Packard Bell EasyNote LS11HR/LS13HR

SERVICEGUIDE

Revision History

Refer to the table below for the updates made to this Packard Bell EasyNote LS11HR/LS13HR service guide.

Date	Chapter	Updates

Service guide files and updates are available on the ACER/CSD Website. For more information, go to http://csd.acer.com.tw.The information in this guide is subject to change without notice.

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Conventions

The following conventions are used in this manual:

⚠ WARNING:
Indicates a potential for personal injury.

⚠ CAUTION:
Indicates a potential loss of data or damage to equipment.

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

The following typographical conventions are used in this document:

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

  Example:

  the *DRS5 User's Guide*

  /usr/local/bin/fd

  the */TPH15spool_M* program

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

  Example:

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

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

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

  Example:

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

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

  Example:

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

General information

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

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

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

CHAPTER 1
Hardware Specification

CHAPTER 2
System Utilities

CHAPTER 3
Machine Maintenance

CHAPTER 4
Troubleshooting

CHAPTER 1

Hardware Specification

Hardware Specifications and Configurations

Features

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

Operating System

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

Platform

- Intel® Core™ i7-2820QM processor (8 MB L3 cache, 2.30 GHz with Turbo Boost up to 3.40 GHz, DDR3 1600 MHz, 45 W)
- Intel® Core™ i7-2630QM/i7-2720QM processor (6 MB L3 cache, 2/2.20 GHz with Turbo Boost up to 2.90/3.30 GHz, DDR3 1600 MHz, 45 W), supporting Intel® 64 architecture, Intel® Smart Cache
- Intel® Core™ i7-2620M processor (4 MB L3 cache, 2.70 GHz with Turbo Boost up to 3.40 GHz, DDR3 1066 MHz, 35 W), supporting Intel® 64 architecture, Intel® Smart Cache
- Intel® Core™ i5-2410M/i5-2520M/i5-2540M processor (3 MB L3 cache, 2.30/2.50/2.60 GHz with Turbo Boost up to 2.90/3.20/3.30 GHz, DDR3 1066 MHz, 35 W), supporting Intel® 64 architecture, Intel® Smart Cache
- Intel® Core™ i3-2310M processor (3 MB L3 cache, 2.10 GHz, DDR3 1066 MHz, 35W), supporting Intel® 64 architecture, Intel® Smart Cache
- Mobile Intel® HM65 Express Chipset

System Memory

- Dual-channel DDR3 SDRAM support:
  - Up to 4 GB of DDR3 system memory, upgradable to 8 GB using two soDIMM modules (for 64-bit OS)
  - Up to 2 GB of DDR3 system memory (for Windows® 7 Starter only)

Display

- 17.3" HD+ 1600 x 900 resolution, high-brightness (220-nit) Packard Bell Diamond View LED-backlit TFT LCD
- Mercury-free, environment-friendly
- 8 ms response time
- 60% color gamut
- 16:9 aspect ratio

Graphics

- AMD Radeon™ HD 6650M with 2048/1024 MB of dedicated DDR3 VRAM, supporting Unified Video Decoder 3 (UVD 3), OpenEXR High Dynamic-Range (HDR) technology, Shader Model 5.0, Microsoft® DirectX® 11, OpenGL® 3.1, OpenCL™ 1.1
- AMD Radeon™ HD 6470M with 512 MB of dedicated DDR3 VRAM, supporting Unified Video Decoder 3 (UVD 3), OpenEXR High Dynamic-Range (HDR) technology, Shader Model 5.0, Microsoft® DirectX® 11, OpenGL® 3.1, OpenCL™ 1.1
  - Dual independent display support
  - 16.7 million colors
  - External resolution / refresh rates:
    - VGA port up to 2048 x 1536: 85 Hz
    - HDMI® port up to 1920 x 1080: 60 Hz
  - MPEG-2/DVD decoding
  - VC-1 and H.264 (AVC) decoding
  - MPEG-4 Part 2 DivX® and Xvid decoding
  - Microsoft® DirectX® Video Acceleration (DXVA) application interface (API)
  - HDMI® (High-Definition Multimedia Interface) with HDCP (High-bandwidth Digital Content Protection) support
- Intel® HD Graphics 3000 with 128 MB of dedicated system memory, supporting Microsoft® DirectX® 10.1
  - Dual independent display support
  - 16.7 million colors
  - External resolution / refresh rates:
    - VGA port up to 2048 x 1536: 75 Hz
    - HDMI® port up to 1920 x 1080: 60 Hz
  - MPEG-2/DVD decoding
  - WMV9 (VC-1) and H.264 (AVC) decoding
  - HDMI® (High-Definition Multimedia Interface) with HDCP (High-bandwidth Digital Content Protection) support

Storage Subsystem

Hard disk drive

- One or two 320/500/640 GB or larger

Multi-in-1 card reader, supporting:

- Secure Digital™ (SD) Card, MultiMediaCard™ (MMC), Memory Stick™ (MS), Memory Stick PRO™ (MS PRO), xD-Picture Card™ (xD)

Audio Subsystem

- Two built-in stereo speakers
- High-definition audio support
- MS-Sound compatible
- Built-in microphone

Optical Media Drive

- 4X Blu-ray Disc™ writer / DVD-Super Multi double-layer drive:
  - Read: 24X CD-ROM, 24X CD-R, 24X CD-RW, 8X DVD-ROM, 8X DVD-R, 8X DVD+R, 6X DVD-ROM DL, 6X DVD-R DL, 6X DVD+R DL, 8X DVD-RW, 8X DVD+RW, 5X DVD-RAM, 4X BD-ROM, 4X BD-R, 4X BD-RE, 4X BD-ROM DL, 4X BD-R DL
  - Write: 24X CD-R, 10X CD-RW, 8X DVD-R, 8X DVD+R, 6X DVD-RW, 6X DVD+RW, 5X DVD-RAM, 4X DVD+R DL, 4X DVD-R DL, 4X BD-R, 2X BD-RE, 4X BD-R DL
- 4X Blu-ray Disc™ / DVD-Super Multi double-layer drive:
  - oRead: 24X CD-ROM, 24X CD-R, 16X CD-RW, 8X DVD-ROM, 8X DVD-R, 8X DVD+R, 4X DVD-ROM DL, 4X DVD-R DL, 4X DVD+R DL, 4X DVD-RW, 4X DVD+RW, 5X DVD-RAM, 4X BD-ROM, 4X BD-R, 4X BD-RE, 4X BD-ROM DL, 4X BD-R DL, 4X BD-RE DL
  - oWrite: 16X CD-R, 10X CD-RW, 8X DVD-R, 8X DVD+R, 4X DVD-RW, 4X DVD+RW, 5X DVD-RAM, 4X DVD+R DL, 4X DVD-R DL
- 8X DVD-Super Multi double-layer drive:
  - Read: 24X CD-ROM, 24X CD-R, 24X CD-RW, 8X DVD-ROM, 8X DVD-R, 8X DVD+R, 6X DVD-ROM DL, 4X DVD-R DL, 4X DVD+R DL, 6X DVD-RW, 6X DVD+RW, 5X DVD-RAM
  - Write: 24X CD-R, 16X CD-RW, 8X DVD-R, 8X DVD+R, 4X DVD-R DL, 4X DVD+R DL, 6X DVD-RW, 8X DVD+RW, 5X DVD-RAM

Communication

Webcam

- Video conferencing solution, featuring:
  - Webcam with 1280 x 1024 resolution
  - Microphone

Wireless and networking

- WLAN:
  - 802.11b/g/n Wi-Fi CERTIFIED™
  - 802.11b/g Wi-Fi CERTIFIED™
- WPAN:
  - Bluetooth® 3.0+HS
- LAN:
  - Gigabit Ethernet, Wake-on-LAN ready

Privacy Control

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

Dimensions and Weight

Dimensions

- 414.75 (W) x 275 (D) x 34.6 (H) mm (16.59 x 11 x 1.38 inches)

Weight

- 3.2 kg (7.05 lbs.) with 6-cell battery pack
- 3.4 kg (7.50 lbs.) with 9-cell battery pack

Power Adapter and Battery

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

Power adapter

- 3-pin 90 W AC adapter:
  - 133 (W) x 59 (D) x 31 (H) mm (5.23 x 2.32 x 1.22 inches)
  - 390 g (0.86 lbs.) with 180 cm DC cable
- 3-pin 65 W AC adapter:
  - 95 (W) x 50 (D) x 25.4 (H) mm (3.74 x 1.96 x 1 inches)
  - 216 g (0.47 lbs.)10 with 180 cm DC cable

Battery

- 48 Wh 4400 mAh 6-cell Li-ion standard battery pack
- Battery life:4 hours with integrated graphics; 3 hours with discrete graphics
- ENERGY STAR®

Special Keys and Controls

Keyboard

- 103-/104-/107-key Packard Bell keyboard with independent standard numeric keypad, international language support

Touchpad

- Multi-gesture touchpad, supporting two-finger scroll, pinch, rotate, flip

Media keys

Media control keys (printed on keyboard): play/pause, stop, previous, next, volume up, volume down

Control keys

- Packard Bell Social Networks key
- Special keys: MyBackup, wireless control, touchpad lock, brightness, volume up/down, mute

I/O Ports

- Multi-in-1 card reader
- Two USB 2.0 ports and one USB 2.0/3.0 port
- HDMI® port with HDCP support
- External display (VGA) port
- Headphone/speaker jack, supporting 3.5 mm headset with built-in microphone for handhelds
- Microphone-in jack
- Ethernet (RJ-45) port
- DC-in jack for AC adapter

Optional Items

- 1/2/4 GB DDR3 1066 MHz soDIMM module
- 4400 mAh 6-cell Li-ion battery pack
- 3-pin 90 W AC adapter
- 3-pin 65 W AC adapter

Software

Productivity

- Packard Bell MyBackup Solution
- Packard Bell Power Management
- Packard Bell Recovery Management
- Packard Bell Social Networks
- Adobe® Flash® Player 10.1
- Adobe® Reader® 9.1
- Bing Bar™
- Microsoft® Office 2010 preloaded (purchase a product key to activate)
- Microsoft® Office Starter 2010

Security

- Norton Internet Security™ 2011

Multimedia

- Adobe® Photoshop® Elements 8
- Cyberlink® PowerDVD™
- Nero® 9 Essentials

Gaming

- WildTangent® (except China, Japan, Hong Kong, Korea)

Communication and ISP

- Microsoft® Silverlight™
- Skype™
- Windows Live™ Essentials

Web links and utilities

- Packard Bell Accessory Store (Canada, France, Germany, Italy, Mexico, Spain, UK, US only)
- Packard Bell Identity Card
- Packard Bell InfoCentre
- Packard Bell Registration
- Packard Bell Updater
- eBay® shortcut 2009 (Belgium, France, Germany, Italy, Netherlands, Spain, Sweden, UK only)

Notebook Tour

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

Top View

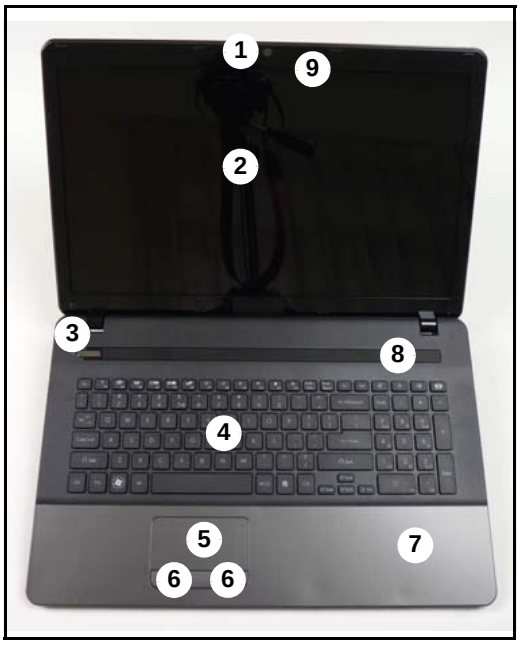


Figure 1-1. Top View

Table 1-1. Top View

No	Icon	Item	Description
1		Webcam	Web camera for video communication (only for certain models).
2		Display screen	Also called Liquid-Crystal Display (LCD), displays computer output (configuration may vary by models).
3	⏻	Power button	Turns the computer On and Off.
4		Keyboard	For entering data into your computer.
5		Touchpad	Touch-sensitive pointing device which functions like a computer mouse.
6		Click buttons (left and right)	The left and right buttons function like the left and right mouse buttons.
7		Palmrest	Comfortable support area for your hands when you use the computer.
8		Speakers	Deliver stereo audio output.
9		Microphone	Internal microphone for sound recording.

Closed Front View

Figure 1-2. Closed Front View

Table 1-2. Closed Front View

No	Icon	Item	Description
1		Power indicator	Turns the computer On and Off.
		Battery indicator	Indicates the computer's battery status. 1. Charging: The light shows amber when the battery is charging. 2. Fully charged: The light shows blue when in AC mode.
		Hard Disk Drive (HDD) indicator	Indicates when the hard disk drive is active.
		Communication key	Enables/disables the computer's communication devices. (Communication devices may vary by configuration.)
2	MULTIMEDIACARD SD xD PRO	Multi-in-1 card reader	Accepts Secure Digital (SD), MultiMediaCard (MMC), Memory Stick PRO (MS PRO), xD-Picture Card (xD). **NOTE:** Note: Push to remove/install the card. Only one card can operate at any given time.

Closed Rear View

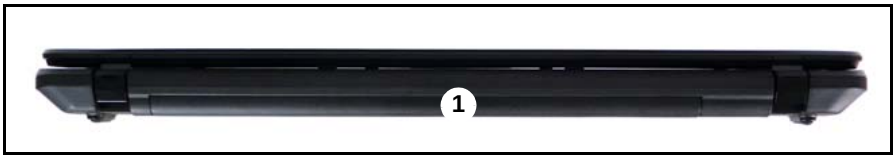


Figure 1-3. Closed Rear View

Table 1-3. Closed Rear View

No	Icon	Item	Description
1		Battery Bay	Houses the computer's battery pack.

Left View

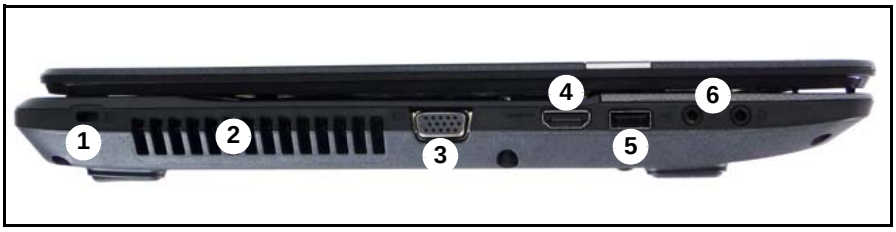
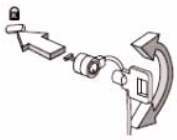


Figure 1-4. Left View

Table 1-4. Left View

No	Icon	Item	Description
1		Kensington lock slot 	Connects to a Kensington-compatible computer security lock. Wrap the computer security lock cable around an immovable object such as a table or handle of a locked drawer. Insert the lock into the notch and turn the key to secure the lock. Some keyless models are also available.
2		Ventilation slots	Enable the computer to stay cool, even after prolonged use.
3		External display (VGA) port	Connects to a display device (e.g. external, LCD monitor, LCD projector).
4	HDMI	HDMI port	Supports high definition digital video connections.
5		USB 2.0 port	Connects to USB 2.0 devices (e.g., USB mouse, USB camera).
6		Microphone-in jack	Accepts inputs from external microphones.
		Headphone/speaker jack	Connects to audio line-out devices (e.g., speakers, headphones).

Right View

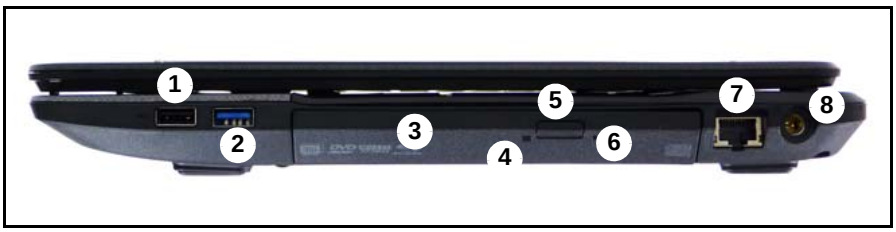


Figure 1-5. Right View

Table 1-5. Right View

No	Icon	Item	Description
1		USB 2.0 port	Connects to USB 2.0 devices (e.g., USB mouse, USB camera).
2		USB 2.0 / 3.0* port	Connects to USB devices. * A USB 3.0 port can be distinguished by its blue connector (for certain models only). * Supports the USB 3.0 (SuperSpeed USB) specification; Devices without USB 3.0 certification may not be compatible.
3		Optical drive	Internal optical drive; accepts CDs, DVDs, or Blu-ray Discs (for certain models only).
4		Optical disk access indicator	Lights up when the optical drive is active.
5		Optical drive eject button	Ejects the optical disk from the drive.
6		Emergency eject hole	Ejects the optical drive tray when the computer is turned off. **NOTE:** Insert a paper clip to the emergency eject hole to eject the optical drive tray when the computer is off.
7		Ethernet (RJ-45) port	Connects to an Ethernet 10/100/1000-based network.
8		DC-in jack	Connects to an AC adapter.

Base View

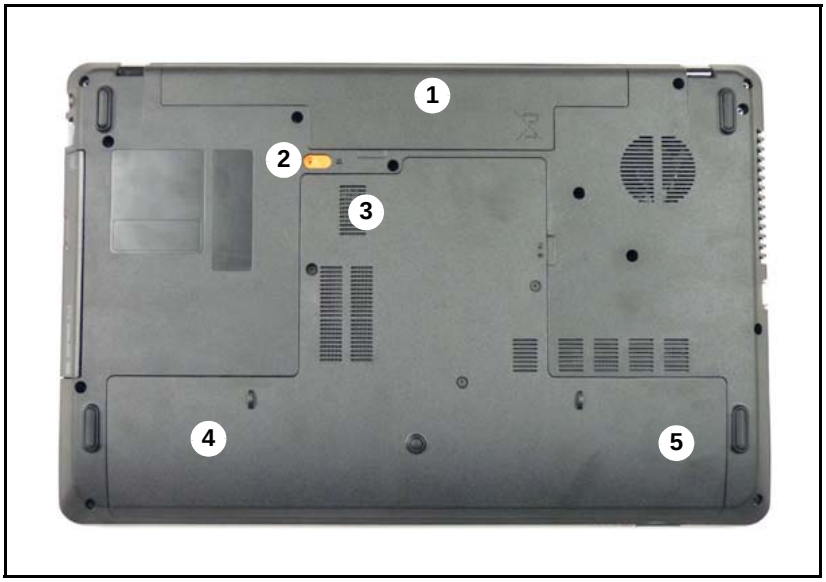


Figure 1-6. Base View

Table 1-6. Base View

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

Indicators

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

Table 1-7. Indicators

Icon	Function	Description
	Communication key	Enables/disables the computer's communication devices. (Communication devices may vary by configuration.)
	Battery indicator	Indicates the computer's battery status. 1. Charging: The light shows amber when the battery is charging. 2. Fully charged: The light shows blue when in AC mode.
	HDD indicator	Indicates when the hard disk drive is active.
	Power indicator	Indicates the computer's power status.

Touchpad Basics

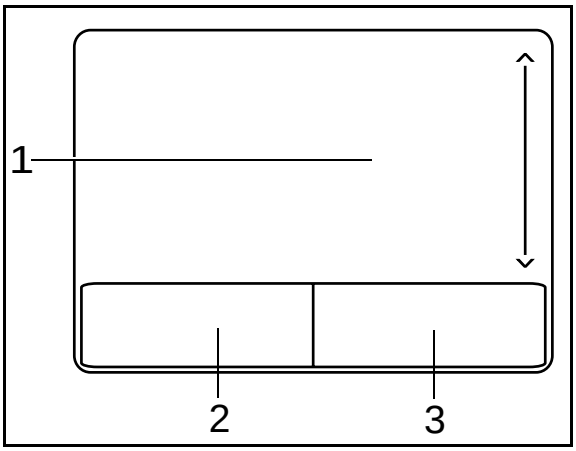


Figure 1-7. Touchpad

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

Table 1-8. Touchpad

Function	Left Button (2)	Right Button (3)	Main Touchpad (1)
Execute	Quickly click twice.		Rapidly tap twice.
Select	Click once.		Tap once.
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 a finger on the Touchpad on the second tap and drag the cursor.
Access context menu		Click once.	

Using the Keyboard

The keyboard has two lock keys which the user can toggle On and Off.

Table 1-9. Lock Keys

Table 1-10. Lock Keys

Lock key	Description
Caps Lock	When On, all alphabetic characters are in uppercase.
Num Lock	When Num Lock is On, the embedded keypad is in numeric mode.

Windows Keys

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

- Windows Logo key
- Application key

Table 1-11. Windows Keys

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

HotKeys

Hotkeys or key combinations can be used to access most of the computer's controls like screen brightness and volume output.

To activate a hotkey, press the corresponding key on keyboard or press and hold the ***<Fn>*** key before pressing the key, if needed. Refer to Figure 1-8 and Table 1-12.

Figure 1-8. Keyboard Hotkeys

Table 1-12. Hotkeys

Hotkey	Icon	Function	Description
<F1>	?	Help and Support Center	Launches Help and Support Center window.
<F2>		Backup key	Launches Acer Backup Management for three-step data backup.
<F3>		Communication Device On/Off	Toggles WiFi, 3G and Bluetooth On and Off using a pop-up window.
<F4>		Display toggle	Switches display output between the display screen, external monitor (if connected) and both.
<F5>		Display off	Turns Off the LCD back light
<F6>		Touchpad toggle	Turns the touchpad On and Off.
<F7>		Play/Pause	Play or pause a selected media file.
<F8>		Stop	Stop playing the selected media file.
<F9>		Previous	Return to the previous media
<F10>		Next	Jump to the next media file.
<F11>		Brightness Down	Decreases the screen brightness.

Table 1-12. Hotkeys (Continued)

Hotkey	Icon	Function	Description
<F12>		Brightness Up	Increases the screen brightness.
		Speaker Toggle	Turns the speakers On and Off.
		Volume Down	Decreases the sound volume.
		Volume Up	Increases the sound volume.
		Social Networking	Opens selected social network login screen - user customizable.
<Fn> + <Pg Up>	△	Page Up	Scrolls the page up.
<Fn> + <Pg Dn>	▽	Page Down	Scrolls the page down.
<Fn> + <End>	▷	End	Scrolls to the bottom of the page.
<Fn> + <Home>	◁	Home	Scrolls to the top of the page.
Alt> + <F10>		D2D recovery	Enters to the D2D recovery during POST

Special Keys

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

System Block Diagram

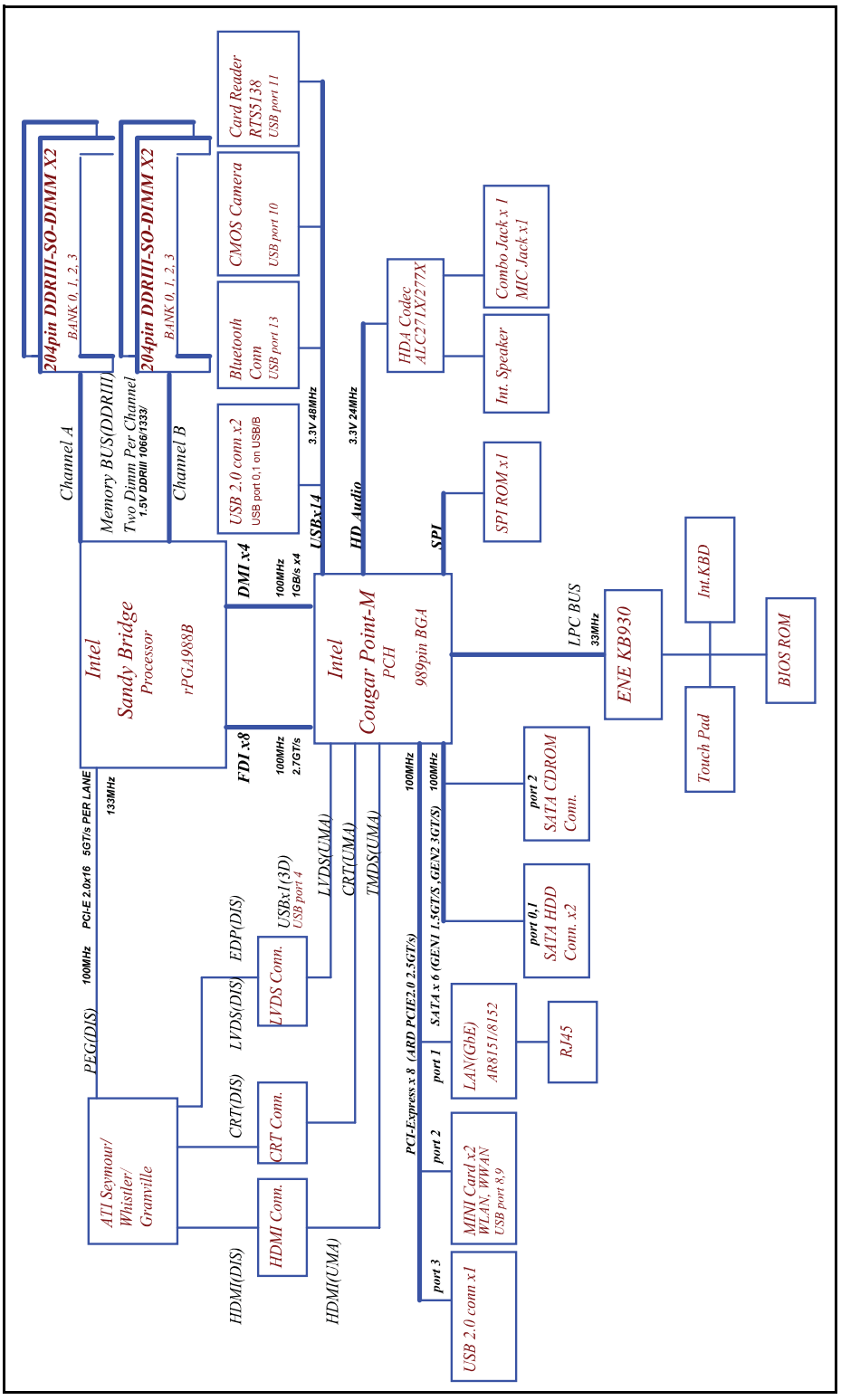


Figure 1-9. System Block Diagram

Specification Tables

Computer specifications

Item	Metric	Imperial
Dimensions		
Length	41.48 cm	16.3 in
Width	27.50 cm	10.8 in
Height (front to rear)	3.46 cm	1.4 in
Weight (equipped with optical drive, flash drive, and battery)	3.04 kg LCD+System+6cell battery	6.7 lbs LCD+System+6-cell battery
Input power		
Operating voltage	• 19V @ 6.32A Max for 120W Adaptor • 19V @ 4.74A Max for 90W Adaptor • 19V @ 3.65A Max for 65W Adaptor	
Operating current	• 6.32A(Max) • 4.74A(Max) • 3.65A(Max)	
Temperature		
Operating (not writing to optical disc)	0°C to 35°C	32°F to 95°F
Operating (writing to optical disc)	5°C to 35°C	41°F to 95°F
Nonoperating	-20°C to 60°C	-4°F to 140°F
Relative humidity		
Operating	10% to 90%	
Nonoperating	5% to 95%	
Maximum altitude (unpressurized)		
Operating	-15 m to 3,048 m	-50 ft to 10,000 ft
Nonoperating	-15 m to 12,192 m	-50 ft to 40,000 ft
Shock		
Operating	125 g, 2 ms, half-sine	
Nonoperating	200 g, 2 ms, half-sine	
Random vibration		
Operating	0.75 g zero-to-peak, 10 Hz to 500 Hz, 0.25 oct/min sweep rate	
Nonoperating	1.50 g zero-to-peak, 10 Hz to 500 Hz, 0.25 oct/min sweep rate	

NOTE:
Applicable product safety standards specify thermal limits for plastic surfaces. The computer operates well within this range of temperatures.

System Board Major Chips

Item	Specification
Core logic	Intel® HM65 Series Chipset (Cougar Point)
VGA	AMD Mobility Radeon™ HD 6470/6650/6850 GPU
LAN	Atheros 8151 for Giga LAN Controller
USB 2.0	Intel® HM65 Series Chipset (Cougar Point)
Super I/O controller	N/A
Bluetooth	Atheros AR3011/ Atheros BU12 /Broadcom BCM2070/ Broadcom BCM2046
Wireless	Atheros HB95BG/ HB97, Broadcom 43225/ Realtek 8192SE
PCMCIA	N/A
Audio codec	Realtek ALC271-X
Card reader	Realtek RTS-5138

Processor

Item	Specification
CPU type	Intel Mobile Sandy Bridge Processor
CPU package	rPGA988B
Core Logic	Two execution cores ● A 32-KB instruction and 32-KB data first-level cache (L1) for each core ● A 256-KB shared instruction/data second-level cache (L2) for each core ● Up to 8-MB shared instruction/data third-level cache (L3), shared among all cores
Chipset	Mobile Intel® HM65 Express Chipset

Processor Specifications

Item	CPU Speed (GHz)	Cores	Bus Speed (FSB/ DMI/QBI)	Mfg Tech (nm)	Cache Size	Package	Voltage
i3-2310M	2.1	2		32	3 MB	rPGA988B	0.75-1.3V
i5-2410M	2.3	2		32	3 MB	rPGA988B	0.75-1.3V
i5-2520M	2.5	2		32	3 MB	rPGA988B	0.75-1.3V
i5-2540M	2.6	2		32	3 MB	rPGA988B	0.75-1.3V
i7-2620M	2.7	2		32	4 MB	rPGA988B	0.75-1.3V
i7-2630QM	2.0	4		32	6 MB	rPGA988B	0.75-1.3V
i7-2720QM	2.2	4		32	6 MB	rPGA988B	0.75-1.3V
i7-2820QM	2.3	4		32	8 MB	rPGA988B	0.75-1.3V

CPU Fan True Value Table (Tj=105)

CPU Temperature (°C)	Fan Speed (RPM)	SPL Spec (dBA)
50	2300	28
55	2500	31
63	2800	34
70	3300	37
80	3600	40
Throttling 50%: On= 95 °C; OFF=80 °C		
OS shut down at 100C; H/W shut down at 92 °C		

CPU Fan True Value Table (Tj=100)

CPU Temperature (°C)	Fan Speed (RPM)	SPL Spec (dBA)
50	2300	28
55	2500	31
63	2800	34
70	3300	37
85	3600	40
Throttling 50%: On= 95 °C; OFF=80 °C		
OS shut down at 100C; H/W shut down at 92 °C		

System Memory

Item	Specification
Memory controller	Built in at CPU
Memory size	1GB,2GB,4GB DDR3 RAM
DIMM socket number	2
Supports memory size per socket	4GB
Supports maximum memory size	8GB
Supports DIMM type	Support DDR III 1066/1333MHz, SDRAM memory interface design
Supports DIMM Speed	1066/1333MHz
Support DIMM voltage	1.5V
Supports DIMM package	204pin SODIIM

Memory Combinations

Slot 1 (MB)	Slot 2 (MB)	Total Memory (MB)
0	1024	1024
0	2048	2048
0	4096	4096
0	8192	8192
1024	0	1024
1024	1024	2048
1024	2048	3072
1024	4096	5120
1024	8192	9216
2048	0	2048
2048	1024	3072
2048	2048	4096
2048	4096	6144
2048	8192	10240
4096	0	4096
4096	1024	5120
4096	2048	6144
4096	4096	8192
4096	8192	12288
8192	0	8192
8192	1024	9216
8192	2048	10240
8192	4096	12288
8192	8192	16384

Video Interface

Item	Specification
Chipset	AMD Mobility Radeon™ HD 6470/6650/6850
Package	FCBGA 29 mm x 29 mm - 962 pins
Interface	Internal PCIE x16
Compatibility	8 bpp (bit per pixel)
Sampling rate	64bit/128bit

BIOS

Item	Specification
BIOS vendor	Insyde
BIOS Version	1.00
BIOS ROM type	SA000041B00
BIOS ROM size	4MB
Features	● Insyde code base ● Flash ROM 4 MB ● Support ISIPP ● Support Acer UI ● Support multi-boot ● Suspend to RAM (S3)/Disk (S4) ● Various hot-keys for system control ● Support SMBIOS 2.3, PCI2.2. ● DMI utility for BIOS serial number configurable/asset tag ● Support PXE ● Support WinFlash ● Wake on LAN from S3 ● Wake on LAN from S5 in AC mode ● System information ● HDD password ● Anti-theft support (Computrace) ● Refer to Acer BIOS specification.

LAN Interface

Item	Specification
LAN Chipset	Atheros 8151
LAN connector type	RJ45
LAN connector location	JRJ45 at the right side
Features	Supports 10/100/1000

Keyboard

Item	Specification
Type	New Acer GF7T frame keyboard
Total number of keypads	103-US/104-UK/107-JA keys
Windows logo key	Yes
Internal & external keyboard work simultaneously	Plug USB keyboard to the USB port directly: Yes
Features	● Phantom key auto detect ● Overlay numeric keypad ● Support independent pgdn/pgup/pgup/home/end keys ● Support reverse T cursor keys ● Factory configurable different languages by OEM customer

Hard Disk Drive (AVL components)

Item	Specification			
Vendor & Model Name	Hitachi HTS545025B9A300,Toshiba MK2565GSX, Seagate ST9250315AS	Hitachi HTS545032B9A300, Toshiba MK3265GSX, Seagate ST9320310AS	Hitachi HTS545050B9A300,Toshiba MK5065GSX, Seagate ST9500325AS	Toshiba MK6465GSX
Capacity (GB)	250	320	500	640
Bytes per sector	512			
Data heads	2,2,2	3,2,2	4,4,4	4
Drive Format				
Disks	1,1,1	2,1,1	2,2,2	2
Spindle speed (RPM)	5400			
Performance Specifications				
Buffer size	8MB			
Interface	SATA			
Fast data transfer rate (Gbits/sec, max)	3.0			
Media data transfer rate (Mbits/sec max)	106,845,1031.7, 1175	106,845,1273.3, 1175	106,845,1031.7, 1175	1273.3
DC Power Requirements				
Voltage tolerance	5V +/- 5%			
Item	**Specification**			
Vendor & Model Name	Western Digital WD7500BPVT-22HXZT1, Toshiba MK7559GSXP, Hitachi HTS547575A9E384, Seagate ST9750423AS	Western Digital WD2500BPVT-22ZEST0	Western Digital WD3200BPVT-22ZEST0	Western Digital WD5000BPVT-22HXZT1
Capacity (GB)	750	250	320	500
Bytes per sector	4096			
Data heads	4,4,4,4	1	2	3

Item	Specification			
Hard Disk Drive (Continued)				
Drive Format				
Disks	2,2,2,2	1	1	2
Spindle speed (RPM)	5400			
Performance Specifications				
Buffer size	8MB			
Interface	SATA			
Fast data transfer rate (Gbits/sec, max)	3.0			
Media data transfer rate (Mbits/sec max)	97,1363.1,996,1130	108	108	97
DC Power Requirements				
Voltage tolerance	5V +/- 5%			

Item	Specification	
Vendor & Model Name	Western Digital WD6400BPVT-22HXZT1	Hitachi HTS543232A7A384
Capacity (GB)	640	320
Bytes per sector	4096	512
Data heads	4	2
Drive Format		
Disks	2	1
Spindle speed (RPM)	5400	
Performance Specifications		
Buffer size	8MB	
Interface	SATA	
Fast data transfer rate (Gbits/sec, max)	3.0	
Media data transfer rate (Mbits/sec max)	97	994
DC Power Requirements		
Voltage tolerance	5V +/- 5%	

Super-Multi Drive

Item	Specification
Vendor & Model name	HLDS Super-Multi Drive DL 8X GT32N LF / SONY Super-Multi Drive DL 8X AD-7585H LF / Panasonic Super-Multi Drive DL 8X UJ890 / PLDS Super-Multi Drive DL 8X DS-8A5SH / HLDS Super-Multi Drive DL 8X GT34N LF / Panasonic Super-Multi Drive DL 8X UJ8A0 LF / Pioneer Super-Multi Drive DL 8X DVR-TD10RS LF / TSST Super-Multi Drive DL 8X TS-L633F LF
Performance Specification	With CD Diskette
Transfer rate (Mbytes/sec)	Sustained: Max 3.6
Buffer Memory	2MB
Interface	SATA
Applicable disc format	Applicable disc format CD: CD-DA, CD-ROM, CD-ROM XA, Photo CD (multi-session), Video CD, Cd-Extra (CD+), CD-text DVD: DVD-VIDEO, DVD-ROM, DVD-R (3.9GB, 4.7GB) DVD-R DL, DVD-RW, DVD-RAM, DVD+R, DVD+R DL, DVD+RW CD: CD-DA (Red Book) - Standard Audio CD & CD-TEXT CD-ROM (Yellow Book Mode1 & 2) - Standard Data CD-ROM XA (Mode2 Form1 & 2) - Photo CD, Multi-Session CD-I (Green Book, Mode2 Form1 & 2, Ready, Bridge) CD-Extra/ CD-Plus (Blue Book) - Audio & Text/Video Video-CD (White Book) - MPEG1 Video CD-R (Orange Book Part) CD-RW & HSRW (Orange Book Part Volume1 & Volume 2 Super Audio CD (SACD) Hybrid type US & US+ RW DVD: DVD-ROM (Book 1.02), DVD-Dual DVD-Video (Book 1.1) DVD-R (Book 1.0, 3.9G) DVD-R (Book 2.0, 4.7G) - General & Authoring DVD+R (Version 1.0) DVD+RW DVD-RW (Non CPRM & CPRM) DVD°"R Dual
Loading mechanism	Load: Manual Release: (a) Electrical Release (Release Button) (b) Release by ATAPI command (c) Emergency Release
Power Requirement	
Input Voltage	5 V +/- 5% (Operating)

BD Drive

Items	Specifications		
Vendor & Model name	PLDS BD COMBO DRIVE TRAY DL DS-6E2SH LF / HLDS BD COMBO 12.7mm Tray DL CT21N / HLDS BD COMBO DRIVE TRAY DL CT30N / Panasonic BD COMBO DRIVE TRAY DL UJ141ALAA-A / Pioneer BD COMBO DRIVE TRAY DL BDC-TD03RS / Panasonic BD COMBO DRIVE TRAY DL UJ240ABAA-A / Panasonic BD COMBO DRIVE TRAY DL UJ240AFAA-B		
Performance Specification	With CD Disc	Performance Specification	With CD Disc
Transfer rate (Mbytes/sec)	Sustained: Max 3.6	Transfer rate (Mbytes/sec)	Sustained: Max 3.6
Buffer Memory	2MB		4.5MB
Interface	SATA		
Applicable disc format	Applicable disc format CD: CD-DA, CD-ROM, CD-ROM XA, Photo CD (multi-session), Video CD, Cd-Extra (CD+), CD-text DVD: DVD-VIDEO, DVD-ROM, DVD-R (3.9GB, 4.7GB) DVD-R DL, DVD-RW, DVD-RAM, DVD+R, DVD+R DL, DVD+RW CD: CD-DA (Red Book) - Standard Audio CD & CD-TEXT CD-ROM (Yellow Book Mode1 & 2) - Standard Data CD-ROM XA (Mode2 Form1 & 2) - Photo CD, Multi-Session CD-I (Green Book, Mode2 Form1 & 2, Ready, Bridge) CD-Extra/ CD-Plus (Blue Book) - Audio & Text/Video Video-CD (White Book) - MPEG1 Video CD-R (Orange Book Part) CD-RW & HSRW (Orange Book Part Volume1 & Volume 2 Super Audio CD (SACD) Hybrid type US & US+ RW DVD: DVD-ROM (Book 1.02), DVD-Dual DVD-Video (Book 1.1) DVD-R (Book 1.0, 3.9G) DVD-R (Book 2.0, 4.7G) - General & Authoring DVD+R (Version 1.0) DVD+RW DVD-RW (Non CPRM & CPRM) DVD+/-R Dual Blu-Ray: BD-R, BD-R DL, BD-RE, BD-RE DL		
Loading mechanism	Load: Manual Release: (a) Electrical Release (Release Button) (b) Release by ATAPI command (c) Emergency Release		
Power Requirement			
Input Voltage	5 V +/- 5% (Operating)		

LED 17.3”

Item	Specification
Vendor/Model name	• Samsung/ LTN173KT01-A01 • LG/LP173WD1-TLA3 • AUO/ B173RW01 V3 • CMO/ N173O6-L02
Screen Diagonal (mm)	439.42
Active Area (mm)	381.89 x 214.81
Display resolution (pixels)	1600 x 3(RGB) x 900
Pixel Pitch (mm)	0.23868 x 0.23868
Typical White Luminance (cd/m^2) also called Brightness	220
Contrast Ratio	400 min / 600 type
Response Time (Optical Rise Time/Fall Time) msec	8/16
Typical Power Consumption (watt)	7.2
Weight (without inverter)	570 max
Physical Size (mm)	398.1x 232.8x 6.0 max
Electrical Interface	1 channel LVDS
Viewing Angle (degree) Horizontal (Right) CR = 10 (Left) Vertical (Upper) CR = 10 (Lower)	40 (Right) / 40 (Left) / 10 (Upper) / 30 (Lower) min.

