

Aspire 3650/TravelMate 2450 Series Service Guide

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

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Revision History

Please refer to the table below for the updates made on Aspire 3650/TravelMate 2450 service guide.

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

The following conventions are used in this manual:

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

Preface

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

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

System Specifications

Features

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

Platform and memroy

- Intel® Celeron® M processor 410/420/430 (1MB L2 cache, 1.46/1.6/1.73 GHz, 533 MHz FSB)
- ATI RC410MB/D/E+ATI SB460M
- Integrated Intel® PRO/Wireless 3945ABG network connection (dual-band tri-mode 802.11a/b/g) Wi-Fi CERTIFIED™ solution, supporting Acer SignalUp™ wireless technology
- 256/512 MB of DDR2 533 MHz memory, upgradeable to 2 GB using two so DIMM modules (dual-channel support)

Display and graphics

- 15.4" WXGA high-brightness Acer CrystalBrite™ TFT LCD, 1280 x 800 pixel resolution, supporting simultaneous multi-window viewing via Acer GridVista™
- 15" XGA color TFT LCD, 1024x 768 pixel resolution
- ATI Radeon® Xpress 200M integrated 3D graphics with up to 256 MB of shared system memory, supporting Microsoft® and PCI Express®
- Dual independent display
- 16.7 million colors
- MPEG-2/DVD hardware-assisted capability
- Acer CinemaVision™ video technology (Acer Arcade) (**for Aspire 3650**)
- Acer ClearVision™ video optimization (Acer Arcade) (**for Aspire 3650**)

Storage subsystem

For Aspire 3650:

- 40/60/80/100/120 GB hard disk drive
- Optical drive options:
 - ▶ DVD-Super Multi double-layer
 - ▶ DVD/CD-RW combo

For TravelMate 2450:

- 60/80/100/120 GB hard disk drive with Acer Disk Anti-Shock Protection (DASP)
- Optical drive options:
 - ▶ DVD-Super Multi double-layer
 - ▶ DVD/CD-RW combo

Input devices

- 88/89-key keyboard
- Touchpad with 4-way scroll button
- 12 function keys
- Four easy-launch buttons
- Two front-access buttons: WLAN LED-button and Bluetooth® LED-button

Audio

- Audio system with two built-in speakers (1.5W)
- Intel® High-Definition audio support
- Sound Blaster Pro™ and MS Sound compatible
- Built-in microphone

Communication

- Modem: 56K ITU V.92 modem with PTT approval; wake-on ring ready
- LAN: 10/100 Mbps Fast Ethernet; wake-on-LAN ready
- WLAN: Acer InViLink™ 802.11b/g Wi-Fi CERTIFIED™, supporting Acer SignalUp™ wireless technology
- WPAN: integrated Bluetooth® 2.0+EDR (Enhanced Data Rate)

Power subsystem

- ACPI 2.0 CPU power management standard: supports Standby and Hibernation power-saving modes
- 29 W 2000 mAh Li-ion battery pack (4-cell)
- 2-hour rapid charge; 2.5-hour charge-in-use
- 3-pin 65W AC adapter

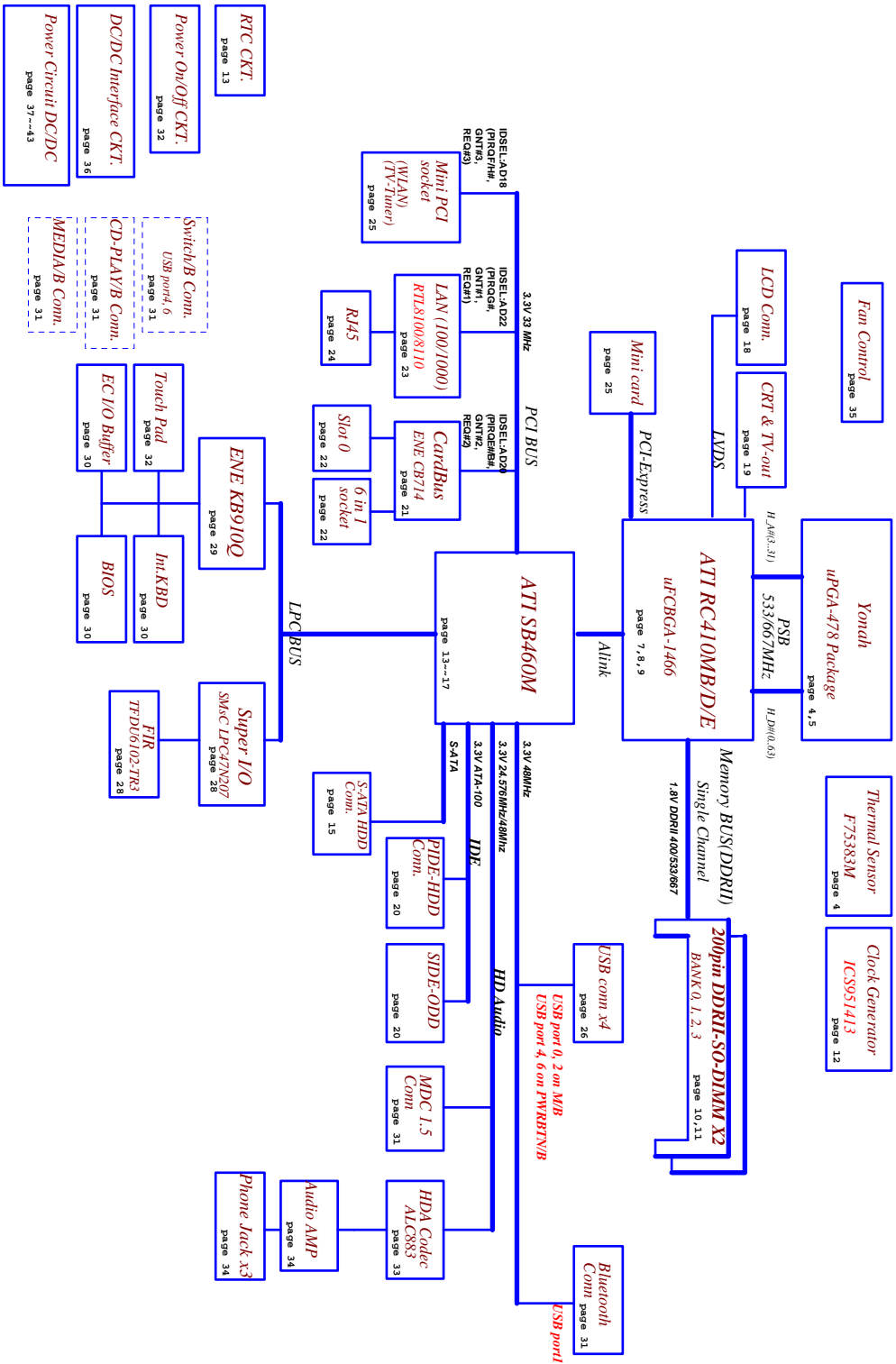
I/O Ports

- PC Card slot (one Type II)
- Three USB 2.0 ports
- External display (VGA) port
- Headphones/speaker/line-out port
- Microphone in jack
- Line-in jack
- Ethernet (RJ-45) port
- Modem (RJ-11) port
- DC-in jack for AC adaptor

Environment

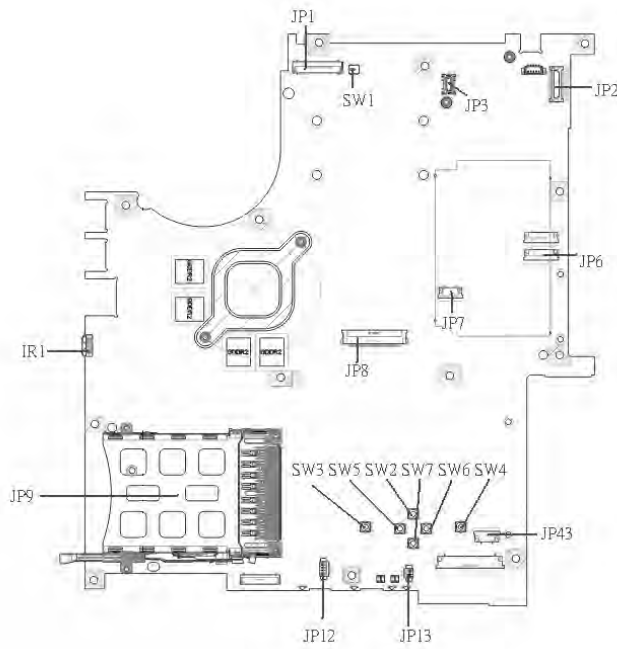
- Temperature:
 - ▶operating: 5° C to 35° C
 - ▶Non-operating: -20° C to 65° C
- Humidity (non-condensing):
 - ▶operating: 20%~80%
 - ▶Non-operating: 20%~80%

System Block Diagram



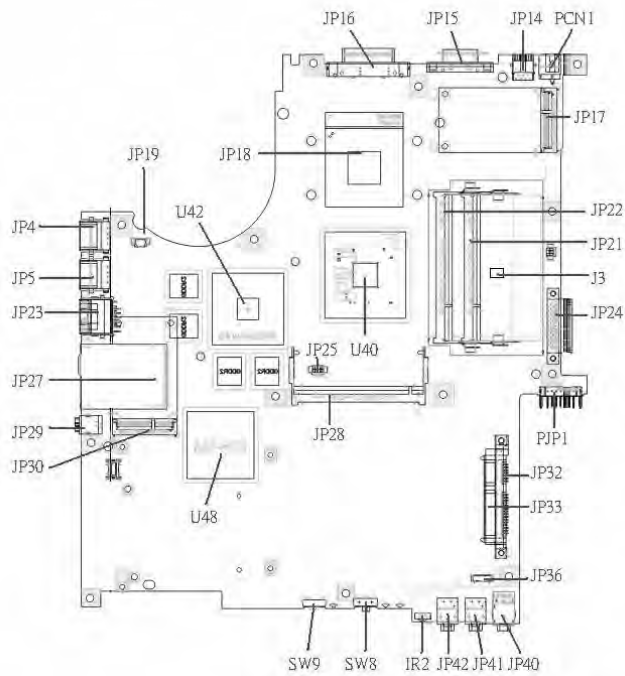
Board Layout

Top View



| | | | | | |
|---|------|--------------------------|----|------|-------------------------------|
| 1 | JP1 | LCD Connector | 10 | SW7 | Touchpad Down Button |
| 2 | SW1 | Lid Switch | 11 | SW2 | Touchpad Up Button |
| 3 | JP3 | MDC Connector | 12 | SW5 | Touchpad Left Button |
| 4 | JP2 | Power Button Connector | 13 | SW3 | Touchpad Left Button |
| 5 | JP6 | Media Board Connector | 14 | JP13 | Internal Microphone Connector |
| 6 | JP7 | Touchpad Board Connector | 15 | JP12 | Internal Speaker Connector |
| 7 | JP43 | SIM Card Connector | 16 | JP9 | PCMCIA Socket |
| 8 | SW4 | Touchpad Right Button | 17 | IR1 | FIR Module |
| 9 | SW6 | Touchpad Left Button | 18 | JP8 | Internal Keyboard Connector |

Bottom View

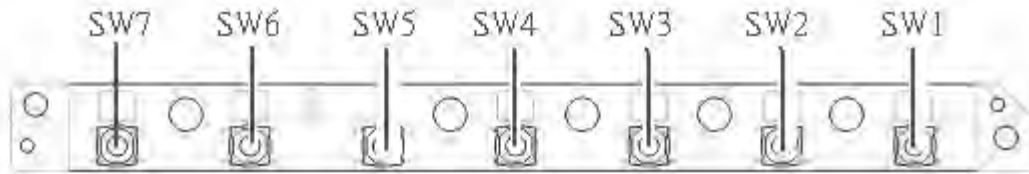


NOTE: This is engineering sample. The image above may not be exactly the same as the real main board you get.

| | | | | | |
|----|------|----------------------|----|------|------------------------------|
| 1 | JP19 | FAN Connector | 17 | JP40 | Headphone/SPDIF Jack |
| 2 | U42 | VGA Chipset | 18 | JP41 | Line-In Jack |
| 3 | JP18 | CPU Socket | 19 | JP42 | Microphone-in Jack |
| 4 | JP16 | DVI Connector | 20 | IR2 | CIR Module |
| 5 | JP15 | CRT Connector | 21 | SW8 | Wireless LAN Switch |
| 6 | JP14 | TV-Out Connector | 22 | SW9 | Bluetooth and 3G Switch |
| 7 | PCN1 | DC-IN Jack | 23 | U48 | South Bridge Chipset |
| 8 | JP17 | Mini Card Connector | 24 | JP30 | Mini Card Connector |
| 9 | JP22 | DDRII so-DIMM Socket | 25 | JP29 | IEEE 1394 Connector |
| 10 | JP21 | DDRII so-DIMM Socket | 26 | JP27 | 5 IN1 Socket |
| 11 | J3 | Clear CMOS Jumper | 27 | JP23 | RJ45 Connector |
| 12 | JP24 | ODD Connector | 28 | JP5 | USB Connector |
| 13 | PJP1 | Battery Connector | 29 | JP4 | USB Connector |
| 14 | JP32 | HDD Connector (SATA) | 30 | JP28 | MINIPCI Connector (TV-Tuner) |
| 15 | JP33 | HDD Connector (PATA) | 31 | JP25 | FAN Connector |
| 16 | JP36 | Bluetooth Connector | 32 | U40 | North Bridge Chipset |

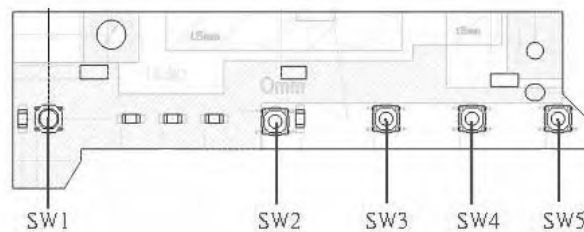
Jumper Board Layout

Switch Board Top View



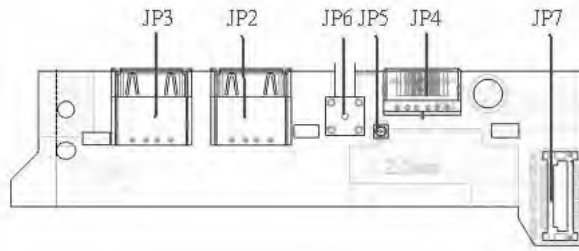
| Label | Description |
|-------|--------------------------|
| SW1 | Arcade/TV tuner switch |
| SW2 | Volume Up switch |
| SW3 | Volume Down switch |
| SW4 | Play/Pause switch |
| SW5 | Stop switch |
| SW6 | Forward/Next switch |
| SW7 | Backward/Previous switch |

Media Board Top View



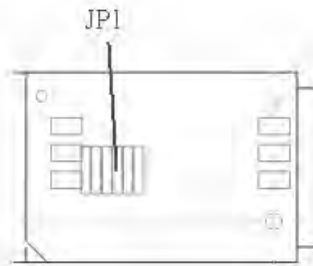
| Label | Description |
|-------|-----------------|
| SW1 | Power Button |
| SW2 | E-mail Button |
| SW3 | Internet Button |
| SW4 | User Button |
| SW5 | E-Power Button |

