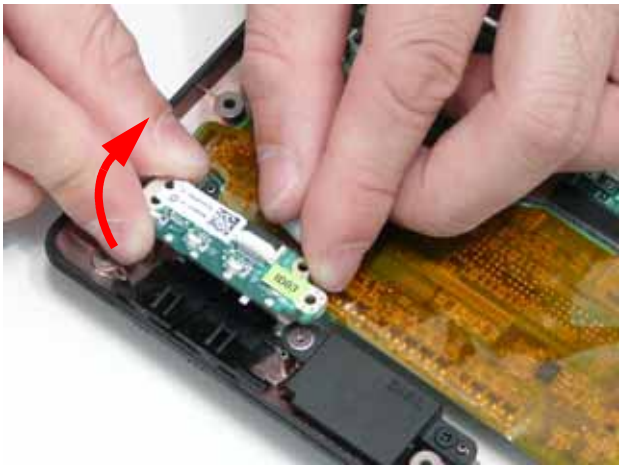
Removing the LED Board

1. See “Removing the Upper Cover” on page 53.
2. Open the locking latch and disconnect the FFC from the LED Board.

3. Remove the two screws securing the LED Board to the Lower Cover.

Step	Size	Quantity	Screw Type
LED Board	M2*3	2	

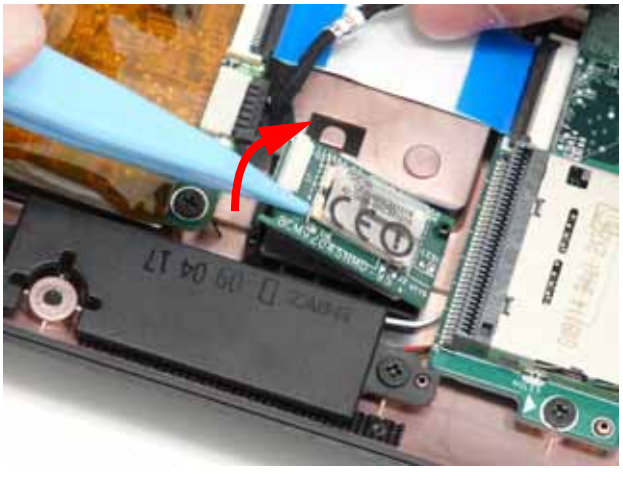
4. Lift the LED Board from the Lower Cover.



Removing the Bluetooth Module

1. See “Removing the Upper Cover” on page 53.
2. Disconnect the cable from the Bluetooth Module.

3. Lift the Bluetooth Module, left side first, to remove it from the Lower Cover.



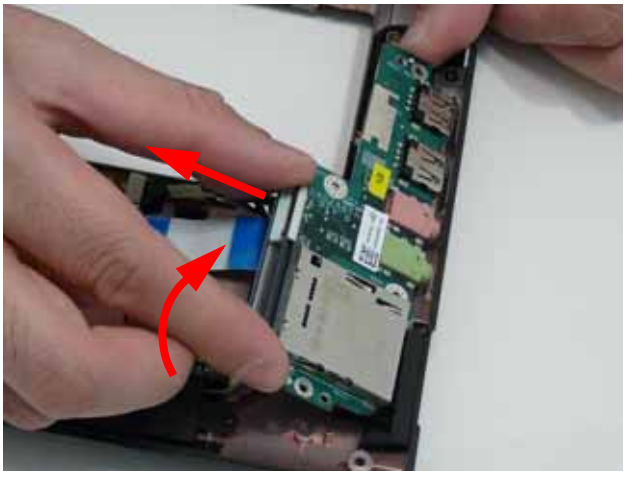
Removing the Card Reader Board

1. See “Removing the Upper Cover” on page 53.
2. Open the locking latch and disconnect the FFC from the Card Reader Board.

3. Remove the two screws securing the Card Reader Board to the Lower Cover.

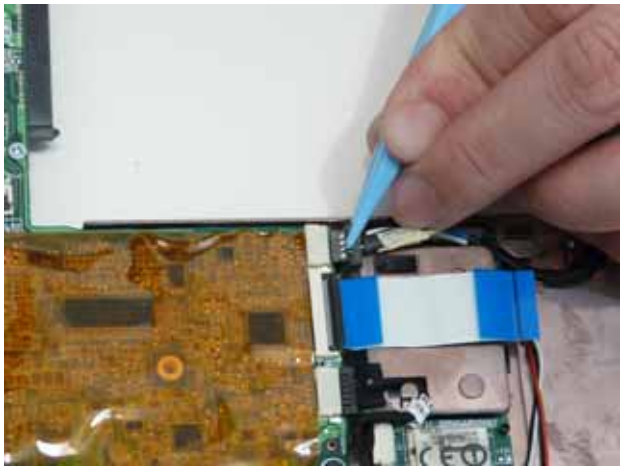
Step	Size	Quantity	Screw Type
Card Reader Board	M2*3	2	

4. Tilt the board up as indicated and remove the board from the Lower Cover, left side first to release the I/O ports.



Removing the Speaker Module

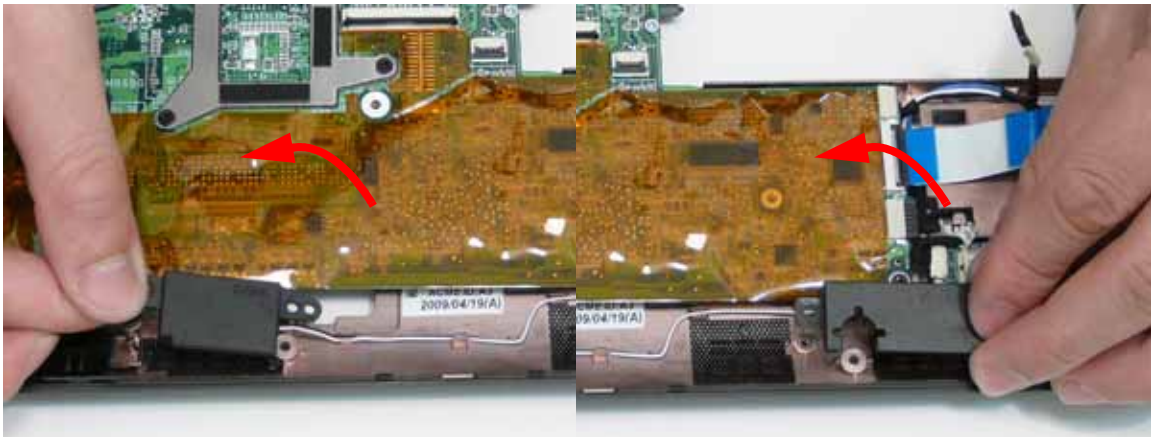
1. See “Removing the LED Board” on page 58.
2. See “Removing the Card Reader Board” on page 61.
3. Disconnect the Speaker cable from the Mainboard.



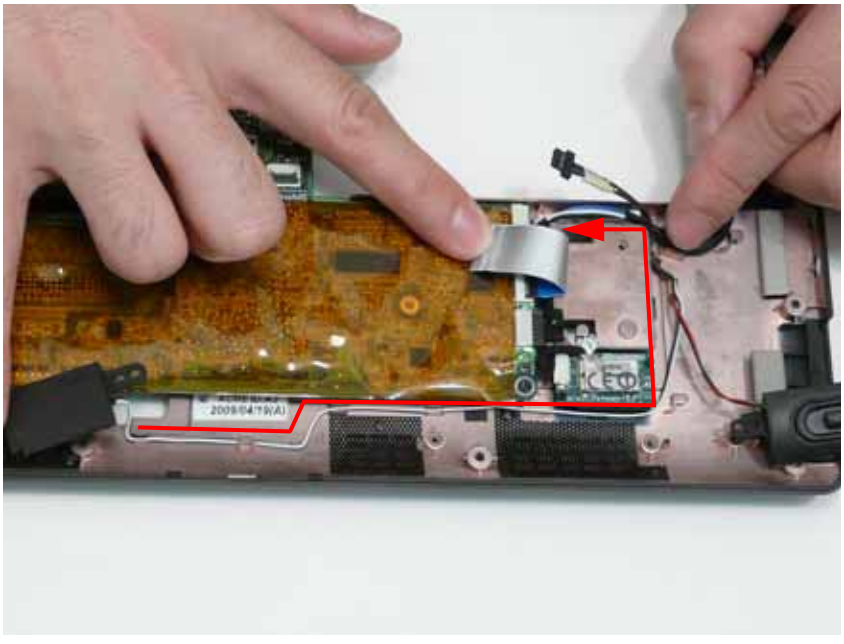
4. Remove the three screws securing the Speakers to the Lower Cover.

Step	Size	Quantity	Screw Type
Speaker Module	M2*3	3	

5. Lift the right and left side speakers out from the Lower Cover as shown.



6. Remove the Speaker cables from the cable channels. Ensure that the cable is free from all cable clips.



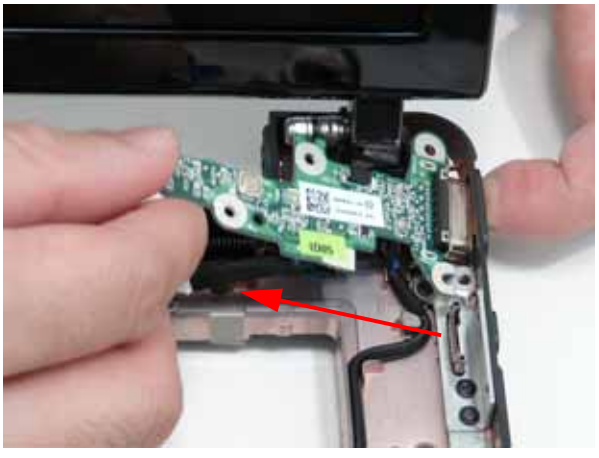
Removing the VGA Board

1. See “Removing the Card Reader Board” on page 61.
2. Remove the single screw securing the VGA Board to the Lower Cover.

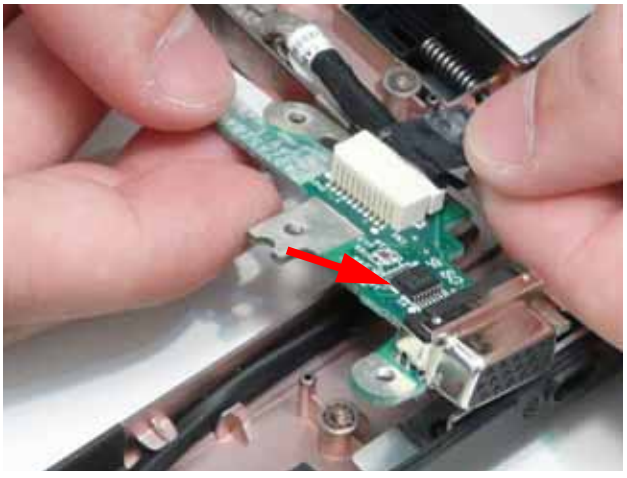
Step	Size	Quantity	Screw Type
VGA Board	M2*3	1	

3. Lift the VGA Board left side first and turn it over to expose the VGA cable.

IMPORTANT: Do not remove the board from the Lower Cover; the VGA cable is still attached.

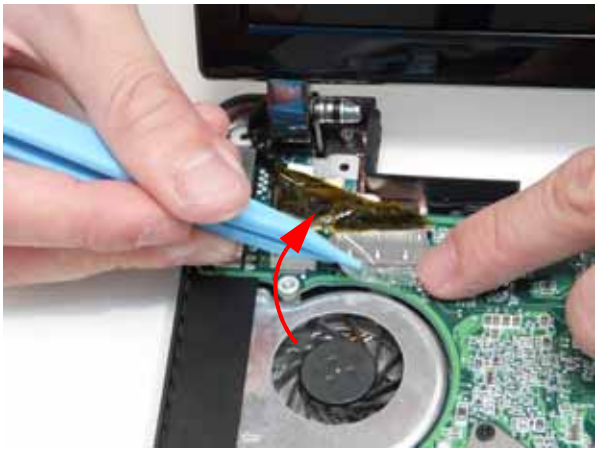


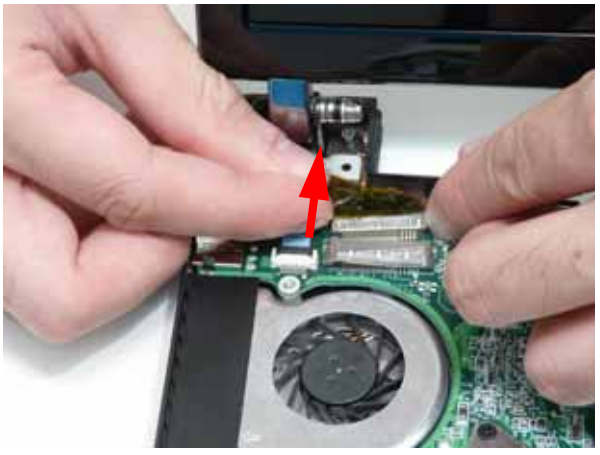
4. Flip the VGA board over, disconnect the cable from the VGA Board, and remove the board from the Lower Cover.



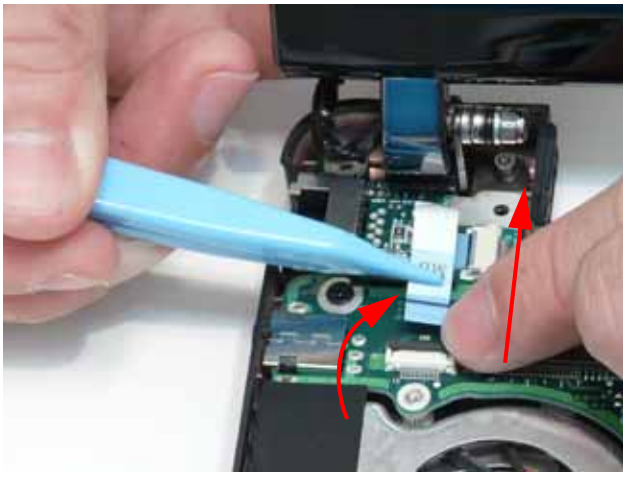
Removing the LAN Board

1. See “Removing the Upper Cover” on page 53.
2. Lift the adhesive strip securing the LVDS cable in place and disconnect the cable from the Mainboard.





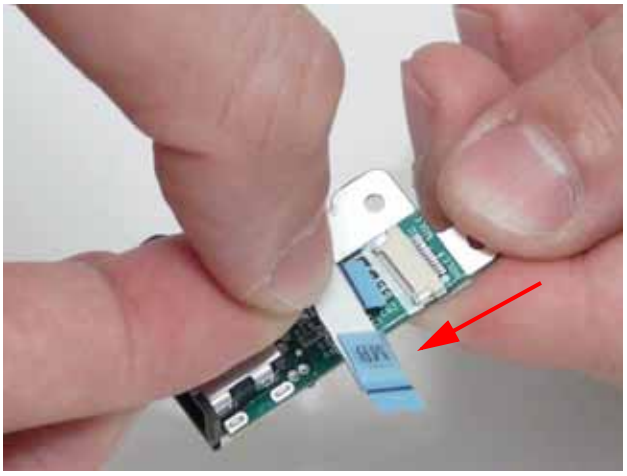
3. Open the FFC locking latch and disconnect the LAN Board cable from the Mainboard.



4. Remove the LAN Board from the Lower Cover as shown.

5. Disconnect the FFC cable from the LAN Board by pulling on the cable tab as shown.

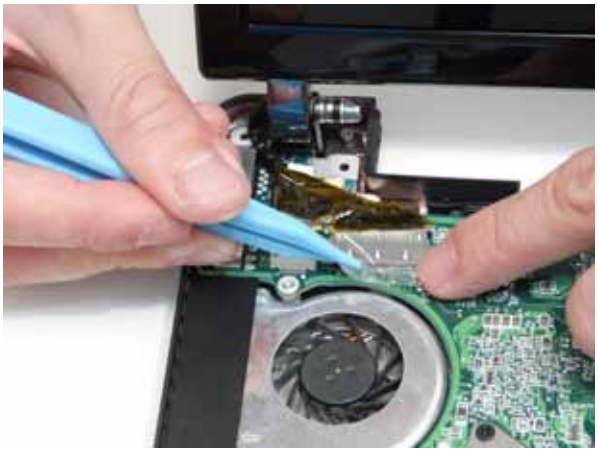
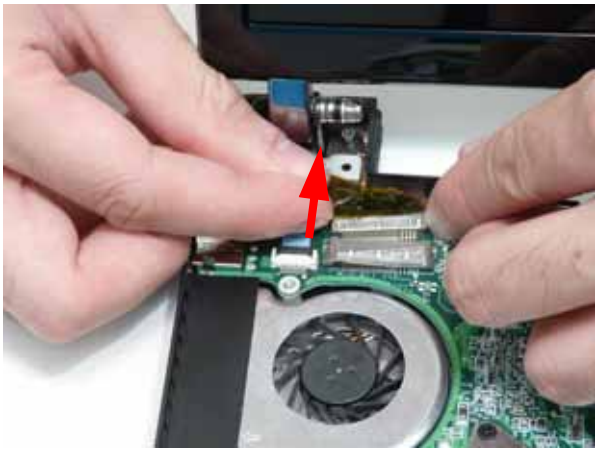
NOTE: The FFC Cable connector to the LAN board does not have a locking latch.



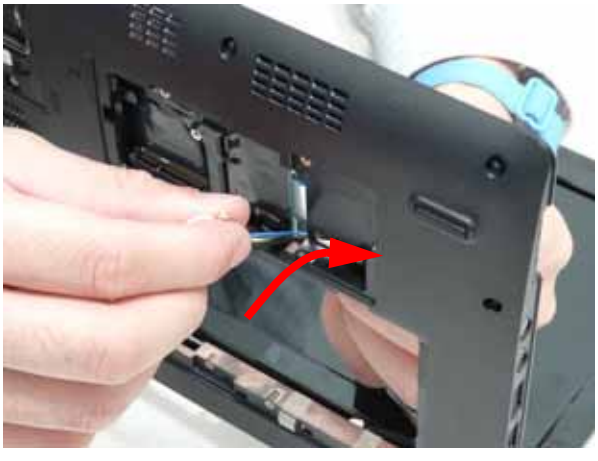
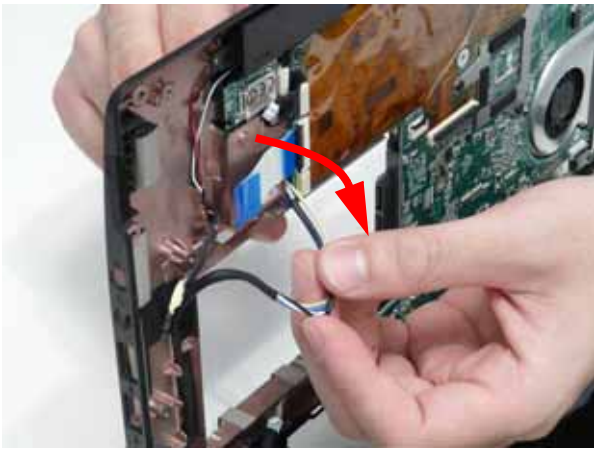
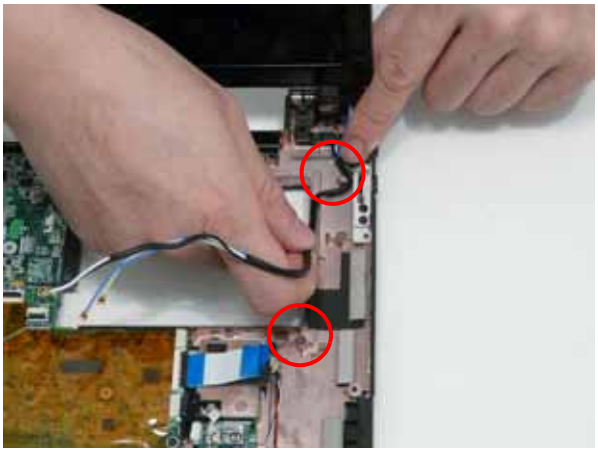
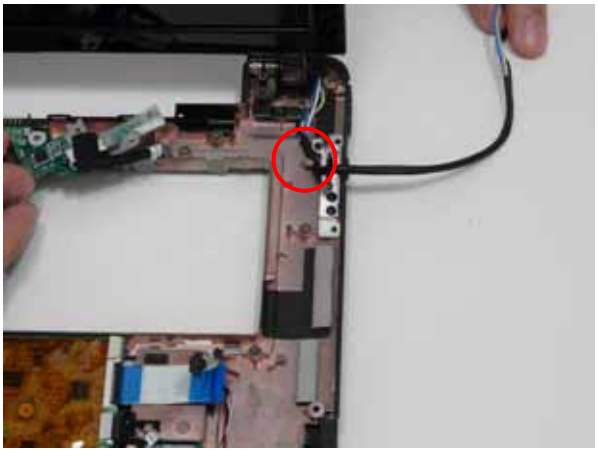
NOTE: Reconnect the FFC cable to the mainboard if not immediately replacing the LAN board to prevent misplacing the FFC. The LAN board replacement kit does not contain a spare FFC.

Removing the LCD Module

1. See “Removing the VGA Board” on page 65.
2. See “Removing the LAN Board” on page 67.
3. See “Removing the Card Reader Board” on page 61.
4. Lift the adhesive strip securing the LVDS cable in place and disconnect the cable from the Mainboard.

5. Remove the Antenna cables from the cable channel on the Lower Cover as shown, all the way to the hinge well.

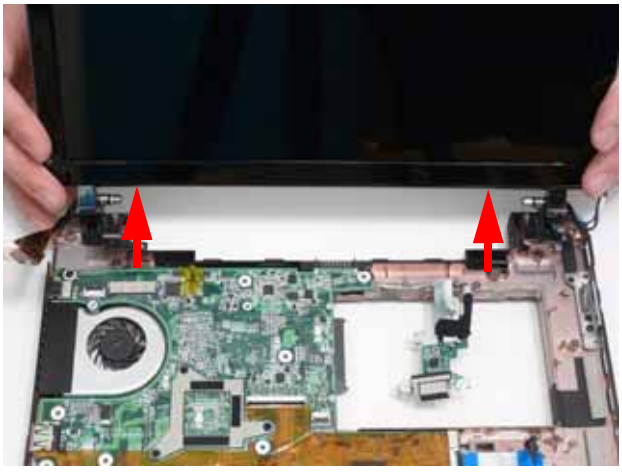





6. Remove the two screws on the rear of the Lower Cover securing the LCD Module to the computer.

Step	Size	Quantity	Screw Type
LCD Module	M2*3	2	

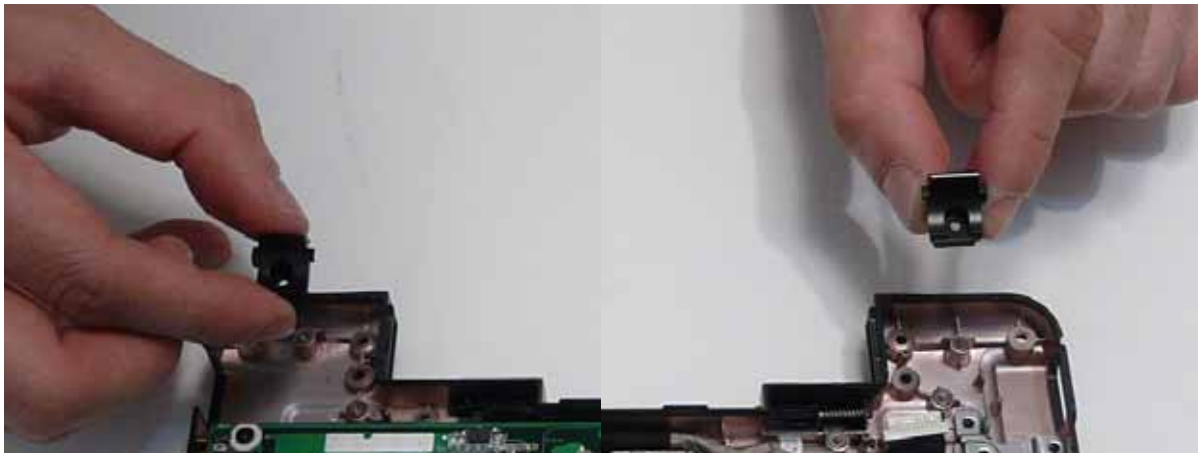
IMPORTANT: Ensure that the LCD cables are free from all cable clips before removing the LCD Module.