Display Supported Resolution (LCD Supported Resolution)

Resolution	16 bits	32 bits	Intel	NVIDIA	ATI
800x600p/60Hz 16:9	Y	Y	Y		Y
1024x768p/60Hz 16:9	Y	Y	Y		Y
1280x600/60Hz 16:9	Y	Y	Y		
1280x720/60Hz 16:9	Y	Y	Y		Y
1280x768/60Hz 16:9	Y	Y	Y		Y
1360x768/60Hz 16:9	Y	Y	Y		Y
1366x768/60Hz 16:9	Y	Y	Y		Y

Graphics Controller

Item	Specification
VGA Chip	AMD Mobility Radeon™ HD 6470/6650/6850
Supports	• Supporting Unified Video Decoder (UVD), • OpenEXR High Dynamic-Range (HDR) technology, • Shader Model 5.0, • Microsoft® DirectX® 11, • OpenGL® 3.1, • OpenCL™ 1.1 • Anti-aliasing filtering • Anisotropic filtering

Display Supported Resolution (GPU Supported Resolution)

Resolution	16 bits	32 bits	Intel	NVIDIA	ATI
800x600p/60Hz 16:9	Y	Y		Y	Y
1024x768p/60Hz 16:9	Y	Y		Y	Y
1280x600/60Hz 16:9	Y	Y			Y
1280x720/60Hz 16:9	Y	Y		Y	Y
1280x768/60Hz 16:9	Y	Y		Y	Y
1360x768/60Hz 16:9	Y	Y		Y	Y
1366x768/60Hz 16:9	Y	Y		Y	Y

Bluetooth Interface

Item	Specifications
Chipset	Atheros BU12 / Atheros AR3011/ Broadcom BCM2070/ Broadcom BCM2046
Data throughput	• 3M TX / RX 1000K bits/sec • 10M TX / RX 600K bits/sec
Protocol	3.0+HS
Interface	USB 2.0
Connector type	• SM08B-SURS-TF/JST • SM06B-XSRK-ETB/SM08B-SURS-TF
Supported protocol	A2DP / AVCTP / AVRCP / BIP / BPP / DUN / Fax / FTP / GAVDP / HCRP / Headset / Hands Free / HID / OPP / PAN / SDAP / Serial / SYNC

Bluetooth Module

Item	Specifications
Controller	Atheros BU12 / Atheros AR3011/ Broadcom BCM2070/ Broadcom BCM2046
Features	• Bluetooth 3.0 compliant • Point-to-multipoint operation • External USB interface for data • Onboard antenna and SMA RF connector • Coexistence support

Camera

Item	Specification
Vendor and Model	• Chicony CNFA13021004970LH, • Lite-on 10P2TF103, • Suyin HF1316-P80A-SS03
Type	1.3M

Mini Card

Item	Specification
Number supported	2 (Full x1/Half Mini Card x1)
Features	1 mini card slot (for WLAN or WLAN/WiMax)

3G Card

Item	Specification
Features	Packard Bell EasyNote LS11HR/LS13HR does not support 3G functionality

Audio Codec and Amplifier

Item	Specification
Audio Controller	Audio codec: Realtek ALC271X-VB3
Features	• Meets WLP (Windows Logo Program) requirements for Windows XP, Vista and Windows 7 • 98dB Signal-to-Noise Ratio (A-weighting) for DAC output • 90dB Signal-to-Noise Ratio (A-weighting) for ADC input • 4-channel DAC supports 16/20/24-bit PCM format for independent two stereo channel or 2.1 audio playback • 4-channel ADC supports 16/20/24-bit PCM format for independent two stereo channel audio inputs • All DACs supports 44.1k/48k/96k/192kHz sample rate • All ADCs support 44.1k/48k/96k/192kHz sample rate • S/PDIF-OUT support 16/20/24-bit format and 44.1/48/88.2/96/192kHz rate • Supports MONO line level output • Supports external PCBEEP input and built-in digital BEEP generator • Software selectable 2.5V/3.2V VREFOUT as bias voltage for analog microphone input Programmable +12/+24/+36dB boost gain for analog microphone input • Supports stereo digital microphone input • Programmable boost gain and volume control for digital microphone input • Built-in headphone amplifiers for port-C (LINE1) and port-I (HP OUT) • Headphone amplifier for port-I does not require DC blocking capacitors • Two jack detection pins each designed to detect up to 4 jacks, and S/PDIF-OUT jack detection is supported • 2 GPIOs are supported for customized applications (pin shared with digital microphone interface) • EAPD (External Amplifier Power Down) is supported • Supports Anti-pop mode when analog power AVDD is on and digital power is off • Power support: 3.3V digital core power; 1.5V~3.3V digital IO power for HDA link; 3.0V~5.5V analog power; 4.5V~5.5V power stage voltage • Enhanced power management features for normal operation and standby mode • Stereo Bridge-Tied Load Class-D amplifier at port-D has 2Watt (rms)/4Ω per channel output • Short circuit and thermal overload protection for Class-D amplifier • 48-pin QFN 'Green' package

Item	Specification
Audio Codec and Amplifier (Continued)	
Amplifier	Build in Audio codec: Realtek ALC271X-VB3
Features	• Class D amplifier has high pass filter with programmable Cut-Off frequency (10Hz~900Hz) to prevent low frequency signal damage speaker • Class D amplifier output with slew rate and spread spectrum control to improve EMI performance Independent left and right channel of output power limiter (25%~100% power range) to protect speaker • Intel low power ECR compliant: supports power status control, jack detection, and wake-up event in D3 mode • Built in a 5V-to-4.5V linear regulator with 60dB PSRR to power analog circuitry

Audio Interface

Item	Specification
Audio Controller	Realtek ALC271X-VB3
Audio onboard or optional	On board
Mono or Stereo	Stereo
Resolution	Support 16/20/24bit PCM
Compatibility	HD audio Interface;
Sampling rate	Sample rate up to 192Khz resolution VSR (Variable Sampling Rate)
Internal microphone	Yes
Internal speaker/quantity	Yes/(2W speakers x2)

Wireless Module 802.11b/g/n

Item	Specification
Chipset	Atheros HB95 / HB97, BCM43225, Realtek RTL8192SE
Data throughput	The 802.11g data rate provides for 54, 48, 36, 24, 18, 12, 9, 6 Mbps, 802.11b data rate provides for 11, 5.5, 2, 1 Mbps and 802.11n high data rate (up to 300Mbps)
Protocol	802.11 b+g, Drat-N
Interface	PCI bus (mini PCI socket for wireless module)

Battery

Item	Specification	
Vendor & Model name	SANYO AS2010D31	SIMPLO AS10D71/75
Battery Type	Li-ion	Li-ion
Pack capacity	2200 mAh	2200 mAh
Number of battery cell	6	6
Package configuration	3S2P	3S2P
Item	**Specification**	
Vendor & Model name	SONY AS2010D41	SAMSUNG AS2010D61
Battery Type	Li-ion	Li-ion
Pack capacity	2200 mAh	2200 mAh
Number of battery cell	6	6
Package configuration	3S2P	3S2P
Item	**Specification**	
Vendor & Model name	PANASONIC AS10D51	Sanyo AS10D3E
Battery Type	Li-ion	Li-ion
Pack capacity	2200 mAh	3000 mAh
Number of battery cell	6	9
Package configuration	3S2P	3S3P

VRAM

Item	Specification
Chipset	• Samsung(K4W1G1646E-HC12), (K4W2G1646C-HC12), (K4W1G1646E-HC12), (K4W1G1646G-BC11) • Hynix(H5TQ1G63DFR-12C), (H5TQ1G63BFR-12C), (H5TQ2G63BFR-12C), (H5TQ1G63DFR-11C) • DDR3 800Mhz VRAM
Memory size	512 MB
Interface	DDR3 VRAM

USB2.0 Port

Item	Specification
USB compliance level	USB 2.0
EHCI	2
Number of USB port(s)	3 (2)
Location	One at the left side, and two at the right side.
Output Current	• 2.0A (for USB port at left side) • 2.0A (for USB port at right side)

USB3.0 Port

Item	Specification
USB compliance level	USB 3.0
EHCI	2
Number of USB port(s)	0 (1)
Location	One at the right side.
Output Current	2.0A (for USB port at right side)

HDMI Port

Item	Specification
Compliance level	HDMI1.4a
Data throughput	Up to 16.7 million colors
Number of HDMI port(s)	1
Location	JHDMI1 at the left side

AC Adapter

Item	Specification
Input rating	90w & 65w & 120w
Maximum input AC current	65w/1.7A & 90w/1.5A & 120w/6.32A at 100V
Inrush current	12t at 264V
Efficiency	Refer to EPA 2.0

System Power Management

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

Card Reader

Item	Specification
Chipset	Realtek RTS5138-GR
Package	QFN 24P
Maximum supported size	SDHC: 32G, MMC: 32G, MS:32G, XD:2G
Features	5 in 1 card reader, supporting: • Secure Digital TM (SD), MultiMediaCard TM (MMC),SDHC, Mini-SD, Micro-SD (T-flash), RS-MMC,Mobile-MMC and MMC-micro • Memory Stick TM (MS), Memory Stick PROTM (MS-PRO), MS Duo, MS-PRO Duo and Micro-MS (M2)-MSPRO-HG Duo 8-bit mode -xD-Picture Card TM (xD) including Type M, Type M+, and Type H

System LED Indicator

Item	Specification
Lock	N/A
System state	• Blue color solid On: System On • Blue color and amber color Off: System Off • Amber color blinking: S3 state
HDD access state	Reflects the activities of the HDD or Card reader access
Wireless state	Amber color if a wireless device is active
Power button backlight	• Blue color solid On: System On • Blue color Off: System Off
Battery state	Charging • Amber solid on - Battery charging with AC • Blue color solid On - Battery full • Amber blinking - Battery abnormal stop charge or batter in low power state Discharging • Amber and blinking - Battery in critical low state • Amber color Off - Discharging state.

System DMA Specification

Legacy Mode	Power Management
DMA0	Not applicable
DMA1	Not applicable
DMA2	Not applicable
DMA3	Not applicable
DMA4	Direct memory access controller
DMA5	Available for ExpressCard*
DMA6	Not Assigned
DMA7	Not Assigned
*ExpressCard controller can use DMA 1, 2, or 5.	

System Interrupt Specification

Hardware IRQ	System Function
IRQ0	System timer
IRQ1	Standard 101-/102-Key or Microsoft® Natural Keyboard
IRQ2	Cascaded
IRQ3	Intel 82801DB/DBM USB2 Enhanced Host Controller-24CD IRQ4COM1
IRQ5*	• Conexant AC-Link Audio Intel 82801DB/DBM SMBus Controller-24C3 Data Fax • Modem with SmartCP
IRQ6	Diskette drive
IRQ7*	Parallel port
IRQ8	System CMOS/real-time clock
IRQ9*	Microsoft ACPI-compliant system
IRQ10*	• Intel USB UHCI controller-24C2 • Intel 82852/82855 GM/GME Graphic Controller • Realtek RTL8139 Family PCI Fast Ethernet Controller
IRQ11	• Intel USB EHCI controller-24CD • Intel USB UHCI controller-24C4 • Intel USB UHCI controller-24C7 • Intel Pro/Wireless 2200BG • TI OHCI 1394 host controller • TI PCI1410 CardBus controller
IRQ12	Synaptics PS/2 Port Touchpad
IRQ13	Numeric data processor
IRQ14	Primary IDE channel
IRQ15	Secondary IDE channel
*Default configuration; audio possible configurations are IRQ5, IRQ7, IRQ9, IRQ10, or none.	

NOTE:
Default configuration; audio possible configurations are IRQ5, IRQ7, IRQ9, IRQ10, or none.

NOTE:
ExpressCards may assert IRQ3, IRQ4, IRQ5, IRQ7, IRQ9, IRQ10, IRQ11, or IRQ15. Either the infrared or the serial port may assert IRQ3 or IRQ4.

System I/O Address Map

I/O address (hex)	System Function (shipping configuration)
000 - 00F	DMA controller no. 1
010 - 01F	Unused
020 - 021	Interrupt controller no. 1
022 - 024	Opti chipset configuration registers
025 - 03F	Unused
02E - 02F	87334 "Super I/O" configuration for CPU
040 - 05F	Counter/timer registers
044 - 05F	Unused
060	Keyboard controller
061	Port B
062 - 063	Unused
064	Keyboard controller
065 - 06F	Unused
070 - 071	NMI enable/RTC
072 - 07F	Unused
080 - 08F	DMA page registers
090 - 091	Unused
092	Port A
093 - 09F	Unused
0A0 - 0A1	Interrupt controller no. 2
I/O Address (hex)	System function (shipping configuration)
0A2 - 0BF	Unused
0C0 - 0DF	DMA controller no. 2
0E0 - 0EF	Unused
0F0 - 0F1	Coprocessor busy clear/reset
0F2 - 0FF	Unused
100 - 16F	Unused
170 - 177	Secondary fixed disk controller
178 - 1EF	Unused
1F0 - 1F7	Primary fixed disk controller
1F8 - 200	Unused
201	JoyStick (decoded in ESS1688)

I/O address (hex)	System Function (shipping configuration)
System IO Address Map (Continued)	
202 - 21F	Unused
000 - 00F	DMA controller no. 1
010 - 01F	Unused
020 - 021	Interrupt controller no. 1
022 - 024	Opti chipset configuration registers
025 - 03F	Unused
02E - 02F	87334 "Super I/O" configuration for CPU
040 - 05F	Counter/timer registers
044 - 05F	Unused
060	Keyboard controller
061	Port B
062 - 063	Unused
064	Keyboard controller
065 - 06F	Unused
070 - 071	NMI enable/RTC
072 - 07F	Unused
080 - 08F	DMA page registers
090 - 091	Unused
092	Port A
093 - 09F	Unused
0A0 - 0A1	Interrupt controller no. 2
I/O Address (hex)	System function (shipping configuration)
0A2 - 0BF	Unused
0C0 - 0DF	DMA controller no. 2
0E0 - 0EF	Unused
0F0 - 0F1	Coprocessor busy clear/reset
0F2 - 0FF	Unused
100 - 16F	Unused
170 - 177	Secondary fixed disk controller
178 - 1EF	Unused
1F0 - 1F7	Primary fixed disk controller
1F8 - 200	Unused

I/O address (hex)	System Function (shipping configuration)
System IO Address Map (Continued)	
201	JoyStick (decoded in ESS1688)
202 - 21F	Unused
220 - 22F	Entertainment audio
230 - 26D	Unused
26E - 26	Unused
278 - 27F	Unused
280 - 2AB	Unused
2A0 - 2A7	Unused
2A8 - 2E7	Unused
2E8 - 2EF	Reserved serial port
2F0 - 2F7	Unused
2F8 - 2FF	Infrared port
300 - 31F	Unused
320 - 36F	Unused
370 - 377	Secondary diskette drive controller
378 - 37F	Parallel port (LPT1/default)
380 - 387	Unused
388 - 38B	FM synthesizer-OPL3
38C - 3AF	Unused
3B0 - 3BB	VGA
3BC - 3BF	Reserved (parallel port/no EPP support)
3C0 - 3DF	VGA
3E0 - 3E1	ExpressCard controller in CPU
3E2 - 3E3	Unused
3E8 - 3EF	Internal modem
3F0 - 3F7	"A" diskette controller
3F8 - 3FF	Serial port (COM1/default)
CF8 - CFB	PCI configuration index register (PCIDIVO-1)
CFC - CFF	PCI configuration data register (PCIDIVO-1)

CHAPTER 2

System Utilities

System Utilities

BIOS Setup Utility

This utility is a hardware configuration program built into a computer's BIOS (Basic Input/Output System).

The utility is pre-configured and optimized so most users do not need to run it. If configuration problems occur, the setup utility may need to be run. Refer to *Troubleshooting,* when a problem arises.

To activate the utility, press ***F2*** during POST (power-on self-test) when prompted at the bottom of screen.

The default parameter of `F12 Boot Menu` is set to `Disabled`. To change the boot device without entering *BIOS Setup Utility*, set the parameter to `Enabled`.

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

Navigating the BIOS Utility

Five menu options are:

- Information
- Main
- Security
- Boot
- Exit

To navigate through the following:

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

NOTE:

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

NOTE:

System information is subject to specific models.

BIOS

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

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

Information

The Information tab shows a summary of computer hardware information.

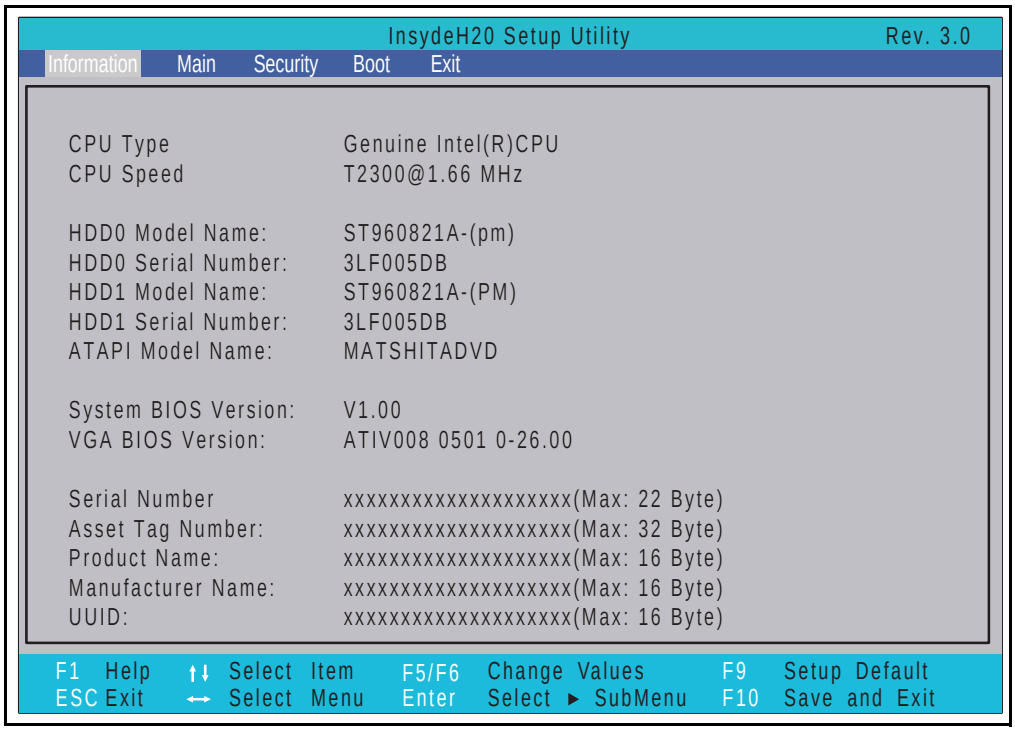


Figure 2-1. BIOS Information

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

Table 2-1. BIOS Information

Parameter	Description
CPU Type	The CPU type and speed of the system.
CPU Speed	The speed of the CPU.
IDE0 Model Name	The model name of HDD installed on primary IDE master.
IDE0 Serial Number	The serial number of HDD installed on primary IDE master.
ATAPI Model Name	The model name of the installed ODD drive.
System BIOS Version	Displays system BIOS version.
VGA BIOS Version	The VGA firmware version of the system.

Table 2-1. BIOS Information (Continued)

Parameter	Description
Serial Number	The serial number of this unit.
Asset Tag Number	The asset tag number of the system.
Product Name	The product name of the system.
UUID Number	Universally Unique Identifier (UUID) is an identifier standard used in software construction, standardized by the Open Software Foundation (OSF) as part of the Distributed Computing Environment (DCE).

Main

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

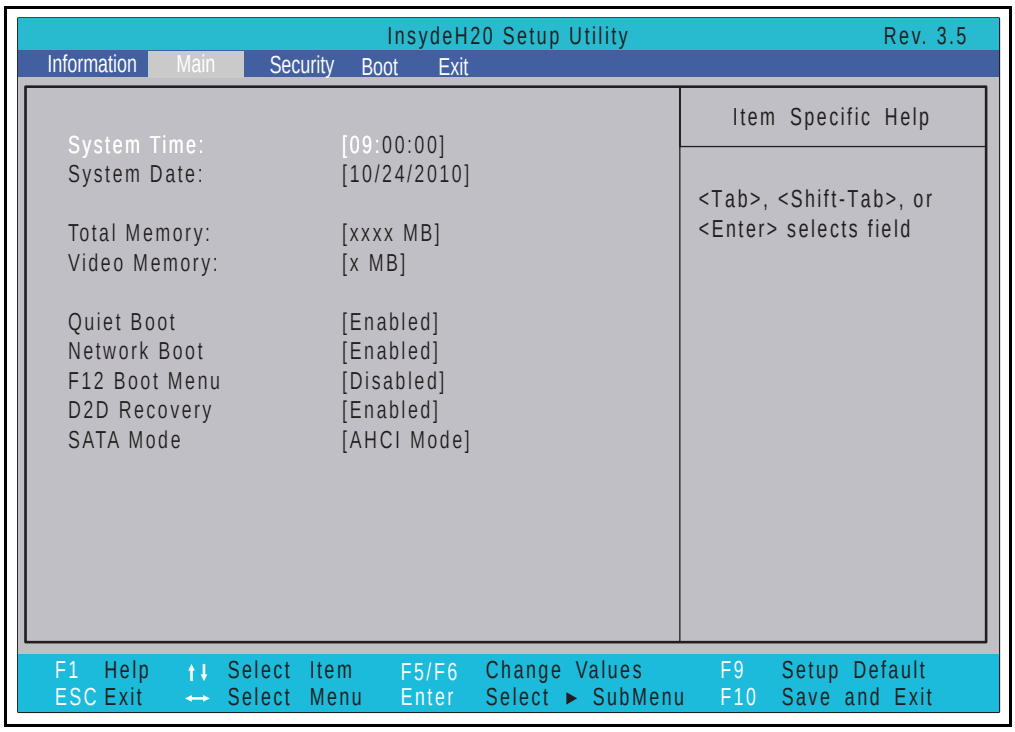


Figure 2-2. BIOS Main

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

Table 2-2. BIOS Main

Parameter	Description	Format/Option
System Time	Sets the system time. The hours are shown with 24-hour format.	Format: HH:MM:SS (hour:minute:second)
System Date	Sets the system date.	Format MM/DD/YYYY (month/day/year)
Total Memory	Shows the total memory available.	N/A
Video Memory	Shows the available memory for Video.	N/A
Quiet Boot	The notebook shows an illustration called the OEM screen during system boot instead of the traditional POST screen that shows the normal diagnostic messages.	Enabled or Disabled
Network Boot	Enables, disables the system boot from LAN (remote server).	Enabled or Disabled
F12 Boot Menu	Enables, disables Boot Menu during POST.	Enabled or Disabled
D2D Recovery	Enables, disables D2D Recovery function. The function allows the user to create a hidden partition on hard disc drive to store operation system and restore the system to factory defaults.	Enabled or Disabled
SATA Mode	Control the mode in which the SATA controller should operate.	AHCI or IDE

Security

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

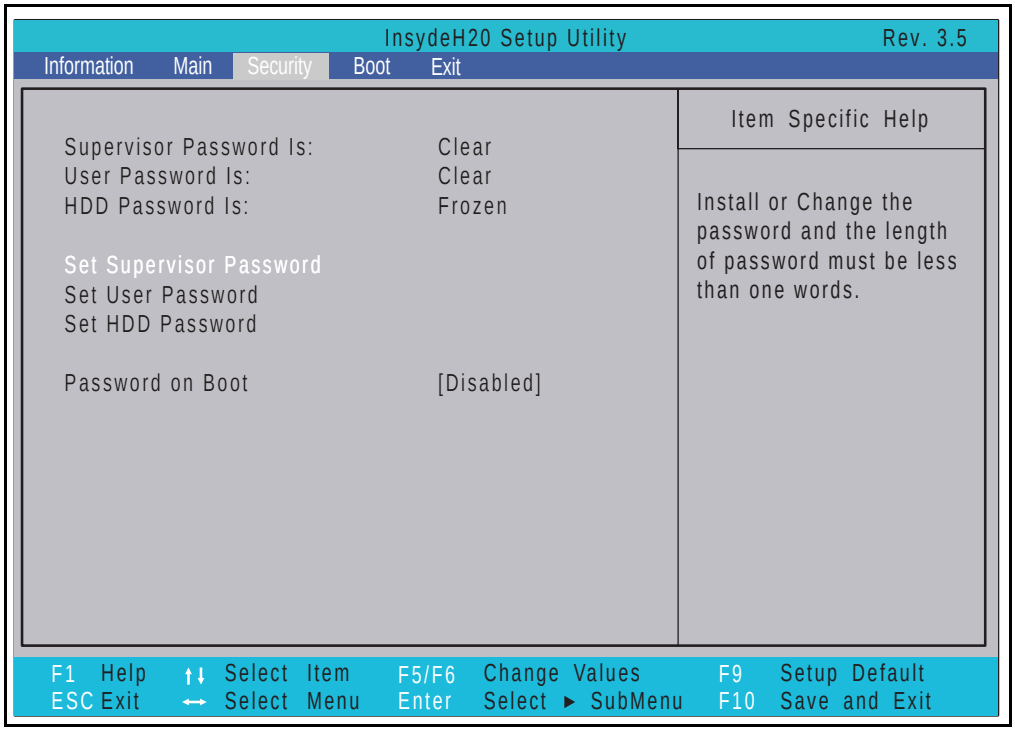


Figure 2-3. BIOS Security

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

Table 2-3. BIOS Security

Parameter	Description	Option
Supervisor Password Is	Shows the setting of the supervisor password	Clear or Set
User Password Is	Shows the setting of the user password.	Clear or Set
Set Supervisor Password	Press ***Enter*** to set the supervisor password. When set, this password protects the BIOS Setup Utility from unauthorized access. The user can not either enter the Setup menu nor change the value of parameters.	N/A
Set User Password	Press ***Enter*** to set the user password. When user password is set, this password protects the BIOS Setup Utility from unauthorized access. The user can enter Setup menu only and does not have right to change the value of parameters.	N/A
Set HDD Password	Enter HDD Password.	N/A

Table 2-3. BIOS Security (Continued)

Parameter	Description	Option
Password on Boot	Defines whether a password is required or not while the events defined in this group happened. The following sub-options are all requires the Supervisor password for changes and should be grayed out if the user password was used to enter setup.	Disabled or Enabled
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
⇒ **NOTE:** When prompted to enter a password, three attempts are allowed before the system halts. Resetting the BIOS password may require the computer be returned to the dealer.		

Setting a Password

Perform the following to set user or supervisor passwords:

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

Figure 2-4. Set Supervisor Password

2. Type a new password in the `Enter New Password` field. Passwords are not case sensitive and the length must not exceed 8 alphanumeric characters (A-Z, a-z, 0-9). Retype the password in the `Confirm New Password` field.

+ **IMPORTANT:**
Use care when typing a password. Characters do not appear on the screen.

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

⇒ **NOTE:**
`Password on Boot` must be set to `Enabled` to activate password feature.

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

Removing a Password

Perform the following:

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

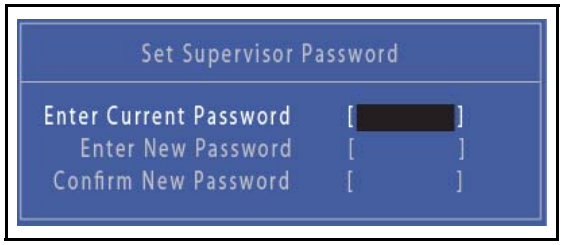


Figure 2-5. Set Supervisor Password

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

Changing a Password

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

Figure 2-6. Set Supervisor Password

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

Figure 2-7. Setup Notice

4. Press ***Enter***. Computer sets `Supervisor Password` parameter to `Set`.

NOTE:

`Password on Boot` must be set to `Enabled` to activate the password feature.

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

If the verification is OK, the screen shows as follows.

Figure 2-8. Setup Notice

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

If the password entered does not match the current password, the screen shows the `Setup Warning` dialog. (Figure 2-8)

Figure 2-9. Setup Warning

Boot

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

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

Use ↑ and ↓ keys to select a device and press ***F5*** or ***F6*** to change the value.

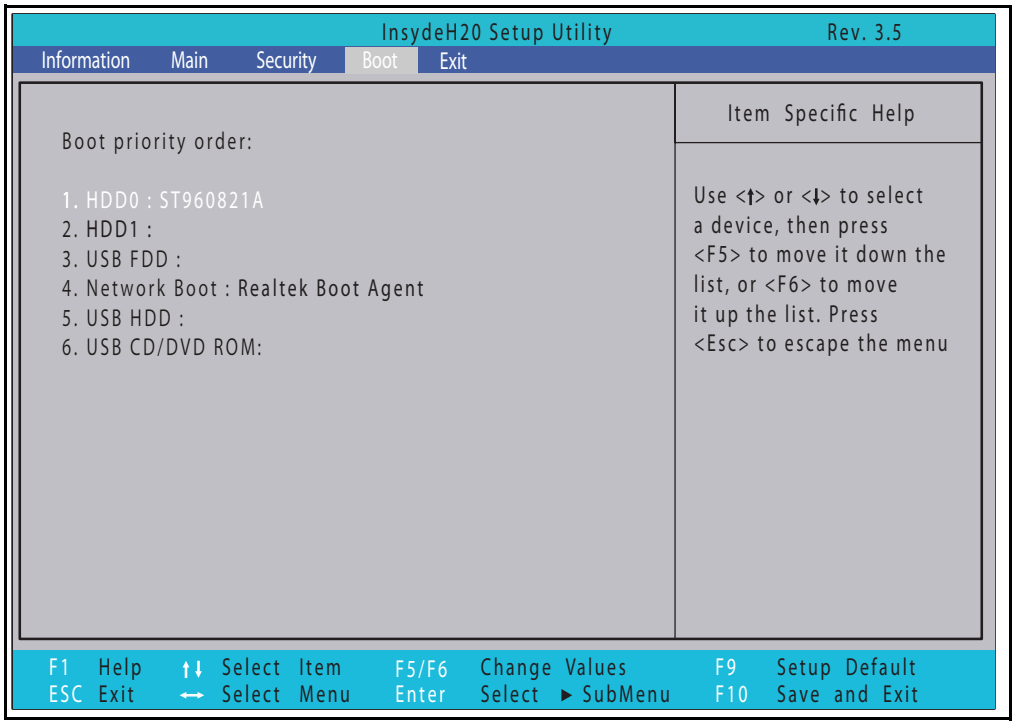


Figure 2-10. BIOS Boot

Exit

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

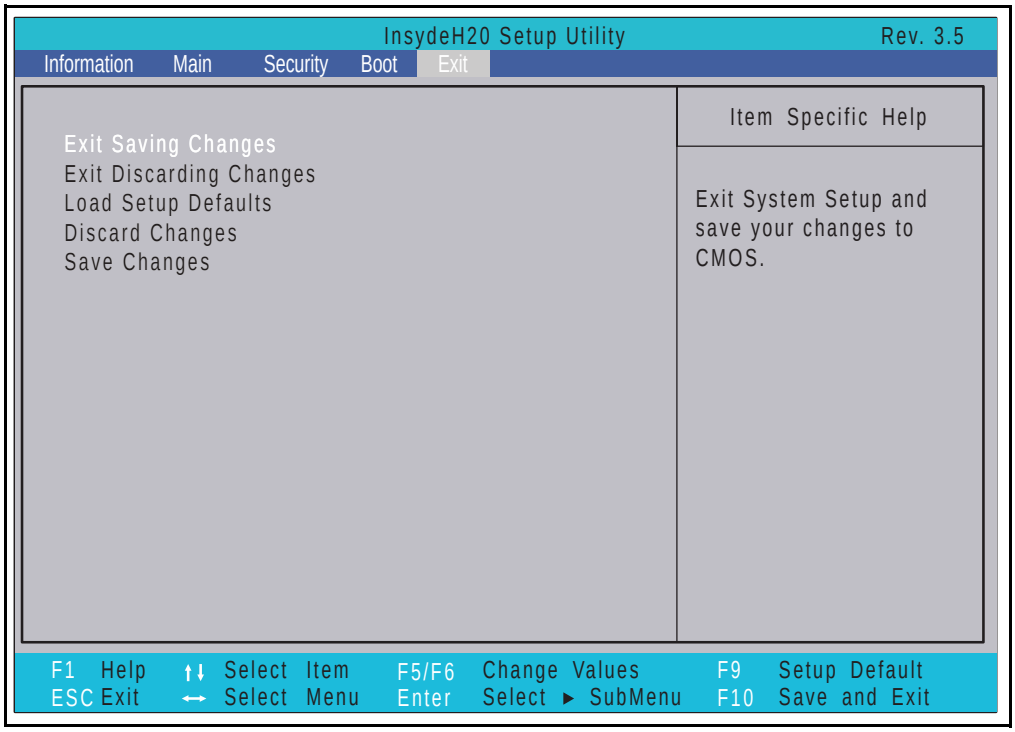


Figure 2-11. BIOS Exit

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

Table 2-4. Exit Parameters

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

BIOS Flash Utilities

BIOS Flash memory updates are required for the following conditions:

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

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

NOTE:
If a Crisis Recovery Disc is not available, create one before Flash utility is used.

NOTE:
Do not install memory related drivers (XMS, EMS, DPMI) when Flash is used.

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

Perform the following to run Flash.

1. Prepare a bootable USB HDD.
2. Copy Flash utilities to bootable USB HDD.
3. Boot system from bootable USB HDD.

NOTE:
Flash utility has auto execution function.

DOS Flash Utility

Perform the following to use the *DOS Flash Utility*:

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

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

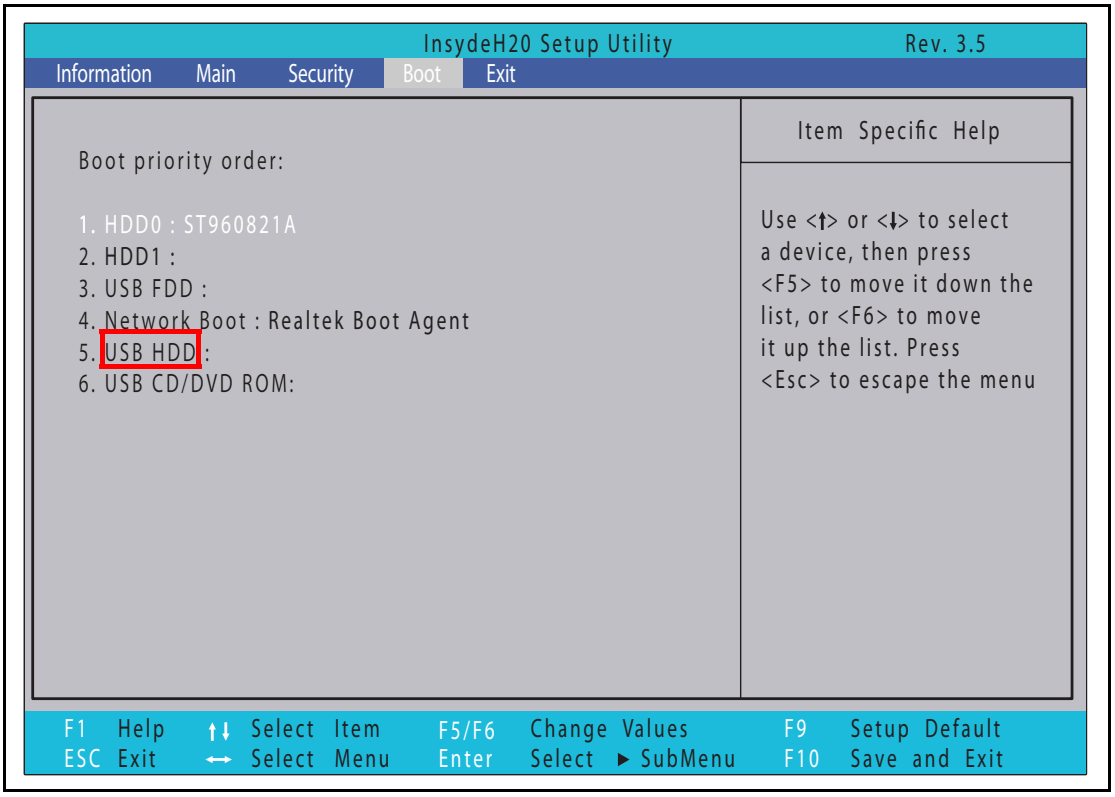


Figure 2-12. BIOS Boot

3. Insert the USB HDD and reboot computer.

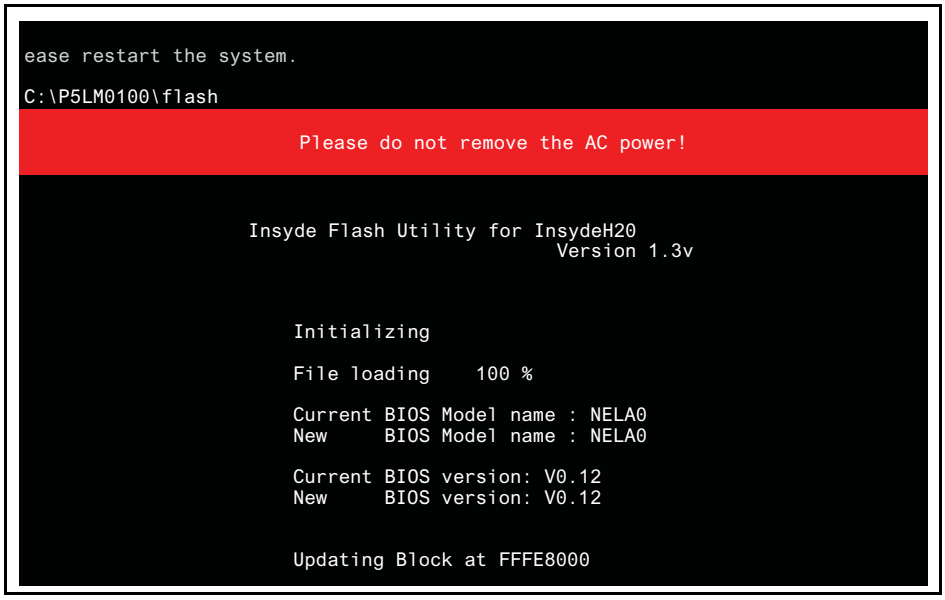


Figure 2-13. DOS Flash

4. Flash is complete when the message, `Flash Programming Complete` is shown. System will restart automatically when finished.

NOTE:

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

Figure 2-14. AC Power Warning

WinFlash Utility

Perform the following to use the WinFlash Utility:

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

Figure 2-15. InsydeFlash

NOTE:

If the error message appears (Figure 2-16), check the system BIOS *ROM-file* size.

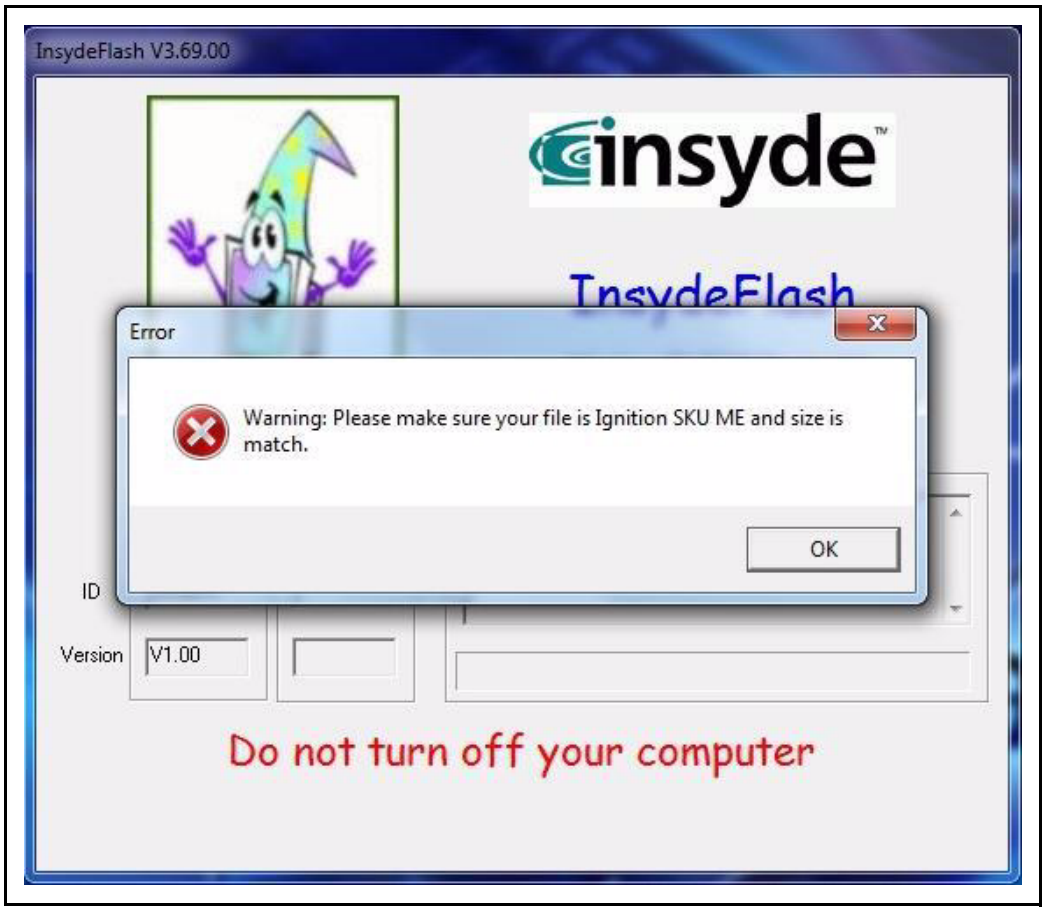


Figure 2-16. Insyde

Remove HDD/BIOS Password Utilities

This section provides details about removing HDD/BIOS passwords.

Remove HDD Password as follows:

NOTE:

If the HDD password is incorrectly entered three times, an error is generated. (Figure 2-17)

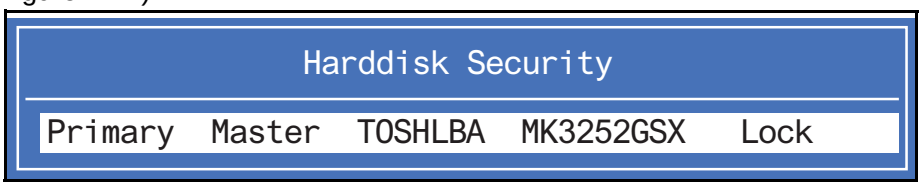


Figure 2-17. Password Error Status

To reset the HDD password, perform the followings:

1. Select `Enter Unlock Password` option.

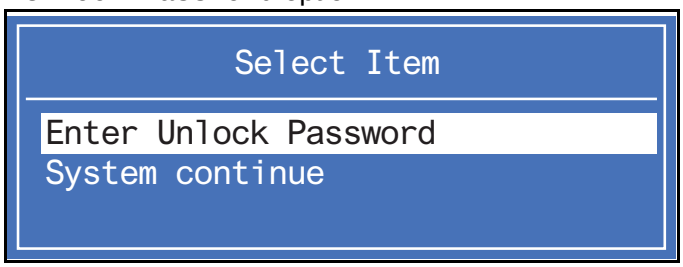


Figure 2-18. Select Item

NOTE:

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

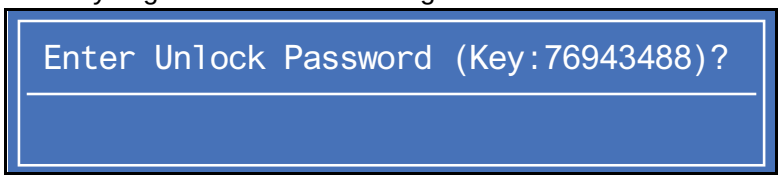


Figure 2-19. Unlock Password

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

   Example: UnlockHD 76943488

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

Password: 46548274

Enter the password from the Step 1 to unlock the HDD (Figure 2-20).

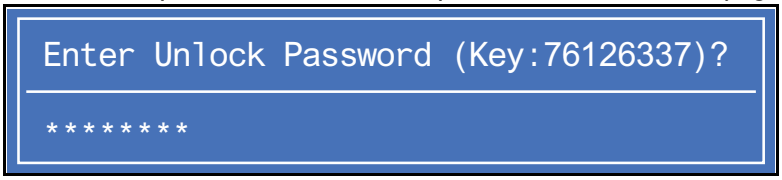


Figure 2-20. Unlock Password

Removing BIOS Passwords

To clear User or Supervisor passwords, open the DIMM door and use a metal instrument to short the RTCRST# point.

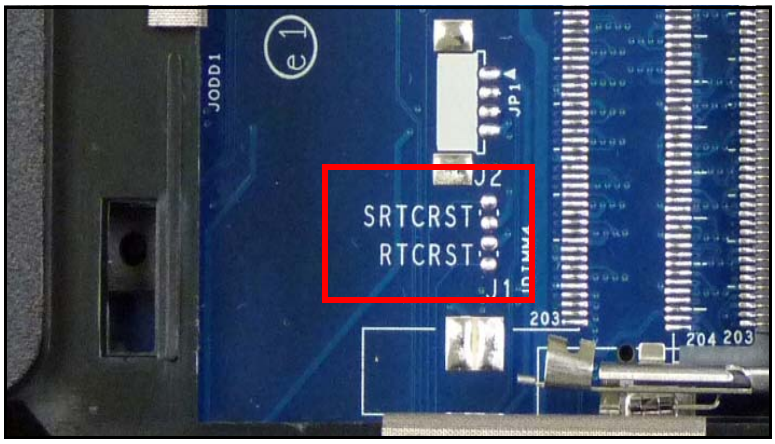


Figure 2-21. CMOS Jumper

Cleaning BIOS Passwords

To clean the User or Supervisor passwords, perform the following steps:

1. From a DOS prompt, execute **clnpwd.exe**
2. Press ***1*** or ***2*** to clean the desired password shown on the screen.

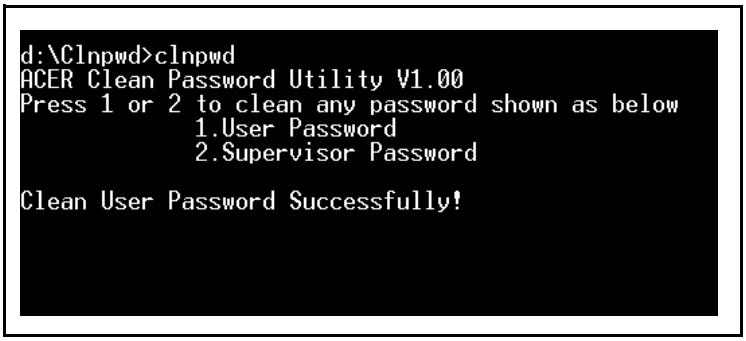


Figure 2-22. Clear BIOS Password

The on screen message indicates the function success.

Using DMITools

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

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

To update the DMI Pool, perform the following:

1. Boot to DOS.
2. At the prompt, enter **`dmitools.exe`** with one of the following arguments:
   - /r ==> Read dmi information from memory
   - /wm ==> Write Manufacturer Name to EEPROM (max. 16 characters)
   - /wp ==> Write Product Name to EEPROM (max. 16 characters)
   - /ws ==> Write Serial Number to EEPROM (max. 22 characters)
   - /wu ==> Write UUID to EEPROM (ignore string)
   - /wa ==> Write Asset Tag to EEPROM (max. 32 characters)

The following examples show the commands and the corresponding output information:

a. Read DMI Information from Memory

Input:

dmitools /r

Output:

Manufacturer (Type1, Offset04h): Packard Bell

Product Name (Type1, Offset05h): xxxxx xxxxx

Serial Number (Type1, Offset07h): 01234567890123456789

UUID String (Type1, Offset08h): xxxxxxxx-xxxx-xxxx-xxxx-xxxxxxxxxxxx

Asset Tag (Type3, Offset04h): Acet Asstag

b. Write Product Name to EEPROM

Input:

dmitools /wp Packard Bell

c. Write Serial Number to EEPROM

Input:

dmitools /ws 01234567890123456789

d. Write UUID to EEPROM (Create UUID from Intel WFM20.pdf)

Input:

dmitools /wu

e. Write Asset Tag to EEPROM

Input:

dmitools /wa Packard Bell Asstag

NOTE:

For examples b) through e), restart the system to write any changes in the data to the EEPROM.