Media Board Bottom View



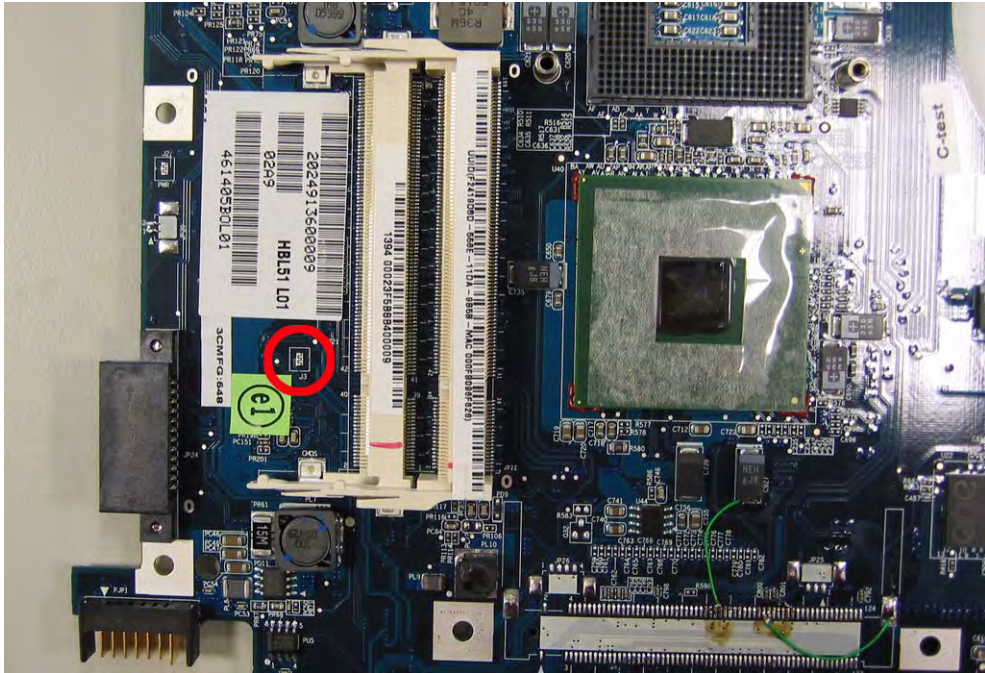
| Label | Description |
|-------|-------------------------------|
| JP3 | USB Connector |
| JP2 | USB Connector |
| JP6 | RF INe Connector |
| JP5 | RF Cable Connector |
| JP4 | AV IN Connector |
| JP7 | Board to Main Board Connector |

LS-2923P Power Board Top View



| Label | Description |
|-------|--------------------|
| JP1 | SIM Card Connector |

Jumper Setting



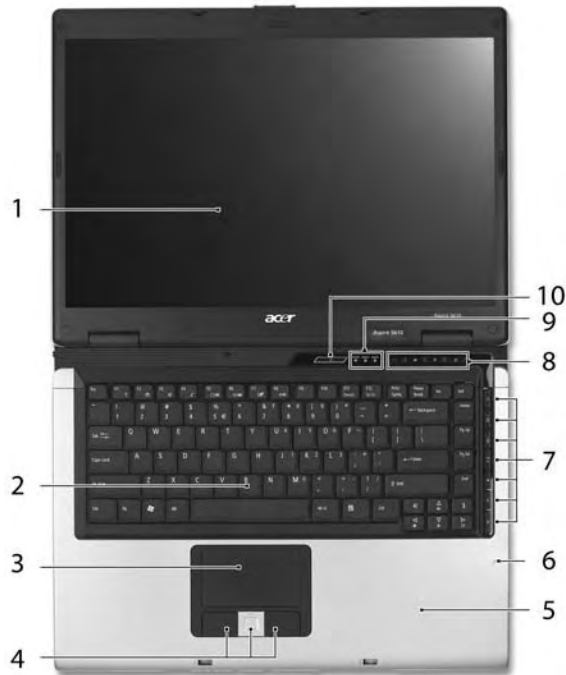
| Label | Description |
|--------|--|
| JOPEN1 | Clear CMOS Jumper Note: JOPEN1 locates at the bottom side of the main board as the red circle highlighted. |

Your Acer Notebook tour

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

Front view

Aspire 5610:



| # | Item | Description |
|----|--|---|
| 1 | Display screen | Also called LCD (liquid-crystal display), displays computer output. |
| 2 | Keyboard | For entering data into your computer. |
| 3 | Touchpad | Touch-sensitive pointing device which functions like a computer mouse. |
| 4 | Click buttons (left, center and right) | The left and right buttons function like the left and right mouse buttons; the center button serves as a 4-way scroll button. |
| 5 | Palmrest | Comfortable support area for our hands when you use the computer. |
| 6 | Microphone | Internal microphone for sound recording. |
| 7 | TV/media/volume buttons | For use with Acer Arcade and other media playing programs. |
| 8 | Easy-launch buttons | Buttons for launching frequently used programs. |
| 9 | Status indicators | Light-Emitting Diodes (LEDs) that light up to show the status of the computer's functions and components. |
| 10 | Power button | Turns the computer on and off. |

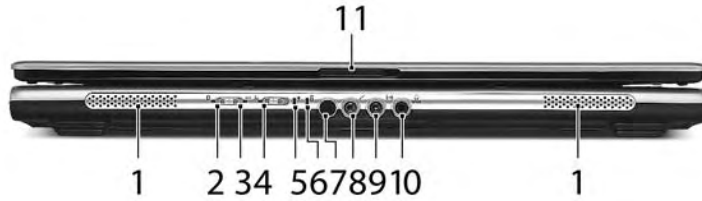
TravelMate 4260:












| # | Item | Description |
|---|--|---|
| 1 | Display screen | Also called LCD (liquid-crystal display), displays computer output. |
| 2 | Keyboard | For entering data into your computer. |
| 3 | Touchpad | Touch-sensitive pointing device which functions like a computer mouse. |
| 4 | Click buttons (left, center and right) | The left and right buttons function like the left and right mouse buttons; the center button serves as a 4-way scroll button. |
| 5 | Palmrest | Comfortable support area for our hands when you use the computer. |
| 6 | Microphone | Internal microphone for sound recording. |
| 7 | Easy-launch Buttons | Buttons for launching frequently used programs. |
| 8 | Status indicators | Light-Emitting Diodes (LEDs) that light up to show the status of the computer's functions and components. |
| 9 | Power button | Turns the computer on and off. |

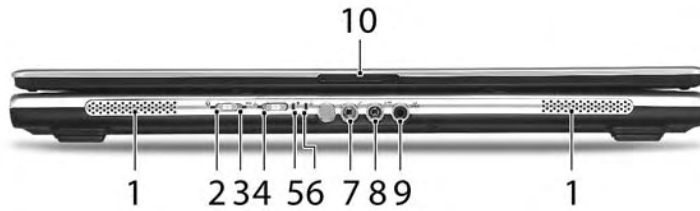
Closed Front View









Aspire 5650:



| # | Icon | Item | Description |
|----|---|---|---|
| 1 | | Speakers | Left and right speakers deliver stereo audio output. |
| 2 |  | Bluetooth® communication button/indicator | Enable/disable Bluetooth function. Indicates the status of Bluetooth-communications. |
| 3 |  | 3G switch/indicator | Enables/disables the 3G function. Indicates the status of 3G communication (for selected models). |
| 4 |  | Wireless communication button/indicator | Enable/disable Wireless function. Indicates the status of wireless LAN communications. |
| 5 |  | Power indicator | Indicates the computer's power status. |
| 6 |  | Battery indicator | Indicates the computer's battery status. |
| 7 |  | CIR receiver | Receives signals from a remote control. |
| 8 |  | Microphone-in jack | Accepts input from external microphones. |
| 9 |  | Line-in jack | Accepts audio line-in devices (e.g., audio CD player, stereo walkman). |
| 10 |  | Headphones/speakers/line-out jack with S/PDIF support | Connects to audio line-out devices (e.g., speakers, headphones). |
| 11 | | Latch | Locks and release the lid. |

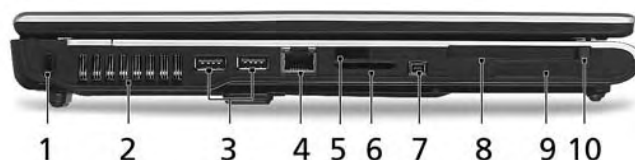
TravelMate 4260:











| # | Icon | Item | Description |
|----|---|---|---|
| 1 | | Speaker | Left and right speakers deliver stereo audio output. |
| 2 |  | Bluetooth® communication button/indicator | Enable/disable Bluetooth function. Indicates the status of Bluetooth-communications. |
| 3 |  | 3G switch/indicator | Enables/disables the 3G function. Indicates the status of 3G communication (for selected models). |
| 4 |  | Wireless communication button/indicator | Enable/disable Wireless function. Indicates the status of wireless LAN communications. |
| 5 |  | Power indicator | Indicates the computer's power status. |
| 6 |  | Battery indicator | Indicates the computer's battery status. |
| 7 |  | Microphone-in jack | Accepts input from external microphones. |
| 8 |  | Line-in jack | Accepts audio line-in devices (e.g., audio CD player, stereo walkman). |
| 9 |  | Headphones/speakers/line-out jack with S/PDIF support | Connects to audio line-out devices (e.g., speakers, headphones). |
| 10 | | Latch | Locks and release the lid. |

Left View

Aspire 5650/TravelMate 4260:



| # | Icon | Item | Description |
|---|---|----------------------|--|
| 1 |  | Kensington lock slot | Connects to a Kensington-compatible computer security lock. |
| 2 | | Ventilation slots | Enables the computer to stay cool, even after prolonged use. |
| 3 |  | Two USB 2.0 ports | Connects to USB 2.0 devices (e.g., USB mouse, USB camera). |
| 4 |  | Modem (RJ-11) port | Connects to a phone line. |
| 5 |  | Infrared port | Interfaces with infrared devices (e.g., infrared printer and IR-aware computer). |
| 6 |  | 5-in-1 card reader | Accepts Memory Stick (MS), Memory Stick PRO (MS PRO), MultiMediaCard (MMC), Secure Digital (SD), xD-Picture Card (xD). |
| 7 |  | 4-pin IEEE 1394 port | Connects to IEEE 1394 devices. Note: A 4-pin socket is used for laptop. The 6-pin socket is commonly found on desktop. As to 9-pin connector, it is for the faster FireWire 800. |
| 8 |  | PC Card slot | Accepts one Type II PC Card. |
| 9 |  | ExpressCard/34 slot | Accepts one ExpressCard/34 module. Note: ExpressCards are third generation of PC cards, hot-swappable and smaller than previous PC Cards. Designed for both desktop and mobile use, ExpressCards use either USB 2.0 or a single lane PCI Express technology that provides 500 Mbytes/sec total throughput. Formerly code named "NEWCARD," ExpressCards are 5 mm thick like Type II PC Cards, but do not use the same 86x54 mm footprint. ExpressCards come in 75x54 mm and 75x34 mm sizes. Express Card/34 slot means this notebook accepts 75x34mm ExpressCards. |

| | | | |
|----|--|---------------------------|-----------------------------------|
| 10 | | PC Card slot eject button | Ejects the PC Card from the slot. |
|----|--|---------------------------|-----------------------------------|

Right View

Aspire 5650:



| # | Item | Description |
|---|--|--|
| 1 | Slot-load optical drive | Internal optical drive; accepts CDs or DVDs. |
| 2 | Optical disk access indicator | Lights up when the optical drive is active. |
| 3 | Slot-loaded optical drive eject button | Ejects the optical disk from the drive. |

TravelMate 4260:











| # | Item | Description |
|---|-------------------------------|--|
| 1 | Optical drive | Internal optical drive; accepts CDs or DVDs. |
| 2 | Optical disk access indicator | Light 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. |

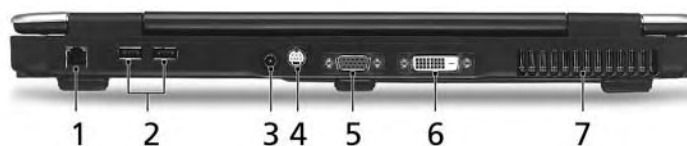
Rear Panel






Aspire 5650:



| # | Icon | Item | Description |
|---|---|--------------------------------|--|
| 1 |  | Ethernet (RJ-45) port | Connects to an Ethernet 10/100/1000-based network (for selected models). |
| 2 |  | Two USB 2.0 ports | Connects to USB 2.0 devices (e.g., USB mouse, USB camera). |
| 3 |  | S-video-in (NTSC/PAL) port | Connects to an S-video device like a DVD player or camcorder. |
| 4 |  | AV-in port | Accepts input signals from audio/visual (AV) devices. |
| 5 |  | DC-in jack | Connects to an AC adapter. |
| 6 |  | S-video/TV-out (NTSC/PAL) port | Connects to a television or display device with S-video input. |
| 7 |  | External display (VGA) port | Connects to a display device(e.g., external monitor, LCD projector). |
| 8 |  | DVI-D port | Supports digital video connections. |
| 9 | | Ventilation slots | Enable the computer to stay cool, even after prolonged use. |

TravelMate 4260:



| # | Icon | Item | Description |
|---|---|--------------------------------|--|
| 1 |  | Ethernet (RJ-45) port | Connects to an Ethernet 10/100/1000-based network (for selected models). |
| 2 |  | Two USB 2.0 ports | Connects to USB 2.0 devices (e.g., USB mouse, USB camera). |
| 3 |  | DC-in jack | Connects to an AC adapter. |
| 4 |  | S-video/TV-out (NTSC/PAL) port | Connects to a television or display device with S-video input. |
| 5 |  | External display (VGA) port | Connects to a display device(e.g., external monitor, LCD projector). |
| 6 | DVI-D | DVI-D port | Supports digital video connections. |
| 7 | | Ventilation slots | Enable the computer to stay cool, even after prolonged use. |

Base view

Aspire 5650/TravelMate 4260:



| # | Item | Description |
|---|---------------|---|
| 1 | Battery lock | Locks the battery in position. |
| 2 | Battery bay | Helps keep the computer cool. Note: Do not cover or obstruct the opening of the fan. |
| 3 | Hard disk bay | Houses the computer's hard disk (secured with screws) |

| | | |
|---|--|---|
| 4 | Acer DASP (Disk Anti-Shock Protection) | Protects the hard disk drive from shocks and bumps. (for TravelMate 4260 only) |
| 5 | Memory compartment | Houses the computer's main memory. |
| 6 | Ventilation slots and cooling fan | Release the battery for removal. |

Indicators

The computer has four easy-to-read status indicators on the upper-right above the keyboard, and four on the front panel.









Aspire 5650:



TravelMate 4260:



The power, battery and wireless communication status indicators are visible even when the LCD display is closed.

| Icon | Function | Description |
|---|--------------|---|
|  | HDD | Indicators when the hard disk drive is active. |
|  | Cap lock | Lights when Cap Lock is activated |
|  | Num lock | Lights when Num Lock is activated. |
|  | Bluetooth | Indicates the status of Bluetooth communication. |
|  | 3G | Indicates the status of 3G communication. |
|  | Wireless LAN | Indicates the status of wireless LAN communication. |
|  | Power | Indicates the computer's power status. |
|  | Battery | Indicates the computer's battery status. |

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

Located above the keyboard are four buttons. These buttons are called easy-launch buttons. They are: mail Web browser, Empowering Key “*e*” and one user-programmable button.

