

Aspire 4720G/4720Z/4720/4320 Series Service Guide

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

PRINTED IN TAIWAN

Revision History

Please refer to the table below for the updates made on Aspire 4720G/4720Z/4720/4320 service guide.

| Date | Chapter | Updates |
|------|---------|---------|
| | | |
| | | |
| | | |

Copyright

Copyright © 2007 by Acer Incorporated. All rights reserved. No part of this publication may be reproduced, transmitted, transcribed, stored in a retrieval system, or translated into any language or computer language, in any form or by any means, electronic, mechanical, magnetic, optical, chemical, manual or otherwise, without the prior written permission of Acer Incorporated.

Disclaimer

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

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

Acer is a registered trademark of Acer Corporation.

Intel is a registered trademark of Intel Corporation.

Pentium and Pentium II/III are trademarks of Intel Corporation.

Other brand and product names are trademarks and/or registered trademarks of their respective holders.

Conventions

The following conventions are used in this manual:

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

Preface

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

1. This Service Guide provides you with all technical information relating to the BASIC CONFIGURATION decided for Acer's "global" product offering. To better fit local market requirements and enhance product competitiveness, your regional office MAY have decided to extend the functionality of a machine (e.g. add-on card, modem, or extra memory capability). These LOCALIZED FEATURES will NOT be covered in this generic service guide. In such cases, please contact your regional offices or the responsible personnel/channel to provide you with further technical details.
2. Please note WHEN ORDERING FRU PARTS, that you should check the most up-to-date information available on your regional web or channel. If, for whatever reason, a part number change is made, it will not be noted in the printed Service Guide. For ACER-AUTHORIZED SERVICE PROVIDERS, your Acer office may have a DIFFERENT part number code to those given in the FRU list of this printed Service Guide. You MUST use the list provided by your regional Acer office to order FRU parts for repair and service of customer machines.

System Specifications

Features

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

Operating system

- Genuine Windows® Vista™ Home Premium
- Genuine Windows® Vista™ Home Basic
- Genuine Windows® Vista™ Starter

NOTE: Windows® Vista™ Capable PCs come with Windows® XP installed, and can be upgraded to Windows® Vista™. For more information on Windows® Vista™ and how to upgrade, go to: Microsoft.com/windowsvista.

Platform and memory

- Intel® Centrino® Duo mobile processor technology, featuring:
 - Intel® Core™ 2 Duo mobile processor T7300/T7500/T7700 (4 MB L2 cache, 2/2.2/2.4 GHz, 800 MHz FSB),
 - Intel® Core™ 2 Duo mobile processor T7100 (2 MB L2 cache, 1.8 GHz, 800 MHz FSB)
 - Intel® Core™ 2 Duo mobile processor T5250/T5450 (2 MB L2 cache, 1.5/1.66 GHz, 667 MHz FSB)
 - Intel® 965PM/965GM Express chipset
- Intel® PRO/Wireless 3945ABG network connection (dual-band tri-mode 802.11a/b/g) Wi-Fi CERTIFIED® solution, supporting Acer SignalUp™ wireless technology or Intel® PRO/Wireless 3945BG network connection (dual-band 802.11b/g) Wi-Fi CERTIFIED® solution, supporting Acer SignalUp™ wireless technology
- Core logic: Intel® 965PM/965GM + ICH8M (north bridge + south bridge).
- Up to 2GB of DDR2 677 MHz memory, upgradeable to 4GB using two soDIMM modules (dual-channel support)

Display and graphics

- 14.1" WXGA TFT LCD, up to and including 1280 x 800 pixel resolution
- 200-nit brightness, 16 ms response time
- Simultaneous multi-window viewing via Acer Vista™ support
- Dual independent display
- 16.7 million colors
- Mobile Intel® GM965 Express chipset with integrated 3D graphics, featuring Intel® Graphic Media Accelerator (GMA) X3100 with up to 358 MB of Intel Dynamic Video Memory Technology 4.0 (8MB of dedicated GDDR2 VRAM, up to 350 MB of shared system memory), supporting Microsoft DirectX® 9 and DirectX® 10 (for selected models) or
- NVIDIA GeForce® 8400M SE with up to 1024 MB of TurboCache™ (128/256 MB of dedicated GDDR2 VRAM, 896/ 768 MB of share system memory), supporting NVIDIA® PureVideo™ technology (WMV HD, High Definition MPEG-2 hardware acceleration), Microsoft® DirectX® 9, DirectX® 10, OpenEXR High Dynamic Range (HDR) technology, and PCI Express® (for selected models)

-
- MPEG-2/DVD hardware-assisted capability (acceleration/full decode) (for selected models)
 - WMV9 (VC-1) and H.264 (AVC) support (acceleration/full decode) (for selected models)
 - S-video/TV-out (NTSC/PAL) support
 - Acer Arcade™ featuring Acer CinemaVision™ and Acer ClearVision™ technologies

Audio

- Dolby® certified surround sound system with two built-in stereo speakers
- Dolby® Home Theater audio enhancement featuring Dolby® Digital, Dolby® Digital Live, Dolby® PRO LOGIC II, Dolby® Digital Stereo Creator, Dolby® Headphone and Dolby® Virtual Speaker technologies
- Intel® High Definition audio support
- S/PDIF (Sony/Philips Digital Interface) support for digital speakers
- MS Sound compatible
- Built-in microphone

Storage subsystem

- One 80/120/160/240/250 GB or larger Serial ATA hard disk drives
- Optical drive options: DVD/CDRW Combo and DVD-Super Multi double-layer drive support
- 5-in-1 card reader, supporting Secure Digital (SD), MultiMediaCard (MMC), Memory Stick® (MS), Memory Stick PRO™ (MS PRO), and xD-Picture Card™ (xD)

Input devices

- 88-/89-/93-key keyboard, with inverted "T" cursor layout; 2.5 mm (minimum) key travel
- Seamless touchpad pointing device with 4-way scroll button
- 12 function keys, four cursor keys, two Windows® keys, hotkey controls, embedded numeric keypad, international language support, independent US and Euro dollar sign keys
- Empowering Key
- Easy-launch buttons: WLAN, Internet, email, Bluetooth, Acer Arcade™

Communication

- Acer Video Conference, featuring:
 - Integrated Acer Crystal Eye webcam, supporting Acer
 - PrimaLite™ technology
 - Optional Acer Xpress VoIP phone
- WLAN: Intel® PRO/Wireless 3945ABG network connection (dual-band tri-mode 802.11a/b/g) Wi-Fi CERTIFIED® solution, supporting Acer SignalUp™ wireless technology (for selected models) or Intel® PRO/Wireless 3945BG network connection (dual-mode 802.11b/g) Wi-Fi CERTIFIED® solution, supporting Acer SignalUp™ wireless technology (for selected models)
- WPAN: Bluetooth® 2.0+EDR (Enhanced Data Rate)
- LAN: Gigabit Ethernet supporting ASF (Alert Standard Format) 2.0; Wake-on-LAN ready
- Modem: 56K V.92 modem with PTT approval; Wake-on-Ring ready

I/O Ports

- Express Card slot
- 5-in-1 card reader (SD/MMC/MS/MS PRO/xD)
- Four USB 2.0 ports
- IEEE 1394 port

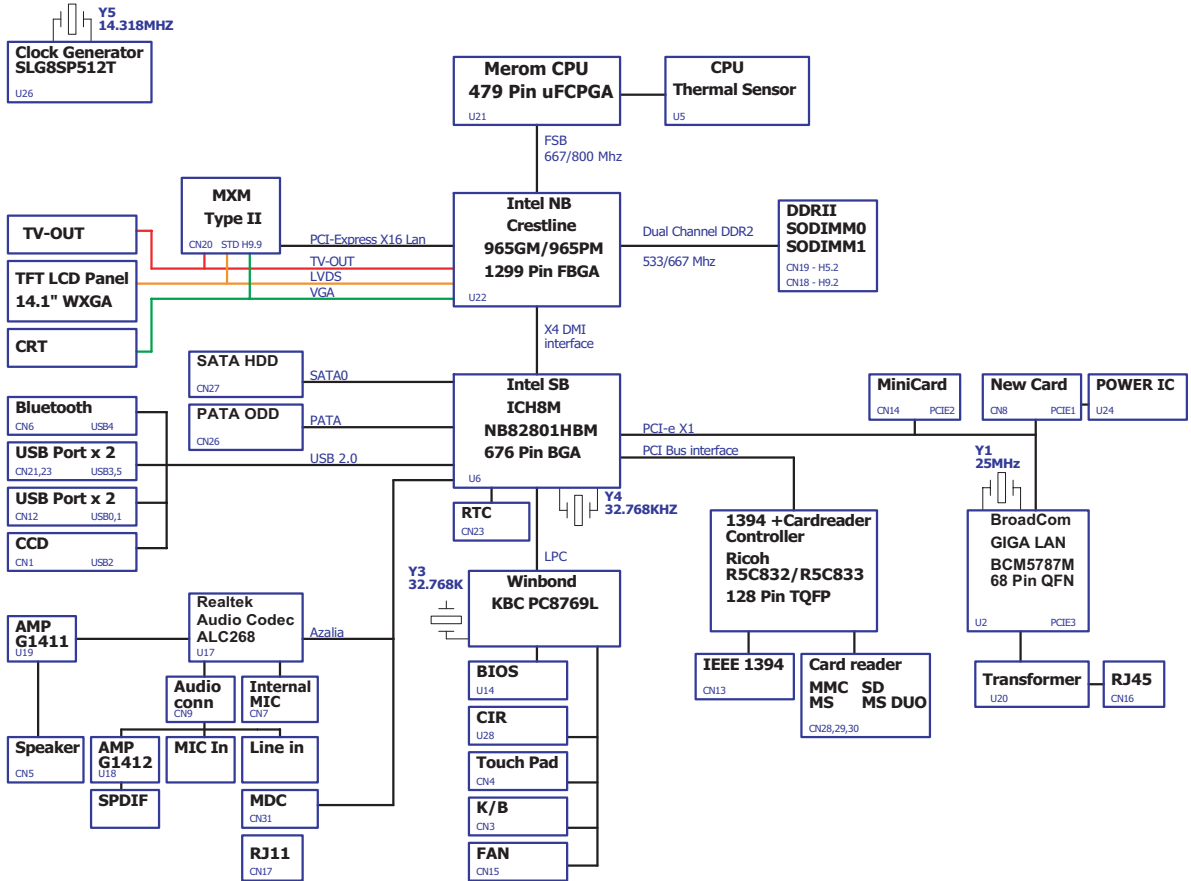
-
- Consumer infrared (CIR) port
 - External display (VGA) port
 - S-video/TV-out (NTSC/PAL) port
 - Headphones/speaker/line-out port with S/PDIF support
 - Microphone-in jack
 - Line-in jack
 - Ethernet (RJ-45) port
 - Modem (RJ-11) port
 - DC-in jack for AC adapter

Environment

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

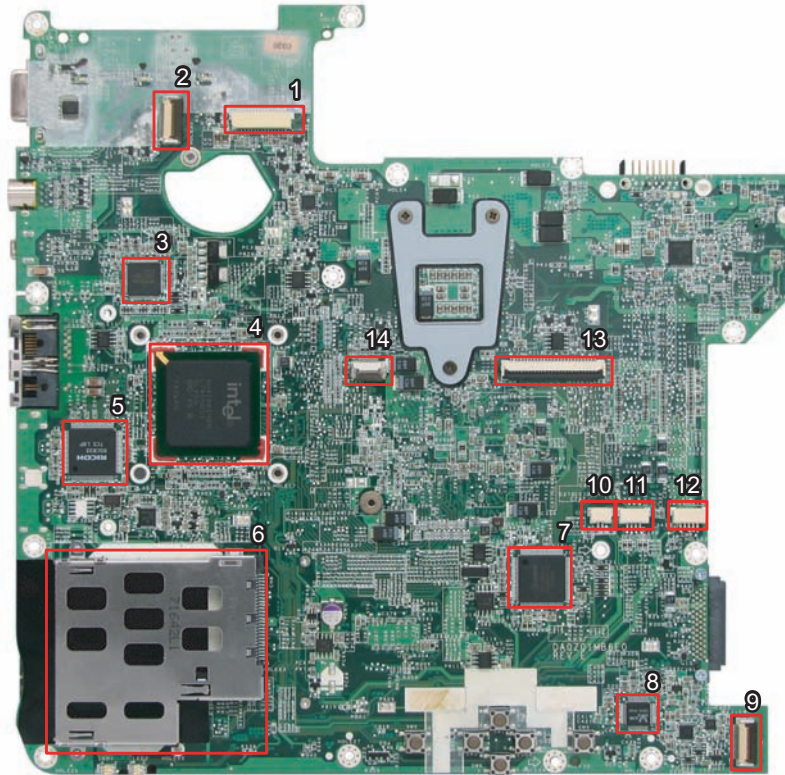
System Block Diagram

NESTOS SYSTEM BLOCK DIAGRAM



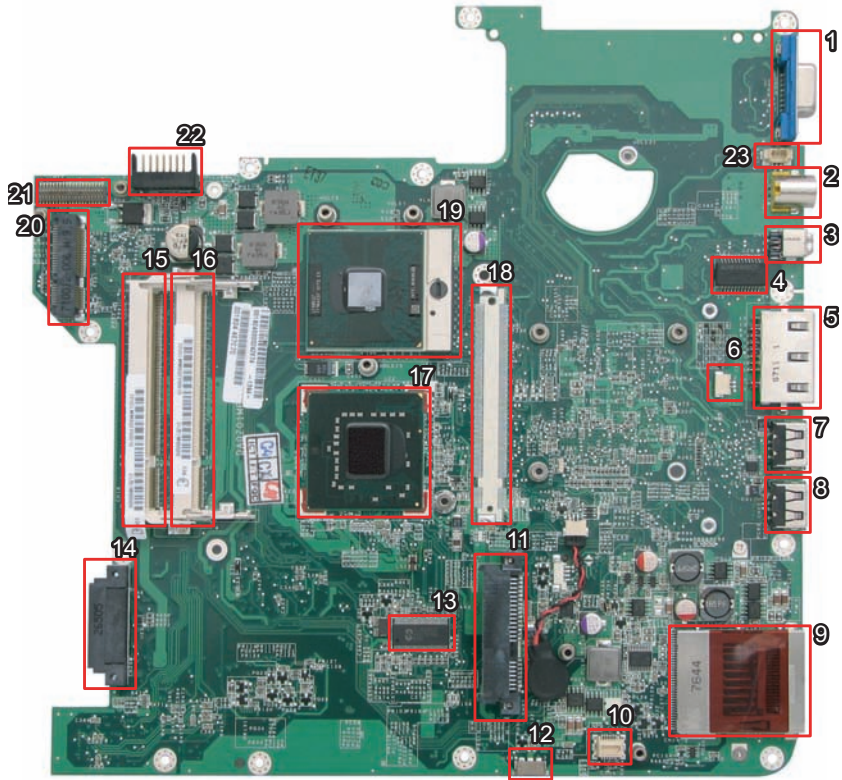
Board Layout

Top View



| | | | | | |
|---|-----|---|----|-----|-----------------------|
| 1 | CN1 | LVDS Connector | 8 | U17 | Audio Codec (ALC 268) |
| 2 | CN2 | Switch Board Connector | 9 | CN9 | Audio Board Connector |
| 3 | U2 | BCM5787 | 10 | CN7 | Microphone Connector |
| 4 | U6 | South Bridge (ICH8M) | 11 | CN5 | Speaker Connector |
| 5 | U8 | PCI Card Reader Controller (RICOH R5C833) | 12 | CN6 | Bluetooth Connector |
| 6 | CN8 | Express Card Socket | 13 | CN3 | Keyboard Connector |
| 7 | U13 | Winbond Keyboard Controller (WPC9769LDG) | 14 | CN4 | Touchpad Connector |

Bottom View



| | | | | | |
|----|------|-------------------------------|----|------|--|
| 1 | CN10 | VGA Connector | 13 | U26 | Clock Generator |
| 2 | CN11 | S-Video Connector | 14 | CN26 | Optical Disk Drive Connector |
| 3 | CN13 | Ethernet Controller (BCM5787) | 15 | CN18 | DIMM Socket |
| 4 | U20 | LAN Transform | 16 | CN19 | DIMM Socket |
| 5 | CN16 | RJ45/RJ11 Jack | 17 | U22 | North Bridge (965PM/GM) |
| 6 | CN17 | Modem Cable Connector | 18 | CN20 | MXM Connector (for selected models only) |
| 7 | CN21 | USB Connector | 19 | U21 | CPU Socket |
| 8 | CN22 | USB Connector | 20 | CN14 | Mini Card Socket |
| 9 | CN28 | 5-in-1 Card Reader | 21 | CN12 | Power Board Connector |
| 10 | CN31 | Modem Card Connector | 22 | PJ1 | Battery Connector |
| 11 | CN27 | SATA HDD Connector | 23 | CN15 | Fan Connector |
| 12 | U28 | Consumer Infrared Receiver | | | |





Your Acer Notebook tour

After knowing your computer features, let us show you around your new Aspire computer.