Using the LAN MAC EEPROM Utility

Use MAC.BAT utility to write the MAC.CFG file to EEPROM under DOS mode.

1. Use a text editor to open and edit the MAC.CFG file. (Figure 2-23)

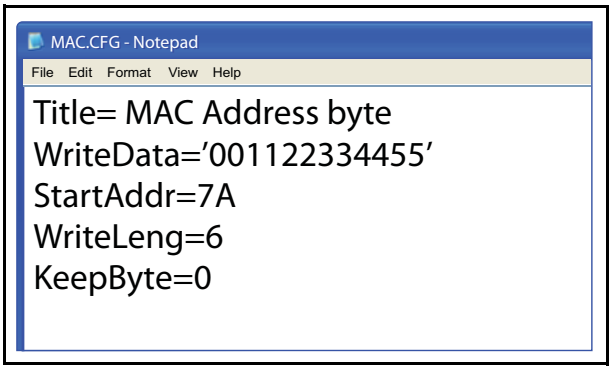


Figure 2-23. MAC.CFG File

Table 2-5. MAC.cfg Field Names & Values

Field Name	Value	Description
Title	MAC Address byte	N/A
WriteData	'001122334455'	MAC value
StartAddr	7A	MAC address
WriteLeng	6	MAC value length
KeepByte	0	N/A

2. In DOS mode, run **MAC.BAT** to write MAC values to EEPROM. (Figure 2-24)

Figure 2-24. MAC.BAT

3. Reboot computer when process has completed.

Perform the following steps to write MAC (Media Access Control) information to EEPROM:

1. Start computer and press ***F2*** during boot sequence to enter `Setup Menu`.
2. Select `Boot` menu to modify boot priority order.
3. Insert USB HDD and reboot computer.
4. Execute **MAC.bat** <**xxxxxx**>, where “xxxxxx” is a 6 character MAC address, to write the MAC information to EEPROM.

CHAPTER 3

Machine Maintenance

Machine Maintenance Procedures

Introduction

This chapter contains general information about the notebook, a list of tools needed to perform the required maintenance and step by step procedures on how to remove and install components from the notebook computer.

General Information

The product previews seen in the following procedures may not represent the final product color or configuration. Cable paths and positioning may also differ from the actual model. During the removal and installation of components, make sure all available cable channels and clips are used and that the cables are installed in the same position.

All prerequisites must be performed prior to performing maintenance.

Recommended Equipment

The following tools are suggested to perform maintenance on the notebook:

- Wrist grounding strap and conductive mat
- Flat screwdriver
- Philips screwdriver

Screw Table

Table 3-1 contains a complete list of the required screws and fasteners required when performing any maintenance on the notebook computer.

Table 3-1. Main Screw List

Screw	Quantity	Acer Part Number
M1.98*3	15	86.RB002.001
M2.5*5	6	86.RB002.002
M2.5*6 Ni	2	86.RB002.003
M2.5*3 Ni	13	86.RB002.004
M2.5*6	27	86.RB002.005
THML_SPRING_SCREW_ASSY	4	86.BRD02.002
M2*3	4	86.RB002.008
M3*3 Ni	8	86.RB002.009
M1.6*3	3	86.BRD02.005
M1.6*2 Ni	4	86.BRD02.004
M2*5	2	86.BRD02.001

Maintenance Flowchart

The flowchart in Figure 3-1 provides a graphic representation of the module removal and installation sequences. It provides information on what components need to be removed and installed during servicing.

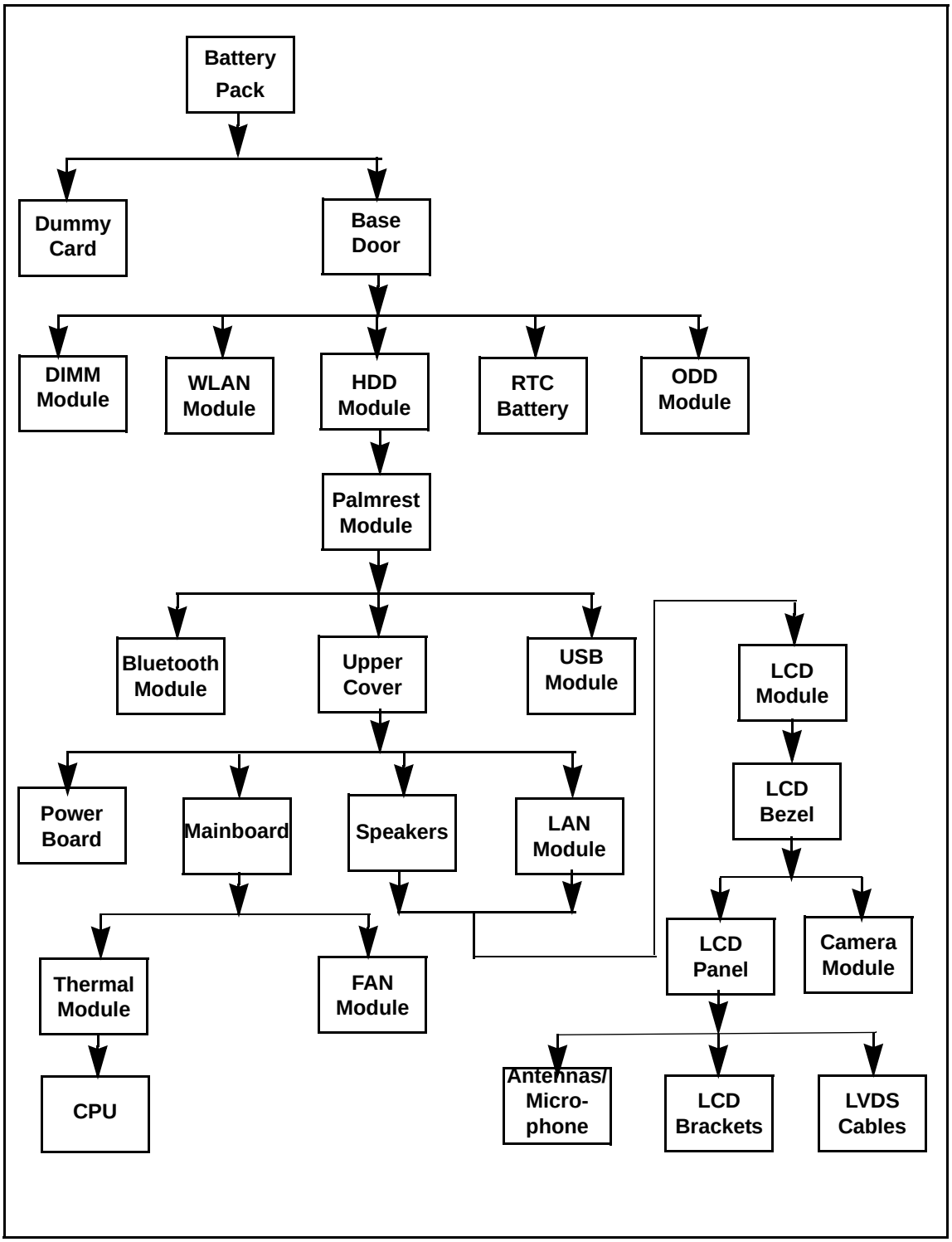


Figure 3-1. Maintenance Flow

Getting Started

The flowchart in Figure 3-1 identifies sections illustrating the entire removal and install sequence. Observe the order of the sequence to avoid damage to any of the hardware components.

Perform the following prior to performing any maintenance procedures:

1. Remove power from the system and peripherals.
2. Remove all cables from system.

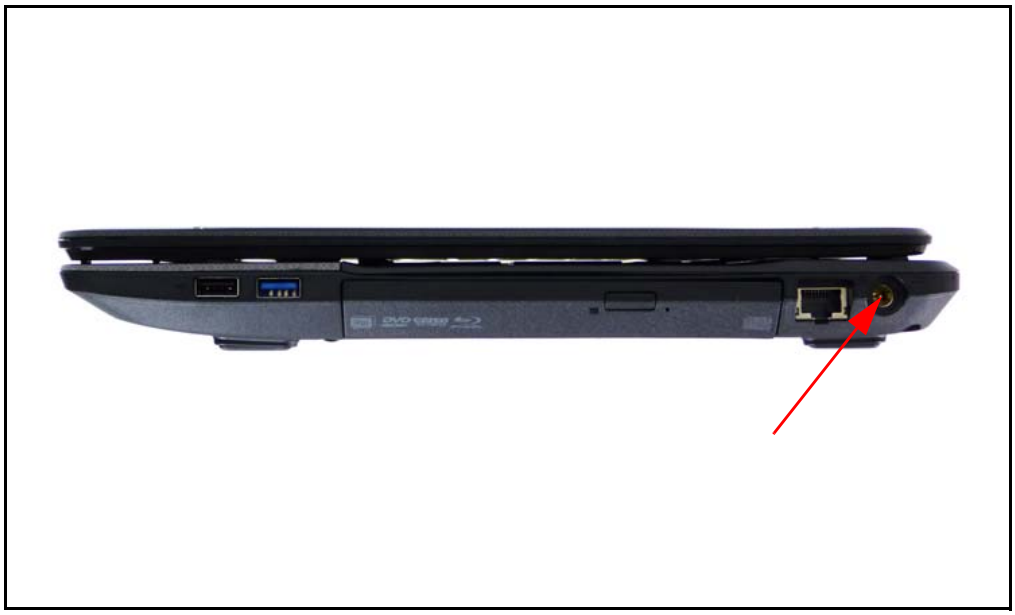


Figure 3-2. AC Adapter

3. Place system on a stable work surface.

Battery Pack removal

1. Place computer on a flat surface, battery side up.
2. Use a tool to slide and hold battery release latch (B) to release position. Using a tab (C) flip battery pack (A) and remove from lower cover.

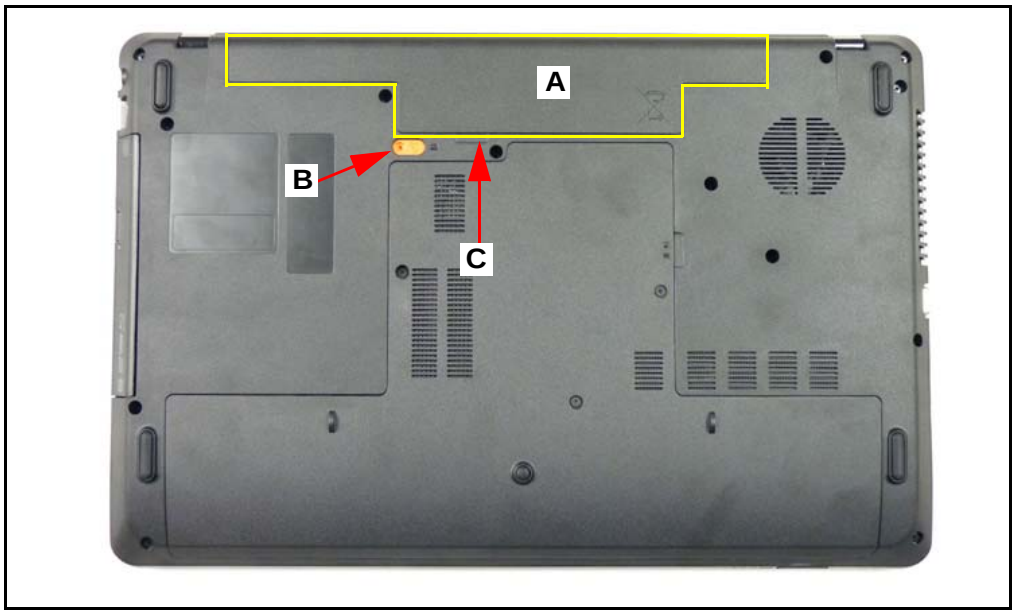


Figure 3-3. Battery Pack

+ **IMPORTANT:**
Follow local regulations for battery disposal (Figure 3-3).

Battery Pack Installation

1. Align battery pack hinges to lower cover slots and press down to lock.

Dummy Card Removal

1. Push dummy card (A) in to release.
2. Pull dummy card (A).

Figure 3-4. Dummy Card

Dummy Card Installation

1. Insert dummy card (A) (Figure 3-4).
2. Push in to lock.

Base Door Removal

Prerequisite:

Battery Pack removal

1. Loosen three (3) captive screws (C).
2. Using tab (B), remove door (A) from lower cover.

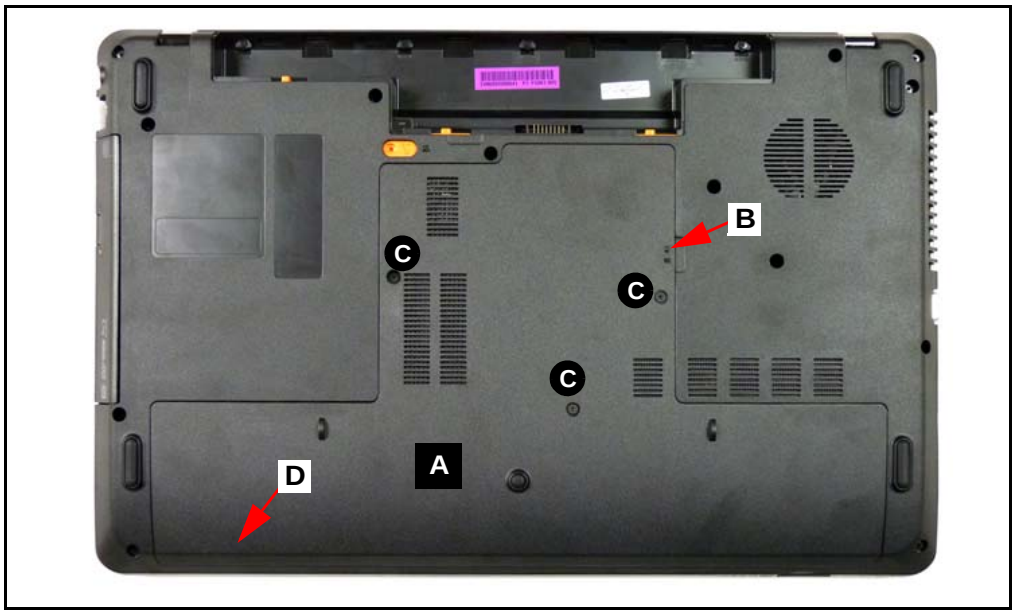


Figure 3-5. Removing the Base Door

Base Door Installation

1. Insert door flanges into slots (D) on lower cover (Figure 3-5).
2. Install and secure door to lower cover with three (3) captive screws.
3. Install battery pack.

HDD Module Removal

Prerequisite:

Base Door Removal

1. Remove two (2) screws (D) from module (A).
2. Use tab on mylar (C) to lift and remove module (A) from mainboard connector dock.

NOTE:

Module A is primary HDD module. Module B is secondary HDD module.

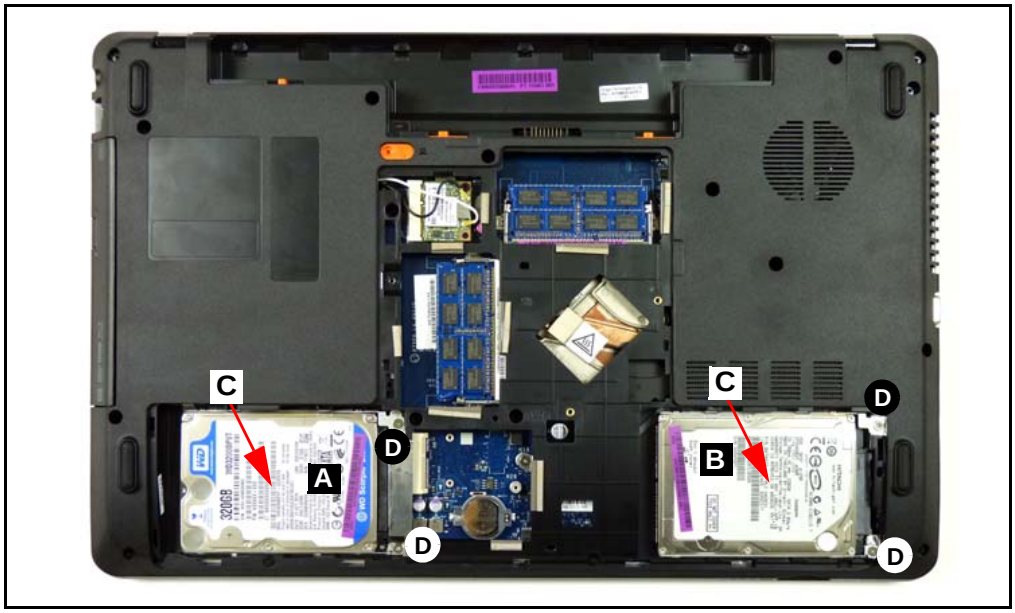


Figure 3-6. HDD Module

3. Remove four (4) screws (E) (Figure 3-7) securing module to brackets (F).

4. Remove module (A) and mylar (C) from brackets.

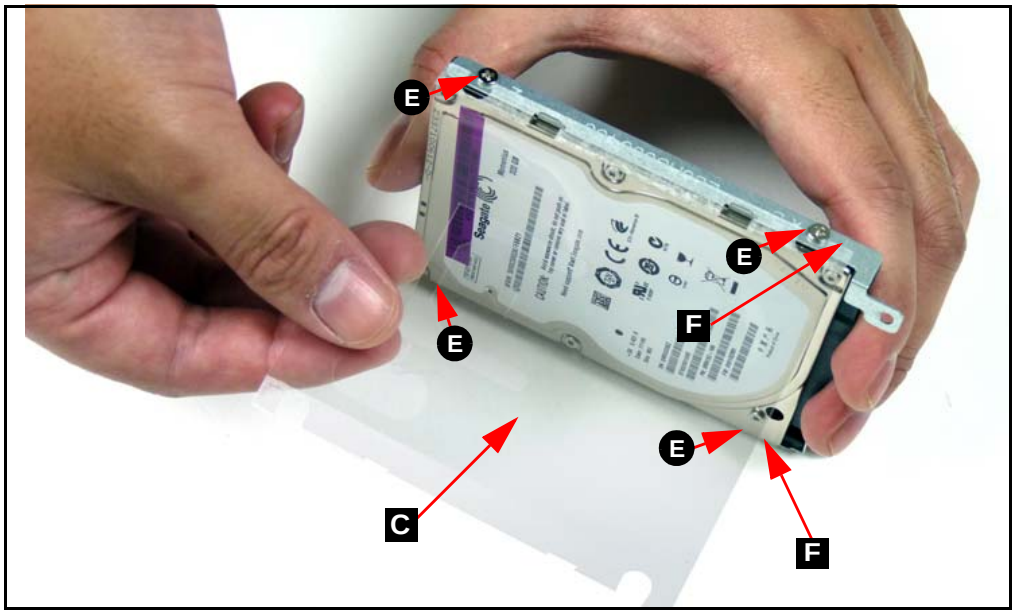


Figure 3-7. HDD Carrier

5. Repeat steps 1 to 4 for secondary module B.

HDD Module Installation

1. Place module (A) into brackets (F).
2. Install and secure module to brackets with four (4) screws (E) (Figure 3-7).
3. Insert module into bay, connecting module to mainboard connector.
4. Install and secure four (2) screws (D)
5. Repeat steps 1 to 4 for secondary module B.
6. Install base door.

ID	Size	Quantity	Screw Type
D	M2.5*3 Ni	4	
E	M3*3 Ni	8	

DIMM Module Removal

Prerequisite:

Base Door Removal

1. Push DIMM module clips (B) outwards.
2. Slide module (A) from mainboard connector (C).
3. Repeat steps 1 and 2 for remaining DIMM modules.

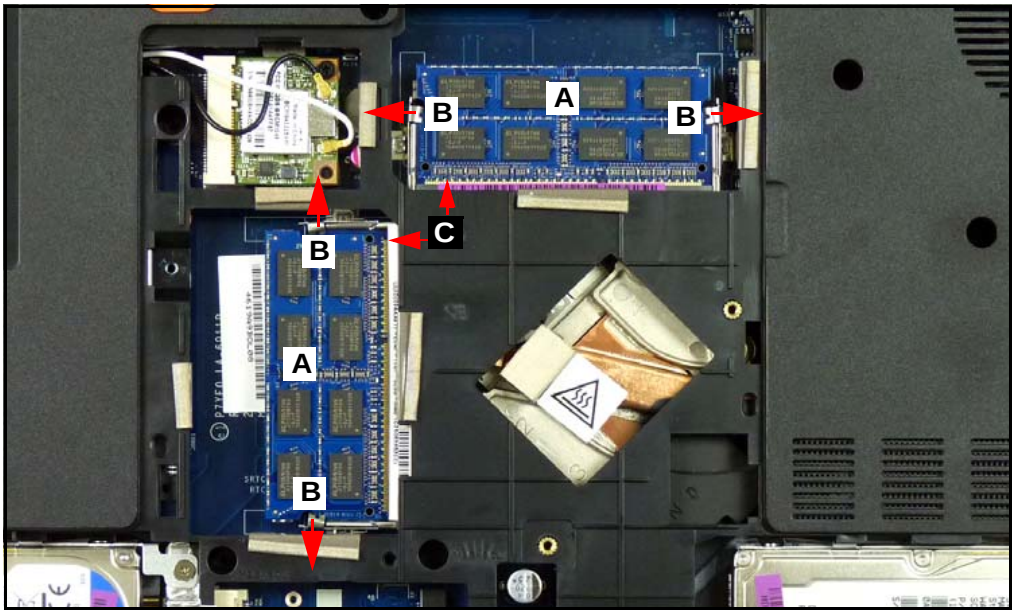


Figure 3-8. DIMM Modules

DIMM Module Installation

⚠ CAUTION:

If there are 4 DIMM sockets in mainboard, follow the DIMM module installation order: JDIMM3 -> JDIMM4 -> JDIMM1 -> JDIMM2. Ignoring the order causes dual channel malfunction. Refer to Figure 5-2

1. Slide module (A) into mainboard connector (C) (Figure 3-8).
2. Press down on DIMM module (A) until clips (B) lock in place.
3. Install base door.

WLAN Module Removal

Prerequisite:

Base Door Removal

1. Locate module (A) on lower cover (Figure 3-9).
2. Disconnect antenna cables, (B) main and (C) auxiliary from WLAN module.
3. Remove screw (D) from module.
4. Remove WLAN module (A) from mainboard connector (E).
5. Remove WLAN module (A) from mainboard connector.

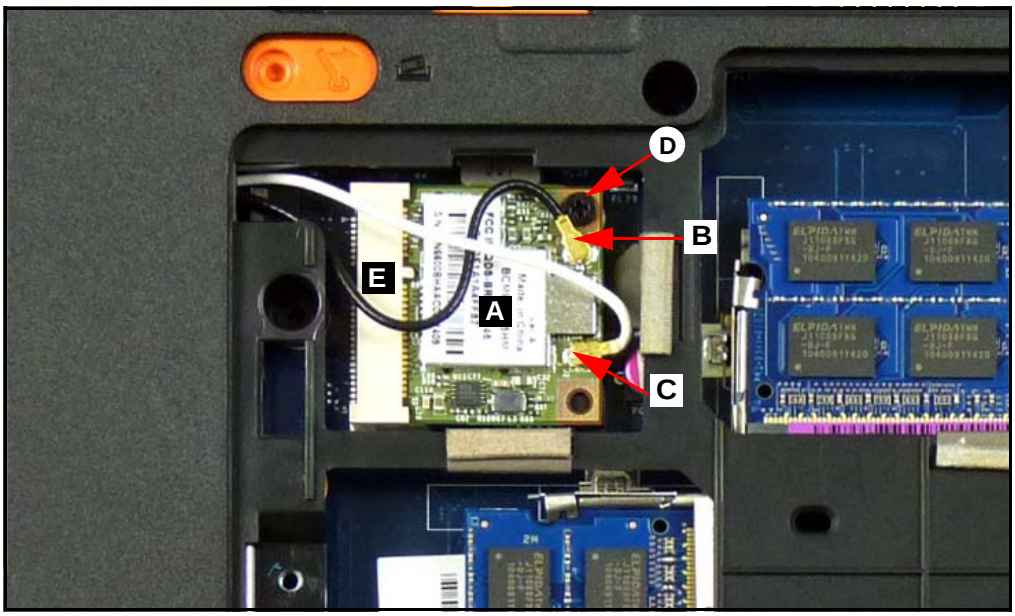


Figure 3-9. Removing the WLAN Module

NOTE:

Main (black) antenna connector is located nearest battery bay. Auxiliary (white) antenna connector is located nearest HDD module.

WLAN Module Installation

1. Insert module (A) into mainboard connector (E) (Figure 3-9).
2. Install and secure screw (D) to module.
3. Attach antenna cables, (B) main and (C) auxiliary to WLAN module.
4. Install base door.

ID	Size	Quantity	Screw Type
D	M1.98*3	1	

RTC Battery Removal

Prerequisite:

Battery Pack removal

1. Through opening in mainboard connector, push battery (A) to release.
2. Lift battery to remove.

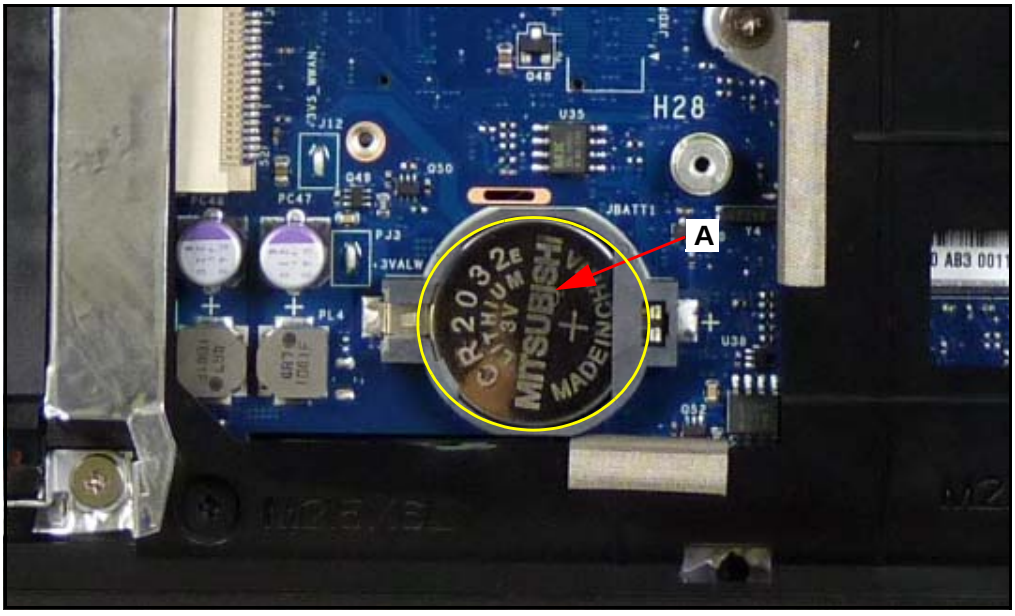


Figure 3-10. RTC Battery

NOTE:

Follow local regulations for battery disposal.

RTC Battery Installation

1. Place battery (A) into mainboard connector.
2. Press down to secure.
3. Install base door.

ODD Module Removal

Prerequisite:

Base Door Removal

1. Push bracket (G) to release module from bay.
2. Remove module (A).

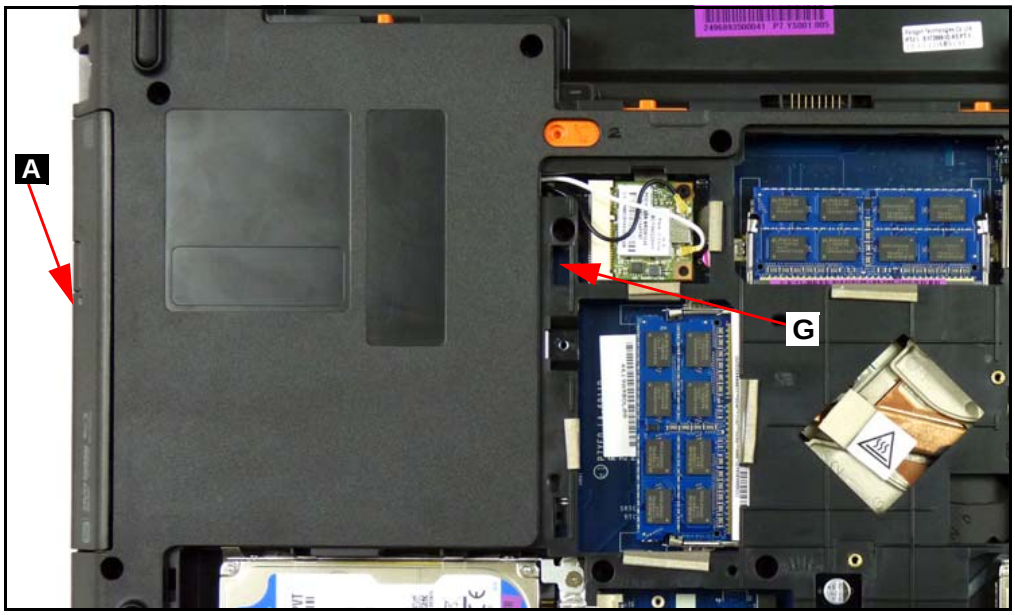


Figure 3-11. ODD Module in Lower Cover

3. Remove two (2) screws (B) from module.
4. Remove bracket (C).

Figure 3-12. ODD Module

5. Insert narrow tool into hole (G) on bezel, to eject module (A) from tray (Figure 3-13).
6. Press down on latch (H) to unlock bezel (F) from module (A).
7. Remove bezel (F) from module.

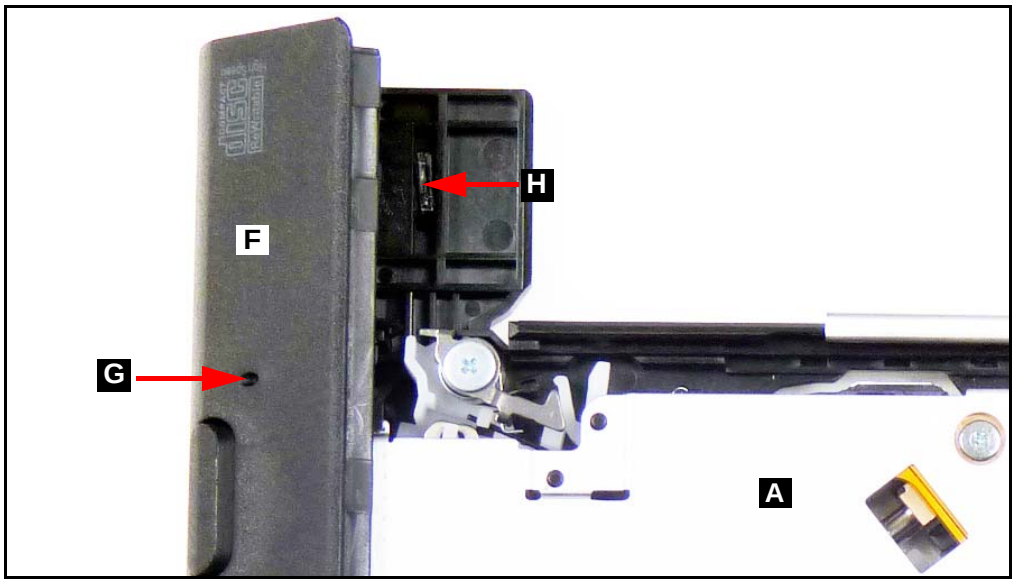


Figure 3-13. ODD Module

ODD Module Installation

1. Connect bezel (F) to module. Refer to Figure 3-12.
2. Attach and secure bracket (C) to module with two (2) screws (B).
3. Insert module (A) into module bay. Refer to Figure 3-11.
4. Install base door.

ID	Size	Quantity	Screw Type
B	M1.98*3	2	

Palmrest Removal

Prerequisite:

HDD Module Removal

1. Remove eleven (11) screws (A) from lower cover.

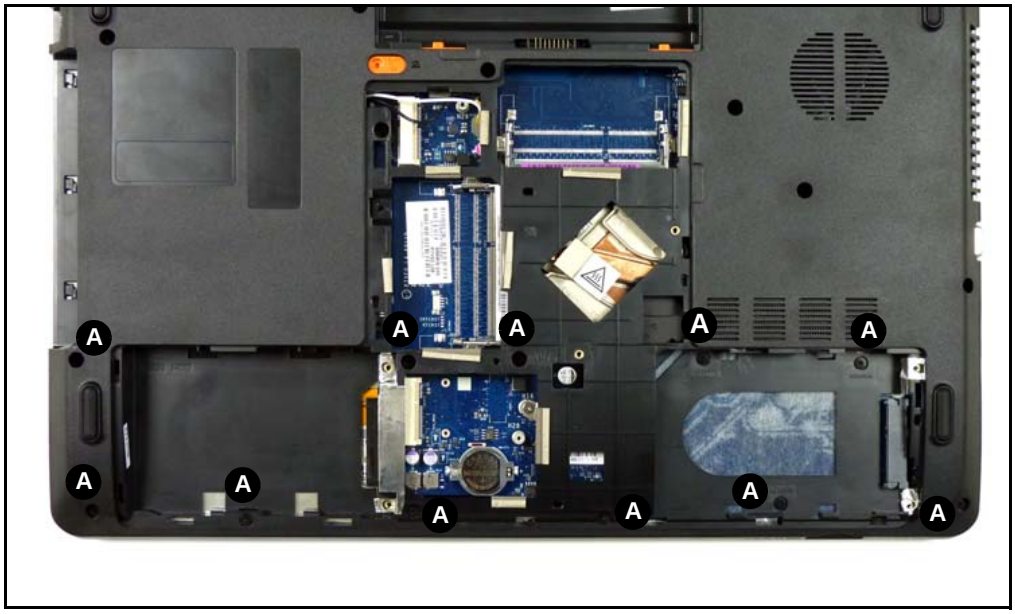


Figure 3-14. Lower Cover

2. Place computer keyboard side up.

Figure 3-15. Palmrest

⚠ CAUTION:

Use caution when removing palmrest. Palmrest is connected to mainboard by touchpad module FFC cable (B) (Figure 3-17).

3. Supporting left edge of palmrest, pull right edge up (above USB ports) to separate palmrest and lower cover. Continue along top edge and down left side to release palmrest (Figure 3-15 and Figure 3-16).

Figure 3-16. Palmrest

4. Carefully flip palmrest onto keyboard.
5. Disconnect touchpad module FFC cable (B) from mainboard connector.

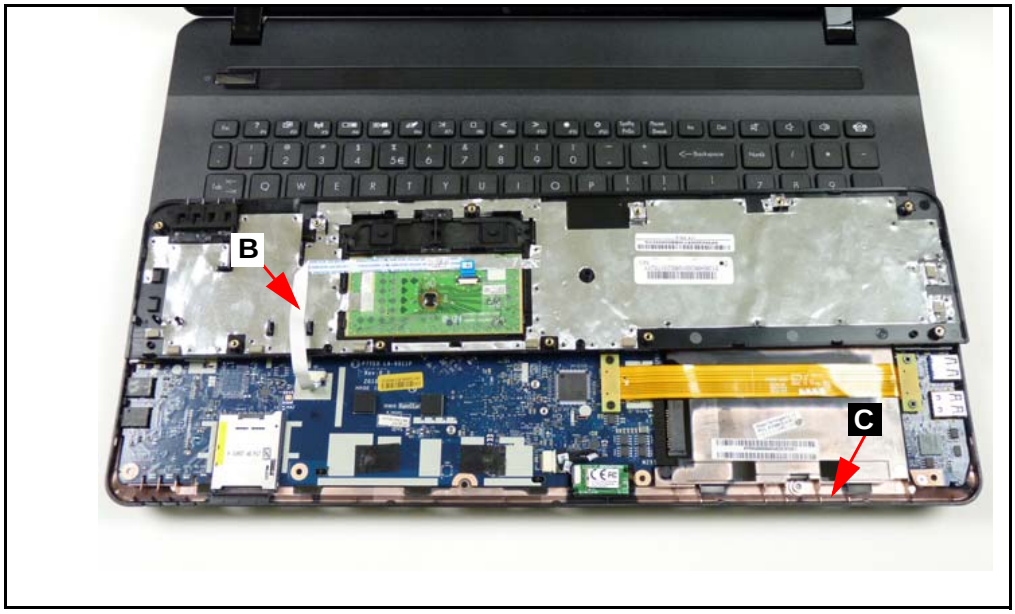


Figure 3-17. Palmrest

6. Remove palmrest.

Palmrest Installation

1. Place palmrest onto keyboard, exposing touchpad module FFC cable (B) (Figure 3-17).
2. Connect cable (B) to mainboard.
3. Flip palmrest over and insert flanges into lower cover slots (C) (Figure 3-17).
4. Press down on palmrest to secure.
5. Place computer on surface lower cover up.
6. Install and secure eleven (11) screws A to lower cover (Figure 3-14).
7. Install HDD module.

ID	Size	Quantity	Screw Type
A	M2.5*6	11	

Upper Cover/Keyboard Removal

Prerequisite:

Palmrest Removal

1. Remove eleven (11) screws (A) (Figure 3-18).
2. Remove four (4) screws (B) from battery bay.

Figure 3-18. Lower Cover

3. Place computer on surface, face up.

⚠ CAUTION:

Use caution when removing keyboard. Keyboard is attached to mainboard by FPC cable.

⚠ CAUTION:

Use caution when removing power board. Power board is attached to upper cover/keyboard and cable is connected to mainboard.

Figure 3-19. Upper Cover/Keyboard

4. Disconnect power board FFC cable (C) (Figure 3-19).
5. Supporting left edge of keyboard, pull up right edge. Separate keyboard and lower cover.
6. Continue along top edge and down left side, to release keyboard (Figure 3-19).
7. Hold keyboard up in an angle and disconnect FPC cable (B) (Figure 3-20).

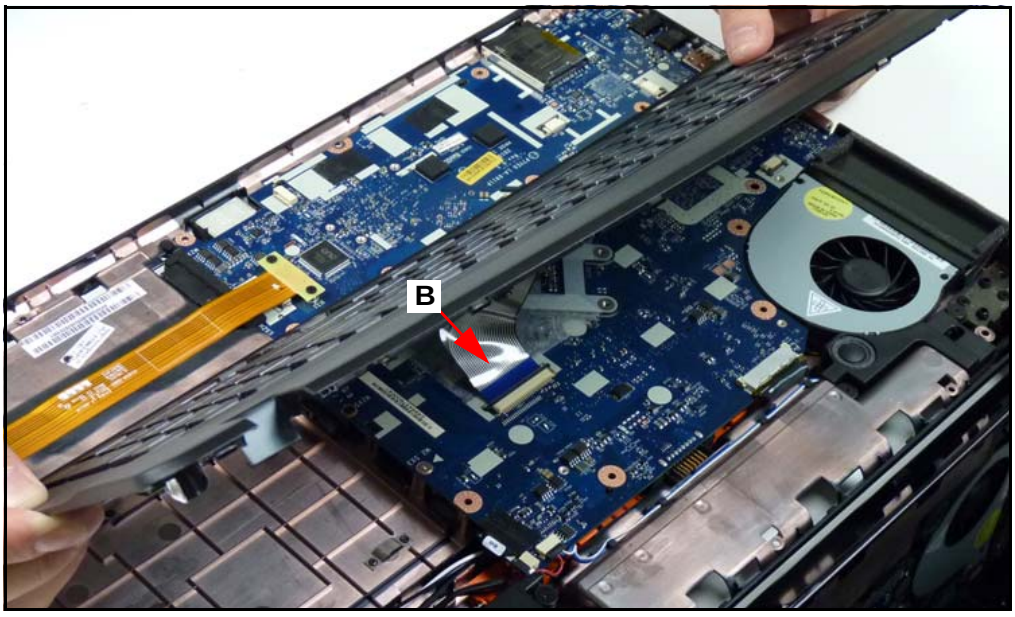


Figure 3-20. Upper Cover/Keyboard

8. Remove upper cover/keyboard.
9. Remove three (3) screws (D) from support plate (G) (Figure 3-21).
10. Peel back mylar and remove three (3) screws (E) from support plate (G) (Figure 3-21).

11. Peel back mylar and remove four (4) screws (F) from support plate (G).
12. Slide support plate (G) to release flanges from support plate slots.

NOTE:

Make sure not to damage keyboard FPC cable when removing keyboard support plate.

13. Remove support plate (G).
14. Remove keyboard from upper cover.

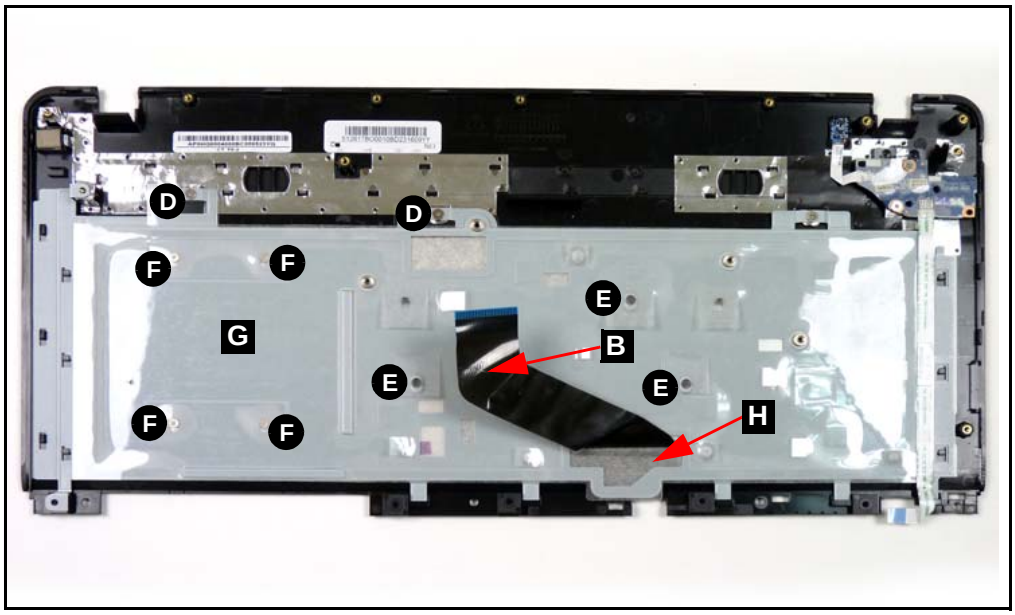


Figure 3-21. Keyboard

Upper Cover/Keyboard Installation

1. Place keyboard onto upper cover.
2. Feed cable (B) through support plate opening (H). Lower support plate (G) into place (Figure 3-21).
3. Slide support plate hinges into upper cover slots.
4. Install and secure four (4) screws (F) to support plate (G). Cover with mylar.
5. Install and secure three (3) screws (E) to support plate (G). Cover with mylar.
6. Install and secure three (3) screws (D) to support plate (G).
7. Hold keyboard in an angle above computer and connect FPC cable (B) to mainboard (Figure 3-20).
8. Lower keyboard into place and press on edges to secure.
9. Connect power board FFC cable (C) to mainboard (Figure 3-19).
10. Install and secure four (4) screws (B) to battery bay (Figure 3-18).
11. Install and secure eleven (11) screws (A) (Figure 3-18).
12. Install palmrest.

ID	Size	Quantity	Screw Type
A	M2.5*6	11	
B	M1.98*3	4	
D	M2.5*3 Ni	2	
E	M1.6*3	3	
F	M1.6*2 Ni	4	

Power Board Removal

Prerequisite:

Upper Cover/Keyboard Removal

1. Locate power board (A) on upper cover.
2. Remove two (2) screws (C) securing board to upper cover.
3. Guide FFC cable (D) through upper cover opening (E).
4. Remove power saver module (B) from upper cover.
5. Lift board (A) from upper cover.