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 Web browser, mail and programmable buttons, run the Acer Launch Manager.

Aspire 5650:



TravelMate 4260:



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

Using the Keyboard

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

Lock Keys and embedded numeric keypad

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

Aspire 5650:



TravelMate 4260:



| 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. |

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

Windows Keys

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

| Key | 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">  + <Tab> Activates next taskbar button.  + <E> Opens the My Computer window  + <F1> Opens Help and Support.  + <F> Opens the Find: All Files dialog box.  + <R> Opens the Run dialog box.  + M Minimizes all windows. <p><Shift>+  + <M> Undoes the minimize all windows action.</p> |
|  Application key | | This key has the same effect as clicking the right mouse button; it opens the application's context menu. |

Hot Keys

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


Aspire 5650:



TravelMate 4260:



| Hot Key | Icon | Function | Description |
|---------|----------------|-----------------------|---|
| Fn-F1 | ? | Hot key help | Displays help on hot keys. |
| Fn-F2 | | Acer eSetting | Launches the Acer eSettings in Acer eManager. |
| Fn-F3 | | Acer ePowerManagement | Launches the Acer ePowerManagement in Acer eManager. |
| 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- | | Volume up | Increases the speaker volume. |
| Fn- | | Volume down | Decreases the speaker volume. |
| Fn- | | Brightness up | Increases the screen brightness. |

| Hot Key | Icon | Function | Description |
|---------|---|-----------------|---------------------------------|
| Fn-☰ |  | Brightness down | Decreases the screen brightness |

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:

Aspire 5650:



TravelMate 4260:



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.

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.

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

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 eDataSecurity Management** protects data with passwords and advanced encryption algorithms.
- Acer eLock Management** limits access to external storage media.
- Acer ePerformance Management** improves system performance by optimizing disk space, memory and registry settings.
- Acer eRecovery Management** backs up/recovers data flexibly, reliably and completely.
- Acer eSettings Management** accesses system information and adjusts settings easily.
- Acer eNet Management** hooks up to location-based networks intelligently.
- Acer ePower Management** extends battery power via versatile usage profiles.
- Acer ePresentation Management** connects to a projector and adjusts display settings conveniently.



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

Acer eDataSecurity Management

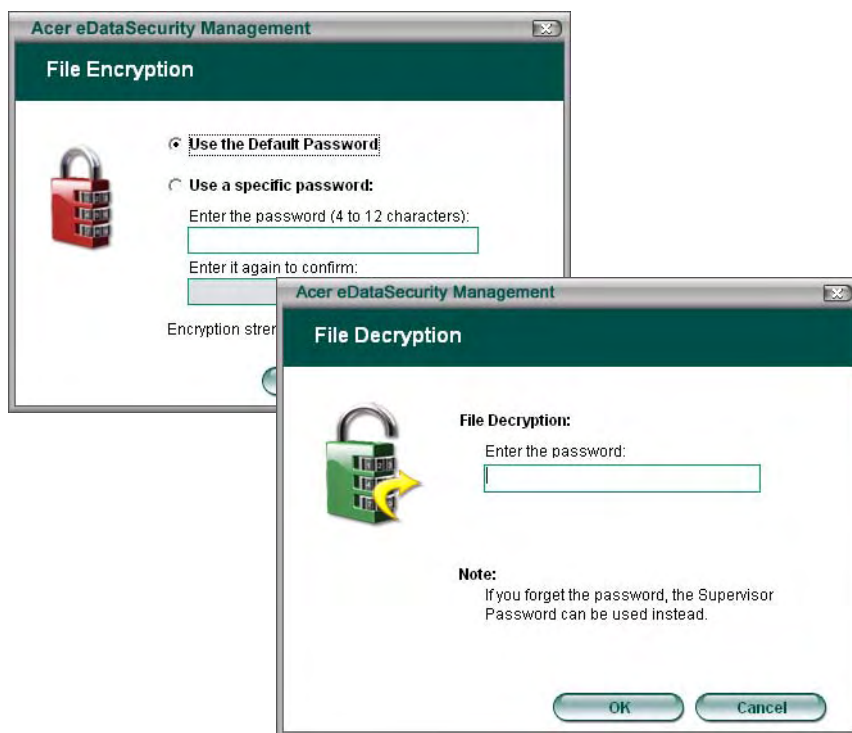
Acer eDataSecurity Management is handy file encryption utility that protects your files from being accessed by unauthorized persons. It is conveniently integrated with Windows explorer as a shell extension for quick and

easy data encryption/decryption and also supports on-the-fly file encryption for MSN Messenger and Microsoft Outlook.

There are two passwords that can be used to encrypt/decrypt a file; the supervisor password and the file-specific password. The supervisor password is a “master” password that can decrypt any file on your system; the file-specific password will be used to encrypt files by default, or you can choose to enter your own 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 up your removable data, optical and floppy drives to ensure that data can't 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.

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

If you do not set a password, Acer eLock Management will reset back to the initial status with all locks removed.

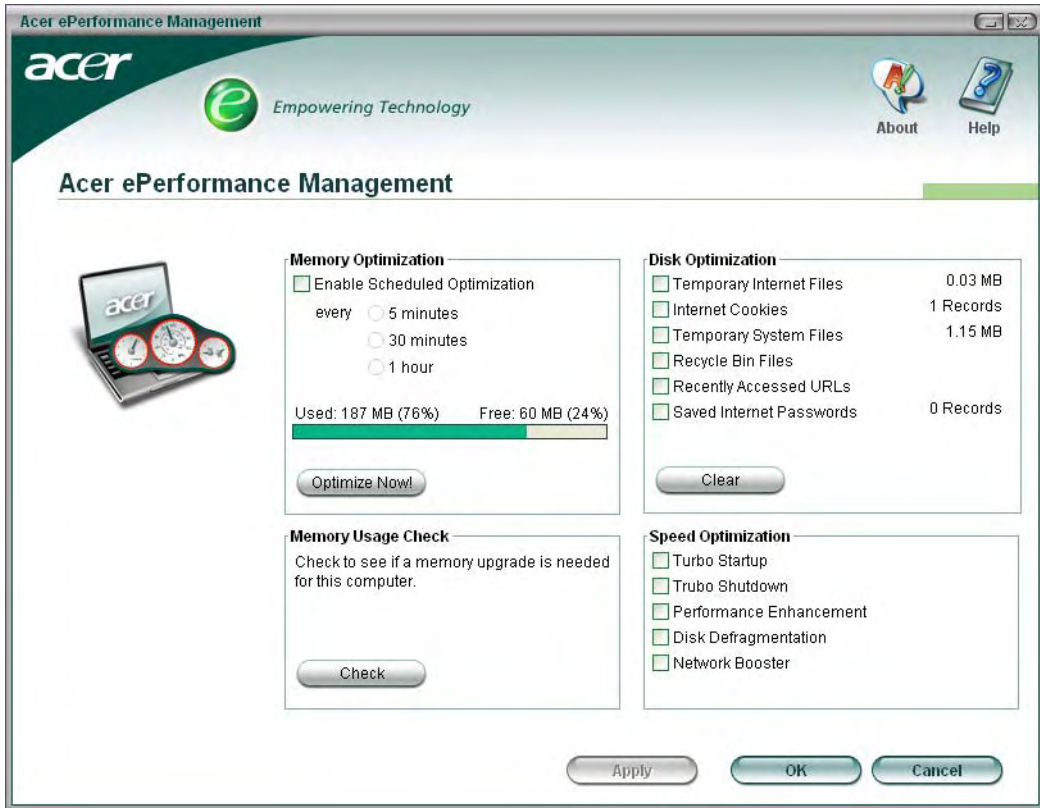
NOTE: If you lose your password, there is no method to reset it except by reformatting your notebook or taking your notebook to an Acer Customer Service Center. Be sure to remember or write down your password.



Acer ePerformance Management

Acer ePerformance Management is a system optimization tool that boosts the performance of your Acer notebook. It provides you with the following options to enhance overall system performance:

- Memory optimization - releases unused memory and check usage.
- Disk optimization - removes unneeded items and files.
- Speed optimization - improves the usability and performance of your Windows XP system.



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.



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 through the program effortlessly.
- Displays general system status and advanced monitoring for power users.
- Logs when a hardware component has been removed or replaced.
- Permits you to migrate personal settings.
- Keeps a history log of all alerts that were previously issued.



Acer eNet Management

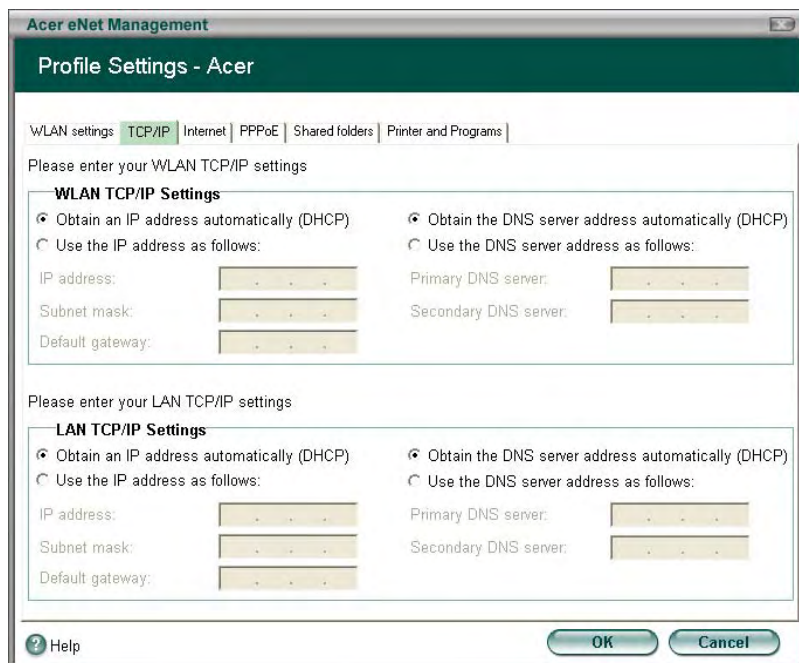
Acer eNet Management helps you to quickly and easily connect to both wired and wireless networks in a variety of locations. To access this utility, either click on the “Acer eNet Management” icon on your notebook, or start the program from the Start menu. You also have the option to set Acer eNet Management 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, simply by right-clicking on the icon in the taskbar.



Acer eNet Management can save network settings for a location to a profile, and automatically apply the appropriate profile when you move from one location to another. Settings stored include network connection

settings 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, or double-click the Acer ePower Management icon in the task tray.

Acer 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, Memory Card, Audio, and Wired LAN.

DC Mode

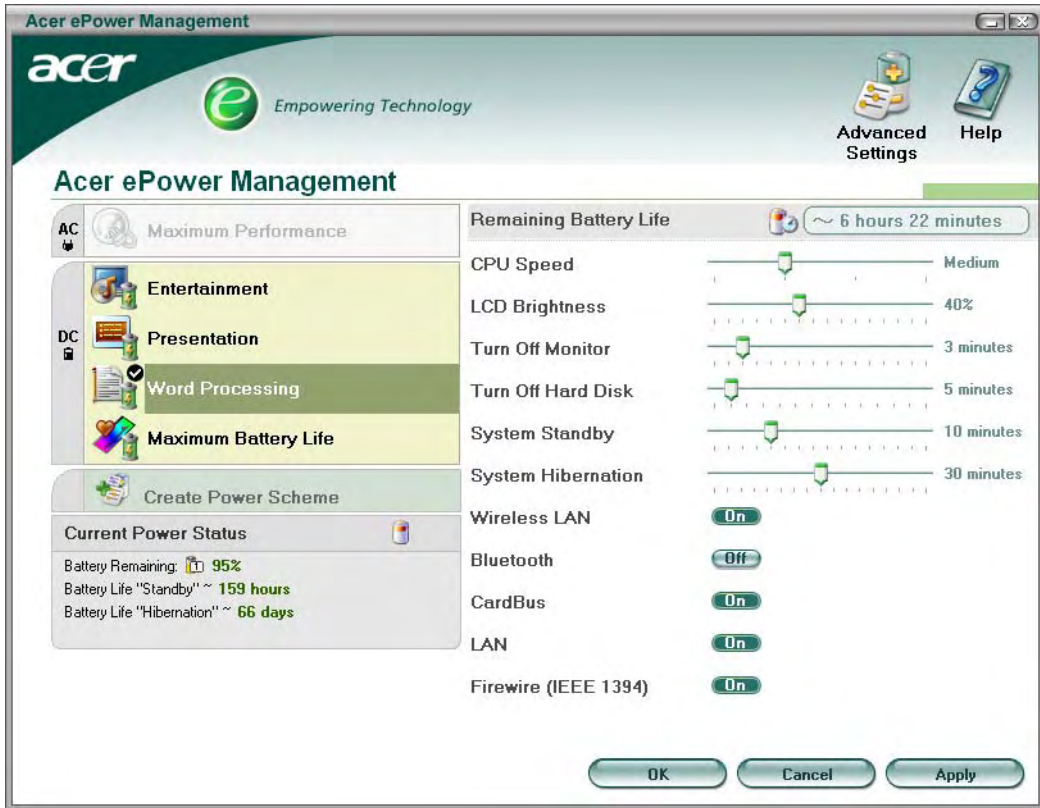
To suit your usage, there are four pre-defined profiles - Entertainment, Presentation, Word Processing, and Maximum Battery. Or, you can define up to three of your own profiles.

Create new power scheme

1. Assign a name for the new scheme.
2. Choose existing scheme to use as a template.
3. Select whether used for mains (AC) or battery mode.
4. Choose which power options best fit your needs, then click OK.
5. The new profile will appear on the main screen.

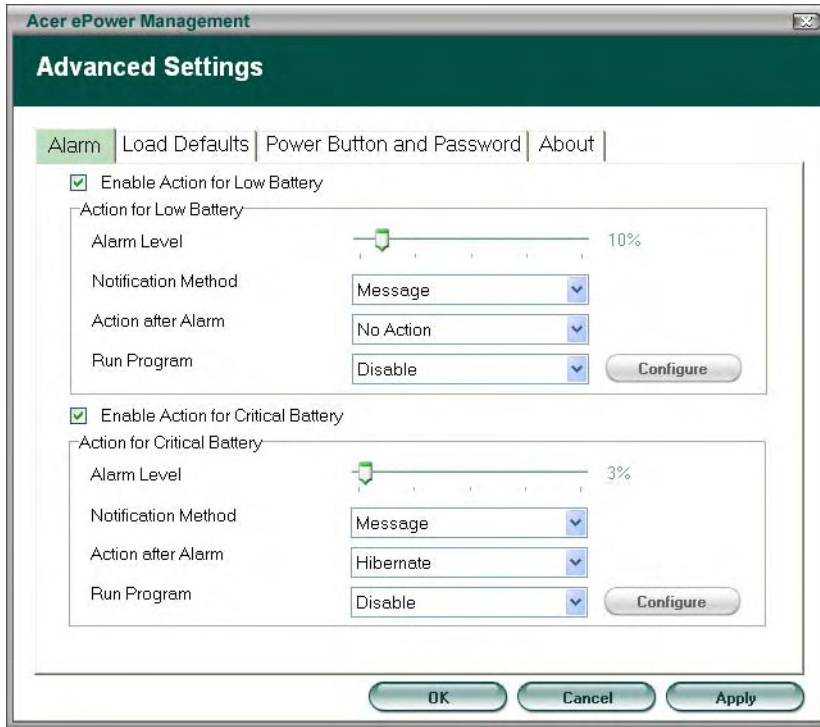
Battery status

For real-time battery life estimates based on current usage, refer to the panel on the lower left-hand side of the window.