7. Using both hands, lift the LCD Module away from the Lower Cover.



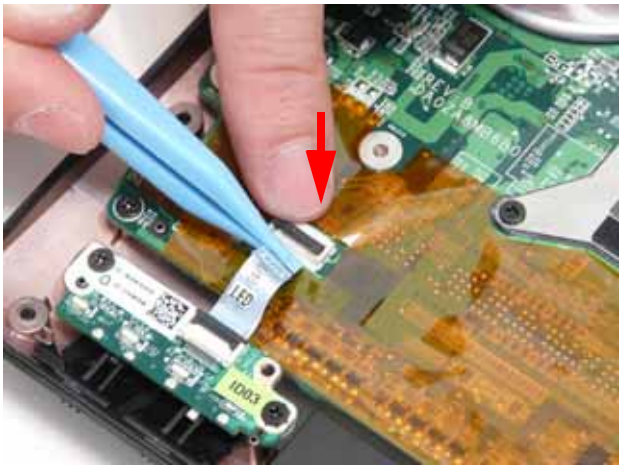
Removing the Hinge Wells

1. See “Removing the LCD Module” on page 69.
2. Slide the two hinge wells out of the Lower Cover as indicated.

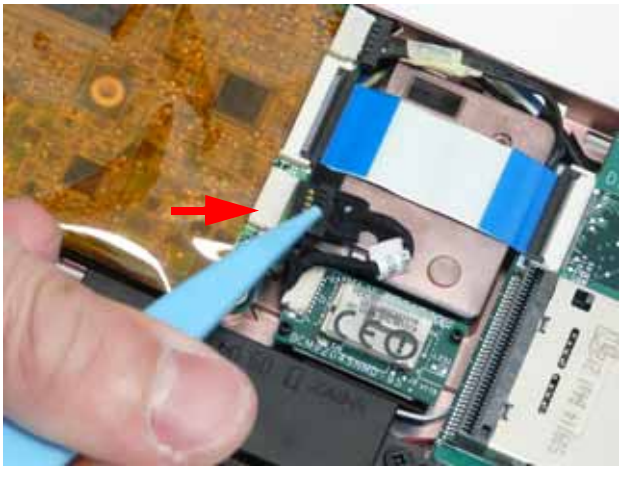


Removing the Mainboard

1. See “Removing the Upper Cover” on page 53.
2. Open the locking latch and disconnect the LED Board FFC from the Mainboard.



3. Disconnect the Bluetooth cable from the Mainboard.

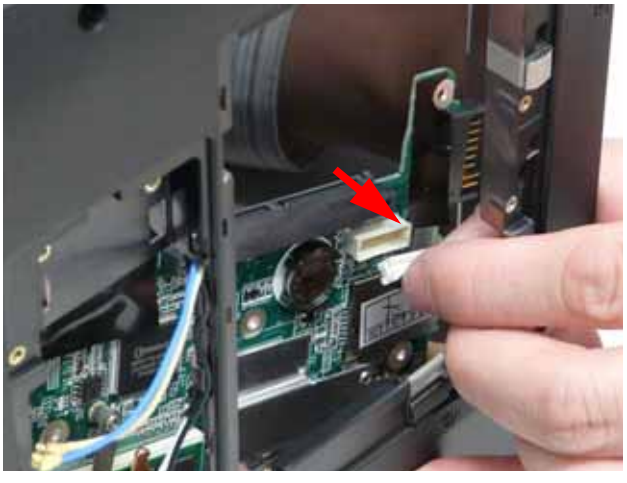


4. Open the locking latch and disconnect the Card Reader FFC from the Mainboard.

5. Remove the three screws securing the Mainboard to the Lower Cover as indicated.

Step	Size	Quantity	Screw Type
Mainboard	M2*3	3	

6. Tilt the assembly onto its side so you are able to access the underneath of the mainboard. Lift the Mainboard right side first to release the I/O ports and separate the board from the Lower Cover.
7. Reach through the HDD bay opening and unplug the VGA cable from the main board.



8. Turn the Mainboard over to expose the VGA cable connector. Disconnect the VGA cable as shown.
9. Lift the mainboard away from the assembly.

Removing the RTC Battery

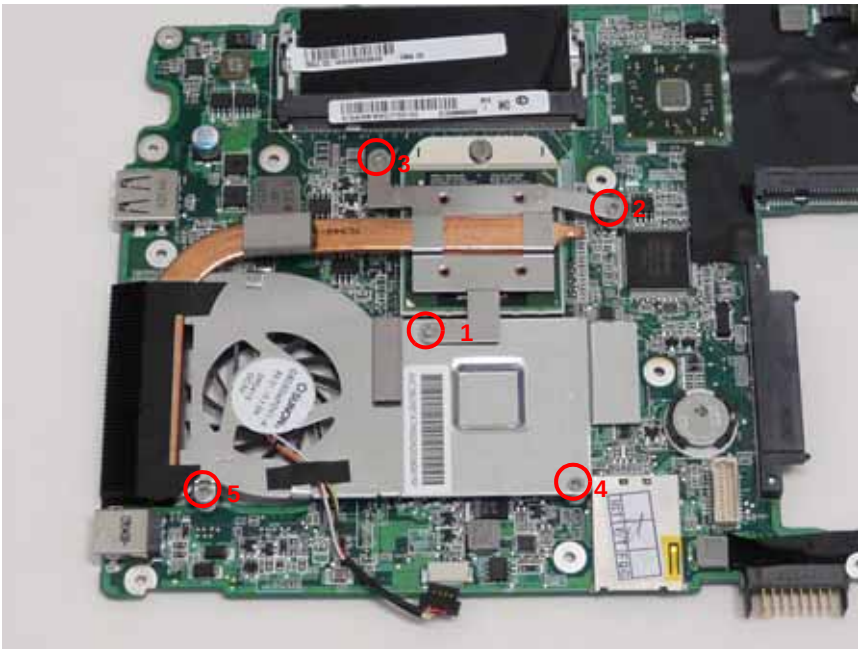
IMPORTANT: Follow local regulations for disposal of all batteries.

1. See “Removing the Mainboard” on page 72.
2. Disconnect the RTC Battery as shown.

Removing the Thermal Module

1. See “Removing the Mainboard” on page 72.
2. Remove the adhesive and disconnect the fan power cable from the Mainboard.

3. Remove the five screws securing the Thermal Module to the Mainboard.



Step	Size	Quantity	Screw Type
Thermal Module	M2*3	5	

4. Using both hands, lift the Thermal Module clear of the Mainboard.

Removing the CPU

1. See “Removing the Thermal Module” on page 75.
2. Using a flat blade screw driver, rotate the CPU screw 90° clockwise to release the CPU from the socket.

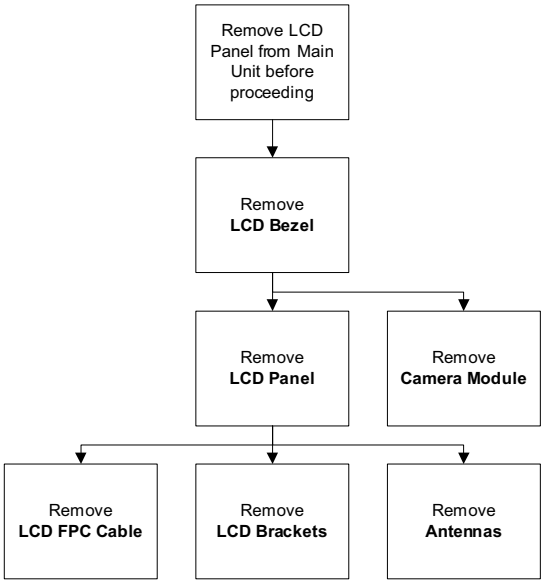
3. Lift the CPU clear of the socket.

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. The following procedure outlines the steps to disassemble the LCD Module on models with 3G functionality. Models that do not support 3G do not require the removal of the yellow and blue Antenna cables detailed below.

LCD Module Disassembly Flowchart



Screw List

Step	Screw	Quantity	Part No.
LCD Bezel	M2*5	6	86.TG607.004
LCD Panel	M2*2	2	TBD
LCD Brackets	M2*3	4	86.S0207.001

Removing the LCD Bezel

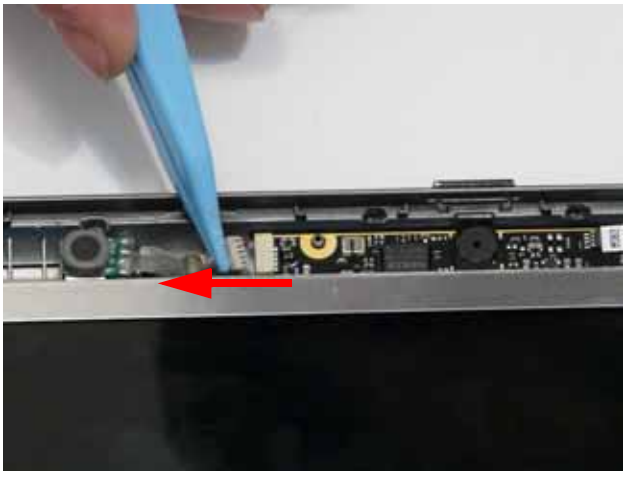
1. See “Removing the LCD Module” on page 69.
2. Starting from the inside top edge, pry the bezel away from the panel. Continue moving along the top, prying the bezel away from the LCD Module. If necessary, use a plastic pry to release the corners of the bezel.

3. Work down the sides as shown, then pry apart the bottom edge to remove the bezel.

4. Lift up the bezel and remove it from the LCD Module.

Removing the Camera Board

1. See “Removing the LCD Bezel” on page 79.
2. Disconnect the cable from the Camera Board as shown.



3. Remove the Camera Board from the LCD Module.

Removing the LCD Panel

1. See “Removing the Camera Board” on page 80.
2. Lift the Microphone Module upward to detach the adhesive holding it in place.

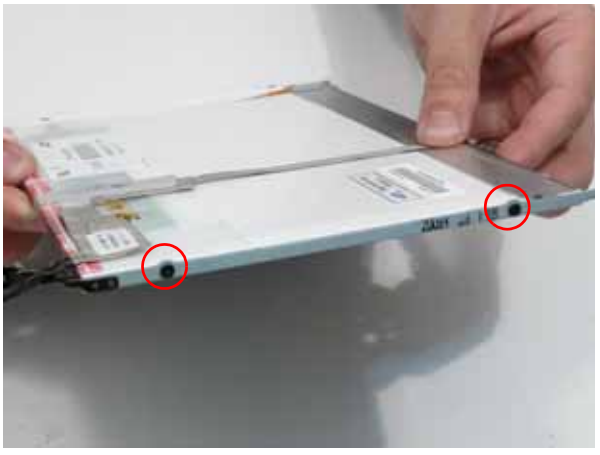
3. Remove the four screws securing the LCD Panel to the LCD Module

Step	Size	Quantity	Screw Type
LCD Panel	M2*2	4	

4. Lift the LCD Panel out of the LCD Module front edge first.

Removing the LCD Brackets and FPC Cable

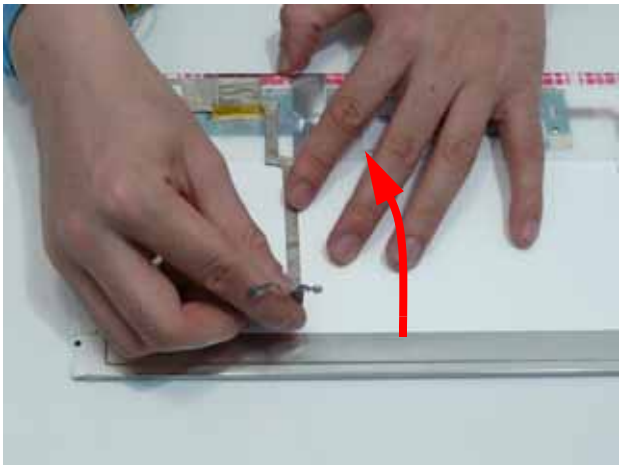
1. See “Removing the LCD Panel” on page 81.
2. Remove the four securing screws (two each side) from the LCD Brackets.



Step	Size	Quantity	Screw Type
LCD Brackets	M2*3	4	

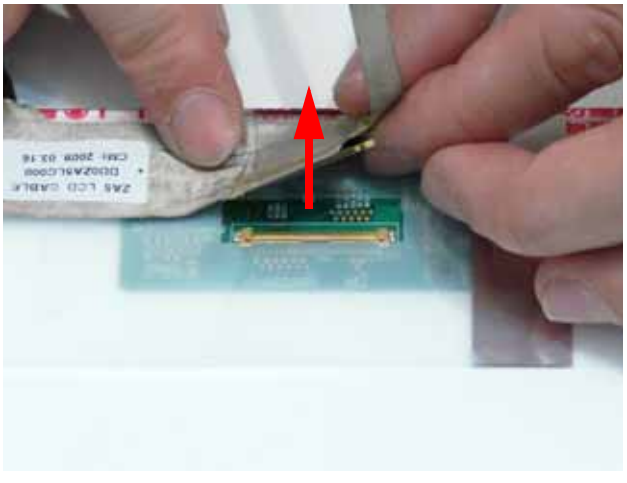
3. Turn the LCD panel over on a clean surface.

4. Lift the LCD Cable to detach the adhesive securing the cable to the LCD Panel.



5. Carefully lift the adhesive tape securing the cable connector to the LCD Panel.

6. Hold the adhesive tape clear of the LCD Panel and disconnect the LCD cable as shown.

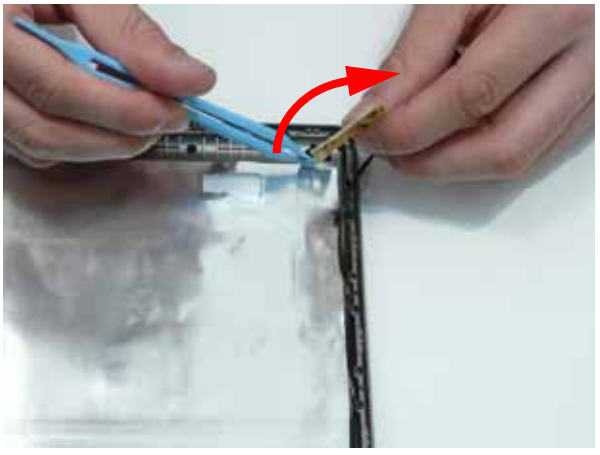


7. Remove the cable from the LCD Panel.

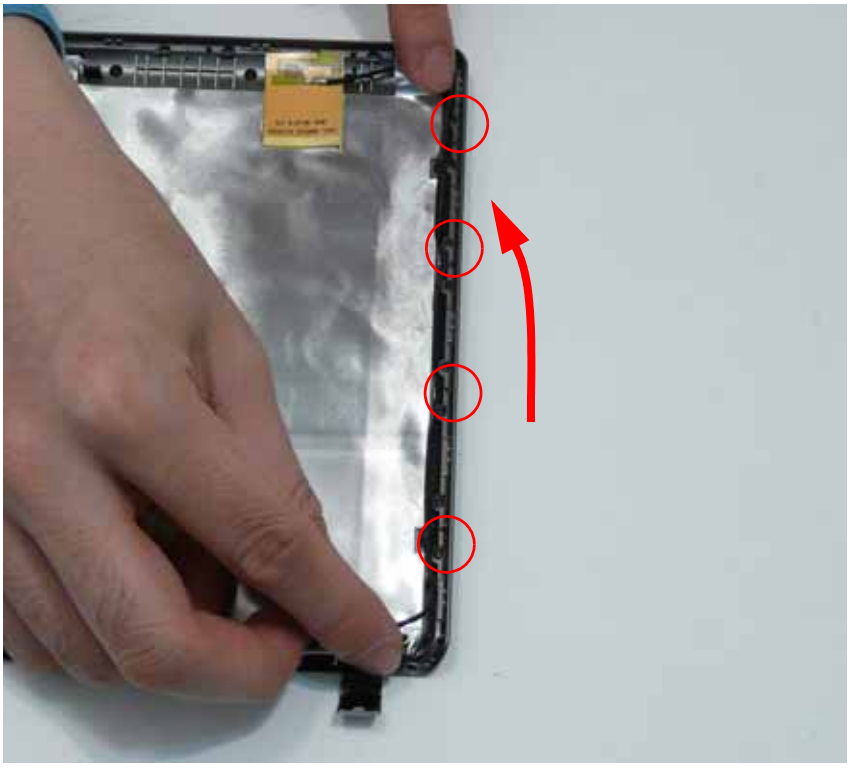
Removing the Antennas

1. See “Removing the LCD Panel” on page 81.
2. Carefully pry up the right Antenna pad, as shown, and remove the pad from the LCD Module.

IMPORTANT: A strong adhesive is used to secure the Antenna pad in place. Take care not to bend the pad during removal.

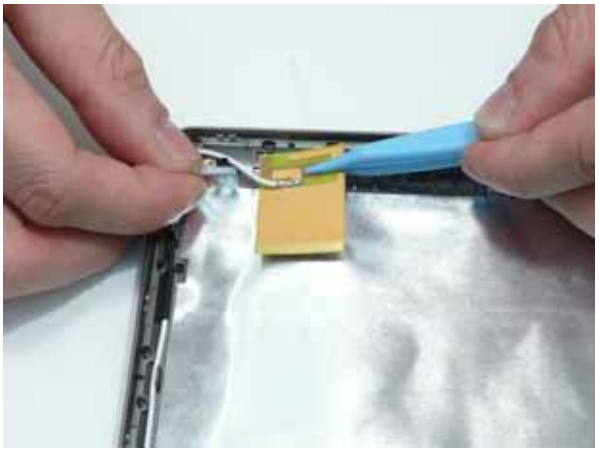


3. Remove the cable from the cable channel. Ensure that the cable is free from all cable clips.

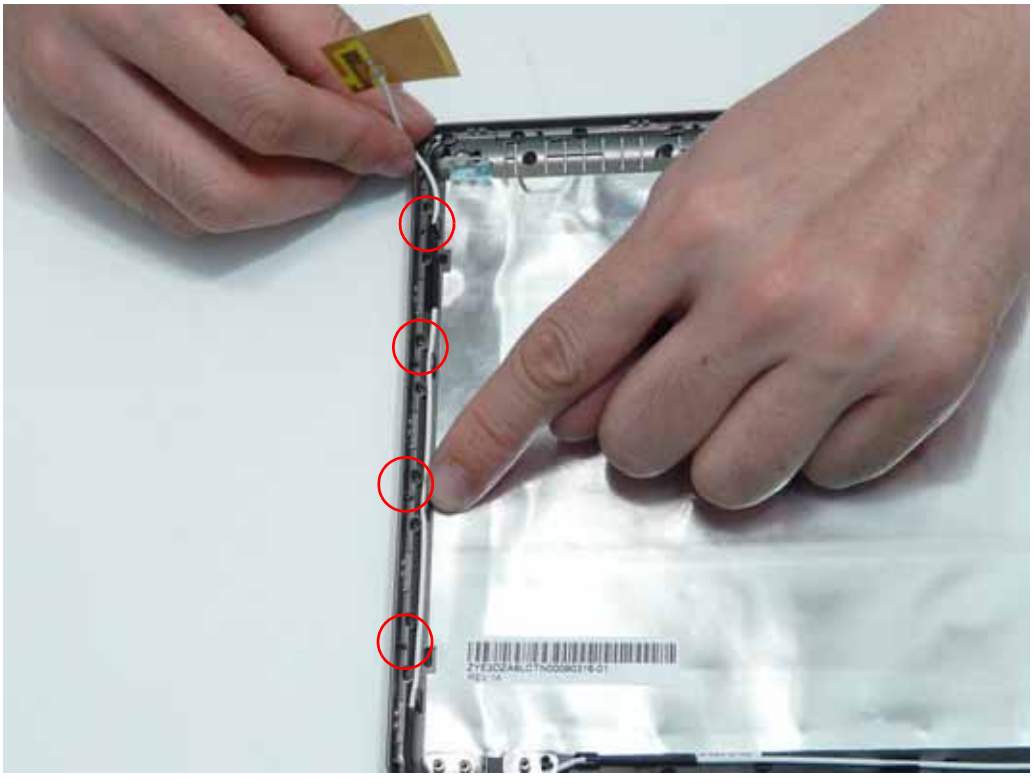


4. Carefully pry up the left Antenna pad, as shown, and remove the pad from the LCD Module.

IMPORTANT: A strong adhesive is used to secure the Antenna pad in place. Take care not to bend the pad during removal.