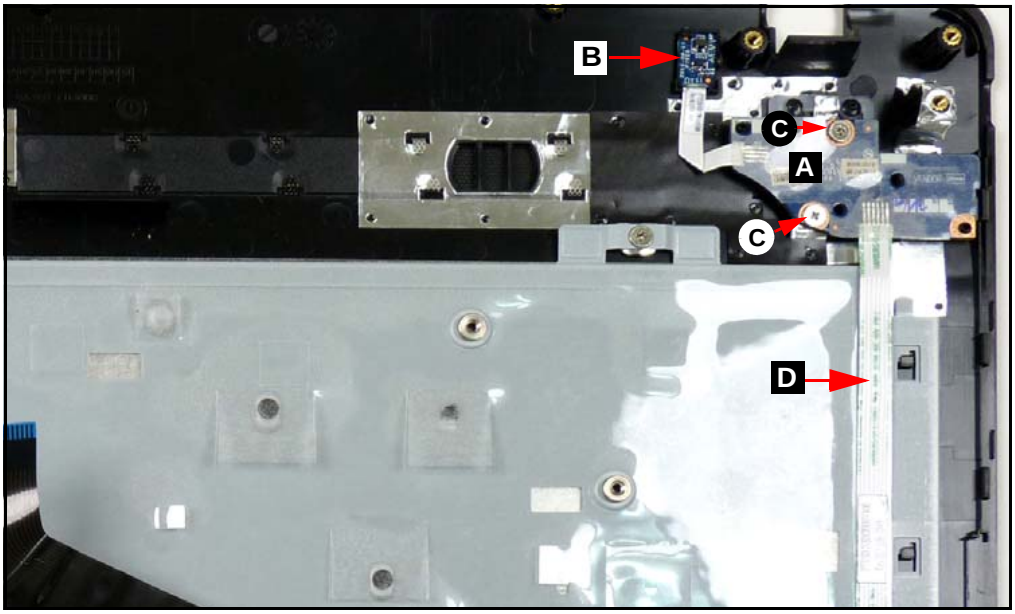


Figure 3-22. Power Board

Power Board Installation

1. Put board (A) and module (B) onto upper cover.
2. Install and secure two (2) screws (C) to board (A).
3. Install upper cover/keyboard.

ID	Size	Quantity	Screw Type
C	M2.5*3 Ni	2	

Bluetooth Module Removal

Prerequisite:

Palmrest Removal

1. Disconnect Bluetooth cable (B) from mainboard.
2. Remove module (A).

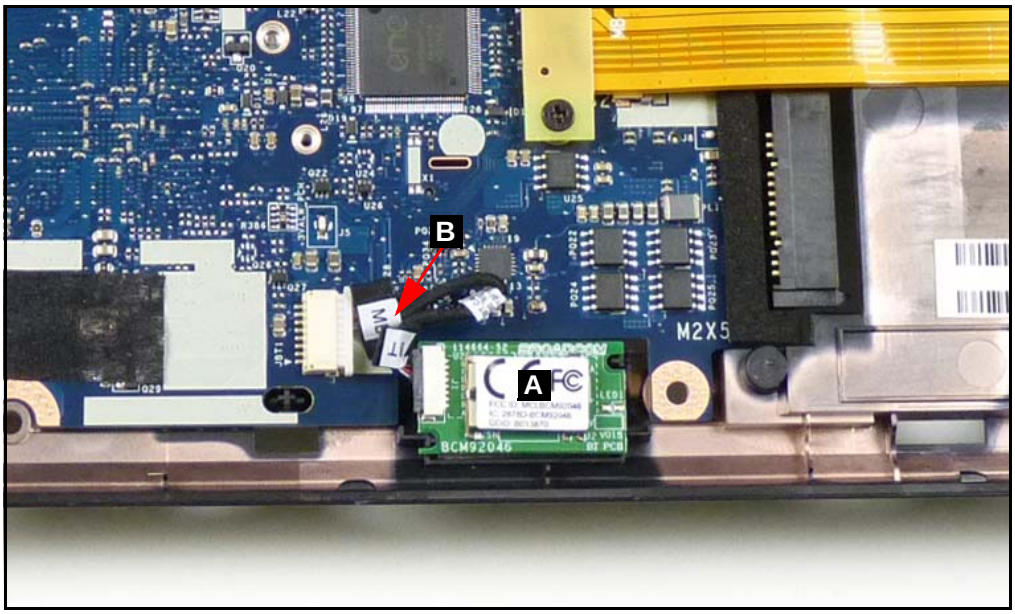


Figure 3-23. Bluetooth Module

Bluetooth Module Installation

1. Connect Bluetooth cable (B) to mainboard connector (Figure 3-23).
2. Install module (A).
3. Install upper cover.

USB Module Removal

Prerequisite:

Palmrest Removal

1. Remove two (2) screws (D) from mainboard connector
2. Disconnect module (A) (Figure 3-24).
3. Remove screw (C) from module (A).
4. Remove module (A) from lower cover.

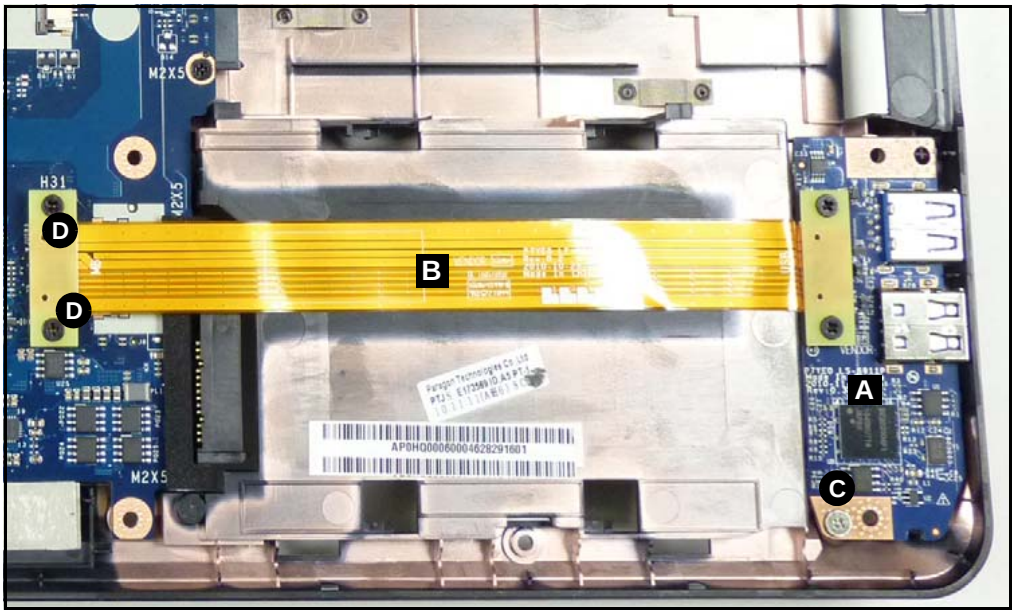


Figure 3-24. USB Module

USB Module Installation

1. Install module (A) on lower cover (Figure 3-24).
2. Install and secure screw (C) to lower cover.
3. Install and secure 2 screws (D) to mainboard connector.
4. Connect module (A).
5. Install upper cover.

ID	Size	Quantity	Screw Type
C	M2.5*3 Ni	1	
D	M2*5	2	

LAN Module Removal

Prerequisite:

Upper Cover/Keyboard Removal

1. Remove adhesive from mainboard connector (C).
2. Disconnect cable (B) from mainboard connector (C).
3. Remove screw (D) from module (A).
4. Remove module (A) from lower cover.

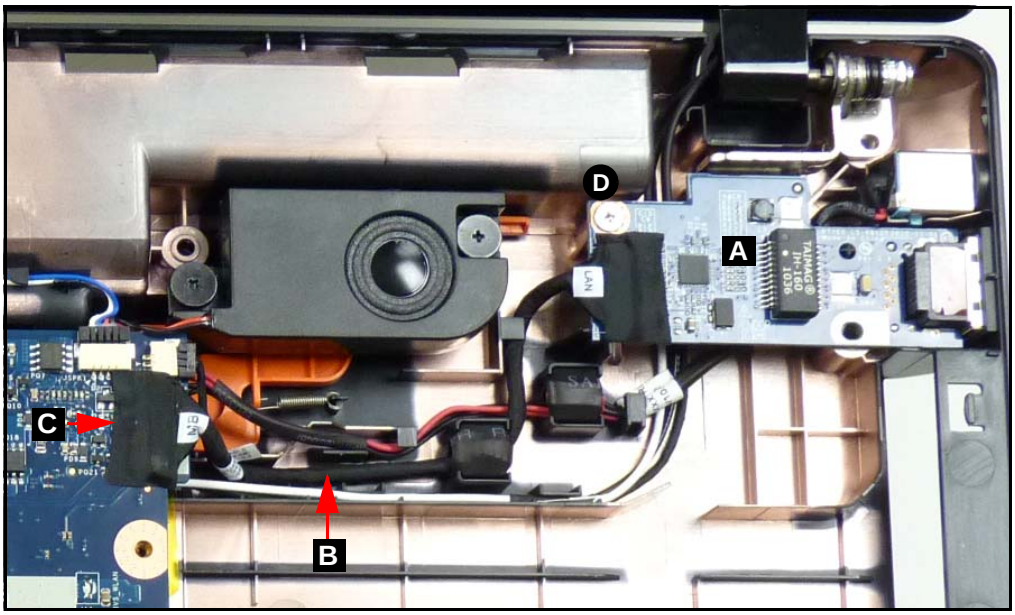


Figure 3-25. LAN Module

LAN Module Installation

1. Install module (A) on lower cover. Figure 3-25.
2. Install and secure screw (D) to module (A).
3. Connect cable (B) to mainboard connector (C).
4. Install adhesive to mainboard connector (C).
5. Install upper cover/keyboard.

ID	Size	Quantity	Screw Type
D	M2.5*3 Ni	1	

Speakers Removal

Prerequisite:

Upper Cover/Keyboard Removal

1. Disconnect cable (B) from mainboard connector (C).
2. Release cables from cable clasps and remove from cable channel.
3. Remove two (2) screws (D) from right speaker (A1).
4. Remove two (2) screws (D) from left speaker (A2).
5. Remove speakers from lower cover.

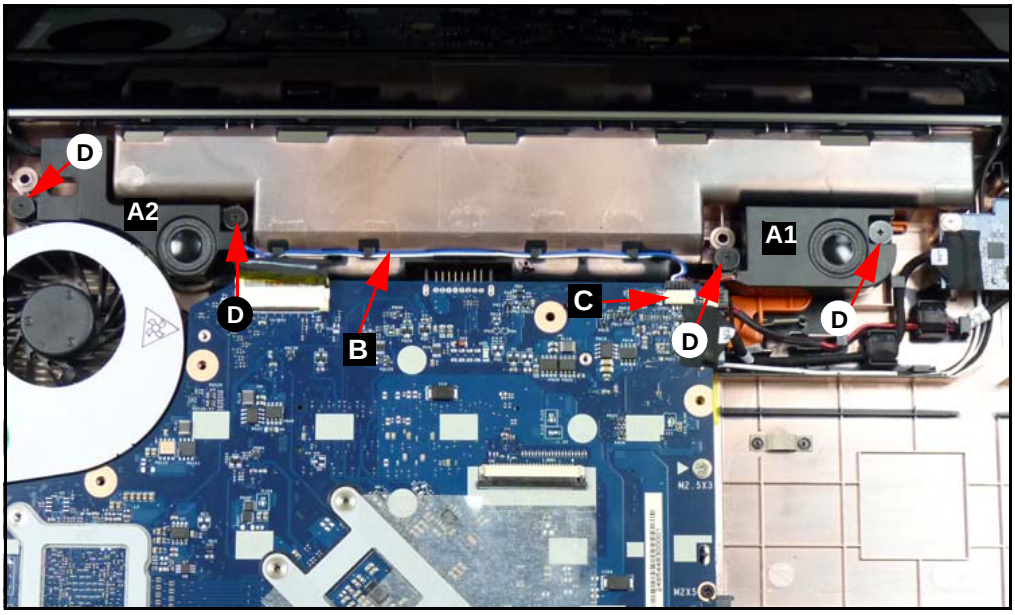


Figure 3-26. Speakers

Speakers Installation

1. Install speakers into lower cover.
2. Install and secure two (2) screws (D) to right speaker (A1) and left speaker (A2) (Figure 3-26).
3. Place cable (B) into cable guides and connect to mainboard (Figure 3-26).
4. Install upper cover/keyboard.

ID	Size	Quantity	Screw Type
D	M2*3	4	

Mainboard Removal

Prerequisite:

Upper Cover/Keyboard Removal

1. Disconnect Bluetooth cable from mainboard connector (A).
2. Disconnect speaker cable from mainboard connector (B).
3. Disconnect USB FFC cable (C) from mainboard connector. Refer to USB Module Removal
4. Disconnect LAN from mainboard connector (D).
5. Disconnect microphone cable from mainboard connector (E).
6. Disconnect LVDS cable from mainboard connector (F).
7. Disconnect DC-IN cable from mainboard connector (H).
8. Remove screw (G) from mainboard.

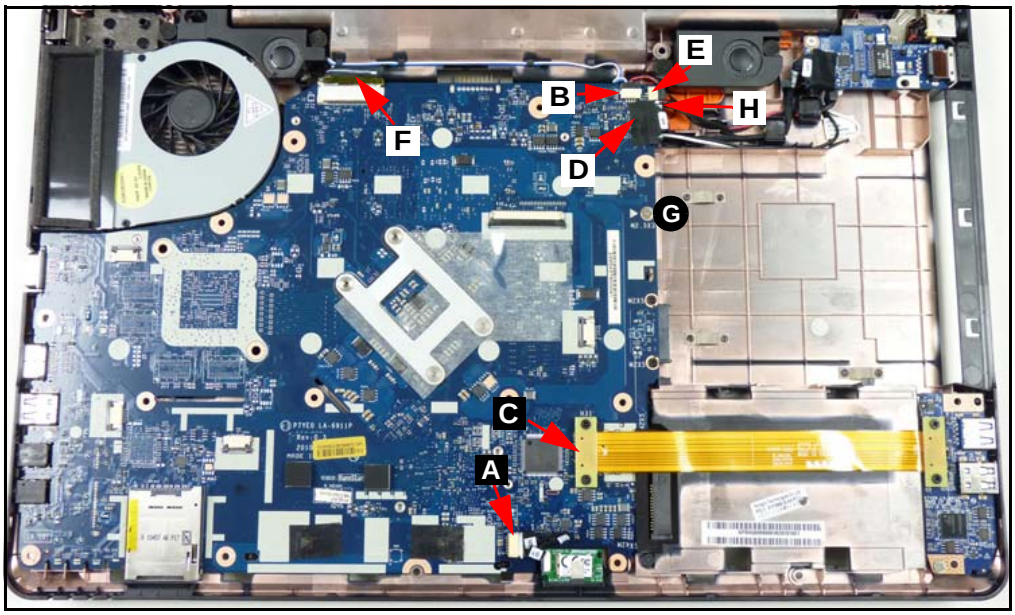


Figure 3-27. Mainboard Connectors

9. Lift mainboard at slight angle.

10. Remove mainboard from lower cover (Figure 3-28).

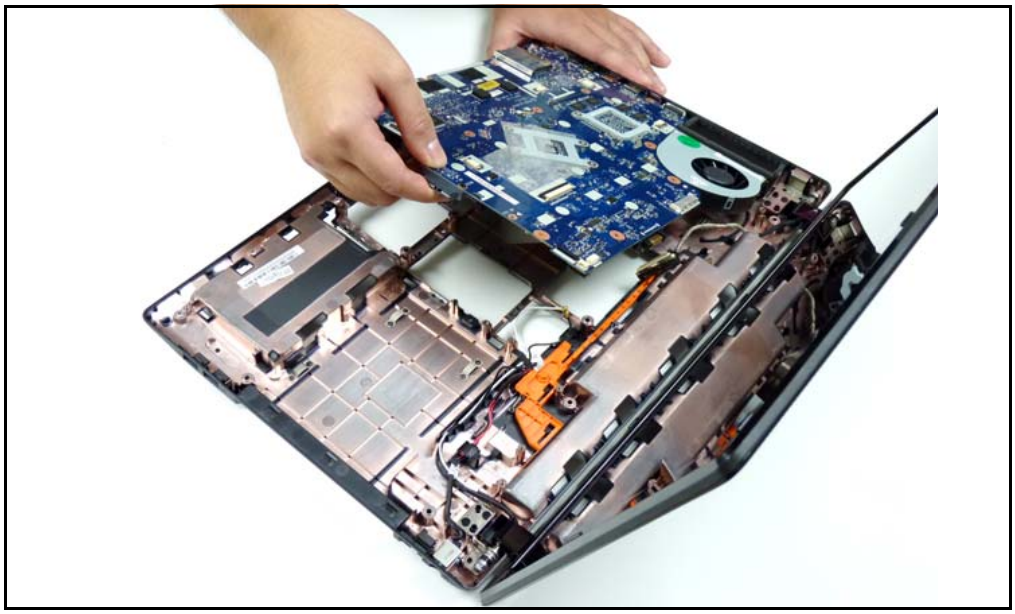


Figure 3-28. Mainboard

Mainboard Installation

NOTE:

Connectors on left side of mainboard (i.e. USB 2.0, HDMI, etc.) are set in lower cover slots. Do not force mainboard at installation.

1. Install board by sliding connectors at left side of board at a slight angle into slots on left side of lower cover (Figure 3-28).
2. Lower right side of board until edge is flush with lower cover.
3. Install and secure screw (G) to lower cover (Figure 3-27).
4. Connect Bluetooth cable to mainboard connector (A) (Figure 3-27).
5. Connect speaker cable to mainboard connector (B) (Figure 3-27).
6. Connect USB FFC cable to mainboard connector (C). Refer to USB Module Removal
7. Connect LAN to mainboard connector (D) (Figure 3-27).
8. Connect microphone cable to mainboard connector (E) (Figure 3-27).
9. Connect LVDS cable to mainboard connector (F) (Figure 3-27).
10. Connect DC-IN cable to mainboard connector (H) (Figure 3-27).
11. Install upper cover/keyboard.

ID	Size	Quantity	Screw Type
G	M2.5*3 Ni	1	

FAN Module Removal

Prerequisite:

Mainboard Removal

1. Disconnect module cable (B) from mainboard connector (Figure 3-29).
2. Loosen two (2) screws (C) from module (A).
3. Remove module.

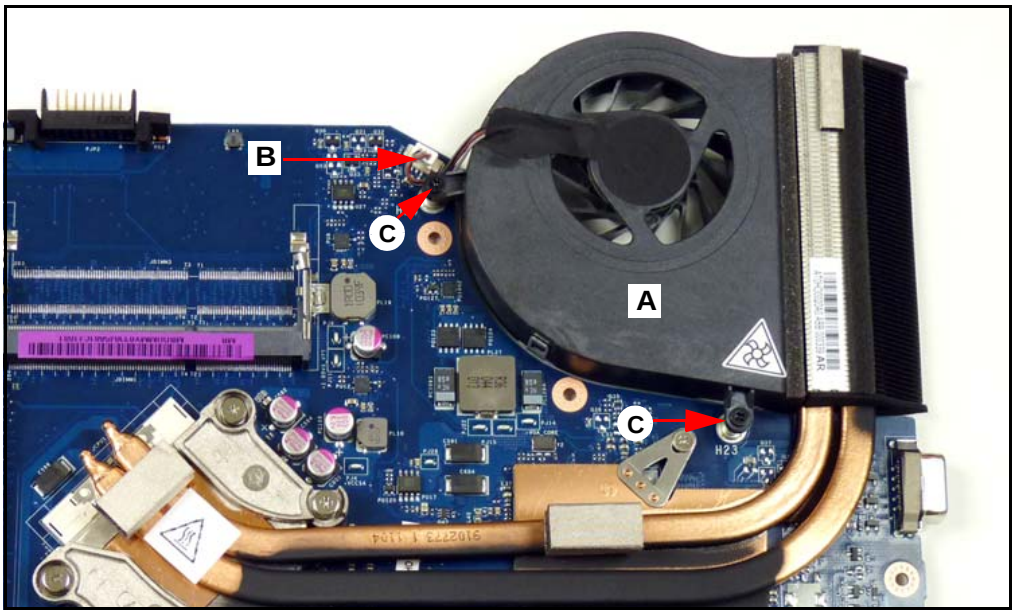


Figure 3-29. FAN Module

FAN Module Installation

1. Install module (A) on mainboard.
2. Secure two (2) screws (C) to module (A).
3. Connect module cable (B) to mainboard (Figure 3-29).
4. Install mainboard.

Thermal Module Removal

Prerequisite:

Mainboard Removal

1. Remove four (4) screws (B) and two (2) screws (C) from module (A) (Figure 3-30).

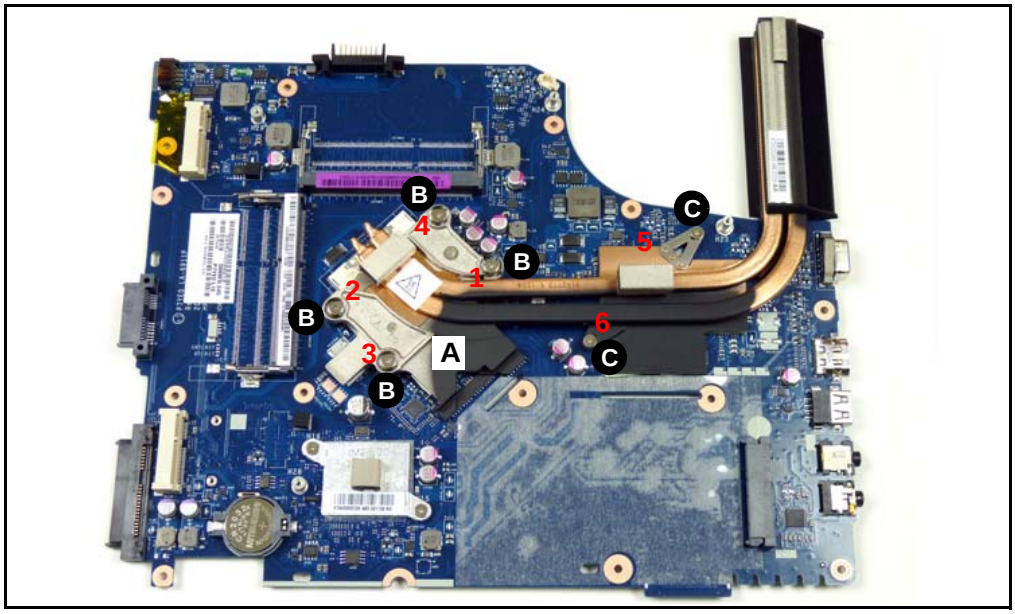


Figure 3-30. Thermal Module

2. Lift module to remove (Figure 3-31).

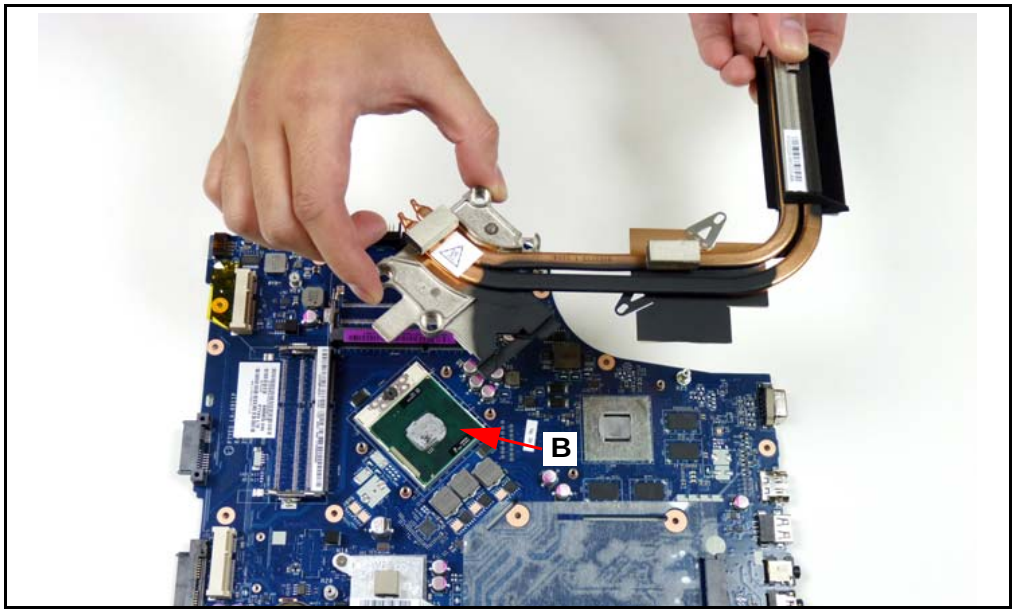


Figure 3-31. Thermal Module

Thermal Module Installation

IMPORTANT:

Apply suitable thermal grease and ensure all heat pads are in place before replacing module.

The following thermal grease types are approved for use:

- N302 I-Connosseur
- Honeywell

The following thermal pads are approved for use:

- Eapus XR-PE

1. Remove all traces of thermal grease from CPU using a lint-free cloth or cotton swab and Isopropyl Alcohol, Acetone, or other approved cleaning agent.
2. Apply small amount of thermal grease to center of CPU (B) (Figure 3-31).

NOTE:

Force used during installation of thermal module is sufficient to spread grease over CPU top.

3. Align module (A) to mainboard screw holes.
4. Install and secure four (4) screws (B) in numerical order from 1 to 4 to mainboard (Figure 3-30).
5. Install and secure two (2) screws (C) 5 and 6 to mainboard. Refer to (Figure 3-30).
6. Install mainboard.

ID	Size	Quantity	Screw Type
C	M2.5*3 Ni	2	
B	THML_SPRING_SCREW_ASSY	4	

CPU Removal

Prerequisite:

Thermal Module Removal

1. Unlock CPU from mainboard socket by rotating captive screw left 180º.
2. Lift CPU (A) from socket.

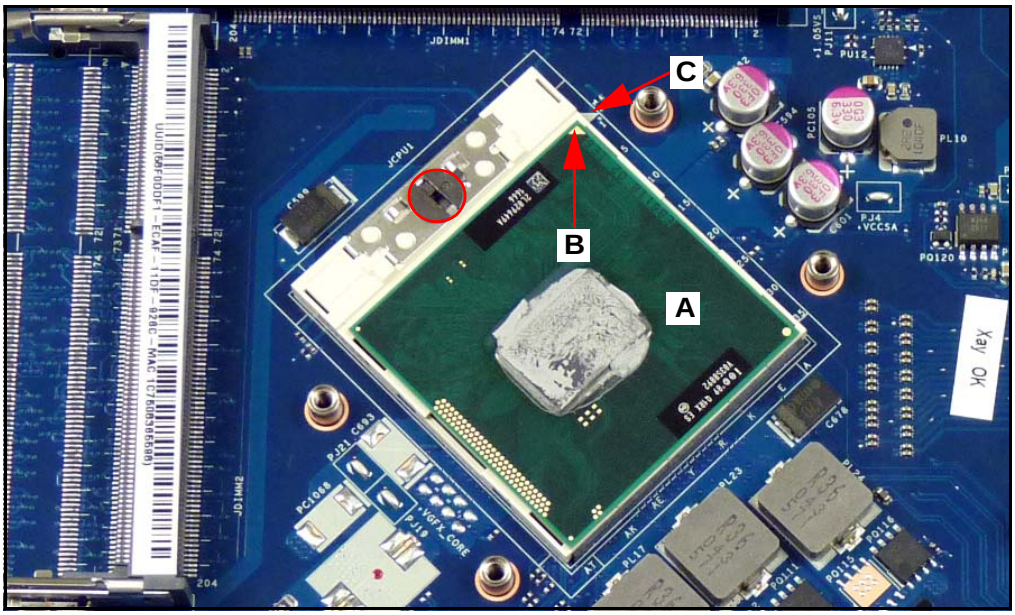


Figure 3-32. CPU in Socket

CPU Installation

1. Align CPU marker (B) with socket marker (C) and install CPU in socket (Figure 3-32).
2. Lock CPU from socket by rotating screw right 180º.
3. Install thermal module.

Prerequisite:

Speakers Removal

LAN Module Removal

1. Disconnect WLAN antenna cables from WLAN module connectors (Figure 3-9)
2. Guide antenna cables through lower cover opening (B) under mainboard (Figure 3-33) and (Figure 3-34).
3. Disconnect DC-IN cable (C) from slot (D)

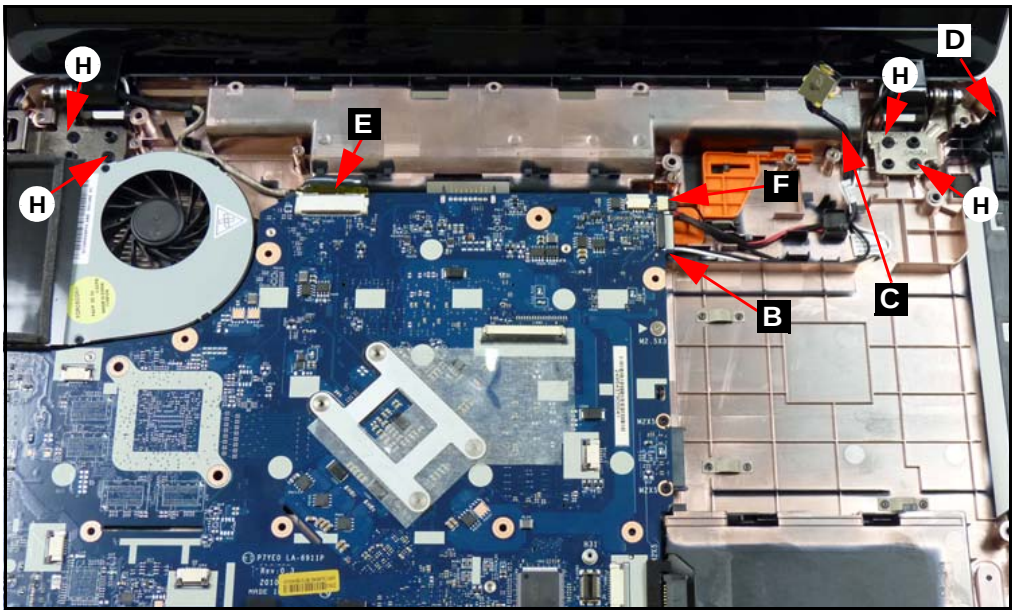


Figure 3-33. LCD Module Removal

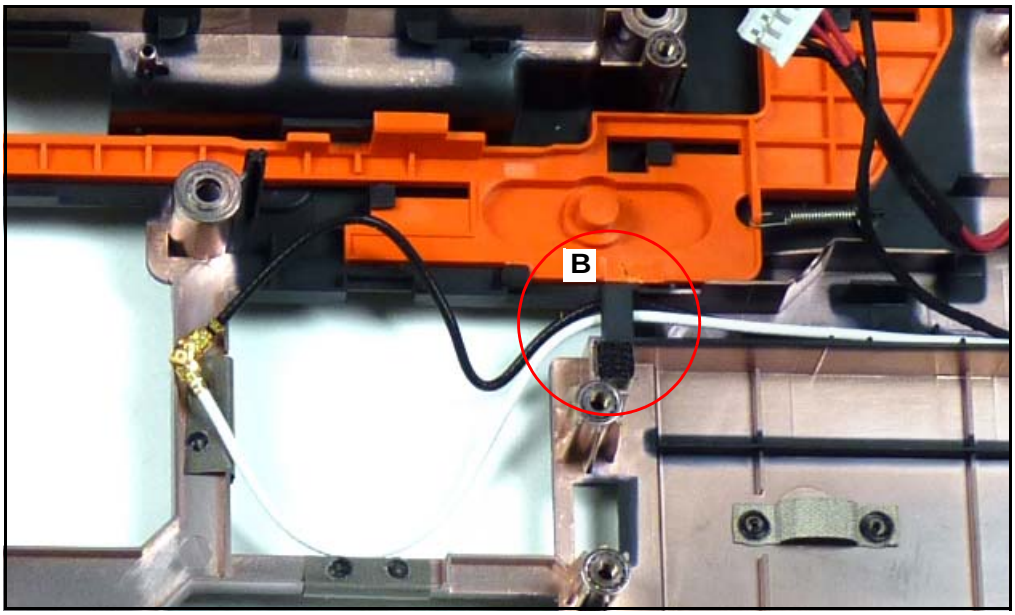


Figure 3-34. Lower Cover Opening

4. Release microphone cable and WLAN antenna cables from cable guides (Figure 3-33).
5. Disconnect LVDS (E) and microphone cable (F) (Figure 3-33).
6. Remove four (4) screws (H) from LCD module hinges.

⚠ CAUTION:

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

7. Lift LCD module from lower cover to remove (Figure 3-35).

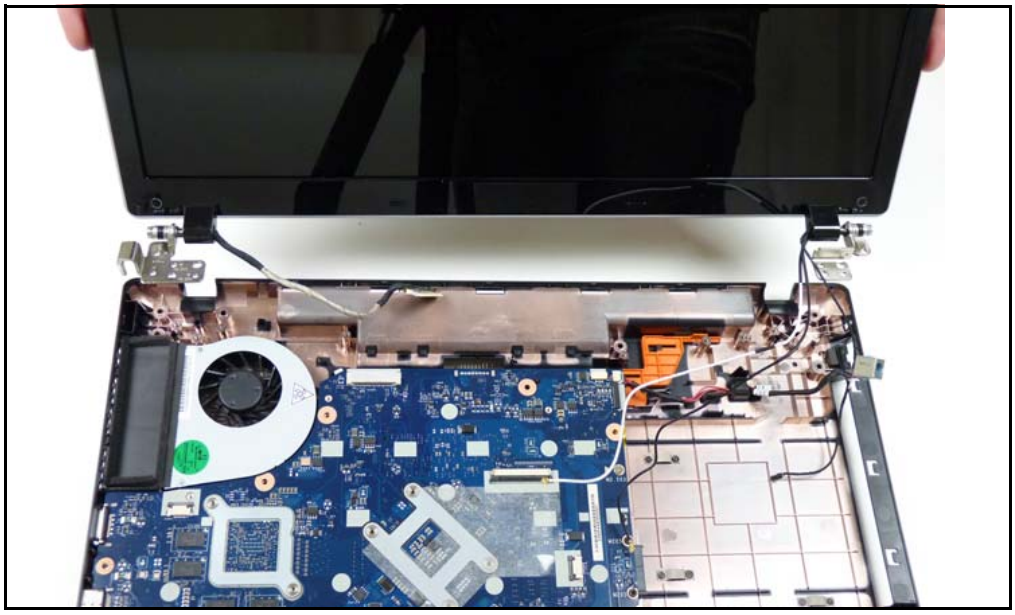


Figure 3-35. LCD Module Removal

LCD Module Installation

1. Install LCD module and secure four (4) screws (H) to chassis (Figure 3-33).
2. Connect LVDS (E) and microphone cable (F) (Figure 3-33).
3. Feed WLAN antenna cables through lower cover opening (B) under mainboard (Figure 3-33) and (Figure 3-34).
4. Place WLAN antenna cables and microphone cable in cable guides.
5. Connect DC-IN cable (C) to slot (D) by covering microphone cable and WLAN antenna cables (Figure 3-33).
6. Place computer upper cover facing surface.
7. Connect WLAN antenna cables to WLAN module connectors (Figure 3-9 and WLAN Module Installation).
8. Install speakers.
9. Install LAN module.

ID	Size	Quantity	Screw Type
H	M2.5*6	5	

LCD Bezel Removal

Prerequisite:

LCD Module Removal

1. Remove two (2) screw pads and two (2) screws (A).

Figure 3-36. LCD Panel

2. Starting from bottom edge of bezel, pull bezel up and away from panel.
3. Work along right side toward top of bezel, pulling covers apart.
4. Continue along top edge and down left side to remove bezel (Figure 3-37).

Figure 3-37. LCD Bezel Removal

LCD Bezel Installation

1. Align hinge side of bezel to LCD cover and press down until there are no gaps between bezel and LCD module.

⚠ CAUTION:

Make sure the cables do not get caught underneath the bezel.

2. Install and secure two (2) screws (A) and screw pads (Figure 3-36).
3. Install LCD module.

ID	Size	Quantity	Screw Type
A	M2.5*6 Ni	2	

Camera Module Removal

Prerequisite:

LCD Bezel Removal

1. Disconnect camera cable (B)
2. Remove camera module (A).
3. Lift camera from adhesive and remove.

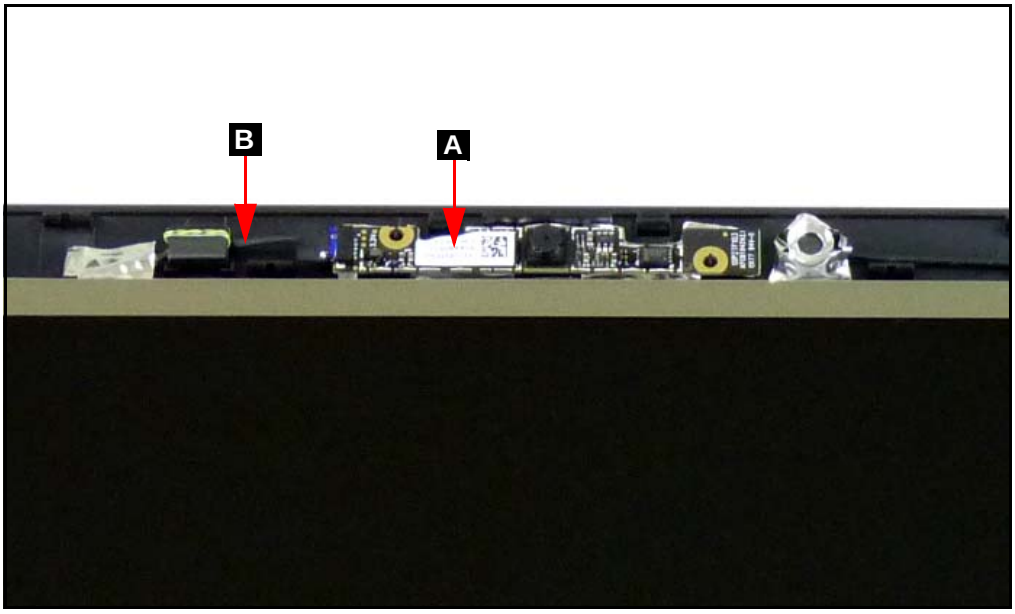


Figure 3-38. Camera Module

Camera Module Installation

1. Install camera (A) on LCD cover.
2. Connect camera cable (B) (Figure 3-38).
3. Install camera module.

LCD Panel Removal

Prerequisite:

LCD Bezel Removal

1. Remove six (6) screws (A) from LCD panel.
2. Remove panel from LCD cover.

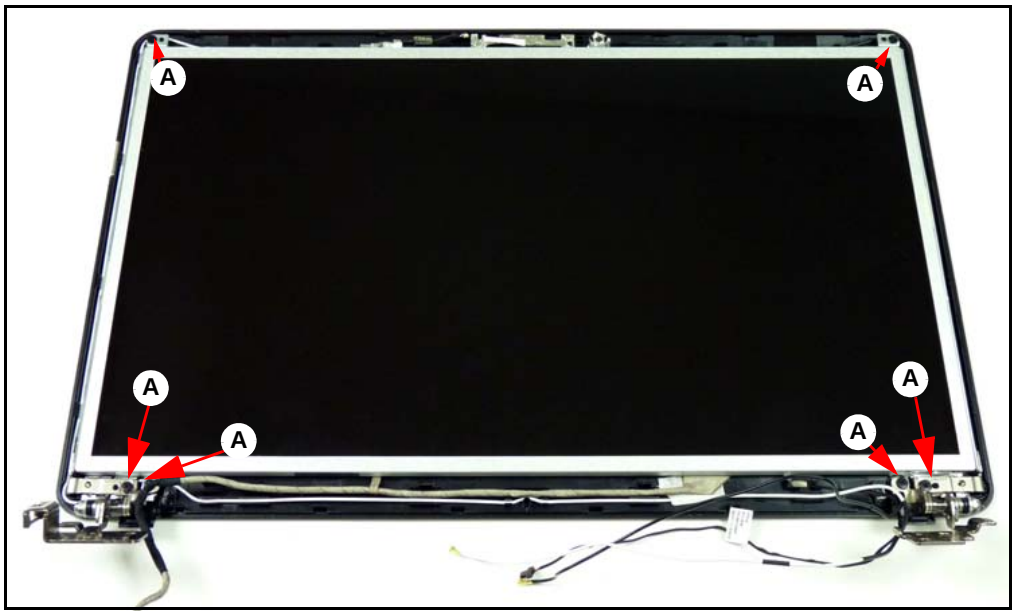


Figure 3-39. LCD Panel Removal

LCD Panel Installation

1. Install LCD panel onto LCD cover.
2. Install and secure six (6) screws (A) to panel (Figure 3-39).
3. Install LCD bezel.

ID	Size	Quantity	Screw Type
A	M2.5*5	6	

LCD Brackets Removal

Prerequisite:

LCD Panel Removal

1. Remove six (6) screws (A) from left and right LCD panel bracket (B).

Figure 3-40. LCD Brackets

LCD Brackets Installation

1. Attach LCD panel brackets to LCD panel.
2. Install and secure six (6) screws (A).
3. Install LCD panel.

ID	Size	Quantity	Screw Type
A	M1.98*3	8	

LVDS Cable Removal

Prerequisite:

LCD Panel Removal

1. Lift LVDS cable (A) from adhesive on LCD panel.

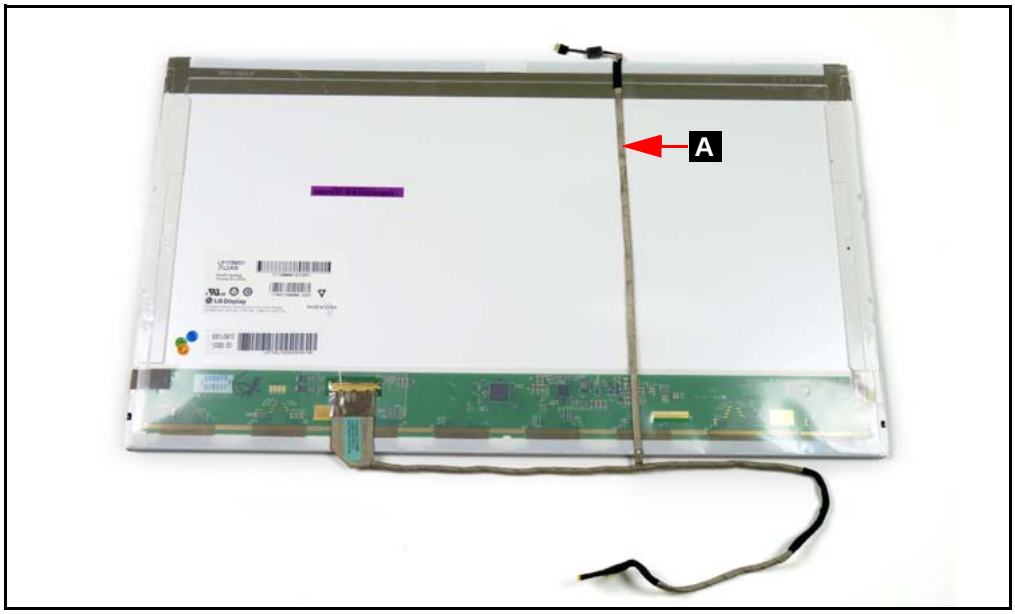


Figure 3-41. LVDS Cable

2. Gently peel back mylar (B) from connector (Figure 3-42).
3. Disconnect LVDS cable from LCD panel connector and remove.