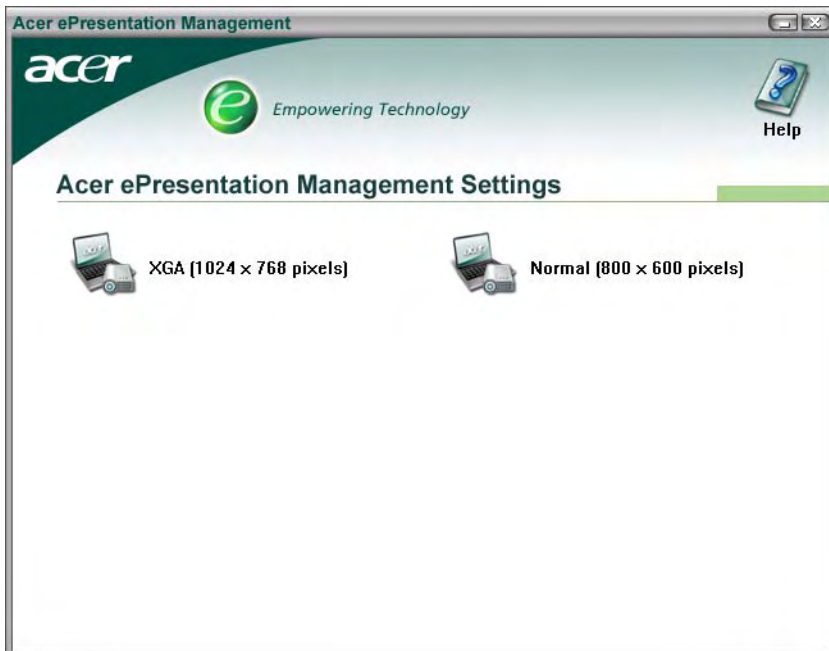
You can also click “Advanced Settings” to:

- Set alarms.
- Re-load factory defaults.
- Select what actions will be taken when the cover is closed, and set passwords for accessing the system after Hibernation or Standby.
- View information about Acer ePower Management.



Acer ePresentation Management

Acer ePresentation Management lets you select from two of the most common projector resolutions: XGA and SVGA.



Hardware Specifications and Configurations

Processor

| Item | Specification |
|------------------|--|
| CPU type | Intel® Core™ Duo processor T2300/T2400/T2500/T2600 (2 MB L2 cache, 1.66/1.83/2/2.16GHz, 667 MHz FSB) |
| Core logic | Intel® 945GM/945PM+ICH7-M |
| CPU package | μ FCBGA-1466 |
| CPU core voltage | |

BIOS

| Item | Specification |
|-----------------------|--|
| BIOS vendor | Phoenix |
| BIOS Version | V1.10 |
| BIOS ROM type | 512K Flash ROM |
| BIOS ROM size | 1MB Flash BIOS |
| BIOS package | 32-pin PLCC |
| Supported protocols | ACPI 1.0b/2.0/3.0, PCI2.2, System/HDD Password Security Control, INT 13h Extensions, PnP 1.0a, SMBIOS 2.4, BIOS Boot Specification (Compaq, Phoenix, Intel), Simple Boot Flag 1.0, Boot Block, PCI Bus Power Management Interface Specifications USB1.1/2.0, PC Card 95, IrDA 1.0, Intel AC97 CNR Specification, WfM 2.0, PXE 2.1, Boot Integrity Service Application Program Interface (BIS) 1.0, PC99a and Mobile PC2001 Compliant, Intel (R) SpeedStep Technology, Legacy 1394 Device support, DMI 2.0, PS/2 keyboard and mouse |
| BIOS password control | Set by setup manual |

Second Level Cache

| Item | Specification |
|-------------------------|---|
| Cache controller | Built-in CPU |
| Cache size | 2MB for Intel® Pentium® M 945GM/945PM Processor |
| 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® 945GM/945PM |
| Memory size | 0MB (no on-board memory) |
| DIMM socket number | 2 sockets |
| Supports memory size per socket | 1024MB |
| Supports maximum memory size | 2G (by two 1024MB SO-DIMM module) |
| Supports DIMM type | DDR 2 Synchronous DRAM |
| Supports DIMM Speed | 533 MHz |
| Supports DIMM voltage | 1.8V |
| Supports DIMM package | 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 |
| 128MB | 128MB | 256MB |
| 128MB | 256MB | 384MB |
| 128MB | 512MB | 640MB |
| 128MB | 1024MB | 1152MB |
| 256MB | 128MB | 384MB |
| 256MB | 256MB | 512MB |
| 256MB | 512MB | 768MB |
| 256MB | 1024MB | 1280MB |
| 512MB | 128MB | 640MB |
| 512MB | 256MB | 768MB |
| 512MB | 512MB | 1024MB |
| 512MB | 1024MB | 1536MB |
| 1024MB | 0MB | 1024MB |
| 1024MB | 128MB | 1152MB |
| 1024MB | 256MB | 1280MB |
| 1024MB | 512MB | 1536MB |
| 1024MB | 1024MB | 2048MB |

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.

LAN Interface

| Item | Specification |
|------------------------|---|
| Chipset | BroadCom BCM4401E |
| Supports LAN protocol | 10/100Mbps |
| LAN connector type | RJ45 |
| LAN connector location | Right side |
| Features | Integrated 10/100 BASE-T transceiver Wake on LAN support compliant with ACPI 2.0 PCI v2.2 |

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 | Built-in Intel® ICH7-M |

Bluetooth Interface

| Item | Specification |
|-----------------|--------------------------------|
| Data throughput | 723 bps (full speed data rate) |
| Protocol | Bluetooth 2.0 |
| Interface | USB 1.1 |
| Connector type | Mini-USB |

Wireless Module 802.11b/g (optional device)

| Item | Specification |
|-----------------|---|
| Chipset | Built-in ICH7-M |
| Data throughput | 11~54 Mbps |
| Protocol | 802.11b+g |
| Interface | Mini-PCI type II (What does PCI Bus means on the system block diagram?) |

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% |

Combo Drive Interface

| Item | Specification | |
|---------------------------|---|----------------------------------|
| Vendor & model name | DVD/CDRW HLDS GCC-4244N | |
| 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 | DVD: DVD-ROM, (DVD-5, DVD-9, DVD-10, DVD-18),DVD-R (read, single border), DVD-RW, DVD-RAM (2.6GB, 4.7GB) CD: CD-DA, CD-ROM, CD-ROM XA, CD-R, CD-RW Photo (Multisession) Video CD, CD-Extra, (CD+), CD-test | |
| 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) | |

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) | |

HD Audio Interface

| Item | Specification |
|------------------|---------------|
| Audio Controller | ALC883 |

HD Audio Interface

| Item | Specification |
|-----------------------------|---|
| Audio onboard or optional | Built-in |
| Mono or Stereo | Stereo |
| Resolution | Wide range (°V80dB ~ +42dB) volume control with 1.5dB resolution of analog to analog mixer gain 16 bit stereo digital to analog converter 16 bit stereo analog to digital converter |
| Compatibility | HD Audio |
| Mixed sound source | Line-in, CD |
| Voice channel | 8/16-bit, mono/stereo |
| Sampling rate | All DACs support 44.1k/48k/96k/192kHz sample rate All ADCs support 44.1k/48k/96kHz sample rate 16/20/24-bit S/PDIF-OUT supports 44.1k/48k/96k/192kHz sample rate 16/20/24-bit S/PDIF-IN supports 44.1k/48k/96kHz sample rate |
| Internal microphone | Yes |
| Internal speaker / Quantity | Yes/2 |

Video Interface

| Item | Specification |
|---------------------------------|---|
| Chipset | Built-in Intel® 945GM for UMA models NVIDIA® GeForce® Go 7600 (72MV) for discrete models |
| Package | 35.5 mm x 40 mm 1257 pin mBGA |
| Interface | internal PCIE |
| Supports ZV (Zoomed Video) port | Yes |
| Memory Interface | 64-bit |
| Memory Bandwidth(GB/sec) | 5.6 |
| Fill Rate (Gpixels/sec) | 1.4 |
| Vertices/Second (Millions) | 260 |
| Memory Data Rate (MHz) | 700 |
| RAMDACs (MHz) | 400 |

NOTE: RAMDAC refers to **R**andom **A**ccess **M**emory **D**igital to **A**nalog **C**onverter: the VGA controller chip that maintains the range of colors and converts data from memory into analog signals for the monitor.

Video Memory

| Item | Specification |
|-------------|--|
| Chipset | Built-in Intel® 945GM for UMA models NVIDIA® GeForce™ Go 7600 for discrete models |
| Memory size | 128MB/256MB (256MB for Aspire 5650 only) |
| Interface | GDDR2 |

USB Port

| Item | Specification |
|----------------------|-------------------------------------|
| Chipset | Built-in ICH7M |
| USB Compliance Level | 2.0 |
| OHCI | USB 1.1 and USB 2.0 Host controller |

USB Port

| Item | Specification |
|------------------------------|------------------------------|
| Number of USB port | 3 |
| Location | Three on the right side |
| Serial port function control | Enable/Disable by BIOS Setup |

PCMCIA Port

| Item | Specification |
|---------------------------------|---------------|
| PCMCIA controller | ENE CB714 |
| Supports card type | Type-II |
| Number of slots | One type-II |
| Access location | Left panel |
| Supports ZV (Zoomed Video) port | No ZV support |
| Supports 32 bit CardBus | Yes |

System Board Major Chips

| Item | Controller |
|----------------------|---|
| Core logic | Intel® 945GM/945PM+ICH7M |
| VGA | Built in Intel®945GM for UMA models NVIDIA® GeForce™ Go 7600 for discrete models |
| LAN | ENE BCM4401E |
| USB 2.0 | Built in ICH7-M |
| Super I/O controller | SMsC LPC47N207 |
| MODEM | Built-in ICH7-M |
| Bluetooth | Built-in ICH7-M |
| Wireless 802.11 b+g | Built-in ICH7-M |
| PCMCIA | ENE CB714 |
| HD Audio | Realtek ALC883 |

Keyboard

| Item | Specification |
|--|---|
| Keyboard controller | ENE KB 910Q |
| Total number of keypads | 88-/89-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 | Sony (8cell) Sanyo (8cell) |
| Battery Type | Li-ion |
| Pack capacity | 4800 mAh |
| Number of battery cell | 8 |
| Package configuration | 4 cells in series, 2 series in parallel |

Battery

| Item | Specification |
|----------------|---------------|
| Normal voltage | 14.8V |
| Charge voltage | 16.8+-0.2v |

LCD 14.1" inch

| Item | Specification | | | |
|---|--|------------------------|------------------------|----------------------|
| Vendor & model name | AU B141EW01 | CMO N14111-L02 | QDI QD14TL01-03 | SAMSUNG LTN141W1-L01 |
| Screen Diagonal (mm) | 14.1 inches | 14.1 inches | 14.1 inches | 14.1 inches |
| Active Area (mm) | 304.1x228.1 | 304.1x228.1 | 304.1x228.1 | |
| Display resolution (pixels) | 1024x768 XGA | 1024x768 XGA | 1024x768 XGA | |
| Pixel Pitch | 0.297x0.297 | 0.099x0.297 | 0.297x0.297 | |
| Pixel Arrangement | R.G.B. Vertical Stripe | R.G.B. Vertical Stripe | R.G.B. Vertical Stripe | |
| Display Mode | Normally White | Normally White | Normally White | |
| Typical White Luminance (cd/m ²) also called Brightness | 180 (5 point average) 150 (5 point average) | 160 | 150 | |
| Luminance Uniformity | N/A | N/A | 70 | |
| Contrast Ratio | 300 | 300 | 250 | |
| Response Time (Optical Rise Time/Fall Time)msec | 24/11 15/35 | 8/17 | 10/25 | |
| Nominal Input Voltage VDD | +3.3V Typ. | +3.3V | 3.3V | |
| Typical Power Consumption (watt) | 5.6/5.7 | 3.96 | N/A | |
| Weight | 550 | 570 | 600 | |
| Physical Size(mm) | 317.3x242.0x6.0 | 317.3x242.0x5.9 | 317.3x242.0x6.5 | |
| Electrical Interface | 1 channel LVDS | 1 channel LVDS | 1 channel LVDS | |
| Support Color | 262K colors (RGB 6-bit data driver) | 262,144 | 262,144 | |
| Viewing Angle (degree) Horizontal: Right/Left Vertical: Upper/Lower | 40/40 10/30 | 45/45 15/35 | 40/40 20/40 | |
| Temperature Range(° C) Operating Storage (shipping) | 0 to +50 -20 to +60 | 0 to +50 -25 to +60 | 0 to +50 -20 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 Adaptor

| Item | Specification |
|--------------------------|----------------------------------|
| Input rating | 90V AC to 264V AC, 47Hz to 63Hz |
| Maximum input AC current | 1.7A |
| 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.

| PhoenixBIOS Setup Utility | | | | | |
|--|--|----------|----------|---------|------|
| Information | Main | Advanced | Security | Boot | Exit |
| CPU Type : | Genuine Intel (R) CPU | | | | |
| CPU Speed : | 1.66GHz | | | | |
| HDD Model Name : | | | | | |
| HDD Serial Number : | | | | | |
| ATAPI Model Name : | None | | | | |
| ATAPI Serial Number : | None | | | | |
| BIOS Version: | V1.10 | | | | |
| VGA BIOS Ver | Intel V1256 | | | | |
| Serial Number | xxxxxxxxxxxxxxxxxxxxxxxx | | | 22 Byte | |
| Asset Tag Number | N/A | | | 32 Byte | |
| Produce Name | TravelMate 4200 | | | 16 Byte | |
| Manufacturer Name: | Acer | | | 16 Byte | |
| UUID: | xx | | | 32 Byte | |
| 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 six menu options: Info., Main, System Devices, Security, Boot, and Exit.