Front View









| # | Icon | Item | Description |
|---|------|-------------------|---|
| 1 | | Built-in camera | 0.3 megapixel web camera for video communication. |
| 2 | | Status indicators | Light-Emitting Diodes (LEDs) that light up to show the status of the computer's functions and components. |
| 3 | | Speaker | Left and right speakers deliver stereo audio output. |

| | | | |
|----|---|---|--|
| 4 |  | Wireless communication button/indicator | Enables/disables the wireless function. Indicates the status of wireless LAN communication. |
| 5 | | Keyboard | For entering data into your computer. |
| 6 | | Touchpad | Touch-sensitive pointing device which functions like a computer mouse. |
| 7 | | 4-way scroll button | To scroll up, down, left, and right. |
| 8 | | Click buttons (left and right) | The left and right buttons function like the left and right mouse buttons. |
| 9 | | Microphone | Internal microphone for sound recording. |
| 10 | | Display screen | Also called Liquid-Crystal Display (LCD), displays computer output. |
| 11 | | WWW/E-mail/User-programmable buttons | Buttons to launch your internet browser, e-mail reader, or a specified application. |
| 12 |  | Power button | Turns the computer on and off. |
| 13 |  | Empowering button | Launches the Empowering Technology toolbar. |
| 14 |  | Bluetooth [®] communication button/indicator | Enables/disables the Bluetooth [®] function. Indicates the status of Bluetooth communication. |
| 15 | | Palmrest | Comfortable support area for your hands when you use the computer. |

Closed Front View











| # | Icon | Item | Description |
|---|---|--------------------|--|
| 1 |  | Power indicator | Indicates the computer's power status. |
| 2 |  | Battery indicator | Indicates the computer's battery status. |
| 3 |  | Infrared port | Interfaces with infrared devices (e.g., infrared printer and IR-aware computer). |
| 4 |  | Line-in jack | Accepts audio line-in devices (e.g., audio CD player, stereo walkman). |
| 5 |  | Microphone-in jack | Accepts input from external microphones. |

| | | | |
|---|---|--|--|
| 6 |  | Headphones/speaker/line-out jack with S/PDIF support | Connects to audio line-out devices (e.g., speakers, headphones). |
| 7 | | Volume control | Increases and decreases the volume. |




Left View



| # | Icon | Item | Description |
|---|---|--------------------------------|--|
| 1 |  | External display (VGA) port | Connects to a display device (e.g., external monitor, LCD projector). |
| 2 |  | S-video/TV-out (NTSC/PAL) port | Connects to a television or display device with S-video input. |
| 3 |  | 4-pin IEEE 1394 port | Connects to IEEE 1394 devices. |
| 4 |  | Ethernet (RJ-45) | Connects to an Ethernet 10/100/1000-based network (for selected models). |
| 5 |  | Modem (RJ-11) port | Connects to a phone line. |
| 6 |  | 2 USB 2.0 ports | Connect to USB 2.0 devices (e.g., USB mouse, USB camera). |
| 7 |  | Express Card slot | Accepts one Express Card, 54mm or 34mm types. |
| 8 |  | 5-in-1 card reader | Accepts Secure Digital (SD), MultiMediaCard (MMC), Memory Stick (MS), Memory Stick PRO (MS PRO), xD-Picture Card (xD). |

Right View



| # | Icon | Item | Description |
|---|---|-------------------------------|--|
| 1 | | Optical drive | Internal optical drive; accepts CDs or DVDs (slot-load or tray-load depending on model). |
| 2 | | Optical disk access indicator | Lights up when the optical drive is active. |
| 3 | | Optical drive eject button | Ejects the optical disk from the drive. |
| 4 | | Emergency eject hole | Ejects the optical drive tray when the computer is turned off. |
| 5 |  | 2 USB 2.0 ports | Connect to USB 2.0 devices (e.g., USB mouse, USB camera). |
| 6 |  | DC-in jack | Connects to an AC adapter. |
| 7 |  | Kensington lock slot | Connects to a Kensington-compatible computer security lock. |

Rear view



| # | Icon | Item | Description |
|---|------|------------------|---|
| 1 | | Ventilation slot | Enable the computer to stay cool, even after prolonged use. |

Base view










| # | Item | Description |
|---|-----------------------------------|---|
| 1 | Battery bay | Houses the computer's battery pack. |
| 2 | Battery lock | Locks the battery in position. |
| 3 | Battery release latch | Releases the battery for removal. |
| 4 | Ventilation slots and cooling fan | Enable the computer to stay cool, even after prolonged use. Note: Do not cover or obstruct the opening of the fan. |
| 5 | Back panel | Houses the computer's hard disk and main memory. |

Indicators

The computer has several easy-to-read status indicators.



The front panel indicators are visible even when the computer cover is closed up.

| Icon | Function | Description |
|---|--------------|--|
|  | HDD | Indicates when the hard disc or optical drive is active. |
|  | Num lock | Lights when Num Lock is activated. |
|  | Cap lock | Lights when Cap Lock is activated |
|  | Power | Lights up when the computer is on. |
|  | Battery | Lights up when the battery is being charged. |
|  | Bluetooth | Indicates the status of Bluetooth communication. |
|  | Wireless LAN | Indicates the status of wireless LAN communication. |

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

Easy-Launch Buttons

To the right of the keyboard there are three easy-launch buttons: Web browser, mail, and arcade buttons. You can also find an Empowering Key “*e*” located above the keyboard.

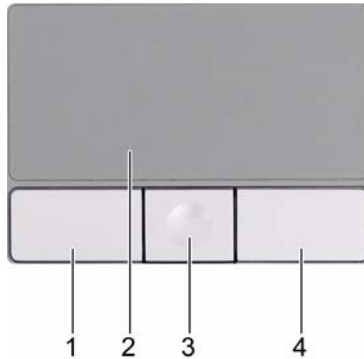
Press “*e*” to run the Acer Empowering Technology. The mail and Web browser buttons are pre-set to email and Internet programs, but can be reset by users. To set the programmable buttons (Web browser button, mail button, and Empowering key), run the Acer Launch Manager.



| Launch key | Default application |
|-------------|--|
| e | Acer Empowering Technology (user-programmable) |
| Web browser | Internet browser (user-programmable) |
| Mail | Email application (user-programmable) |
| Arcade | Acer Arcade utility |

Touchpad Basics

The following teaches you how to use the touchpad:



- Move your finger across the touchpad (2) to move the cursor.
- Press the left (1) and right (4) buttons located beneath the touchpad to perform selection and execution functions. These two buttons are similar to the left and right buttons on a mouse. Tapping on the touchpad is the same as clicking the left button.
- Use the 4-way scroll (3) button to mimic your cursor pressing on the right scroll bar of Windows applications.

| Function | Left Button (1) | Main Touchpad (2) | 4-Way Scroll Button (3) | Right Button (4) |
|---------------------|---|--|--|------------------|
| Execute | Click twice quickly | Tap twice (at the same speed as double-clicking the mouse button) | | |
| Select | Click once | Tap once | | |
| Drag | Click and hold, then use finger on the touchpad to drag the cursor. | Tap twice (at the same speed as double-clicking a mouse button); rest your finger on the touchpad on the second tap and drag the cursor. | | |
| Access context menu | | | | Click once |
| Scroll | | | Click and hold to move up/down/left/right. | |

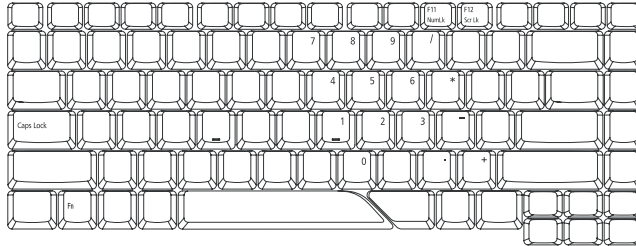
NOTE: When using the touchpad, keep it - and your fingers - dry and clean. The touchpad is sensitive to finger movements; hence, the lighter the touch, the better the response. Tapping too hard will not increase the touchpad's responsiveness.

Using the Keyboard

The keyboard has full-sized keys and an embedded keypad, separate cursor keys, one Windows key and twelve function keys.

Lock Keys and embedded numeric keypad

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






















| Lock Key | Description |
|---------------------------|--|
| Caps Lock | When Caps Lock is on, all alphabetic characters typed are in uppercase. |
| Num Lock <Fn>+<F11> | When Num Lock is on, the embedded keypad is in numeric mode. The keys function as a calculator (complete with the arithmetic operators +, -, *, and /). Use this mode when you need to do a lot of numeric data entry. A better solution would be to connect an external keypad. |
| Scroll Lock <Fn>+<F12> | When Scroll Lock is on, the screen moves one line up or down when you press the up or down arrow keys respectively. Scroll Lock does not work with some applications. |

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

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

Windows Keys

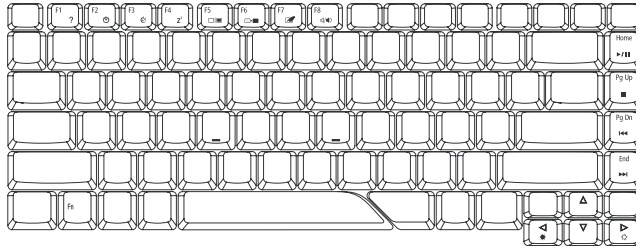
The keyboard has one key that performs Windows-specific functions.

| Key | Icon | Description |
|--|------|---|
| Windows key  | | <p>Pressed alone, this key has the same effect as clicking on the Windows Start button; it launches the Start menu. It can also be used with other keys to provide a variety of function:</p> <ul style="list-style-type: none">  + <D> Displays the desktop.  + <E> Opens the Windows Explorer.  + <F> Opens the Search: All Files dialog box.  + <G> Cycles through Sidebar gadgets.  + <L> Locks your computer (if you are connected to a network domain), or switch users (if you're not connected to a network domain)  + <F1> Opens Help and Support.  + <M> Minimizes all windows.  + <R> Opens the Run dialog box.  + <T> Cycles through programs on the taskbar.  + <U> Opens Ease of Access Center.  + <X> Opens Windows Mobility Center.  + <Break> Displays the System Properties dialog box  + <Shift> + <M> Restores the minimized windows to the desktop.  + <Tab> Activates next taskbar button.  + <Space Bar> Brings all gadgets to the front and select Windows Sidebar. <Ctrl> +  + <F> Searches for computers (if you are on a network) <Ctrl> +  + <Tab> Uses the arrow keys to cycle through programs on the taskbar by using Window Flip 3-D |
| Application key  | | <p>This key has the same effect as clicking the right mouse button; it opens the application's context menu.</p> |

Hot Keys

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

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



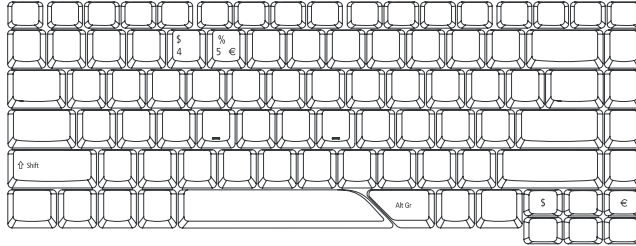
| Hot Key | Icon | Function | Description |
|--------------|----------------|------------------------|--|
| <Fn>+<F1> | ? | Hot key help | Displays help on hot keys. |
| <Fn>+<F2> | | Acer eSettings | Launches the Acer eSettings in Acer eManager. |
| <Fn>+<F3> | | Acer ePower Management | Launches the Acer ePower Management in Acer Empowering Technology. See “Acer Empowering Technology” on page 18. |
| <Fn>+<F4> | Z ^z | Sleep | Puts the computer in Sleep mode. |
| <Fn>+<F5> | | Display toggle | Switches display output between the display screen, external monitor (if connected) and both. |
| <Fn>+<F6> | | Screen blank | Turns the display screen backlight off to save power. Press any key to return. |
| <Fn>+<F7> | | Touchpad toggle | Turns the internal touchpad on and off. |
| <Fn>+<F8> | | Speaker toggle | Turns the speakers on and off. |
| <Fn>+<F9> | | Brightness up | Increases the screen brightness. |
| <Fn>+<F10> | | Brightness down | Decreases the screen brightness |
| <Fn>+<Home> | | Play/Pause | Plays or pauses the media. |
| <Fn>+<Pg Up> | | Stop | Stops the media playing. |

| Hot Key | Icon | Function | Description |
|--------------|------|----------|---------------------------------|
| <Fn>+<Pg Dn> | ⏮ | Previous | Returns to previous media file. |
| <Fn>+<End> | ⏭ | Next | Jumps to next media file. |

Special Key

You can locate the Euro symbol and US dollar sign at the upper-center and/or bottom-right of your keyboard.

To type:



The Euro symbol

1. Open a text editor or word processor.
2. Either directly press the <€> symbol at the bottom-right of the keyboard, or hold <Alt Gr> and then press the<5> symbol at the upper-center of the keyboard.

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

The US dollar sign

1. Open a text editor or word processor.
2. Either directly press the <\$> key at the bottom-right of the keyboard, or hold <Shift> and then press the <4> key at the upper-center of the keyboard.

NOTE: This function varies by the operating system version.

Acer Empowering Technology

Acer's innovative Empowering Technology makes it easy for you to access frequently used functions and manage your new Acer notebook. It features the following handy utilities:

- ❑ **Acer eNet Management** hooks up to location-based networks intelligently.
- ❑ **Acer ePower Management** extends battery power via versatile usage profiles.
- ❑ **Acer eAudio Management** allows you to easily control the enhanced sound effects of Dolby® Home Theater™ on your system.
- ❑ **Acer ePresentation Management** connects to a projector and adjusts display settings conveniently.
- ❑ **Acer eDataSecurity Management** protects data with passwords and advanced encryption algorithms.
- ❑ **Acer eLock Management** limits access to external storage media.
- ❑ **Acer eRecovery Management** backs up and recovers data flexibly, reliably and completely.
- ❑ **Acer eSettings Management** accesses system information and adjusts settings easily.



For more information, press the < *e* > key to launch the Empowering Technology toolbar, then click on the appropriate utility and select the Help or Tutorial function.

Empowering Technology password

Before using Acer eLock Management and Acer eRecovery Management, you must initialize the Empowering Technology password. Right-click on the Empowering Technology toolbar and select "Password Setup" to do so. If you do not initialize the Empowering Technology password, you will be prompted to do so when running Acer eLock Management or Acer eRecovery Management for the first time.

Acer eNet Management

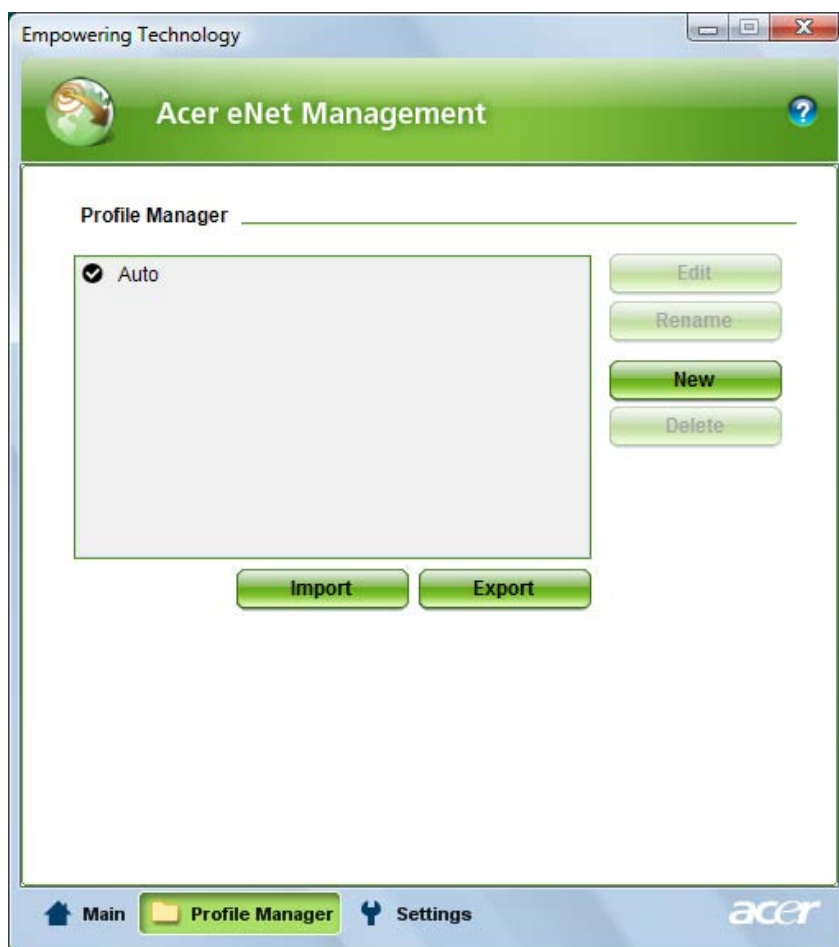
Acer eNet Management helps you to quickly and easily connect to both wired and wireless networks in a variety of locations. To access this utility, either click on the “**Acer eNet Management**” icon on your notebook, or start the program from the Start menu. You also have the option to set Acer eNet Management to start automatically when you boot up your PC.

Acer eNet Management automatically detects the best settings for a new location, while offering you the freedom to manually adjust the settings to match your needs.



Acer eNet Management can save network settings for a location to a profile, and automatically switch to the appropriate profile when you move from one location to another. Settings stored include network connection settings (IP and DNS settings, wireless AP details, etc.), as well as default printer settings.

Security and safety concerns mean that Acer eNet Management does not store username and password information.



Acer ePower Management

Acer ePower Management features a straightforward user interface. To launch it, select Acer ePower Management from the Empowering Technology interface.


AC Mode (Adapter mode)

The default setting is “Maximum Performance.” You can adjust CPU speed, LCD brightness and other settings, or click on buttons to turn the following functions on/off: Wireless LAN, Bluetooth, CardBus, FireWire (1394), Wired LAN and Optical Device if supported.

DC Mode (Battery mode)

There are three pre-defined profiles - Balanced, Power Saver, and High Performance. You can also define the power plan optimized for your needs.

To create new power plan

1. Select a predefined power plan and click the “” icon shown on the lower left-hand side.
2. Enter the name for the newly created power plan.
3. Select one of the predefined power plan that is closest to what you want.
4. Change the display and sleep settings as desired.
5. Click “OK” to apply the setting.
6. A new power plan is created.

Battery status

For real-time battery life estimates based on current usage, refer to the time shown in the “Remaining Battery Life” field.



For additional power options, click “**More Power option**”.

Acer eAudio Management

Acer eAudio Management allows you to easily control the enhanced sound effects of Dolby® Home Theater™ on your system. Select "Movie" or "Game" mode to experience the awesome realism of 5.1-channel surround sound from just 2 speakers, via Dolby Virtual Speaker technology. "Music" mode lets you enjoy your favorite tunes, in vivid detail.



((Surround On))



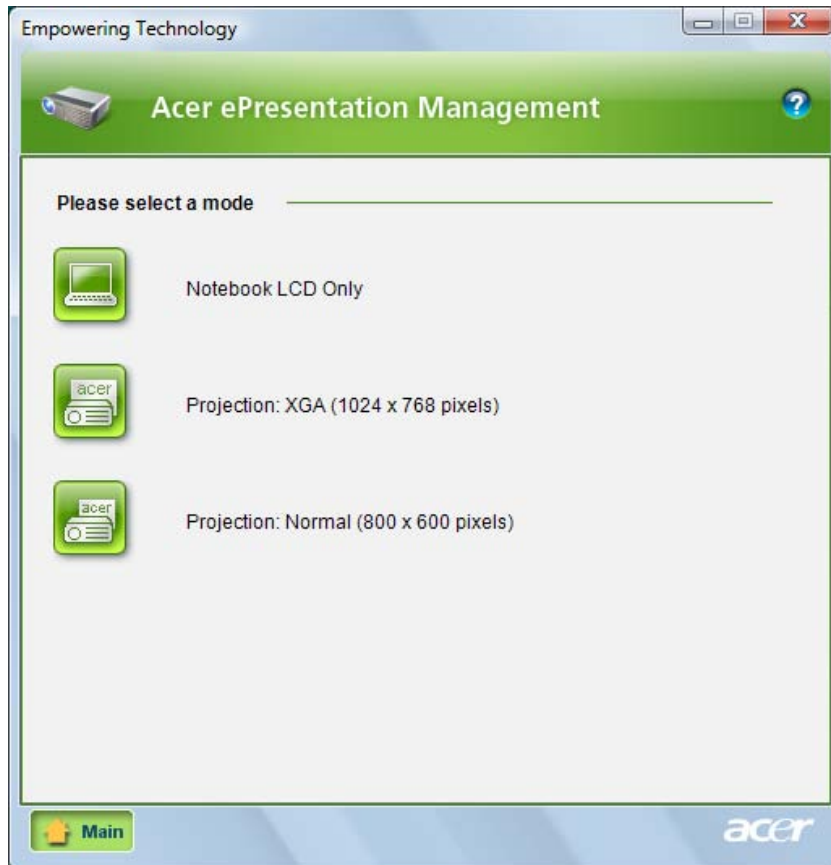
((Surround On))



Surround Off

Acer ePresentation Management

Acer ePresentation Management lets you project your computer's display to an external device or project using the hot key: Fn + F5. If auto-detection hardware is implemented in the system, your system display will be automatically switched out when an external display is connected to the system.