5. Remove the cable from the cable channel. Ensure that the cable is free from all cable clips.



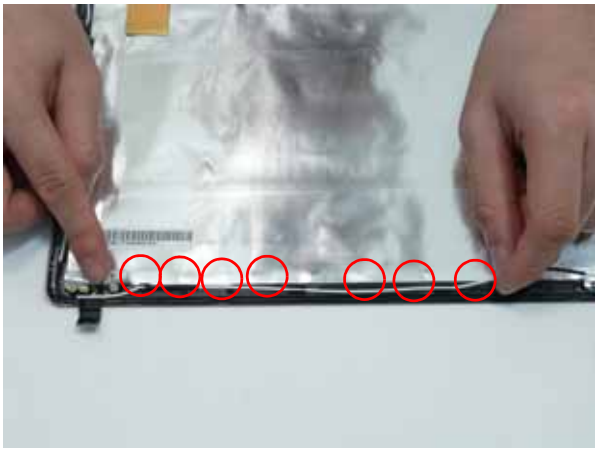
LCD Module Reassembly Procedure

Replacing the Antennas

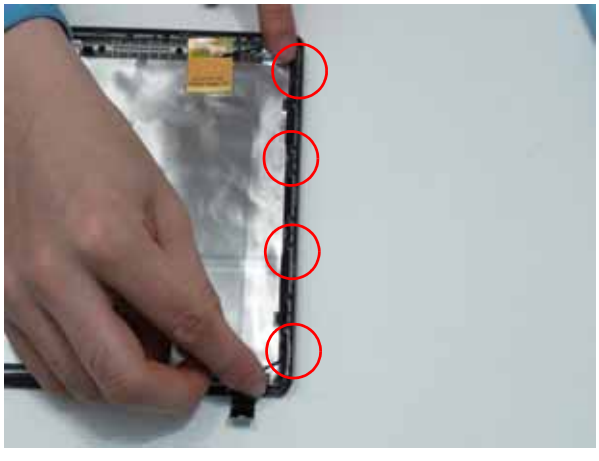
1. Remove the protective covering on the left and right Antenna pads. Place the Antenna pads in the LCD Module and press down to secure the adhesive in place.

IMPORTANT: be sure the cables pass behind the shielding material as shown.


2. Run the left side cable down the side and along the lower edge of the LCD Module using all the available cable clips.

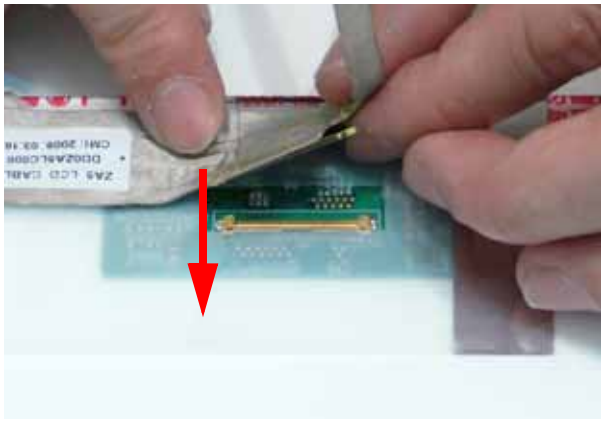
3. Run the right side cable down the side of the LCD Module using all the available cable clips. Be sure the cables pass behind the shielding material as shown.



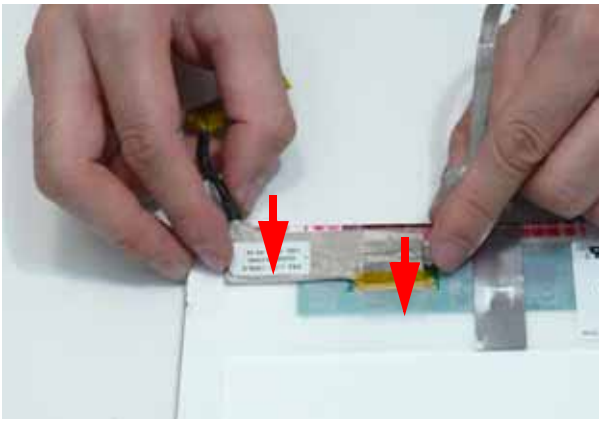

NOTE: The LCD Module appears as shown when the Antennas are replaced correctly. Ensure that the Antennas run through the hinge well as shown to avoid trapping when the LCD Panel is replaced.

Replacing the LCD Cable and Brackets

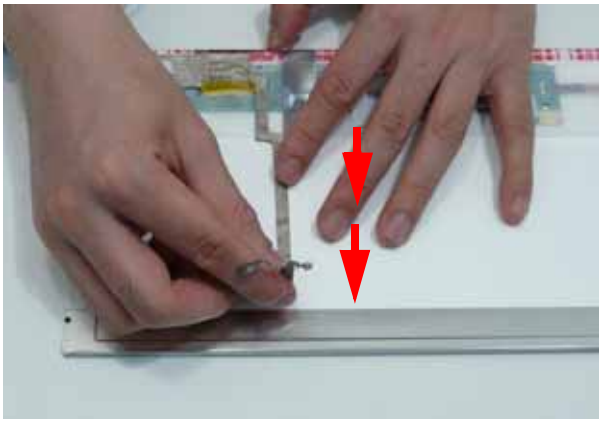
1. Insert the LCD Cable into the panel connector as shown.



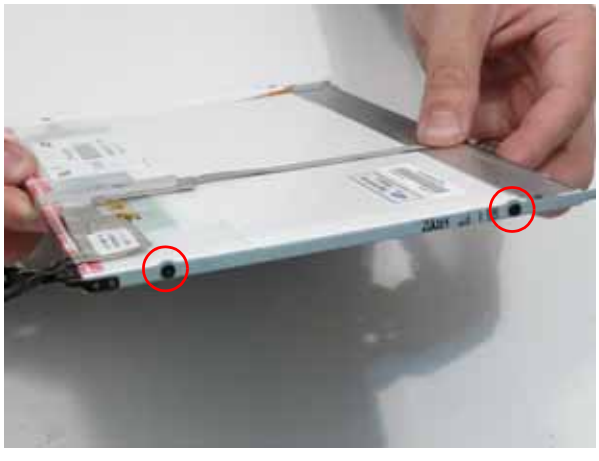
2. Secure the connector by replacing the adhesive strip as shown. Press down to secure the adhesive.



3. Run the LCD cable along the panel as shown. Press down to secure the adhesive.



4. replace the four screws (two each side) securing the LCD Brackets to the LCD Panel.



Replacing the LCD Panel

1. Replace the LCD Panel top edge first as shown. Lower the Panel in to the LCD Module, ensuring the LCD cables are not trapped between the panel and the casing.

2. Ensure the cables and Antennas pass through the hinge wells as shown.

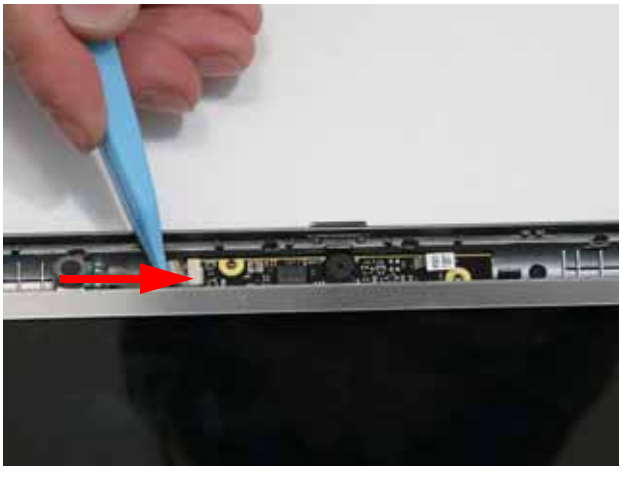
3. Press down to secure the adhesive holding the Microphone in place.

4. Replace the two securing screws.

Replacing the Camera Board

1. Align the locating slots on the Camera Module with the locating pins on the LCD Module.
2. Place the Camera Module in the LCD Module and press down to secure it in place.

3. Connect the Camera cable as shown.



Replacing the LCD Bezel

1. Replace the bezel bottom edge first as shown. Ensure that the cables are not trapped between the bezel and LCD Module and pass through the hinge wells.

2. Press down around the edges of the bezel until there are no gaps between the covers.

Main Module Reassembly Procedure

Replacing the CPU

1. Insert the CPU into the socket.

IMPORTANT: be sure to align the pins correctly with the marker on the CPU. Failure to do will likely result in permanent damage to teh CPU.

NOTE: If replacing only the CPU, make sure to follow the instrucitons for cleaning and replacing thermal pads as described in “Replacing the Thermal Module” on page 93.

2. Using a flat blade screw driver, rotate the CPU screw 90° counterclockwise to lock the CPU into the socket.

Replacing the Thermal Module

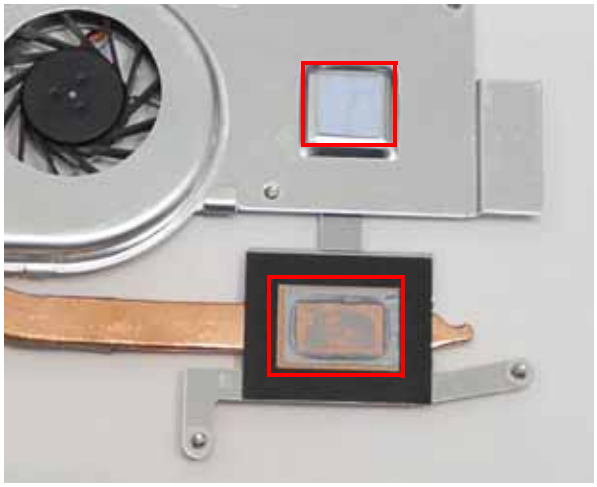
IMPORTANT: Ensure all heat pads are in place before replacing the Thermal Module.

The following thermal pads are approved for use:

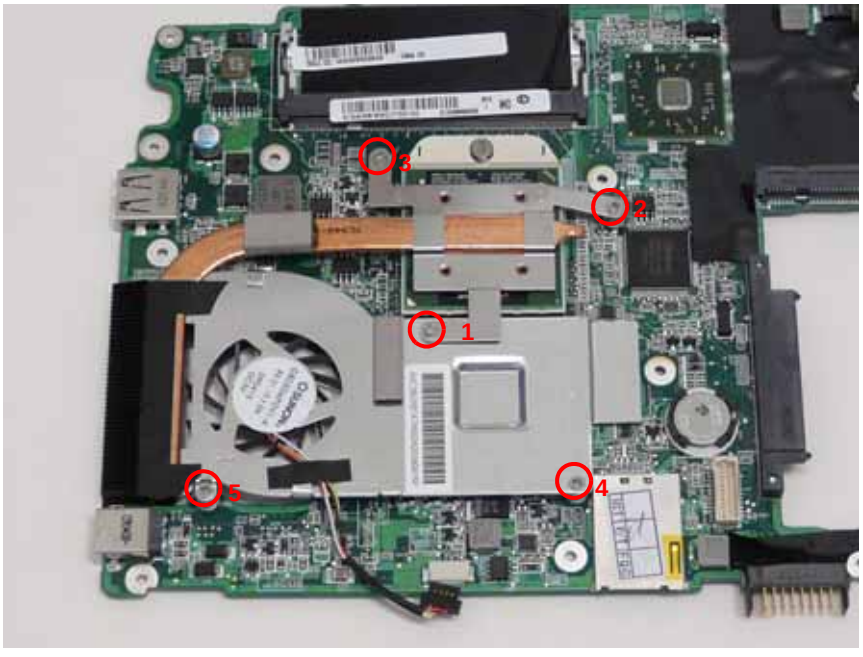
- Eapus XR-PE

1. Remove all traces of thermal grease or pad adhesive from the CPU and thermal module using a lint-free cloth or cotton swab and Isopropyl Alcohol, Acetone, or other approved cleaning agent.

2. Place the pads as shown.

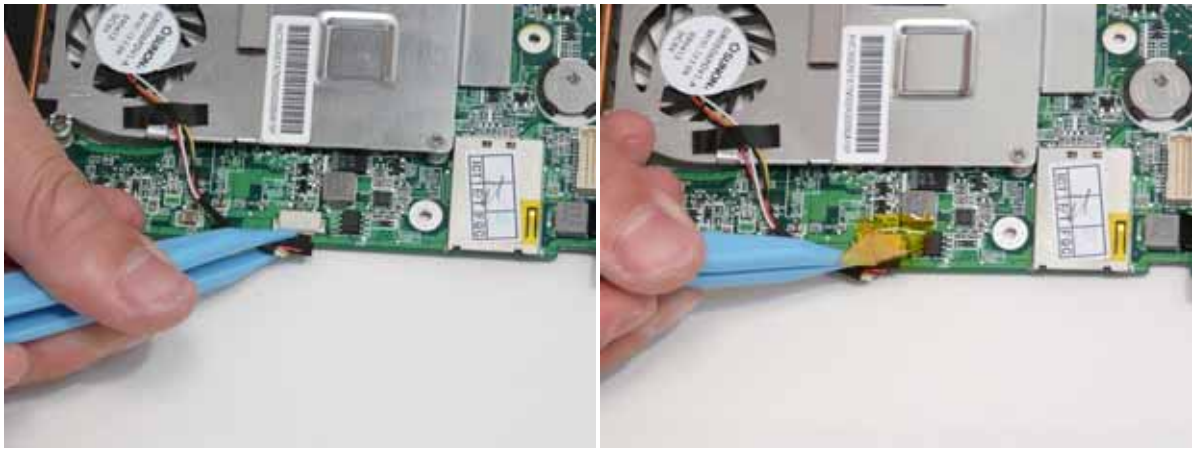


3. Place the Thermal Module onto the Mainboard and insert the screws in order from 1 to 5..



Step	Size	Quantity	Screw Type
Thermal Module	M2*3	5	

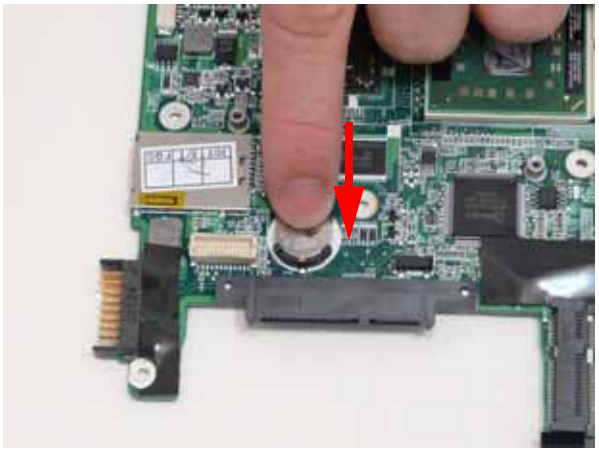
4. Connect the fan power cable to the Mainboard and replace the adhesive.



Replacing the RTC Battery

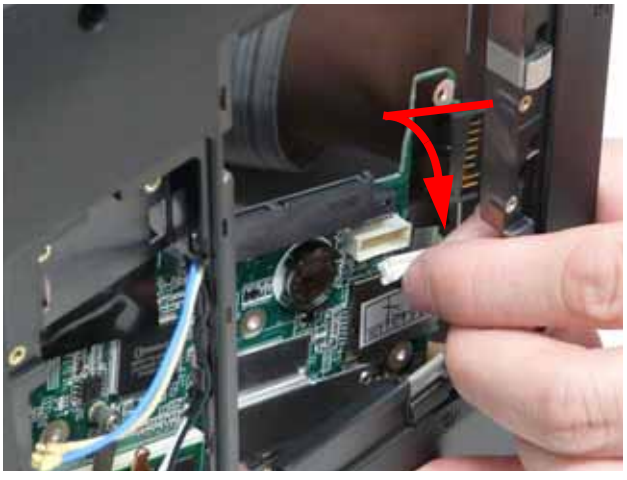
IMPORTANT: Follow local regulations for disposal of all batteries.

1. See “Removing the Mainboard” on page 72.
2. Disconnect the RTC Battery as shown.



Replacing the Mainboard

1. Turn the assembly and Mainboard onto its side and connect the mainboard to the VGA cable as shown.



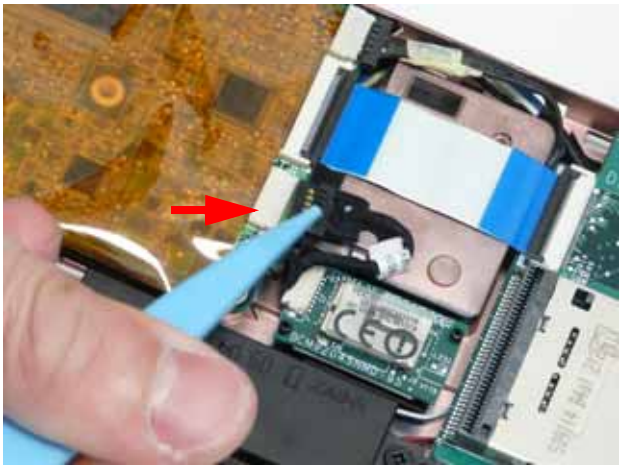
2. Insert the main board into the lower cover port-edge first.

3. Replace the three screws to secure the Mainboard to the Lower Cover as indicated.

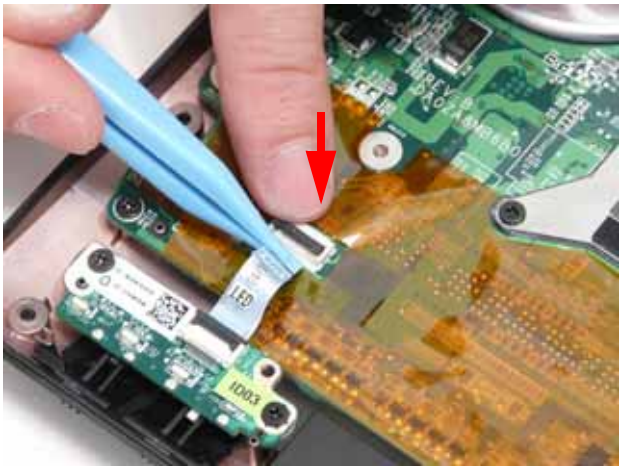
Step	Size	Quantity	Screw Type
Mainboard	M2*3	3	

4. Connect the Card Reader FFC to the Mainboard and close the locking latch.

5. Connect the Bluetooth cable to the Mainboard.

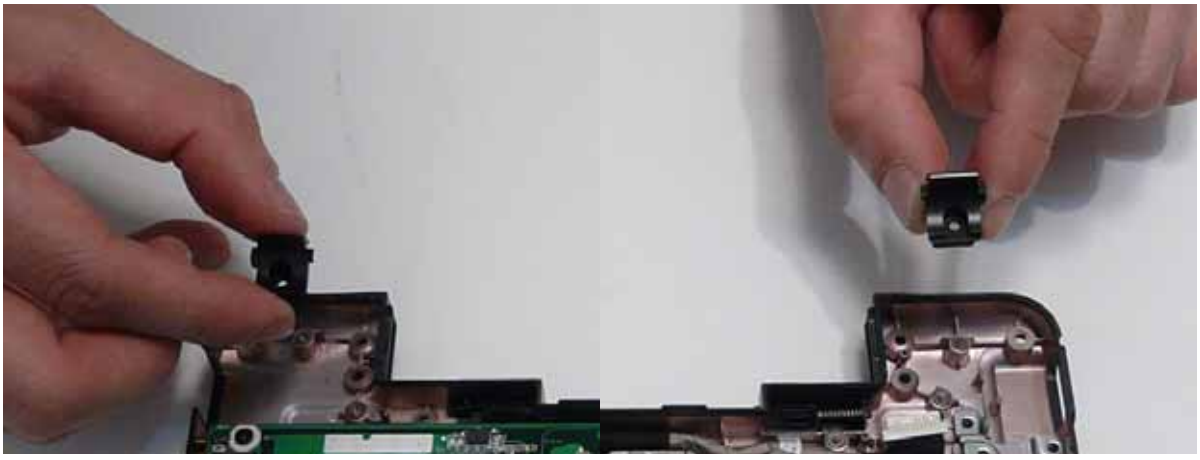


6. Connect the LED Board FFC to the Mainboard and close the locking latch.



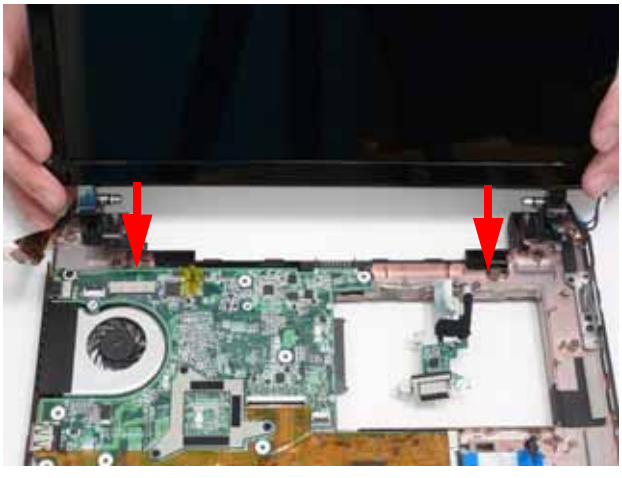
Replacing the Hinge Wells

1. Slide the two hinge wells into the Lower Cover as indicated.



Replacing the LCD module

1. Using both hands, lift the LCD Module away from the Lower Cover.

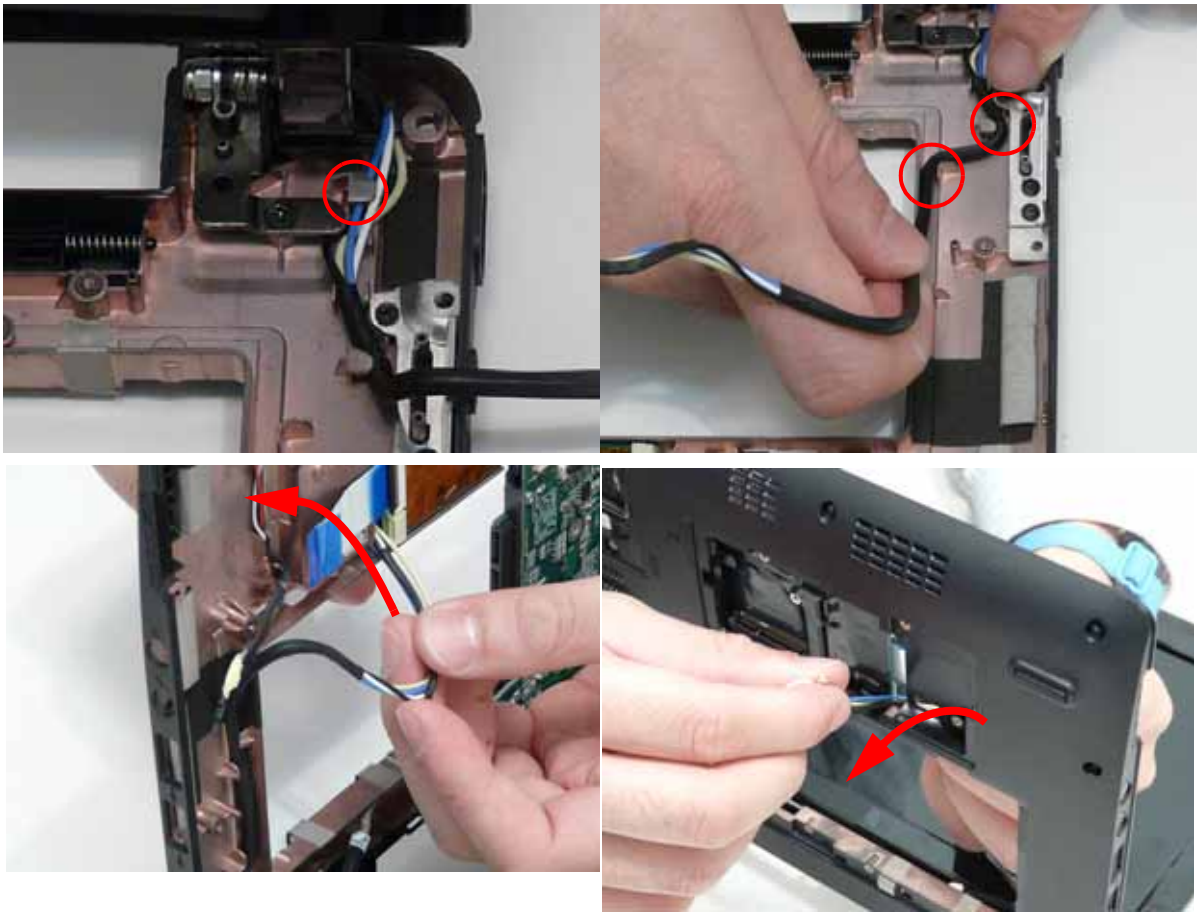


2. Remove the two screws on the rear of the Lower Cover securing the LCD Module to the computer.

Step	Size	Quantity	Screw Type
LCD Module	M2*3	2	

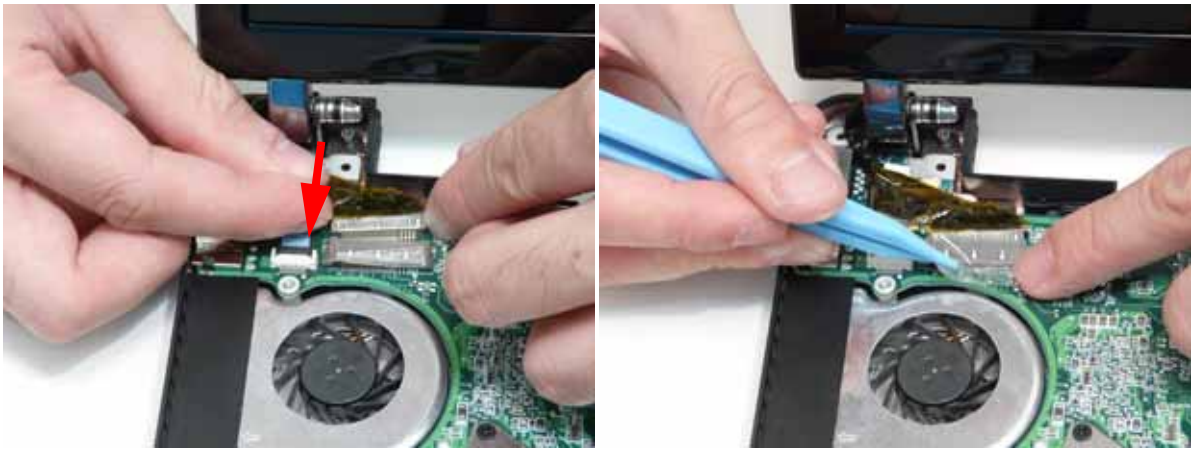
IMPORTANT: Ensure that the LCD cables are free from all cable clips before removing the LCD Module.