Follow these instructions:

- ❑ To choose a menu, use the cursor left/right keys (← →).
- ❑ To choose a parameter, use the cursor up/down keys (↑ ↓).
- ❑ To change the value of a parameter, press F8 or F6.
- ❑ A plus sign (+) indicates the item has sub-items. Press ENTER to expand this item.
- ❑ Press ESC while you are in any of the menu options to go to the Exit menu.
- ❑ In any menu, you can load default settings by pressing F8. You can also press F6 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

PhoenixBIOS Setup Utility

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

CPU Type : Genunie Intel (R) CPU
 CPU Speed : 1.66GHz

HDD Model Name :
 HDD Serial Number :
 ATAPI Model Name : None
 ATAPI Serial Number : None

BIOS Version: V1.10
 VGA BIOS Ver Intel V1256

| | | |
|--------------------|--|---------|
| Serial Number | xxxxxxxxxxxxxxxxxxxxxxxx | 22 Byte |
| Asset Tag Number | N/A | 32 Byte |
| Produce Name | Aspire 5650/TravelMate 4260 | 16 Byte |
| Manufacturer Name: | Acer | 16 Byte |
| UUID: | xx | 32 Byte |

| | | | |
|----------|----------------|---------------------|-------------------|
| 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 | 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. |
| IDE2I Model Name | This field displays the mofel name of devices installed on secondary IDE master. The hard disk drive or optical drive model name is automatically detected by the system. |
| IDE2 Serial Number | This field shows the serial number of devices installed on secondary IDE master. |
| System BIOS ver | Displays system BIOS version. |
| VGA BIOS Ver | This field displays the VGA firmware version of the system. |
| KBC Ver | This field shows the keyboard |
| 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.

| PhoenixBIOS Setup Utility | | | | | |
|---------------------------|----------------|-------------------------------|-------------------|-------------------|--|
| Information | Main | Advanced | Security | Boot | Exit |
| | | | | | Item Specific Help |
| System Time: | [22:03:28] | | | | <Tab>, <Shift-Tab>, or <Enter> selects field. |
| System Date: | [01/23/2006] | | | | |
| System Memory: | 640 KB | Shows system base memory size | | | |
| Extended Memory: | XXXMB | Shows extended memory size | | | |
| Video Memory | [128MB] | VGA memory size | | | |
| Quiet Boot: | [Enabled] | | | | |
| Power on display: | [Auto] | | | | |
| Network boot | [Enabled] | | | | |
| F12 Boot Menu | [Disabled] | | | | |
| D2D Recovery | [Enabled] | | | | |
| 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 | |
| VGA Memory | Shows the VGA memory size. VGA Memory size=64/128MB | |
| 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. | 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.

Advanced

The Advanced screen contains parameters involving your hardware devices. It also provides advanced settings of the system.

| PhoenixBIOS Setup Utility | | | | | |
|---------------------------|----------------|---------------------|--|-------------------|------|
| Information | Main | Advanced | Security | Boot | Exit |
| Infrared Port (FIR) | | [Enabled] | Item Specific Help | | |
| | | | Configure Infrared Port using options: [Disable] No configuration [Enabled] User configuration | | |
| 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 the screen. Settings in **boldface** are the default and suggested parameter settings.

| | Description | Option |
|---------------|--|------------------------------------|
| Infrared Port | Configure serial port B using options: [Disabled]: No configuration [Enabled]: User configuration [Auto]: BIOS or OS chooses configuration (OS Controlled) Displayedd when controlled by OS | Disabled Enabled Auto |

Security

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

| PhoenixBIOS Setup Utility | | | |
|---|----------------|-------------------------|---|
| Information | Main | Advanced | Security |
| Supervisor Password Is : Clear User Password Is : Clear HDD Password Is: Clear Set Supervisor Password [Enter] Set User Password [Enter] Set Hdd Password [Enter] Password on Boot [Disabled] | | | Item Specific Help Supervisor Password controls accesses of the whole setup utility. It can be used to boot up when Password on boot is enabled. |
| 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 |
|---------------------------|--|----------------------------|
| User Password is | Shows the setting of the user password. | Clear or Set |
| Supervisor Password is | Shows the setting of the Supervisor password | Clear or Set |
| Set User Password | Press Enter to set the user password. When user password is set, this password protects the BIOS Setup Utility from unauthorized access. The user can enter Setup menu only and does not have right to change the value of parameters. | |
| Set 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. | |
| Primary HardDisk Security | Enables or disables primary hard disk security function. | |
| 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 user or the supervisor password:

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

Set Supervisor Password

Enter New Password []

Confirm New Password []

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

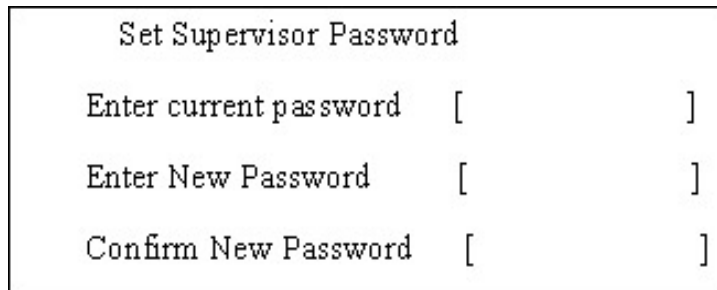
IMPORTANT: Be very careful when typing your password because the characters do not appear on the screen.

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

Removing a Password

Follow these steps:

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

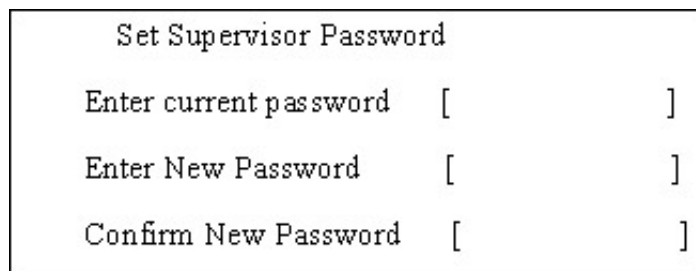


```
Set Supervisor Password
Enter current password  [
Enter New Password    [
Confirm New Password   [
```