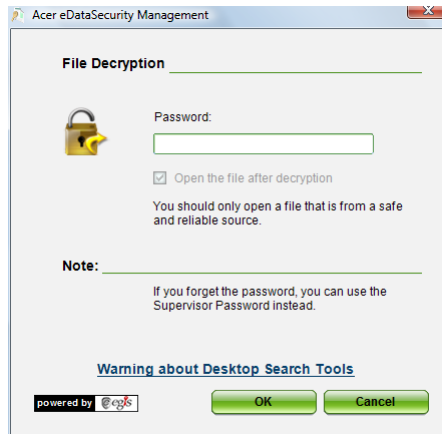
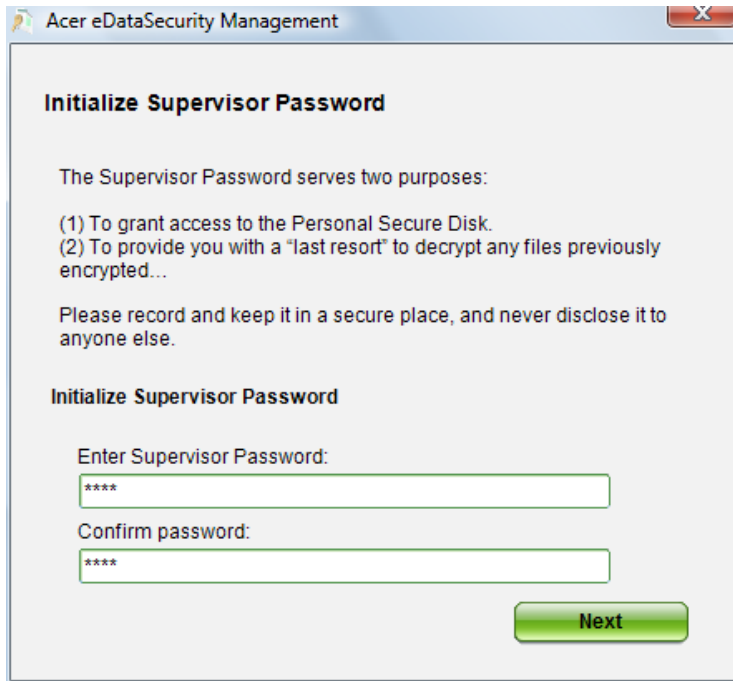


Acer eDataSecurity Management

Acer eDataSecurity Management is handy file encryption utility that protects your files from being accessed by unauthorized persons. It is conveniently integrated with Windows explorer as a shell extension for quick and easy data encryption/decryption and also supports on-the-fly file encryption for MSN Messenger and Microsoft Outlook.

The Acer eDataSecurity Management setup wizard will prompt you for a supervisor password and default encryption. This encryption will be used to encrypt files by default, or you can choose to enter your won file-specific password when encrypting a file.

NOTE: The password used encrypt a file is the unique key that the system needs to decrypt it. If you lose the password, the supervisor password is the only other key capable of decrypting the file. If you lose both passwords, there will be no way to decrypt your encrypted file! **Be sure to safeguard all related passwords!**



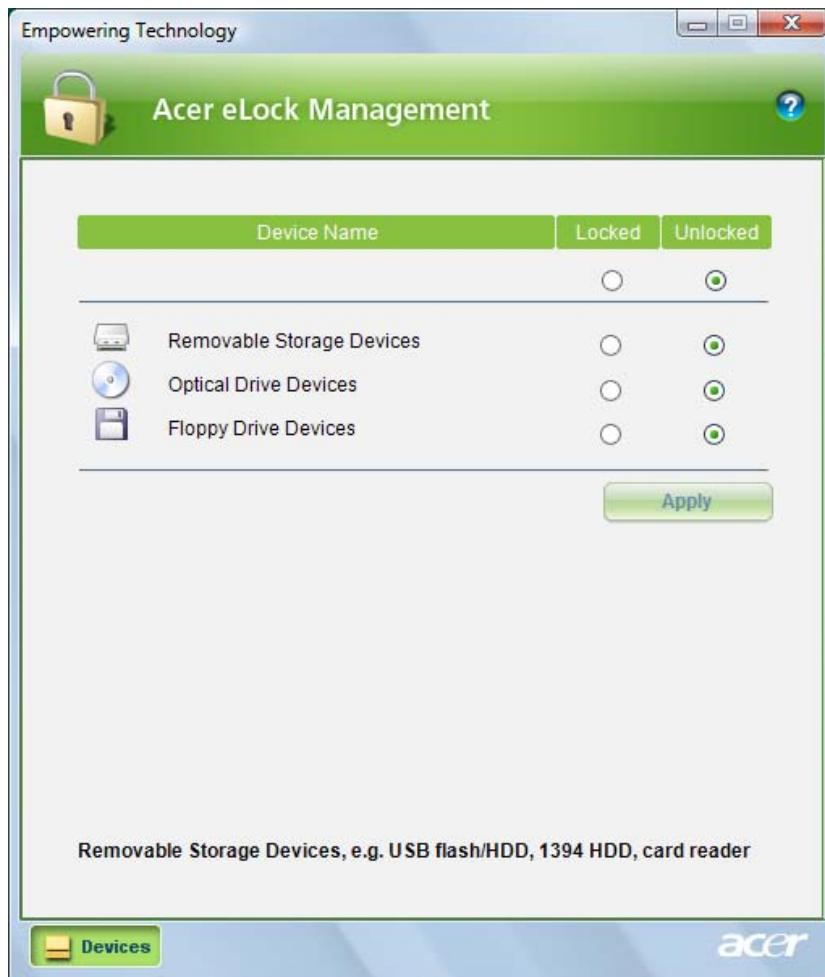
Acer eLock Management

Acer eLock Management is a security utility that allows you to lock your removable data, optical and floppy drives to ensure that data cannot be stolen while your notebook is unattended.

- Removable data devices - includes USB disk drives, USB pen drives, USB flash drives, USB MP3 drives, USB memory card readers, IEEE 1394 disk drives and any other removable disk drives that can be mounted as a file system when plugged into the system.
- Optical drive devices - includes any kind of CD-ROM or DVD-ROM drives.
- Floppy disk drives - 3.5-inch disks only.
- Interfaces - includes serial ports, parallel port, infrared (IR), and Bluetooth.

To activate Acer eLock Management, a password must be set first. Once set, you can apply locks to any of the devices. Lock(s) will immediately be set without any reboot necessary, and will remain locked after rebooting, until unlocked.

NOTE: If you lose your password, there is no method to reset it except by reformatting your notebook or taking your notebook to an Acer Customer Service Center. Be sure to remember or write down your password.



Acer eRecovery Management

Acer eRecovery Management is a powerful utility that does away with the need for recovery disks provided by the manufacturer. The Acer eRecovery Management utility occupies space in a hidden partition on your system's HDD. User-created backups are stored on D:\ drive. Acer eRecovery Management provides you with:

- Password protection.
- Recovery of applications and drivers.
- Image/data backup:
 - Back up to HDD (set recovery point).
 - Back up to CD/DVD.
- Image/data recovery tools:
 - Recover from a hidden partition (factory defaults).
 - Recover from the HDD (most recent user-defined recovery point).
 - Recover from CD/DVD.



For more information, please refer to “Acer eRecovery Management”

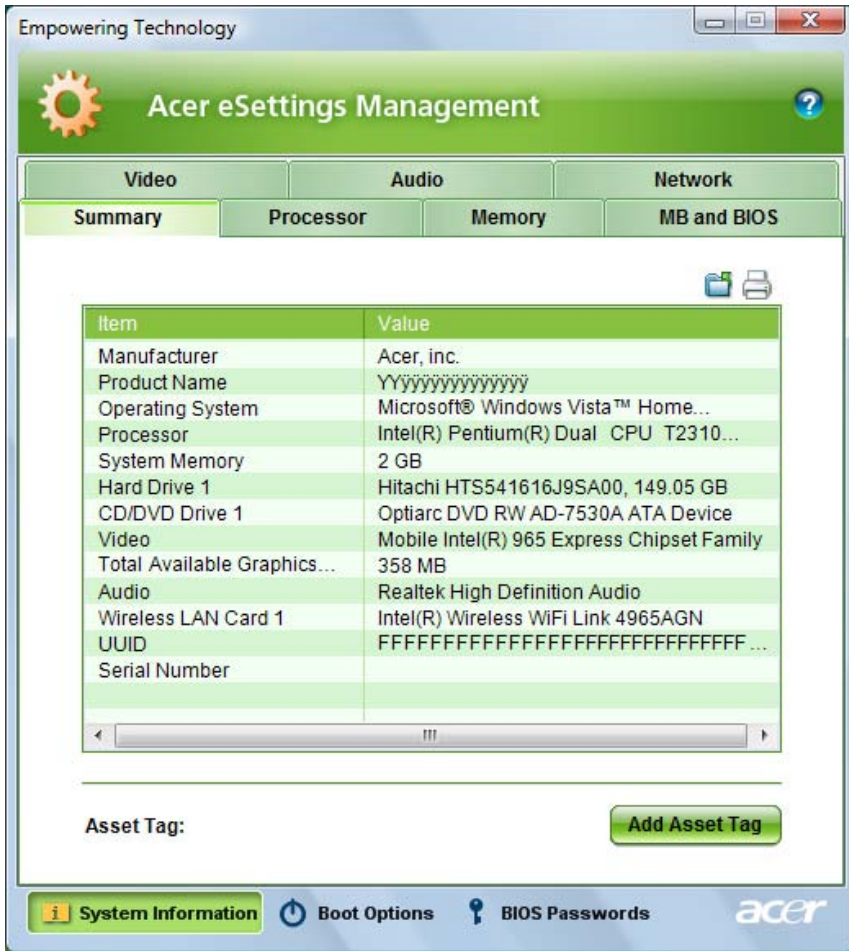
NOTE: If your computer did not come with a Recovery CD or System CD, please use Acer eRecovery Management’s “System backup to optical disk” feature to burn a backup image to CD or DVD. To ensure the best results when recovering your system using a CD or Acer eRecovery Management, detach all peripherals (except the external Acer ODD, if your computer has one), including your Acer ezDock.

Acer eSettings Management

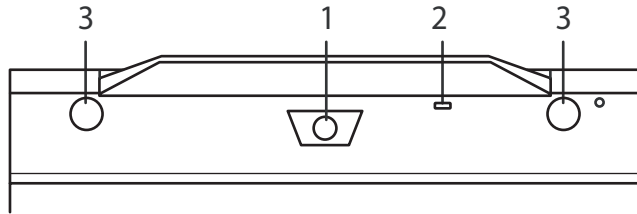
Acer eSettings Management allows you to inspect hardware specifications and to monitor the system health status. Furthermore, Acer eSettings Management enables you to optimize your Windows operating system, so your computer runs faster, smoother and better.

Acer eSettings Management also:

- Provides a simple graphical user interface for navigating.
- Displays general system status and advanced monitoring for power users.



Getting to know your Acer Crystal Eye webcam



| No. | Item |
|-----|------------------------------------|
| 1 | Lens |
| 2 | Power indicator |
| 3 | Rubber grip (selected models only) |

Launching the Acer Crystal Eye webcam

To launch the Acer Crystal Eye webcam, double click on the Acer Crystal Eye webcam icon on the screen.

OR

Click Start > All programs > Crystal Eye webcam > Acer Crystal Eye webcam. The Acer Crystal Eye webcam capture window appears.



Changing the Acer Crystal Eye webcam resolution

To change the capture resolution, click the displayed resolution button to select the desired resolution.

Using the Acer Crystal Eye webcam

The Acer Crystal Eye webcam is automatically selected as the capture device of any instant messenger (IM) application. To use the Acer Crystal Eye webcam in the IM application, open the IM service, then select the video/webcam feature. You can now broadcast from your location to an IM partner anywhere in the world.

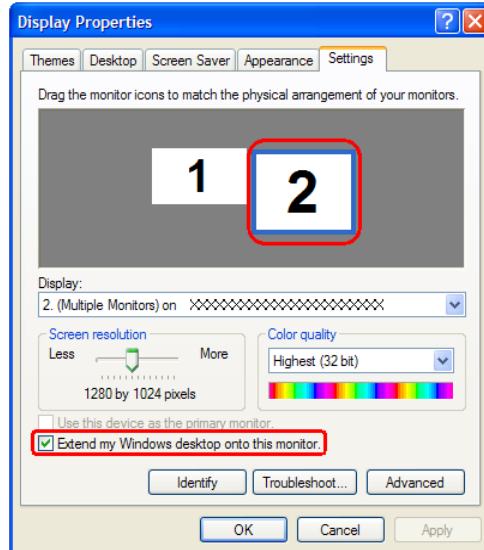
Using the System Utilities

NOTE: The system utilities work under Microsoft Windows XP only.

Acer GridVista (dual-display compatible)

NOTE: This feature is only available on certain models.

To enable the dual monitor feature of the notebook, first ensure that the second monitor is connected, then open the **Display Settings** properties box using the **Control Panel** or by right-clicking the Windows desktop and selecting **Personalize**. Select the secondary monitor (**2**) icon in the display box and then click the check box **Extend the desktop onto this monitor**. Finally, click **Apply** to confirm the new settings and click **OK** to complete the process.



Acer GridVista is a handy utility that offers four pre-defined display settings so you can view multiple windows on the same screen. To access this function, please go to **Start > All Programs** and click on **Acer GridVista**. You may choose any one of the four display settings indicated below:

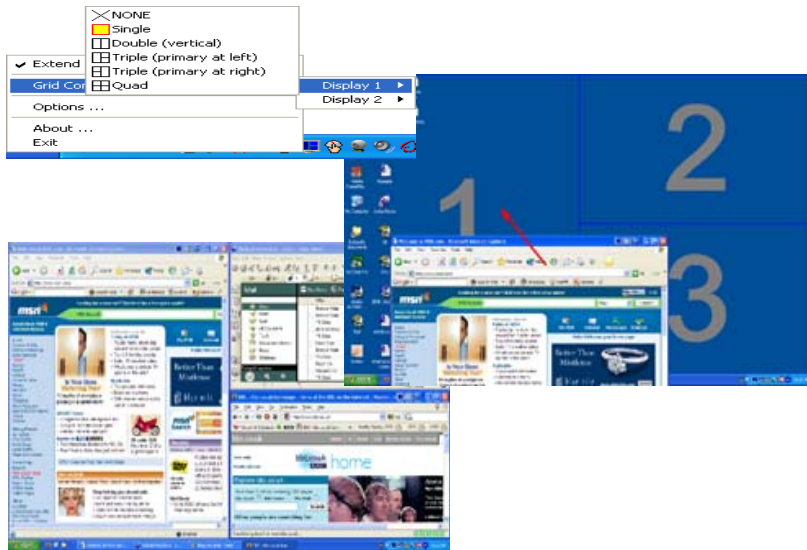


Double (vertical), Triple (primary at left), Triple (primary at right), or Quad Acer Gridvista is dual-display compatible, allowing two displays to be partitioned independently.

Acer Gridvista is dual-display compatible, allowing two displays to be partitioned independently.

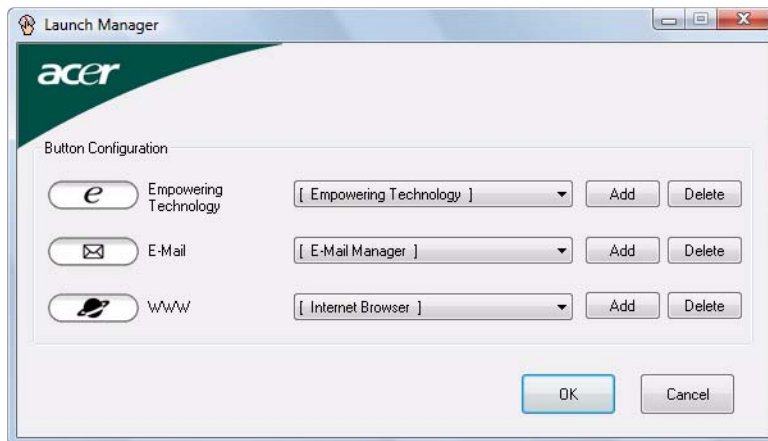
AcerGridVista is simple to set up:

1. Run Acer GridVista and select your preferred screen configuration for each display from the task bar.
2. Drag and drop each window into the appropriate grid.
3. Enjoy the convenience of a well-organized desktop.



NOTE: Please ensure that the resolution setting of the second monitor is set to the manufacturer's recommended value.

Launch Manager



Launch Manager allows you to set the four easy-launch buttons (see their locations mentioned in “Easy-Launch Buttons”). You can access the Launch Manager by clicking **Start > All Programs > Launch Manager > Launch Manager** to start the application.

Hardware Specifications and Configurations

Processor

| Item | Specification |
|------------------|--|
| CPU type | Intel® Core™2 Duo mobile processor T7300/T7500/T7700 (4MB, L2 cache 2.0/2.2/2.4 GHz, 800 MHz FSB) Intel® Core™2 Duo processor T7100 (2MB, L2 cache 1.8 GHz, 667 MHz FSB) Intel® Core™2 Duo processor T5250/T5450 (2MB, L2 cache 1.5/1.66 GHz, 667 MHz FSB) |
| Core logic | Intel® 965PM/965GM Express chipset + ICH8M |
| CPU package | Intel 478-pin Micro FCBGA socket |
| CPU core voltage | 0.9~1.1125V |

CPU Fan True Value Table

| TEST Condition: 35W@Ambient 35 degree C | | | |
|---|--------|-----------|----------------|
| CPU Temperature | | Fan Speed | Acoustic Level |
| Core 0 | Core 1 | (rpm) | (dBA) |
| 86 | 86 | 3700 | 39 |
| 88 | 88 | 3450 | 36.5 |
| 91 | 91 | 3150 | 34.5 |
| 95 | 95 | 2800 | 31 |

BIOS

| Item | Specification |
|-----------------------|--|
| BIOS vendor | Phoenix |
| BIOS Version | |
| BIOS ROM type | Flash ROM |
| BIOS ROM size | 1MB |
| BIOS package | 8 pin SOP |
| Supported protocols | ACPI 2.0/3.0, PCI 2.2, System/HDD Password Security Control, INT 15 Extensions, PnP BIOS 1.0a, SMBIOS 2.3, Simple Boot Flag 1.0, Boot Block, PCI Bus Power Management Interface Specification, USB 1.1/2.0, IEEE 1394 1.0, USB/1394 CD-ROM Boot Up support, PC Card 95 (PCMCIA 3.0 Compliant Device), Acer WMI, Acer LED, Acer VRAM, Acer MDA 2007 requirements, WfM 2.0, PXE (Preboot Execution Environment), BIS 1.0 (Boot Integrity Service Application Program Interface), |
| BIOS password control | Set by setup manual |

NOTE: If you need to check PXE version, press F2 to enter BIOS then enable boot from LAN function. After that, power off the system and remove the HDD. Last, reboot the laptop. Then you will see PXE version displaying on the screen.