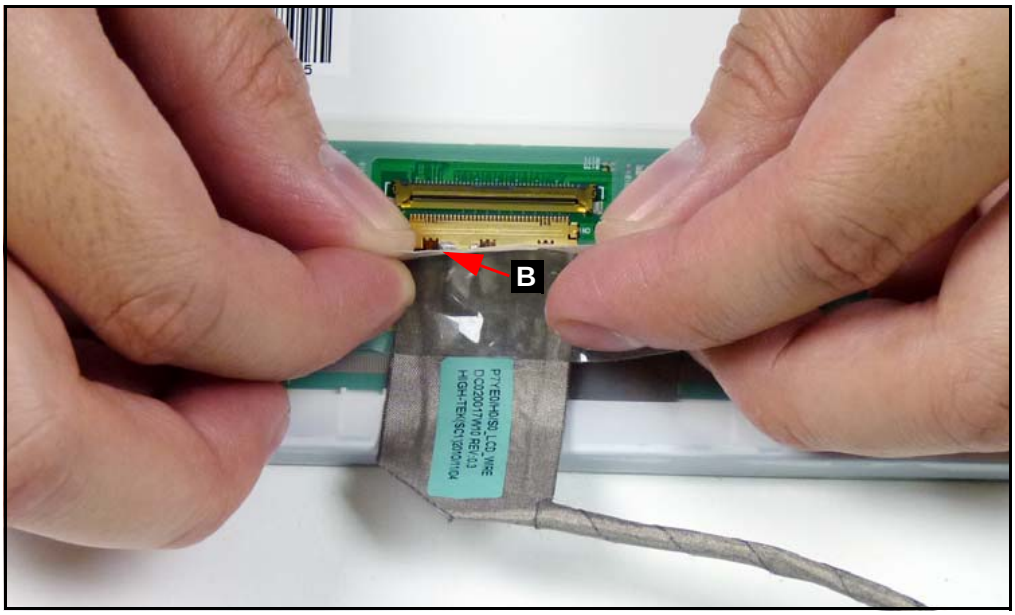


Figure 3-42. LVDS Cable

LVDS Cable Installation

1. Connect cable to LCD panel.
2. Seal connectors with mylar (B) (Figure 3-42).
3. Place cable onto LCD panel as shown in Figure 3-41.
4. Install LCD panel.

Antennas and Microphone Removal

Prerequisite:

LCD Panel Removal

1. Peel back foil as required.
2. Remove:
   - Microphone cable (A) as required,
   - Black main antenna (B) as required,
   - White auxiliary antenna (C) as required.

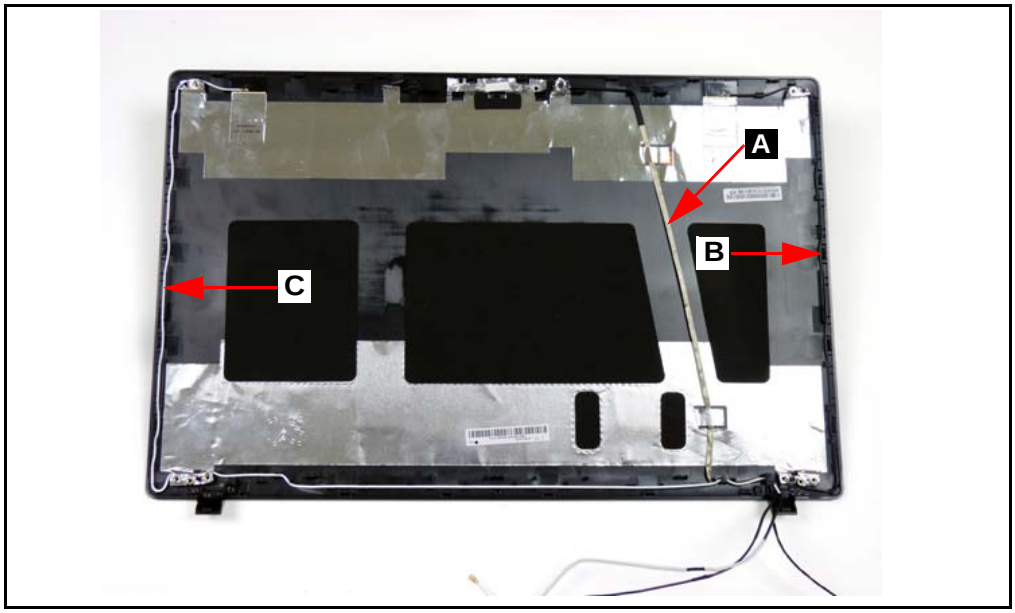


Figure 3-43. Antennas and Microphone

Antennas and Microphone Installation

1. Install:
   - Microphone cable (A) as required,
   - Black main antenna (B) as required,
   - White auxiliary antenna (C) as required.
2. Secure with foil as required.
3. Install LCD panel.

CHAPTER 4

Troubleshooting

Troubleshooting

Introduction

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

General Information

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

NOTE:
Do not replace a non-defective FRU.

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

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

Table 4-1. Common Problems

Symptoms (Verified)
Power On Issues
No Display Issues
LCD Failure
Keyboard Failure
Touchpad Failure
Internal Speaker Failure
Microphone Failure
USB Failure
WLAN Failure
Bluetooth Failure
Card Reader Failure
Thermal Unit Failure
Other Functions Failure
Intermittent Problems
Undetermined Problems

4. If the Issue is still not resolved, Refer to Online Support Information.

Power On Issues

If the system does not power on, perform the following.

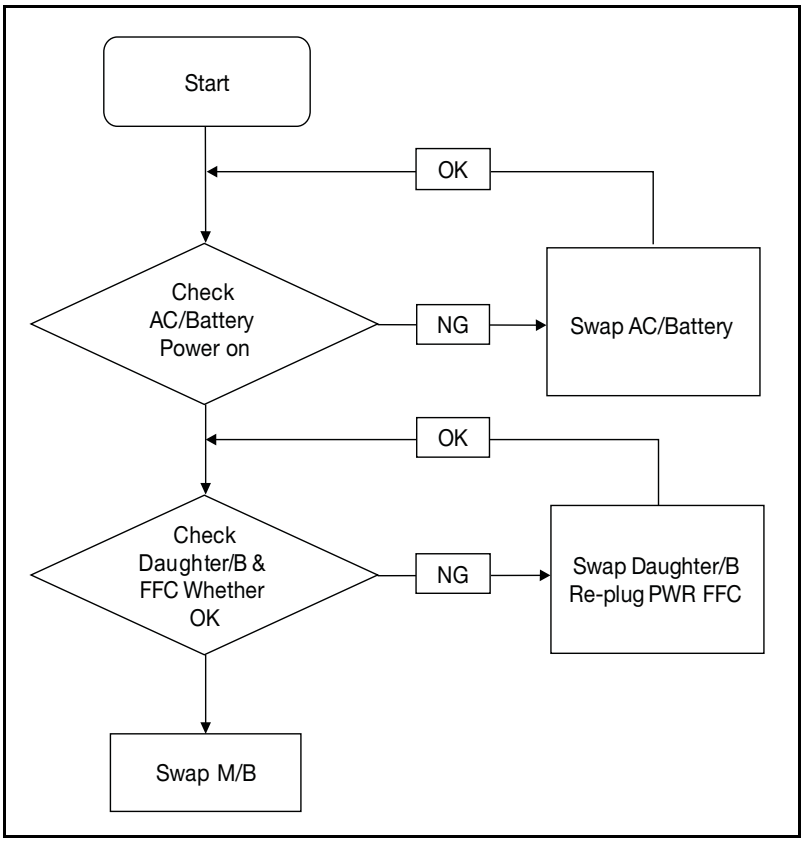


Figure 4-1. Power On Issue

Computer Shuts Down Intermittently

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

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

No Display Issues

If the Display does not work, perform the following.

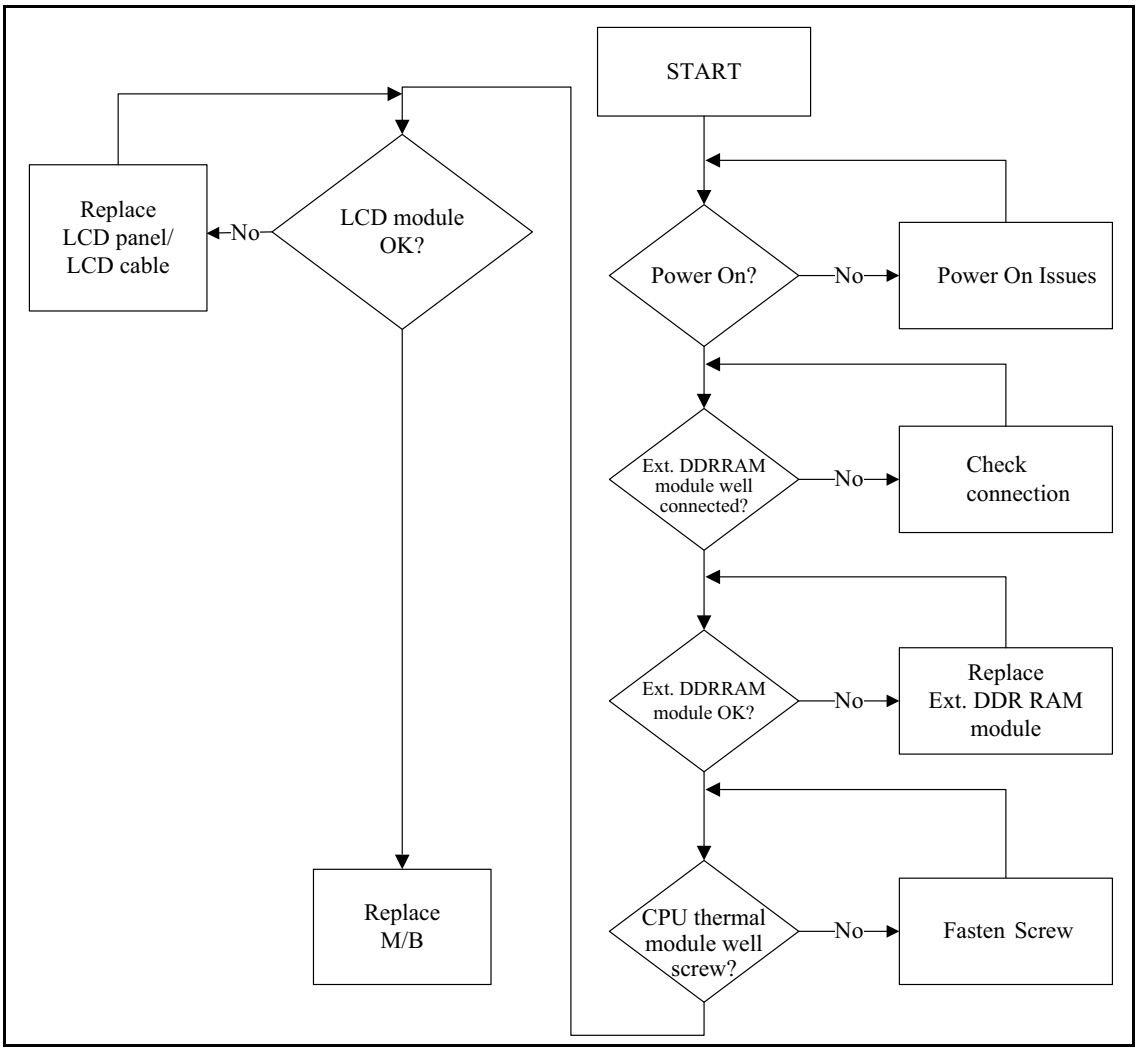


Figure 4-2. No Display Issue

No POST or Video

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

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

   If no power, refer to *Power On Issues*.
3. Drain stored power by removing the power cable and battery. Hold the power button for 10 seconds.

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

Abnormal Video

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

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

NOTE:

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

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

LCD Failure

If the LCD fails, perform the following.

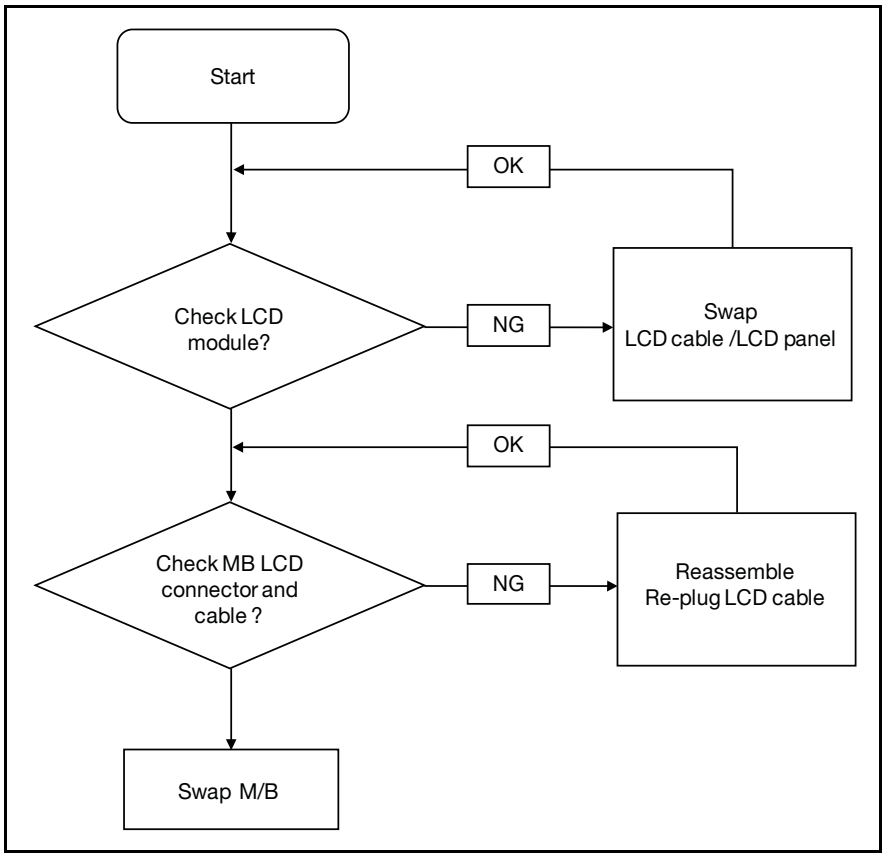


Figure 4-3. LCD Failure

Keyboard Failure

If the Keyboard fails, perform the following.

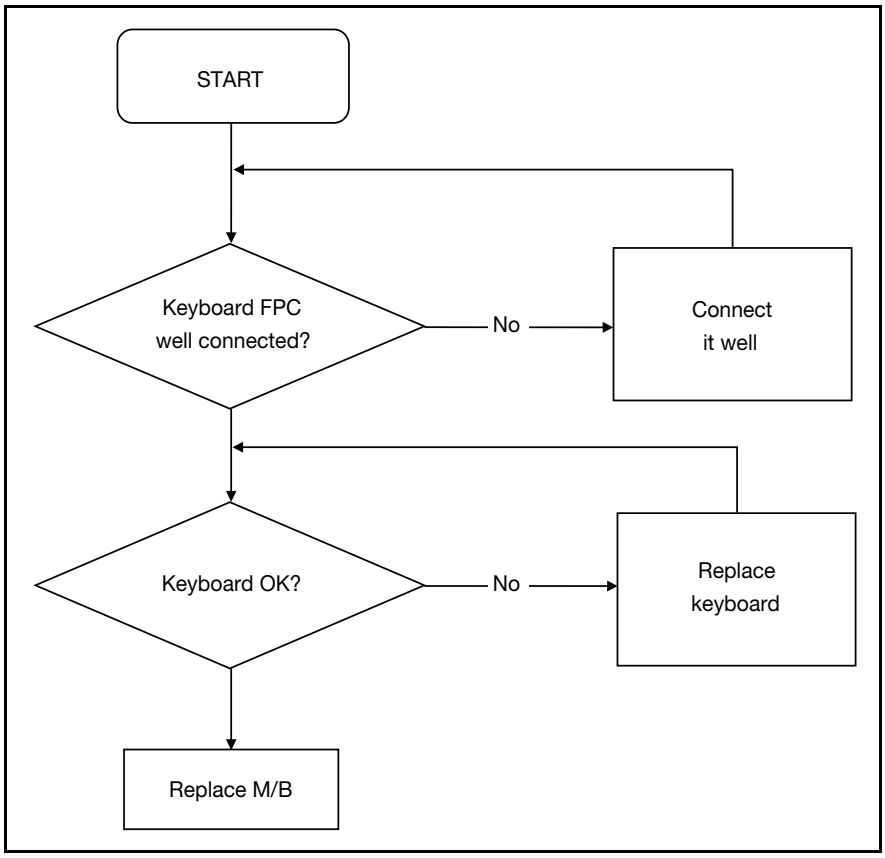


Figure 4-4. Keyboard Failure

Touchpad Failure

If the Touchpad fails, perform the following.

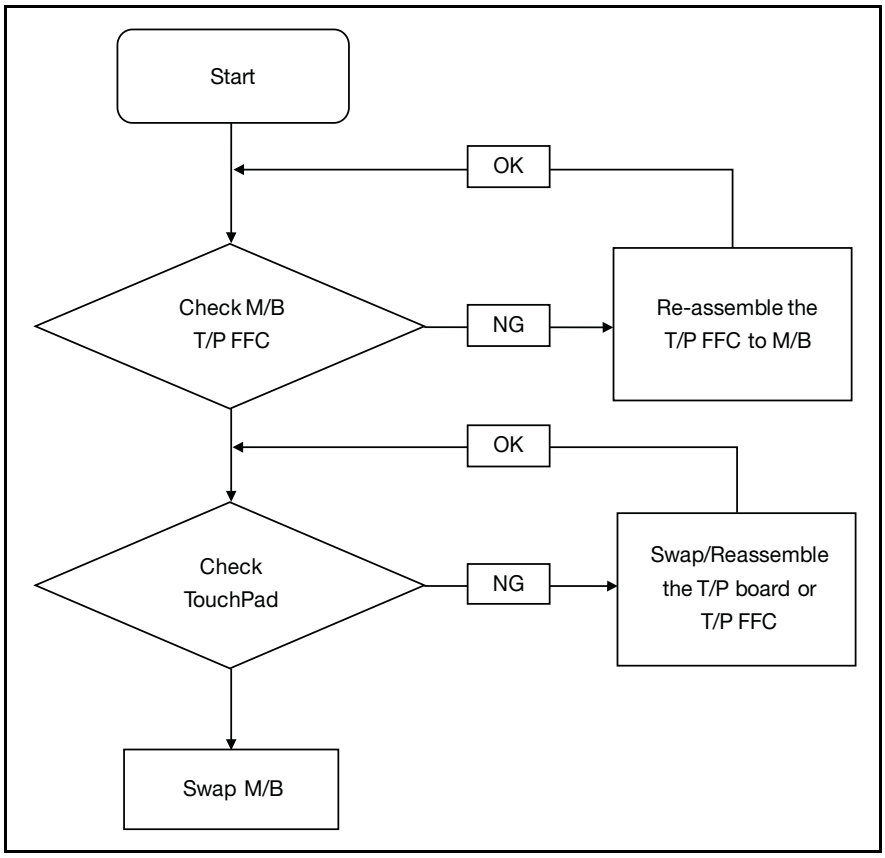


Figure 4-5. Touchpad Failure

Internal Speaker Failure

If internal Speakers fail, perform the following.

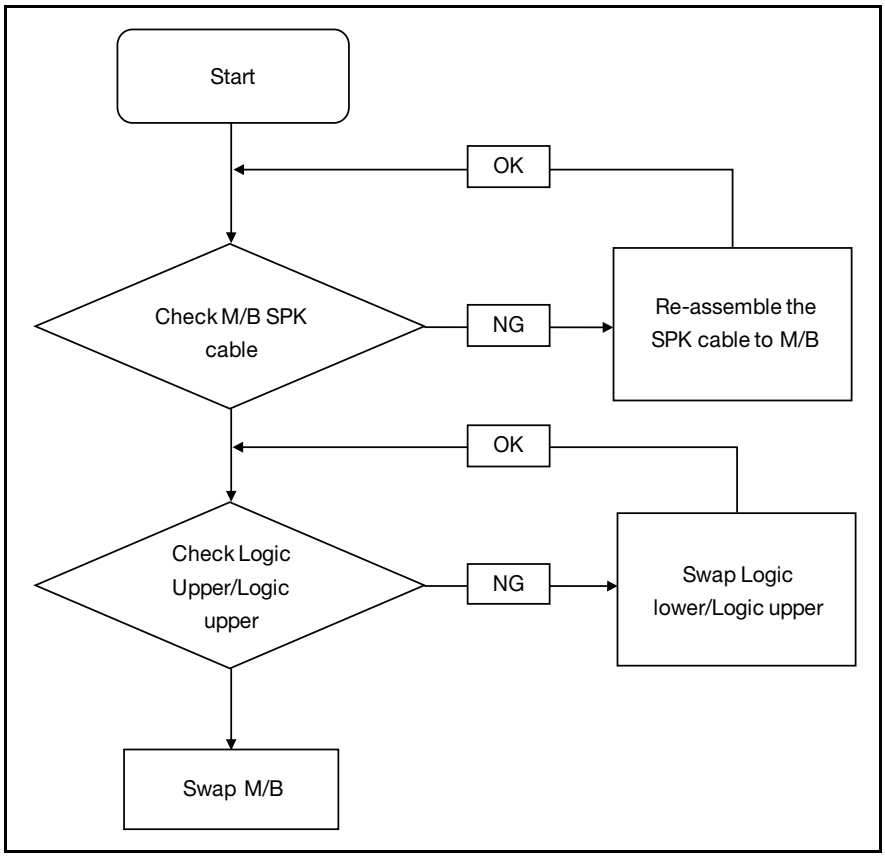


Figure 4-6. Internal Speaker Failure

Sound Problems

Perform the following, one at a time.

1. Boot the computer.
2. Navigate to *Start→ Control Panel→ System→ 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. If updated recently, roll back the audio driver to the previous version.
4. Remove and reinstall the audio driver.
5. Make sure that all volume controls are set mid range:
   - Click the volume icon on the taskbar
   - Drag the slider to 50. Confirm that the volume is not muted.
   - Click Mixer to verify that other audio applications are set to 50 and not muted.

6. Navigate to *Start→ Control Panel→ Sound*. Confirm that Speakers are selected as the default audio device (green check mark).

NOTE:

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

7. Select *Speakers* and click *Configure* to start `Speaker Setup`. Follow the on-screen prompts to configure the speakers.
8. Remove any recently installed hardware or software.
9. Restore system and file settings from a known good date using `System Restore`.
10. If the issue remains, repeat step 9, selecting an earlier time and date.
11. Reinstall the Operating System.
12. If the issue is still not resolved, refer to Online Support Information.

Microphone Failure

If internal or external Microphones fail, perform the following.

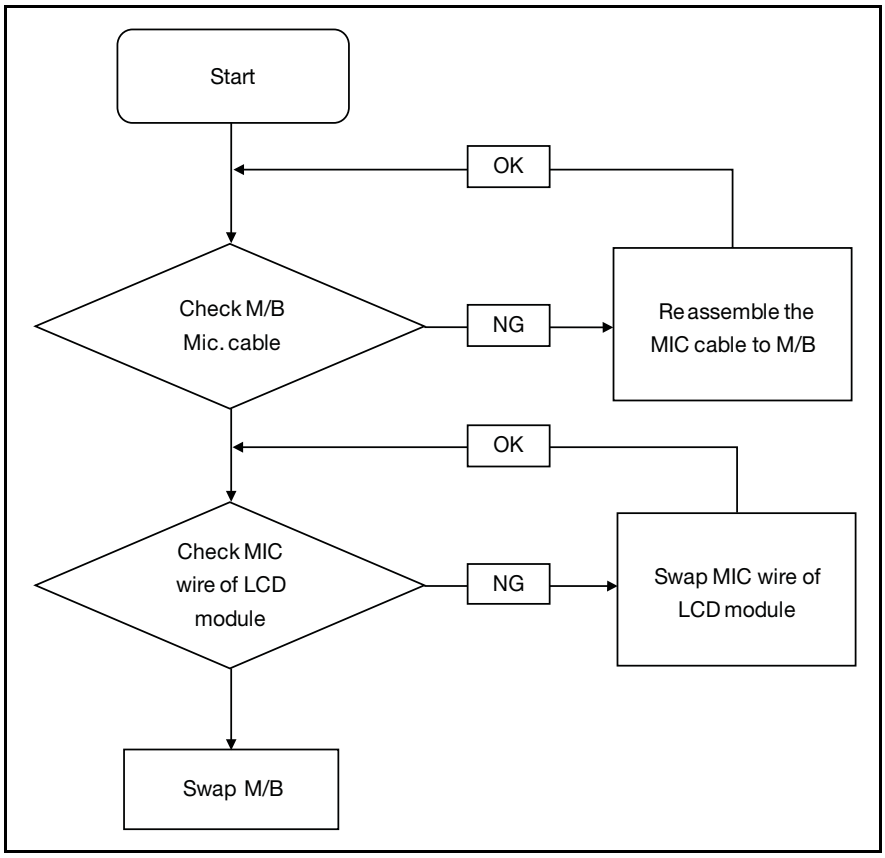


Figure 4-7. Microphone Failure

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

USB Failure

If the USB fails, perform the following.

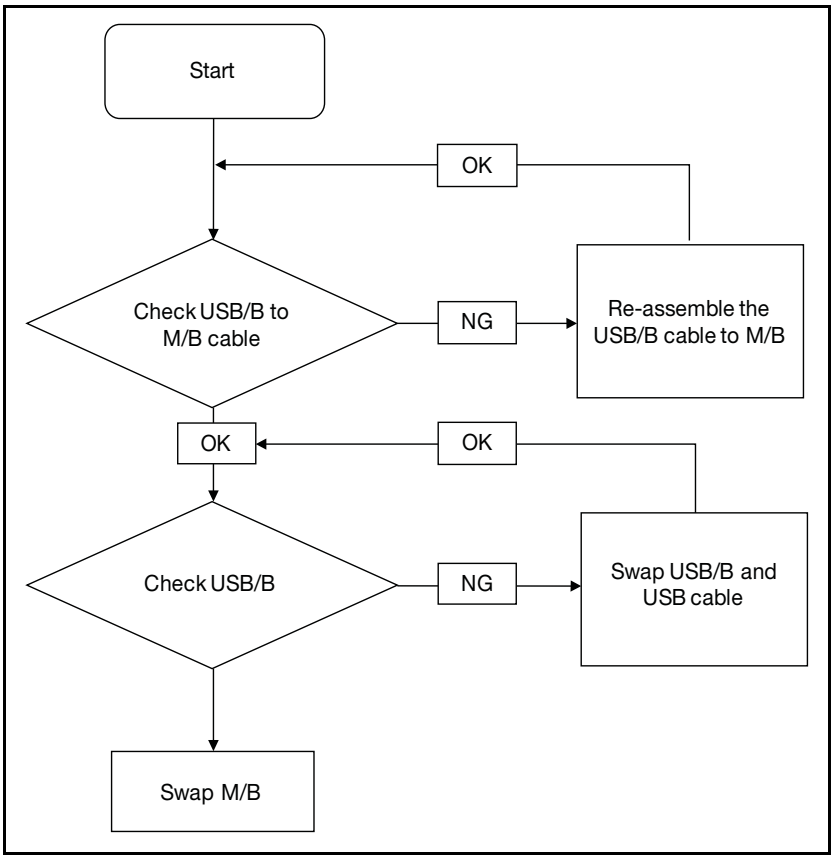


Figure 4-8. USB Failure

WLAN Failure

If the WLAN fails, perform the following.

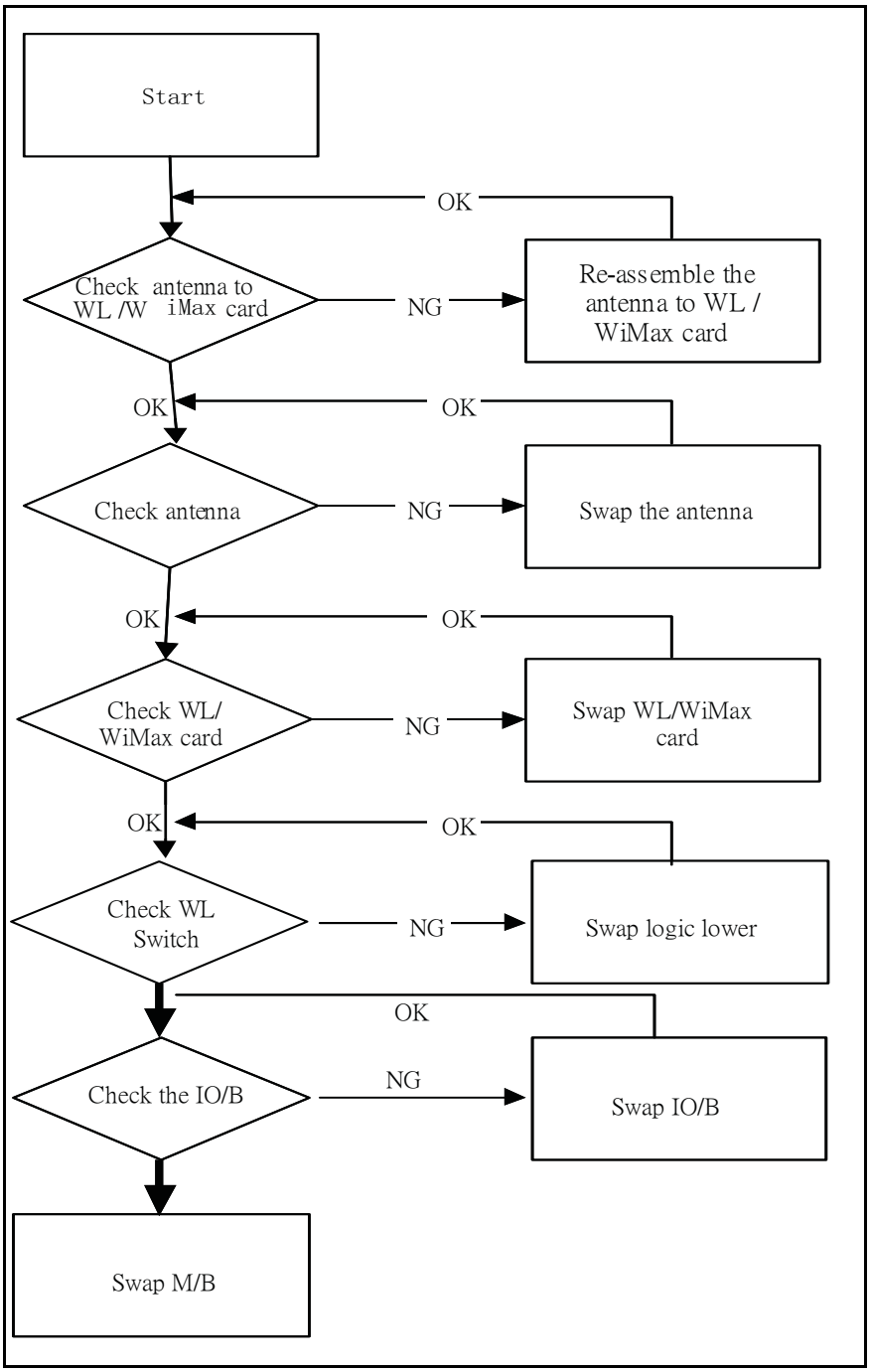


Figure 4-9. WLAN Failure

Bluetooth Failure

If the Bluetooth fails, perform the following.

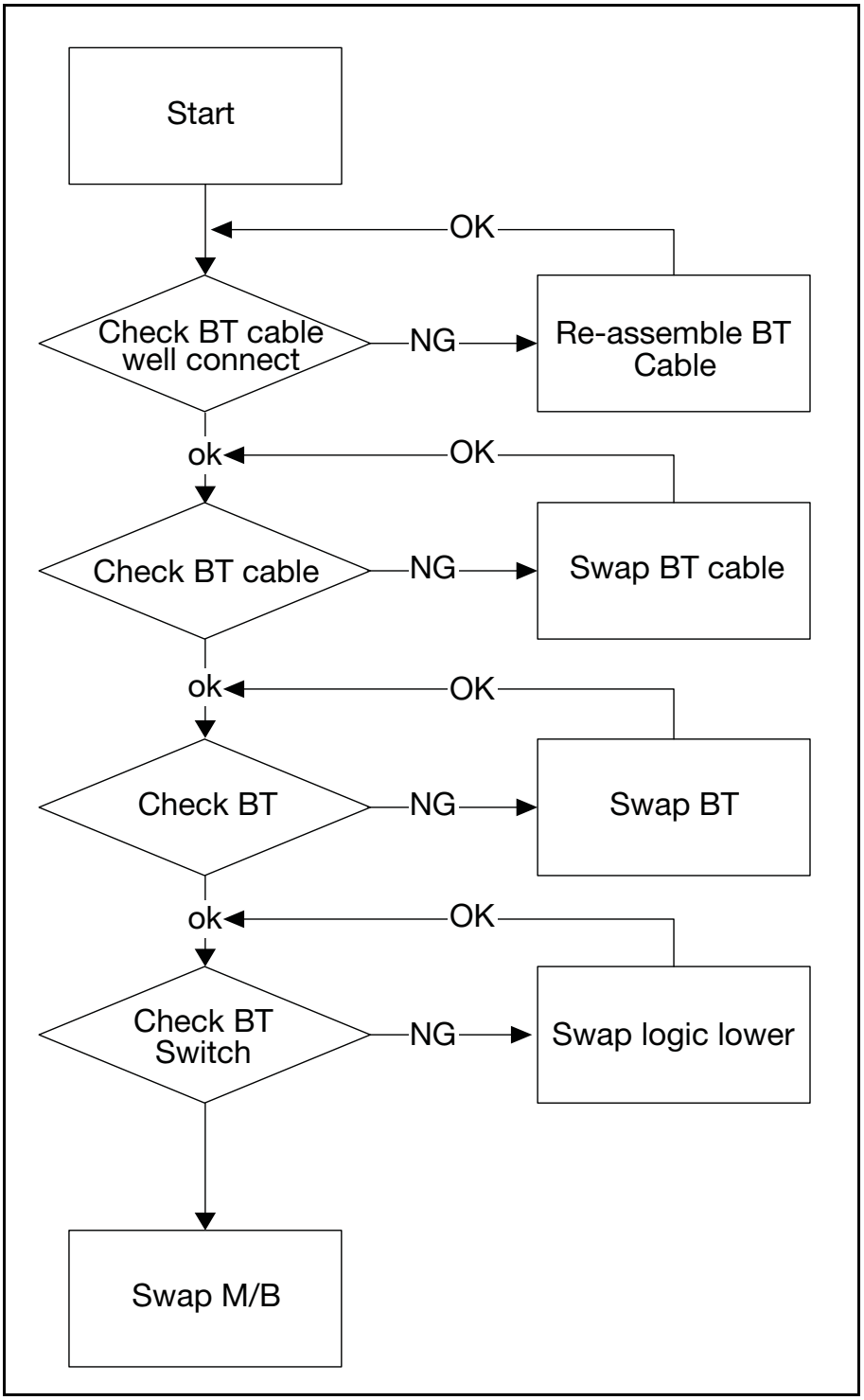


Figure 4-10. Bluetooth Failure

Card Reader Failure

If the Card Reader fails, perform the following.

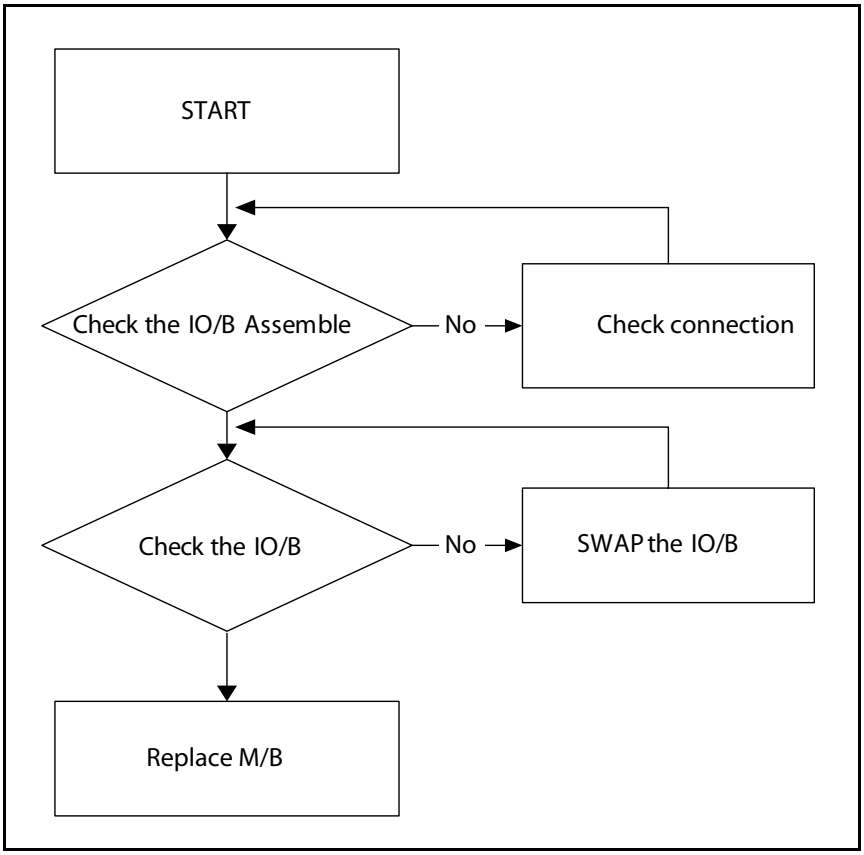


Figure 4-11. Card Reader Failure

Thermal Unit Failure

If the Thermal Unit fails, perform the following.

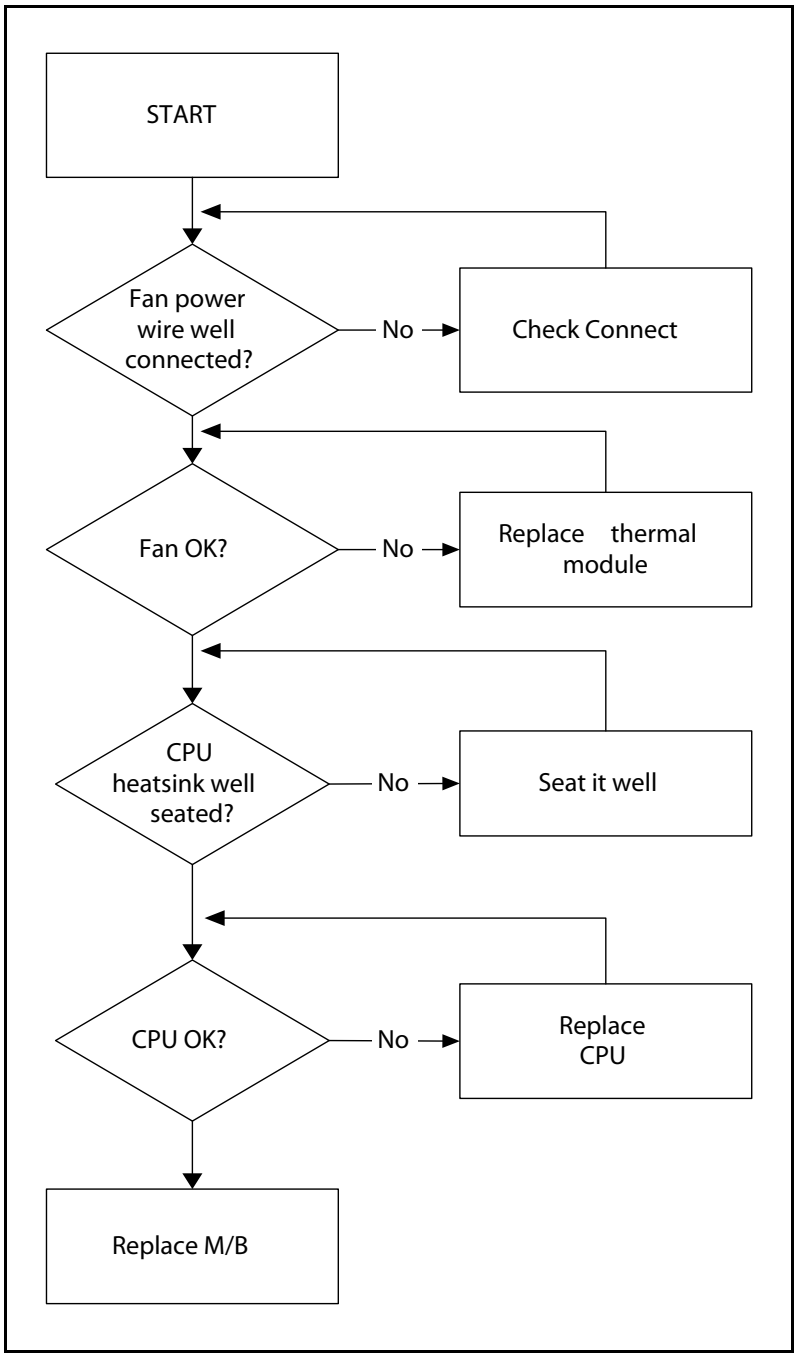


Figure 4-12. Thermal Unit Failure

Other Functions Failure

- Check if drives are functioning correctly.
- Check if external modules are functioning correctly.
- Change mainboard to check if current one is defective.

Intermittent Problems

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

When analyzing an intermittent problem, perform the following:

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

Undetermined Problems

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

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

NOTE:
Verify that all attached devices are supported by the computer.

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

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

Post Codes

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

POST Code Range

Table 4-2. POST Code Range

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

Table 4-3. SEC Phase POST Code Table

Functionality Name (Include\ PostCode.h)	Phase	Post Code	Description
SEC_SYSTEM_POWER_ON	SEC	01	CPU power on and switch to Protected mode
SEC_BEFORE_MICROCODE_PATCH	SEC	02	Patching CPU microcode
SEC_AFTER_MICROCODE_PATCH	SEC	03	Setup Cache as RAM
SEC_ACCESS_CSR*	SEC	04	PCIE MMIO Base Address initial
SEC_GENERIC_MSRINIT*	SEC	05	CPU Generic MSR initialization
SEC_CPU_SPEEDCFG*	SEC	06	Setup CPU speed
SEC_SETUP_CAR_OK	SEC	07	Cache as RAM test

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

Functionality Name (Include\ PostCode.h)	Phase	Post Code	Description
SEC_FORCE_MAX_RATIO*	SEC	08	Tune CPU frequency ratio to maximum level
SEC_GO_TO_SECSTARTUP	SEC	09	Setup BIOS ROM cache
SEC_GO_TO_PEICORE	SEC	0A	Enter Boot Firmware Volume
* 3rd party relate functions – Platform dependence.			