3. Insert the Antenna cables into the cable channel on the Lower Cover as shown.



NOTE: If replacing the LAN card, skip the next step.

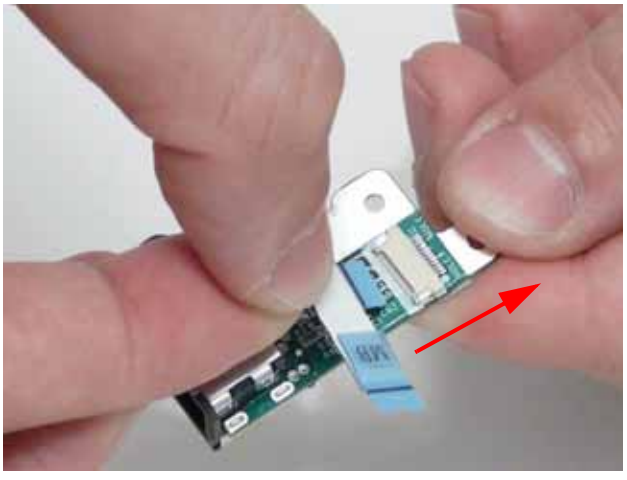
4. Connect the LVDS cable to the Mainboard and adhire the adhesive strip to secure the LVDS cable in place.



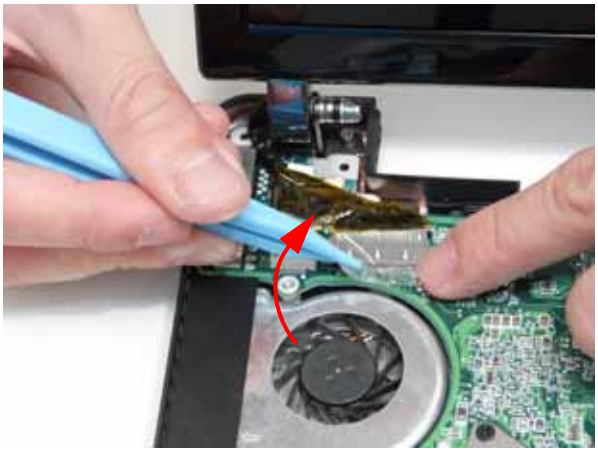
Replacing the LAN Board

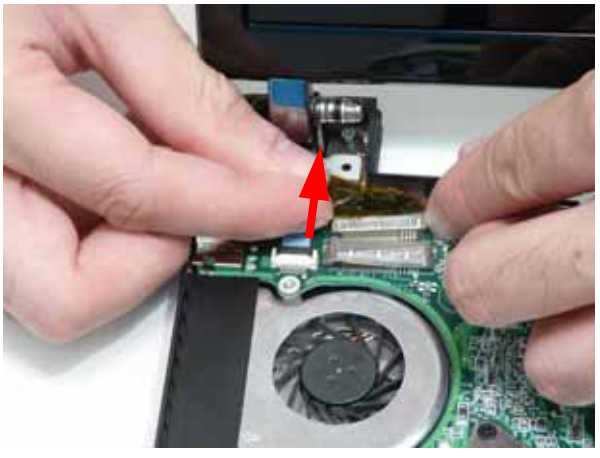
1. Connect the FFC cable to the LAN Board by pushing the cable into the connector shown.

NOTE: The FFC Cable connector to the LAN board does not have a locking latch.



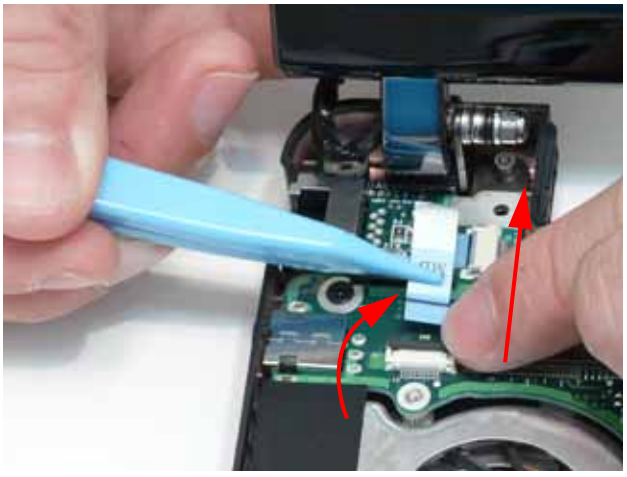
2. If the LVDS cable is still connected, lift the adhesive strip securing the LVDS cable in place and disconnect the cable from the Mainboard.



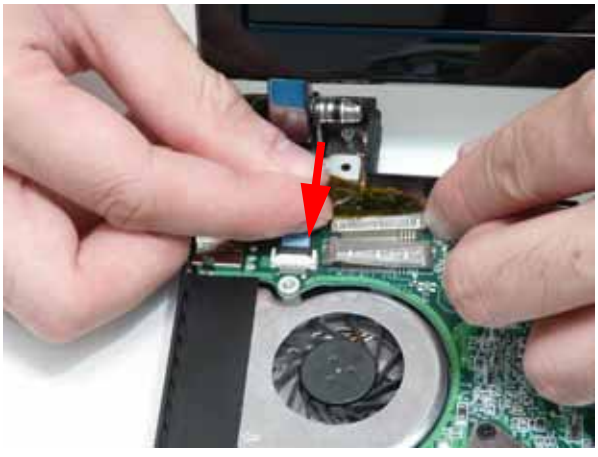


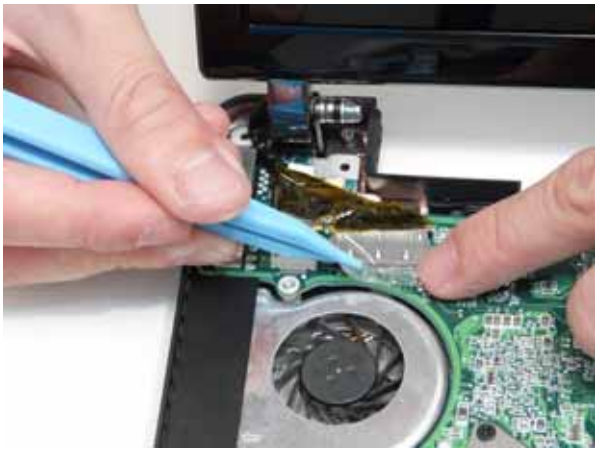
3. Insert the LAN Board into the Lower Cover as shown.

4. Connect the LAN Board cable to the Mainboard and close the FFC locking latch.



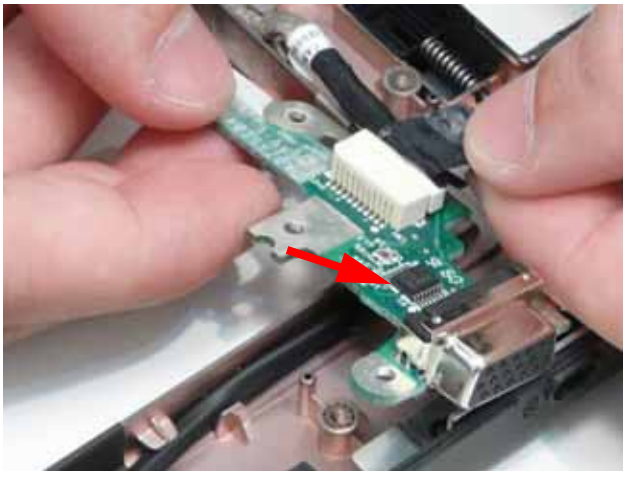
5. Connect the LVDS cable to the Mainboard and adhire the adhesive strip to secure the LVDS cable in place.



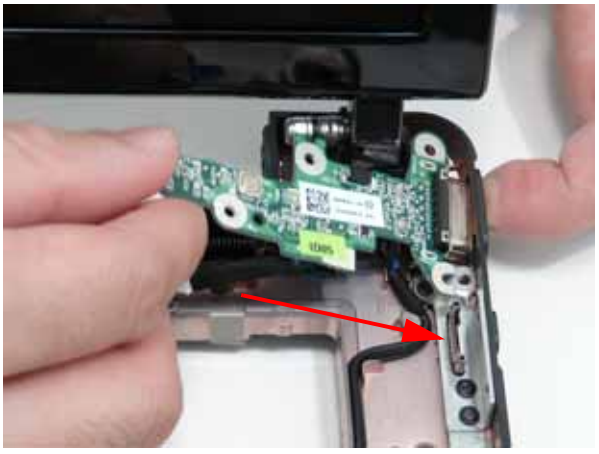


Replacing the VGA Board

1. Connect the cable from the VGA Board and flip the board over.



2. Insert the CRT Board left side first into the Lower Cover.

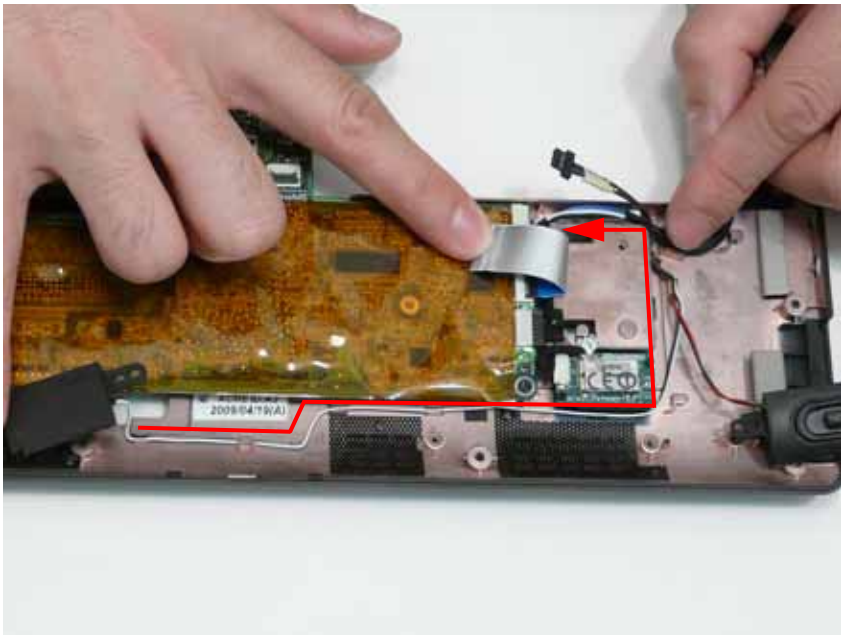


3. Replace the single screw to secure the VGA Board to the Lower Cover.

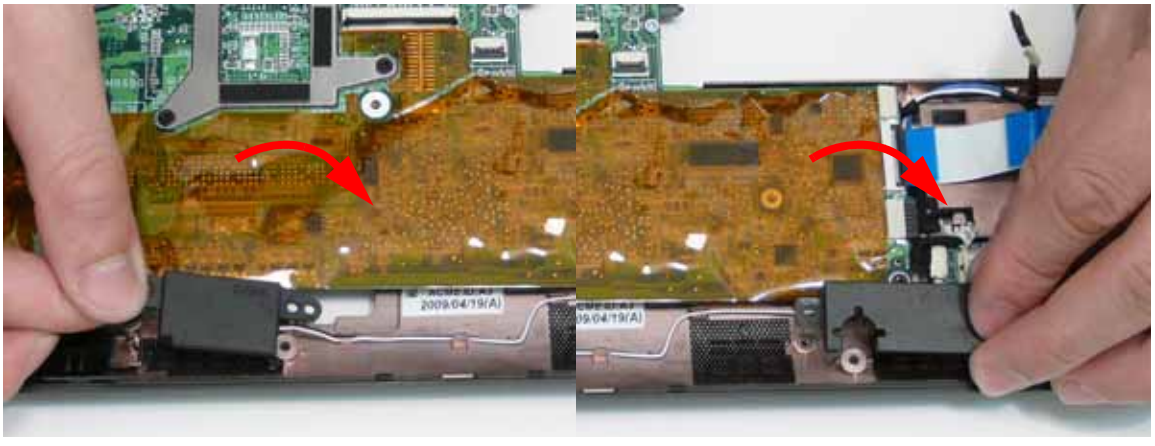
Step	Size	Quantity	Screw Type
CRT Board	M2*3	1	

Replacing the Speaker Module

1. Insert the Speaker cable into the cable channel. Ensure that the cable passes through all cable clips.



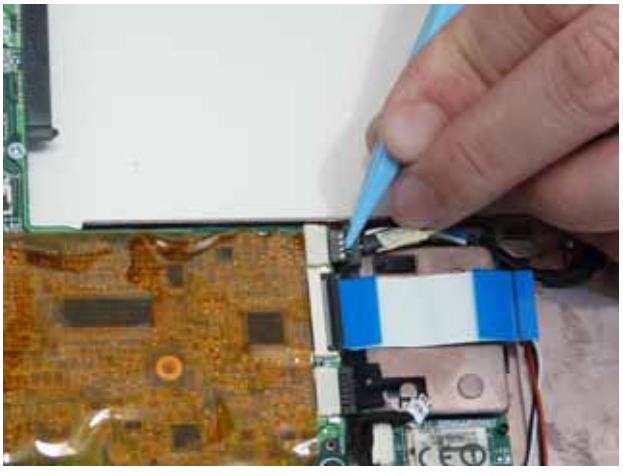
2. Place the right and left side speakers into the Lower Cover as shown.



3. Replace the three screws to secure the Speakers to the Lower Cover.

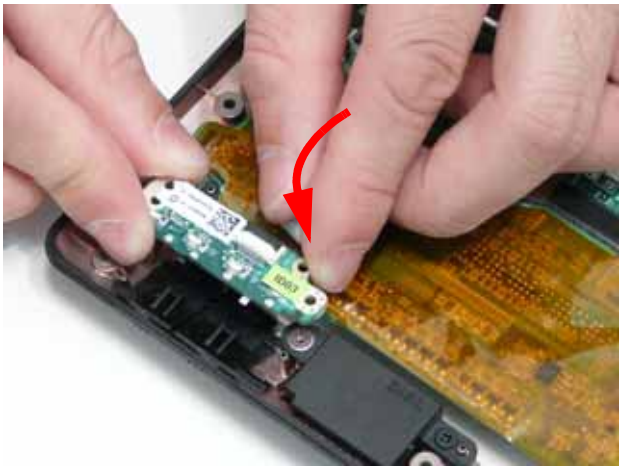
Step	Size	Quantity	Screw Type
Speaker Module	M2*3	3	

4. Connect the Speaker cable to the Mainboard.



Replacing the LED Board

1. Place the LED Board into the Lower Cover.

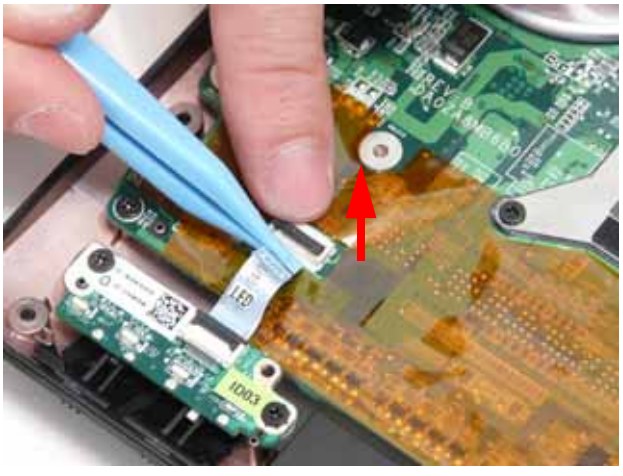


2. Replace the two screws to secure the LED Board to the Lower Cover.

Step	Size	Quantity	Screw Type
LED Board	M2*5	1	

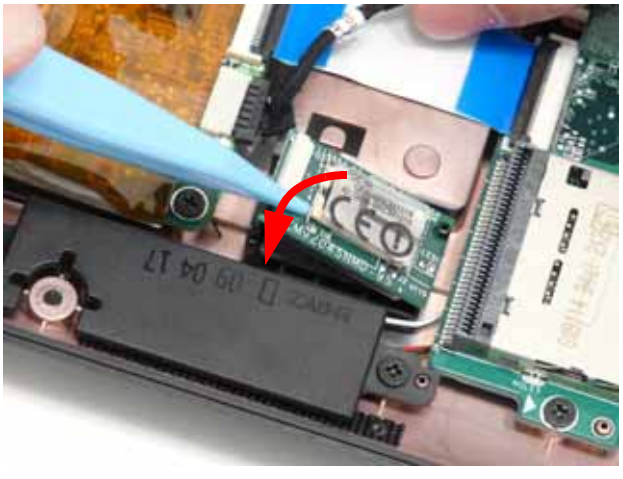
3. Connect the LED Board FFC to the LED Board and close the locking latch.

4. Connect the LED Board FFC to the Mainboard and close the locking latch.



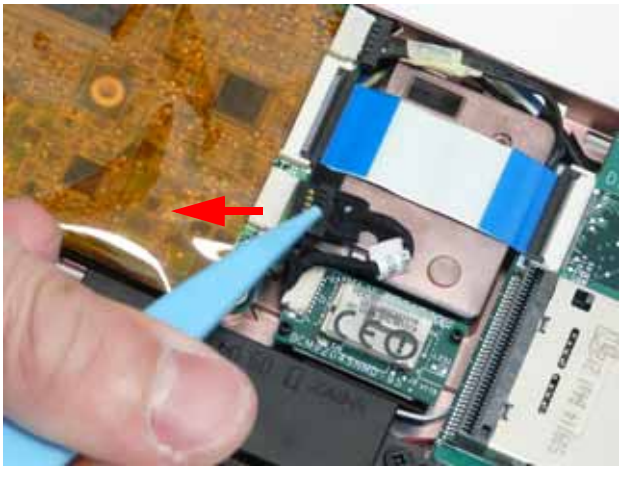
Replacing the Bluetooth Module

1. Insert the Bluetooth Module, right side first, into Lower Cover so that it is held by the tab.



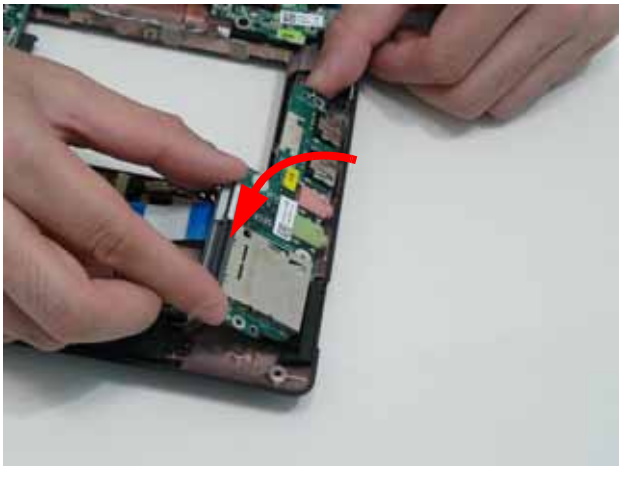
2. Connect the cable to the Bluetooth Module.

3. Press on the adhesive strip to attach the cable to the Lower Cover.
4. Connect the Bluetooth cable to the Mainboard.



Replacing the Card Reader Board

1. Place the board into the Lower Cover, right side first so the I/O ports align with the openings in the lower cover.



2. Replace the single screw to secure the Card Reader Board to the Lower Cover.

Step	Size	Quantity	Screw Type
Card Reader Board	M2*3	1	

3. Connect the FFC to the Mainboard and close the locking latch.

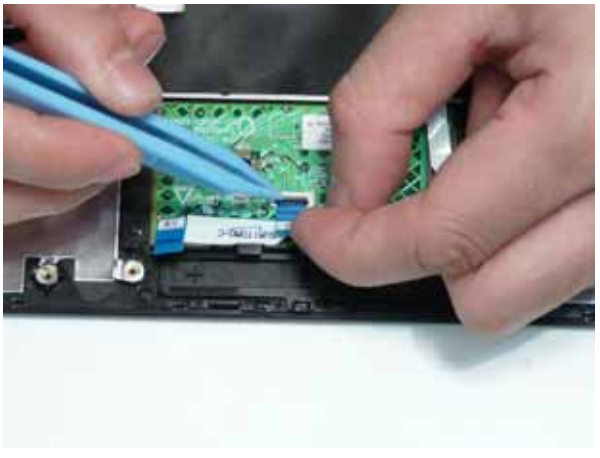
4. Connect the FFC to the Card Reader Board and close the locking latch.