Second Level Cache

| Item | Specification |
|-------------------------|---------------------|
| Cache controller | |
| Cache size | 256MB / 512MB / 1GB |
| 1st level cache control | Always enabled |
| 2st level cache control | Always enabled |
| Cache scheme control | Fixed in write-back |

System Memory

| Item | Specification |
|---------------------------------|--|
| Memory controller | Built-in Intel® PM965 |
| Memory size | 0MB (no on-board memory) |
| DIMM socket number | 2 sockets |
| Supports memory size per socket | 2GB |
| Supports maximum memory size | 4GB (by two 1024MB SO-DIMM module) |
| Supports DIMM type | DDR 2 Synchronous DRAM |
| Supports DIMM Speed | 533/667 MHz |
| Supports DIMM voltage | 1.8V |
| Supports DIMM package | JEDEC 200-pin soDIMM |
| Memory module combinations | You can install memory modules in any combinations as long as they match the above specifications. |

Memory Combinations

| Slot 1 | Slot 2 | Total Memory |
|--------|--------|--------------|
| 0MB | 128MB | 128MB |
| 0MB | 256MB | 256MB |
| 0MB | 512MB | 512MB |
| 0MB | 1024MB | 1024MB |
| 0MB | 2048MB | 2048MB |
| 128MB | 128MB | 256MB |
| 128MB | 256MB | 384MB |
| 128MB | 512MB | 640MB |
| 128MB | 1024MB | 1152MB |
| 128MB | 2048MB | 2176MB |
| 256MB | 128MB | 384MB |
| 256MB | 256MB | 512MB |
| 256MB | 512MB | 768MB |
| 256MB | 1024MB | 1280MB |
| 256MB | 2048MB | 2304MB |
| 512MB | 128MB | 640MB |
| 512MB | 256MB | 768MB |
| 512MB | 512MB | 1024MB |
| 512MB | 1024MB | 1536MB |
| 512MB | 2048MB | 2560MB |
| 1024MB | 0MB | 1024MB |
| 1024MB | 128MB | 1152MB |
| 1024MB | 256MB | 1280MB |
| 1024MB | 512MB | 1536MB |
| 1024MB | 1024MB | 2048MB |
| 1024MB | 2048MB | 3072MB |
| 2048MB | 2048MB | 4096MB |

NOTE: Above table lists some system memory configurations. You may combine DIMMs with various capacities to form other combinations. On above table, the configuration of slot 1 and slot 2 could be reversed.

System VRAM and VBIOS Options

| System Memory | VBIOS Option in BIOS/CMOS | eSetting | | OS | | |
|---------------|---------------------------|----------------|--------------------|-----------|--------------------|--------|
| | | VRAM size | System memory size | VRAM size | System memory size | |
| 512Mb | 128MB | Dedicated | 128MB | 512MB | 192MB | 512MB |
| | | Max. available | 192MB | | | |
| | 256MB | Dedicated | 256MB | 512MB | 320MB | 512MB |
| | | Max. available | 320MB | | | |
| | 512MB | Dedicated | 512MB | 512MB | 578MB | 512MB |
| | | Max. available | 576MB | | | |
| 1024MB | 128MB | Dedicated | 128MB | 1024MB | 383MB | 1024MB |
| | | Max. available | 383MB | | | |
| | 256MB | Dedicated | 256MB | 1024MB | 511MB | 1024MB |
| | | Max. available | 511MB | | | |
| | 512MB | Dedicated | 512MB | 1024MB | 767MB | 1024MB |
| | | Max. available | 767MB | | | |
| 2048MB | 128MB | Dedicated | 128MB | 2048MB | 895MB | 2048MB |
| | | Max. available | 895MB | | | |
| | 256MB | Dedicated | 256MB | 2048MB | 1023MB | 2048MB |
| | | Max. available | 1023MB | | | |
| | 512MB | Dedicated | 512MB | 2048MB | 1279MB | 2048MB |
| | | Max. available | 1279MB | | | |
| 4096MB | 128MB | Dedicated | 128MB | 4096MB | 1919MB | 4096MB |
| | | Max. available | 1919MB | | | |
| | 256MB | Dedicated | 256MB | 4096MB | 2047MB | 4096MB |
| | | Max. available | 2047MB | | | |
| | 512MB | Dedicated | 512MB | 4096MB | 2303MB | 4096MB |
| | | Max. available | 2303MB | | | |

LAN Interface

| Item | Specification |
|------------------------|--|
| Chipset | BroadCom BCM5787M |
| Supports LAN protocol | 10/100/1000 Ethernet Giga LAN |
| LAN connector type | RJ45 |
| LAN connector location | Left side |
| Features | S5 Wake on LAN support compliant with ACPI 2.0 PCI-E interface LAN controller LDCM support |

Modem Interface

| Item | Specification |
|---------------------------------|---------------|
| Data modem data baud rate (bps) | 56K |
| Supports modem protocol | V.90/V.92 |
| Modem connector type | RJ11 |
| Modem connector location | Right side |

Bluetooth Interface

| Item | Specification |
|-----------------|---|
| Chipset | FOXCONN T60H928.01 Bluetooth miniUSB module |
| Data throughput | 723 bps (full speed data rate) |
| Protocol | Bluetooth 2.0+EDR |
| Interface | USB 1.1 |
| Connector type | USB |

Wireless Module 802.11b/g, 802.11a/b/g, 802.11a/g/n

| Item | Specification |
|-----------------|---|
| Chipset | Intel |
| Data throughput | 11~54 Mbps |
| Protocol | 802.11b/g, 802.11a/b/g, or 802.11 a/g/n |
| Interface | Mini PCI or Wi-Fi |

Hard Disk Drive Interface

| Item | | | |
|--|---|---|--|
| Vendor & Model Name | Seagate 40G ST9402112A Toshiba MK4025GAS Hitachi HTS421240H9AT00 WD WD400UE-22HCT0 Samsung M40MP0402H | Seagate ST96812A Seagate ST960821A Toshiba MK6025GAS HGST HTS541260H9AT00 WD WD600UE-22HCT0 | TOSHIBA MK8025GAS HITACHI HTS421280H9AT00 SEAGATE ST9808210A SEAGATE ST98823A TOSHIBA MK8026GAX HGST HTS541280H9AT00 WD WD800UE-22HCT0 |
| Capacity (MB) | 40000 | 60000 | 80000 |
| Bytes per sector | 512 | 512 | 512 |
| Data heads | 2 | 3 (for Hitachi and Seagate) 4 (for Toshiba) | 4 (for Hitachi) 3 (for Seagate) |
| Drive Format | | | |
| Disks | 1 | 2 | 2 |
| Spindle speed (RPM) | 4200 RPM | 4200 RPM | 4200 RPM |
| Performance Specifications | | | |
| Buffer size | 2048KB | 8192KB | 8192KB |
| Interface | ATA/ATAPI-6; ATA-6 | ATA/ATAPI-6; ATA-6 | ATA/ATA-6; ATA-6 |
| Max. media transfer rate (disk-buffer, Mbytes/s) | 372 | 350 | 350 |
| Data transfer rate (host~buffer, Mbytes/s) | 100 MB/Sec. Ultra DMA mode-5 | 100 MB/Sec. Ultra DMA mode-5 | 100 MB/Sec. Ultra DMA mode-5 |
| DC Power Requirements | | | |
| Voltage tolerance | 5V(DC) +/- 5% | 5V(DC) +/- 5% | 5V(DC) +/- 5% |

DVD-Dual Interface

| Item | Specification | |
|---------------------------|--|----------------------------------|
| Vendor & model name | LITEON SOSW-833S PIONEER DVR-K16RA | |
| Performance Specification | With CD Diskette | With DVD Diskette |
| Transfer rate (KB/sec) | Sustained: Max 3.6Mbytes/sec | Sustained: Max 10.8Mbytes/sec |
| Buffer Memory | 2MB | |
| Interface | Enhanced IDE(ATAPI) compatible | |
| Applicable disc format | Support disc formats 1. Reads data in each CD-ROM, CD-ROM XA, CD-1, Video CD, CD-Extra and CD-Text 2. Reads data in Photo CD (single and Multi-session) 3. Reads standard CD-DA 4. Reads and writes CD-R discs 5. Reads and writes CD-RW discs 6. Reads and writes in each DVD+R/RW (Ver. 1.1) 7. Reads data in each DVD-ROM and DVD-R (Ver. 2.0 for Authoring) 8. Reads and writes in each DVD-R (Ver. 2.0 for general), DVD-RW and DVD+R/RW (Ver1.1) | |
| 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) | |

Audio Interface

| Item | Specification |
|-----------------------------|---|
| Audio Controller | Realtek ALC268 |
| Audio onboard or optional | Onboard |
| Mono or Stereo | Stereo |
| Resolution | 18 bit stereo full duplex |
| Compatibility | HD audio Interface; S/PDIF output for PCM or AC-3 content |
| Sampling rate | 44.1k/48k/96k/192kHz sample rate |
| Internal microphone | Yes |
| Internal speaker / Quantity | Yes/2 (1.5W speakers) |
| Supports PnP DMA channel | DMA channel 0 DMA channel 1 |
| Supports PnP IRQ | IRQ10, IRQ11 |

USB Port

| Item | Specification |
|------------------------------|---|
| Chipset | Integrated with ICH8M chipset |
| USB Compliancy Level | 2.0 |
| OHCI | USB 1.1 and USB 2.0 Host controller |
| Number of USB ports | 4 |
| Location | Two on the left side; two on the right side |
| Serial port function control | Enable/Disable by BIOS Setup |

Express Card Slot

| Item | Specification |
|---------------------------------|----------------------------|
| PCI controller | RICOH R5C833 |
| Supports card type | 54mm and 34mm Express card |
| Number of slots | One Express card |
| Access location | Left side |
| Supports ZV (Zoomed Video) port | No ZV support |
| Supports 32 bit CardBus | Yes |

System Board Major Chips

| Item | Controller |
|-----------------------------------|-------------------------------|
| Core logic | Intel ICH8M |
| LAN | Broadcom BCM5787M |
| USB 2.0 | Integrated with ICH8M chipset |
| Super I/O controller | N/A |
| MODEM | Foxconn T60M951.00 |
| Bluetooth | Foxconn T60H928.01 |
| Wireless 802.11 b/g, a/b/g, a/g/n | Foxconn, Intel |
| PCI controller | RICOH R5C833 |
| Audio | Realtek ALC268 |

Keyboard

| Item | Specification |
|--|---|
| Keyboard controller | Winbond WPC8769L |
| Total number of keypads | 88-/89-/93-key |
| Windows logo key | Yes |
| Internal & external keyboard work simultaneously | Plug USB keyboard to the USB port directly: Yes |

Battery

| Item | Specification |
|------------------------|---|
| Vendor & model name | BATTERY PACK SANYO LI-ION 6 CELL 2.0, 4000MAH BATTERY PACK SONY LI-ION 6 CELL 2.0, 4000MAH BATTERY PACK PANASONIC LI-ION 6 CELL 2.0, 4000MAH BATTERY PACK SIMPLO LI-ION 6 CELL 2.0, 4000MAH BATTERY PACK SANYO LI-ION 6 CELL 2.0, 4800MAH BATTERY PACK SONY LI-ION 6 CELL 2.0, 4800MAH BATTERY PACK SIMPLO LI-ION 6 CELL 2.0, 4800MAH |
| Battery Type | Li-ion |
| Pack capacity | 4000/4800MAH |
| Number of battery cell | 6 |

Battery

| Item | Specification |
|-----------------------|---------------|
| Package configuration | 3S2P |
| Normal voltage | 11.1V |
| Charge voltage | 16.8+0.2v |

LCD 14.1" inch

| Item | Specification | | | |
|---|--------------------------------|--------------------------------|---|---|
| Vendor & model name | AUO B141EW04-V4 LF GLARE | LPL LP141WX1- TLA1 GLARE | AUO B141EW04-V3 LF NONE- GLARE | SAMSUNG WXGA LTN141W3- L01-0 GLARE |
| Screen Diagonal (mm) | 14.1 inches | 14.1 inches | 14.1 inches | 14.1 inches |
| Active Area (mm) | 303.4x189.6 | 303.4x189.6 | 303.4x189.6 | 303.4x189.6 |
| Display resolution (pixels) | 1280 x 800 WXGA | 1280 x 800 WXGA | 1280 x 800 WXGA | 1280 x 800 WXGA |
| Pixel Pitch | 0.297x0.297 | 0.297x0.297 | 0.297x0.297 | 0.297x0.297 |
| Pixel Arrangement | R.G.B. Vertical Stripe | R.G.B. Vertical Stripe | R.G.B. Vertical Stripe | R.G.B. Vertical Stripe |
| Display Mode | Normally White | Normally White | Normally White | Normally White |
| Typical White Luminance (cd/m ²) also called Brightness | 200 | 200 | 200 | 200 |
| Luminance Uniformity | N/A | N/A | 70 | 70 |
| Contrast Ratio | 300 | 300 | 250 | 250 |
| Response Time (Optical Rise Time/Fall Time)msec | 16 | 16 | 16 | 16 |
| Nominal Input Voltage VDD | +3.3V Typ. | +3.3V | 3.3V | 3.3V |
| Typical Power Consumption (watt) | 5.6/5.7 | 3.96 | N/A | N/A |
| Weight | | | | |
| Physical Size (mm) | | | | |
| Electrical Interface | 1 channel LVDS | 1 channel LVDS | 1 channel LVDS | 1 channel LVDS |
| Support Color | 262K colors | 262K colors | 262K colors | 262K colors |
| Viewing Angle (degree) Horizontal: Right/Left Vertical: Upper/Lower | 45/45 20/45 | 45/45 20/45 | 45/45 20/45 | 45/45 20/45 |
| Temperature Range (°C) Operating Storage (shipping) | 0 to +50 -25 to +60 | 0 to +50 -25 to +60 | 0 to +50 -25 to +60 | 0 to +50 -25 to +60 |

LCD Inverter

| Item | Specification |
|---------------------------------|---------------------------|
| Vendor & model name | Darfon/V189-301GP |
| Brightness conditions | N/A |
| Input voltage (V) | 9~21 |
| Input current (mA) | 2.56 (max) |
| Output voltage (V, rms) | 780V (2000V for kick off) |
| Output current (mA, rms) | 6.5 (max) |
| Output voltage frequency (k Hz) | 65K Hz (max) |

AC Adapter

| Item | Specification |
|--------------------------|--|
| Input rating | Inlet 3p, 19V/3.42A, 65W, w LED, w/o PFC, universal Inlet 3p, 19V/4.74A, 90W, w LED, w PFC, universal |
| Maximum input AC current | 3.42A / 4.74A |
| Inrush current | 220A@115VAC 220A@230VAC |
| Efficiency | 82% min. @115VAC input full load |

System Power Management

| ACPI mode | Power Management |
|---------------------|--|
| 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. |

System Utilities

BIOS Setup Utility

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

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

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

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











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

| Phoenix TrustedCore(tm) Setup Utility | | | | |
|--|----------------|---------------------|-------------------|-------------------|
| Information | Main | Security | Boot | Exit |
| CPU Type : Intel (R) Pentium(R) Dual CPU T2310 @ 1.46GHz CPU Speed : 1460 MHz IDE1 Model Name : Hitachi HTS541616J9SA00 IDE1 Serial Number : xxxxxxxxxxxxxxxxxxxxxxxx ATAPI Model Name : Optiarc DVD RW AD-7530A System BIOS Version: v1.3701 VGA BIOS Version: SantaRosa 1436 Serial Number: xxxxxxxxxxxxxxxxxxxxxxxx Asset Tag Number: Produce Name: Manufacturer Name: Acer UUID: xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx | | | | |
| F1 Help | ↑↓ Select Item | F5/F6 Change Values | F9 Setup Defaults | |
| Esc Exit | ←→ Select Menu | Enter Select | ▶ Sub-Menu | F10 Save and Exit |

Navigating the BIOS Utility

There are seven menu options: Info., Main, System Devices, Security, Power, Boot, and Exit.

Follow these instructions:

- ❑ To choose a menu, use the cursor left/right keys ( ).
- ❑ To choose an option, use the cursor up/down keys ( .
- ❑ To change an option format, press  or .
- ❑ A plus sign (+) indicates the item has sub-items. Press  to expand this item.
- ❑ Press  while you are in any of the menu options to go to the Exit menu.
- ❑ In any menu, you can load default settings by pressing . You can also press  to save any changes made and exit the BIOS Setup Utility.

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

Information

Phoenix TrustedCore(tm) Setup Utility

| | | | | |
|-------------|------|----------|------|------|
| Information | Main | Security | Boot | Exit |
|-------------|------|----------|------|------|

```

CPU Type :           Intel (R) Pentium(R) Dual CPU T2310 @ 1.46GHz
CPU Speed :          1460 MHz

IDE1 Model Name :    Hitachi HTS541616J9SA00
IDE1 Serial Number : xxxxxxxxxxxxxxxxxxxxxxxx
ATAPI Model Name :   Optiarc DVD RW AD-7530A
System BIOS Version: v1.3701
VGA BIOS Version:    SantaRosa 1436
Serial Number:       xxxxxxxxxxxxxxxxxxxxxxxx
Asset Tag Number:
Produce Name:
Manufacturer Name:   Acer
UUID:                xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
                    
```

| | | | |
|----------|----------------|-------------------------|-------------------|
| F1 Help | ↑↓ Select Item | F5/F6 Change Values | F9 Setup Defaults |
| Esc Exit | ←→ Select Menu | Enter Select ▶ Sub-Menu | F10 Save and Exit |

NOTE: The system information is subject to different models.

| Parameter | Description |
|----------------------|--|
| CPU Type / CPU Speed | This field shows the CPU type and speed of the system. |
| IDE1 Model Name | This field shows the model name of HDD installed on primary IDE master. |
| IDE1 Serial Number | This field displays the serial number of HDD installed on primary IDE master. |
| ATAPI Model Name | This field displays the model number of the installed ATAPI drive. |
| System BIOS Version | Displays system BIOS version. |
| VGA BIOS Version | This field displays the VGA firmware version of the system. |
| Serial Number | This field displays the serial number of this unit. |
| Asset Tag Number | This field displays the asset tag number of the system. |
| Product Name | This field shows product name of the system. |
| Manufacturer Name | This field displays the manufacturer of this system. |
| UUID Number | This will be visible only when an internal LAN device is presenting. UUID=32bytes |

Main

The Main screen displays a summary of your computer hardware information, and also includes basic setup parameters. It allows the user to specify standard IBM PC AT system parameters.

| Phoenix TrustedCore(tm) Setup Utility | | | | |
|--|----------------|-------------------------|-------------------|--|
| Information | Main | Security | Boot | Exit |
| System Time: [19:03:49] System Date : [08/25/2007] System Memory : 640 KB Shows system base memory size Extended Memory : 2038 MB Shows extended memory size Video Memory : [8MB] Quiet Boot : [Enabled] Power On Display : [Auto] Network Boot : [Enabled] F12 Boot Menu : [Disabled] D2D Recovery : [Enabled] | | | | Item Specific Help <Tab>, <Shift-Tab>, or <Enter> selects field. |
| F1 Help | ↑↓ Select Item | F5/F6 Change Values | F9 Setup Defaults | |
| Esc Exit | ←→ Select Menu | Enter Select ▶ Sub-Menu | F10 Save and Exit | |

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

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

| Parameter | Description | Format/Option |
|------------------|--|--|
| System Time | Sets the system time. The hours are displayed with 24-hour format. | Format: HH:MM:SS (hour:minute:second) System Time |
| System Date | Sets the system date. | Format MM/DD/YYYY (month/day/year) System Date |
| System Memory | This field reports the memory size of the system. Memory size is fixed to 640MB | |
| Extended Memory | This field reports the memory size of the extended memory in the system. Extended Memory size=Total memory size-1MB | |
| Video Memory | Shows the Video memory size. | |
| Quiet Boot | Determines if Customer Logo will be displayed or not; shows Summary Screen is disabled or enabled. Enabled: Customer Logo is displayed, and Summary Screen is disabled. Disabled: Customer Logo is not displayed, and Summary Screen is enabled. | Option: Enabled or Disabled |
| Power On display | Auto: During power process, the system will detect if any display device is connected on external video port. If any external display device is connected, the power on display will be in CRT (or projector) only mode. Otherwise it will be in LCD only mode. Both: Simultaneously enable both the integrated LCD screen and the system's external video port (for an external CRT or projector). | Option: Auto or Both |
| Network Boot | Enables, disables the system boot from LAN (remote server). | Option: Enabled or Disabled |
| F12 Boot Menu | Enables, disables Boot Menu during POST. NOTE: The Boot device change is only for one time change. In other words, the next time system reboot, the boot device sequence will be the same as the one defined in the BIOS setup (Boot menu). | Option: Disabled or Enabled |
| D2D Recovery | Enables, disables D2D Recovery function. The function allows the user to create a hidden partition on hard disc drive to store operation system and restore the system to factory defaults. | Option: Enabled or Disabled |

NOTE: The sub-items under each device will not be shown if the device control is set to disable or auto. This is because the user is not allowed to control the settings in these cases.