Table 4-4. PEI Phase POST Code Table

Functionality Name (Include\ PostCode.h)	Phase	Post Code	Description
PEI_SIO_INIT	PEI	70	Super I/O Initialization
PEI_CPU_REG_INIT	PEI	71	CPU Early Initialization
PEI_CPU_AP_INIT*	PEI	72	Multi-processor Early Initial
PEI_CPU_HT_RESET*	PEI	73	HyperTransport Initialization
PEI_PCIE_MMIO_INIT	PEI	74	PCIE MMIO BAR Initialization
PEI_NB_REG_INIT	PEI	75	North Bridge Early Initialization
PEI_SB_REG_INIT	PEI	76	South Bridge Early Initialization
PEI_PCIE_TRAINING*	PEI	77	PCIE Training
PEI_TPM_INIT	PEI	78	TPM Initialization
PEI_SMBUS_INIT	PEI	79	SMBUS Early Initialization
PEI_PROGRAM_CLOCK_GEN	PEI	7A	Clock Generator Initialization
PEI_IGD_EARLY_INITIAL *	PEI	7B	Internal Graphic device early Initialization
PEI_HECI_INIT*	PEI	7C	HECI Initialization
PEI_WATCHDOG_INIT*	PEI	7D	Watchdog timer Initialization
PEI_MEMORY_INIT	PEI	7E	Memory Initial for Normal boot.
PEI_MEMORY_INIT_FOR_CRISIS	PEI	7F	Memory Initial for Crisis Recovery
PEI_MEMORY_INSTALL	PEI	80	Simple Memory test
PEI_TXTPEI*	PEI	81	TXT function early Initialization
PEI_SWITCH_STACK	PEI	82	Start to use Memory
PEI_MEMORY_CALLBACK	PEI	83	Set cache for physical memory
PEI_ENTER_RECOVERY_MODE	PEI	84	Recovery device Initialization
PEI_RECOVERY_MEDIA_FOUND	PEI	85	Found Recovery image

Table 4-4. PEI Phase POST Code Table (Continued)

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

Table 4-5. DXE Phase POST Code Table

Functionality Name (Include\ PostCode.h)	Phase	Post Code	Description
DXE_TCGDXE*	DXE	40	TPM initial in DXE
DXE_SB_SPI_INIT*	DXE	41	South bridge SPI initialization
DXE_CF9_RESET*	DXE	42	Setup Reset service
DXE_SB_SERIAL_GPIO_INIT*	DXE	43	South bridge Serial GPIO initialization
DXE_SMMACCESS*	DXE	44	Setup SMM ACCE SS service
DXE_NB_INIT*	DXE	45	North bridge Middle initializaiton
DXE_SIO_INIT*	DXE	46	Super I/O DXE initialization
DXE_LEGACY_REGION*	DXE	47	Setup Legacy Region service
DXE_SB_INIT*	DXE	48	South Bridge Middle initialization
DXE_IDENTIFY_FLASH_DEVICE*	DXE	49	Identify Flash device
DXE_FTW_INIT	DXE	4A	Fault Tolerant Write verification
DXE_VARIABLE_INIT	DXE	4B	Variable Service initialization
DXE_VARIABLE_INIT_FAIL	DXE	4C	Fail to initial Variable Service
DXE_MTC_INIT	DXE	4D	MTC Initial
DXE_CPU_INIT	DXE	4E	CPU Middle Initialization
DXE_MP_CPU_INIT	DXE	4F	Multi-processor Middle Initialization
DXE_SMBUS_INIT	DXE	50	SMBUS Driver Initialization

Table 4-5. DXE Phase POST Code Table (Continued)

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

Table 4-6. BDS Phase POST Code Table

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

Table 4-6. BDS Phase POST Code Table (Continued)

Functionality Name (Include\ PostCode.h)	Phase	Post Code	Description
BDS_CONNECT_CONSOLE_OUT	BDS	17	Video device initialization
BDS_CONNECT_STD_ERR	BDS	18	Error report device initialization
BDS_CONNECT_USB_HC	BDS	19	USB host controller initialization
BDS_CONNECT_USB_BUS	BDS	1A	USB BUS driver initialization
BDS_CONNECT_USB_DEVICE	BDS	1B	USB device driver initialization
BDS_NO_CONSOLE_ACTION	BDS	1C	Console device initial fail
BDS_DISPLAY_LOGO_SYSTEM_INFO	BDS	1D	Display logo or system information
BDS_START_IDE_CONTROLLER	BDS	1E	IDE controller initialization
BDS_START_SATA_CONTROLLER	BDS	1F	SATA controller initialization
BDS_START_ISA_ACPI_CONTROLLER	BDS	20	SIO controller initialization
BDS_START_ISA_BUS	BDS	21	ISA BUS driver initialization
BDS_START_ISA_FDD	BDS	22	Floppy device initialization
BDS_START_ISA_SEIRAL	BDS	23	Serial device initialization
BDS_START_IDE_BUS	BDS	24	IDE device initialization
BDS_START_AHCI_BUS	BDS	25	AHCI device initialization
BDS_CONNECT_LEGACY_ROM	BDS	26	Dispatch option ROMs
BDS_ENUMERATE_ALL_BOOT_OPTION	BDS	27	Get boot device information
BDS_END_OF_BOOT_SELECTION	BDS	28	End of boot selection
BDS_ENTER_SETUP	BDS	29	Enter Setup Menu
BDS_ENTER_BOOT_MANAGER	BDS	2A	Enter Boot manager
BDS_BOOT_DEVICE_SELECT	BDS	2B	Try to boot system to OS
BDS_EFI64_SHADOW_ALL_LEGACY_ROM	BDS	2C	Shadow Misc Option ROM

Table 4-6. BDS Phase POST Code Table (Continued)

Functionality Name (Include\ PostCode.h)	Phase	Post Code	Description
BDS_ACPI_S3SAVE	BDS	2D	Save S3 resume required data in RAM
BDS_READY_TO_BOOT_EVENT	BDS	2E	Last Chipset initial before boot to OS
BDS_GO_LEGACY_BOOT	BDS	2F	Start to boot Legacy OS
BDS_GO_UEFI_BOOT	BDS	30	Start to boot UEFI OS
BDS_LEGACY16_PREPARE_TO_BOOT	BDS	31	Prepare to Boot to Legacy OS
BDS_EXIT_BOOT_SERVICES*	BDS	32	Send END of POST Message to ME via HECI
BDS_LEGACY_BOOT_EVENT	BDS	33	Last Chipset initial before boot to Legacy OS.
BDS_ENTER_LEGACY_16_BOOT	BDS	34	Ready to Boot Legacy OS.
BDS_RECOVERY_START_FLASH	BDS	35	Fast Recovery Start Flash.
* 3rd party relate functions – Platform dependence.			

Table 4-7. PostBDS POST Code Table

Functionality Name (Include\ PostCode.h)	Phase	Post Codes	Description
POST_BDS_NO_BOOT_DEVICE	POST_BDS	F9	No Boot Device
POST_BDS_START_IMAGE	POST_BDS	FB	UEFI Boot Start Image
POST_BDS_ENTER_INTI9	POST_BDS	FD	Legacy 16 boot entry
POST_BDS_BOOT_SECTOR	POST_BDS	FE	Try to Boot with INT 19

Table 4-8. S3 Functions POST Code Table

Functionality Name (Include\ PostCode.h)	Phase	Post Code	Description
S3_RESTORE_MEMORY_CONTROLLER	PEI	C0	Memory initial for S3 resume
S3_INSTALL_S3_MEMORY	PEI	C1	Get S3 resume required data from memory

Table 4-8. S3 Functions POST Code Table (Continued)

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

Table 4-9. ACPI Functions POST Code Table

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

Table 4-10. SMM Functions POST Code Table

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

Table 4-11. InsydeH2ODDT Debugger POST Code Table

Functionality Name (Include\ PostCode.h)	Post Code	Description
Used by Insyde debugger	0x0D	Waiting for device connect
Used by Insyde debugger	0xD0	Waiting for device connect
Used by Insyde debugger	0xD1	InsydeH2ODDT Ready
Used by Insyde debugger	0xD2	EHCI not found
Used by Insyde debugger	0xD3	Debug port connect low speed device
Used by Insyde debugger	0xD4	DDT Cable become low speed device
Used by Insyde debugger	0xD5	DDT Cable Transmission Error (Get descriptor fail)
Used by Insyde debugger	0xD6	DDT Cable Transmission Error (Set Debug mode fail)
Used by Insyde debugger	0xD7	DDT Cable Transmission Error (Set address fail)

CHAPTER 5

Jumper and Connector Locations

Jumper and Connector Locations

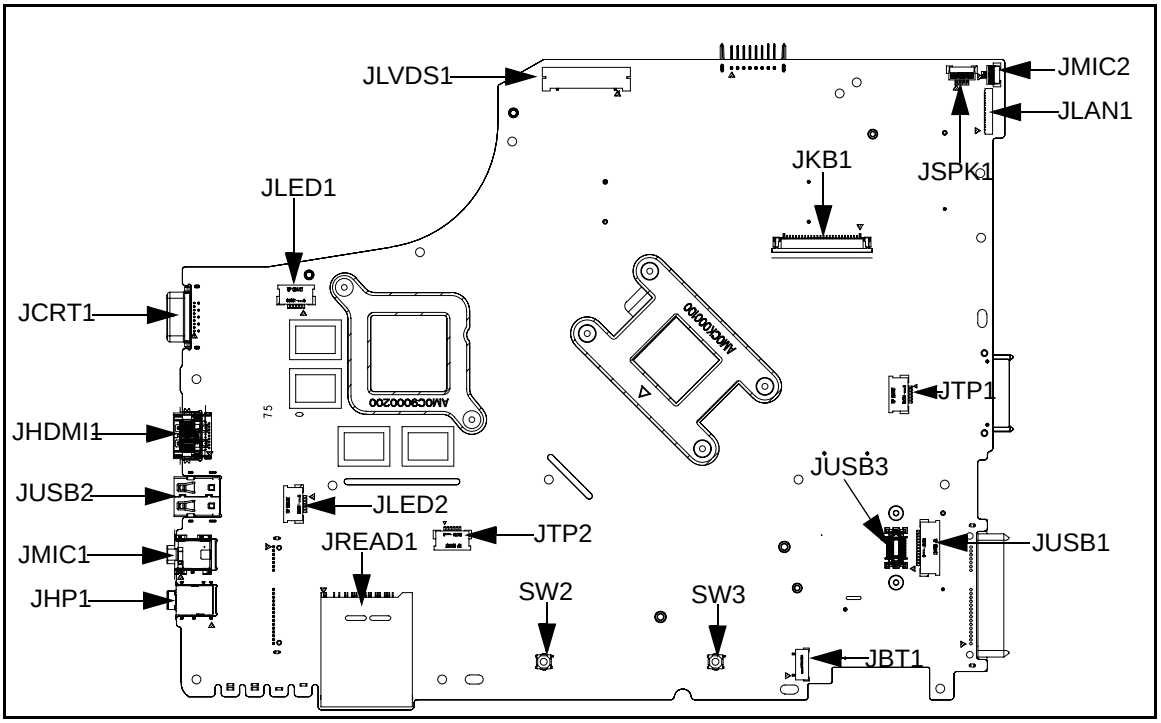


Figure 5-1. Mainboard Top

Table 5-1. Mainboard Top

Item	Description	Item	Description
JLVDS1	Connect to LED Panel	LED5 / LED6	Power State Indicator
JKB1	Connect to Keyboard	LED7 / LED8	Battery Charging Indicator
JSPK1	Connect to Speaker	LED9	HDD State Indicator
JMIC2	Connect to Internal MIC	LED10	WLAN State Indicator
JLAN1	Connect to LAN board	JHP1	Connect to External Headphone
JTP1	Connect to Touch pad (FFC) (Acer and eMachines only)	JMIC1	Connect to External Microphone
JTP2	Connect to Touch pad (FFC) (Packard Bell and Gateway only)	JUSB2	USB2.0 Connector
JUSB3	Connect to 3.0 USB board (FPC)	JHDMI1	HDMI Connector
JUSB1	Connect to 2.0 USB board (FFC)	JLED1	Connect to Power/B (FFC) (Acer and eMachines only
JBT1	Connect to BT	JLED2	Connect to Power/B (FFC) (Packard Bell and Gateway only)

Table 5-1. Mainboard Top

Item	Description	Item	Description
SW2 / SW3	Left button / Right button	JCRT1	Connect to External CRT
JREAD1	Card Reader Connector		

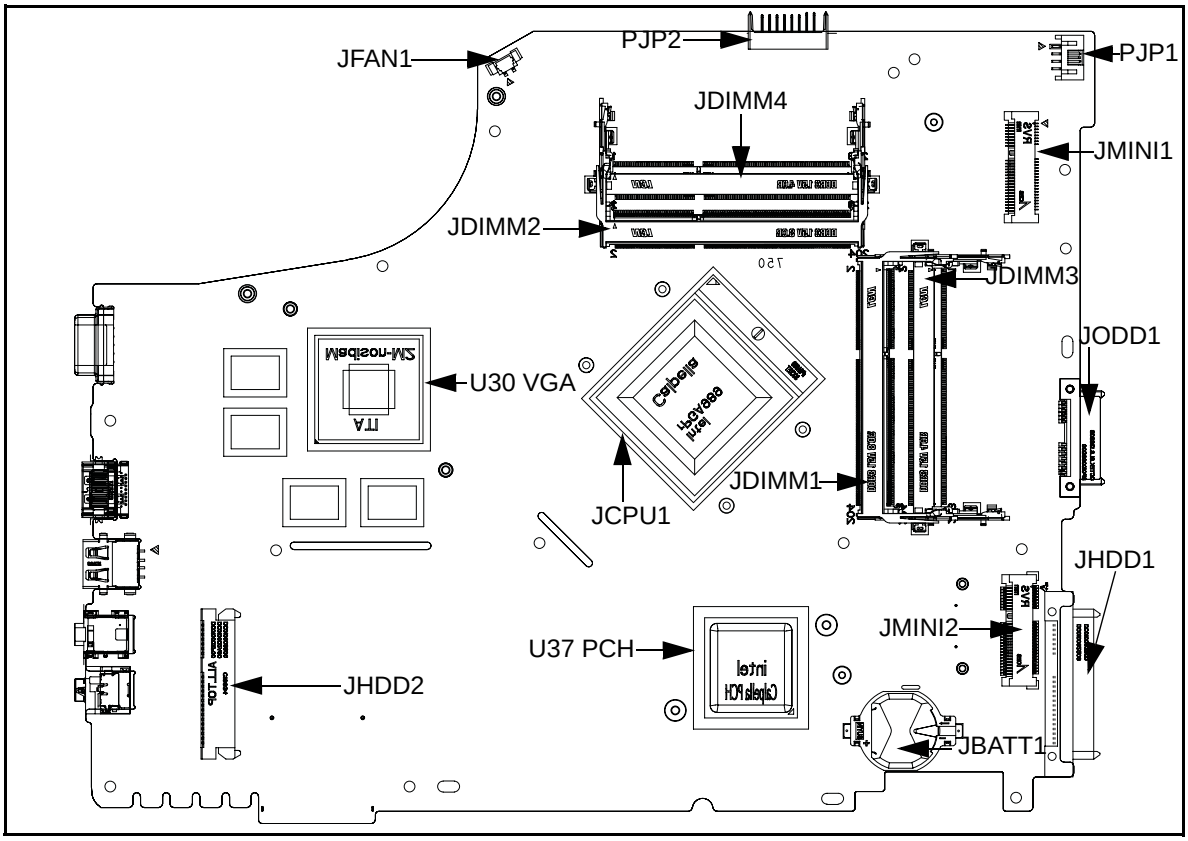


Figure 5-2. Mainboard Bottom

Table 5-2. Mainboard Bottom

Item	Description	Item	Description
PJP2	Connect to Battery	JDIMM3	DDR3 socket (Quad Code)
JFAN1	Connect to FAN	JDIMM4	DDR3 socket (Quad Code)
JHDD2	Connect to Main HDD	JMINI1	Connect to WLAN
JCPU1	CPU socket	PJP1	DC-IN jack
JBATT1	RTC Battery socket	JDIMM1	DDR3 socket (Dual Code)
JHDD1	Connect to Second HDD	JDIMM2	DDR3 socket (Dual Code)
JMINI2	Connect to WLAN	U37	PCH
JODD1	Connect to ODD	U30	VGA

Clearing Password Check and BIOS Recovery

This section provides users with the standard operating procedures of clearing password and BIOS recovery for the Packard Bell EasyNote LS11HR/LS13HR. The machine provides one Hardware Open Gap on main board for clearing password check, and one Hotkey for enabling BIOS Recovery.

Clearing Password Check

NOTE:

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

Steps for Clearing BIOS Password Check

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

1. Remove power from the system.
2. Remove HDD, AC and Battery.
3. Disconnect the RTC Battery
4. Locate the RTCRST# jumper.
5. Use an electric conductivity tool to short the two points of the RTCRST# jumper.
6. Plug in AC, keeping the RTCRST# jumper shorted.
7. Press *Power Button* until BIOS POST is finished, then remove the conductivity tool from the RTCRST# jumper.
8. Restart the system. Press ***F2*** to enter BIOS Setup menu.
9. If there is no Password request, BIOS Password is cleared.
10. If a password is requested, repeat Steps 1 through 9.

Clear CMOS Jumper

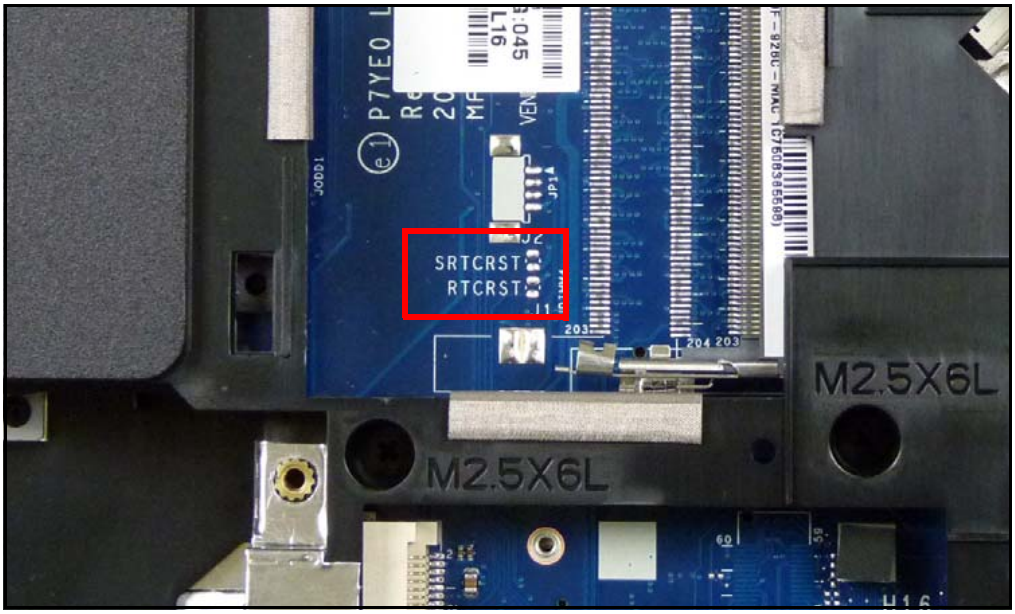


Figure 5-3. CMOS Jumper

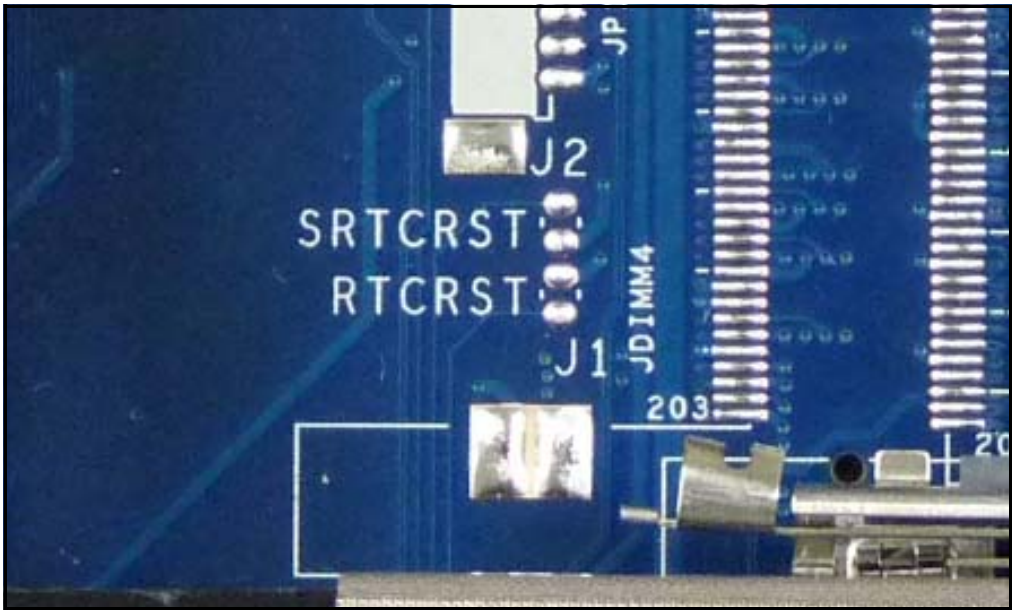


Figure 5-4. CMOS Jumper

Table 5-3. CMOS Jumper

Item	Description
RTCRST	Clear CMOS Jumper

BIOS Recovery by Crisis Disk

BIOS Recovery Boot Block

BIOS Recovery Boot Block is a special block of BIOS. 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 from USB Storage

NOTE:

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

To Create a Crisis USB key, perform the following:

1. Format the USB storage disk using the Fast Format option.
2. Save KBC and BIOS into one file. The command to do so is:

< copy /b KBC.ROM + BIOS.FD P5WE0x64.fd >

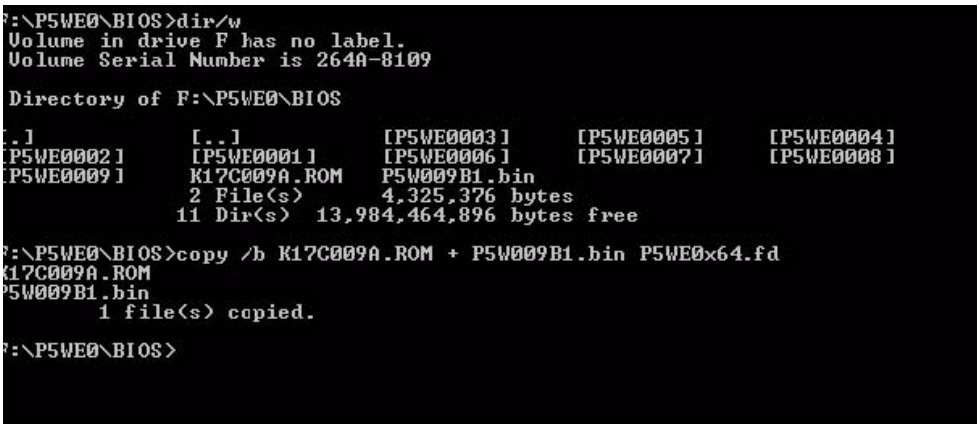


Figure 5-5. Creating *P5WE0x64.fd* file

3. Save ROM file (file name: ***P5WE0x64.fd***) to the root directory of USB storage. Make sure that there is no other BIOS file saved in the same directory.
4. Plug USB storage into USB port.
5. Press <***Fn+ESC>*** button then plug in AC power.
6. The Power button flashes once.
7. Press ***Power*** button to initiate system CRISIS mode.
8. When CRISIS is complete, the system auto restarts with a workable BIOS.
9. Update the latest version BIOS for this machine by regular BIOS flashing process.

CHAPTER 6

FRU List

FRU (Field Replaceable Unit) List

This chapter provides users with a FRU (Field Replaceable Unit) listing in global configurations for the Packard Bell EasyNote LS11HR/LS13HR. Refer to this chapter whenever ordering for parts to repair or for RMA (Return Merchandise Authorization).

NOTE:

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

NOTE:

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

Exploded Diagrams

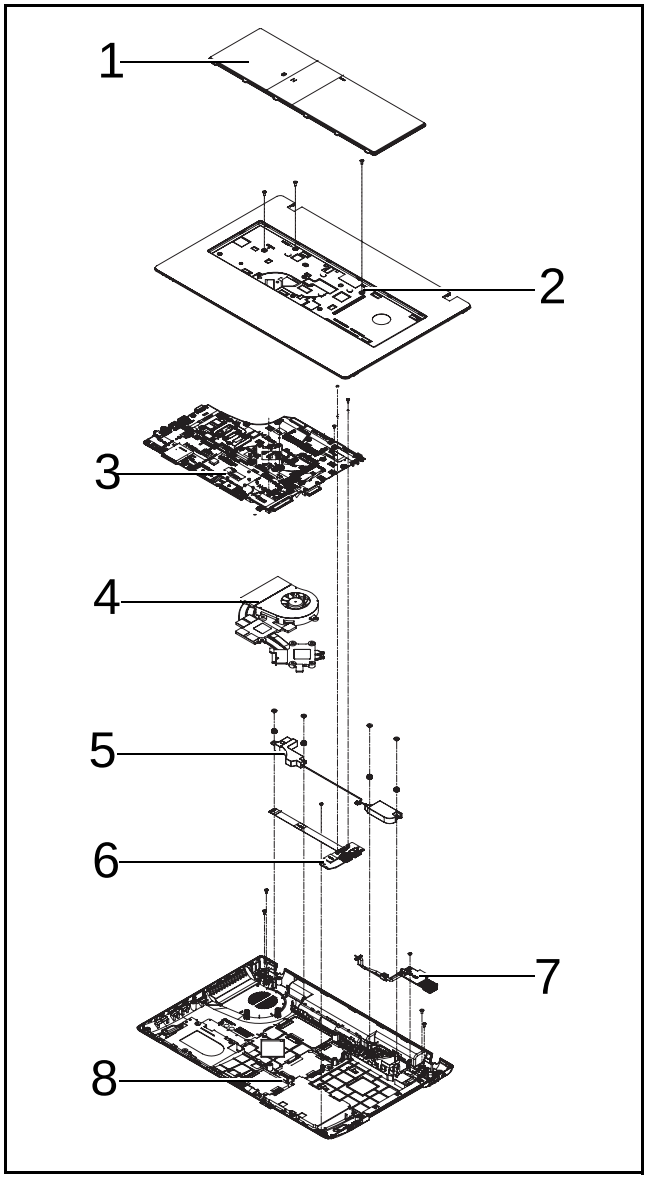


Figure 6-1. Main Assembly Exploded Diagram

Table 6-1. Main Assembly Exploded Diagram

No.	Description	Acer Part No.	No.	Description	Acer Part No.
1	Keyboard	KB.I170G.292	5	Speakers	23.RB002.003
2	Upper Cover	60.BRD02.001	6	USB Board	55.RB002.002
3	Mainboard	MB.RB002.001	7	LAN Board	55.RB002.005
4	Thermal Module	60.RB002.013	8	Lower Cover	60.BRD02.003

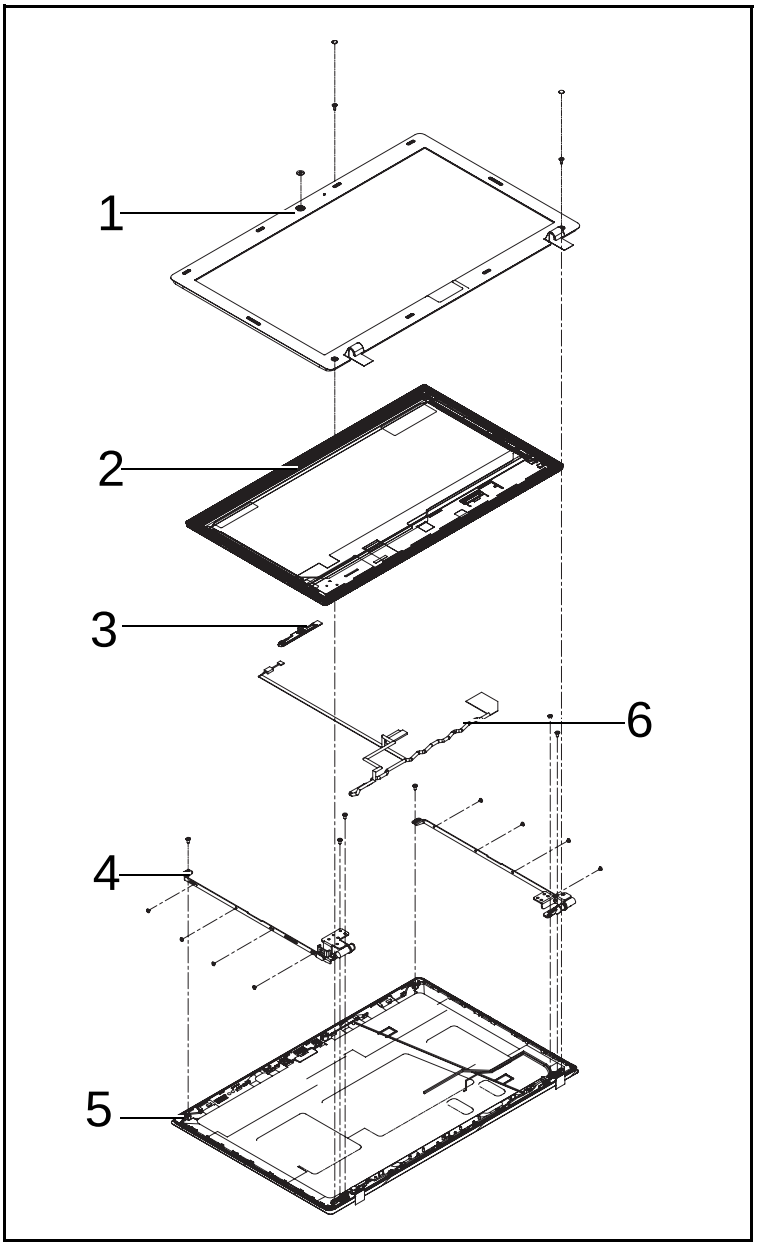


Figure 6-2. LED Assembly Exploded Diagram

Table 6-2. LED Assembly Exploded Diagram

No.	Description	Acer Part No.	No.	Description	Acer Part No.
1	LED Bezel	60.BRD02.007	4	LED Brackets	33.BRD02.002
2	LED Panel	LK.17305.002	5	LED Cover	60.BRD02.006
3	Camera	57.RB002.001	6	LVDS Cable	50.RB002.008

FRU List

Table 6-3. FRU List

CATEGORY	Acer Description	Acer Part No
ADAPTER		
	Adapter DELTA 65W 19V 1.7x5.5x11 Yellow ADP-65JH DB A, LV5 LED LF	AP.06501.026
	Adapter DELTA 65W 19V 1.7x5.5x11 Yellow ADP-65VH BA, LV5, Low profile LED LF	AP.06501.033
	Adapter LITE-ON 65W 19V 1.7x5.5x11 Yellow PA-1650-22AC LV5 LED LF	AP.06503.024
	Adapter Chicony Power 65W 19V 1.7x5.5x11 Yellow CPA09-A065N1, LV5, low profile LF	AP.0650A.017
	Adapter DELTA 90W 19V 1.7x5.5x11 Blue ADP-90CD DBH, LV5 LED LF	AP.09001.031
	Adapter LITE-ON 90W 19V 1.7x5.5x11 Blue PA-1900-34AR, LV5 LED LF	AP.09003.021
	Adapter HIPRO 90W 19V 1.7x5.5x11 Blue HP-A0904A3 B1LF, LV5 LED LF	AP.0900A.005
	Adapter DELTA 120W-DE 19V 1.7x5.5x11 Green ADP-120ZB BBGB, LV5+OBL LED LF	AP.12001.009
	Adapter LITE-ON 120W-DE 19V 1.7x5.5x11 Green PA-1121-04AC, LV5+OBL LED LF	AP.12003.003
BATTERY		
	Battery SANYO AS10D Li-Ion 3S2P SANYO 6 cell 4400mAh Main COMMON new IC BQ8055	BT.00603.124
	Battery SONY AS10D Li-Ion 3S2P SONY 6 cell 4400mAh Main COMMON ID:AS10D41	BT.00604.049
	Battery SIMPLO AS10D Li-Ion 3S2P PANASONIC 6 cell 4400mAh Main COMMON ID:AS10D71	BT.00607.125
	Battery SIMPLO AS10D Li-Ion 3S2P LGC 6 cell 4400mAh Main COMMON ID:AS10D73	BT.00607.126
	Battery SIMPLO AS10D Li-Ion 3S2P SAMSUNG 6 cell 4400mAh Main COMMON ID:AS10D	BT.00607.127

Table 6-3. FRU List (Continued)

CATEGORY	Acer Description	Acer Part No
BOARD		
	Foxconn Bluetooth BRM 2046 BT3.0 (T60H928.33) f/w:861	BH.21100.008
	Foxconn Bluetooth ATH AR3011 (BT3.0)	BH.21100.009
	Foxconn Bluetooth BRM 2070 (T77H114.01) BT 3.0	BH.21100.010
	Foxconn Bluetooth ATH BU12	BH.21100.011
	POWER BOARD	55.BRD02.001
	USB BOARD 3.0	55.RB002.002
	USB BOARD 2.0 MOUNT W/ FFC CABLE	55.RB002.003
	FPC BOARD FOR USB 3.0	55.RB002.004
	LAN BOARD	55.RB002.005
	Foxconn Wireless LAN Atheros HB95BG (HM) T77H121.10	NI.23600.077
	Foxconn Wireless LAN Atheros HB97 2x2 BGN (HM)	NI.23600.072
	Liteon Wireless LAN Atheros HB97 2x2 BGN (HM) WN6603A	NI.23600.073
	Foxconn Wireless LAN Broadcom 43225 2x2 BGN (HM) T77H103.00	NI.23600.066
	Liteon Wireless LAN Broadcom 43225 2x2 BGN	NI.23600.081
	Liteon Wireless LAN Realtek 8192SE BGN WN6603LH(2x2 BGN)	NI.23600.065

Table 6-3. FRU List (Continued)

CATEGORY	Acer Description	Acer Part No
CABLE		
	BLUETOOTH CABLE-8PIN	50.RB002.001
	BLUETOOTH CABLE-6PIN	50.RB002.002
	RJ45 CABLE	50.RB002.003
	TP FFC	50.BRD02.001
	POWER CORD US 3 PIN	27.TAVV5.001
	POWER CORD EU 3 PIN	27.TAVV5.002
	POWER CORD AUS 3 PIN	27.TAVV5.003
	POWER CORD UK 3 PIN	27.TAVV5.004
	POWER CORD CHINA 3 PIN	27.TAVV5.005
	POWER CORD SWISS 3 PIN	27.TAVV5.006
	POWER CORD ITALIAN 3 PIN	27.TAVV5.007
	POWER CORD DENMARK 3 PIN	27.TAVV5.008
	POWER CORD JP 3 PIN	27.TAVV5.009
	POWER CORD SOUTH AFRICA 3 PIN	27.TAVV5.010
	POWER CORD KOREA 3 PIN	27.TAVV5.011
	POWER CORD ISRAEL 3 PIN	27.TAVV5.012
	POWER CORD INDIA 3 PIN	27.TAVV5.013
	POWER CORD TWN 3 PIN	27.TAVV5.014
	POWER CORD ARGENTINA 3 PIN	27.APV02.001
CASE/COVER/BRACKET ASSEMBLY		
	UPPER CASE-BLACK	60.BRD02.001
	UPPER CASE-WHITE	60.BTF02.001
	PALMREST ASSY IMR-GRAY	60.BRD02.002
	PALMREST ASSY IMR-RED	60.BTE02.001
	PALMREST ASSY IMR-WHITE	60.BTF02.002

Table 6-3. FRU List (Continued)

CATEGORY	Acer Description	Acer Part No
	LOWER CASE	60.BRD02.003
	HDD DOOR FOR W/O 2ND HDD	60.BRD02.004
	HDD DOOR FOR W/2ND HDD	60.BRD02.005
	KB SUPPORT PLATE	33.BRD02.001
	HDD BRACKET-L	33.RB002.001
	HDD BRACKET-R	33.RB002.002
ODD MODULE		
	ODD BD COMBO MODULE	6M.BRD02.001
	ODD BRACKET	33.RB002.003
	ODD BEZEL-BD	42.BRD02.001
	ODD PANASONIC BD COMBO 12.7mm Tray DL 4X UJ141AL LF W/O bezel SATA Windows 7	KO.00407.004
	ODD PIONEER BD COMBO 12.7mm Tray DL 4X BDC-TD03RS LF W/O bezel 1.01 SATA (Windows 7)	KO.00405.006
	ODD HLDS BD COMBO 12.7mm Tray DL 4X CT21N LF W/O bezel 1.00 SATA (HF + Windows 7)	KO.0040D.004

Table 6-3. FRU List (Continued)

CATEGORY	Acer Description	Acer Part No
	ODD HLDS BD COMBO 12.7mm Tray DL 4X CT30N LF W/O bezel 1.00 SATA (HF + Windows 7 + 3D)	KO.0040D.005
ODD MODULE		
	ODD BD RW MODULE	6M.BRD02.002
	ODD BRACKET	33.RB002.003
	ODD BEZEL-BD	42.BRD02.001
	ODD PANASONIC BD RW 12.7mm Tray DL 4X UJ240A LF W/O bezel SATA (HF+Windows 7)	KU.00407.015
ODD MODULE		
	ODD SUPER-MULTI DRIVE MODULE	6M.BRD02.003
	ODD BRACKET	33.RB002.003
	ODD BEZEL-SM	42.BRD02.002

Table 6-3. FRU List (Continued)

CATEGORY	Acer Description	Acer Part No
	ODD HLDS Super-Multi DRIVE 12.7mm Tray DL 8X GT32N (R5-2) LF W/O bezel SATA with Renesas solution + PCC LD (HF + Windows 7)	KU.0080D.055
	ODD SONY Super-Multi DRIVE 12.7mm Tray DL 8X AD-7585H LF W/O bezel SATA (HF + Windows 7)	KU.0080E.027
	ODD PLDS Super-Multi DRIVE 12.7mm Tray DL 8X DS-8A5SH LF+HF W/O bezel SATA With TI + Rohm Solution (HF + Windows 7)	KU.0080F.014
	ODD HLDS Super-Multi DRIVE 12.7mm Tray DL 8X GT34N LF W/O bezel SATA Zero Power Supported, PCC LD (HF + Windows 7)	KU.0080D.057
	ODD PANASONIC Super-Multi DRIVE 12.7mm Tray DL 8X UJ890A LF W/O bezel SATA (HF + Windows 7)	KU.00807.070
HDD/HARD DISK DRIVE		
	HDD SEAGATE 2.5" 5400rpm 250GB ST9250315AS, 9HH132-189, Wyatt with new pcb SATA 8MB LF F/W:0001SDM1	KH.25001.019
	HDD TOSHIBA 2.5" 5400rpm 250GB MK2565GSX, Capricorn BS, 320G/P SATA 8MB LF F/W:GJ002J	KH.25004.005
	HDD HGST 2.5" 5400rpm 250GB HTS545025B9A300 Panther B SATA LF F/W:C60F Disk imbalance criteria = 0.014g-cm	KH.25007.016
	HDD WD 2.5" 5400rpm 250GB WD2500BPVT-22ZEST0,ML320S-AF, 4K drive SATA 8MB LF F/W:01.01A01 4K drive	KH.25008.029
	HDD SEAGATE 2.5" 5400rpm 320GB ST9320310AS,9RN132-188, Cameron 320G/P SATA 8MB LF F/W:0001SDM1	KH.32001.019
	HDD TOSHIBA 2.5" 5400rpm 320GB Capricorn BS,MK3265GSX SATA 8MB LF F/W:GJ002J	KH.32004.004
	HDD HGST 2.5" 5400rpm 320GB HTS545032B9A300 Panther B SATA LF F/W:C60F Disk imbalance criteria = 0.014g-cm	KH.32007.008
	HDD HGST 2.5" 5400rpm 320GB HTS543232A7A384,0J11523, Eagle B7, 320G/P SATA LF+HF F/W:A60W	KH.32007.013

Table 6-3. FRU List (Continued)

CATEGORY	Acer Description	Acer Part No
	HDD WD 2.5" 5400rpm 320GB WD3200BPVT-22ZEST0, ML320S, 4K drive SATA 8MB LF F/W: 01.01A01	KH.32008.022
	HDD SEAGATE 2.5" 5400rpm 500GB ST9500325AS,9HH134-189, Wyatt with new pcb SATA 8MB LF F/W:0001SDM1	KH.50001.017
	HDD TOSHIBA 2.5" 5400rpm 500GB MK5065GSX,Capricorn BS, 320G/P SATA 8MB LF F/W:GJ002J	KH.50004.002
	HDD HGST 2.5" 5400rpm 500GB HTS545050B9A300 Panther B SATA LF F/W:C60F Disk imbalance criteria = 0.014g-cm	KH.50007.010
	HDD WD 2.5" 5400rpm 500GB WD5000BPVT-22HXZT1,ML375_AF, 4K drive SATA 8MB LF+HF F/W:01.01A01	KH.50008.021
	HDD TOSHIBA 2.5" 5400rpm 640GB MK6465GSX,Capricorn BS,320G/P SATA 8MB LF F/W:GJ002J	KH.64004.001
	HDD WD 2.5" 5400rpm 640GB WD6400BPVT-22HXZT1, ML375M SATA 8MB LF F/W: 01.01A01	KH.64008.005
	HDD WD 2.5" 5400rpm 750GB WD7500BPVT-22HXZT1, ML375M, 4K drive SATA 8MB LF F/W:01.01A01	KH.75008.009
	HDD TOSHIBA 2.5" 5400rpm 750GB MK7559GSXP, 375G/P, Capricorn BS, 4K drive SATA 8MB LF+HF F/W:GN003J	KH.75004.001
KEYBOARD		
	TBD	TBD
	Keyboard GATEWAY GF7T_G11B GF7T Internal 17 Standard Black NONE Y2011 Gateway_PB_Legend Texture	KB.I170G.292
	Keyboard GATEWAY GF7T_G11W GF7T Internal 17 Standard White NONE Y2011 Gateway_PB_Legend Texture	KB.I170G.349

Table 6-3. FRU List (Continued)

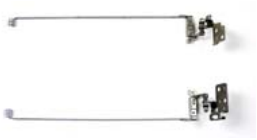
CATEGORY	Acer Description	Acer Part No
LCD		
	ASSY LED LCD MODULE 17.3" WXGA+ Glare W/ ANTENNA*2, CCD 1.3M, BLACK-PB	6M.BRD02.004
	ANTENNA WLAN-MAIN	50.RB002.006
	ANTENNA WLAN-AUX	50.RB002.007
	LCD CABLE	50.RB002.008
	LCD COVER IMR PB-BLACK	60.BRD02.006
	LCD BEZEL PB-BLACK	60.BRD02.007
	LCD BRACKET R&L	33.BRD02.002
	CAMERA 1.3M	57.RB002.001

Table 6-3. FRU List (Continued)

CATEGORY	Acer Description	Acer Part No
	LED LCD AUO 17.3" WXGA+ Glare B173RW01-V3 LF 220nit 8ms 500:1	LK.17305.002
	LED LCD LPL 17.3" WXGA+ Glare LP173WD1-TLA3 LF 220nit 8ms 600:1	LK.17308.002
	LED LCD CMO 17.3" WXGA+ Glare N173O6-L02 LF 220nit 8ms 600:1	LK.1730D.001
LCD		
	ASSY LED LCD MODULE 17.3" WXGA+ Glare W/ ANTENNA*2, CCD 1.3M, RED-PB	6M.BTE02.001
	ANTENNA WLAN-MAIN	50.RB002.006
	ANTENNA WLAN-AUX	50.RB002.007
	LCD CABLE	50.RB002.008
	LCD COVER IMR PB-RED	60.BTE02.002
	LCD BEZEL PB-BLACK	60.BRD02.007

Table 6-3. FRU List (Continued)

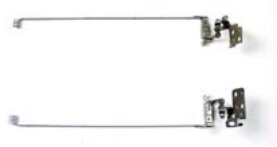
CATEGORY	Acer Description	Acer Part No
	LCD BRACKET R&L	33.BRD02.002
	CAMERA 1.3M	57.RB002.001
	LED LCD AUO 17.3" WXGA+ Glare B173RW01-V3 LF 220nit 8ms 500:1	LK.17305.002
	LED LCD LPL 17.3" WXGA+ Glare LP173WD1-TLA3 LF 220nit 8ms 600:1	LK.17308.002
	LED LCD CMO 17.3" WXGA+ Glare N173O6-L02 LF 220nit 8ms 600:1	LK.1730D.001
LCD		
	ASSY LED LCD MODULE 17.3" WXGA+ Glare W/ ANTENNA*2, CCD 1.3M, WHITE-PB	6M.BTF02.001
	ANTENNA WLAN-MAIN	50.RB002.006
	ANTENNA WLAN-AUX	50.RB002.007
	LCD CABLE	50.RB002.008
	LCD COVER IMR PB-WHITE	60.BTF02.003

Table 6-3. FRU List (Continued)

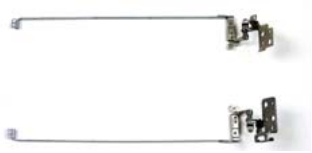
CATEGORY	Acer Description	Acer Part No
	LCD BEZEL PB-WHITE	60.BTF02.004
	LCD BRACKET R&L	33.BRD02.002
	CAMERA 1.3M	57.RB002.001
	LED LCD AUO 17.3" WXGA+ Glare B173RW01-V3 LF 220nit 8ms 500:1	LK.17305.002
	LED LCD LPL 17.3" WXGA+ Glare LP173WD1-TLA3 LF 220nit 8ms 600:1	LK.17308.002
	LED LCD CMO 17.3" WXGA+ Glare N173O6-L02 LF 220nit 8ms 600:1	LK.1730D.001
MAINBOARD		
	Mainboard AS7750 Intel LF UMA	MB.RB002.001
	Mainboard ENLS11HR Intel HM65 V1.0 LF with all connectors, 2 HDD connectors, Seymour 512	MB.BRW02.001
	Mainboard AS7750G LF DC WHISTLER_PRO 1GB DDR3 2*DIMM	MB.RCZ02.001
	Mainboard 7750G Intel LF QC+WHISTLER_PRO 1GB 2*Dimm	MB.RCY02.001
	Mainboard AS7750G LF DC WHISTLER_PRO 2GBDDR3 2*Dimm	MB.RCW02.001
	Mainboard ENLS11HR Intel HM65 V1.0 LF with all connectors, 2 HDD connectors, Whistler 2G	MB.BSU02.001

Table 6-3. FRU List (Continued)