Replacing the Button Board

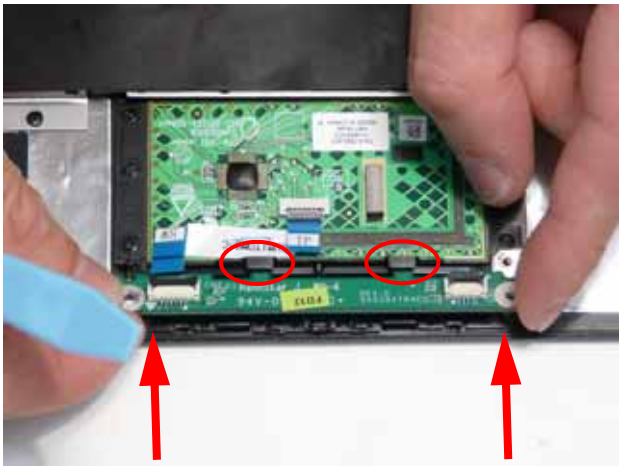
IMPORTANT: The TouchPad Board cannot be removed from the Upper Cover. To replace the TouchPad Board, replace the entire Upper Cover.

1. Push the FFC through the cover as shown.

2. Connect the FFC to the TouchPad connector and close the FFC locking latch.



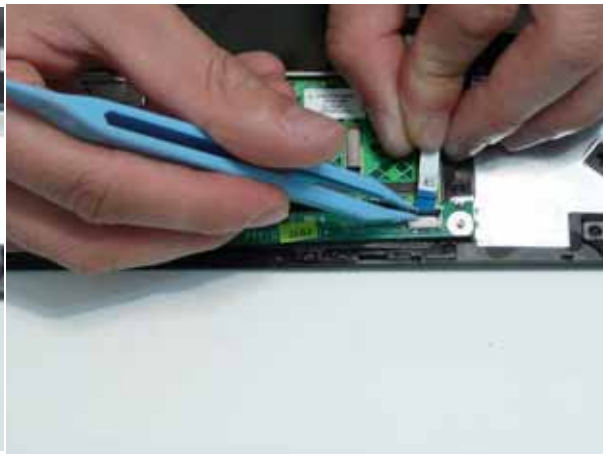
3. Slide the button board under the securing tabs in the Upper Cover as shown.



4. Replace the two screws to secure the TouchPad Bracket to the Upper Cover.

Step	Size	Quantity	Screw Type
TouchPad Bracket	M2*3	3	

5. Connect the two FFCs to the Button Board and close the locking latches as shown.

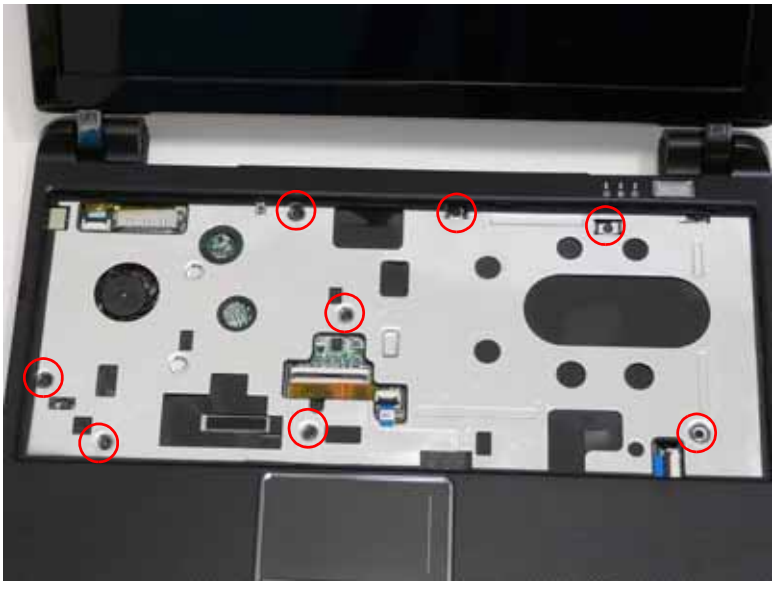


Replacing the Upper Cover

1. Place the Upper Cover into the Lower Cover left corner first. Hook the hinge cover part of the upper cover around the left hinge, making sure the LVDS cable passes through the opening in the upper cover, then rotate the cover until it is aligned with the lower cover.

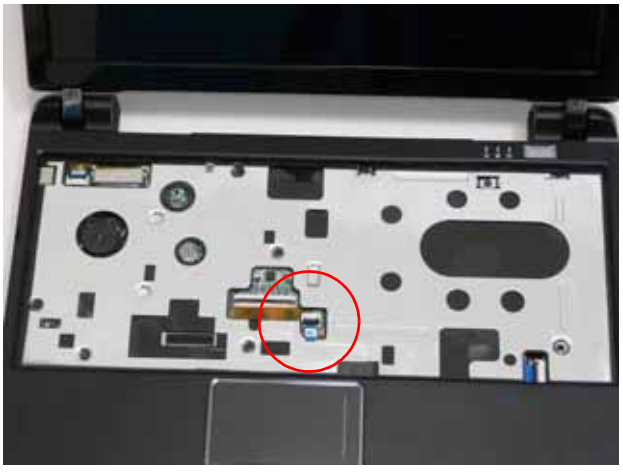
2. Lightly press the edges of the cover in place to connect it to the lower cover.,

3. Replace the eight securing screws to the Upper Cover.



Step	Size	Quantity	Screw Type
Upper Cover (red callout)	M2*4	8	

4. Connect the following cable to the Mainboard.



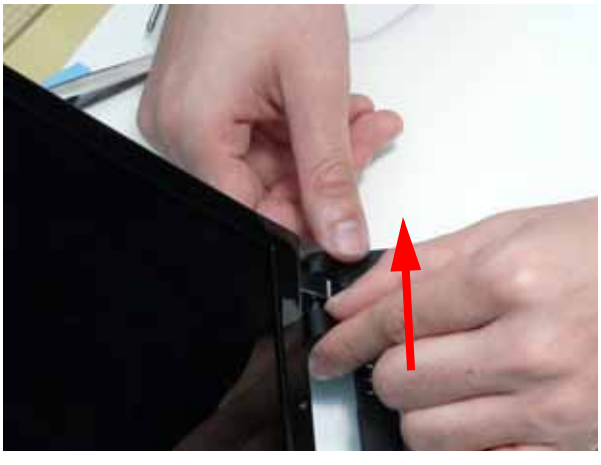
5. Connect the FFC and close the locking latch as shown.

6. Turn the computer and replace the eleven screws securing the Upper Cover to the Lower Cover.

Step	Size	Quantity	Screw Type
Upper Cover (Red callouts)	M2*6	7	
Upper Cover (Cyan callouts)	M2*4	4	

Removing the Hinge Covers

1. Connect the Hinge Covers to the Upper Cover as shown.

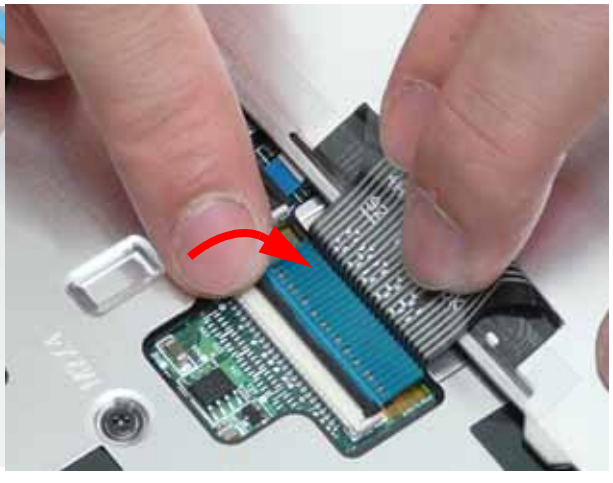


2. Replace the two screws to secure the hinge covers.

Step	Size	Quantity	Screw Type
Hinge Cover	M2*10	2	

Replacing the Keyboard

1. Turn the computer rightside up and open the lid to the full extent.
2. Holding the keyboard on edge, insert the Keyboard FFC and secure the latch as shown.



3. Place the Keyboard into the Upper Cover bottom edge first, taking care to align the mounting tabs.

4. Press the keyboard into place in the four indicated points. An audible click indicates the keyboard is in place.

Reassembling External Modules

Replacing the WLAN Board

1. Insert the WLAN Board into the Mainboard.

2. Replace the single screw to secure the WLAN Board in place.

Step	Size	Quantity	Screw Type
WLAN Board	M2*3	1	

3. Connect the Antenna cables to the WLAN Board.

NOTE: Cable placement is Black to the MAIN terminal (right) and White to the AUX terminal (left).

Replacing the 3G Module

1. Insert the 3g Board into the Mainboard.

2. Replace the two screws to secure the WLAN Board in place.

Step	Size	Quantity	Screw Type
3g Board	M2*3	2	

3. Connect the Antenna cables to the 3g Board.

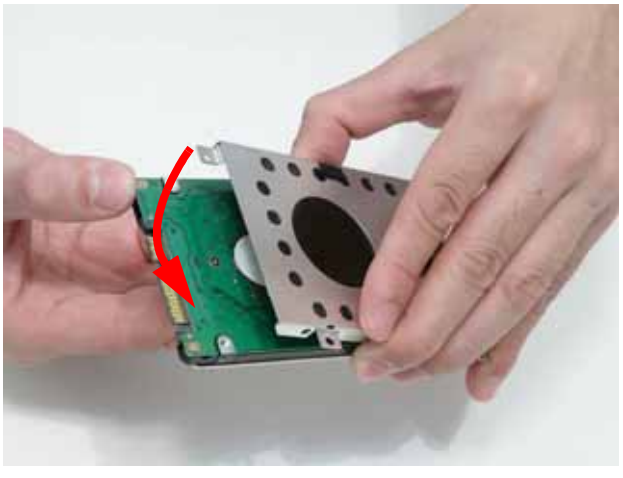
NOTE: Cable placement is Yellow to the MAIN terminal (right) and Blue to the AUX terminal (left).

Replacing the DIMM Module

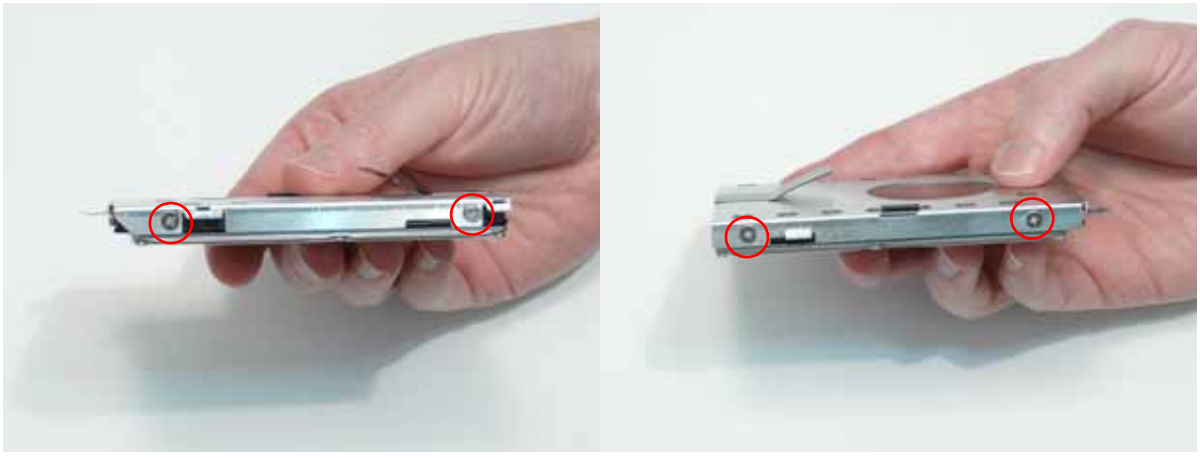
1. Insert the DIMM module at an angle then push down into place until the latches on the sides click into place.

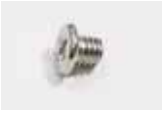
Replacing the Hard Disk Drive Module

1. Attach the HDD to the carrier.



2. Replace the four screws (two each side) to secure the hard disk to the carrier.

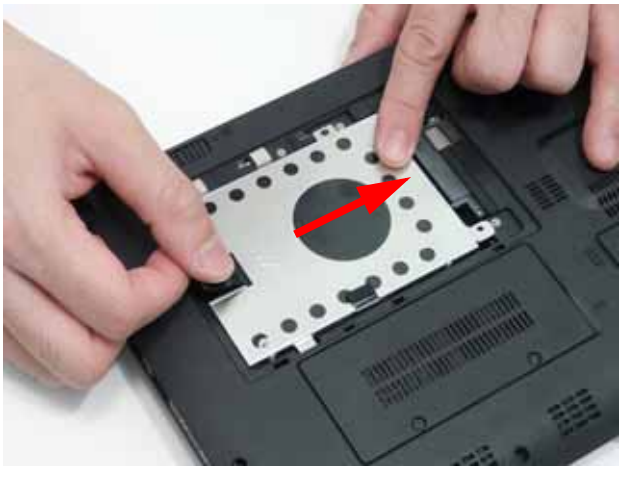


Step	Size	Quantity	Screw Type
HDD Carrier	M3*3	4	

3. Place the hard disk drive module into the bay.

NOTE: To prevent damage to the device, avoid pressing down on it or placing heavy objects on top of it.

4. Slide the HDD in the direction of the arrow to connect the HDD to the interface connector.



5. Replace the single screw to secure the HDD Module in place.

Step	Size	Quantity	Screw Type
HDD Module	M2*3	1	

Replacing the Lower Covers

1. Insert the HDD cover into the Lower Cover.

2. Insert the Memory cover into the Lower Cover.

3. Insert the 3G cover into the Lower Cover.

4. Tighten the seven captive screws in the HDD, Memory, and 3G Covers.

Replacing 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 the battery pack into the main unit (2).

4. Slide the battery lock/unlock latch to the lock position.

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.

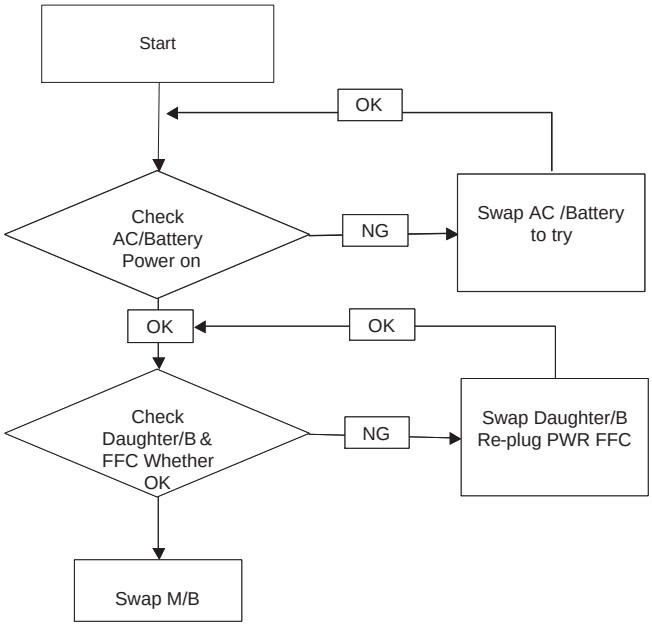
1. Obtain the failing symptoms in as much detail as possible.
2. Verify the symptoms by attempting to re-create the failure by running the diagnostic test or by repeating the same operation.
3. Use the following table with the verified symptom to determine which page to go to.

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 165.

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:



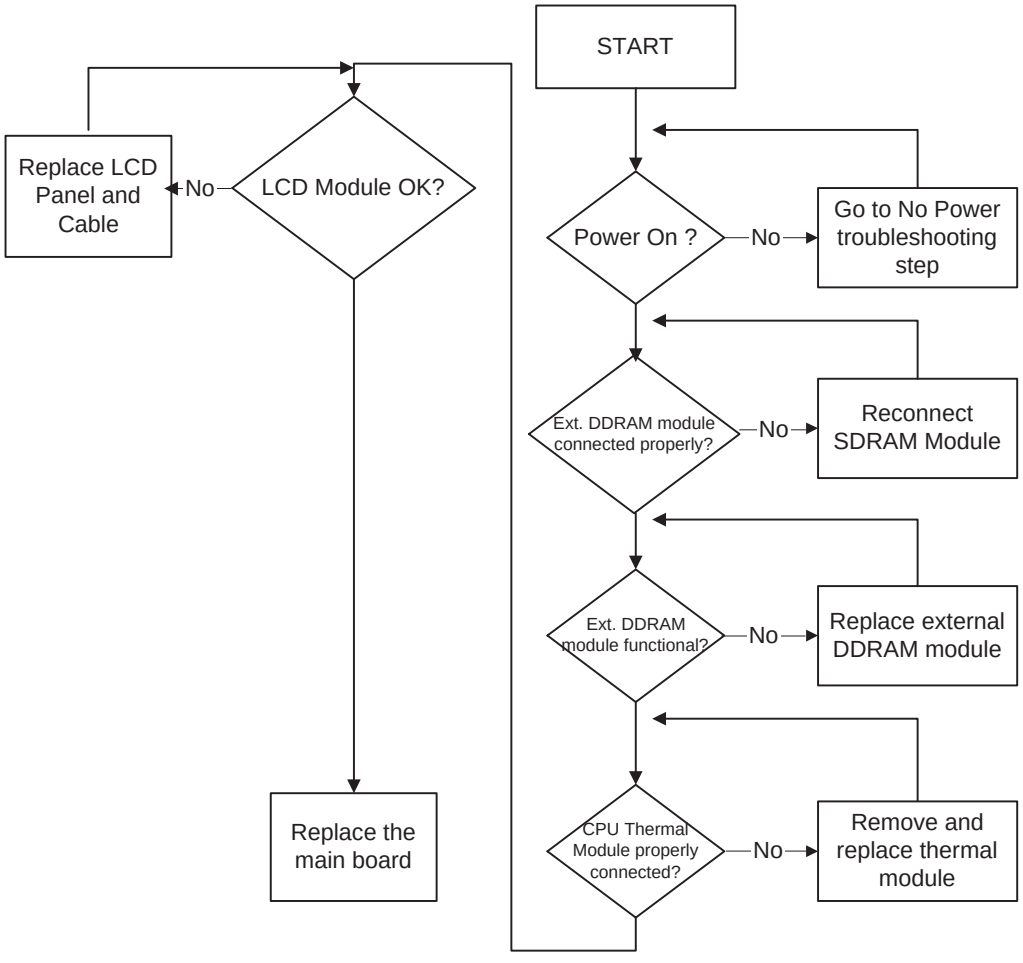
Computer Shuts down Intermittently

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 165.

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 34).
8. If the Issue is still not resolved, see “Online Support Information” on page 165.

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 34.
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 34.
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 34.
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 165.
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 165.

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.

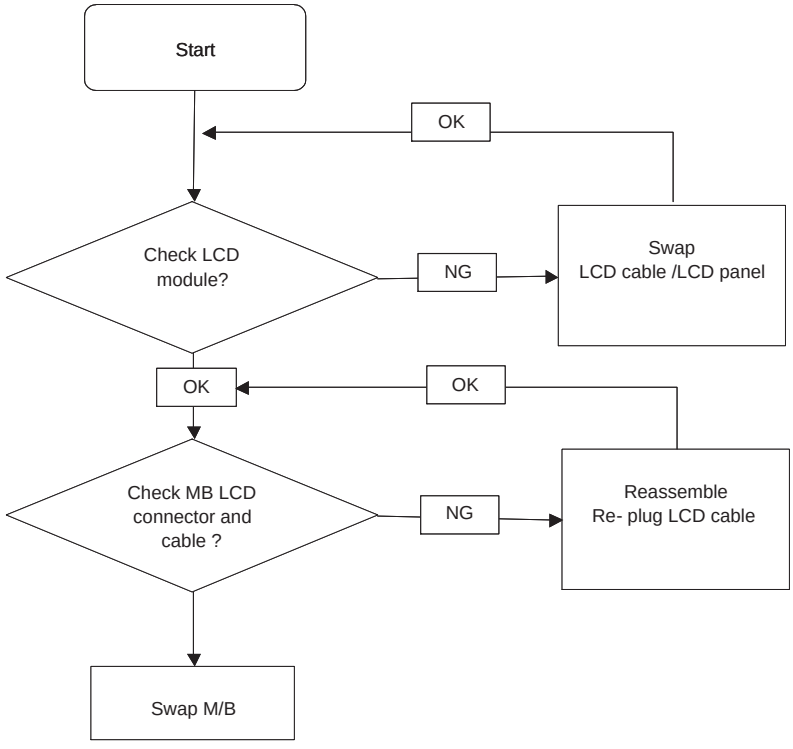
1. If the computer is more than one year old, replace the CMOS battery.
2. Run a complete virus scan using up-to-date software to ensure the computer is virus free.
3. If the computer is experiencing HDD or ODD BIOS information loss, disconnect and reconnect the power and data cables between devices.

   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 165.