Security

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

| Phoenix TrustedCore(tm) Setup Utility | | | | |
|--|----------------|-------------------------|-------------------|---|
| Information | Main | Security | Boot | Exit |
| Supervisor Password Is : Clear User Password Is : Clear Hard Disk Password Status : Clear Set Supervisor Password [Enter] Set User Password [Enter] Set Hard Disk Password [Enter] Password on boot : [Disabled] | | | | Item Specific Help Supervisor Password controls access to the setup utility. |
| F1 Help | ↑↓ Select Item | F5/F6 Change Values | F9 Setup Defaults | |
| Esc Exit | ←→ Select Menu | Enter Select ► Sub-Menu | F10 Save and Exit | |

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

| Parameter | Description | Option |
|---------------------------|--|----------------------------------|
| Supervisor Password Is | Shows the setting of the Supervisor password | Clear or Set |
| User Password Is | Shows the setting of the user password. | Clear or Set |
| Hard Disk Password Status | Shows the setting of the hard disk password. | Clear or HDD Password Set |
| Set Supervisor Password | Press Enter to set the supervisor password. When set, this password protects the BIOS Setup Utility from unauthorized access. The user can not either enter the Setup menu nor change the value of parameters. | |
| Set User Password | Press Enter to set the user password. When user password is set, this password protects the BIOS Setup Utility from unauthorized access. The user can enter Setup menu only and does not have right to change the value of parameters. NOTE: Only when the supervisor password was set then user password can be set. | |
| Set Hard Disk Password | Press Enter to set the hard disk password. When set, this password protects the internal hard disk from unauthorized access. The user can not either enter the Setup menu nor change the value of parameters. | |
| Password on boot | Defines whether a password is required or not while the events defined in this group happened. The following sub-options are all requires the Supervisor password for changes and should be grayed out if the user password was used to enter setup. | Disabled or Enabled |

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

Setting a Password

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

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

Set Supervisor Password

Enter New Password []

Confirm New Password []

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

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

3. Press **ENTER**. After setting the password, the computer sets the Supervisor Password parameter to "Set".
4. If desired, you can opt to enable the Password on boot parameter.

5. When you are done, press **F10** to save the changes and exit the BIOS Setup Utility.

Removing a Password

Follow these steps:

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

| | | |
|-------------------------|---|---|
| Set Supervisor Password | | |
| Enter Current Password | [|] |
| Enter New Password | [|] |
| Confirm New Password | [|] |

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

Changing a Password

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

| | | |
|-------------------------|---|---|
| Set Supervisor Password | | |
| Enter Current Password | [|] |
| Enter New Password | [|] |
| Confirm New Password | [|] |

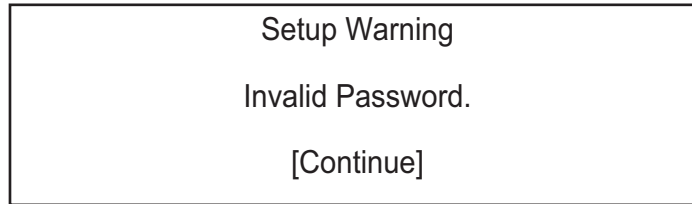
2. Type the current password in the Enter Current Password field and press **ENTER**.
3. Type a password in the Enter New Password field. Retype the password in the Confirm New Password field.
4. Press **ENTER**. After setting the password, the computer sets the Supervisor Password parameter to "Set".
5. If desired, you can enable the Password on boot parameter.
6. When you are done, press **F10** to save the changes and exit the BIOS Setup Utility.

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

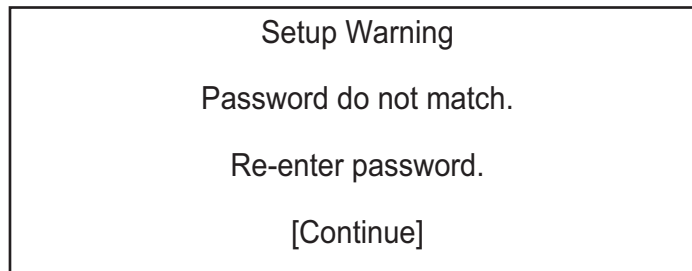
| | | |
|--------------------------|--|--|
| Setup Notice | | |
| Changes have been saved. | | |
| [Continue] | | |

The password setting is complete after the user presses **F10**.

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



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



Boot

This menu allows the user to decide the order of boot devices to load the operating system. Bootable devices includes the onboard hard disk drive, the CD-ROM in module bay, and any external USB device.

| Phoenix TrustedCore(tm) Setup Utility | | | | |
|---|------|-------------|--|-------------------|
| Information | Main | Security | Boot | Exit |
| Boot priority order: 1: IDE HDD: Hitachi HTS541616J9SA00-(S) 2: IDE CD : Optiarc DVD RW AD-7530A-(P) 3: PCI BEV : MBA v9.4.5 Slot 0500 4: USB HDD : 5: USB CDROM : 6: USB FDC : 7: USB KEY : 8: Excluded from boot order : | | | Item Specific Help | |
| | | | Keys used to view or configure devices : Up and Down arrows select a device. <+> and <-> moves the device up or down. <f> and <r> specifies the device fixed or removable. <x> exclude or include the device to boot. <Shift + 1> enables or disables a device. <1 - 4> Loads default boot sequence. | |
| F1 Help | ↑↓ | Select Item | F5/F6 Change Values | F9 Setup Defaults |
| Esc Exit | ←→ | Select Menu | Enter Select ► Sub-Menu | F10 Save and Exit |

Exit

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

Phoenix TrustedCore(tm) Setup Utility

Information Main Security Boot Exit

Exit Saving Changes
Exit Discarding Changes
Load Setup Defaults
Discard Changes
Save Changes

Item Specific Help

Exit System Setup and save your changes to CMOS.

F1 Help ↑↓ Select Item F5/F6 Change Values F9 Setup Defaults
Esc Exit ←→ Select Menu Enter Select ► Sub-Menu F10 Save and Exit

The table below describes the parameters in this screen.

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

BIOS Flash Utility

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

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

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

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

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

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

Follow the steps below to run the Phlash.

1. Prepare a bootable diskette.
2. Copy the flash utilities to the bootable diskette.
3. Then boot the system from the bootable diskette. The flash utility has auto-execution function.

Machine Disassembly and Replacement

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

To disassemble the computer, you need the following tools:

- Wrist grounding strap and conductive mat for preventing electrostatic discharge
- Small Philips screw driver
- Philips screwdriver
- Plastic flat head screw driver
- Tweezers

NOTE: The screws for the different components vary in size. During the disassembly process, group the screws with the corresponding components to avoid mismatch when putting back the components. When you remove the stripe cover, please be careful not to scrape the cover.

General Information

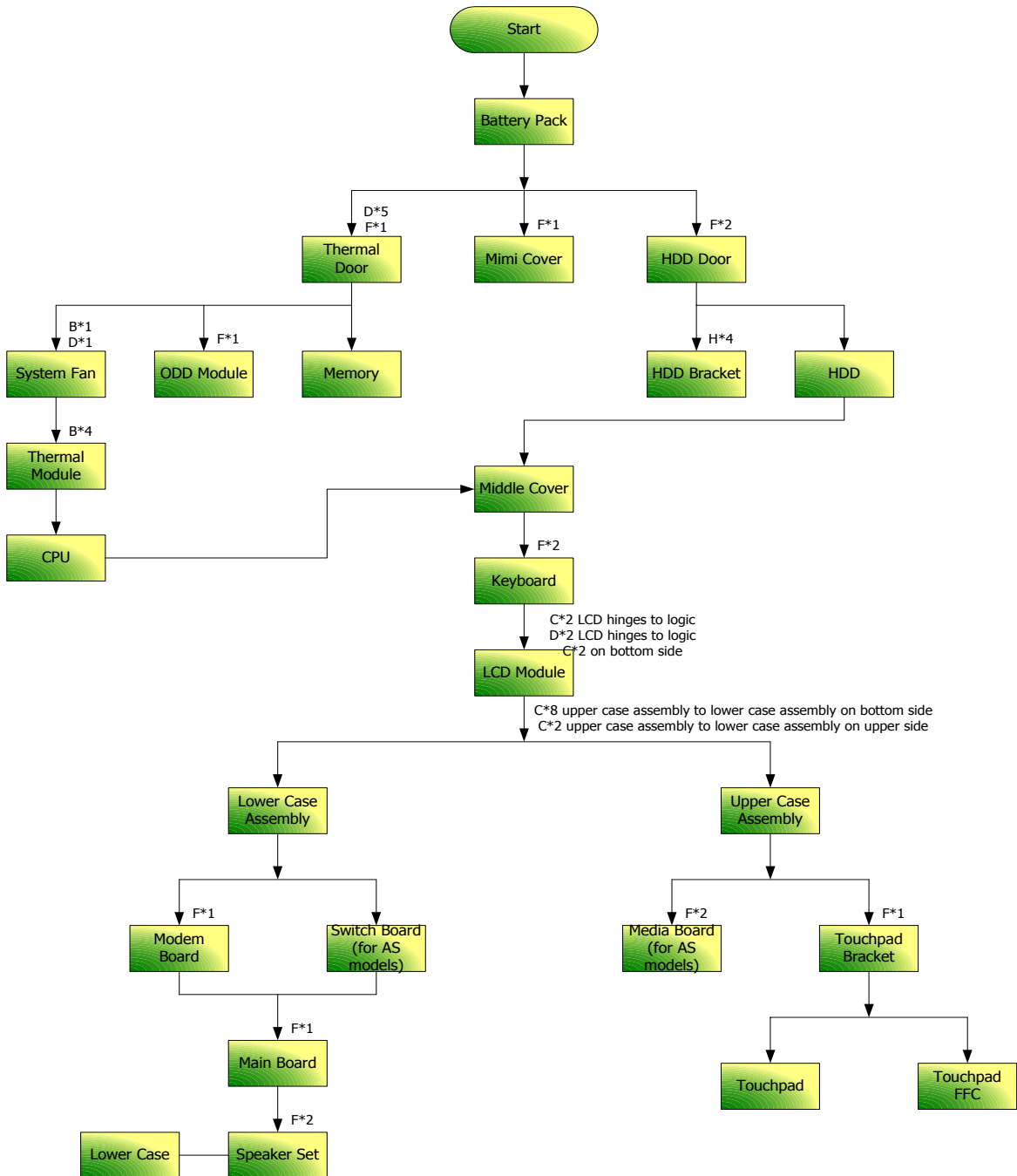
Before You Begin

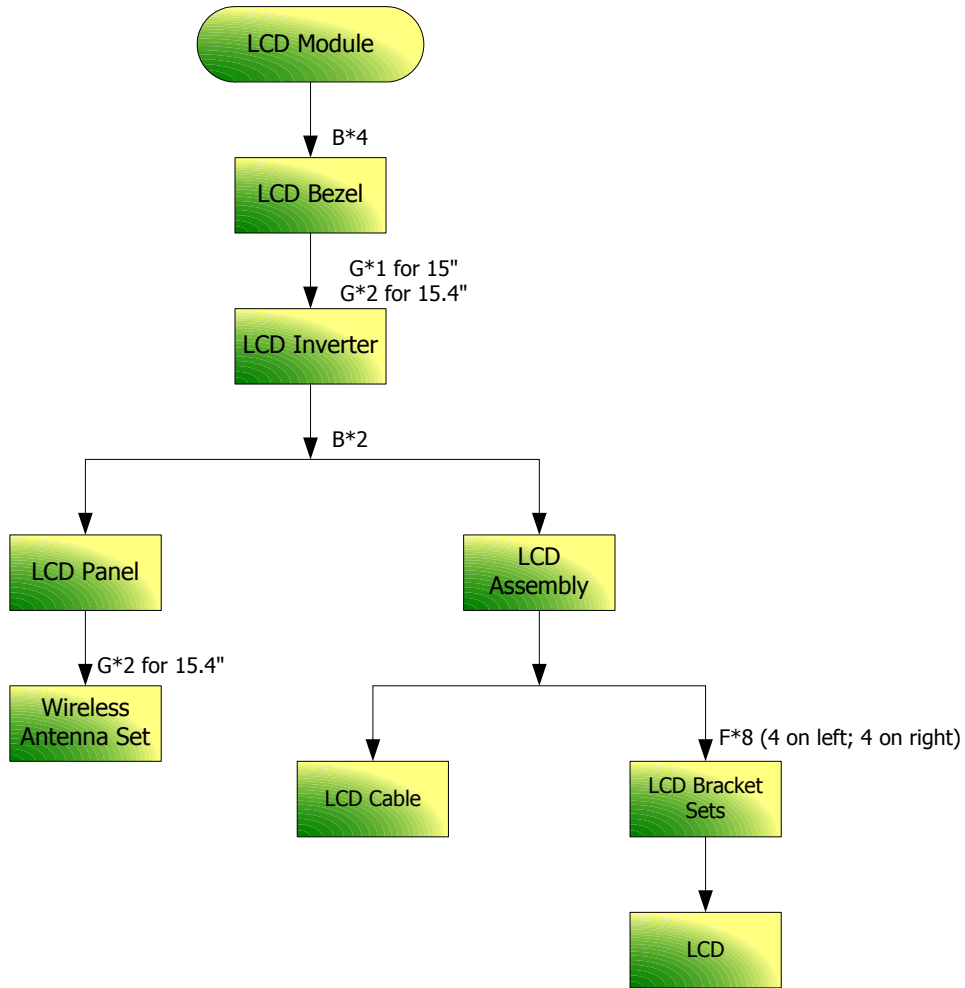
Before proceeding with the disassembly procedure, make sure that you do the following:

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

Disassembly Procedure Flowchart

The flowchart on the succeeding page gives you a graphic representation on the entire disassembly sequence and instructs you on the components that need to be removed during servicing. For example, if you want to remove the system board, you must first remove the keyboard, then disassemble the inside assembly frame in that order.





Screw List

| Item | Description | Part Number |
|------|------------------------------|--------------|
| A | SCREW M2.0*3.0-I-NI-NYLOK | 86.A08V7.005 |
| B | SCREW M2.5*4.0-I(NI)(NYLOK) | 86.D01V7.001 |
| C | SCREW M2.5*3.5-I(BNI)(NYLOK) | 86.AHS07.001 |
| D | SCREW M1.6*3-I(NI)(NYLOK) | 86.AHS07.002 |
| E | SCREW M2.5 *7L-BNI-NYLOK | 86.A10V7.006 |

Removing the Battery Pack

1. Unlock the battery lock as shown.
2. Slide the battery release latch then remove the battery.



Removing the HDD Module/ODD Module/Memory/Wireless LAN Card/Keyboard and the LCD Module

1. Press and release the PC dummy card from the PC slot as shown.



2. To access the internal laptop components, you have to first remove the back panel. Turn over the laptop and remove the seven screws fastening the back panel.
3. Lift the back panel up as shown.



Removing the HDD Module

4. Remove the two screws fastening the HDD module bracket.
5. Pull the tab on the HDD bracket to remove the HDD module in the direction of the arrow.



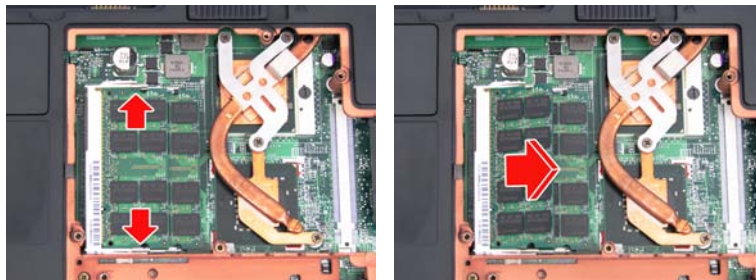
Removing the ODD Module

6. Remove the screw fastening the ODD module.
7. Use a flat screwdriver to gently push out the ODD module as shown.



Removing the Memory

8. Pull out the snaps securing the memory in place. The memory will pop up.
9. Remove the memory from the DIMM socket (If the notebook has two memory modules, then repeat this step).



Removing the Wireless LAN Card

10. Remove the two screws fastening the wireless LAN card panel.
11. Lift up the panel as shown.
12. Disconnect the three antennae from the wireless LAN card.



13. Remove the two screws fastening the wireless LAN card.

14. Take out the wireless LAN card from the main unit.



Removing the Keyboard and LCD Module

1. Remove the eight screws fastening the keyboard and LCD module to the main unit.
2. Turn the notebook over and gently pry up and remove the switch board cover as shown.



3. Lift the keyboard up and towards you.
4. Disconnect the keyboard cable from the main board and remove the keyboard from the main unit.



-
5. Disconnect both ends of the switch board FFC cable.
 6. Disconnect the LCD and microphone cables, and pull through the wireless LAN antennae from the underside of the main unit.
 7. Remove the six screws securing the hinges.



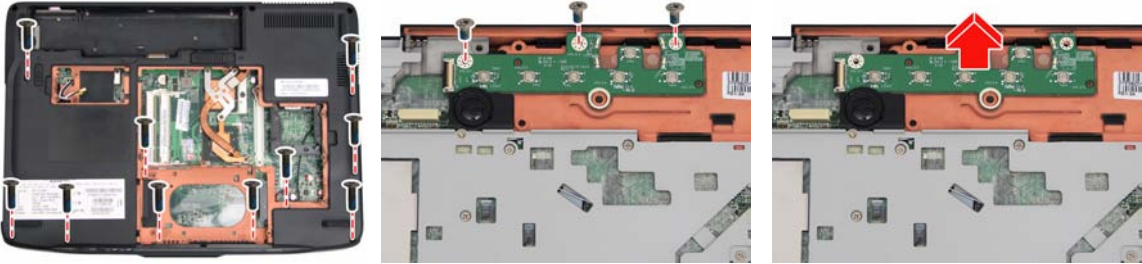
8. Detach the LCD module from the main unit.