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

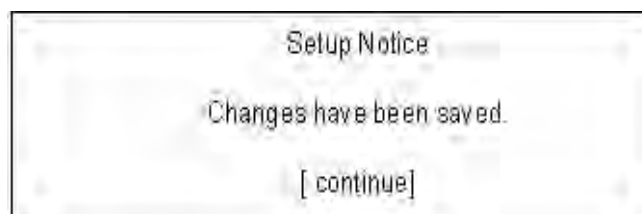
1. Use the **↑** and **↓** keys to highlight the Set Supervisor Password parameter and press the **ENTER** key. The Set Password box appears:



```
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 User Password parameter to “Set”.
5. If desired, you can enable the Password on boot parameter.
6. When you are done, press **F10** to save the changes and exit the BIOS Setup Utility.

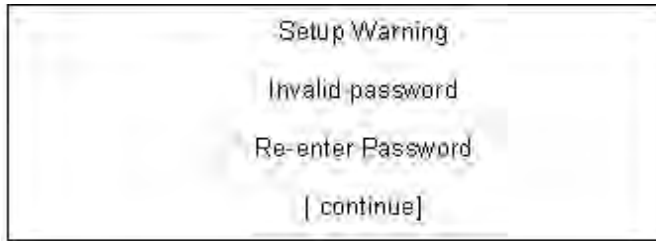
If the verification is OK, the screen will display as following.



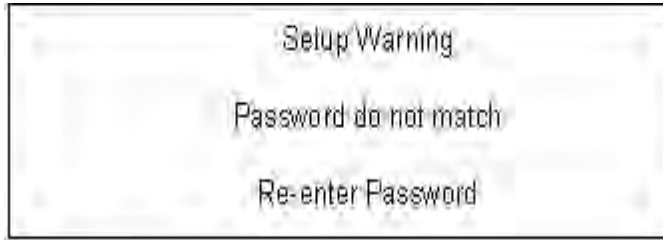
```
Setup Notice
Changes have been saved.
[ continue]
```

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 distette drive in module bay, the onboard hard disk drive and the CD-ROM in module bay.

| PhoenixBIOS Setup Utility | | | | | |
|--|----------------|-----------------------|-------------------|--|------|
| Information | Main | Advanced | Security | Boot | Exit |
| Boot priority order: 1: IDE 0: TOSHIBA MK6025GAS-(PM) 2: IDE 1: MATSHITADVD-RAM UJ-845S 3: IDE 2: 4: USB FDD: 5: PCI LAN: Broadcom MBA 6: USB HDD: 7: USB KEY: 8: USB CDROM: | | | | Item Specific Help Use <↑> or <↓> to select a device, then press <F6> to move it up the list, or <F5> to move it down the list. Press <Esc> to escape the menu. | |
| 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.

The screenshot shows the PhoenixBIOS Setup Utility interface. At the top, the title is "PhoenixBIOS Setup Utility". Below it is a menu bar with options: Information, Main, Advanced, Security, Boot, and Exit. The main content area is divided into two sections. The left section lists several options: Exit Saving Changes, Exit Discarding Changes, Load Setup Defaults, Discard Changes, and Save Changes. The right section is titled "Item Specific Help" and contains the text: "Exit System Setup and save your changes to CMOS." At the bottom, there is a footer bar with keyboard shortcuts: F1 Help, Esc Exit, arrow keys for navigation, F5/F6 Change Values, Enter Select, F9 Setup Defaults, and 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 Default | Load default values for all SETUP item. |
| Discard Changes | Load previous values from CMOS for all SETUP items. |
| Save Changes | Save Setup Data to CMOS. |

BIOS Flash Utility

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

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

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

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

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

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

Follow the steps below to run the Phlash:

First, you have to create a crisis diskette. Follow the steps to create a crisis diskette.

1. Insert a floppy disk to the notebook under Windows mode.
2. Execute "wincris.exe"
3. Wait for few minutes. The process will completed automatically.

After you have created crisis diskette, you can then recovery the fail system.

1. Insert the Crisis diskette to the computer.
2. Press Fn+Esc and power on the sytem.
3. The systme will execute the file automatically. Wait for few minutes the system will reboot as the entire process completed.

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

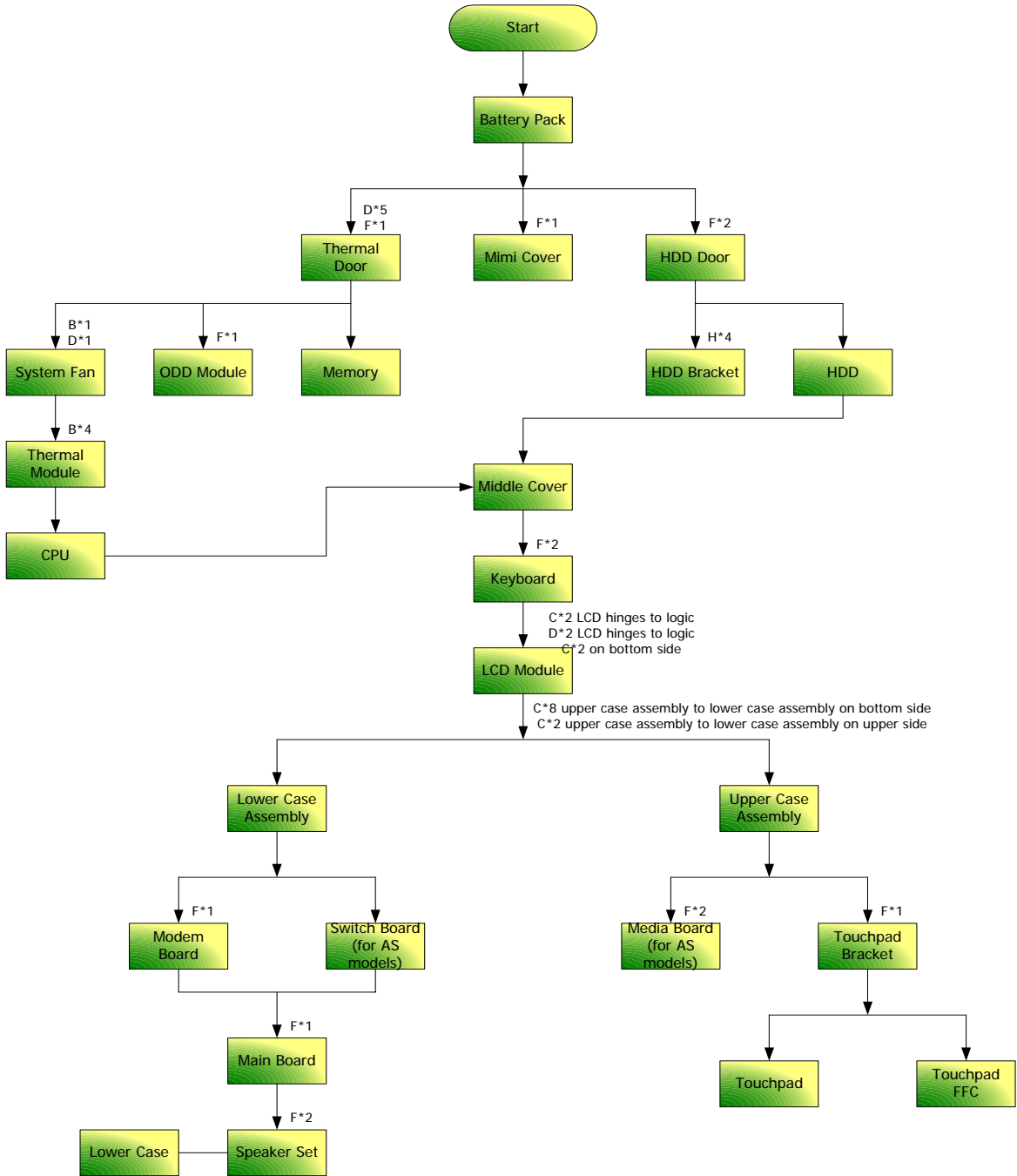
Before You Begin

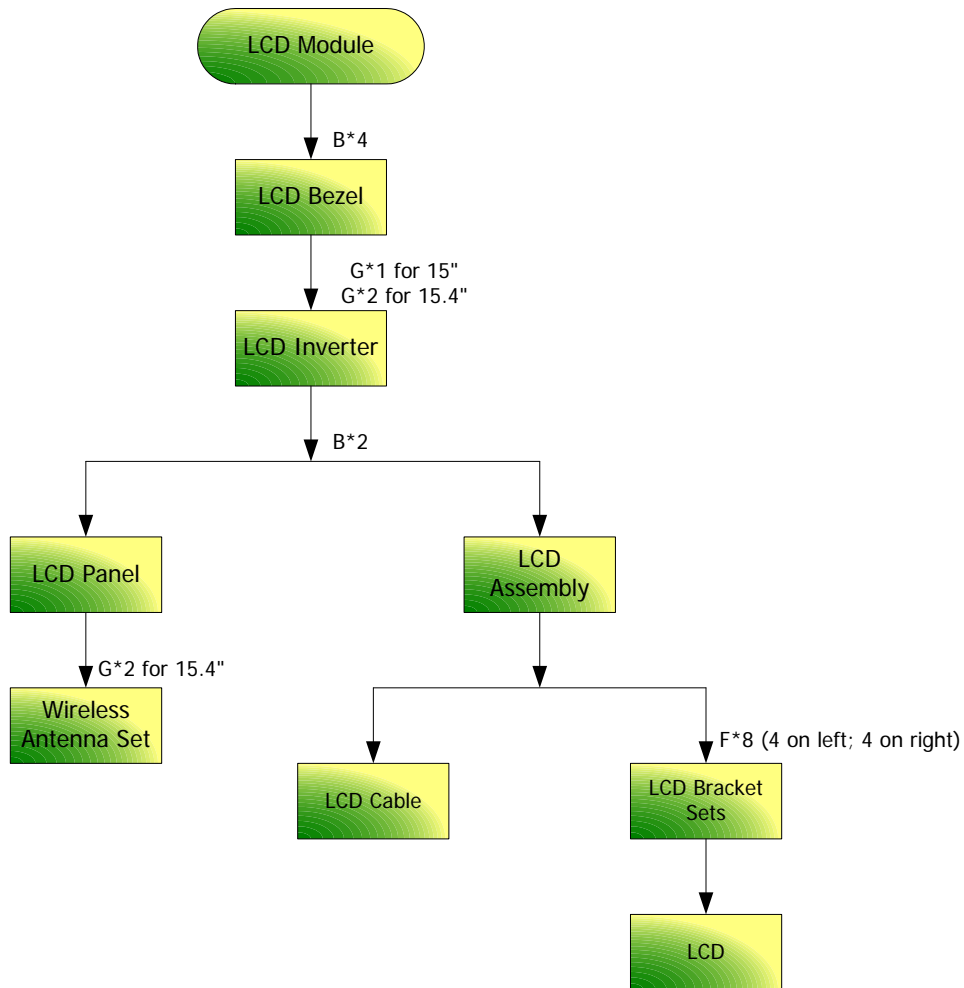
Before proceeding with the disassembly procedure, make sure that you do the following:

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 M2.5*3(NL) | 86.TAVV5.001 |
| B | SCREW M2.5*6(NL) | 86.TAVV5.002 |
| C | SCREW M2.5*10(NL) | 86.TAVV5.003 |
| D | SCREW M2.5*15(NL) | 86.TAVV5.004 |
| E | SCREW M2*2.2 | 86.TAVV5.005 |
| F | SCREW M2*3(NL) | 86.TAVV5.006 |
| G | SCREW M2*4 | 86.TAVV5.007 |
| H | SCREW M3*4(NL) | 86.TAVV5.008 |
| I | SCREW D-SUB 4#X40* 1/5-NI (NL) | 86.TAVV5.009 |

Removing the Battery Pack

1. Slide the battery latch then remove the battery.



Removing the HDD Module/Memory/System Fan/Thermal Module/CPU/ODD Module and LCD Module

Removing the HDD Module

1. Remove the two screws fastening the HDD door.
2. Detach the HDD door from the notebook.



3. Pull the HDD module outwards to disconnect the HDD module from the main board.
4. Take out the HDD module carefully.



Removing the Memory/System Fan/Thermal Module/CPU

1. Remove the six screws fastening the thermal door. (M2.5*15(NL) for red circle; M2*3(NL) for yellow circle)
2. Detach the thermal door from the notebook.
3. Pop out the memory then remove it



4. Use a tweezer to take out the fan cable as shown.
5. Disconnect the fan cable from the main board.



6. Remove the two screws fastening the system fan.
7. Take out the system fan from the main unit.



8. Remove the four screws fastening the thermal module.
9. Then detach the thermal module carefully.



10. Use a flat-headed screwdriver to release the CPU lock (Turn anti-clockwise).
11. Detach the CPU from the CPU socket carefully.



12. Tear off the tape fastening the antenna set.
13. Then remove the antenna protection cover.



14. Remove the screw holding the mini cover.
15. Detach the mini cover from the main unit.



Removing the ODD Module

1. First, remove the screw fastening the ODD module as shown.
2. Push the ODD module outwards then remove it.



Removing the LCD Module

1. Open the LCD module as shown (See the left and the middle picture).
2. Detach the middle cover from the main unit carefully.

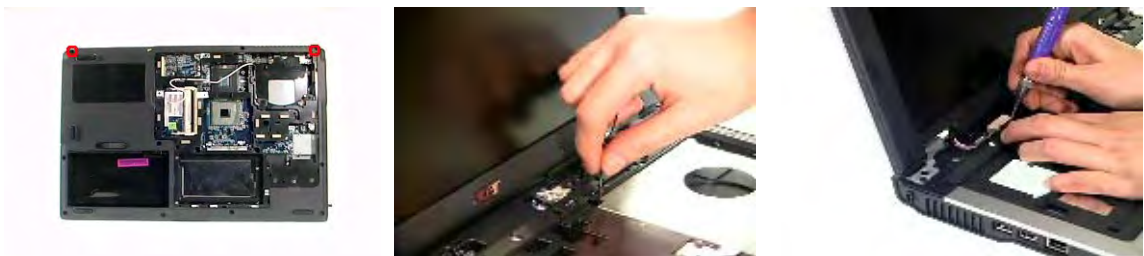


3. Remove the screw fastening the keyboard.
4. Then turn over the keyboard as shown.

5. Disconnect the keyboard cable from the main board.



6. Turn over the notebook, remove two screws fastening the LCD module on the bottom.
7. Then turn the notebook to the front side. Take out the antenna then disconnect the LCD cable (See the middle and the right images).



8. Remove four screws fastening the LCD module (M2.5*10(NL) for yellow circles; M2.5*15(NL) for red circles).
9. Then detach the entire LCD module from the main unit carefully.



Disassembling the Main Unit

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

1. Remove two screws fastening the upper case assembly to the lower case assembly.
2. Disconnect the LED board cable from the main board.



3. Disconnect the touchpad cable from the main board.
4. Remove eight screws fastening the upper case assembly and the lower case assembly on the bottom as shown.
5. Detach the upper case assembly carefully.



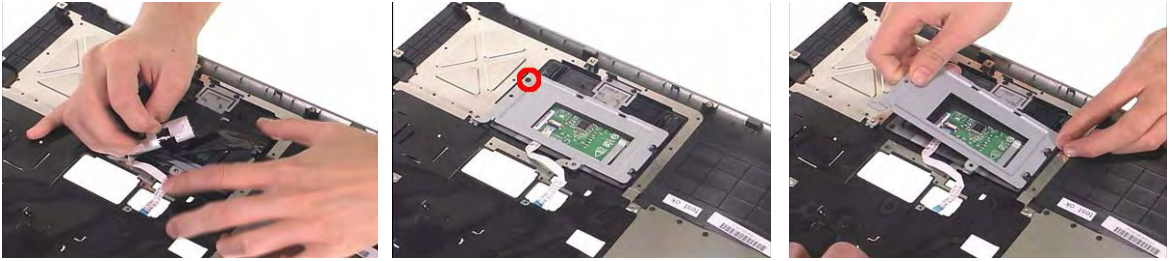
Disassembling the Upper Case Assembly

6. Remove the two screws fastening the media board.
7. Take out the media board cable from the lower case as shown.
8. Detach the media board from the upper case carefully.

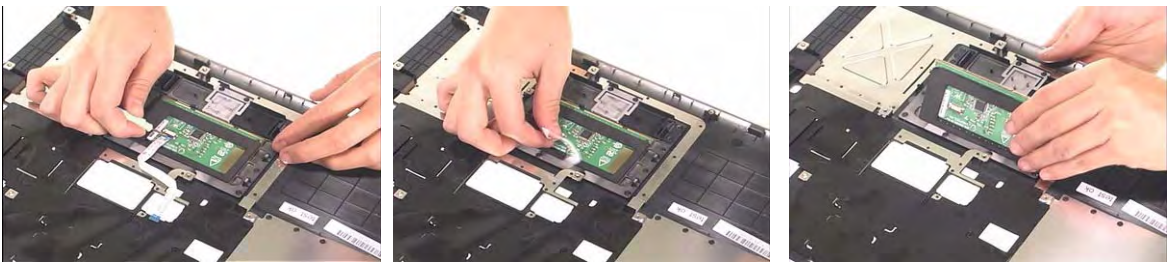


NOTE: Only Aspire 5650 series have media board.

9. Tear off the mylar on top of the touchpad bracket.
10. Remove the screws holding the touchpad bracket.
11. Then detach the touchpad bracket from the upper case.



12. Disconnect the touchpad FFC.
13. Then remove the touchpad FFC from the touchpad.
14. Detach the touchpad from the upper case.

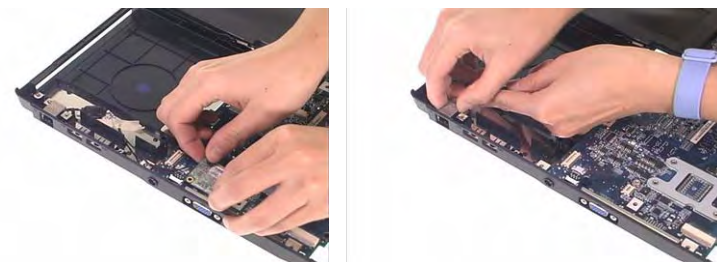


Disassembling the Lower Case Assembly

1. Detach the switch board from the main board.
2. Remove the screw fastening the modem board.

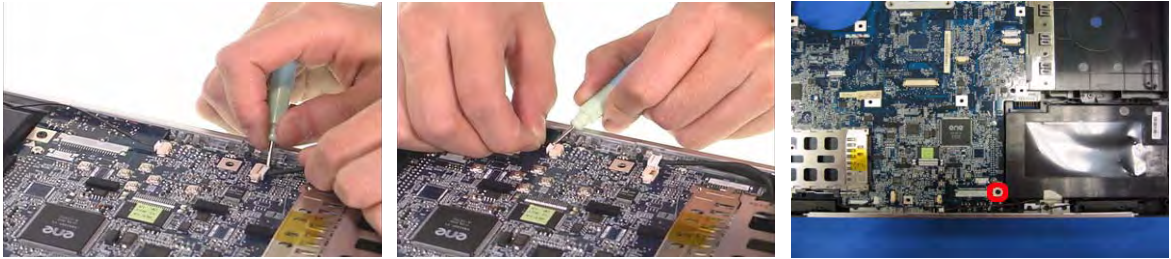


3. Disconnect the modem board from the main board then detach the modem board.
4. Detach the modem cable from the lower case.

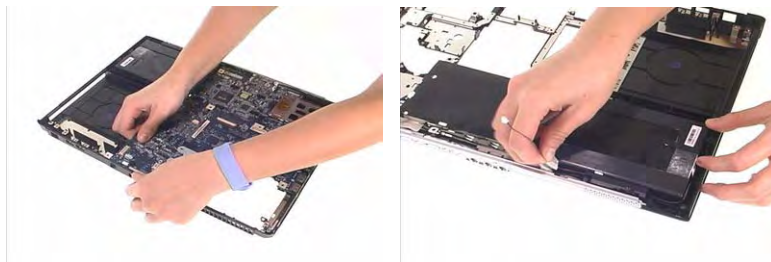


5. Disconnect the speaker cable from the main board.
6. Then disconnect the microphone cable from the main board.

7. Remove the screw fastening the main board to the lower case.



8. Pull the lower case outwards as the image shows and detach the main board from the lower case carefully.
9. Take out the microphone from the lower case.



10. Remove the two screws fastening the speaker set.
11. Take out the speaker from the lower case.

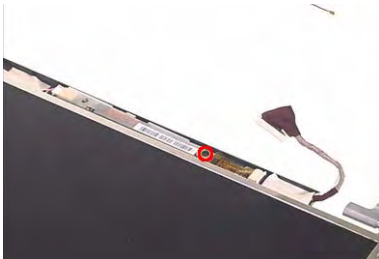


Disassembling the LCD Module

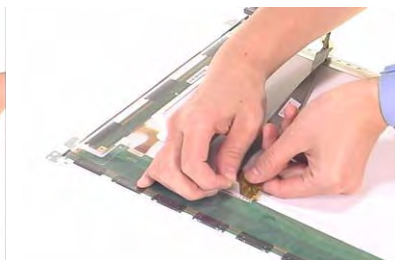
1. Remove the four screw caps as shown.
2. Remove the four screws holding the LCD bezel.
3. Then detach the LCD bezel from the LCD module.



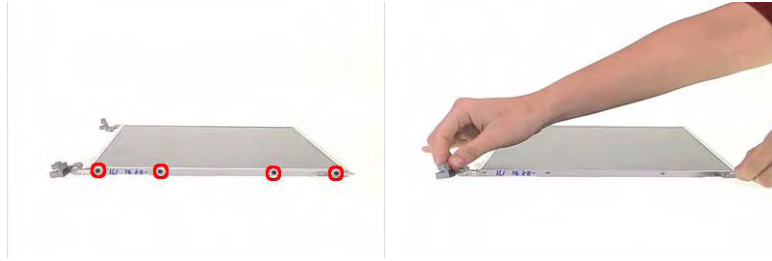
4. Remove the screw fastening the LCD inverter.
5. Take out the LCD inverter from the LCD cover, then disconnect the LCD cable from the inverter.
6. Disconnect the LCD power cable on the other side.



7. Remove the two screws fastening the LCD assembly.