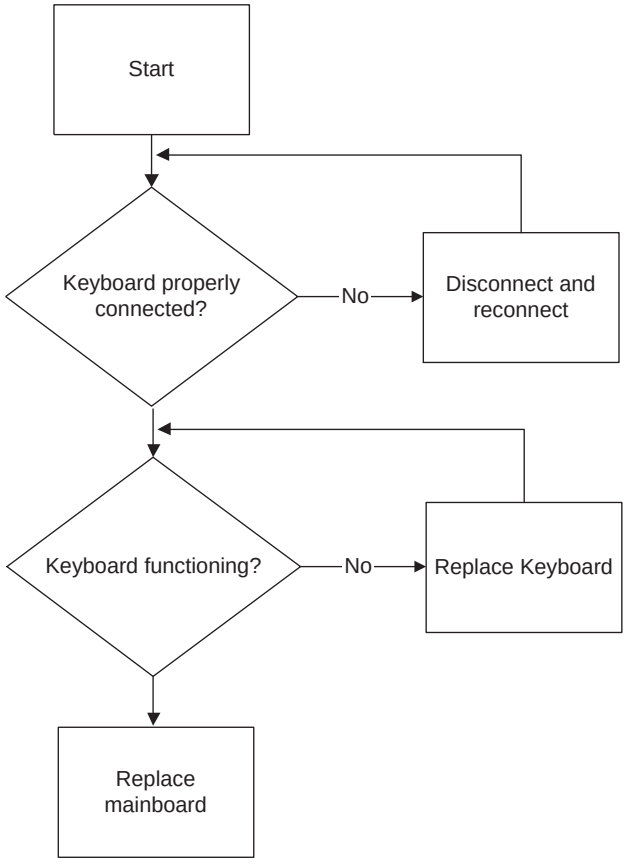
LCD Failure

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



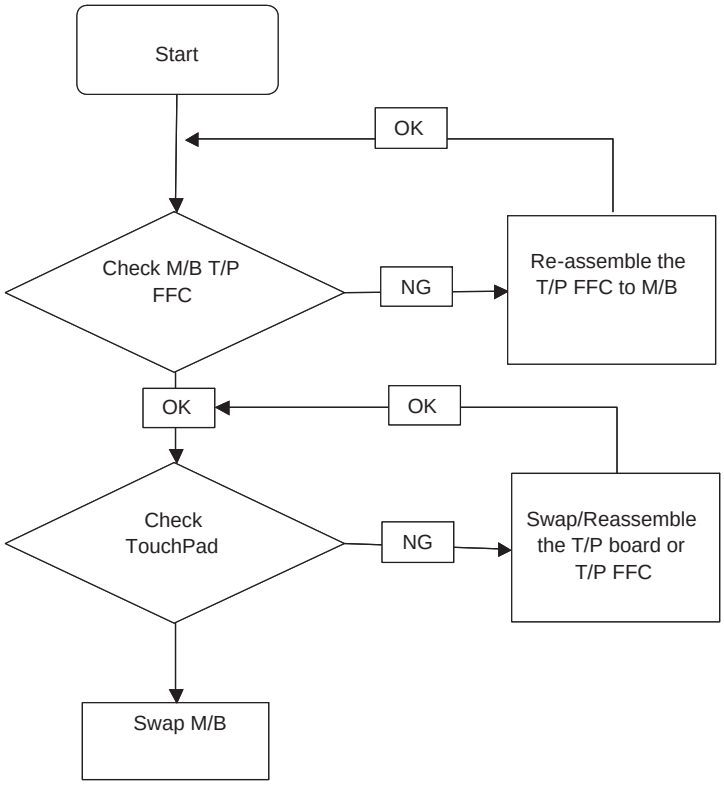
Built-In Keyboard Failure

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



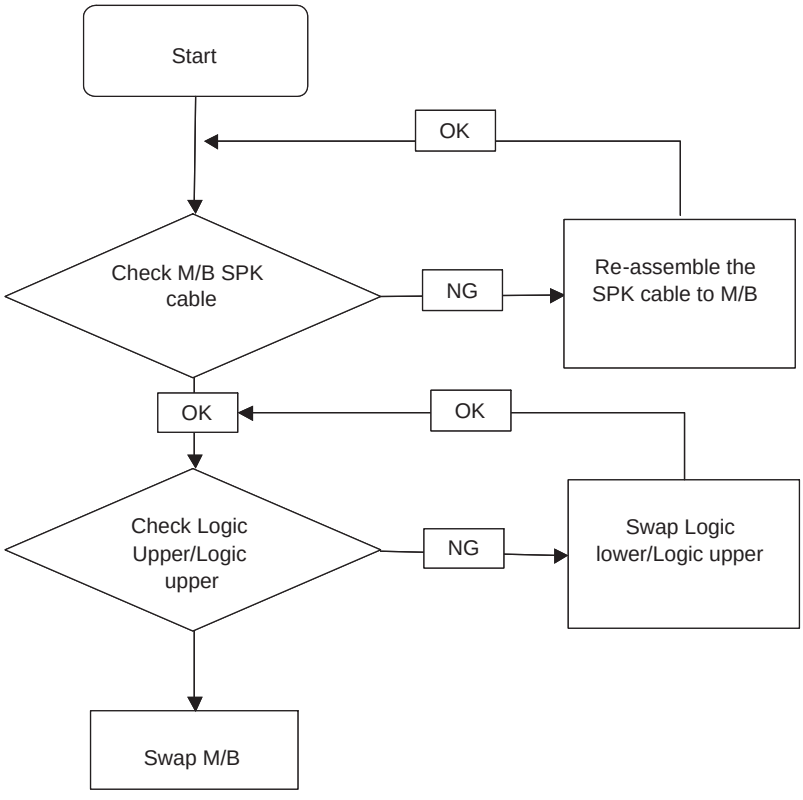
TouchPad Failure

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.

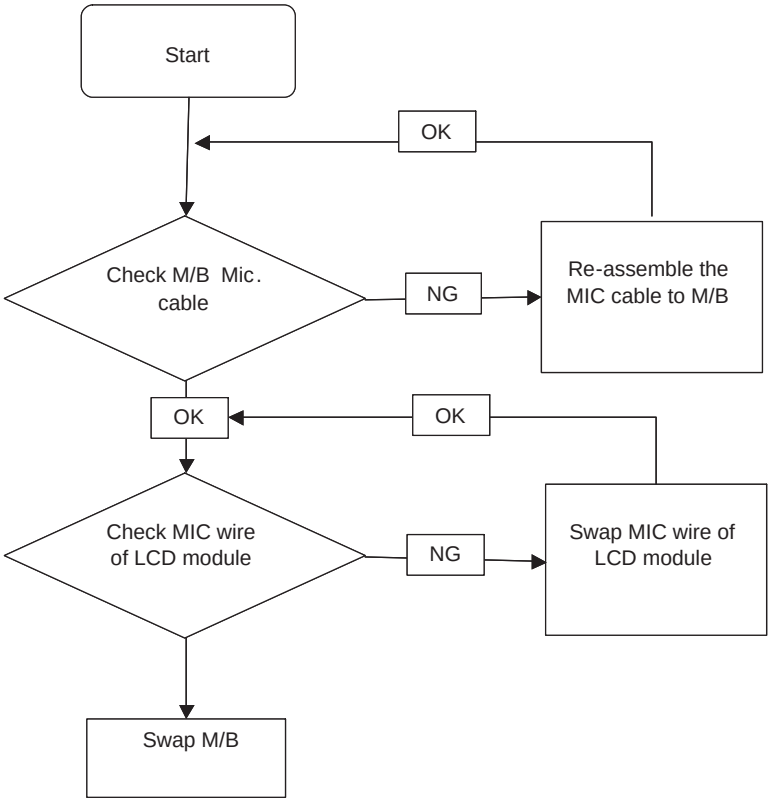
1. Reboot the computer.
2. Navigate to **Start**→ **Control Panel**→ **System and Maintenance**→ **System**→ **Device Manager**. Check the Device Manager to determine that:
   - The device is properly installed.
   - There are no red Xs or yellow exclamation marks.
   - There are no device conflicts.
   - 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 165.

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 165.

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 Vista Startup Repair Utility:

a. insert the Windows Vista 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.

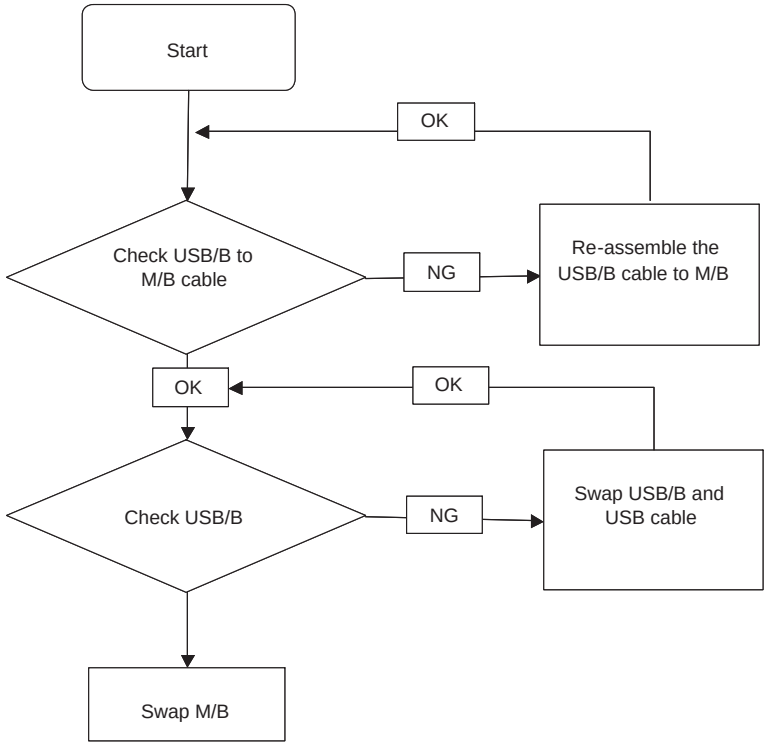
10. Restore system and file settings from a known good date using **System Restore**.

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 34.

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 components of the POST process.

Code	Beeps	POST Routine Description
02h		Verify Real Mode
03h		Disable Non-Maskable Interrupt (NMI)
04h		Get CPU type
06h		Initialize system hardware
08h		Initialize chipset with initial POST
09h		Set IN POST flag
0Ah		Initialize CPU registers
0Bh		Enable CPU cache
0Ch		Initialize caches to initial POST va
0Eh		Initialize I/O component
0Fh		Initialize the local bus IDE
10h		Initialize Power Management
11h		Load alternate registers with initial POST values
12h		Restore CPU control word during warm boot
13h		Initialize PCI Bus Mastering devices
14h		Initialize keyboard controller
16h	1-2-2-3	BIOS ROM checksum
17h		Initialize cache before memory autosize
18h		8254 timer initialization
1Ah		8237 DMA controller initialization
1Ch		Reset Programmable Interrupt Controller
20h	1-3-1-1	Test DRAM refresh
22h	1-3-1-3	Test 8742 Keyboard Controller
24h		Set ES segment register to 4 GB
26h		Enable A20 line
28h		Autosize DRAM
29h		Initialize POST Memory Manager
2Ah		Clear 512 KB base RAM
2Ch	1-3-4-1	RAM failure on address line xxxx*
2Eh	1-3-4-3	RAM failure on data bits xxxx* of low byte of memory bus
2Fh		Enable cache before system BIOS shadow
30h	1-4-1-1	RAM failure on data bits xxxx* of high byte of memory bus
32h		Test CPU bus-clock frequency
33h		Initialize Phoenix Dispatch Manager
36h		Warm start shut down
38h		Shadow system BIOS ROM
3Ah		Autosize cache
3Ch		Advanced configuration of chipset registers
3Dh		Load alternate registers with CMOS values
42h		Initialize interrupt vectors

Code	Beeps	POST Routine Description
45h		POST device initialization
46h		Check ROM copyright notice
48h	2-1-2-3	Check video configuration against CMOS
49h		Initialize PCI bus and devices
4Ah		Initialize all video adapters in system
4Bh		QuietBoot start (optional)
4Ch		Shadow video BIOS ROM
4Eh		Display BIOS copyright notice
50h		Display CPU type and speed
51h		Initialize EISA board
52h		Test keyboard
54h		Set key click if enabled
58h	2-2-3-1	Test for unexpected interrupts
59h		Initialize POST display service
5Ah		Display prompt "Press F2 to enter SETUP"
5Bh		Disable CPU cache
5Ch		Test RAM between 512 and 640 KB
60h		Test extended memory
62h		Test extended memory address lines
64h		Jump to UserPatch1
66h		Configure advanced cache registers
67h		Initialize Multi Processor APIC
68h		Enable external and CPU caches
69h		Setup System Management Mode (SMM) area
6Ah		Display external L2 cache size
6Bh		Load custom defaults (optional)
6Ch		Display shadow-area message
6Eh		Display possible high address for UMB recovery
70h		Display error messages
72h		Check for configuration errors
76h		Check for keyboard errors
7Ch		Set up hardware interrupt vectors
7Eh		Initialize coprocessor if present
80h		Disable onboard Super I/O ports and IRQs
81h		Late POST device initialization
82h		Detect and install external RS232 ports
83h		Configure non-MCD IDE controllers
84h		Detect and install external parallel ports
85h		Initialize PC-compatible PnP ISA devices
86h		Re-initialize onboard I/O ports.
87h		Configure Motheboard Configurable Devices (optional)
88h		Initialize BIOS Data Area
89h		Enable Non-Maskable Interrupts (NMIs)

Code	Beeps	POST Routine Description
8Ah		Initialize Extended BIOS Data Area
8Bh		Test and initialize PS/2 mouse
8Ch		Initialize floppy controller
8Fh		Determine number of ATA drives (optional)
90h		Initialize hard-disk controllers
91h		Initialize local-bus hard-disk controllers
92h		Jump to UserPatch2
93h		Build MPTABLE for multi-processor boards
95h		Install CD ROM for boot
96h		Clear huge ES segment register
97h		Fixup Multi Processor table
98h	1-2	Search for option ROMs. One long, two short beeps on checksum failure
99h		Check for SMART Drive (optional)
9Ah		Shadow option ROMs
9Ch		Set up Power Management
9Dh		Initialize security engine (optional)
9Eh		Enable hardware interrupts
9Fh		Determine number of ATA and SCSI drives
A0h		Set time of day
A2h		Check key lock
A4h		Initialize Typematic rate
A8h		Erase F2 prompt
AAh		Scan for F2 key stroke
ACh		Enter SETUP
AEh		Clear Boot flag
B0h		Check for errors
B2h		POST done - prepare to boot operating system
B4h	1	One short beep before boot
B5h		Terminate QuietBoot (optional)
B6h		Check password (optional)
B9h		Prepare Boot
BAh		Initialize DMI parameters
BBh		Initialize PnP Option ROMs
BCh		Clear parity checkers
BDh		Display MultiBoot menu
BEh		Clear screen (optional)
BFh		Check virus and backup reminders
C0h		Try to boot with INT 19
C1h		Initialize POST Error Manager (PEM)
C2h		Initialize error logging
C3h		Initialize error display function
C4h		Initialize system error handler
C5h		PnPnd dual CMOS (optional)

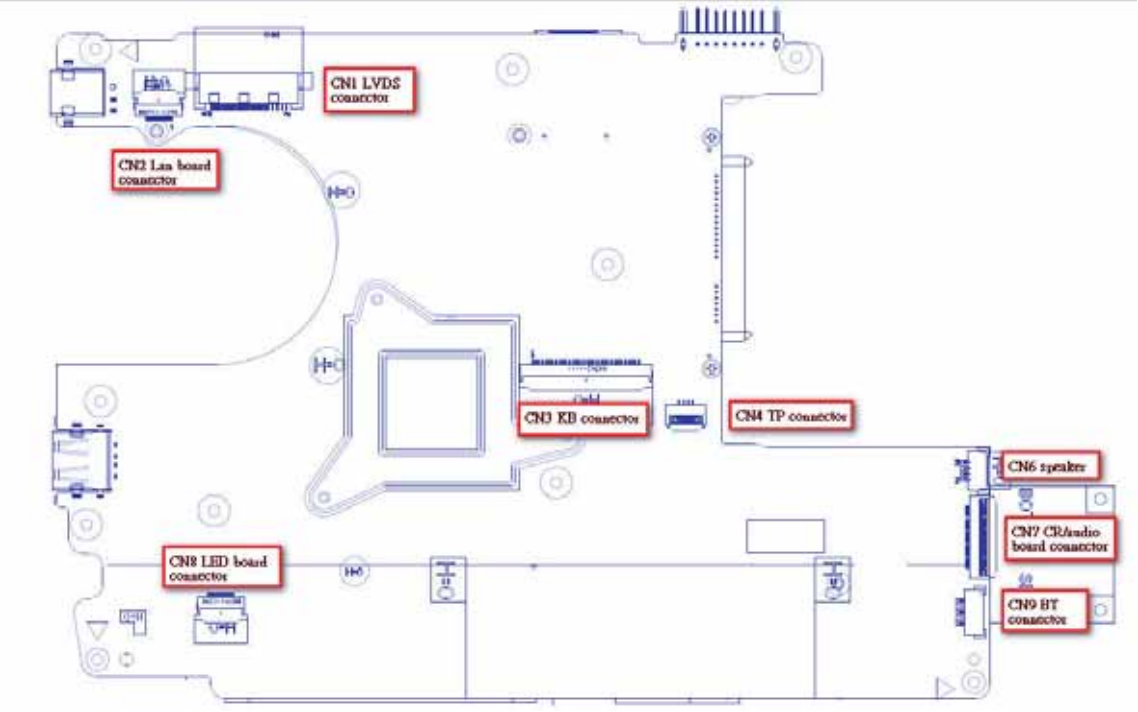
Code	Beeps	POST Routine Description
C6h		Initialize notebook docking (optional)
C7h		Initialize notebook docking late
C8h		Force check (optional)
C9h		Extended checksum (optional)
D2h		Unknown interrupt

Code	Beeps	For Boot Block in Flash ROM
E0h		Initialize the chipset
E1h		Initialize the bridge
E2h		Initialize the CPU
E3h		Initialize system timer
E4h		Initialize system I/O
E5h		Check force recovery boot
E6h		Checksum BIOS ROM
E7h		Go to BIOS
E8h		Set Huge Segment
E9h		Initialize Multi Processor
EAh		Initialize OEM special code
EBh		Initialize PIC and DMA
ECh		Initialize Memory type
EDh		Initialize Memory size
EEh		Shadow Boot Block
EFh		System memory test
F0h		Initialize interrupt vectors
F1h		Initialize Run Time Clock
F2h		Initialize video
F3h		Initialize System Management Mode
F4h	1	Output one beep before boot
F5h		Boot to Mini DOS
F6h		Clear Huge Segment
F7h		Boot to Full DOS

* If the BIOS detects error 2C, 2E, or 30 (base 512K RAM error), it displays an additional word-bitmap (xxxx) indicating the address line or bits that failed. For example, "2C 0002" means address line 1 (bit one set) has failed. "2E 1020" means data bits 12 and 5 (bits 12 and 5 set) have failed in the lower 16 bits. Note that error 30 cannot occur on 386SX systems because they have a 16 rather than 32-bit bus. The BIOS also sends the bitmap to the port-80 LED display. It first displays the check point code, followed by a delay, the high-order byte, another delay, and then the low-order byte of the error. It repeats this sequence continuously.

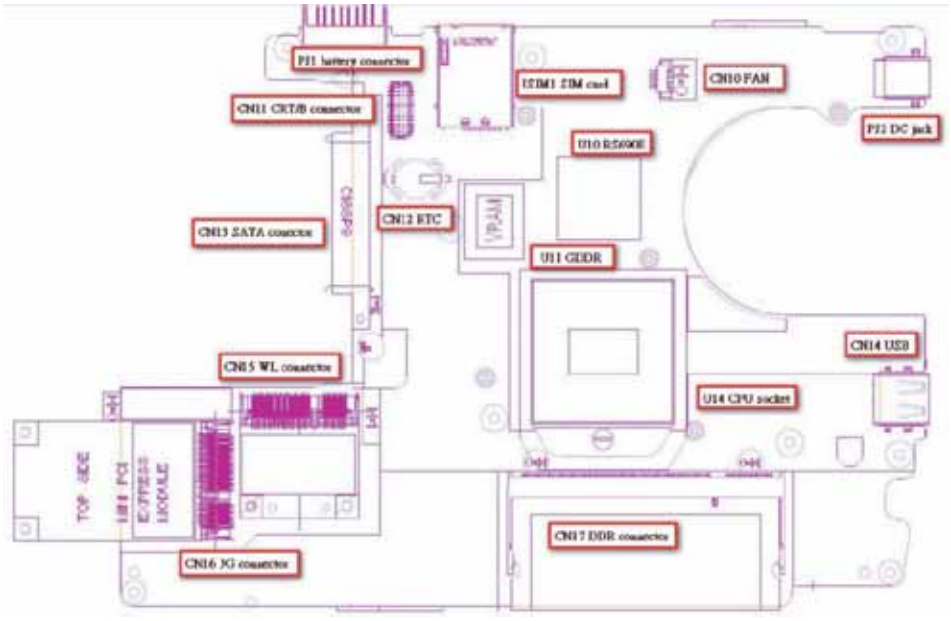
Jumper and Connector Locations

Top View



Item	Description	Item	Description
CN1	LVDS connector	CN6	Speaker connector
CN2	LAN connector	CN7	I/O Board Connector
CN3	Keyboard connector	CN8	LED board connector
CN4	Touchpad connector	CN9	Bluetooth connector

Bottom View



Item	Description	Item	Description
CN10	FAN	CN17	DDR Connector
CN11	CRT/B Connector	PJ1	Battery connector
CN12	RTC Battery Connector	PJ2	DC-in
CN13	SATA Connector	JSIM1	SIM card connector
CN14	USB	U10	RS690E
CN15	WL Connector	U15	GDDR
CN16	3G Connector	U14	CPU Socket

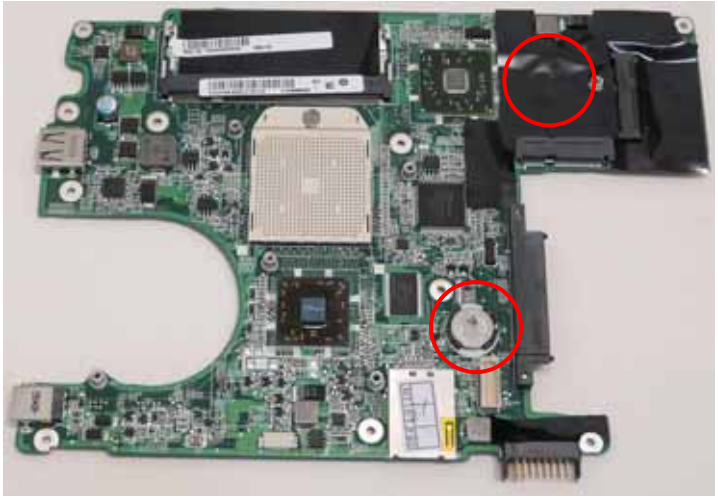
Clearing Password Check and BIOS Recovery

This section provide you the standard operating procedures of clearing password and BIOS recovery for Aspire one. Aspire one provides one Hardware Open Gap on the main board for clearing the CMOS, and one Hotkey for enabling BIOS Recovery.

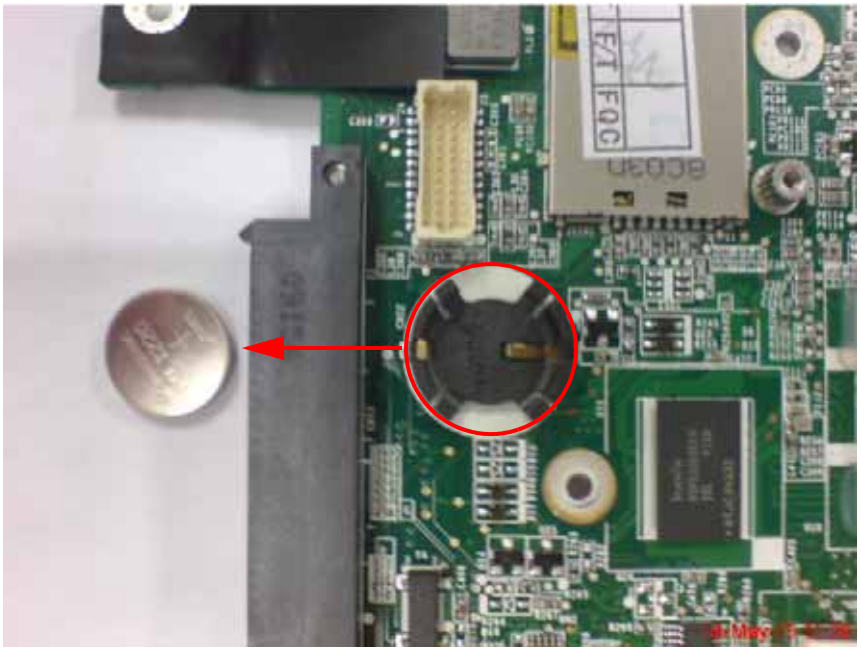
Motherboard CMOS Discharge

Discharging the CMOS clears all user settings.