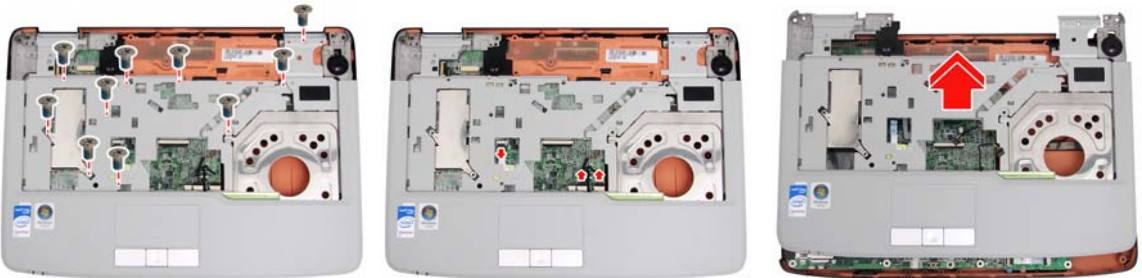
Disassembling the Main Unit

Separate the Main Unit Into the Upper and the Lower Case Assembly

1. Remove the ten screws fastening the lower case assembly to the upper case assembly.
2. Turn the notebook over and remove the three screws fastening the switch board.
3. Remove the switch board from the main unit.



4. Remove the ten screws fastening the upper case assembly to the lower case assembly.
5. Disconnect the touchpad, speaker and bluetooth cables.
6. Gently lift off the upper case assembly from the lower case assembly.



Disassembling the Lower Case Assembly

Removing the Main Board

1. Remove the two screws fastening the main board to the lower case.
2. Disconnect both ends of the audio board FFC cable as shown.
3. Remove the main board.



Removing the Audio Board

4. Remove the screw fastening the audio board.
5. Remove the audio board.



Disassembling the Upper Case Assembly

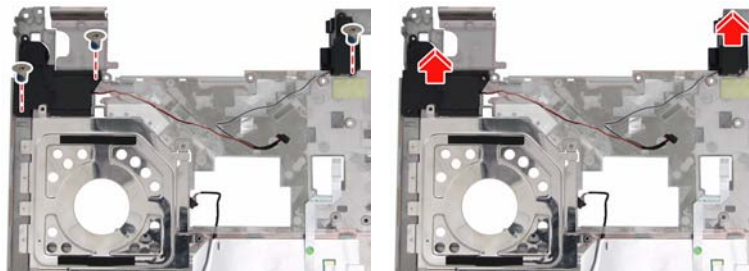
Removing the Bluetooth Module

1. Remove the two screws fastening the Bluetooth module.
2. Disconnect the Bluetooth cable to remove the Bluetooth module.



Removing the Speakers

3. Remove the three screws fastening the speakers.
4. Remove the speakers.



Removing the Touchpad Cable

5. Disconnect the touchpad FFC cable from the touchpad module as shown.



Disassembling the Main Board

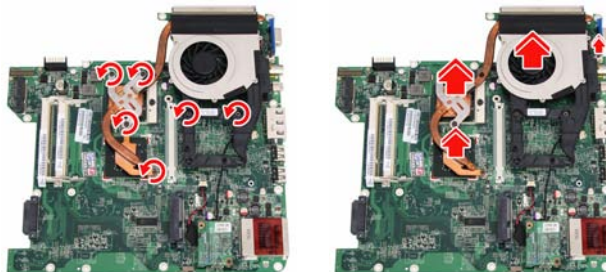
Removing the Power Board

1. Remove the two screws fastening the power board.
2. Remove the power board.



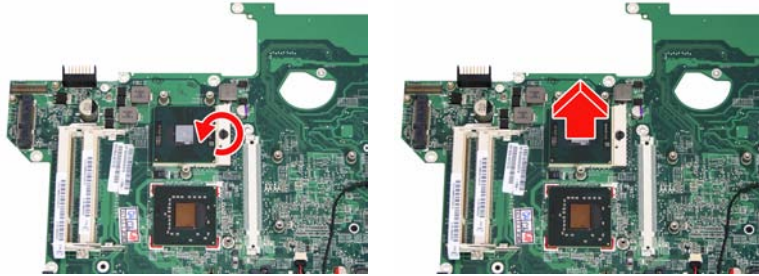
Removing the Thermal Module and System Fan

3. Unscrew the six screws fastening the thermal module and system fan.
4. Disconnect the system fan cable and remove the thermal module and system fan as shown.



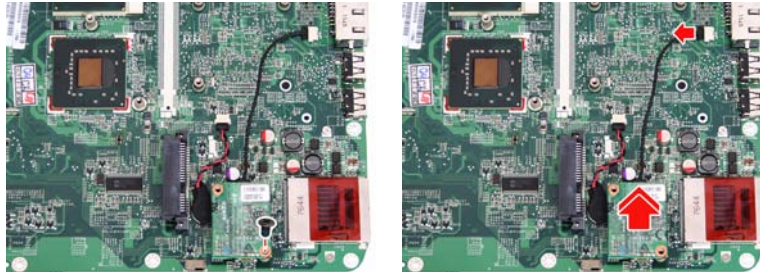
Removing the CPU

5. Use a flat screwdriver to release the CPU lock (Turn counter clockwise).
6. Remove the CPU from the CPU socket carefully.



Removing the Modem Card

7. Remove the screw fastening the modem card.
8. Disconnect the modem cable and remove the modem card.

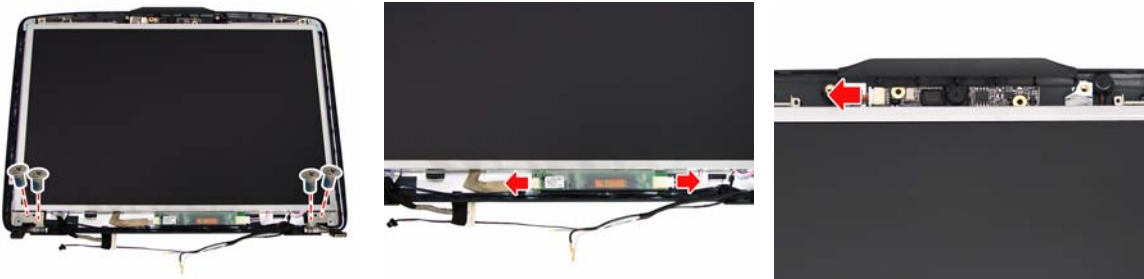


Disassembling the LCD Module

- 1. Remove the six screw rubbers as shown.
- 2. Then remove the six screws fastening the LCD bezel.
- 3. Detach the LCD bezel from the LCD module carefully.



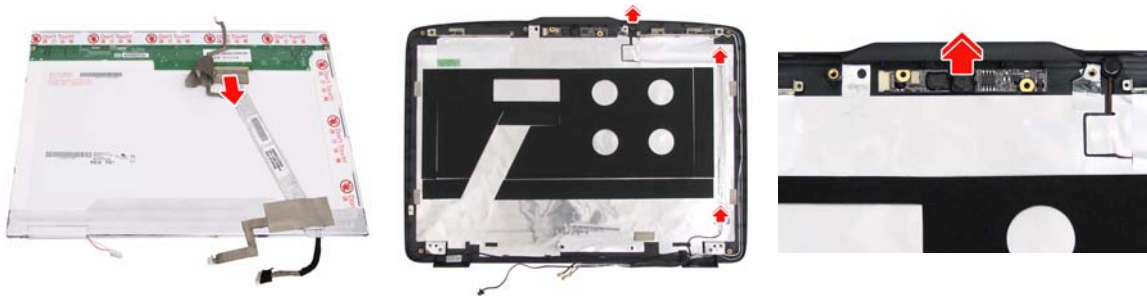
- 4. Remove the four screws holding the LCD.
- 5. Detach the two inverter cable connectors from the inverter board.
- 6. Disconnect the CCD cable connector from the CCD module.



- 7. Take out the LCD from the LCD cover.
- 8. Remove the two screws fastening the left LCD bracket and detach it.
- 9. Remove the two screws fastening the right LCD bracket and detach it.



10. Disconnect the LCD cable from the rear of the LCD.
11. Detach the microphone cable from the LCD cover and remove the microphone.
12. Remove the CCD module from the LCD cover as shown.



Disassembling the External Modules

Disassembling the HDD Module

1. Remove the two screws fastening the bracket to the HDD module.
2. Remove the bracket.



Disassembling the ODD Module

1. Remove the two screws holding the optical bracket.
2. Then remove the optical bracket from the optical disk drive.



Troubleshooting

Use the following procedure as a guide for computer problems.

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

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

| Symptoms (Verified) | Go To |
|--|---|
| Power failure (The power indicator does not go on or stay on). | "Power System Check" on page 69 |
| POST does not complete. No beep or error codes are indicated. | "Power-On Self-Test (POST) Error Message" on page 72 "Undetermined Problems" on page 84 |
| POST detects an error and displayed messages on screen. | "Error Message List" on page 73 |
| Other symptoms (i.e. LCD display problems or others). | "Power-On Self-Test (POST) Error Message" on page 72 |
| Symptoms cannot be re-created (intermittent problems). | Use the customer-reported symptoms and go to "Power-On Self-Test (POST) Error Message" on page 72 "Intermittent Problems" on page 83 "Undetermined Problems" on page 84 |

System Check Procedures

External Diskette Drive Check

Do the following to isolate the problem to a controller, driver, or diskette. A write-enabled, diagnostic diskette is required.

NOTE: Make sure that the diskette does not have more than one label attached to it. Multiple labels can cause damage to the drive or cause the drive to fail.

Do the following to select the test device:

1. Boot from the diagnostics diskette and start the diagnostics program.
2. See if FDD Test is passed as the program runs to FDD Test.
3. Follow the instructions in the message window.

If an error occurs with the internal diskette drive, reconnect the diskette connector on the system board.

If the error still remains:

1. Reconnect the external diskette drive/DVD-ROM module.
2. Replace the external diskette drive/CD-ROM module.
3. Replace the main board.

External CD-ROM Drive Check

Do the following to isolate the problem to a controller, drive, or CD-ROM. Make sure that the CD-ROM does not have any label attached to it. The label can cause damage to the drive or can cause the drive to fail.

Do the following to select the test device:

1. Boot from the diagnostics diskette and start the diagnostics program.
2. See if CD-ROM Test is passed when the program runs to CD-ROM Test.
3. Follow the instructions in the message window.

If an error occurs, reconnect the connector on the System board. If the error still remains:

1. Reconnect the external diskette drive/CD-ROM module.
2. Replace the external diskette drive/CD-ROM module.
3. Replace the main board.

Keyboard or Auxiliary Input Device Check

Remove the external keyboard if the internal keyboard is to be tested.

If the internal keyboard does not work or an unexpected character appears, make sure that the flexible cable extending from the keyboard is correctly seated in the connector on the system board.

If the keyboard cable connection is correct, run the Keyboard Test.

If the tests detect a keyboard problem, do the following one at a time to correct the problem. Do not replace a non-defective FRU:

1. Reconnect the keyboard cables.
2. Replace the keyboard.
3. Replace the main board.

The following auxiliary input devices are supported by this computer:

- Numeric keypad
- External keyboard

If any of these devices do not work, reconnect the cable connector and repeat the failing operation.

Memory check

Memory errors might stop system operations, show error messages on the screen, or hang the system.

1. Boot from the diagnostics diskette and start the diagnostic program (please refer to main board).
2. Go to the diagnostic memory in the test items.
3. Press F2 in the test items.
4. Follow the instructions in the message window.

NOTE: Make sure that the DIMM is fully installed into the connector. A loose connection can cause an error.

Power System Check

To verify the symptom of the problem, power on the computer using each of the following power sources:

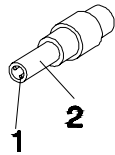
1. Remove the battery pack.
2. Connect the power adapter and check that power is supplied.
3. Disconnect the power adapter and install the charged battery pack; then check that power is supplied by the battery pack.

If you suspect a power problem, see the appropriate power supply check in the following list:

- “Check the Power Adapter” on page 70
- “Check the Battery Pack” on page 71

Check the Power Adapter

Unplug the power adapter cable from the computer and measure the output voltage at the plug of the power adapter cable. See the following figure:



Pin 1: +19 to +20.5V
Pin 2: 0V, Ground

1. If the voltage is not correct, replace the power adapter.
2. If the voltage is within the range, do the following:
 - Replace the System board.
 - If the problem is not corrected, see “Undetermined Problems” on page 84.
 - If the voltage is not correct, go to the next step.

NOTE: An audible noise from the power adapter does not always indicate a defect.

3. If the power-on indicator does not light up, check the power cord of the power adapter for correct continuity and installation.
4. If the operational charge does not work, see “Check the Battery Pack” on page 71.

Check the Battery Pack

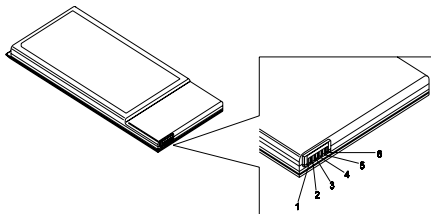
To check the battery pack, do the following:

From Software:

1. Check out the Power Management in Control Panel
2. In Power Meter, confirm that if the parameters shown in the screen for Current Power Source and Total Battery Power Remaining are correct.
3. Repeat the steps 1 and 2, for both battery and adapter.
4. This helps you identify first the problem is on recharging or discharging.

From Hardware:

1. Power off the computer.
2. Remove the battery pack and measure the voltage between battery terminals 1(+) and 6(ground). See the following figure



3. If the voltage is still less than 7.5 Vdc after recharging, replace the battery.

To check the battery charge operation, use a discharged battery pack or a battery pack that has less than 50% of the total power remaining when installed in the computer.

If the battery status indicator does not light up, remove the battery pack and let it return to room temperature. Re-install the battery pack.

If the charge indicator still does not light up, replace the battery pack. If the charge indicator still does not light up, replace the DC/DC charger board.

Touchpad Check

If the touchpad doesn't work, do the following actions one at a time to correct the problem. Do not replace a non-defective FRU:

1. Reconnect the touchpad cables.
2. Replace the touchpad.
3. Replace the system board.

After you use the touchpad, the pointer drifts on the screen for a short time. This self-acting pointer movement can occur when a slight, steady pressure is applied to the touchpad pointer. This symptom is not a hardware problem. No service actions are necessary if the pointer movement stops in a short period of time.

Power-On Self-Test (POST) Error Message

The POST error message index lists the error message and their possible causes. The most likely cause is listed first.

NOTE: Perform the FRU replacement or actions in the sequence shown in FRU/Action column, if the FRU replacement does not solve the problem, put the original part back in the computer. Do not replace a non-defective FRU.

This index can also help you determine the next possible FRU to be replaced when servicing a computer.

If the symptom is not listed, see “Undetermined Problems” on page 84.

The following lists the error messages that the BIOS displays on the screen and the error symptoms classified by function.

NOTE: Most of the error messages occur during POST. Some of them display information about a hardware device, e.g., the amount of memory installed. Others may indicate a problem with a device, such as the way it has been configured.

NOTE: If the system fails after you make changes in the BIOS Setup Utility menus, reset the computer, enter Setup and install Setup defaults or correct the error.

Index of Error Messages

Error Code List

| Error Codes | Error Messages |
|-----------------|--|
| 006 | Equipment Configuration Error Causes: 1. CPU BIOS Update Code Mismatch 2. IDE Primary Channel Master Drive Error (The causes will be shown before "Equipment Configuration Error") |
| 010 | Memory Error at xxxx:xxxx:xxxxh (R:xxxxh, W:xxxxh) |
| 070 | Real Time Clock Error |
| 071 | CMOS Battery Bad |
| 072 | CMOS Checksum Error |
| 110 | System disabled. Incorrect password is specified. |
| <No error code> | Battery critical LOW In this situation BIOS will issue 4 short beeps then shut down system, no message will show. |
| <No error code> | Thermal critical High In this situation BIOS will shut down system, not show message. |

Error Message List

| Error Messages | FRU/Action in Sequence |
|---|---|
| Failure Fixed Disk | Reconnect hard disk drive connector. "Load Default Settings" in BIOS Setup Utility. Hard disk drive System board |
| Stuck Key | see "Keyboard or Auxiliary Input Device Check" on page 68. |
| Keyboard error | see "Keyboard or Auxiliary Input Device Check" on page 68. |
| Keyboard Controller Failed | see "Keyboard or Auxiliary Input Device Check" on page 68. |
| Keyboard locked - Unlock key switch | Unlock external keyboard |
| Monitor type does not match CMOS - Run Setup | Run "Load Default Settings" in BIOS Setup Utility. |
| Shadow RAM Failed at offset: nnnn | BIOS ROM System board |
| System RAM Failed at offset: nnnn | DIMM System board |
| Extended RAM Failed at offset: nnnn | DIMM System board |
| System battery is dead - Replace and run Setup | Replace RTC battery and Run BIOS Setup Utility to reconfigure system time, then reboot system. |
| System CMOS checksum bad - Default configuration used | RTC battery Run BIOS Setup Utility to reconfigure system time, then reboot system. |
| System timer error | RTC battery Run BIOS Setup Utility to reconfigure system time, then reboot system. System board |

Error Message List

| Error Messages | FRU/Action in Sequence |
|---|---|
| Real time clock error | RTC battery Run BIOS Setup Utility to reconfigure system time, then reboot system. System board |
| Previous boot incomplete - Default configuration used | Run "Load Default Settings" in BIOS Setup Utility. RTC battery System board |
| Memory size found by POST differed from CMOS | Run "Load Default Settings" in BIOS Setup Utility. DIMM System board |
| Diskette drive A error | Check the drive is defined with the proper diskette type in BIOS Setup Utility See "External Diskette Drive Check" on page 68. |
| Incorrect Drive A type - run SETUP | Check the drive is defined with the proper diskette type in BIOS Setup Utility |
| System cache error - Cache disabled | System board |
| CPU ID: | System board |
| DMA Test Failed | DIMM System board |
| Software NMI Failed | DIMM System board |
| Fail-Safe Timer NMI Failed | DIMM System board |
| Device Address Conflict | Run "Load Default Settings" in BIOS Setup Utility. RTC battery System board |
| Allocation Error for device | Run "Load Default Settings" in BIOS Setup Utility. RTC battery System board |
| Failing Bits: nnnn | DIMM BIOS ROM System board |
| Fixed Disk n | None |
| Invalid System Configuration Data | BIOS ROM System board |
| I/O device IRQ conflict | Run "Load Default Settings" in BIOS Setup Utility. RTC battery System board |
| Operating system not found | Enter Setup and see if fixed disk and drive A: are properly identified. Diskette drive Hard disk drive System board |

Error Message List

| No beep Error Messages | FRU/Action in Sequence |
|---|---|
| No beep, power-on indicator turns off and LCD is blank. | Power source (battery pack and power adapter). See "Power System Check" on page 69.. Ensure every connector is connected tightly and correctly. Reconnect the DIMM. LED board. System board. |
| No beep, power-on indicator turns on and LCD is blank. | Power source (battery pack and power adapter). See "Power System Check" on page 69.. Reconnect the LCD connector Hard disk drive LCD inverter ID LCD cable LCD Inverter LCD System board |
| No beep, power-on indicator turns on and LCD is blank. But you can see POST on an external CRT. | Reconnect the LCD connectors. LCD inverter ID LCD cable LCD inverter LCD System board |
| No beep, power-on indicator turns on and a blinking cursor shown on LCD during POST. | Ensure every connector is connected tightly and correctly. System board |
| No beep during POST but system runs correctly. | Speaker System board |