8. Take out the LCD assembly from the LCD panel.
9. Tear off the tape fastening the LCD cable.

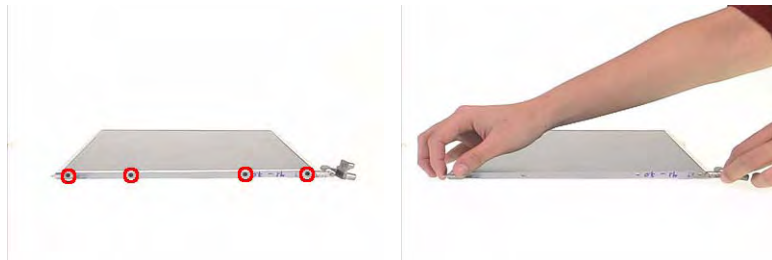


10. Remove the four screws fastening the LCD right bracket.
11. Remove the LCD right bracket.



12. Remove the four screws holding the LCD left bracket.

13. Remove the LCD left bracket.



Disassembling the External Modules

Disassembling the HDD Module

1. Remove two screws holding the HDD bracket on one side.
2. Remove another two screws fastening the HDD bracket on the other side.
3. Detach the HDD from the HDD bracket.



Disassembling the ODD Module

1. Remove the three screws holding the optical bracket.
2. 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 75. |
| POST does not complete. No beep or error codes are indicated. | "Power-On Self-Test (POST) Error Message" on page 78 "Undetermined Problems" on page 90 |
| POST detects an error and displayed messages on screen. | "Error Message List" on page 79 |
| Other symptoms (i.e. LCD display problems or others). | "Power-On Self-Test (POST) Error Message" on page 78 |
| Symptoms cannot be re-created (intermittent problems). | Use the customer-reported symptoms and go to "Power-On Self-Test (POST) Error Message" on page 78 "Intermittent Problems" on page 89 "Undetermined Problems" on page 90 |

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 doagmpstotics 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:

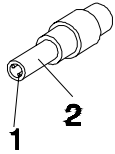
1. Remove the battery pack.
2. Connect the power adapter and check that power is supplied.
3. Disconnect the power adapter and install the charged battery pack; then check that power is supplied by the battery pack.

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

- “Check the Power Adapter” on page 76
- “Check the Battery Pack” on page 77

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 90.
 - 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 77.

Check the Battery Pack

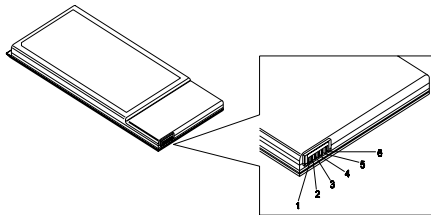
To check the battery pack, do the following:

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 90.

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 74. |
| Keyboard error | see "Keyboard or Auxiliary Input Device Check" on page 74. |
| Keyboard Controller Failed | see "Keyboard or Auxiliary Input Device Check" on page 74. |
| 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 74. |
| 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 75.. 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 75.. 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 75. 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 75. 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 75. 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 77. 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 42. 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+  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 42. LCD cover switch System board |
| The system doesn't resume from hibernation mode. | See "Save to Disk (S4)" on page 42. 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 42. 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 90.

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.

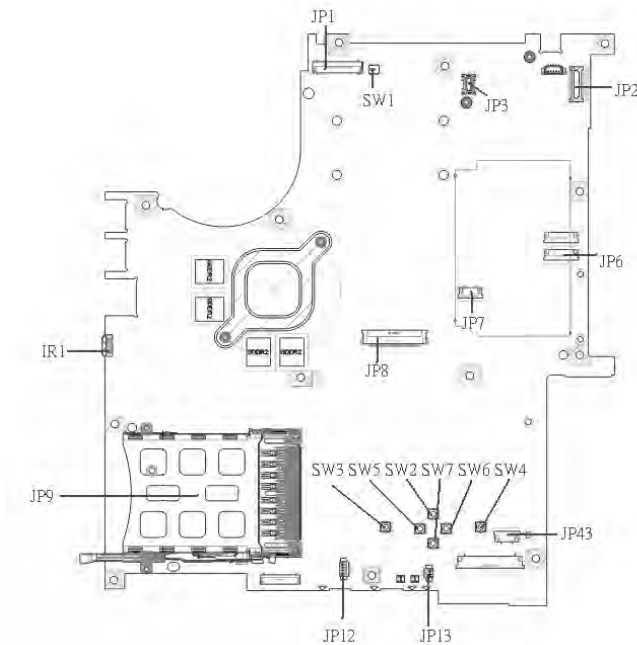
NOTE: Verify that the power supply being used at the time of the failure is operating correctly. (See "Power System Check" on page 75.):

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

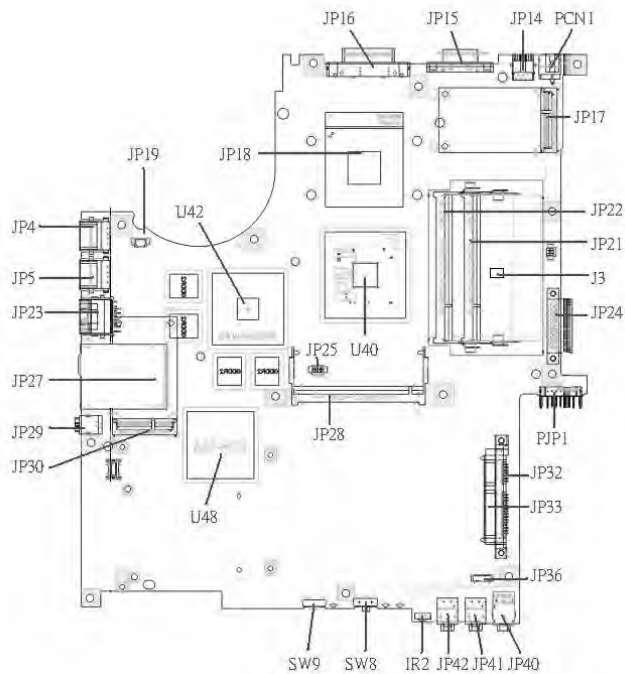
Board Layout

Top View



| | | | | | |
|---|------|--------------------------|----|------|-------------------------------|
| 1 | JP1 | LCD Connector | 10 | SW7 | Touchpad Down Button |
| 2 | SW1 | Lid Switch | 11 | SW2 | Touchpad Up Button |
| 3 | JP3 | MDC Connector | 12 | SW5 | Touchpad Left Button |
| 4 | JP2 | Power Button Connector | 13 | SW3 | Touchpad Left Button |
| 5 | JP6 | Media Board Connector | 14 | JP13 | Internal Microphone Connector |
| 6 | JP7 | Touchpad Board Connector | 15 | JP12 | Internal Speaker Connector |
| 7 | JP43 | SIM Card Connector | 16 | JP9 | PCMCIA Socket |
| 8 | SW4 | Touchpad Right Button | 17 | IR1 | FIR Module |
| 9 | SW6 | Touchpad Left Button | 18 | JP8 | Internal Keyboard Connector |

Bottom View

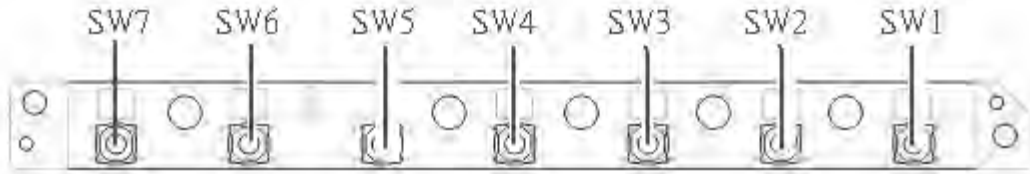


NOTE: This is engineering sample. The image above may not be exactly the same as the real main board you get.

| | | | | | |
|----|------|----------------------|----|------|------------------------------|
| 1 | JP19 | FAN Connector | 17 | JP40 | Headphone/SPDIF Jack |
| 2 | U42 | VGA Chipset | 18 | JP41 | Line-In Jack |
| 3 | JP18 | CPU Socket | 19 | JP42 | Microphone-in Jack |
| 4 | JP16 | DVI Connector | 20 | IR2 | CIR Module |
| 5 | JP15 | CRT Connector | 21 | SW8 | Wireless LAN Switch |
| 6 | JP14 | TV-Out Connector | 22 | SW9 | Bluetooth and 3G Switch |
| 7 | PCN1 | DC-IN Jack | 23 | U48 | South Bridge Chipset |
| 8 | JP17 | Mini Card Connector | 24 | JP30 | Mini Card Connector |
| 9 | JP22 | DDRII so-DIMM Socket | 25 | JP29 | IEEE 1394 Connector |
| 10 | JP21 | DDRII so-DIMM Socket | 26 | JP27 | 5 IN1 Socket |
| 11 | J3 | Clear CMOS Jumper | 27 | JP23 | RJ45 Connector |
| 12 | JP24 | ODD Connector | 28 | JP5 | USB Connector |
| 13 | PJP1 | Battery Connector | 29 | JP4 | USB Connector |
| 14 | JP32 | HDD Connector (SATA) | 30 | JP28 | MINIPCI Connector (TV-Tuner) |
| 15 | JP33 | HDD Connector (PATA) | 31 | JP25 | FAN Connector |
| 16 | JP36 | Bluetooth Connector | 32 | U40 | North Bridge Chipset |

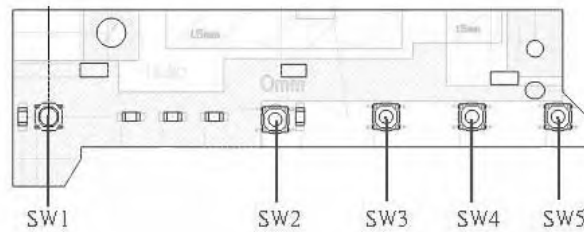
Jumper Board Layout

Switch Board Top View



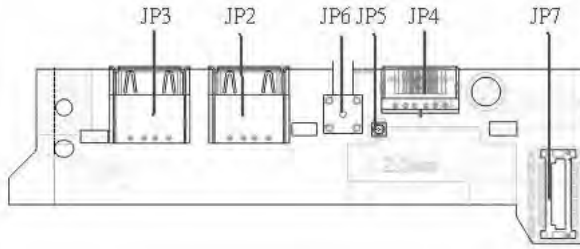
| Label | Description |
|-------|--------------------------|
| SW1 | Arcade/TV tunver switch |
| SW2 | Volume Up switch |
| SW3 | Volume Down switch |
| SW4 | Play/Pause switch |
| SW5 | Stop switch |
| SW6 | Forward/Next switch |
| SW7 | Backward/Previous switch |

Media Board Top View



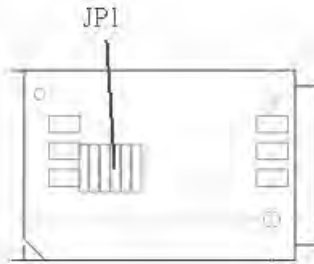
| Label | Description |
|-------|-----------------|
| SW1 | Power Button |
| SW2 | E-mail Button |
| SW3 | Internet Button |
| SW4 | User Button |
| SW5 | E-Power Button |

Media Board Bottom View



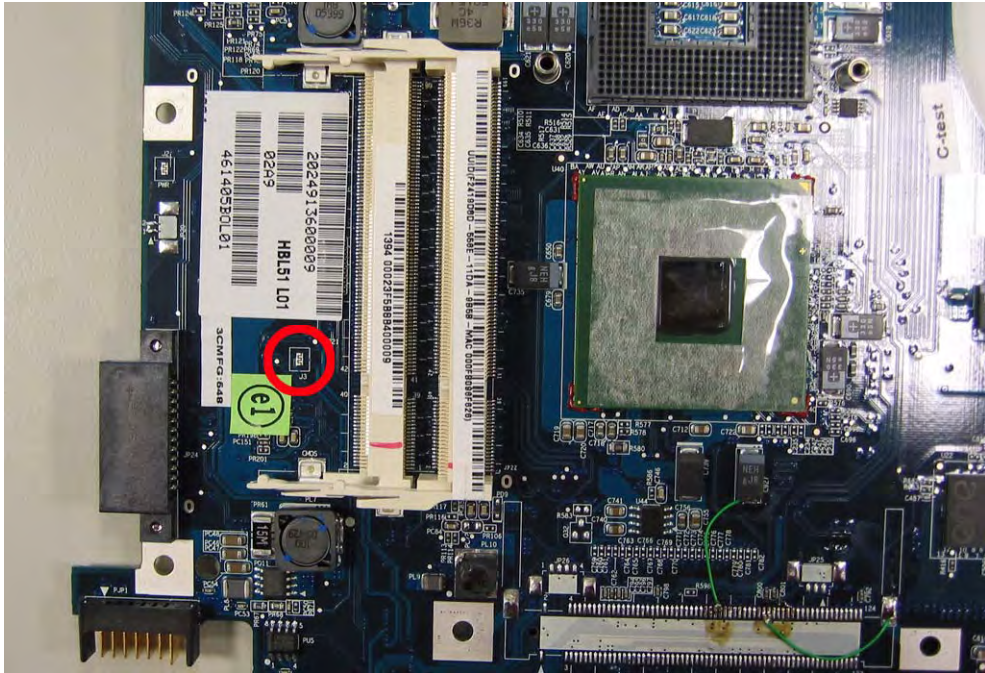
| Label | Description |
|-------|-------------------------------|
| JP3 | USB Connector |
| JP2 | USB Connector |
| JP6 | RF INe Connector |
| JP5 | RF Cable Connector |
| JP4 | AV IN Connector |
| JP7 | Board to Main Board Connector |

LS-2923P Power Board Top View



| Label | Description |
|-------|--------------------|
| JP1 | SIM Card Connector |

Jumper Setting



| Label | Description |
|-------|--|
| J3 | Clear CMOS Jumper Note: J3 locates at bottom side of the main board as the red circle highlighted. |

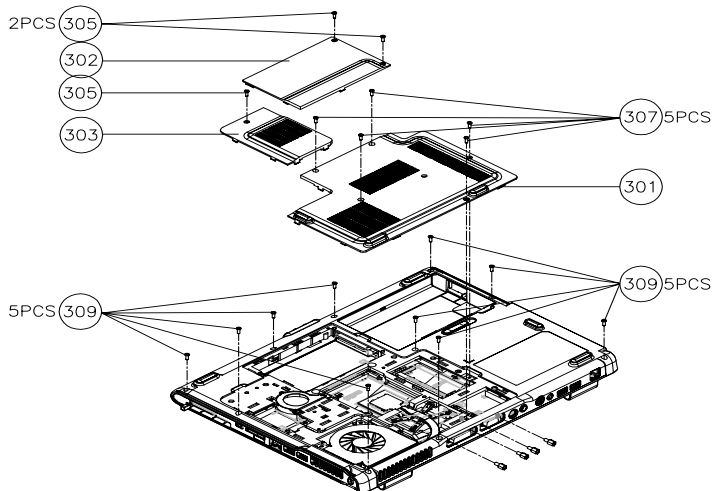
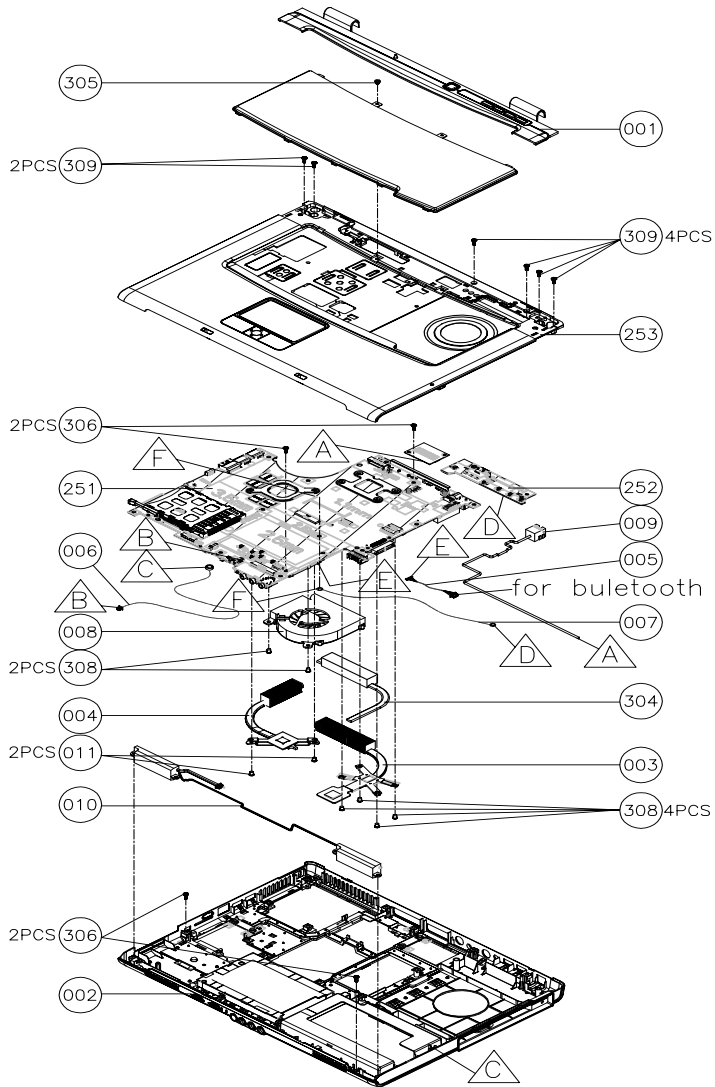
FRU (Field Replaceable Unit) List

This chapter gives you the FRU (Field Replaceable Unit) list in global configurations of Aspire 3650/Travelmate 2450. Please refer to this chapter whenever ordering for parts to repair or for RMA (Return Merchandise Authorization).

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

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



Exploded Diagram



Aspire 5650 FRU List

| Image | No. | Part Name and Description | Acer PN |
|---|-----|--|--------------|
| ADAPTER | | | |
| | N/A | ADAPTER 90W 3PIN DELTA ADP-90SB BBAC | AP.09001.003 |
| | N/A | ADAPTER 90W 3PIN LITEON PA-1900-04LR | AP.09003.006 |
| | N/A | ADAPTER 90W 3PIN LISHIN SLS0202C19A20LF | AP.09006.004 |
| BATTERY | | | |
|  | | BATTERY LI-ION 8 CELLS 4800MAH SONY | BT.00804.012 |
| | | BATTERY LI-ION 8 CELLS 4800MAH SANYO | BT.00803.015 |
| BOARDS | | | |
|  | | MODEM BOARD FOXCONN T60M845.02 | 54.TAVV5.001 |
|  | | BLUETOOTH MODULE FOXCONN T60H928.00 (BRM2045) | 54.TAVV5.002 |
|  | | 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 |
| | | MINI PCI WIRELESS BOARD 802.11 B/G INTEL MM874652 | KI.GLN01.005 |
|  | | MEDIA BOARD W/FFC AS | 55.A93V5.001 |
|  | | SIM BOARD W/FFC | 55.TAVV5.002 |



Aspire 5650 FRU List

| Image | No. | Part Name and Description | Acer PN |
|---|-----|---|--------------|
| | | EXPRESS CARD | 55.TAVV5.003 |
|  | | SWITCH BOARD W/O TV AS/TM | 55.TAVV5.001 |
|  | | SWITCH BOARD W/TV AS | 55.ABVV5.001 |
| | | TV TUNER - M103 ANALOG | 55.A61V5.007 |
| | | TV TUNER - M104 ANALOG | 55.A61V5.004 |
| | | TV TUNER - M115 ANALOG + DTV | 55.A61V5.005 |
| CABLE | | | |
|  | | FFC CABLE - T/P TO MB | 50.TAVV5.001 |
|  | | RJ-11 CABLE | 50.TAVV5.002 |