1. Decompose the notebook and take out the Mainboard
2. Locate the RTC Battery and Jumpers.



3. Disconnect the RTC battery



4. Peel back the Wireles LAN Card mylar and short the G2 pad.

5. Reconnect the RTC battery and reassemble the unit.

BIOS Recovery by Crisis Disk

BIOS Recovery Boot Block:

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 a successful one once the previous BIOS flashing process failed.

BIOS Recovery Hotkey:

The system provides a function hotkey: **Fn+Esc**, for enable BIOS Recovery process when system is powered on during BIOS POST. To use this function, it is strongly recommended to have the AC adapter and Battery present. If this function is enabled, the system will force the BIOS to enter a special BIOS block, called Boot Block.

Steps for BIOS Recovery by USB Flash Crisis Disk:

Before doing this, a Crisis Diskette should be prepared ready in hand. The Crisis Diskette could be made by executing the Crisis Disk program in another system with Windows XP OS.

Follow the steps below:

1. Plug in a blank USB disk.
2. Launch the ***wincrisis.exe*** program to create a USB Crisis Disk.
3. Select **Create MINIDOS Crisis Disk**.
4. Click **Start** to initiate the process.
5. Click OK to override the warning dialog.

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

6. Copy the ***KAV60.fd*** BIOS file into USB flash disk root directory.

NOTE: Do not place any other *.fd file in the USB flash disk root directory.

To use the Crisis USB key, do the following:

1. Plug USB storage into USB port.
2. Press **Fn + ESC** button then plug in AC power.

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

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

FRU (Field Replaceable Unit) List

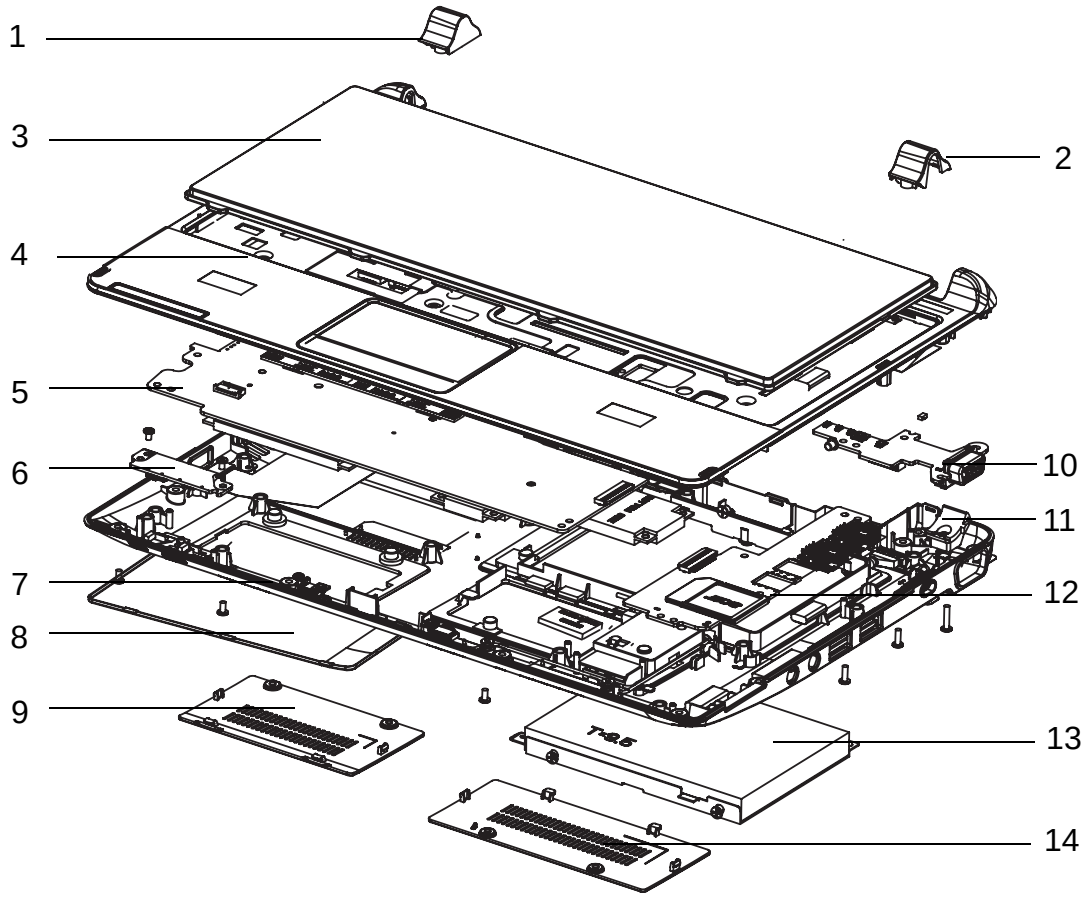
This chapter gives you the FRU (Field Replaceable Unit) listing in global configurations of Gateway LT31 Series. Refer to this chapter whenever ordering for parts to repair or for RMA (Return Merchandise Authorization).

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.

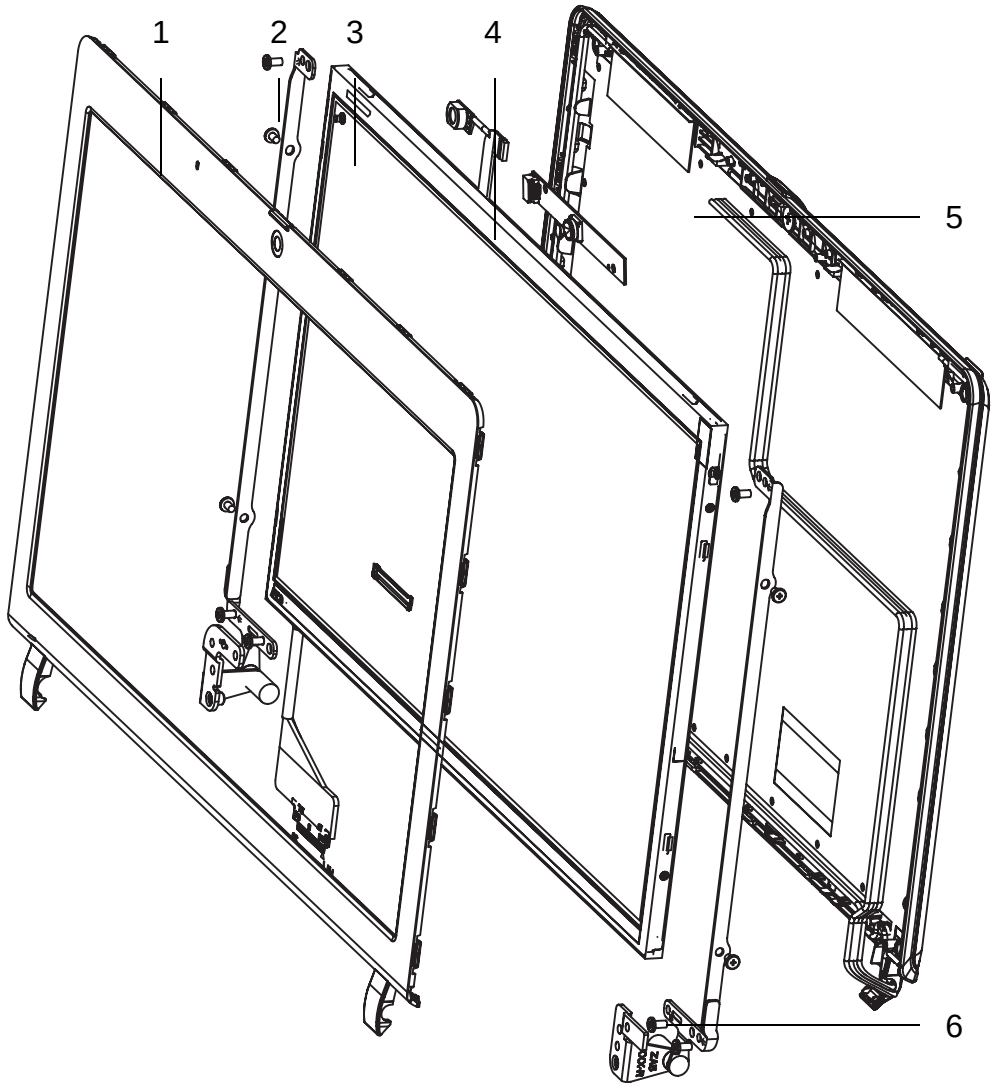
Gateway LT31 Exploded Diagrams

Main Assembly



Item	Description	Part Number
1	Left Hinge Cover	N/A
2	Right Hinge Cover	N/A
3	Keyboard	N/A
4	Upper Cover	N/A
5	Mainboard	N/A
6	LED Board	N/A
7	Lower Cover	N/A
8	HDD Door	N/A
9	Memory Door	N/A
10	VGA Card	N/A
11	Hinge Well	N/A
12	I/O Board	N/A
13	HDD	N/A
14	MiniPCI Door	N/A

LCD Assembly

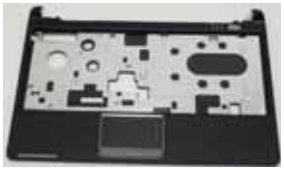


Item	Description	Part Number
1	LCD Bezel	N/A
2	LCD Bracket_L	N/A
3	LCD Panel	N/A
4	Camera	N/A
5	LCD Cover	N/A
6	LCD Bracket_R	N/A

Gateway LT31 Series FRU List

CATEGORY	QUANTA DESCRIPTION	ACER PN.
ADAPTER		
	ZG5 ADP 19V 1.58A 30JH BA 90~264V S.P	AP.03001.001
	ZG5 ADP 19V PA-1300-04AC 90~264V S.P	AP.03003.001
	ZG5 ADP19V1.58A HP-A0301R3 S.P	AP.0300A.001
BATTERY		
	ZG8 BATT LI,UM09A71 3S1P 2.2A S.P	BT.00307.013
	ZG8 BATT LI,UM09A75 3S1P 2.2A S.P	BT.00307.014
	ZG8 BATT LI,UM09A41 3S1P 2.2A (B) S.P	BT.00304.003
	ZG8 BATT LI,UM09B7D 3S2P 5.2A(BLACK)S.P	BT.00607.074
	ZG8 BATT LI,UM09B7C 3S2P 5.2A(BLACK)S.P	BT.00607.075
	ZA8 BATT LI,UM09B44 3S2P 5.1A(B)S.P	N/A
BOARD		
	ZK6 BLUETOOTH MODULE T60H928.33 S.P	BT.21100.006
	Z01 BLUETOOTH ASSY(FOX T60H928.11) S.P	BT.21100.005
	ZA8 W/L MINICARD 802.11BGN S.P	N/A
	ZG8 WIRELESS HALF-PCIE T77H032.02 S.P	NI.23600.048
	ZA8 WLAN (802.11B/G)BROADCOM S.P	N/A
	ZA8 LED/B W/3G&BT (FOR ZA8) S.P	N/A
	ZA8 LED/B W/BT WO/3G S.P	N/A
	ZA8 LED/B WO 3G/BT (FOR ZA8) S.P	N/A
	ZA8 TP/B S.P	N/A
	ZA8 CR/B S.P	N/A
	ZA8 CRT/B S.P	N/A
	ZA8 LAN/B S.P	N/A
	ZG5 WWAN 3G CARD T77Z039.04 S.P	LC.21300.005
	ZG8 CAMERA CNF9011(CMOS,0.3M,VGA)S.P	57.S6507.002
	ZG8 CAMERA MODULE S.P (0.3M)	57.S6507.001

CATEGORY	QUANTA DESCRIPTION	ACER PN.
	SD DUMMY CARD ZA3(EBZA3013,REV3A)	N/A
CABLE		
	ZB1 PWR CORD US S/P	27.TAXV7.001
	ZR1 PWR CORD (5-KAF2166) S/P	27.TATV7.001
	ZA8 CABLE BLUETOOTH(3.3V,5/8P,1A)S.P	N/A
	ZA8 CABLE CARDREAD(41MM,28P,1A)5V S.P	N/A
	ZA8 CABLE FFC LED (35MM,12P,1A)5V S.P	N/A
	ZA8 CABLE FFC LAN (48MM,12P,1A)5V S.P	N/A
	ZA8 CABLE LCD 11.6(30/40/5/4P,1A)3V SP	N/A

CATEGORY	QUANTA DESCRIPTION	ACER PN.
CASE/COVER/BRACKET ASSEMBLY		
	ZA8 TOP CASE WIFI RED ASSY S.P	N/A
	ZA8 TOP CASE 3G-WIFI RED ASSY S.P	N/A
	ZA8 TOP CASE WIFI BK ASSY S.P	N/A
	ZA8 TOP CASE 3G-WIFI BK S.P	N/A
	ZA8 BASE CASE 3G-WIFI-BT BK S.P	N/A
	ZA8 BASE CASE WIFI-BT BK ASSY S.P	N/A
	ZA8 BASE CASE 3G-WIFI-BT RED S.P	N/A
	ZA8 BASE CASE WIFI-BT RED ASSY S.P	N/A
	ZA8-HDD-DOOR-ASSY S.P	N/A
	ZA8 RAM DOOR ASSY S.P	N/A
	ZA8 3G DOOR ASSY S.P	N/A
	ZA8 LCD COVER 3G-WIFI GW RED ASSY S.P	N/A
	ZA8 LCD COVER 3G-WIFI GW BK S.P	N/A
	ZA8 LCD COVER WIFI GW BK ASSY S.P	N/A
	ZA5 LCD BEZEL ASSY-BK S.P	60.BA307.006
	ZA6 LCD BEZEL ASSY-BK S.P	60.BA307.008
	ZA5 HINGE-L(FBZA5001,REV3A)S.P	33.WDP07.001

CATEGORY	QUANTA DESCRIPTION	ACER PN.
	ZA5 HINGE-R(FBZA5002,REV3A)S.P	33.WDP07.002
	ZA5 TOP-HINGE-CAP-L S.P	42.WDP07.004
	ZA5 TOP-HINGE-CAP-R S.P	42.WDP07.005
HDD/HARD DISK DRIVE		
	ZG8 HDD(160G)HTS545016B9A300 0A70421 S.P	KH.16007.024
	ZK2 HDD(160G) ST9160310AS 9EV132-188 S.P	KH.16001.034
	Z06 HDD(160G) MK1655GSX-EUL S.P	KH.16004.006
	SA1 HDD(160G) WD1600BEVT-22ZCT0 S.P	KH.16008.022
	Z06 HDD(250G)ST9250315AS 9HH132-188 S.P	KH.25001.016
	Z06 HDD(250G) MK2555GSX-EUL S.P	KH.25004.003
	ZA8 HDD-BKT-ZA8(FAZA8003,REV3A)S.P	N/A
KEYBOARD		

CATEGORY	QUANTA DESCRIPTION	ACER PN.
	ZA5 K/B(ARAB-EN)BLACK S.P	KB.I110G.002
	ZA5 K/B(BELGIUM) BLACK S.P	KB.I110G.003
	ZA5 K/B(BRAZIL)BLACK S.P	KB.I110G.004
	ZA5 K/B(CHINA) BLACK S.P	N/A
	ZA5 K/B(DANISH) BLACK S.P	KB.I110G.007
	ZA5 K/B(FRENCH) BLACK S.P	KB.I110G.009
	ZA5 K/B(GERMAN)BLACK S.P	KB.I110G.010
	ZA5 K/B(GREEK)BLACK S.P	KB.I110G.011
	ZA5 K/B(HUNGARIAN)BLACK S.P	KB.I110G.012
	ZA5 K/B(ITALIAN)BLACK S.P	KB.I110G.013
	ZA5 K/B(JAP)BLACK S.P	KB.I110G.014
	ZA5 K/B(NORDICS) BLACK S.P	KB.I110G.015
	ZA5 K/B(NORWEGIAN) BLACK S.P	KB.I110G.016
	ZA5 K/B(FORTUGUESE) BLACK S.P	KB.I110G.017
	ZA5 K/B(RUSSIAN)BLACK S.P	KB.I110G.018
	ZA5 K/B(CROATIAN)BLACK S.P	KB.I110G.019
	ZA5 K/B(SPANISH)BLACK S.P	KB.I110G.020
	ZA5 K/B(SWEDISH)BLACK S.P	KB.I110G.021
	ZA5 K/B(SWISS) BLACK S.P	KB.I110G.022
	ZA5 K/B(THAI)BLACK S.P	KB.I110G.023
	ZA5 K/B(TURKISH)BLACK S.P	KB.I110G.024
	ZA5 K/B(UK) BLACK S.P	KB.I110G.025
	ZA5 K/B(TAIWAN) BLACK S.P	KB.I110G.006
	ZA5 K/B(UI) BLACK S.P	KB.I110G.026
	ZA5 K/B(HEBREW)BLACK S.P	KB.I110G.027
	ZA5 K/B(FRA-EN CAN)BLACK S.P	KB.I110G.028
	ZA5 K/B(CZ-SLOVAK)BLACK S.P	KB.I110G.005
	ZA5 K/B(ARAB-FR) BLACK S.P	KB.I110G.008
	ZA5 K/B(SLOVAK)BLACK S.P	N/A
	ZA5 K/B(CZECH) BLACK S.P	N/A
	ZA5 K/B(POLAND)BLACK S.P	N/A
	ZA5 K/B(ICELAND) BLACK S.P	N/A
	ZA5 K/B(LA) BLACK S.P	N/A
	ZA5 K/B(KOREA) BLACK S.P	N/A
	ZA5 K/B(DUTCH) BLACK S.P	N/A
	ZA5 K/B (FRA-CAN) BLACK S.P	N/A
LCD		
	ZA3 LCD(TFT)11.6" LP116WH1-TLA1 WXGA S.P	LK.11608.001
	ZA3 LCD(TFT)11.6" B116XW02 V0 WXGA S.P	LK.11605.001
	ZA3 LCD 11.6" N116B6-L02 LED(WXGA) S.P	LK.1160D.001
	ZA3 LCD(TFT)11.6" LTN116AT01-A01 S.P	LK.11606.001
MAINBOARD		

CATEGORY	QUANTA DESCRIPTION	ACER PN.
	ZA8 MB (UMA/WO CPU,3G/SAM SPM)S.P	N/A
	ZA8 MB (UMA/WO CPU/HYNIX SPM)S.P	N/A
MEMORY		
	Z01 RAM 1G 667MHZ HYMP112S64CP6-Y5 S.P	KN.1GB0G.012
	ZY2 RAM(1GB) DDR2 M470T2864QZ3-CE6 S.P	KN.1GB0B.016
	ZG8 RAM(1G)DDR2 EBE11UE6AESA-6E-F S.P	KN.1GB09.010
	ZY2L RAM(1G) NT1GT64UH8D0FN-3C S.P	KN.1GB03.026
	ZD1 RAM(2G)DDR2 HYMP125S64CP8-Y5 S.P	KN.2GB0G.004
	Z06 RAM(2GB)DDR2 M470T5663EH3-CE6 S.P	KN.2GB0B.011
THERMAL		
	ZA8 THERMAL MODULE S.P	N/A
SPEAKER		
	ZA8 SPEAKER MODULE (W-L/R) FG-QT183 S.P	N/A
MISCELLANEOUS		
	ZA8 FRONT-LENS-RUBBER S.P	N/A
	ZA8 TOP-RUBBER S.P	N/A
	ZA8 FUNCTION-LENS-SPONGE S.P	N/A

Screw List

Category	Description	Acer P/N
SCREW	SCREW M2.0*3.0-I IRON	86.S0207.001
SCREW	SCREW 2.0*4.0	86.W0107.003
SCREW	SCREW M2.0*6.0-I	86.S6507.001
SCREW	SCREW M3*0.5+3.5I	86.TDY07.003
SCREW	SCREW M2.0*4-I(BZN)(NYLOK)IRON	86.S6507.003
SCREW	SCREW M2*5-I(BZN)(NYLOK)	86.TG607.004

Model Definition and Configuration

Gateway LT31 Series

Model	RO	Country	Acer Part No	Description
LT3101g	AAP	Singapore	LU.WEW0B.003	LT3101g AOXPHGwTSG1 UMACkk 1*1G/160/3L/5R/ CB_bg_0.3D_BAG_GEk_ENI1
LT3102g	AAP	Singapore	LU.WEW0B.002	LT3102g AOXPHGwTSG1 UMACkk 1*1G/160/6L2.6/5R/ CB_bg_0.3D_BAG_GEk_ENI1
LT3112u	PA	USA	LU.WEW0Y.024	LT3112u VHB32wTMUS1 UMACkk 1*2G/250/BT/6L2.6/ 5R/CB_bg_0.3D_BAG_GEk_ENP2
LT3101m	PA	Mexico	LU.WEW0Y.023	LT3101m EM VHB32wTMX2 UMACkk 1*2G/250/3L/5R/ CB_bg_0.3D_GEk_ES21
LT3101e	PA	ACLA-Spanish	LU.WEW0Y.001	LT3101e EM VHB32wTEA1 UMACkk 1*2G/250/3L/5R/ CB_bg_0.3D_BAG_GEk_ES51
LT3102e	PA	ACLA-Spanish	LU.WEW0Y.014	LT3102e EM VHB32wTEA1 UMACkk 1*2G/250/6L/5R/ CB_bg_0.3D_GEk_ES51
LT3103e	PA	ACLA-Spanish	LU.WEW0Y.009	LT3103e EM VHB32wTEA3 UMACkk 1*2G/250/6L/5R/ CB_bg_0.3D_GEk_ES51
LT3103m	PA	Mexico	LU.WEW0Y.008	LT3103m EM VHB32wTMX2 UMACkk 1*2G/250/6L/5R/ CB_bg_0.3D_GEk_ES21
LT3102m	PA	Mexico	LU.WEW0Y.015	LT3102m EM VHB32wTMX1 UMACkk 1*2G/250/6L/5R/ CB_bg_0.3D_GEk_ES21
LT3101p	PA	ACLA-Portuguese	LU.WEW0Y.013	LT3101p EM VHB32wTXC1 UMACkk 1*2G/250/6L/5R/ CB_bg_0.3D_GEk_XC21
LT3102p	PA	ACLA-Portuguese	LU.WEW0Y.010	LT3102p EM VHB32wTXC2 UMACkk 1*2G/250/6L/5R/ CB_bg_0.3D_GEk_XC21
LT3102c	PA	China	LU.WEW0C.003	LT3102c LINPUSwCN1 UMACkk 1*1G/160/3L/5R/ CB_bg_0.3D_GEk_EN91
LT3101w	TWN	GCTWN	LU.WEW0B.001	LT3101w AOXPHGwTTW1 UMACkk 1*1G/160/6L2.6/ 5R/CB_bg_0.3D_BAG_GEk_TC11
LT3103c	PA	China	LU.WEW0C.002	LT3103c LINPUSwCN1 UMACkk 1*2G/250/6L2.6/5R/ CB_bg_0.3D_GEk_EN91
LT3107c	PA	China	LU.WEW0C.001	LT3107c LINPUSwCN1 UMACkk 1*2G/250/6L/5R/ CB_bg_0.3D_GEk_EN91
LT3103u	PA	USA	LU.WEW0Y.002	LT3103u VHB32wTMUS1 UMACkk 1*2G/250/6L2.6/5R/ CB_bg_0.3D_GEk_ENP5
LT3101h	PA	Canada	LU.WEW0Y.022	LT3101h VHB32wTMCA2 UMACkk 1*2G/250/6L/5R/ CB_bg_0.3D_GEk_ENJ1
LT3103h	PA	Canada	LU.WEW0Y.019	LT3103h VHB32wTMCA2 UMACkk 1*2G/250/6L/5R/ CB_bg_0.3D_GEk_ENJ3
LT3106u	PA	USA	LU.WEW0Y.021	LT3106u VHB32wTMUS1 UMACkk 1*2G/250/6L/5R/ CB_bg_0.3D_GEk_ENP1
LT3102h	PA	Canada	LU.WEW0Y.020	LT3102h VHB32wTMCA2 UMACkk 1*2G/250/6L/5R/ CB_bg_0.3D_GEk_ENJ2
LT3107u	PA	USA	LU.WEW0Y.018	LT3107u VHB32wTMUS1 UMACkk 1*2G/250/6L/5R/ CB_bg_0.3D_GEk_ENP2
LT3108u	PA	USA	LU.WEW0Y.017	LT3108u VHB32wTMUS1 UMACkk 1*2G/250/6L/5R/ CB_bg_0.3D_GEk_ENP3