Phoenix BIOS Beep Codes

| Code | Beeps | POST Routine Description |
|------|---------|--|
| 02h | | Verify Real Mode |
| 03h | | Disable Non-Maskable Interrupt (NMI) |
| 04h | | Get CPU type |
| 06h | | Initialize system hardware |
| 08h | | Initialize chipset with initial POST values |
| 09h | | Set IN POST flag |
| 0Ah | | Initialize CPU registers |
| 0Bh | | Enable CPU cache |
| 0Ch | | Initialize caches to initial POST values |
| 0Eh | | Initialize I/O component |
| 0Fh | | Initialize the local bus IDE |
| 10h | | Initialize Power Management |
| 11h | | Load alternate registers with initial POST values |
| 12h | | Restore CPU control word during warm boot |
| 13h | | Initialize PCI Bus Mastering devices |
| 14h | | Initialize keyboard controller |
| 16h | 1-2-2-3 | BIOS ROM checksum |
| 17h | | Initialize cache before memory autosize |
| 18h | | 8254 timer initialization |
| 1Ah | | 8237 DMA controller initialization |
| 1Ch | | Reset Programmable Interrupt Controller |
| 20h | 1-3-1-1 | Test DRAM refresh |
| 22h | 1-3-1-3 | Test 8742 Keyboard Controller |
| 24h | | Set ES segment register to 4 GB |
| 26h | | Enable A20 line |
| 28h | | Autosize DRAM |
| 29h | | Initialize POST Memory Manager |
| 2Ah | | Clear 215 KB base RAM |
| 2Ch | 1-3-4-1 | RAM failure on address line xxxx |
| 2Eh | 1-3-4-3 | RAM failure on data bits xxxx of low byte of memory bus |
| 2Fh | | Enable cache before system BIOS shadow |
| 30h | 1-4-1-1 | RAM failure on data bits xxxx of high byte of memory bus |
| 32h | | Test CPU bus-clock frequency |
| 33h | | Initialize Phoenix Dispatch Manager |
| 36h | | Warm start shut down |
| 38h | | Shadow system BIOS ROM |
| 3Ah | | Autosize cache |
| 3Ch | | Advanced configuration of chipset registers |
| 3Dh | | Load alternate registers with CMOS values |
| 42h | | Initialize interrupt vectors |
| 45h | | POST device initialization |

| Code | Beeps | POST Routine Description |
|------|---------|---|
| 46h | 2-1-2-3 | Check ROM copyright notice |
| 48h | | Check video configuration against CMOS |
| 49h | | Initialize PCI bus and devices |
| 4Ah | | Initialize all video adapters in system |
| 4Bh | | QuietBoot start (optional) |
| 4Ch | | Shadow video BIOS ROM |
| 4Eh | | Display BIOS copyright notice |
| 50h | | Display CPU type and speed |
| 51h | | Initialize EISA board |
| 52h | | Test keyboard |
| 54h | | Set key click if enabled |
| 58h | 2-2-3-1 | Test for unexpected interrupts |
| 59h | | Initialize POST display service |
| 5Ah | | Display prompt "Press F2 to enter SETUP" |
| 5Bh | | Disable CPU cache |
| 5Ch | | Test RAM between 512 and 640 KB |
| 60h | | Test extended memory |
| 62h | | Test extended memory address lines |
| 64h | | Jump to User Patch1 |
| 66h | | Configure advanced cache registers |
| 67h | | Initialize Multi Processor APIC |
| 68h | | Enable external and CPU caches |
| 69h | | Setup System Management Mode (SMM) area |
| 6Ah | | Display external L2 cache size |
| 6Bh | | Load custom defaults (optional) |
| 6Ch | | Display shadow-area message |
| 6Eh | | Display possible high address for UMB recovery |
| 70h | | Display error messages |
| 72h | | Check for configuration errors |
| 76h | | Check for keyboard errors |
| 7Ch | | Set up hardware interrupt vectors |
| 7Eh | | Initialize coprocessor if present |
| 80h | | Disable onboard Super I/O ports and IRQs |
| 81h | | Late POST device initialization |
| 82h | | Detect and install external RS232 ports |
| 83h | | Configure non-MCD IDE controllers |
| 84h | | Detect and install external parallel ports |
| 85h | | Initialize PC-compatible PnP ISA devices |
| 86h | | Re-initialize onboard I/O ports |
| 87h | | Configure Motherboard Configurable Devices (optional) |
| 88h | | Initialize BIOS Area |
| 89h | | Enable Non-Maskable Interrupts (NMI) |
| 8Ah | | Initialize Extended BIOS Data Area |
| 8Bh | | Test and initialize PS/2 mouse |

| Code | Beeps | POST Routine Description |
|------|-------|--|
| 8Ch | | Initialize floppy controller |
| 8Fh | | Determine number of ATA drives (optional) |
| 90h | | Initialize hard-disk controllers |
| 91h | | Initialize local-bus hard-disk controllers |
| 92h | | Jump to UserPatch2 |
| 93h | | Build MPTABLE for multi-processor boards |
| 95h | | Install CD ROM for boot |
| 96h | | Clear huge ES segment register |
| 97h | | Fixup Multi Processor table |
| 98h | 1-2 | Search for option ROMs. One long, two short beeps on checksum failure. |
| 99h | | Check for SMART drive (optional) |
| 9Ah | | Shadow option ROMs |
| 9Ch | | Set up Power Management |
| 9Dh | | Initialize security engine (optional) |
| 9Eh | | Enable hardware interrupts |
| 9Fh | | Determine number of ATA and SCSI drives |
| A0h | | Set time of day |
| A2h | | Check key lock |
| A4h | | Initialize Typematic rate |
| A8h | | Erase F2 prompt |
| AAh | | Scan for F2 key stroke |
| ACh | | Enter SETUP |
| AEh | | Clear Boot flag |
| B0h | | Check for errors |
| B2h | | POST done- prepare to boot operating system |
| B4h | 1 | One short beep before boot |
| B5h | | Terminate QuietBoot (optional) |
| B6h | | Check password (optional) |
| B9h | | Prepare Boot |
| BAh | | Initialize DMI parameters |
| BBh | | Initialize PnP Option ROMs |
| BCh | | Clear parity checkers |
| BDh | | Display MultiBoot menu |
| BEh | | Clear screen (optional) |
| BFh | | Check virus and backup reminders |
| C0h | | Try to boot with INT 19 |
| C1h | | Initialize POST Error Manager (PEM) |
| C2h | | Initialize error logging |
| C3h | | Initialize error display function |
| C4h | | Initialize system error handler |
| C5h | | PnPnd dual CMOS (optional) |
| C6h | | Initialize notebook docking (optional) |
| C7h | | Initialize notebook docking late |
| C8h | | Force check (optional) |
| C9h | | Extended checksum (optional) |

| Code | Beeps | POST Routine Description |
|------|-------|--------------------------|
| D2h | | Unknown interrupt |

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

Index of Symptom-to-FRU Error Message

LCD-Related Symptoms

| Symptom / Error | Action in Sequence |
|---|--|
| LCD backlight doesn't work LCD is too dark LCD brightness cannot be adjusted LCD contrast cannot be adjusted | Enter BIOS Utility to execute "Load Setup Default Settings", then reboot system. Reconnect the LCD connectors. Keyboard (if contrast and brightness function key doesn't work). LCD inverter ID LCD cable LCD inverter LCD System board |
| Unreadable LCD screen Missing pels in characters Abnormal screen Wrong color displayed | Reconnect the LCD connector LCD inverter ID LCD cable LCD inverter LCD System board |
| LCD has extra horizontal or vertical lines displayed. | LCD inverter ID LCD inverter LCD cable LCD System board |

Indicator-Related Symptoms

| Symptom / Error | Action in Sequence |
|--|--|
| Indicator incorrectly remains off or on, but system runs correctly | Reconnect the inverter board Inverter board System board |

Power-Related Symptoms

| Symptom / Error | Action in Sequence |
|-----------------------------------|---|
| Power shuts down during operation | Power source (battery pack and power adapter). See "Power System Check" on page 69. Battery pack Power adapter Hard drive & battery connection board System board |
| The system doesn't power-on. | Power source (battery pack and power adapter). See "Power System Check" on page 69. Battery pack Power adapter Hard drive & battery connection board System board |
| The system doesn't power-off. | Power source (battery pack and power adapter). See "Power System Check" on page 69. Hold and press the power switch for more than 4 seconds. System board |

Power-Related Symptoms

| Symptom / Error | Action in Sequence |
|--------------------------|--|
| Battery can't be charged | See "Check the Battery Pack" on page 71. Battery pack System board |

PCMCIA-Related Symptoms

| Symptom / Error | Action in Sequence |
|---|--------------------------------------|
| System cannot detect the PC Card (PCMCIA) | PCMCIA slot assembly System board |
| PCMCIA slot pin is damaged. | PCMCIA slot assembly |

Memory-Related Symptoms

| Symptom / Error | Action in Sequence |
|---|---|
| Memory count (size) appears different from actual size. | Enter BIOS Setup Utility to execute "Load Default Settings, then reboot system. DIMM System board |

Speaker-Related Symptoms

| Symptom / Error | Action in Sequence |
|--|---|
| In Windows, multimedia programs, no sound comes from the computer. | Audio driver Speaker System board |
| Internal speakers make noise or emit no sound. | Speaker System board |

Power Management-Related Symptoms

| Symptom / Error | Action in Sequence |
|--|---|
| The system will not enter hibernation | See "Save to Disk (S4)" on page 38. Keyboard (if control is from the keyboard) Hard disk drive System board |
| The system doesn't enter hibernation mode and four short beeps every minute. | Press Fn+ F4 and see if the computer enters hibernation mode. Touchpad Keyboard Hard disk connection board Hard disk drive System board |
| The system doesn't enter standby mode after closing the LCD | See "Save to Disk (S4)" on page 38. LCD cover switch System board |
| The system doesn't resume from hibernation mode. | See "Save to Disk (S4)" on page 38. Hard disk connection board Hard disk drive System board |
| The system doesn't resume from standby mode after opening the LCD. | See "Save to Disk (S4)" on page 38. LCD cover switch System board |

Power Management-Related Symptoms

| Symptom / Error | Action in Sequence |
|---|--|
| Battery fuel gauge in Windows doesn't go higher than 90%. | Remove battery pack and let it cool for 2 hours. Refresh battery (continue use battery until power off, then charge battery). Battery pack System board |
| System hangs intermittently. | Reconnect hard disk/CD-ROM drives. Hard disk connection board System board |

Peripheral-Related Symptoms

| Symptom / Error | Action in Sequence |
|--|---|
| System configuration does not match the installed devices. | Enter BIOS Setup Utility to execute "Load Default Settings", then reboot system. Reconnect hard disk/CD-ROM/diskette drives. |
| External display does not work correctly. | Press Fn+F5, LCD/CRT/Both display switching System board |
| USB does not work correctly | System board |
| Print problems. | Ensure the "Parallel Port" in the "Onboard Devices Configuration" of BIOS Setup Utility is set to Enabled. Onboard Devices Configuration Run printer self-test. Printer driver Printer cable Printer System Board |
| Serial or parallel port device problems. | Ensure the "Serial Port" in the Devices Configuration" of BIOS Setup Utility is set to Enabled. Device driver Device cable Device System board |

Keyboard/Touchpad-Related Symptoms

| Symptom / Error | Action in Sequence |
|--|---|
| Keyboard (one or more keys) does not work. | Reconnect the keyboard cable. Keyboard System board |
| Touchpad does not work. | Reconnect touchpad cable. Touchpad board System board |

Modem-Related Symptoms

| Symptom / Error | Action in Sequence |
|---|---|
| Internal modem does not work correctly. | Modem phone port modem combo board System board |

NOTE: If you cannot find a symptom or an error in this list and the problem remains, see "Undetermined Problems" on page 84.

Intermittent Problems

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

When analyzing an intermittent problem, do the following:

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

Undetermined Problems

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

Follow these procedures to isolate the failing FRU (do not isolate non-defective FRU).

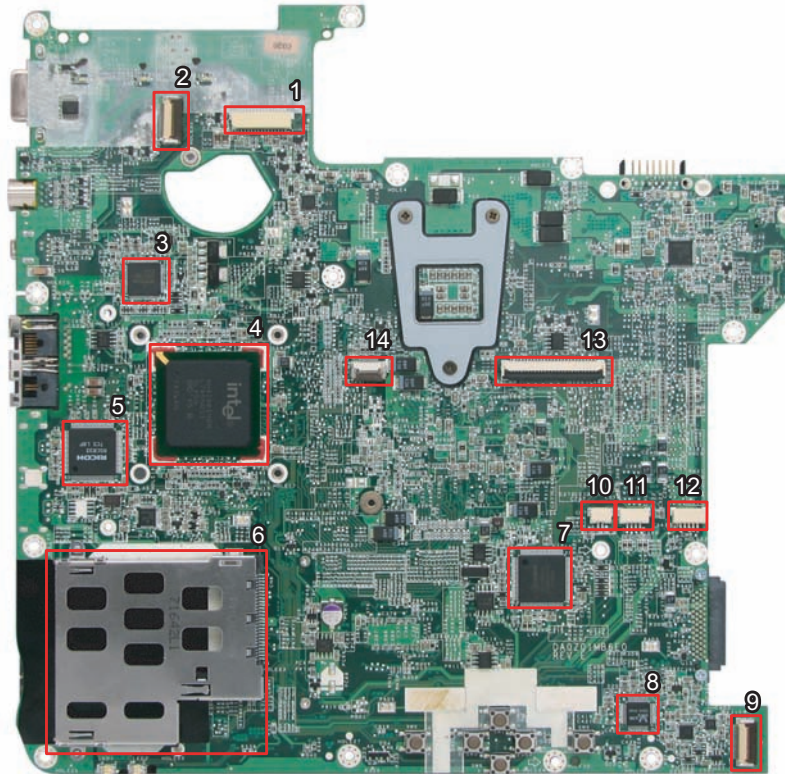
NOTE: Verify that all attached devices are supported by the computer.

NOTE: Verify that the power supply being used at the time of the failure is operating correctly. (See "Power System Check" on page 69.):

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

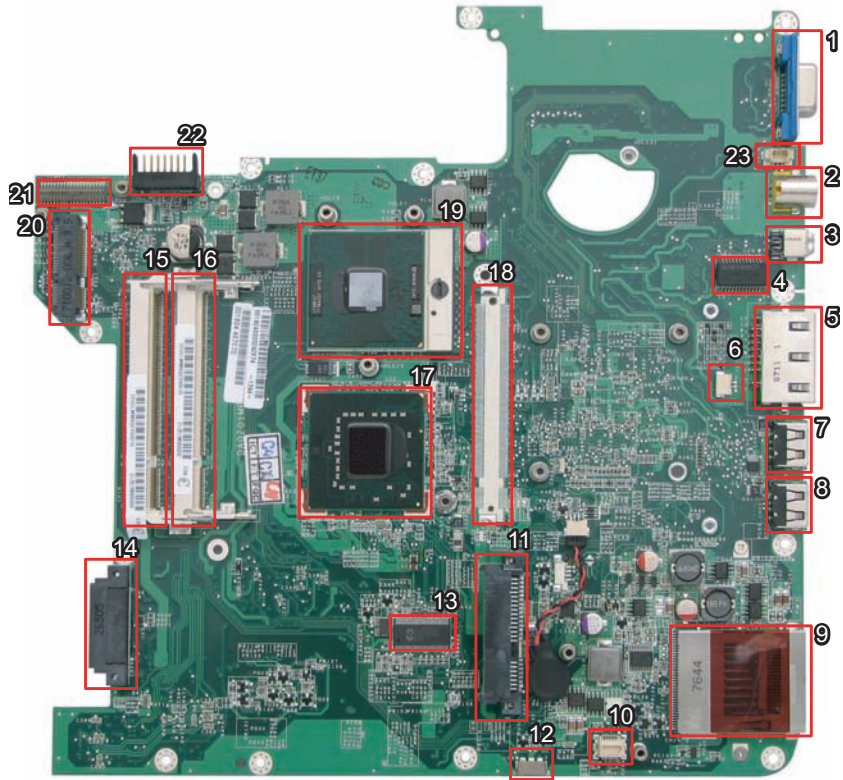
Jumper and Connector Locations

Top View



| | | | | | |
|---|-----|---|----|-----|-----------------------|
| 1 | CN1 | LVDS Connector | 8 | U17 | Audio Codec (ALC 268) |
| 2 | CN2 | Switch Board Connector | 9 | CN9 | Audio Board Connector |
| 3 | U2 | BCM5787 | 10 | CN7 | Microphone Connector |
| 4 | U6 | South Bridge (ICH8M) | 11 | CN5 | Speaker Connector |
| 5 | U8 | PCI Card Reader Controller (RICOH R5C833) | 12 | CN6 | Bluetooth Connector |
| 6 | CN8 | Express Card Socket | 13 | CN3 | Keyboard Connector |
| 7 | U13 | Winbond Keyboard Controller (WPC9769LDG) | 14 | CN4 | Touchpad Connector |

Bottom View



| | | | | | |
|----|------|-------------------------------|----|------|--|
| 1 | CN10 | VGA Connector | 13 | U26 | Clock Generator |
| 2 | CN11 | S-Video Connector | 14 | CN26 | Optical Disk Drive Connector |
| 3 | CN13 | Ethernet Controller (BCM5787) | 15 | CN18 | DIMM Socket |
| 4 | U20 | LAN Transform | 16 | CN19 | DIMM Socket |
| 5 | CN16 | RJ45/RJ11 Jack | 17 | U22 | North Bridge (965PM/GM) |
| 6 | CN17 | Modem Cable Connector | 18 | CN20 | MXM Connector (for selected models only) |
| 7 | CN21 | USB Connector | 19 | U21 | CPU Socket |
| 8 | CN22 | USB Connector | 20 | CN14 | Mini Card Socket |
| 9 | CN28 | 5-in-1 Card Reader | 21 | CN12 | Power Board Connector |
| 10 | CN31 | Modem Card Connector | 22 | PJ1 | Battery Connector |
| 11 | CN27 | SATA HDD Connector | 23 | CN15 | Fan Connector |
| 12 | U28 | Consumer Infrared Receiver | | | |

FRU (Field Replaceable Unit) List









This chapter gives you the FRU (Field Replaceable Unit) listing in global configurations of Aspire 4720G/4720Z/4720/4320 series. Refer to this chapter whenever ordering for parts to repair or for RMA (Return Merchandise Authorization).