CATEGORY	Acer Description	Acer Part No
CPU/PROCESSOR		
	CPU Intel Core i5 i5-2520M PGA 2.5G 35W 2/4	KC.25201.DMP
	CPU Intel Core i5 i5-2540M PGA 2.6G 35W 2/4	KC.25401.DMP
	CPU Intel Core i7 i7-2620M PGA 2.7G 35W 2/4	KC.26201.DMP
	CPU Intel Core i3 i3-2310M PGA 2.1G 35W 2/4	KC.23101.DMP
	CPU Intel Core i5 i5-2410M PGA 2.3G 35W 2/4	KC.24101.DMP
	CPU Intel Core i7 i7-2820QM PGA 2.3G 45W 4/8	KC.28201.QMP
	CPU Intel Core i7 i7-2720QM PGA 2.2G 45W 4/8	KC.27201.QMP
	CPU Intel Core i7 i7-2630QM PGA 2.0G 45W 4/8	KC.26301.QMP
MEMORY		
	Memory SAMSUNG SO-DIMM DDRIII 1333 1GB M471B2873FHS-CH9 LF 128*8 46nm	KN.1GB0B.035
	Memory KINGSTON SO-DIMM DDRIII 1333 1GB ACR128X64D3S1333C9 LF 128*8 0.065um	KN.1GB07.004
	Memory UNIFOSA SO-DIMM DDRIII 1333 1GB GU672203EP0200 LF 128*8 0.065um	KN.1GB0H.017
	Memory ELPIDA SO-DIMM DDRIII 1333 2GB EBJ21UE8BFU0-DJ-F LF 128*8 0.065um	KN.2GB09.009
	Memory SAMSUNG SO-DIMM DDRIII 1333 2GB M471B5673FH0-CH9 LF 128*8 46nm	KN.2GB0B.023
	Memory KINGSTON SO-DIMM DDRIII 1333 2GB ACR256X64D3S1333C9 LF 128*8 0.065um	KN.2GB07.004
	Memory SAMSUNG SO-DIMM DDRIII 1333 4GB M471B5273CH0-CH9 LF 256*8 46nm	KN.4GB0B.010
	Memory ELPIDA SO-DIMM DDRIII 1333 4GB EBJ41UF8BAS0-DJ-F LF 256*8 0.055um	KN.4GB09.001

Table 6-3. FRU List (Continued)

CATEGORY	Acer Description	Acer Part No
HEATSINK		
	FAN	23.RB002.001
	THERMAL MODULE UMA W/O FAN	60.RB002.013
	THERMAL MODULE DUAL 15/25W W/O FAN	60.RCZ02.001
	THERMAL MODULE QUAD 35W W/O FAN	60.RB102.001
	THERMAL MODULE QUAD 15/25W W/O FAN	60.RCY02.001
SPEAKER		
	MIC SET	23.RB002.002
	SPEAKER L+R	23.RB002.003

Table 6-3. FRU List (Continued)

CATEGORY	Acer Description	Acer Part No
MISCELLANEOUS		
	HDD MYLAR	47.RB002.001
	LCD SCREW PAD-BLACK	47.BRD02.001
	LCD SCREW PAD-WHITE	47.BTF02.001

Screw List

Table 6-4. Screw List

CATEGORY	Acer Description	Acer Part No
SCREW	SCREW 1.98D 3.0L K 4.6D 0.8T ZK NL	86.RB002.001
	SCREW 2.5D 5L K 5.5D ZK NL CR3	86.RB002.002
	SCREW 2.5D 6L K 5.5D NI NL	86.RB002.003
	SCREW 2.5D 3.0L K 5.3D NI NL	86.RB002.004
	SCREW M2.5X6 (NL)	86.RB002.005
	SCREW 2.5D 3.2L K 6D NI	86.RB002.007
	SCREW 2D 3L K 8D ZK NL	86.RB002.008
	SCREW 3.0D 3.0L K 4.9D NI	86.RB002.009
	SCREW 2D 5L K 4.6D ZK	86.BRD02.001
	THML_SPRING_SCREW_ASSY	86.BRD02.002
	SCREW TTPP 2 1.6D 2L K 4.5D 0.5TNI	86.BRD02.004
	SCREW T TPP 2 1.6D 3L K 4.5D BNI	86.BRD02.005

CHAPTER 7

Model Definition and Configuration

Model Definition and Configuration

Packard Bell EasyNote LS11HR/LS13HR

ENLS11HR

Table 7-1. Model Definition

Model	RO	Country	Acer Part No	Description
ENLS11HR-2313G50Mnkk	EMEA	Russia	LX.BRW02.004	ENLS11HR-2313G50Mnkk W7HP64RUBSRU2 SEYMOUR_XT512Ckk_3V3UJ 2G+1G/500_L/BT/6L2.2/5R/CB_GN_1.3HD_GEk_RU41 EASYNOTE_LS11-HR-350RU
ENLS11HR-2314G00Mnkk	EMEA	France	LX.BRX02.003	ENLS11HR-2314G00Mnkk W7HP64BSFR1 WHISTLER_PRO1GBCkk_3V3UJ 2*2G/0/6L2.2/5R/CB_GN_1.3HD_GEk_FR51 EASYNOTE_LS11HR-002FR
ENLS11HR-2314G1TMnkk	EMEA	Czech	LX.BRW02.003	ENLS11HR-2314G1TMnkk W7HP64BSCZ2 SEYMOUR_XT512Ckk_3V3UJ 2*2G/500_L+500_L/BT/6L2.2/5R/CB_GN_1.3HD_GEk_SK11 EASYNOTE_LS11-HR-353CZ
ENLS11HR-2314G1TMnkk	EMEA	France	LX.BRW02.002	ENLS11HR-2314G1TMnkk W7HP64BSFR1 SEYMOUR_XT512Ckk_3V3UJ 2*2G/500_L+500_L/6L2.2/5R/CB_GN_1.3HD_GEk_FR51 EASYNOTE_LS11HR-003FR
ENLS11HR-2314G32Mnkk	EMEA	France	LX.BRW02.001	ENLS11HR-2314G32Mnkk W7HP64BSFR1 SEYMOUR_XT512Ckk_3V3UJ 2*2G/320/6L2.2/5R/CB_GN_1.3HD_GEk_FR51 EASYNOTE_LS11HR-001FR
ENLS11HR-2314G50Mnkk	EMEA	France	LX.BRD02.001	ENLS11HR-2314G50Mnkk W7HP64BSFR1 UMACkk_3UJ 2*2G/500_L/6L2.2/5R/CB_GN_1.3HD_GEk_FR51

Table 7-1. Model Definition (Continued)

Model	RO	Country	Acer Part No	Description
ENLS11HR-23 14G50Mnkk	EMEA	Russia	LX.BRX02.004	ENLS11HR-2314G50Mnkk W7HP64RUBSRU2 WHISTLER_PRO1GBCkk_3V3UJ 2*2G/500_L/BT/6L2.2/5R/CB_GN_ 1.3HD_GEk_RU41 EASYNOTE_LS11-HR-310RU
ENLS11HR-23 14G64Mnkk	EMEA	CHE	LX.BRD02.002	ENLS11HR-2314G64Mnkk W7HP64BSCH1 UMACkk_3UJ 2*2G/640/6L2.2/5R/CB_GN_1.3C_ GEk_IT41 EASYNOTE_LS11-HR-316CH
ENLS11HR-24 14G50Mnkk	EMEA	Germany	LX.BRX02.002	ENLS11HR-2414G50Mnkk W7HP64BSDE1 WHISTLER_PRO1GBCkk_3V3UJ 2*2G/500_L/6L2.2/5R/CB_GN_1.3 HD_GEk_DE41 EASYNOTE LS11HR-035GE
ENLS11HR-24 14G50Mnkk	EMEA	Russia	LX.BRW02.005	ENLS11HR-2414G50Mnkk W7HP64RUBSRU2 SEYMOUR_XT512Ckk_3V3UJ 2*2G/500_L/BT/6L2.2/5R/CB_GN_ 1.3HD_GEk_RU41 EASYNOTE_LS11-HR-550RU
ENLS11HR-24 14G50Mnkk	EMEA	Russia	LX.BRX02.005	ENLS11HR-2414G50Mnkk W7HP64RUBSRU2 WHISTLER_PRO1GBCkk_3V3UJ 2*2G/500_L/BT/6L2.2/5R/CB_GN_ 1.3HD_GEk_RU41 EASYNOTE_LS11-HR-510RU
ENLS11HR-24 14G50Mnkk	EMEA	CHE	LX.BRX02.008	ENLS11HR-2414G50Mnkk W7HP64BSCH1 WHISTLER_PRO1GBCkk_3V3UJ 2*2G/500_L/6L2.2/5R/CB_GN_1.3 HD_GEk_IT41 EASYNOTE_LS11-HR-515CH
ENLS11HR-24 14G64Mnkk	EMEA	Germany	LX.BSM02.002	ENLS11HR-2414G64Mnkk W7HP64BSDE1 WHISTLER_PRO2GBCkk_3V3UJ 2*2G/640/BT/6L2.2/5R/CB_GN_1.3 HD_GEk_DE41 EASYNOTE LS11HR-050GE
ENLS11HR-24 16G00Bnkk	EMEA	Germany	LX.BRX02.001	ENLS11HR-2416G00Bnkk W7HP64BSDE1 WHISTLER_PRO1GBCkk_3V3UJ 2G+4G/0/6L2.2/5R/CB_GN_1.3HD _Power DVD 10_GEk_DE41 EASYNOTE LS11HR-031GE

Table 7-1. Model Definition (Continued)

Model	RO	Country	Acer Part No	Description
ENLS11HR-2416G1TMnkk	EMEA	Czech	LX.BRX02.006	ENLS11HR-2416G1TMnkk W7HP64BSCZ2 WHISTLER_PRO1GBCkk_3V3UJ 4G+2G/500_L+500_L/BT/6L2.2/5R/CB_GN_1.3HD_GEk_SK11 EASYNOTE_LS11-HR-654CZ
ENLS11HR-2416G50Mnkk	EMEA	Russia	LX.BSM02.001	ENLS11HR-2416G50Mnkk W7HP64RUBSRU2 WHISTLER_PRO2GBCkk_3V3UJ 4G+2G/500_L/BT/6L2.2/5R/CB_GN_1.3HD_GEk_RU41 EASYNOTE_LS11-HR-520RU
ENLS11HR-2416G64Mnkk	EMEA	CHE	LX.BRX02.007	ENLS11HR-2416G64Mnkk W7HP64BSCH1 WHISTLER_PRO1GBCkk_3V3UJ 4G+2G/640/6L2.2/5R/CB_GN_1.3HD_GEk_IT41 EASYNOTE_LS11-HR-516CH
ENLS11HR-2634G50Mnkk	EMEA	Germany	LX.BST02.009	ENLS11HR-2634G50Mnkk W7HP64BSDE1 WHISTLER_PRO1GBCkkQ_3V3UJ 2*2G/500_L/6L2.2/5R/CB_GN_1.3HD_GEk_DE41 EASYNOTE LS11HR-180GE
ENLS11HR-2634G50Mnkk	EMEA	CHE	LX.BST02.007	ENLS11HR-2634G50Mnkk W7HP64BSCH1 WHISTLER_PRO1GBCkkQ_3V3UJ 2*2G/500_L/6L2.2/5R/CB_GN_1.3HD_GEk_IT41 EASYNOTE_LS11-HR-735CH
ENLS11HR-2634G64Mnkk	EMEA	Germany	LX.BST02.002	ENLS11HR-2634G64Mnkk W7HP64BSDE1 WHISTLER_PRO1GBCkkQ_3V3UJ 2*2G/640/BT/6L2.2/5R/CB_GN_1.3HD_GEk_DE41 EASYNOTE LS11HR-101GE
ENLS11HR-2634G64Mnkk	EMEA	Holland	LX.BST02.001	ENLS11HR-2634G64Mnkk W7HP64BSNL1 WHISTLER_PRO1GBCkkQ_3V3UJ 2*2G/640/6L2.2/5R/CB_GN_1.3HD_GEk_NL31 EASYNOTE_LS11HR-005NL

Table 7-1. Model Definition (Continued)

Model	RO	Country	Acer Part No	Description
ENLS11HR-2634G75Mnkk	EMEA	Russia	LX.BST02.005	ENLS11HR-2634G75Mnkk W7HP64RUBSRU2 WHISTLER_PRO1GBCkkQ_3V3UJ 2*2G/750/BT/6L2.2/5R/CB_GN_1.3 HD_GEk_RU41 EASYNOTE_LS11-HR-810RU
ENLS11HR-2636G00Bnkk	EMEA	Germany	LX.BST02.003	ENLS11HR-2636G00Bnkk W7HP64BSDE1 WHISTLER_PRO1GBCkkQ_3V3UJ 4G+2G/0/BT/6L2.2/5R/CB_GN_1.3 HD_Power DVD 10_GEk_DE41 EASYNOTE LS11HR-105GE
ENLS11HR-2636G00Mnkk	EMEA	Russia	LX.BST02.004	ENLS11HR-2636G00Mnkk W7HP64RUBSRU2 WHISTLER_PRO1GBCkkQ_3V3UJ 4G+2G/0/BT/6L2.2/5R/CB_GN_1.3 HD_GEk_RU41 EASYNOTE_LS11-HR-812RU
ENLS11HR-2636G00Wnkk	EMEA	Germany	LX.BSU02.002	ENLS11HR-2636G00Wnkk W7HP64BSDE1 WHISTLER_PRO2GBCkkQ_3V3UJ 2G+4G/0/BT/6L2.2/5R/CB_GN_1.3 HD_Power DVD 10_GEk_DE41 EASYNOTE LS11HR-102GE
ENLS11HR-2636G1TMnkk	EMEA	Germany	LX.BSU02.003	ENLS11HR-2636G1TMnkk W7HP64BSDE1 WHISTLER_PRO2GBCkkQ_3V3UJ 2G+4G/500_L+500_L/BT/6L2.2/5R/ CB_GN_1.3HD_GEk_DE41 EASYNOTE LS11HR-101GE
ENLS11HR-2638G00Bnkk	EMEA	Nordic	LX.BSU02.001	ENLS11HR-2638G00Bnkk W7HP64BSND1 WHISTLER_PRO2GBCkkQ_3V3UJ 2*4G/0/BT/6L2.2/5R/CB_GN_1.3H D_Power DVD 10_GEk_DA21 EASYNOTE_LS11-HR-900NC
ENLS11HR-2638G1.5TMnkk	EMEA	Russia	LX.BST02.006	ENLS11HR-2638G1.5TMnkk W7HP64RUBSRU2 WHISTLER_PRO1GBCkkQ_3V3UJ 2*4G/750+750/BT/6L2.2/5R/CB_G N_1.3HD_GEk_RU41 EASYNOTE_LS11-HR-811RU

Table 7-1. Model Definition (Continued)

Model	RO	Country	Acer Part No	Description
ENLS11HR-2638G1TMnkk	EMEA	Czech	LX.BST02.008	ENLS11HR-2638G1TMnkk W7HP64BSCZ2 WHISTLER_PRO1GBCkkQ_3V3UJ 2*4G/500_L+500_L/BT/6L2.2/5R/CB_GN_1.3HD_GEk_SK11 EASYNOTE_LS11-HR-854CZ
ENLS11HR-2638G1TMnkk	EMEA	Russia	LX.BSU02.004	ENLS11HR-2638G1TMnkk W7HP64RUBSRU2 WHISTLER_PRO2GBCkkQ_3V3UJ 2*4G/500_L+500_L/BT/6L2.2/5R/CB_GN_1.3HD_GEk_RU41 EASYNOTE_LS11-HR-821RU
ENLS11HR-2638G1TWikk	EMEA	Russia	LX.BSU02.005	ENLS11HR-2638G1TWikk W7HP64RUBSRU2 WHISTLER_PRO2GBCkkQ_3V3UJ 2*4G/500_L+500_L/BT/6L2.2/5R/CB_GN_1.3HD_Power DVD 10_GEk_RU41 EASYNOTE_LS11-HR-822RU
ENLS11HR-2638G64Mnkk	EMEA	CHE	LX.BSU02.006	ENLS11HR-2638G64Mnkk W7HP64BSCH1 WHISTLER_PRO2GBCkkQ_3V3UJ 2*4G/640/6L2.2/5R/CB_GN_1.3HD_GEk_IT41 EASYNOTE_LS11-HR-738CH

ENLS13HR

Table 7-2. Model Definition

Model	RO	Country	Acer Part No	Description
ENLS13HR-2416G50Mnrr	EMEA	Germany	LX.BTN02.001	ENLS13HR-2416G50Mnrr W7HP64BSDE1 WHISTLER_PRO2GBCrr_3V3UJ 2G+4G/500_L/6L2.2/5R/CB_GN_1.3HD_GEr_DE41 EASYNOTE LS13HR-090GE
ENLS13HR-2526G1.28TMnrr	EMEA	Czech	LX.BTJ02.001	ENLS13HR-2526G1.28TMnrr W7HP64BSCZ2 WHISTLER_PRO1GBCrr_3V3UJ 4G+2G/640+640/BT/6L2.2/5R/CB_GN_1.3HD_GEr_SK11 EASYNOTE_LS13-HR-664CZ

ENLS11HR

Table 7-3. Model Definition

Model	Country	Acer Part No	BOM Name	CPU
ENLS11HR-2313G50Mnkk	Russia	LX.BRW02.004	ENLS11HR_SEYMOUR_XT512Ckk_3V3UJ	Ci32310M
ENLS11HR-2314G00Mnkk	France	LX.BRX02.003	ENLS11HR_WHISTLER_PRO1GBCkk_3V3UJ	Ci32310M
ENLS11HR-2314G1TMnkk	Czech	LX.BRW02.003	ENLS11HR_SEYMOUR_XT512Ckk_3V3UJ	Ci32310M
ENLS11HR-2314G1TMnkk	France	LX.BRW02.002	ENLS11HR_SEYMOUR_XT512Ckk_3V3UJ	Ci32310M
ENLS11HR-2314G32Mnkk	France	LX.BRW02.001	ENLS11HR_SEYMOUR_XT512Ckk_3V3UJ	Ci32310M
ENLS11HR-2314G50Mnkk	France	LX.BRD02.001	ENLS11HR_UMACkk_3UJ	Ci32310M
ENLS11HR-2314G50Mnkk	Russia	LX.BRX02.004	ENLS11HR_WHISTLER_PRO1GBCkk_3V3UJ	Ci32310M
ENLS11HR-2314G64Mnkk	CHE	LX.BRD02.002	ENLS11HR_UMACkk_3UJ	Ci32310M
ENLS11HR-2414G50Mnkk	Germany	LX.BRX02.002	ENLS11HR_WHISTLER_PRO1GBCkk_3V3UJ	Ci52410M
ENLS11HR-2414G50Mnkk	Russia	LX.BRW02.005	ENLS11HR_SEYMOUR_XT512Ckk_3V3UJ	Ci52410M
ENLS11HR-2414G50Mnkk	Russia	LX.BRX02.005	ENLS11HR_WHISTLER_PRO1GBCkk_3V3UJ	Ci52410M
ENLS11HR-2414G50Mnkk	CHE	LX.BRX02.008	ENLS11HR_WHISTLER_PRO1GBCkk_3V3UJ	Ci52410M
ENLS11HR-2414G64Mnkk	Germany	LX.BSM02.002	ENLS11HR_WHISTLER_PRO2GBCkk_3V3UJ	Ci52410M
ENLS11HR-2416G00Bnkk	Germany	LX.BRX02.001	ENLS11HR_WHISTLER_PRO1GBCkk_3V3UJ	Ci52410M
ENLS11HR-2416G1TMnkk	Czech	LX.BRX02.006	ENLS11HR_WHISTLER_PRO1GBCkk_3V3UJ	Ci52410M
ENLS11HR-2416G50Mnkk	Russia	LX.BSM02.001	ENLS11HR_WHISTLER_PRO2GBCkk_3V3UJ	Ci52410M
ENLS11HR-2416G64Mnkk	CHE	LX.BRX02.007	ENLS11HR_WHISTLER_PRO1GBCkk_3V3UJ	Ci52410M
ENLS11HR-2634G50Mnkk	Germany	LX.BST02.009	ENLS11HR_WHISTLER_PRO1GBCkkQ_3V3UJ	Ci72630QM

Table 7-3. Model Definition (Continued)

Model	Country	Acer Part No	BOM Name	CPU
ENLS11HR-2634G50Mnkk	CHE	LX.BST02.007	ENLS11HR_WHISTLER_PRO1GBCkkQ_3V3UJ	Ci72630QM
ENLS11HR-2634G64Mnkk	Germany	LX.BST02.002	ENLS11HR_WHISTLER_PRO1GBCkkQ_3V3UJ	Ci72630QM
ENLS11HR-2634G64Mnkk	Holland	LX.BST02.001	ENLS11HR_WHISTLER_PRO1GBCkkQ_3V3UJ	Ci72630QM
ENLS11HR-2634G75Mnkk	Russia	LX.BST02.005	ENLS11HR_WHISTLER_PRO1GBCkkQ_3V3UJ	Ci72630QM
ENLS11HR-2636G00Bnkk	Germany	LX.BST02.003	ENLS11HR_WHISTLER_PRO1GBCkkQ_3V3UJ	Ci72630QM
ENLS11HR-2636G00Mnkk	Russia	LX.BST02.004	ENLS11HR_WHISTLER_PRO1GBCkkQ_3V3UJ	Ci72630QM
ENLS11HR-2636G00Wnkk	Germany	LX.BSU02.002	ENLS11HR_WHISTLER_PRO2GBCkkQ_3V3UJ	Ci72630QM
ENLS11HR-2636G1TMnkk	Germany	LX.BSU02.003	ENLS11HR_WHISTLER_PRO2GBCkkQ_3V3UJ	Ci72630QM
ENLS11HR-2638G00Bnkk	Nordic	LX.BSU02.001	ENLS11HR_WHISTLER_PRO2GBCkkQ_3V3UJ	Ci72630QM
ENLS11HR-2638G1.5TMnkk	Russia	LX.BST02.006	ENLS11HR_WHISTLER_PRO1GBCkkQ_3V3UJ	Ci72630QM
ENLS11HR-2638G1TMnkk	Czech	LX.BST02.008	ENLS11HR_WHISTLER_PRO1GBCkkQ_3V3UJ	Ci72630QM
ENLS11HR-2638G1TMnkk	Russia	LX.BSU02.004	ENLS11HR_WHISTLER_PRO2GBCkkQ_3V3UJ	Ci72630QM
ENLS11HR-2638G1TWikk	Russia	LX.BSU02.005	ENLS11HR_WHISTLER_PRO2GBCkkQ_3V3UJ	Ci72630QM
ENLS11HR-2638G64Mnkk	CHE	LX.BSU02.006	ENLS11HR_WHISTLER_PRO2GBCkkQ_3V3UJ	Ci72630QM

ENLS13HR

Table 7-4. Model Definition

Model	Country	Acer Part No	BOM Name	CPU
ENLS13HR-2416G50Mnrr	Germany	LX.BTN02.001	ENLS13HR_WHISTLER_PRO2GBCrr_3V3UJ	Ci52410M
ENLS13HR-2526G1.28TMnrr	Czech	LX.BTJ02.001	ENLS13HR_WHISTLER_PRO1GBCrr_3V3UJ	Ci52520M

ENLS11HR

Table 7-5. Model Definition

Model	Country	Acer Part No	BOM Name	LCD
ENLS11HR-2313G50Mnkk	Russia	LX.BRW02.004	ENLS11HR_SEYMOUR_XT512Ckk_3V3UJ	NLED17.3WXGA+G
ENLS11HR-2314G00Mnkk	France	LX.BRX02.003	ENLS11HR_WHISTLER_PRO1GBCkk_3V3UJ	NLED17.3WXGA+G
ENLS11HR-2314G1TMnkk	Czech	LX.BRW02.003	ENLS11HR_SEYMOUR_XT512Ckk_3V3UJ	NLED17.3WXGA+G
ENLS11HR-2314G1TMnkk	France	LX.BRW02.002	ENLS11HR_SEYMOUR_XT512Ckk_3V3UJ	NLED17.3WXGA+G
ENLS11HR-2314G32Mnkk	France	LX.BRW02.001	ENLS11HR_SEYMOUR_XT512Ckk_3V3UJ	NLED17.3WXGA+G
ENLS11HR-2314G50Mnkk	France	LX.BRD02.001	ENLS11HR_UMACkk_3UJ	NLED17.3WXGA+G
ENLS11HR-2314G50Mnkk	Russia	LX.BRX02.004	ENLS11HR_WHISTLER_PRO1GBCkk_3V3UJ	NLED17.3WXGA+G
ENLS11HR-2314G64Mnkk	CHE	LX.BRD02.002	ENLS11HR_UMACkk_3UJ	NLED17.3WXGA+G
ENLS11HR-2414G50Mnkk	Germany	LX.BRX02.002	ENLS11HR_WHISTLER_PRO1GBCkk_3V3UJ	NLED17.3WXGA+G
ENLS11HR-2414G50Mnkk	Russia	LX.BRW02.005	ENLS11HR_SEYMOUR_XT512Ckk_3V3UJ	NLED17.3WXGA+G
ENLS11HR-2414G50Mnkk	Russia	LX.BRX02.005	ENLS11HR_WHISTLER_PRO1GBCkk_3V3UJ	NLED17.3WXGA+G
ENLS11HR-2414G50Mnkk	CHE	LX.BRX02.008	ENLS11HR_WHISTLER_PRO1GBCkk_3V3UJ	NLED17.3WXGA+G
ENLS11HR-2414G64Mnkk	Germany	LX.BSM02.002	ENLS11HR_WHISTLER_PRO2GBCkk_3V3UJ	NLED17.3WXGA+G
ENLS11HR-2416G00Bnkk	Germany	LX.BRX02.001	ENLS11HR_WHISTLER_PRO1GBCkk_3V3UJ	NLED17.3WXGA+G
ENLS11HR-2416G1TMnkk	Czech	LX.BRX02.006	ENLS11HR_WHISTLER_PRO1GBCkk_3V3UJ	NLED17.3WXGA+G
ENLS11HR-2416G50Mnkk	Russia	LX.BSM02.001	ENLS11HR_WHISTLER_PRO2GBCkk_3V3UJ	NLED17.3WXGA+G
ENLS11HR-2416G64Mnkk	CHE	LX.BRX02.007	ENLS11HR_WHISTLER_PRO1GBCkk_3V3UJ	NLED17.3WXGA+G
ENLS11HR-2634G50Mnkk	Germany	LX.BST02.009	ENLS11HR_WHISTLER_PRO1GBCkkQ_3V3UJ	NLED17.3WXGA+G

Table 7-5. Model Definition (Continued)

Model	Country	Acer Part No	BOM Name	LCD
ENLS11HR-2634G50Mnkk	CHE	LX.BST02.007	ENLS11HR_WHISTLER_PRO1GBCkkQ_3V3UJ	NLED17.3WXGA+G
ENLS11HR-2634G64Mnkk	Germany	LX.BST02.002	ENLS11HR_WHISTLER_PRO1GBCkkQ_3V3UJ	NLED17.3WXGA+G
ENLS11HR-2634G64Mnkk	Holland	LX.BST02.001	ENLS11HR_WHISTLER_PRO1GBCkkQ_3V3UJ	NLED17.3WXGA+G
ENLS11HR-2634G75Mnkk	Russia	LX.BST02.005	ENLS11HR_WHISTLER_PRO1GBCkkQ_3V3UJ	NLED17.3WXGA+G
ENLS11HR-2636G00Bnkk	Germany	LX.BST02.003	ENLS11HR_WHISTLER_PRO1GBCkkQ_3V3UJ	NLED17.3WXGA+G
ENLS11HR-2636G00Mnkk	Russia	LX.BST02.004	ENLS11HR_WHISTLER_PRO1GBCkkQ_3V3UJ	NLED17.3WXGA+G
ENLS11HR-2636G00Wnkk	Germany	LX.BSU02.002	ENLS11HR_WHISTLER_PRO2GBCkkQ_3V3UJ	NLED17.3WXGA+G
ENLS11HR-2636G1TMnkk	Germany	LX.BSU02.003	ENLS11HR_WHISTLER_PRO2GBCkkQ_3V3UJ	NLED17.3WXGA+G
ENLS11HR-2638G00Bnkk	Nordic	LX.BSU02.001	ENLS11HR_WHISTLER_PRO2GBCkkQ_3V3UJ	NLED17.3WXGA+G
ENLS11HR-2638G1.5TMnkk	Russia	LX.BST02.006	ENLS11HR_WHISTLER_PRO1GBCkkQ_3V3UJ	NLED17.3WXGA+G
ENLS11HR-2638G1TMnkk	Czech	LX.BST02.008	ENLS11HR_WHISTLER_PRO1GBCkkQ_3V3UJ	NLED17.3WXGA+G
ENLS11HR-2638G1TMnkk	Russia	LX.BSU02.004	ENLS11HR_WHISTLER_PRO2GBCkkQ_3V3UJ	NLED17.3WXGA+G
ENLS11HR-2638G1TWikk	Russia	LX.BSU02.005	ENLS11HR_WHISTLER_PRO2GBCkkQ_3V3UJ	NLED17.3WXGA+G
ENLS11HR-2638G64Mnkk	CHE	LX.BSU02.006	ENLS11HR_WHISTLER_PRO2GBCkkQ_3V3UJ	NLED17.3WXGA+G

ENLS13HR

Table 7-6. Model Definition

Model	Country	Acer Part No	BOM Name	LCD
ENLS13HR-2416G50Mnrr	Germany	LX.BTN02.001	ENLS13HR_WHISTLER_PRO2GBCrr_3V3UJ	NLED17.3WXGA+G
ENLS13HR-2526G1.28TMnrr	Czech	LX.BTJ02.001	ENLS13HR_WHISTLER_PRO1GBCrr_3V3UJ	NLED17.3WXGA+G

ENLS11HR

Table 7-7. Model Definition

Model	Country	Acer Part No	BOM Name	VGA Chip
ENLS11HR-2313G50Mnkk	Russia	LX.BRW02.004	ENLS11HR_SEYMOUR_XT512Ckk_3V3UJ	SEYMOUR_XT
ENLS11HR-2314G00Mnkk	France	LX.BRX02.003	ENLS11HR_WHISTLER_PRO1GBCkk_3V3UJ	WHISTLER_PRO
ENLS11HR-2314G1TMnkk	Czech	LX.BRW02.003	ENLS11HR_SEYMOUR_XT512Ckk_3V3UJ	SEYMOUR_XT
ENLS11HR-2314G1TMnkk	France	LX.BRW02.002	ENLS11HR_SEYMOUR_XT512Ckk_3V3UJ	SEYMOUR_XT
ENLS11HR-2314G32Mnkk	France	LX.BRW02.001	ENLS11HR_SEYMOUR_XT512Ckk_3V3UJ	SEYMOUR_XT
ENLS11HR-2314G50Mnkk	France	LX.BRD02.001	ENLS11HR_UMACkk_3UJ	UMA
ENLS11HR-2314G50Mnkk	Russia	LX.BRX02.004	ENLS11HR_WHISTLER_PRO1GBCkk_3V3UJ	WHISTLER_PRO
ENLS11HR-2314G64Mnkk	CHE	LX.BRD02.002	ENLS11HR_UMACkk_3UJ	UMA
ENLS11HR-2414G50Mnkk	Germany	LX.BRX02.002	ENLS11HR_WHISTLER_PRO1GBCkk_3V3UJ	WHISTLER_PRO
ENLS11HR-2414G50Mnkk	Russia	LX.BRW02.005	ENLS11HR_SEYMOUR_XT512Ckk_3V3UJ	SEYMOUR_XT
ENLS11HR-2414G50Mnkk	Russia	LX.BRX02.005	ENLS11HR_WHISTLER_PRO1GBCkk_3V3UJ	WHISTLER_PRO
ENLS11HR-2414G50Mnkk	CHE	LX.BRX02.008	ENLS11HR_WHISTLER_PRO1GBCkk_3V3UJ	WHISTLER_PRO
ENLS11HR-2414G64Mnkk	Germany	LX.BSM02.002	ENLS11HR_WHISTLER_PRO2GBCkk_3V3UJ	WHISTLER_PRO
ENLS11HR-2416G00Bnkk	Germany	LX.BRX02.001	ENLS11HR_WHISTLER_PRO1GBCkk_3V3UJ	WHISTLER_PRO
ENLS11HR-2416G1TMnkk	Czech	LX.BRX02.006	ENLS11HR_WHISTLER_PRO1GBCkk_3V3UJ	WHISTLER_PRO
ENLS11HR-2416G50Mnkk	Russia	LX.BSM02.001	ENLS11HR_WHISTLER_PRO2GBCkk_3V3UJ	WHISTLER_PRO
ENLS11HR-2416G64Mnkk	CHE	LX.BRX02.007	ENLS11HR_WHISTLER_PRO1GBCkk_3V3UJ	WHISTLER_PRO
ENLS11HR-2634G50Mnkk	Germany	LX.BST02.009	ENLS11HR_WHISTLER_PRO1GBCkkQ_3V3UJ	WHISTLER_PRO

Table 7-7. Model Definition (Continued)

Model	Country	Acer Part No	BOM Name	VGA Chip
ENLS11HR-26 34G50Mnkk	CHE	LX.BST02.007	ENLS11HR_WHISTLER_ PRO1GBCkkQ_3V3UJ	WHISTLER_PRO
ENLS11HR-26 34G64Mnkk	Germany	LX.BST02.002	ENLS11HR_WHISTLER_ PRO1GBCkkQ_3V3UJ	WHISTLER_PRO
ENLS11HR-26 34G64Mnkk	Holland	LX.BST02.001	ENLS11HR_WHISTLER_ PRO1GBCkkQ_3V3UJ	WHISTLER_PRO
ENLS11HR-26 34G75Mnkk	Russia	LX.BST02.005	ENLS11HR_WHISTLER_ PRO1GBCkkQ_3V3UJ	WHISTLER_PRO
ENLS11HR-26 36G00Bnkk	Germany	LX.BST02.003	ENLS11HR_WHISTLER_ PRO1GBCkkQ_3V3UJ	WHISTLER_PRO
ENLS11HR-26 36G00Mnkk	Russia	LX.BST02.004	ENLS11HR_WHISTLER_ PRO1GBCkkQ_3V3UJ	WHISTLER_PRO
ENLS11HR-26 36G00Wnkk	Germany	LX.BSU02.002	ENLS11HR_WHISTLER_ PRO2GBCkkQ_3V3UJ	WHISTLER_PRO
ENLS11HR-26 36G1TMnkk	Germany	LX.BSU02.003	ENLS11HR_WHISTLER_ PRO2GBCkkQ_3V3UJ	WHISTLER_PRO
ENLS11HR-26 38G00Bnkk	Nordic	LX.BSU02.001	ENLS11HR_WHISTLER_ PRO2GBCkkQ_3V3UJ	WHISTLER_PRO
ENLS11HR-26 38G1.5TMnkk	Russia	LX.BST02.006	ENLS11HR_WHISTLER_ PRO1GBCkkQ_3V3UJ	WHISTLER_PRO
ENLS11HR-26 38G1TMnkk	Czech	LX.BST02.008	ENLS11HR_WHISTLER_ PRO1GBCkkQ_3V3UJ	WHISTLER_PRO
ENLS11HR-26 38G1TMnkk	Russia	LX.BSU02.004	ENLS11HR_WHISTLER_ PRO2GBCkkQ_3V3UJ	WHISTLER_PRO
ENLS11HR-26 38G1TWikk	Russia	LX.BSU02.005	ENLS11HR_WHISTLER_ PRO2GBCkkQ_3V3UJ	WHISTLER_PRO
ENLS11HR-26 38G64Mnkk	CHE	LX.BSU02.006	ENLS11HR_WHISTLER_ PRO2GBCkkQ_3V3UJ	WHISTLER_PRO

ENLS13HR

Table 7-8. Model Definition

Model	Country	Acer Part No	BOM Name	VGA Chip
ENLS13HR-24 16G50Mnrr	Germany	LX.BTN02.001	ENLS13HR_WHISTLER _PRO2GBCrr_3V3UJ	WHISTLER_PRO
ENLS13HR-25 26G1.28TMnrr	Czech	LX.BTJ02.001	ENLS13HR_WHISTLER _PRO1GBCrr_3V3UJ	WHISTLER_PRO

ENLS11HR

Table 7-9. Model Definition

Model	Country	Acer Part No	BOM Name	VRAM 1
ENLS11HR-2313G50Mnkk	Russia	LX.BRW02.004	ENLS11HR_SEYMOUR_XT512Ckk_3V3UJ	512M-DDR3 (64*16*4)
ENLS11HR-2314G00Mnkk	France	LX.BRX02.003	ENLS11HR_WHISTLER_PRO1GBCkk_3V3UJ	1G-DDR3 (64*16*8)
ENLS11HR-2314G1TMnkk	Czech	LX.BRW02.003	ENLS11HR_SEYMOUR_XT512Ckk_3V3UJ	512M-DDR3 (64*16*4)
ENLS11HR-2314G1TMnkk	France	LX.BRW02.002	ENLS11HR_SEYMOUR_XT512Ckk_3V3UJ	512M-DDR3 (64*16*4)
ENLS11HR-2314G32Mnkk	France	LX.BRW02.001	ENLS11HR_SEYMOUR_XT512Ckk_3V3UJ	512M-DDR3 (64*16*4)
ENLS11HR-2314G50Mnkk	France	LX.BRD02.001	ENLS11HR_UMACkk_3UJ	N/A
ENLS11HR-2314G50Mnkk	Russia	LX.BRX02.004	ENLS11HR_WHISTLER_PRO1GBCkk_3V3UJ	1G-DDR3 (64*16*8)
ENLS11HR-2314G64Mnkk	CHE	LX.BRD02.002	ENLS11HR_UMACkk_3UJ	N/A
ENLS11HR-2414G50Mnkk	Germany	LX.BRX02.002	ENLS11HR_WHISTLER_PRO1GBCkk_3V3UJ	1G-DDR3 (64*16*8)
ENLS11HR-2414G50Mnkk	Russia	LX.BRW02.005	ENLS11HR_SEYMOUR_XT512Ckk_3V3UJ	512M-DDR3 (64*16*4)
ENLS11HR-2414G50Mnkk	Russia	LX.BRX02.005	ENLS11HR_WHISTLER_PRO1GBCkk_3V3UJ	1G-DDR3 (64*16*8)
ENLS11HR-2414G50Mnkk	CHE	LX.BRX02.008	ENLS11HR_WHISTLER_PRO1GBCkk_3V3UJ	1G-DDR3 (64*16*8)
ENLS11HR-2414G64Mnkk	Germany	LX.BSM02.002	ENLS11HR_WHISTLER_PRO2GBCkk_3V3UJ	2G-DDR3 (128*16*8)
ENLS11HR-2416G00Bnkk	Germany	LX.BRX02.001	ENLS11HR_WHISTLER_PRO1GBCkk_3V3UJ	1G-DDR3 (64*16*8)
ENLS11HR-2416G1TMnkk	Czech	LX.BRX02.006	ENLS11HR_WHISTLER_PRO1GBCkk_3V3UJ	1G-DDR3 (64*16*8)

Table 7-9. Model Definition (Continued)

Model	Country	Acer Part No	BOM Name	VRAM 1
ENLS11HR-24 16G50Mnkk	Russia	LX.BSM02.001	ENLS11HR_WHISTLER_PRO2GBCkk_3V3UJ	2G-DDR3 (128*16*8)
ENLS11HR-24 16G64Mnkk	CHE	LX.BRX02.007	ENLS11HR_WHISTLER_PRO1GBCkk_3V3UJ	1G-DDR3 (64*16*8)
ENLS11HR-26 34G50Mnkk	Germany	LX.BST02.009	ENLS11HR_WHISTLER_PRO1GBCkkQ_3V3UJ	1G-DDR3 (64*16*8)
ENLS11HR-26 34G50Mnkk	CHE	LX.BST02.007	ENLS11HR_WHISTLER_PRO1GBCkkQ_3V3UJ	1G-DDR3 (64*16*8)
ENLS11HR-26 34G64Mnkk	Germany	LX.BST02.002	ENLS11HR_WHISTLER_PRO1GBCkkQ_3V3UJ	1G-DDR3 (64*16*8)
ENLS11HR-26 34G64Mnkk	Holland	LX.BST02.001	ENLS11HR_WHISTLER_PRO1GBCkkQ_3V3UJ	1G-DDR3 (64*16*8)
ENLS11HR-26 34G75Mnkk	Russia	LX.BST02.005	ENLS11HR_WHISTLER_PRO1GBCkkQ_3V3UJ	1G-DDR3 (64*16*8)
ENLS11HR-26 36G00Bnkk	Germany	LX.BST02.003	ENLS11HR_WHISTLER_PRO1GBCkkQ_3V3UJ	1G-DDR3 (64*16*8)
ENLS11HR-26 36G00Mnkk	Russia	LX.BST02.004	ENLS11HR_WHISTLER_PRO1GBCkkQ_3V3UJ	1G-DDR3 (64*16*8)
ENLS11HR-26 36G00Wnkk	Germany	LX.BSU02.002	ENLS11HR_WHISTLER_PRO2GBCkkQ_3V3UJ	2G-DDR3 (128*16*8)
ENLS11HR-26 36G1TMnkk	Germany	LX.BSU02.003	ENLS11HR_WHISTLER_PRO2GBCkkQ_3V3UJ	2G-DDR3 (128*16*8)
ENLS11HR-26 38G00Bnkk	Nordic	LX.BSU02.001	ENLS11HR_WHISTLER_PRO2GBCkkQ_3V3UJ	2G-DDR3 (128*16*8)
ENLS11HR-26 38G1.5TMnkk	Russia	LX.BST02.006	ENLS11HR_WHISTLER_PRO1GBCkkQ_3V3UJ	1G-DDR3 (64*16*8)
ENLS11HR-26 38G1TMnkk	Czech	LX.BST02.008	ENLS11HR_WHISTLER_PRO1GBCkkQ_3V3UJ	1G-DDR3 (64*16*8)

Table 7-9. Model Definition (Continued)

Model	Country	Acer Part No	BOM Name	VRAM 1
ENLS11HR-2638G1TMnkk	Russia	LX.BSU02.004	ENLS11HR_WHISTLER_PRO2GBCkkQ_3V3UJ	2G-DDR3 (128*16*8)
ENLS11HR-2638G1TWikk	Russia	LX.BSU02.005	ENLS11HR_WHISTLER_PRO2GBCkkQ_3V3UJ	2G-DDR3 (128*16*8)
ENLS11HR-2638G64Mnkk	CHE	LX.BSU02.006	ENLS11HR_WHISTLER_PRO2GBCkkQ_3V3UJ	2G-DDR3 (128*16*8)

ENLS13HR

Table 7-10.