Model	RO	Country	Acer Part No	Description
LT3109u	PA	USA	LU.WEW0Y.016	LT3109u VHB32wTMUS1 UMACkk 1*2G/250/6L/5R/ CB_bg_0.3D_GEk_ENP4
LT3110u	PA	USA	LU.WEW0Y.012	LT3110u VHB32wTMUS1 UMACkk 1*2G/250/6L/5R/ CB_bg_0.3D_GEk_ENP6
LT3111u	PA	USA	LU.WEW0Y.011	LT3111u VHB32wTMUS1 UMACkk 1*2G/250/6L/5R/ CB_bg_0.3D_GEk_ENP5
LT3101c	PA	China	LU.WEW0Y.007	LT3101c VHB32wTCN1 UMACkk 1*2G/250/6L/5R/ CB_bg_0.3D_GEk_SC11
LT3103	WW	WW	S2.WEW0Y.001	LT3103 VHB32wWW1 UMACkk 1*1G/160/BT/3L/5R/ CB_bg_0.3D_BAG_GEk_ES62
LT3102u	PA	USA	LU.WEW0Y.006	LT3102u VHB32wTMUS1 UMACkk 1*2G/250/6L2.6/5R/ CB_bg_0.3D_GEk_ENP2
LT3104u	PA	USA	LU.WEW0Y.005	LT3104u VHB32wTMUS1 UMACkk 1*2G/250/6L2.6/5R/ CB_bg_0.3D_GEk_ENP3
LT3105u	PA	USA	LU.WEW0Y.004	LT3105u VHB32wTMUS1 UMACkk 1*2G/250/6L2.6/5R/ CB_bg_0.3D_GEk_ENP6
LT3101u	PA	USA	LU.WEW0Y.003	LT3101u VHB32wTMUS1 UMACkk 1*2G/250/3L/5R/ CB_bg_0.3D_GEk_ENP5
LT3104	WW	WW	S2.WEY0Y.001	LT3104 VHB32wWW1 UMACrr 1*1G/160/BT/6L2.6/5R/ CB_bg_0.3D_GEk_ES62
LT3104e	PA	ACLA-Spanish	LU.WEY0Y.001	LT3104e EM VHB32wTEA1 UMACrr 1*2G/250/3L/5R/ CB_bg_0.3D_BAG_GEk_ES51
LT3104c	PA	China	LU.WEY0C.003	LT3104c LINPUSwCN1 UMACrr 1*1G/160/3L/5R/ CB_bg_0.3D_GEk_EN91
LT3105c	PA	China	LU.WEY0C.002	LT3105c LINPUSwCN1 UMACrr 1*2G/250/6L2.6/5R/ CB_bg_0.3D_GEk_EN91
LT3106c	PA	China	LU.WEY0C.001	LT3106c LINPUSwCN1 UMACrr 1*2G/250/6L/5R/ CB_bg_0.3D_GEk_EN91
LT3101	WW	WW	S2.WEX0B.001	LT3101 AOXPHGwTWW1 UMAGCkk 1*1G/160/BT/ 6L2.6/5R/CB_bg_0.3D_3G_GEk_ES61
LT3102	WW	WW	S2.WEZ0Y.001	LT3102 VHB32wWW1 UMAGCrr 1*2G/250/BT/6L2.6/5R/ CB_bg_0.3D_3G_BAG_GEk_ES62

Model	CPU	LCD	VGA Chip	Memory 1	HDD 1(GB)
LT3101g	AAL110	NLED11.6WXGAG	UMA	SO1GBII6	N160GB5.4KS
LT3102g	AAL110	NLED11.6WXGAG	UMA	SO1GBII6	N160GB5.4KS
LT3112u	AAL110	NLED11.6WXGAG	UMA	SO2GBII6	N250GB5.4KS
LT3101m	AAL110	NLED11.6WXGAG	UMA	SO2GBII6	N250GB5.4KS
LT3101e	AAL110	NLED11.6WXGAG	UMA	SO2GBII6	N250GB5.4KS
LT3102e	AAL110	NLED11.6WXGAG	UMA	SO2GBII6	N250GB5.4KS
LT3103e	AAL110	NLED11.6WXGAG	UMA	SO2GBII6	N250GB5.4KS
LT3103m	AAL110	NLED11.6WXGAG	UMA	SO2GBII6	N250GB5.4KS
LT3102m	AAL110	NLED11.6WXGAG	UMA	SO2GBII6	N250GB5.4KS
LT3101p	AAL110	NLED11.6WXGAG	UMA	SO2GBII6	N250GB5.4KS
LT3102p	AAL110	NLED11.6WXGAG	UMA	SO2GBII6	N250GB5.4KS
LT3102c	AAL110	NLED11.6WXGAG	UMA	SO1GBII6	N160GB5.4KS
LT3101w	AAL110	NLED11.6WXGAG	UMA	SO1GBII6	N160GB5.4KS
LT3103c	AAL110	NLED11.6WXGAG	UMA	SO2GBII6	N250GB5.4KS
LT3107c	AAL110	NLED11.6WXGAG	UMA	SO2GBII6	N250GB5.4KS
LT3103u	AAL110	NLED11.6WXGAG	UMA	SO2GBII6	N250GB5.4KS
LT3101h	AAL110	NLED11.6WXGAG	UMA	SO2GBII6	N250GB5.4KS

Model	CPU	LCD	VGA Chip	Memory 1	HDD 1(GB)
LT3103h	AAL110	NLED11.6WXGAG	UMA	SO2GBII6	N250GB5.4KS
LT3106u	AAL110	NLED11.6WXGAG	UMA	SO2GBII6	N250GB5.4KS
LT3102h	AAL110	NLED11.6WXGAG	UMA	SO2GBII6	N250GB5.4KS
LT3107u	AAL110	NLED11.6WXGAG	UMA	SO2GBII6	N250GB5.4KS
LT3108u	AAL110	NLED11.6WXGAG	UMA	SO2GBII6	N250GB5.4KS
LT3109u	AAL110	NLED11.6WXGAG	UMA	SO2GBII6	N250GB5.4KS
LT3110u	AAL110	NLED11.6WXGAG	UMA	SO2GBII6	N250GB5.4KS
LT3111u	AAL110	NLED11.6WXGAG	UMA	SO2GBII6	N250GB5.4KS
LT3101c	AAL110	NLED11.6WXGAG	UMA	SO2GBII6	N250GB5.4KS
LT3103	AAL110	NLED11.6WXGAG	UMA	SO1GBII6	N160GB5.4KS
LT3102u	AAL110	NLED11.6WXGAG	UMA	SO2GBII6	N250GB5.4KS
LT3104u	AAL110	NLED11.6WXGAG	UMA	SO2GBII6	N250GB5.4KS
LT3105u	AAL110	NLED11.6WXGAG	UMA	SO2GBII6	N250GB5.4KS
LT3101u	AAL110	NLED11.6WXGAG	UMA	SO2GBII6	N250GB5.4KS
LT3104	AAL110	NLED11.6WXGAG	UMA	SO1GBII6	N160GB5.4KS
LT3104e	AAL110	NLED11.6WXGAG	UMA	SO2GBII6	N250GB5.4KS
LT3104c	AAL110	NLED11.6WXGAG	UMA	SO1GBII6	N160GB5.4KS
LT3105c	AAL110	NLED11.6WXGAG	UMA	SO2GBII6	N250GB5.4KS
LT3106c	AAL110	NLED11.6WXGAG	UMA	SO2GBII6	N250GB5.4KS
LT3101	AAL110	NLED11.6WXGAG	UMA	SO1GBII6	N160GB5.4KS
LT3102	AAL110	NLED11.6WXGAG	UMA	SO2GBII6	N250GB5.4KS

Model	Extra SW1	Card Reader	Wireless LAN	Wireless LAN1	Bluetooth	Battery
LT3101g	NIS	5 in 1-Build in	3rd WiFi BG	3rd WiFi BG	N	3CELL2.2
LT3102g	NIS	5 in 1-Build in	3rd WiFi BG	3rd WiFi BG	N	6CELL2.6
LT3112u	NIS	5 in 1-Build in	3rd WiFi BG	3rd WiFi BG	BT 2.1	6CELL2.6
LT3101m	NIS	5 in 1-Build in	3rd WiFi BG	3rd WiFi BG	N	3CELL2.2
LT3101e	NIS	5 in 1-Build in	3rd WiFi BG	3rd WiFi BG	N	3CELL2.2
LT3102e	NIS	5 in 1-Build in	3rd WiFi BG	3rd WiFi BG	N	6CELL2.2
LT3103e	NIS	5 in 1-Build in	3rd WiFi BG	3rd WiFi BG	N	6CELL2.2
LT3103m	NIS	5 in 1-Build in	3rd WiFi BG	3rd WiFi BG	N	6CELL2.2
LT3102m	NIS	5 in 1-Build in	3rd WiFi BG	3rd WiFi BG	N	6CELL2.2
LT3101p	NIS	5 in 1-Build in	3rd WiFi BG	3rd WiFi BG	N	6CELL2.2
LT3102p	NIS	5 in 1-Build in	3rd WiFi BG	3rd WiFi BG	N	6CELL2.2
LT3102c	N	5 in 1-Build in	3rd WiFi BG	3rd WiFi BG	N	3CELL2.2
LT3101w	NIS	5 in 1-Build in	3rd WiFi BG	3rd WiFi BG	N	6CELL2.6
LT3103c	N	5 in 1-Build in	3rd WiFi BG	3rd WiFi BG	N	6CELL2.6
LT3107c	N	5 in 1-Build in	3rd WiFi BG	3rd WiFi BG	N	6CELL2.2
LT3103u	NIS	5 in 1-Build in	3rd WiFi BG	3rd WiFi BG	N	6CELL2.6
LT3101h	NIS	5 in 1-Build in	3rd WiFi BG	3rd WiFi BG	N	6CELL2.2
LT3103h	NIS	5 in 1-Build in	3rd WiFi BG	3rd WiFi BG	N	6CELL2.2
LT3106u	NIS	5 in 1-Build in	3rd WiFi BG	3rd WiFi BG	N	6CELL2.2
LT3102h	NIS	5 in 1-Build in	3rd WiFi BG	3rd WiFi BG	N	6CELL2.2
LT3107u	NIS	5 in 1-Build in	3rd WiFi BG	3rd WiFi BG	N	6CELL2.2
LT3108u	NIS	5 in 1-Build in	3rd WiFi BG	3rd WiFi BG	N	6CELL2.2
LT3109u	NIS	5 in 1-Build in	3rd WiFi BG	3rd WiFi BG	N	6CELL2.2
LT3110u	NIS	5 in 1-Build in	3rd WiFi BG	3rd WiFi BG	N	6CELL2.2

Model	Extra SW1	Card Reader	Wireless LAN	Wireless LAN1	Bluetooth	Battery
LT3111u	NIS	5 in 1-Build in	3rd WiFi BG	3rd WiFi BG	N	6CELL2.2
LT3101c	NIS	5 in 1-Build in	3rd WiFi BG	3rd WiFi BG	N	6CELL2.2
LT3103	NIS	5 in 1-Build in	3rd WiFi BG	3rd WiFi BG	BT 2.1	3CELL2.2
LT3102u	NIS	5 in 1-Build in	3rd WiFi BG	3rd WiFi BG	N	6CELL2.6
LT3104u	NIS	5 in 1-Build in	3rd WiFi BG	3rd WiFi BG	N	6CELL2.6
LT3105u	NIS	5 in 1-Build in	3rd WiFi BG	3rd WiFi BG	N	6CELL2.6
LT3101u	NIS	5 in 1-Build in	3rd WiFi BG	3rd WiFi BG	N	3CELL2.2
LT3104	NIS	5 in 1-Build in	3rd WiFi BG	3rd WiFi BG	BT 2.1	6CELL2.6
LT3104e	NIS	5 in 1-Build in	3rd WiFi BG	3rd WiFi BG	N	3CELL2.2
LT3104c	N	5 in 1-Build in	3rd WiFi BG	3rd WiFi BG	N	3CELL2.2
LT3105c	N	5 in 1-Build in	3rd WiFi BG	3rd WiFi BG	N	6CELL2.6
LT3106c	N	5 in 1-Build in	3rd WiFi BG	3rd WiFi BG	N	6CELL2.2
LT3101	NIS	5 in 1-Build in	3rd WiFi BG	3rd WiFi BG	BT 2.1	6CELL2.6
LT3102	NIS	5 in 1-Build in	3rd WiFi BG	3rd WiFi BG	BT 2.1	6CELL2.6

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® XP Home, Windows® XP Pro 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 Gateway LT Series Compatibility Test Report released by the Acer Mobile System Testing Department.

Windows XP Environment Test

BRAND	Type	Description
3G		
Qualcomm	Gobi2000	Qualcomm Gobi2000
Adapter		
DELTA	30W	Adapter DELTA 30W 19V 1.7x5.5x11 Black ADP-30JH BA LF
HIPRO	30W	Adapter HIPRO 30W 19V 1.7x5.5x11 Black HP-A0301R3 B1LF LF
LITE-ON	30W	Adapter LITE-ON 30W 19V 1.7x5.5x11 Black PA-1300-04AC LF
Audio Codec		
Realtek	ALC272X	Realtek Audio Codec ALC272X
Battery		
PANASONIC	3CELL2.2	Battery PANASONIC UM-2009A Li-Ion 3S1P PANASONIC 3 cell 2200mAh Main COMMON 2.2CG
PANASONIC	6CELL2.2	Battery PANASONIC UM-2009B Li-Ion 3S2P PANASONIC 6 cell 4400mAh Main COMMON ID:UM09B51
SIMPLO	3CELL2.2	Battery SIMPLO UM-2009A Li-Ion 3S1P LGC 3 cell 2200mAh Main COMMON black, LGC 2.2 S3
SIMPLO	3CELL2.2	Battery SIMPLO UM-2009A Li-Ion 3S1P PANASONIC 3 cell 2200mAh Main COMMON black , Panasonic 2.2CG
SIMPLO	3CELL2.2	Battery SIMPLO UM-2009A Li-Ion 3S1P SAMSUNG 3 cell 2200mAh Main COMMON black , SDI 2.2F
SIMPLO	3CELL2.2	Battery SIMPLO UM-2009AW Li-Ion 3S1P LGC 3 cell 2200mAh Main COMMON white, LG 2.2 S3
SIMPLO	6CELL2.2	Battery SIMPLO UM-2009B Li-Ion 3S2P LGC 6 cell 4400mAh Main COMMON ID:UM09B73
SIMPLO	6CELL2.6	Battery SIMPLO UM-2009B Li-Ion 3S2P LGC 6 cell 5200mAh Main COMMON Black , LGC 2.6 B3
SIMPLO	6CELL2.2	Battery SIMPLO UM-2009B Li-Ion 3S2P PANASONIC 6 cell 4400mAh Main COMMON ID:UM09B71
SIMPLO	6CELL2.6	Battery SIMPLO UM-2009B Li-Ion 3S2P SAMSUNG 6 cell 5200mAh Main COMMON Black , SDI 2.6 C
SONY	3CELL2.2	Battery SONY UM-2009A Li-Ion 3S1P SONY 3 cell 2200mAh Main COMMON black
SONY	6CELL2.2	Battery SONY UM-2009B Li-Ion 3S2P SONY 6 cell 4400mAh Main COMMON black
SONY	6CELL2.6	Battery SONY UM-2009B Li-Ion 3S2P SONY 6 cell 5200mAh Main COMMON black
Bluetooth		
Foxconn	BT 2.1	Foxconn Bluetooth BRM 2046 BT2.1 (T60H928.33) f/w:861
Camera		
Chicony	0.3M LDV	Chicony Camera Lilac_2G
Liteon	0.3M LDV	Liteon Camera Lily_2G
Suyin	0.3M LDV	Suyin Camera Rose_2G
Card Reader		
	5 in 1-Build in	5 in 1-Build in MS, MS Pro, SD, SC, XD
CPU		

BRAND	Type	Description
AMD	AAL110	CPU AMD Athlon L110 PGA 1.2G 512K single core
HDD		
HGST	N160GB5.4KS	HDD HGST 2.5" 5400rpm 160GB Falcon B HTS543216L9SA00 SATA LF F/W:C40C
HGST	N160GB5.4KS	HDD HGST 2.5" 5400rpm 160GB HTS545016B9A300 Panther B SATA LF F/W:C60F
HGST	N250GB5.4KS	HDD HGST 2.5" 5400rpm 250GB HTS545025B9A300 Panther B SATA LF F/W:C60F
SEAGATE	N160GB5.4KS	HDD SEAGATE 2.5" 5400rpm 160GB ST9160310AS Crockett SATA LF F/W:0303
SEAGATE	N250GB5.4KS	HDD SEAGATE 2.5" 5400rpm 250GB ST9250315AS Wyatt SATA LF F/W:0001SDM1
TOSHIBA	N160GB5.4KS	HDD TOSHIBA 2.5" 5400rpm 160GB MK1655GSX Libra SATA LF F/W: FG011J
TOSHIBA	N250GB5.4KS	HDD TOSHIBA 2.5" 5400rpm 250GB MK2555GSX Libra SATA LF F/W:FG001J
WD	N160GB5.4KS	HDD WD 2.5" 5400rpm 160GB WD1600BEVT-22ZCTO ML160 SATA LF F/W:11.01A11
WD	N250GB5.4KS	HDD WD 2.5" 5400rpm 250GB WD2500BEVT-22ZCT0 ML160 SATA LF F/W:11.01A11
Keyboard		
GATEWAY	GP-1T	Keyboard GATEWAY GP-1T SJM11 Internal 11 Standard Black NONE Texture
LAN		
Realtek	RTL8103EA	Realtek RTL8103EA
LCD		
AUO	NLED11.6WXGAG	LED LCD AUO 11.6" WXGA Glare B116XW02 V0 LF 200nit 8ms 500:1
CMO	NLED11.6WXGAG	LED LCD CMO 11.6" WXGA Glare N116B6-L02 LF 200nit 10ms 500:1
LPL	NLED11.6WXGAG	LED LCD LPL 11.6" WXGA Glare LP116WH1-TLA1 LF 200nit 8ms 500:1
SAMSUNG	NLED11.6WXGAG	LED LCD SAMSUNG 11.6" WXGA Glare LTN116AT01-A01 LF 200nit 8ms
MEM		
ELPIDA	SO1GBII6	Memory ELPIDA SO-DIMM DDRII 667 1GB EBE11UE6AESA-6E-F LF 64*16 0.065um
HYNIX	SO1GBII6	Memory HYNIX SO-DIMM DDRII 667 1GB HYMP112S64CP6-Y5 LF
HYNIX	SO2GBII6	Memory HYNIX SO-DIMM DDRII 667 2GB HYMP125S64CP8-Y5 LF
HYNIX	SO512MBII6	Memory HYNIX SO-DIMM DDRII 667 512MB HYMP164S64CP6-Y5 LF 64*16 0.065um
MICRON	SO1GBII8	Memory MICRON SO-DIMM DDRII 800 1GB MT8HTF12864HDY-800G1 LF 64*16 0.065um
NANYA	SO1GBII6	Memory NANYA SO-DIMM DDRII 667 1GB NT1GT64UH8D0FN-3C LF 64*16 0.07um
NANYA	SO1GBII8	Memory NANYA SO-DIMM DDRII 800 1GB NT1GT64UH8D0FN-AD LF 64*16 0.07um

BRAND	Type	Description
SAMSUNG	SO1GBII6	Memory SAMSUNG SO-DIMM DDRII 667 1GB M470T2864QZ3-CE6 LF
SAMSUNG	SO2GBII6	Memory SAMSUNG SO-DIMM DDRII 667 2GB M470T5663EH3-CE6 LF 128*8 0.055um
SAMSUNG	SO512MBII6	Memory SAMSUNG SO-DIMM DDRII 667 512MB M470T6464QZ3-CE6 LF
Modem		
N/A	External USB Lite+LSI modem	External USB Lite+LSI modem
Chipset		
AMD (NB)	AMDRS690E	AMD RS690E
ATI (SB)	SB600	SB600
Software		
	NIS	Antivirus application NIS
VGA Chip		
None	UMA	UMA (Intel)
WiFi Antenna		
WNC	PIFA	PIFA
Wireless LAN		
Foxconn	3rd WiFi BG	Foxconn Wireless LAN Atheros HB63 BG (HM)
Foxconn	3rd WiFi BG	Foxconn Wireless LAN Broadcom 4312H BG (HM)
Foxconn	3rd WiFi BG	Foxconn Wirelss LAN Atheros HB95 1x1 BG (HM)
QMI	3rd WiFi BG	QMI ATH_XB63 Atheros XB63 minicard b/g
QMI	3rd WiFi BG	QMI Wireless LAN Atheros HB95 (HM) EM305

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
- Training materials
- 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.

Numerics

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