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


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

Aspire 4720G/4720Z/4720/4320 Exploded Diagram

| Category | No. | Part Name and Description | Acer Part No. |
|---|-----|--|---------------|
| ADAPTER | | | |
|  | | ADAPTER 90W 3 PIN DELTA ADP-90SB BBDHF ROHS | AP.09001.008 |
| | | ADAPTER 90W 3 PIN LITEON PA-1900-04QB ROHS | AP.09003.009 |
| | | ADAPTER 65W 3 PIN LITE-ON PA1650-02 QY LF | AP.06503.013 |
| | | ADAPTER 65W 3 PIN Delta SADP-65KB DBRF LF | AP.06501.010 |
| BATTERY | | | |
|  | | Battery SANYO AS-2007A Li-Ion 3S2P SANYO 6 cell 4000mAh Main COMMON Y Cell | BT.00603.036 |
| | | Battery SONY AS-2007A Li-Ion 3S2P SONY 6 cell 4000mAh Main COMMON G4E Cell | BT.00604.022 |
| | | Battery PANASONIC AS-2007A Li-Ion 3S2P PANASONIC 6 cell 4000mAh Main COMMON PSS Cell | BT.00605.018 |
| | | Battery SIMPLO AS-2007A Li-Ion 3S2P PANASONIC 6 cell 4000mAh Main COMMON PSS Cell | BT.00607.013 |
| | | Battery SANYO AS-2007A Li-Ion 3S2P SANYO 6 cell 4800mAh Main COMMON | BT.00603.037 |
| | | Battery SONY AS-2007A Li-Ion 3S2P SONY 6 cell 4800mAh Main COMMON | BT.00604.023 |
| | | Battery SIMPLO AS-2007A Li-Ion 3S2P PANASONIC 6 cell 4800mAh Main COMMON | BT.00607.014 |
| BOARD | | | |
|  | | MODEM BOARD FOXCONN T60M951.00 | FX.22500.004 |
|  | | BLUETOOTH MODULE (T60H928.01) | 54.TAXV7.001 |
| | | MINI PCI WIRELESS BOARD 802.11 A/ B/G MOW1 INTEL MM872612 | KI.GLN01.001 |
| | | MINI PCI WIRELESS BOARD 802.11 A/ B/G MOW2 INTEL MM872659 | KI.GLN01.002 |
| | | MINI PCI WIRELESS BOARD 802.11 A/ B/G ROW INTEL MM874511 | KI.GLN01.003 |
| | | MINI PCI WIRELESS BOARD 802.11 A/ B/G JPN | KI.GLN01.004 |

| Category | No. | Part Name and Description | Acer Part No. |
|---|-----|--|---------------|
|  | | WIRELESS LAN BOARD 802.11BG INTEL 3945BG | KI.GLN01.005 |
| | | INTEL WIRELESS WIFI LINK 4965ANG MOW1 (MM#886224) | KI.KDN01.001 |
| | | INTEL WIRELESS WIFI LINK 4965ANG MOW2 (MM#886220) | KI.KDN01.002 |
| | | INTEL WIRELESS WIFI LINK 4965ANG ROW (MM#886434) | KI.KDN01.003 |
| | | INTEL WIRELESS WIFI LINK 4965ANG JP (MM#886437) | KI.KDN01.004 |
|  | | POWER BOARD 65W | 55.AK907.001 |
| | | POWER BOARD 90W | 55.AK907.002 |
|  | | AUDIO BOARD | 55.AK907.003 |
|  | | SWITCH BOARD | 55.AK907.004 |
| | | VGA CARD MSI NVIDIA NB8M-SE 128MB MXM I W/O HDCP | VG.8MS06.001 |
| CABLE | | | |
|  | | PWR CORD V943B30001218008 DANISH 3P | 27.A03V7.006 |
| | | PWR CORD(ISR)1.8M 3PBLK FZ0I0008-038 | 27.A50V7.002 |
| | | PWR CORD V50CB3T3012180QD TW- 110V,3P | 27.A99V7.002 |
| | | POWER CORD(SWI)1.8M 3PBLACK FZ010008-011 | 27.A99V7.004 |
| | | POWER CORD(IT) 1.8M 3PBLACK FZ010008-008 | 27.A99V7.005 |
| | | POWER CORD(S.A) 1.8M 3BLACK FZ010008-006 | 27.T48V7.001 |
| | | POWER CORD US 3PIN ROHS | 27.TAXV7.001 |
| | | POWER CORD(EU) 1.8M 3PBLACK FM010008-010 | 27.TATV7.001 |
| | | POWER CORD(UK) 1.8M 3PBLACK FP010008-013 | 27.TATV7.003 |
|  | | MODEM CABLE | 50.AHS07.001 |
|  | | FFC CABLE - AUDIO TO MB | 50.AHS07.002 |
|  | | FFC CABLE - SWITCH TO MB | 50.AHS07.003 |



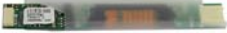




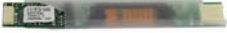
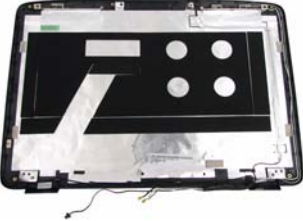
| Category | No. | Part Name and Description | Acer Part No. |
|---|-----|---|---------------|
| CASE/COVER/BRACKET ASSEMBLY | | | |
|  | | MIDDLE COVER | 42.AHS07.001 |
|  | | UPPER CASE ASSY W/SPEAKER BLUETOOTH CABLE TP FFC TP | 60.AK907.001 |
|  | | LOWER CASE ASSY W/RUBBER | 60.AHS07.002 |
|  | | BASE DOOR W/RUBBER | 42.AHS07.002 |
|  | | MINI DOOR ASSY | 42.AHS07.003 |
|  | | DUMMY EXPRESS CARD | |
| | | DUMMY 4 IN 1 CARD | 42.TG607.005 |
| CPU/PROCESSOR | | | |
| | | CPU Intel Core2Dual T7100 PGA 1.8G 2M 800 SLA4A | KC.71001.DTP |
| | | CPU Intel Core2Dual T7300 PGA 2.0G 4M 800 SLA45 | KC.73001.DTP |
| | | CPU Intel Core2Dual T7500 PGA 2.2G 4M 800 SLA44 | KC.75001.DTP |
| COMBO MODULE | | | |
|  | | DVD/CDRW COMBO MODULE | 6M.AHS07.001 |
| | | DVD/CDRW COMBO DRIVE 24X SONY CRX880A LF W/O BEZEL | KO.0240E.005 |
| | | DVD/CDRW COMBO DRIVE 24X HLDS GCC-T10N PATA LF W/O BEZEL | KO.0240D.005 |
|  | | OPTICAL BRACKET | 33.AHS07.002 |
|  | | DVD/CDRW COMBO BEZEL | 42.AHS07.004 |





| Category | No. | Part Name and Description | Acer Part No. |
|--|-----|--|---------------|
| DVD-RW DRIVE | | | |
|  | | DVD/RW SUPER MULTI MODULE | 6M.AHS07.002 |
| | | DVD SUPER MULTI TRAY IN HLDS GSA-T20N LF W/O BEZEL | KU.0080D.027 |
| | | DVD SUPER MULTI DRIVE PANASONIC UJ-850UAA1-A VISTA FW :1.60 | KU.00807.051 |
| | | DVD SUPER MULTI DRIVE SONY AD- 7530A VISTA TRAY IN | KU.0080E.002 |
| | | DVD SUPER MULTI TRAY IN PHILIPS DS-8A1P LF W/O BEZEL | KU.00809.010 |
|  | | OPTICAL BRACKET | 33.AHS07.002 |
|  | | DVD SUPER MULTI BEZEL | 42.AGW07.003 |
| HDD/HARD DISK DRIVE | | | |
|  | | 80GB HGST 2.5" 5400RPM SATA HTS541680J9SA00 SURUGA-B LF F/ W: C70P | KH.08007.021 |
| | | 120GB HGST 2.5" 5400RPM SATA HTS541612J9SA00 SURUGA-B LF F/ W: C70P | KH.12007.010 |
| | | HDD SATA 120G 5400RPM SEAGATE ST9120822AS SATA 8MB LF 3.ALD | KH.12001.031 |
| | | 120GB TOSHIBA 2.5" 5400rpm 120GB MK1237GSX Gemini BS SATA LF F/ W:DL130J | KH.12004.006 |
| | | HDD WD 2.5" 5400RPM 120GB WD1200BEVS-22RST0 ML80 SATA LF F/W:04.01G04 | KH.12008.018 |
| | | 160G SEAGATE 2.5" 5400RPM ST9160821AS VENUS SATA LF FW: 3.ALA | KH.16001.026 |
| | | 160GB HGST 2.5" 5400RPM SATA HTS541616J9SA00 SURUGA-B LF F/ W: C70P | KH.16007.011 |
| | | 160GB TOSHIBA 2.5" 5400rpm 160GB MK1637GSX Gemini BS SATA LF F/W: DL030J | KH.16004.001 |
| | | 160GB WD 2.5" 5400rpm 160GB WD1600BEVS-22RST0 ML80 SATA LF F/W:04.01G04 | KH.16008.019 |
| | | HDD WD 2.5" 5400RPM 80GB WD800BEVS-22RST0 ML80 SATA LF F/ W:04.01G04 | KH.08008.033 |
| | | HDD SATA 80G 5400RPM SEAGATE ST980811AS SATA 8MB LF 3.ALD | KH.08001.030 |
| | | HDD SATA 80G 5400RPM TOSHIBA MK8037GSX Gemini BS SATA LF F/ W:DL230J | KH.08004.010 |

| Category | No. | Part Name and Description | Acer Part No. |
|---|---|---|---------------|
|  | | HDD BRACKET ASSY | 33.AHS07.003 |
| KEYBOARD | | | |
|  | | KEYBOARD 14_15KB-FV2 88KS WHITE US INTERNATIONAL | KB.INT00.036 |
| | | KEYBOARD 14_15KB-FV2 88KS WHITE TRADITIONAL CHINESE | KB.INT00.065 |
| | | KEYBOARD 14_15KB-FV2 89KS WHITE GREEK | KB.INT00.058 |
| | | KEYBOARD 14_15KB-FV2 88KS WHITE THAILAND | KB.INT00.040 |
| | | KEYBOARD 14_15KB-FV2 89KS WHITE SLO/CRO | KB.INT00.046 |
| | | KEYBOARD 14_15KB-FV2 89KS WHITE CZECH | KB.INT00.064 |
| | | KEYBOARD 14_15KB-FV2 89KS WHITE HUNGARIAN | KB.INT00.057 |
| | | KEYBOARD 14_15KB-FV2 89KS WHITE POLISH | KB.INT00.049 |
| | | KEYBOARD 14_15KB-FV2 89KS WHITE BRAZILIAN PORTUGUESE | KB.INT00.067 |
| | | KEYBOARD 14_15KB-FV2 88KS WHITE RUSSIAN | KB.INT00.047 |
| | | KEYBOARD 14_15KB-FV2 WHITE 15.4 SLOVAK | KB.INT00.045 |
| | | KEYBOARD 14_15KB-FV2 89KS WHITE TURKISH | KB.INT00.039 |
| | | KEYBOARD 14_15KB-FV2 89KS WHITE BELGIUM | KB.INT00.068 |
| | | KEYBOARD 14_15KB-FV2 89KS WHITE SWEDISH | KB.INT00.042 |
| | | KEYBOARD 14_15KB-FV2 89KS WHITE UK | KB.INT00.038 |
| | | KEYBOARD 14_15KB-FV2 89KS WHITE FRENCH | KB.INT00.060 |
| | | KEYBOARD 14_15KB-FV2 89KS WHITE GERMAN | KB.INT00.059 |
| | | KEYBOARD 14_15KB-FV2 89KS WHITE DUTCH | KB.INT00.062 |
| | | KEYBOARD 14_15KB-FV2 89KS WHITE ITALIAN | KB.INT00.054 |
| | | KEYBOARD 14_15KB-FV2 93KS WHITE JAPANESE | KB.INT00.053 |
| | | KEYBOARD 14_15KB-FV2 89KS WHITE CANADIAN FRENCH | KB.INT00.066 |
| | KEYBOARD 14_15KB-FV2 89KS WHITE DANISH | KB.INT00.063 | |
| | KEYBOARD 14_15KB-FV2 89KS WHITE SPANISH | KB.INT00.043 | |
| | KEYBOARD 14_15KB-FV2 88KS WHITE ARABIC/ENGLISH | KB.INT00.069 | |

| Category | No. | Part Name and Description | Acer Part No. |
|---|-----|--|---------------|
| | | KEYBOARD 14_15KB-FV2 89KS WHITE SWISS/G | KB.INT00.041 |
| | | KEYBOARD 14_15KB-FV2 89KS WHITE PORTUGUESE | KB.INT00.048 |
| | | KEYBOARD 14_15KB-FV2 88KS WHITE US INTERNATIONAL HEBREW | KB.INT00.037 |
| | | KEYBOARD 14_15KB-FV2 88KS WHITE KOREAN | KB.INT00.052 |
| | | KEYBOARD 14_15KB-FV2 89KS WHITE NORWEGIAN | KB.INT00.050 |
| LCD | | | |
|  | | LCD MODULE ASSY 14.1 IN WXGAG W/ANTENNA W/0.3M CCD | 6M.AK907.001 |
|  | | LCD 14.1" WXGA AU B141EW04-V4 LF GLARE 200NITS 16MS | LK.14105.018 |
|  | | INVERTER BOARD | 19.AGW07.001 |
|  | | LCD CABLE FOR CCD | 50.AHS07.004 |
|  | | LCD COVER ASSY W/MIC W/ ANTENNA | 60.AHS07.003 |
|  | | LCD BEZEL ASSY FOR CCD | 60.AHS07.004 |
|  | | LCD BRACKET W/HINGE - L | 33.AHS07.004 |

| Category | No. | Part Name and Description | Acer Part No. |
|---|-----|--|---------------|
|  | | LCD BRACKET W/HINGE - R | 33.AHS07.005 |
|  | | CCD MODULE 0.3M BISON | 57.TG607.001 |
| | | CCD MODULE 0.3M SUYIN | 57.TG607.002 |
|  | | LCD MODULE ASSY 14.1 IN WXGA W/ ANTENNA W/0.3M CCD | 6M.AK907.002 |
|  | | LCD 14.1 IN. WXGA LPL LP141WX1-TLA1 16MS | LK.14108.006 |
| | | LCD 14.1" WXGA AU B141EW04-V3 LF NONE GLARE 200NITS 16MS | LK.14105.019 |
| | | LCD 14.1 IN. SAMSUNG WXGA LTN141W3-L01-0 16MS 200NITS | LK.14106.010 |
|  | | INVERTER BOARD | 19.AGW07.001 |
|  | | LCD CABLE FOR CCD | 50.AHS07.004 |
|  | | LCD COVER ASSY W/MIC W/ ANTENNA | 60.AHS07.003 |
|  | | LCD BEZEL ASSY FOR CCD | 60.AHS07.004 |
|  | | LCD BRACKET W/HINGE - L | 33.AHS07.004 |
|  | | LCD BRACKET W/HINGE - R | 33.AHS07.005 |

| Category | No. | Part Name and Description | Acer Part No. |
|---|-----|--|---------------|
|  | | CCD MODULE 0.3M BISON | 57.TG607.001 |
| | | CCD MODULE 0.3M SUYIN | 57.TG607.002 |
| | | | |
| | | LCD MODULE ASSY 14.1 IN WXGAG W/ANTENNA W/O CCD | 6M.AKD07.001 |
|  | | LCD 14.1" WXGA AU B141EW04-V4 LF GLARE 200NITS 16MS | LK.14105.018 |
|  | | INVERTER BOARD | 19.AGW07.001 |
| | | LCD CABLE W/O CCD | 50.AJN07.001 |
|  | | LCD COVER ASSY W/MIC W/ ANTENNA | 60.AHS07.003 |
| | | LCD BEZEL ASSY W/O CCD | 60.AJN07.001 |
|  | | LCD BRACKET W/HINGE - L | 33.AHS07.004 |
|  | | LCD BRACKET W/HINGE - R | 33.AHS07.005 |
| | | | |
| | | LCD MODULE ASSY 14.1 IN WXGA W/ ANTENNA W/O CCD | 6M.AKD07.002 |
|  | | LCD 14.1 IN. WXGA LPL LP141WX1-TLA1 16MS | LK.14108.006 |
| | | LCD 14.1" WXGA AU B141EW04-V3 LF NONE GLARE 200NITS 16MS | LK.14105.019 |
| | | LCD 14.1 IN. SAMSUNG WXGA LTN141W3-L01-0 16MS 200NITS | LK.14106.010 |
|  | | INVERTER BOARD | 19.AGW07.001 |
| | | LCD CABLE W/O CCD | 50.AJN07.001 |
|  | | LCD COVER ASSY W/MIC W/ ANTENNA | 60.AHS07.003 |

| Category | No. | Part Name and Description | Acer Part No. |
|---|-----|---|---------------|
| | | LCD BEZEL ASSY W/O CCD | 60.AJN07.001 |
|  | | LCD BRACKET W/HINGE - L | 33.AHS07.004 |
|  | | LCD BRACKET W/HINGE - R | 33.AHS07.005 |
| MAINBOARD | | | |
|  | | MAINBOARD 960GML UMA W/CARD READRE EXPRESS CARD W/O CPU MOMERY | MB.AKD06.001 |
| | | MAINBOARD 965GM UMA W/CARD READRE EXPRESS CARD W/O CPU MOMERY | MB.AKD06.002 |
| | | MAINBOARD 965PM DISCRETE W/ CARD READRE EXPRESS CARD W/O CPU MOMERY | MB.AKD06.003 |
| MEMORY | | | |
|  | | Memory HYNIX SO-DIMM DDRII 667 1GB HYMP512S64CP8-Y5 LF | KN.1GB0G.006 |
| | | MEMORY 512MB DDR II 667 HYNIX HYMP564S64CP6-Y5 LF (.08UM) | KN.5120G.019 |
| | | SO-DIMM DDRII667 512MB NT512T64UH8B0FN-37C (0.09U)\NANYA | KN.51203.032 |
| | | SO-DIMM DDRII667 SAMSUNG 512MB M470T6554EZ3-CE6 LF | KN.5120B.023 |
| | | 1GB NANYA DDRII 667 1GB NT1GT64U8HB0BN-3C (0.09U) | KN.1GB03.014 |
| | | 1GB SAMSUNG DDRII 667 1GB M470T2953EZ3-CE6 LF | KN.1GB0B.011 |
| HEATSINK | | | |
| | | THERMAL MODULE - UMA | 60.AK907.002 |
| | | THERMAL MODULE - DISCRETE | 60.AK907.003 |
| MISCELLANEOUS | | | |
| | | NAME PLATE AS4720 | 40.AK907.001 |
| | | NAME PLATE AS4320 | 40.AKJ07.001 |
| | | LCD BEZEL RUBBER | 47.AHS07.001 |
| | | LOWER CASE RUBBER FOOT | 47.AHS07.002 |
| | | BASE DOOR RUBBER FOOT | 47.AHS07.003 |
| SCERW | | | |
| | | SCREW M2.0*3.0-I-NI-NYLOK | 86.A08V7.005 |
| | | SCREW M2.5*4.0-I(NI)(NYLOK) | 86.D01V7.001 |
| | | SCREW M2.5*3.5-I(BNI)(NYLOK) | 86.AHS07.001 |
| | | SCREW M1.6*3-I(NI)(NYLOK) | 86.AHS07.002 |
| | | SCREW M2.5 *7L-BNI-NYLOK | 86.A10V7.006 |