|  | | BLUETOOTH CABLE | 50.TAVV5.003 |
| | | TV RF CABLE - SWITCH BOARD TO TV TURNER | 50.ABVV5.001 |
| | | 7 PIN MINI-DIN S-VIDEO TO 4 CABLE | 50.A61V5.011 |
| | | PAL TO NTSC CONNECTOR | 20.A61V5.001 |
| | | CABLE - 3.5 PHONE JACK TO PAL TV | 50.A61V5.013 |
| | | PAL-NTSC DVB-T ANT | 50.A61V5.014 |
| | | POWER CORD US 3 PIN | 27.TAVV5.001 |
| | | POWER CORD EU 3 PIN | 27.TAVV5.002 |
| | | POWER CORD AUS 3 PIN | 27.TAVV5.003 |
| | | POWER CORD UK 3 PIN | 27.TAVV5.004 |
| | | POWER CORD CHINA 3 PIN | 27.TAVV5.005 |
| | | POWER CORD SWISS 3 PIN | 27.TAVV5.006 |
| | | POWER CORD ITALIAN 3 PIN | 27.TAVV5.007 |
| | | POWER CORD DENMARK 3 PIN | 27.TAVV5.008 |
| | | POWER CORD JP 3 PIN | 27.TAVV5.009 |

Aspire 5650 FRU List

| Image | No. | Part Name and Description | Acer PN |
|---|-----|---|--------------|
| | | POWER CORD SOUTH AFRICA 3 PIN | 27.TAVV5.010 |
| | | POWER CORD KOERA 3 PIN | 27.TAVV5.011 |
| | | POWER CORD ISRAEL 3 PIN | 27.TAVV5.012 |
| | | POWER CORD INDIA 3 PIN | 27.TAVV5.013 |
| | | POWER CORD TWN 3 PIN | 27.TAVV5.014 |
| CASE/COVER/BRACKET ASSEMBLY | | | |
|  | | MIDDLE COVER AS | 42.A93V5.001 |
|  | | UPPER CASE AS W/O TV | 60.A93V5.001 |
| | | UPPER CASE AS W/TV | 60.ABVV5.001 |
| | | UPPER CASE AS LGA W/O TV | 60.A93V5.002 |
| | | UPPER CASE AS LGA W/TV | 60.ABVV5.002 |
|  | | LOWER CASE W/CARD 1394 FIR DVI W/O TV | 60.ABWW5.001 |
| | | LOWER CASE W/ ALL | 60.ABVV5.003 |
| | | LOWER CASE LGA W/CARD 1394 FIR DVI W/O TV | 60.ABWW5.002 |
| | | LOWER CASE LGA W/ ALL | 60.ABVV5.004 |
|  | | THERMAL DOOR | 42.TAVV5.002 |
|  | | MINI DOOR | 42.TAVV5.003 |

Aspire 5650 FRU List

| Image | No. | Part Name and Description | Acer PN |
|---|-----|---|--------------|
|  | | T/P BRACKET | 33.TAVV5.001 |
| COMMUNICATION MODULE | | | |
| | | WIRELESS ANTENNA 15 IN. | 50.TAVV5.011 |
| | | WIRELESS ANTENNA 15.4 IN. | 50.TAVV5.012 |
| CPU/PROCESSOR | | | |
| | | CPU INTEL YONAH FSB-667 DUAL CORE 2.16G 2M | KC.26001.DTP |
| | | CPU INTEL YONAH FSB-667 DUAL CORE 2.0G 2M | KC.25001.DTP |
| | | CPU INTEL YONAH FSB-667 DUAL CORE 1.83G 2M | KC.24001.DTP |
| | | CPU INTEL YONAH FSB-667 DUAL CORE 1.66G 2M | KC.23001.DTP |
| COMBO DRIVE | | | |
|  | | DVD SUPER MULTI MODULE PANASONIC UJ-845-CQBA SLOT IN | 6M.ABVV5.001 |
| | | DVD SUPER MULTI DRIVE PANASONIC UJ-845-CQBA SLOT IN | KU.00807.029 |
| | | DVD SUPER MULTI BEZEL PANASONIC SLOT IN | 42.ABVV5.001 |
| | | OPTICAL BRACKET | 33.TAVV5.002 |
| HDD/HARD DISK DRIVE | | | |
|  | | HDD SATA 100G 5400RPM HGST MORAGA+B HTS541010G9SA00 | KH.10007.005 |
| | | HDD SATA 100G 5400RPM SEAGATE MERCURY2 ST9100824AS | KH.10001.005 |
| | | HDD SATA 100G 5400RPM SEAGATE T9120824A LF N2.2 FW:3.06 | KH.10001.008 |
|  | | HDD DOOR AS W/RUBBER | 42.A93V5.002 |

Aspire 5650 FRU List

| Image | No. | Part Name and Description | Acer PN |
|---|-----|--|--------------|
|  | | HDD BRACKET | 33.TAVV5.003 |
| KEYBOARD | | | |
|  | | KEYBOARD CHINESE AS | KB.ASP07.001 |
| | | KEYBOARD THAILAND AS | KB.ASP07.003 |
| | | KEYBOARD HEBREW AS | KB.ASP07.023 |
| | | KEYBOARD ARABIAN AS | KB.ASP07.018 |
| | | KEYBOARD US INTERNATIONAL AS | KB.ASP07.002 |
| | | KEYBOARD RUSSIA AS | KB.ASP07.014 |
| | | KEYBOARD GREEK AS | KB.ASP07.021 |
| | | KEYBOARD CZECH REPUBLIC AS | KB.ASP07.012 |
| | | KEYBOARD UK AS | KB.ASP07.005 |
| | | KEYBOARD SWEDEN AS | KB.ASP07.015 |
| | | KEYBOARD FRENCH AS | KB.ASP07.007 |
| | | KEYBOARD PORTUGUESE AS | KB.ASP07.011 |
| | | KEYBOARD CROATIA AS | KB.ASP07.140 |
| | | KEYBOARD SLOVENIA AS | KB.ASP07.139 |
| | | KEYBOARD BRAZIL PORTUGES AS | KB.ASP07.019 |
| | | KEYBOARD SWISS/G AS | KB.ASP07.008 |
| | | KEYBOARD DENMARK AS | KB.ASP07.017 |
| | | KEYBOARD ITALIAN AS | KB.ASP07.006 |
| | | KEYBOARD BELGIUM AS | KB.ASP07.009 |
| | | KEYBOARD GERMAN AS | KB.ASP07.004 |
| | | KEYBOARD CANADA FRANCH AS | KB.ASP07.020 |
| | | KEYBOARD NORWAY AS | KB.ASP07.016 |
| | | KEYBOARD HUNGARY AS | KB.ASP07.013 |
| | | KEYBOARD SPANISH AS | KB.ASP07.010 |
| | | KEYBOARD TURKEY AS | KB.ASP07.022 |
| LCD | | | |
|  | | ASSY LCD MODULE 15 IN. XGA AS FOR WIRELESS | 6M.A93V7.001 |


Aspire 5650 FRU List

| Image | No. | Part Name and Description | Acer PN |
|---|-----|--|--------------|
|  | | LCD 15 IN. XGA AUO (B150XG02. V4) LF | LK.15005.010 |
| | | LCD 15 IN. XGA QDI QD15XL06 V.3 LF | LK.15009.008 |
| | | LCD 15 IN. XGA LG LP154X08-TLA2 LF | LK.15008.019 |
| | | LCD 15 IN. XGA CMO N150X3-L09 Rev. C1 LF | LK.1500D.013 |
| | | LCD 15 IN. XGA SAMSUNG LTN150XB-L03-V LF | LK.15006.008 |
|  | | INVERTER BOARD - 15 IN. | 19.TAVV5.001 |
|  | | LCD PANEL 15 IN. WITH LOGO W/ ANTENNA AS | 60.A93V5.011 |
|  | | LCD BEZEL - 15 IN. | 60.TAVV5.004 |
|  | | LCD BRACKET SET (R&L) - 15 | 6K.TAVV5.001 |
|  | | LCD WIRESET - 15 IN. | 50.TAVV5.004 |
| | | LCD RUBBER | 47.TAVV5.001 |
| | | LATCH RUBBER | 47.TAVV5.006 |
| | | LCD SCREW PAD | 47.TAVV5.002 |



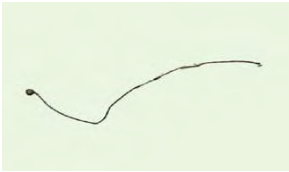
Aspire 5650 FRU List

| Image | No. | Part Name and Description | Acer PN |
|-----------|-----|---|--------------|
| | | ASSY LCD MODULE 15.4 WXGA AS FOR WIRELESS | 6M.A93V7.001 |
| | | LCD 15.4 WXGA LG LP154W01-TLA1 LF | LK.15408.013 |
| | | LCD 15.4 WXGA SAMSUNG LTN154X3-L01-100 LF | LK.15406.014 |
| | | LCD 15.4 WXGA AUO B154EW01 V.8 LF | LK.15405.005 |
| | | LCD 15.4 WXGA CMO N154I1-L0B Rev. C1 LF | LK.1540D.005 |
| | | LCD 15.4 WXGA QDI QD15TL07-01 LF | LK.15409.008 |
| | | INVERTER BOARD - 15.4 IN. | 19.TAVV5.002 |
| | | LCD PANEL 15.4 IN. WITH LOGO W/ 15.4 ANTENNA AS | 60.A93V5.012 |
| | | LCD BEZEL - 15.4 TEXTURE | 60.TAVV5.006 |
| | | LCD BRACKET SET (R&L) - 15.4 | 6K.TAVV5.003 |
| | | LCD WIRESET - 15.4 | 50.TAVV5.005 |
| | | LCD RUBBER | 47.TAVV5.001 |
| | | LATCH RUBBER | 47.TAVV5.006 |
| | | LCD SCREW PAD | 47.TAVV5.002 |
| | | | |
| | | ASSY LCD MODULE 15.4 WXGA GLARE AS FOR WIRELESS | 6M.A93V7.002 |
| | | LCD 15.4 WXGA GLARE LG LP154W01-TLA2 | LK.15408.014 |
| | | LCD 15.4 WXGA GLARE SAMSUNG LTN154X3-L01-H00 | LK.15406.015 |
| | | LCD 15.4 WXGA GLARE AUO B154EW01 V.9 | LK.15405.006 |
| | | LCD 15.4 WXGA GLARE CMO N154I1-L0C Rev. C1 | LK.1540D.006 |
| | | LCD 15.4 WXGA GLARE QDI QD15TL07-02 | LK.15409.009 |
| | | INVERTER BOARD - 15.4 IN. | 19.TAVV5.002 |
| | | LCD PANEL 15.4 IN. WITH LOGO W/ 15.4 ANTENNA AS | 60.A93V5.012 |
| | | LCD BEZEL - 15.4 TEXTURE | 60.TAVV5.006 |
| | | LCD BRACKET SET (R&L) - 15.4 | 6K.TAVV5.003 |
| | | LCD WIRESET - 15.4 | 50.TAVV5.005 |
| | | LCD RUBBER | 47.TAVV5.001 |
| | | LATCH RUBBER | 47.TAVV5.006 |
| | | LCD SCREW PAD | 47.TAVV5.002 |
| MAINBOARD | | | |

Aspire 5650 FRU List

| Image | No. | Part Name and Description | Acer PN |
|---|-----|--|--------------|
|  | | MAINBOARD 945PM DISCRETE SATA G73M GLAN 128M W/CARD DVI W/O CPU MEMORY | MB.ABD02.001 |
| | | MAINBOARD 945PM DISCRETE SATA G73M GLAN 256M W/CARD DVI W/O CPU MEMORY | MB.ABV02.001 |
| PCMCIA SLOT/PC CARD SLOT | | | |
| | | PCMCIA SOCKET | 22.TAVV5.001 |
| MEMORY | | | |
|  | | MEMORY 512MB DDR II 533 NANYA NT512T64UHA1FN-37B | KN.51203.023 |
| | | MEMORY 512MB DDR II 533 INFINEON HYS64T64020HDL-3.7-A | KN.51202.021 |
| | | MEMORY 512MB DDR II 533 MICRON MT8HTF6464HDY-53EB3 | KN.51204.019 |
| | | MEMORY 512MB DDR II 533 SAMSUNG M470T6554CZ3-CD500 | KN.5120B.015 |
| | | MEMORY 512MB DDR II 533 HYNIX HYMP564S64P6-C4 | KN.5120G.005 |
| FAN | | | |
|  | | FAN ASSY - UMA | 23.TAVV5.001 |
| HEATSINK | | | |
|  | | THERMAL MODULE - CPU | 60.TAVV5.009 |
| | | VGA HEATSINK | 60.TAVV5.010 |
| MISCELLANEOUS | | | |
| | | RUBBER FOOT - LARGE | 47.TAVV5.003 |
| | | RUBBER FOOT - MIDDLE | 47.TAVV5.004 |
| | | RUBBER FOOT - SMALL | 47.TAVV5.005 |
| | | THERMAL DOOR RUBBER | 47.TAVV5.007 |
| | | NAME PLATE - AS5650 | 40.A94V5.001 |
| | | T/P BRACKET UP FOIL | 47.TAVV5.008 |
| POINTING DEVICE | | | |

Aspire 5650 FRU List

| Image | No. | Part Name and Description | Acer PN |
|---|-----|------------------------------------|--------------|
|  | | TOUCHPAD W/SPONGE | 56.TAVV5.001 |
| SPEAKER | | | |
|  | | SPEAKER SET (R&L) | 23.TAVV5.002 |
|  | | MIC | 23.TAVV5.003 |
| ACCESSORY | | | |
| | | REMOTE CONTROLLER - FORWARD 48-KEY | LZ.A6102.001 |
| | | REMOTE CONTROLLER - FORMASA 14-KEY | LZ.A2902.001 |
| SCREW LIST | | | |
| | | SCREW M2.5*3(NL) | 86.TAVV5.001 |
| | | SCREW M2.5*6(NL) | 86.TAVV5.002 |
| | | SCREW M2.5*10(NL) | 86.TAVV5.003 |
| | | SCREW M2.5*15(NL) | 86.TAVV5.004 |
| | | SCREW M2*2.2 | 86.TAVV5.005 |
| | | SCREW M2*3(NL) | 86.TAVV5.006 |
| | | SCREW M2*4 | 86.TAVV5.007 |
| | | SCREW M3*4(NL) | 86.TAVV5.008 |
| | | SCREW D-SUB 4#X40* 1/5-NI (NL) | 86.TAVV5.009 |