Model	Country	Acer Part No	BOM Name	VRAM 1
ENLS13HR-2416G50Mnrr	Germany	LX.BTN02.001	ENLS13HR_WHISTLER_PRO2GBCrr_3V3UJ	2G-DDR3 (128*16*8)
ENLS13HR-2526G1.28TMnrr	Czech	LX.BTJ02.001	ENLS13HR_WHISTLER_PRO1GBCrr_3V3UJ	1G-DDR3 (64*16*8)

ENLS11HR

Table 7-11. Model Definition

Model	Country	Acer Part No	BOM Name	Memory 1	Memory 2
ENLS11HR-2313G50Mnkk	Russia	LX.BRW02.004	ENLS11HR_SEYMOUR_XT512Ckk_3V3UJ	SO2GBIII10	SO1GBIII10
ENLS11HR-2314G00Mnkk	France	LX.BRX02.003	ENLS11HR_WHISTLER_PRO1GBCkk_3V3UJ	SO2GBIII10	SO2GBIII10
ENLS11HR-2314G1TMnkk	Czech	LX.BRW02.003	ENLS11HR_SEYMOUR_XT512Ckk_3V3UJ	SO2GBIII10	SO2GBIII10
ENLS11HR-2314G1TMnkk	France	LX.BRW02.002	ENLS11HR_SEYMOUR_XT512Ckk_3V3UJ	SO2GBIII10	SO2GBIII10
ENLS11HR-2314G32Mnkk	France	LX.BRW02.001	ENLS11HR_SEYMOUR_XT512Ckk_3V3UJ	SO2GBIII10	SO2GBIII10
ENLS11HR-2314G50Mnkk	France	LX.BRD02.001	ENLS11HR_UMACkk_3UJ	SO2GBIII10	SO2GBIII10

Table 7-11. Model Definition (Continued)

Model	Country	Acer Part No	BOM Name	Memory 1	Memory 2
ENLS11HR-2314G50Mnkk	Russia	LX.BRX02.004	ENLS11HR_WHISTLER_PRO1GBCkk_3V3UJ	SO2GBIII10	SO2GBIII10
ENLS11HR-2314G64Mnkk	CHE	LX.BRD02.002	ENLS11HR_UMACkk_3UJ	SO2GBIII10	SO2GBIII10
ENLS11HR-2414G50Mnkk	Germany	LX.BRX02.002	ENLS11HR_WHISTLER_PRO1GBCkk_3V3UJ	SO2GBIII10	SO2GBIII10
ENLS11HR-2414G50Mnkk	Russia	LX.BRW02.005	ENLS11HR_SEYMOUR_XT512Ckk_3V3UJ	SO2GBIII10	SO2GBIII10
ENLS11HR-2414G50Mnkk	Russia	LX.BRX02.005	ENLS11HR_WHISTLER_PRO1GBCkk_3V3UJ	SO2GBIII10	SO2GBIII10
ENLS11HR-2414G50Mnkk	CHE	LX.BRX02.008	ENLS11HR_WHISTLER_PRO1GBCkk_3V3UJ	SO2GBIII10	SO2GBIII10
ENLS11HR-2414G64Mnkk	Germany	LX.BSM02.002	ENLS11HR_WHISTLER_PRO2GBCkk_3V3UJ	SO2GBIII10	SO2GBIII10
ENLS11HR-2416G00Bnkk	Germany	LX.BRX02.001	ENLS11HR_WHISTLER_PRO1GBCkk_3V3UJ	SO2GBIII10	SO4GBIII10
ENLS11HR-2416G1TMnkk	Czech	LX.BRX02.006	ENLS11HR_WHISTLER_PRO1GBCkk_3V3UJ	SO4GBIII10	SO2GBIII10
ENLS11HR-2416G50Mnkk	Russia	LX.BSM02.001	ENLS11HR_WHISTLER_PRO2GBCkk_3V3UJ	SO4GBIII10	SO2GBIII10
ENLS11HR-2416G64Mnkk	CHE	LX.BRX02.007	ENLS11HR_WHISTLER_PRO1GBCkk_3V3UJ	SO4GBIII10	SO2GBIII10
ENLS11HR-2634G50Mnkk	Germany	LX.BST02.009	ENLS11HR_WHISTLER_PRO1GBCkkQ_3V3UJ	SO2GBIII10	SO2GBIII10
ENLS11HR-2634G50Mnkk	CHE	LX.BST02.007	ENLS11HR_WHISTLER_PRO1GBCkkQ_3V3UJ	SO2GBIII10	SO2GBIII10
ENLS11HR-2634G64Mnkk	Germany	LX.BST02.002	ENLS11HR_WHISTLER_PRO1GBCkkQ_3V3UJ	SO2GBIII10	SO2GBIII10

Table 7-11. Model Definition (Continued)

Model	Country	Acer Part No	BOM Name	Memory 1	Memory 2
ENLS11HR-2634G64Mnkk	Holland	LX.BST02.001	ENLS11HR_WHISTLER_PRO1GBCkkQ_3V3UJ	SO2GBIII10	SO2GBIII10
ENLS11HR-2634G75Mnkk	Russia	LX.BST02.005	ENLS11HR_WHISTLER_PRO1GBCkkQ_3V3UJ	SO2GBIII10	SO2GBIII10
ENLS11HR-2636G00Bnkk	Germany	LX.BST02.003	ENLS11HR_WHISTLER_PRO1GBCkkQ_3V3UJ	SO4GBIII10	SO2GBIII10
ENLS11HR-2636G00Mnkk	Russia	LX.BST02.004	ENLS11HR_WHISTLER_PRO1GBCkkQ_3V3UJ	SO4GBIII10	SO2GBIII10
ENLS11HR-2636G00Wnkk	Germany	LX.BSU02.002	ENLS11HR_WHISTLER_PRO2GBCkkQ_3V3UJ	SO2GBIII10	SO4GBIII10
ENLS11HR-2636G1TMnkk	Germany	LX.BSU02.003	ENLS11HR_WHISTLER_PRO2GBCkkQ_3V3UJ	SO2GBIII10	SO4GBIII10
ENLS11HR-2638G00Bnkk	Nordic	LX.BSU02.001	ENLS11HR_WHISTLER_PRO2GBCkkQ_3V3UJ	SO4GBIII10	SO4GBIII10
ENLS11HR-2638G1.5TMnkk	Russia	LX.BST02.006	ENLS11HR_WHISTLER_PRO1GBCkkQ_3V3UJ	SO4GBIII10	SO4GBIII10
ENLS11HR-2638G1TMnkk	Czech	LX.BST02.008	ENLS11HR_WHISTLER_PRO1GBCkkQ_3V3UJ	SO4GBIII10	SO4GBIII10
ENLS11HR-2638G1TMnkk	Russia	LX.BSU02.004	ENLS11HR_WHISTLER_PRO2GBCkkQ_3V3UJ	SO4GBIII10	SO4GBIII10
ENLS11HR-2638G1TWikk	Russia	LX.BSU02.005	ENLS11HR_WHISTLER_PRO2GBCkkQ_3V3UJ	SO4GBIII10	SO4GBIII10
ENLS11HR-2638G64Mnkk	CHE	LX.BSU02.006	ENLS11HR_WHISTLER_PRO2GBCkkQ_3V3UJ	SO4GBIII10	SO4GBIII10

ENLS13HR

Table 7-12. Model Definition

Model	Country	Acer Part No	BOM Name	Memory 1	Memory 2
ENLS13HR-2416G50Mnrr	Germany	LX.BTN02.001	ENLS13HR_WHISTLER_PRO2GBCrr_3V3UJ	SO2GBIII10	SO4GBIII10
ENLS13HR-2526G1.28TMnrr	Czech	LX.BTJ02.001	ENLS13HR_WHISTLER_PRO1GBCrr_3V3UJ	SO4GBIII10	SO2GBIII10

ENLS11HR

Table 7-13. Model Definition

Model	Country	Acer Part No	BOM Name	HDD 1(GB)	HDD 2(GB)
ENLS11HR-2313G50Mnkk	Russia	LX.BRW02.004	ENLS11HR_SEYMOUR_XT512Ckk_3V3UJ	N500GB5.4KS	N/A
ENLS11HR-2314G00Mnkk	France	LX.BRX02.003	ENLS11HR_WHISTLER_PRO1GBCkk_3V3UJ	N750GB5.4KS	N/A
ENLS11HR-2314G1TMnkk	Czech	LX.BRW02.003	ENLS11HR_SEYMOUR_XT512Ckk_3V3UJ	N500GB5.4KS	N500GB5.4KS
ENLS11HR-2314G1TMnkk	France	LX.BRW02.002	ENLS11HR_SEYMOUR_XT512Ckk_3V3UJ	N500GB5.4KS	N500GB5.4KS
ENLS11HR-2314G32Mnkk	France	LX.BRW02.001	ENLS11HR_SEYMOUR_XT512Ckk_3V3UJ	N320GB5.4KS	N/A
ENLS11HR-2314G50Mnkk	France	LX.BRD02.001	ENLS11HR_UMACkk_3UJ	N500GB5.4KS	N/A
ENLS11HR-2314G50Mnkk	Russia	LX.BRX02.004	ENLS11HR_WHISTLER_PRO1GBCkk_3V3UJ	N500GB5.4KS	N/A
ENLS11HR-2314G64Mnkk	CHE	LX.BRD02.002	ENLS11HR_UMACkk_3UJ	N640GB5.4KS	N/A
ENLS11HR-2414G50Mnkk	Germany	LX.BRX02.002	ENLS11HR_WHISTLER_PRO1GBCkk_3V3UJ	N500GB5.4KS	N/A
ENLS11HR-2414G50Mnkk	Russia	LX.BRW02.005	ENLS11HR_SEYMOUR_XT512Ckk_3V3UJ	N500GB5.4KS	N/A

Table 7-13. Model Definition (Continued)

Model	Country	Acer Part No	BOM Name	HDD 1(GB)	HDD 2(GB)
ENLS11HR-24 14G50Mnkk	Russia	LX.BRX02.005	ENLS11HR_WHISTLER_PRO1GBCkk_3V3UJ	N500GB5.4KS	N/A
ENLS11HR-24 14G50Mnkk	CHE	LX.BRX02.008	ENLS11HR_WHISTLER_PRO1GBCkk_3V3UJ	N500GB5.4KS	N/A
ENLS11HR-24 14G64Mnkk	Germany	LX.BSM02.002	ENLS11HR_WHISTLER_PRO2GBCkk_3V3UJ	N640GB5.4KS	N/A
ENLS11HR-24 16G00Bnkk	Germany	LX.BRX02.001	ENLS11HR_WHISTLER_PRO1GBCkk_3V3UJ	N750GB5.4KS	N/A
ENLS11HR-24 16G1TMnkk	Czech	LX.BRX02.006	ENLS11HR_WHISTLER_PRO1GBCkk_3V3UJ	N500GB5.4KS	N500GB5.4KS
ENLS11HR-24 16G50Mnkk	Russia	LX.BSM02.001	ENLS11HR_WHISTLER_PRO2GBCkk_3V3UJ	N500GB5.4KS	N/A
ENLS11HR-24 16G64Mnkk	CHE	LX.BRX02.007	ENLS11HR_WHISTLER_PRO1GBCkk_3V3UJ	N640GB5.4KS	N/A
ENLS11HR-26 34G50Mnkk	Germany	LX.BST02.009	ENLS11HR_WHISTLER_PRO1GBCkkQ_3V3UJ	N500GB5.4KS	N/A
ENLS11HR-26 34G50Mnkk	CHE	LX.BST02.007	ENLS11HR_WHISTLER_PRO1GBCkkQ_3V3UJ	N500GB5.4KS	N/A
ENLS11HR-26 34G64Mnkk	Germany	LX.BST02.002	ENLS11HR_WHISTLER_PRO1GBCkkQ_3V3UJ	N640GB5.4KS	N/A
ENLS11HR-26 34G64Mnkk	Holland	LX.BST02.001	ENLS11HR_WHISTLER_PRO1GBCkkQ_3V3UJ	N640GB5.4KS	N/A
ENLS11HR-26 34G75Mnkk	Russia	LX.BST02.005	ENLS11HR_WHISTLER_PRO1GBCkkQ_3V3UJ	N750GB5.4KS_4K	N/A
ENLS11HR-26 36G00Bnkk	Germany	LX.BST02.003	ENLS11HR_WHISTLER_PRO1GBCkkQ_3V3UJ	N750GB5.4KS	N/A
ENLS11HR-26 36G00Mnkk	Russia	LX.BST02.004	ENLS11HR_WHISTLER_PRO1GBCkkQ_3V3UJ	N750GB5.4KS	N/A

Table 7-13. Model Definition (Continued)

Model	Country	Acer Part No	BOM Name	HDD 1(GB)	HDD 2(GB)
ENLS11HR-2636G00Wnkk	Germany	LX.BSU02.002	ENLS11HR_WHISTLER_PRO2GBCkkQ_3V3UJ	N750GB5.4KS	N/A
ENLS11HR-2636G1TMnkk	Germany	LX.BSU02.003	ENLS11HR_WHISTLER_PRO2GBCkkQ_3V3UJ	N500GB5.4KS	N500GB5.4KS
ENLS11HR-2638G00Bnkk	Nordic	LX.BSU02.001	ENLS11HR_WHISTLER_PRO2GBCkkQ_3V3UJ	N750GB5.4KS	N750GB5.4KS
ENLS11HR-2638G1.5TMnkk	Russia	LX.BST02.006	ENLS11HR_WHISTLER_PRO1GBCkkQ_3V3UJ	N750GB5.4KS_4K	N750GB5.4KS_4K
ENLS11HR-2638G1TMnkk	Czech	LX.BST02.008	ENLS11HR_WHISTLER_PRO1GBCkkQ_3V3UJ	N500GB5.4KS	N500GB5.4KS
ENLS11HR-2638G1TMnkk	Russia	LX.BSU02.004	ENLS11HR_WHISTLER_PRO2GBCkkQ_3V3UJ	N500GB5.4KS	N500GB5.4KS
ENLS11HR-2638G1TWikk	Russia	LX.BSU02.005	ENLS11HR_WHISTLER_PRO2GBCkkQ_3V3UJ	N500GB5.4KS	N500GB5.4KS
ENLS11HR-2638G64Mnkk	CHE	LX.BSU02.006	ENLS11HR_WHISTLER_PRO2GBCkkQ_3V3UJ	N640GB5.4KS	N/A

ENLS13HR

Table 7-14. Model Definition

Model	Country	Acer Part No	BOM Name	HDD 1(GB)	HDD 2(GB)
ENLS13HR-2416G50Mnrr	Germany	LX.BTN02.001	ENLS13HR_WHISTLER_PRO2GBCrr_3V3UJ	N500GB5.4KS	N
ENLS13HR-2526G1.28TMnrr	Czech	LX.BTJ02.001	ENLS13HR_WHISTLER_PRO1GBCrr_3V3UJ	N640GB5.4KS	N640GB5.4KS

ENLS11HR

Table 7-15. Model Definition

Model	Country	Acer Part No	BOM Name	Wireless LAN1
ENLS11HR-2313G50Mnkk	Russia	LX.BRW02.004	ENLS11HR_SEYMOUR_XT512Ckk_3V3UJ	3rd WiFi 2x2 BGN
ENLS11HR-2314G00Mnkk	France	LX.BRX02.003	ENLS11HR_WHISTLER_PRO1GBCkk_3V3UJ	3rd WiFi 2x2 BGN
ENLS11HR-2314G1TMnkk	Czech	LX.BRW02.003	ENLS11HR_SEYMOUR_XT512Ckk_3V3UJ	3rd WiFi 2x2 BGN
ENLS11HR-2314G1TMnkk	France	LX.BRW02.002	ENLS11HR_SEYMOUR_XT512Ckk_3V3UJ	3rd WiFi 2x2 BGN
ENLS11HR-2314G32Mnkk	France	LX.BRW02.001	ENLS11HR_SEYMOUR_XT512Ckk_3V3UJ	3rd WiFi 2x2 BGN
ENLS11HR-2314G50Mnkk	France	LX.BRD02.001	ENLS11HR_UMACkk_3UJ	3rd WiFi 2x2 BGN
ENLS11HR-2314G50Mnkk	Russia	LX.BRX02.004	ENLS11HR_WHISTLER_PRO1GBCkk_3V3UJ	3rd WiFi 2x2 BGN
ENLS11HR-2314G64Mnkk	CHE	LX.BRD02.002	ENLS11HR_UMACkk_3UJ	3rd WiFi 2x2 BGN
ENLS11HR-2414G50Mnkk	Germany	LX.BRX02.002	ENLS11HR_WHISTLER_PRO1GBCkk_3V3UJ	3rd WiFi 2x2 BGN
ENLS11HR-2414G50Mnkk	Russia	LX.BRW02.005	ENLS11HR_SEYMOUR_XT512Ckk_3V3UJ	3rd WiFi 2x2 BGN
ENLS11HR-2414G50Mnkk	Russia	LX.BRX02.005	ENLS11HR_WHISTLER_PRO1GBCkk_3V3UJ	3rd WiFi 2x2 BGN
ENLS11HR-2414G50Mnkk	CHE	LX.BRX02.008	ENLS11HR_WHISTLER_PRO1GBCkk_3V3UJ	3rd WiFi 2x2 BGN
ENLS11HR-2414G64Mnkk	Germany	LX.BSM02.002	ENLS11HR_WHISTLER_PRO2GBCkk_3V3UJ	3rd WiFi 2x2 BGN
ENLS11HR-2416G00Bnkk	Germany	LX.BRX02.001	ENLS11HR_WHISTLER_PRO1GBCkk_3V3UJ	3rd WiFi 2x2 BGN
ENLS11HR-2416G1TMnkk	Czech	LX.BRX02.006	ENLS11HR_WHISTLER_PRO1GBCkk_3V3UJ	3rd WiFi 2x2 BGN
ENLS11HR-2416G50Mnkk	Russia	LX.BSM02.001	ENLS11HR_WHISTLER_PRO2GBCkk_3V3UJ	3rd WiFi 2x2 BGN
ENLS11HR-2416G64Mnkk	CHE	LX.BRX02.007	ENLS11HR_WHISTLER_PRO1GBCkk_3V3UJ	3rd WiFi 2x2 BGN
ENLS11HR-2634G50Mnkk	Germany	LX.BST02.009	ENLS11HR_WHISTLER_PRO1GBCkkQ_3V3UJ	3rd WiFi 2x2 BGN
ENLS11HR-2634G50Mnkk	CHE	LX.BST02.007	ENLS11HR_WHISTLER_PRO1GBCkkQ_3V3UJ	3rd WiFi 2x2 BGN

Table 7-15. Model Definition (Continued)

Model	Country	Acer Part No	BOM Name	Wireless LAN1
ENLS11HR-2634G64Mnkk	Germany	LX.BST02.002	ENLS11HR_WHISTLER_PRO1GBCkkQ_3V3UJ	3rd WiFi 2x2 BGN
ENLS11HR-2634G64Mnkk	Holland	LX.BST02.001	ENLS11HR_WHISTLER_PRO1GBCkkQ_3V3UJ	3rd WiFi 2x2 BGN
ENLS11HR-2634G75Mnkk	Russia	LX.BST02.005	ENLS11HR_WHISTLER_PRO1GBCkkQ_3V3UJ	3rd WiFi 2x2 BGN
ENLS11HR-2636G00Bnkk	Germany	LX.BST02.003	ENLS11HR_WHISTLER_PRO1GBCkkQ_3V3UJ	3rd WiFi 2x2 BGN
ENLS11HR-2636G00Mnkk	Russia	LX.BST02.004	ENLS11HR_WHISTLER_PRO1GBCkkQ_3V3UJ	3rd WiFi 2x2 BGN
ENLS11HR-2636G00Wnkk	Germany	LX.BSU02.002	ENLS11HR_WHISTLER_PRO2GBCkkQ_3V3UJ	3rd WiFi 2x2 BGN
ENLS11HR-2636G1TMnkk	Germany	LX.BSU02.003	ENLS11HR_WHISTLER_PRO2GBCkkQ_3V3UJ	3rd WiFi 2x2 BGN
ENLS11HR-2638G00Bnkk	Nordic	LX.BSU02.001	ENLS11HR_WHISTLER_PRO2GBCkkQ_3V3UJ	3rd WiFi 2x2 BGN
ENLS11HR-2638G1.5TMnkk	Russia	LX.BST02.006	ENLS11HR_WHISTLER_PRO1GBCkkQ_3V3UJ	3rd WiFi 2x2 BGN
ENLS11HR-2638G1TMnkk	Czech	LX.BST02.008	ENLS11HR_WHISTLER_PRO1GBCkkQ_3V3UJ	3rd WiFi 2x2 BGN
ENLS11HR-2638G1TMnkk	Russia	LX.BSU02.004	ENLS11HR_WHISTLER_PRO2GBCkkQ_3V3UJ	3rd WiFi 2x2 BGN
ENLS11HR-2638G1TWikk	Russia	LX.BSU02.005	ENLS11HR_WHISTLER_PRO2GBCkkQ_3V3UJ	3rd WiFi BG
ENLS11HR-2638G64Mnkk	CHE	LX.BSU02.006	ENLS11HR_WHISTLER_PRO2GBCkkQ_3V3UJ	3rd WiFi 2x2 BGN

ENLS13HR

Table 7-16. Model Definition

Model	Country	Acer Part No	BOM Name	Wireless LAN1
ENLS13HR-2416G50Mnrr	Germany	LX.BTN02.001	ENLS13HR_WHISTLER_PRO2GBCrr_3V3UJ	3rd WiFi 2x2 BGN
ENLS13HR-2526G1.28TMnrr	Czech	LX.BTJ02.001	ENLS13HR_WHISTLER_PRO1GBCrr_3V3UJ	3rd WiFi 2x2 BGN

ENLS11HR

Table 7-17. Model Definition

Model	Country	Acer Part No	BOM Name	Bluetooth
ENLS11HR-231 3G50Mnkk	Russia	LX.BRW02.004	ENLS11HR_SEYMOUR_XT512 Ckk_3V3UJ	BT 3.0
ENLS11HR-231 4G00Mnkk	France	LX.BRX02.003	ENLS11HR_WHISTLER_PRO1 GBCkk_3V3UJ	N/A
ENLS11HR-231 4G1TMnkk	Czech	LX.BRW02.003	ENLS11HR_SEYMOUR_XT512 Ckk_3V3UJ	BT 3.0
ENLS11HR-231 4G1TMnkk	France	LX.BRW02.002	ENLS11HR_SEYMOUR_XT512 Ckk_3V3UJ	N
ENLS11HR-231 4G32Mnkk	France	LX.BRW02.001	ENLS11HR_SEYMOUR_XT512 Ckk_3V3UJ	N
ENLS11HR-231 4G50Mnkk	France	LX.BRD02.001	ENLS11HR_UMACkk_3UJ	N
ENLS11HR-231 4G50Mnkk	Russia	LX.BRX02.004	ENLS11HR_WHISTLER_PRO1 GBCkk_3V3UJ	BT 3.0
ENLS11HR-231 4G64Mnkk	CHE	LX.BRD02.002	ENLS11HR_UMACkk_3UJ	N
ENLS11HR-241 4G50Mnkk	Germany	LX.BRX02.002	ENLS11HR_WHISTLER_PRO1 GBCkk_3V3UJ	N
ENLS11HR-241 4G50Mnkk	Russia	LX.BRW02.005	ENLS11HR_SEYMOUR_XT512 Ckk_3V3UJ	BT 3.0
ENLS11HR-241 4G50Mnkk	Russia	LX.BRX02.005	ENLS11HR_WHISTLER_PRO1 GBCkk_3V3UJ	BT 3.0
ENLS11HR-241 4G50Mnkk	CHE	LX.BRX02.008	ENLS11HR_WHISTLER_PRO1 GBCkk_3V3UJ	N
ENLS11HR-241 4G64Mnkk	Germany	LX.BSM02.002	ENLS11HR_WHISTLER_PRO2 GBCkk_3V3UJ	BT 3.0
ENLS11HR-241 6G00Bnkk	Germany	LX.BRX02.001	ENLS11HR_WHISTLER_PRO1 GBCkk_3V3UJ	N
ENLS11HR-241 6G1TMnkk	Czech	LX.BRX02.006	ENLS11HR_WHISTLER_PRO1 GBCkk_3V3UJ	BT 3.0
ENLS11HR-241 6G50Mnkk	Russia	LX.BSM02.001	ENLS11HR_WHISTLER_PRO2 GBCkk_3V3UJ	BT 3.0
ENLS11HR-241 6G64Mnkk	CHE	LX.BRX02.007	ENLS11HR_WHISTLER_PRO1 GBCkk_3V3UJ	N
ENLS11HR-263 4G50Mnkk	Germany	LX.BST02.009	ENLS11HR_WHISTLER_PRO1 GBCkkQ_3V3UJ	N
ENLS11HR-263 4G50Mnkk	CHE	LX.BST02.007	ENLS11HR_WHISTLER_PRO1 GBCkkQ_3V3UJ	N

Table 7-17. Model Definition (Continued)

Model	Country	Acer Part No	BOM Name	Bluetooth
ENLS11HR-263 4G64Mnkk	Germany	LX.BST02.002	ENLS11HR_WHISTLER_PRO1 GBCkkQ_3V3UJ	BT 3.0
ENLS11HR-263 4G64Mnkk	Holland	LX.BST02.001	ENLS11HR_WHISTLER_PRO1 GBCkkQ_3V3UJ	N
ENLS11HR-263 4G75Mnkk	Russia	LX.BST02.005	ENLS11HR_WHISTLER_PRO1 GBCkkQ_3V3UJ	BT 3.0
ENLS11HR-263 6G00Bnkk	Germany	LX.BST02.003	ENLS11HR_WHISTLER_PRO1 GBCkkQ_3V3UJ	BT 3.0
ENLS11HR-263 6G00Mnkk	Russia	LX.BST02.004	ENLS11HR_WHISTLER_PRO1 GBCkkQ_3V3UJ	BT 3.0
ENLS11HR-263 6G00Wnkk	Germany	LX.BSU02.002	ENLS11HR_WHISTLER_PRO2 GBCkkQ_3V3UJ	BT 3.0
ENLS11HR-263 6G1TMnkk	Germany	LX.BSU02.003	ENLS11HR_WHISTLER_PRO2 GBCkkQ_3V3UJ	BT 3.0
ENLS11HR-263 8G00Bnkk	Nordic	LX.BSU02.001	ENLS11HR_WHISTLER_PRO2 GBCkkQ_3V3UJ	BT 3.0
ENLS11HR-263 8G1.5TMnkk	Russia	LX.BST02.006	ENLS11HR_WHISTLER_PRO1 GBCkkQ_3V3UJ	BT 3.0
ENLS11HR-263 8G1TMnkk	Czech	LX.BST02.008	ENLS11HR_WHISTLER_PRO1 GBCkkQ_3V3UJ	BT 3.0
ENLS11HR-263 8G1TMnkk	Russia	LX.BSU02.004	ENLS11HR_WHISTLER_PRO2 GBCkkQ_3V3UJ	BT 3.0
ENLS11HR-263 8G1TWikk	Russia	LX.BSU02.005	ENLS11HR_WHISTLER_PRO2 GBCkkQ_3V3UJ	BT 3.0
ENLS11HR-263 8G64Mnkk	CHE	LX.BSU02.006	ENLS11HR_WHISTLER_PRO2 GBCkkQ_3V3UJ	N

ENLS13HR

Table 7-18. Model Definition

Model	Country	Acer Part No	BOM Name	Bluetooth
ENLS13HR-2416G5 0Mnrr	Germany	LX.BTN02.001	ENLS13HR_WHISTLER_ PRO2GBCrr_3V3UJ	N/A
ENLS13HR-2526G1. 28TMnrr	Czech	LX.BTJ02.001	ENLS13HR_WHISTLER_ PRO1GBCrr_3V3UJ	BT 3.0

CHAPTER 8

Test Compatible Components

Test Compatible Components

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

Refer to the following lists for components, adapter cards, and peripherals which have passed these tests. Regarding configuration, combination and test procedures, please refer to the Packard Bell EasyNote LS11HR/LS13HR. Compatibility Test Report released by the Acer Mobile System Testing Department.

Table 8-1. Packard Bell EasyNote LS11HR/LS13HR

Vendor	Type	Description	Acer Part No.
Adapter			
10001023 LITE-ON	120W-DE	Adapter LITE-ON 120W-DE 19V 1.7x5.5x11 Green PA-1121-04AC, LV5+OBL LED LF	AP.12003.003
10001023 LITE-ON	65W	Adapter LITE-ON 65W 19V 1.7x5.5x11 Yellow PA-1650-22AC LV5 LED LF	AP.06503.024
10001081 DELTA	65W	Adapter DELTA 65W 19V 1.7x5.5x11 Yellow ADP-65VH BA, LV5, Low profile LED LF	AP.06501.033
10001081 DELTA	90W	Adapter DELTA 90W 19V 1.7x5.5x11 Blue ADP-90CD DBH, LV5 LED LF	AP.09001.031
60002015 HIPRO	90W	Adapter HIPRO 90W 19V 1.7x5.5x11 Blue HP-A0904A3 B1LF, LV5 LED LF	AP.0900A.005
60016453 CHICONY POWER	65W	Adapter Chicony Power 65W 19V 1.7x5.5x11 Yellow CPA09-A065N1, LV5, low profile LF	AP.0650A.017
Audio Codec			
10004786 REALTEK	ALC271X_VB3	Realtek ALC271X_VB3	LZ.21000.085
Battery			
10001063 SONY	6CELL2.2	Battery SONY AS10D Li-Ion 3S2P SONY 6 cell 4400mAh Main COMMON ID:AS10D41	BT.00604.049
60001921 SANYO	6CELL2.2	Battery SANYO AS10D Li-Ion 3S2P SANYO 6 cell 4400mAh Main COMMON new IC BQ8055	BT.00603.124
60002162 SIMPLO	6CELL2.2	Battery SIMPLO AS10D Li-Ion 3S2P PANASONIC 6 cell 4400mAh Main COMMON ID:AS10D71	BT.00607.125
60002162 SIMPLO	6CELL2.2	Battery SIMPLO AS10D Li-Ion 3S2P LGC 6 cell 4400mAh Main COMMON ID:AS10D73	BT.00607.126

Table 8-1. Packard Bell EasyNote LS11HR/LS13HR (Continued)

Vendor	Type	Description	Acer Part No.
60002162 SIMPLO	6CELL2.2	Battery SIMPLO AS10D Li-Ion 3S2P SAMSUNG 6 cell 4400mAh Main COMMON ID:AS10D	BT.00607.127
Bluetooth			
10001018 HON HAI	BT 3.0	Foxconn Bluetooth BRM 2046 BT3.0 (T60H928.33) f/w:861	BH.21100.008
10001018 HON HAI	BT 3.0	Foxconn Bluetooth ATH BU12	BH.21100.011
23707801 FOXCONN TW	BT 2.1	Foxconn Bluetooth BRM 2046 BT2.1 (T60H928.33) f/w:861	BH.21100.004
Camera			
10001023 LITE-ON	1.3M	Liteon 1.3M LT_6A1_SP	AM.21400.081
10001023 LITE-ON	1.3M HD	Liteon 1.3M LT_6A1(TSV)_SP	AM.21400.089
PLM00012 Suyin	1.3M	Suyin 1.3M SY_6A1_SP	AM.21400.083
PLM00012 Suyin	1.3M HD	Suyin 1.3M HD SY_6A1(TSV)_SP	AM.21400.091
Card Reader			
PLM00014 ODM	5 in 1-Build in	5 in 1-Build in MS, MS Pro, SD, SC, XD	CR.21500.013
CPU			
10001067 INTEL	Ci32310M	CPU Intel Core i3 i3-2310M PGA 2.1G 35W 2/4	KC.23101.DMP
10001067 INTEL	Ci52410M	CPU Intel Core i5 i5-2410M PGA 2.3G 35W 2/4	KC.24101.DMP
10001067 INTEL	Ci52520M	CPU Intel Core i5 i5-2520M PGA 2.5G 35W 2/4	KC.25201.DMP
10001067 INTEL	Ci52540M	CPU Intel Core i5 i5-2540M PGA 2.6G 35W 2/4	KC.25401.DMP
10001067 INTEL	Ci72620M	CPU Intel Core i7 i7-2620M PGA 2.7G 35W 2/4	KC.26201.DMP
10001067 INTEL	Ci72630QM	CPU Intel Core i7 i7-2630QM PGA 2.0G 45W 4/8	KC.26301.QMP
10001067 INTEL	Ci72720QM	CPU Intel Core i7 i7-2720QM PGA 2.2G 45W 4/8	KC.27201.QMP

Table 8-1. Packard Bell EasyNote LS11HR/LS13HR (Continued)

Vendor	Type	Description	Acer Part No.
10001067 INTEL	Ci72820QM	CPU Intel Core i7 i7-2820QM PGA 2.3G 45W 4/8	KC.28201.QMP
HDD			
60001922 TOSHIBA DIGI	N320GB5.4KS	HDD TOSHIBA 2.5" 5400rpm 320GB Capricorn BS, MK3265GSX SATA 8MB LF F/W:GJ002J	KH.32004.004
60001922 TOSHIBA DIGI	N500GB5.4KS	HDD TOSHIBA 2.5" 5400rpm 500GB MK5065GSX,Capricorn BS, 320G/P SATA 8MB LF F/W:GJ002J	KH.50004.002
60001922 TOSHIBA DIGI	N640GB5.4KS	HDD TOSHIBA 2.5" 5400rpm 640GB MK6465GSX,Capricorn BS,320G/P SATA 8MB LF F/W:GJ002J	KH.64004.001
60001922 TOSHIBA DIGI	N750GB5.4KS_4K	HDD TOSHIBA 2.5" 5400rpm 750GB MK7559GSXP, 375G/P, Capricorn BS, 4K drive SATA 8MB LF+HF F/W:GN003J	KH.75004.001
60001994 WD	N320GB5.4KS_4K	HDD WD 2.5" 5400rpm 320GB WD3200BPVT-22ZEST0, ML320S, 4K drive SATA 8MB LF F/W: 01.01A01	KH.32008.022
60001994 WD	N500GB5.4KS_4K	HDD WD 2.5" 5400rpm 500GB WD5000BPVT-22HXZT1,ML375_AF, 4K drive SATA 8MB LF+HF F/W:01.01A01	KH.50008.021
60001994 WD	N640GB5.4KS_4K	HDD WD 2.5" 5400rpm 640GB WD6400BPVT-22HXZT1, ML375M SATA 8MB LF F/W: 01.01A01	KH.64008.005
60001994 WD	N750GB5.4KS_4K	HDD WD 2.5" 5400rpm 750GB WD7500BPVT-22HXZT1, ML375M, 4K drive SATA 8MB LF F/W:01.01A01	KH.75008.009
60002005 HGST SG	N320GB5.4KS	HDD HGST 2.5" 5400rpm 320GB HTS545032B9A300 Panther B SATA LF F/W:C60F Disk imbalance criteria = 0.014g-cm	KH.32007.008

Table 8-1. Packard Bell EasyNote LS11HR/LS13HR (Continued)

Vendor	Type	Description	Acer Part No.
60002005 HGST SG	N500GB5.4KS	HDD HGST 2.5" 5400rpm 500GB HTS545050B9A300 Panther B SATA LF F/W:C60F Disk imbalance criteria = 0.014g-cm	KH.50007.010
60002005 HGST SG	N750GB5.4KS	HDD HGST 2.5" 5400rpm 750GB Dummy P.N SATA 8MB LF+HF F/W: 0000	KH.75007.005
60002036 SEAGATE	N320GB5.4KS	HDD SEAGATE 2.5" 5400rpm 320GB ST9320310AS,9RN132-188, Cameron 320G/P SATA 8MB LF F/W:0001SDM1	KH.32001.019
60002036 SEAGATE	N500GB5.4KS	HDD SEAGATE 2.5" 5400rpm 500GB ST9500325AS,9HH134-189, Wyatt with new pcb SATA 8MB LF F/W:0001SDM1	KH.50001.017
2nd HDD			
60001922 TOSHIBA DIGI	N500GB5.4KS	HDD TOSHIBA 2.5" 5400rpm 500GB MK5065GSX,Capricorn BS, 320G/P SATA 8MB LF F/W:GJ002J	KH.50004.002
60001922 TOSHIBA DIGI	N640GB5.4KS	HDD TOSHIBA 2.5" 5400rpm 640GB MK6465GSX,Capricorn BS,320G/P SATA 8MB LF F/W:GJ002J	KH.64004.001
60001922 TOSHIBA DIGI	N750GB5.4KS_4K	HDD TOSHIBA 2.5" 5400rpm 750GB MK7559GSXP, 375G/P, Capricorn BS, 4K drive SATA 8MB LF+HF F/W:GN003J	KH.75004.001
60001994 WD	N640GB5.4KS_4K	HDD WD 2.5" 5400rpm 640GB WD6400BPVT-22HXZT1, ML375M SATA 8MB LF F/W: 01.01A01	KH.64008.005
60001994 WD	N750GB5.4KS_4K	HDD WD 2.5" 5400rpm 750GB WD7500BPVT-22HXZT1, ML375M, 4K drive SATA 8MB LF F/W:01.01A01	KH.75008.009
60002005 HGST SG	N500GB5.4KS	HDD HGST 2.5" 5400rpm 500GB HTS545050B9A300 Panther B SATA LF F/W:C60F Disk imbalance criteria = 0.014g-cm	KH.50007.010

Table 8-1. Packard Bell EasyNote LS11HR/LS13HR (Continued)

Vendor	Type	Description	Acer Part No.
60002005 HGST SG	N750GB5.4KS	HDD HGST 2.5" 5400rpm 750GB Dummy P.N SATA 8MB LF+HF F/W: 0000	KH.75007.005
60002036 SEAGATE	N320GB5.4KS	HDD SEAGATE 2.5" 5400rpm 320GB ST9320310AS,9RN132-188, Cameron 320G/P SATA 8MB LF F/W:0001SDM1	KH.32001.019
60002036 SEAGATE	N500GB5.4KS	HDD SEAGATE 2.5" 5400rpm 500GB ST9500325AS,9HH134-189, Wyatt with new pcb SATA 8MB LF F/W:0001SDM1	KH.50001.017
Keyboard			
10001044 CHICONY	GF7T_G11B	Keyboard GATEWAY GF7T_G11B GF7T Internal 17 Standard Black NONE Y2011 Gateway_PB_Legend Texture	KB.I170G.292
10001044 CHICONY	GF7T_G11W	Keyboard GATEWAY GF7T_G11W GF7T Internal 17 Standard White NONE Y2011 Gateway_PB_Legend Texture	KB.I170G.349
LAN			
10017383 Atheros	AR8151L	Atheros AR8151L	NI.22400.048
LCD			
10001038 CMO	NLED17.3WXGA+G	LED LCD CMO 17.3" WXGA+ Glare N173O6-L02 LF 220nit 8ms 600:1	LK.1730D.001
60003089 LG	NLED17.3WXGA+G	LED LCD LPL 17.3" WXGA+ Glare LP173WD1-TLA3 LF 220nit 8ms 600:1	LK.17308.002
60003316 AUO	NLED17.3WXGA+G	LED LCD AUO 17.3" WXGA+ Glare B173RW01-V3 LF 220nit 8ms 500:1	LK.17305.002
MEMORY			
60002000 UNIFOSA	SO1GBIII13	Memory UNIFOSA SO-DIMM DDRIII 1333 1GB GU672203EP0200 LF 128*8 0.065um	KN.1GB0H.017
60002215 SAMSUNG	SO1GBIII13	Memory SAMSUNG SO-DIMM DDRIII 1333 1GB M471B2873FHS-CH9 LF 128*8 46nm	KN.1GB0B.035

Table 8-1. Packard Bell EasyNote LS11HR/LS13HR (Continued)

Vendor	Type	Description	Acer Part No.
60002215 SAMSUNG	SO2GBIII13	Memory SAMSUNG SO-DIMM DDRIII 1333 2GB M471B5673FH0-CH9 LF 128*8 46nm	KN.2GB0B.023
60002215 SAMSUNG	SO4GBIII13	Memory SAMSUNG SO-DIMM DDRIII 1333 4GB M471B5273CH0-CH9 LF 256*8 46nm	KN.4GB0B.010
60004668 ELPIDA	SO2GBIII13	Memory ELPIDA SO-DIMM DDRIII 1333 2GB EBJ21UE8BFU0-DJ-F LF 128*8 0.065um	KN.2GB09.009
60004668 ELPIDA	SO4GBIII13	Memory ELPIDA SO-DIMM DDRIII 1333 4GB EBJ41UF8BAS0-DJ-F LF 256*8 0.055um	KN.4GB09.001
60024207 KINGSTON	SO1GBIII13	Memory KINGSTON SO-DIMM DDRIII 1333 1GB ACR128X64D3S1333C9 LF 128*8 0.065um	KN.1GB07.004
60024207 KINGSTON	SO2GBIII13	Memory KINGSTON SO-DIMM DDRIII 1333 2GB ACR256X64D3S1333C9 LF 128*8 0.065um	KN.2GB07.004
Modem			
10001023 LITE-ON	External USB Lite+LSI modem	External USB Lite+LSI modem	LC.MOD00.001
NB Chipset			
10001067 INTEL	HM65	NB Chipset Intel CS BD82HM65 Huron River	KI.G6501.001
ODD			
10001070 PHILIPS	NSM8XS	ODD PLDS Super-Multi DRIVE 12.7mm Tray DL 8X DS-8A5SH LF+HF W/O bezel SATA With TI + Rohm Solution (HF + Windows 7)	KU.0080F.014
60001535 PANASONIC	NBDCB4XS	ODD PANASONIC BD COMBO 12.7mm Tray DL 4X UJ141AL LF W/O bezel SATA Windows 7	KO.00407.004
60001535 PANASONIC	NBDRW4XS	ODD PANASONIC BD RW 12.7mm Tray DL 4X UJ240A LF W/O bezel SATA (HF+Windows 7)	KU.00407.015

Table 8-1. Packard Bell EasyNote LS11HR/LS13HR (Continued)

Vendor	Type	Description	Acer Part No.
60001535 PANASONIC	NSM8XS	ODD PANASONIC Super-Multi DRIVE 12.7mm Tray DL 8X UJ890A LF W/O bezel SATA (HF + Windows 7)	KU.00807.070
60001939 PIONEER	NBDCB4XS	ODD PIONEER BD COMBO 12.7mm Tray DL 4X BDC-TD03RS LF W/O bezel 1.01 SATA (Windows 7)	KO.00405.006
60003901 HITACHI EAST	NSM8XS	ODD HLDS Super-Multi DRIVE 12.7mm Tray DL 8X GT34N LF W/O bezel SATA Zero Power Supported, PCC LD (HF + Windows 7)	KU.0080D.057
610105 HLDS	NBDCB4XS	ODD HLDS BD COMBO 12.7mm Tray DL 4X CT21N LF W/O bezel 1.00 SATA (HF + Windows 7)	KO.0040D.004
610105 HLDS	NSM8XS	ODD HLDS Super-Multi DRIVE 12.7mm Tray DL 8X GT32N (R5-2) LF W/O bezel SATA with Renesas solution + PCC LD (HF + Windows 7)	KU.0080D.055
Palmrest Cover			
60014273 NISSHA	Black IMR SJV3457P	Palmrest Cover Black IMR SJV3457P	LZ.21000.099
60014273 NISSHA	Blue IMR SJV3457P	Palmrest Cover Blue IMR SJV3457P	LZ.21000.100
60014273 NISSHA	Red IMR SJV3457P	Palmrest Cover Red IMR SJV3457P	LZ.21000.101
60014273 NISSHA	White IMR SJV3457P	Palmrest Cover White IMR SJV3457P	LZ.21000.102
USB Controller			
10000981 MISC	USB 3.0	USB Controller USB 3.0	LC.24500.001
VGA Chip			
10001067 INTEL	UMA	UMA (Intel)	KI.23200.038
60002168 AMDISS	SEYMOUR_XT	VGA Chip AMD SEYMOUR_XT 40nm 29mm*29mm M2 package	KG.SEY0A.001
60002168 AMDISS	WHISTLER_PRO	VGA Chip AMD WHISTLER_PRO 40nm 29mm*29mm M2 package	KG.WHI0A.001

Table 8-1. Packard Bell EasyNote LS11HR/LS13HR (Continued)

Vendor	Type	Description	Acer Part No.
VRAM			
10000981 MISC	1G-DDR3 (64*16*8)	1G-DDR3 64*16*8	KI.23300.018
10000981 MISC	2G-DDR3 (128*16*8)	2G-DDR3 128*16*8	KI.23300.028
10000981 MISC	512M-DDR3 (64*16*4)	512M-DDR3 64*16*4	KI.23300.019
60002045 HYNIX	VR1GbIII8	VRAM HYNIX Graphic DDRIII 800 1Gb H5TQ1G63BFR-12C LF	VR.1GB0G.004
60002045 HYNIX	VR1GbIII9	VRAM HYNIX Graphic DDRIII 900 1Gb H5TQ1G63DFR-11C LF 64*16 46nm	VR.1GB0G.006
60002045 HYNIX	VR2GbIII8	VRAM HYNIX Graphic DDRIII 800 2Gb H5TQ2G63BFR-12C LF+HF	VR.2GB0G.001
60002215 SAMSUNG	VR1GbIII9	VRAM SAMSUNG Graphic DDRIII 900 1Gb K4W1G1646G-BC11 LF 64*16 35nm	VR.1GB0B.008
9999995 ONE TIME VENDOR	N	N no VRAM	KI.23300.014
WiFi Antenna			
10000105 WNC	PIFA	PIFA	LZ.23500.006
10000105 WNC	PIFA 3x3	WNC WiFi/WiMAX antenna 3x3	LZ.23500.010
Wireless LAN			
10001023 LITE-ON	3rd WiFi 2x2 BGN	Liteon Wireless LAN Realtek 8192SE BGN WN6603LH(2x2 BGN)	NI.23600.065
23707801 FOXCONN TW	3rd WiFi 2x2 BGN	Foxconn Wireless LAN Atheros HB97 2x2 BGN (HM)	NI.23600.072
23707801 FOXCONN TW	3rd WiFi BG	Foxconn Wireless LAN Atheros HB95BG (HM) T77H121.10	NI.23600.077

CHAPTER 9

Online Support Information

Online Support Information

Introduction

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

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

Acer's website offers convenient and valuable support resources.

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

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

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

Also contained on this website are:

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

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