TravelMate 8200
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 of Travelmate 8200 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, you should check the most up-to-date information available on your regional web or channel. For whatever reason, if a part number change is made, it will not be noted in the printed Service Guide. For ACER-AUTHORIZED SERVICE PROVIDERS, your Acer office may have a DIFFERENT part number code to those given in the FRU list of this printed Service Guide. You MUST use the list provided by your regional Acer office to order FRU parts for repair and service of customer machines.

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System Specifications

Overview

Travelmate 8200 is the 15.4” wide two-spindle NB solution with new Acer folio ID. With the standard Napa platform, Yonah (dual core) and Intel® 945PM (Calistoga) with ICH7M-DH, Travelmate 8200 is targeted to have full and powerful function and be the leadership as the next flagship product of 2006.

The Intel® Pentium® M Yonah processor is the world’s most technically advanced processor for notebook computing. In conjunction with the Intel® 945 Express chipset and Intel® PRO/Wireless Network Connection, it delivers outstanding mobile performance and low-power enhancements that enable a variety of laptop designs.

Key features are listed as below:

- 15.4” WSXGA + TFT LCD
- ATI POWERPLAY™ 5.0, Microsoft® DirectX® 9.0 and PCI Express™ support
- DDR2 533/667 memory
- Acer New Folio ID and Carbon Fiber / AI-Pre-coating Design
- Two-spindle solution
- Acer New FineTouch™ keyboard
- Acer Empowering Technology
- Acer ezDock support
- Two built-in speakers
- Acer eNet Management with 802.11a/b/g and Bluetooth 2.0
- Acer ePower Management for long battery life
- Outstanding wireless performance (Acer SignalUp)

Features

The features of Travelmate 8200 are itemized as below:

Platform

Intel® Centrino™ Mobile Technology features:

- Intel® Pentium® M Yonah (dual core) processor 20/30/40/50/60 (2MB L2 cache, 1.66/1.83/2.0/2.16/2.33 GHz, 667 MHz FSB)
- Intel® 945PM (Calistoga) Express Chipset with ICH7M-DH
- Wireless solution: integrated Intel® PRO/Wireless 3945 ABG network connection (dual-band tri-mode 802.11a/b/g) Wi-Fi CERTIFIED™ solution, Acer SignalUp wireless technology support

Memory

- 256/512MB or 1GB of DDR2 533/667 memory, Upgradeable to 2GB for 32bit OS, 4GB for 64bit OS by using two SODIMM modules

Display and Graphics

- 15.4” WSXGA + TFT LCD, 1680 x 1050 pixel resolution (262K colours), simultaneous multi-window via Acer GridVista support
- ATI M56P with 128/256MB of DDR video RAM, ATI POWERPLAY™ 5.0, Microsoft® DirectX® 9.0 and PCI Express™ support
- Dual View™ support
- External resolution / refresh rate
  - 2048 x 1536: 60/66/70/75/85 Hz
  - 1600 x 1200: 60/70/85/100/120 Hz
  - 1280 x 1024: 60/70/75/85/90/100/120/150/160/200 Hz
  - 1024 x 768: 60/70/72/75/85/90/100/120/160/200 Hz
  - 800 x 600: 60/70/72/75/85/90/100/120/160/200 Hz
- MPEG-2 / DVD hardware-assisted capability
- S-video / TV-out (NTSC / PAL) support
- DVI-D (true digital video interface) support
- Camera
  - 1.3 Megapixel high resolution CMOS
  - Streaming video indicator
  - MSN 7.0 full screen support
  - With face tracking and RightLight™ Technology

Storage

- 60/80/100/120 GB 5400 rpm SATA hard disk drive
- Serial ATA with Native Command Queuing (NCQ) support
- Acer DASP2 with HDD protection technology
- AcerMedia Bay for hot-swappable optical drive modules

- 8X DVD-Super Multi double layer
- 2nd HDD (Raid 0, 1 support)
- 2nd battery (2.5 hours battery life extend)

❑ Five-in-one card reader, Secure Digital (SD), Multimedia Card (MMC), Memory Stick® (MS), Memory Stick PRO™, (MS-Pro) and xD-Picture Card™

I/O Interface

❑ 124-pin Acer ezDock connector
❑ Four USB 2.0 ports
❑ IEEE 1394 port
❑ Ethernet (RJ-45) port
❑ Modem (RJ-11) port
❑ External display (VGA) port
❑ S-video / TV-out (NTSC / PAL) port
❑ DVI-D port
❑ Microphone jack
❑ Line-in jack
❑ Headphones / speaker / line-out / Speaker out / SPDIF support
❑ Fast infrared (FIR) port
❑ PC Card slot (on Type II)
❑ 34 mm PCI Express Card slot
❑ SmartCard slot
❑ Five-in-one card reader (SD / MMC / MS / MS-Pro / xD-Picture Card™)
❑ DC-in jack for AC adaptor

Communication

❑ 56K ITU V.92 modem with PTT approval, Wake-on-Ring ready

❑ Integrated Intel® PRO/1000 PM 82573E network connection, Intel® AMT and Wake-on-LAN support

❑ Integrated Intel® PRO/Wireless 3945 ABG network connection (dual-band tri-mode 802.11a/b/g) Wi-Fi CERTIFIED™ solution, Acer SignalUp wireless technology support, Integrated Bluetooth®

Power Supply

❑ Battery
- 87W 7800 mAh Li-Ion battery pack and optional 42W 3800 mAh Li-Ion 2nd battery pack
- Six-hour battery life under Acer ePower Management
- 2.5-hour rapid charge, 3.5-hour charge in use

❑ Three-pin 90W AC adaptor

Audio

❑ Audio system with two built-in speakers (1.5W)

- Built-in microphone
- Intel® high-definition audio support
- Sound Blaster® Pro and MS-Sound compatible
- S/PDIF (Sony / Philips Digital Interface) support for digital speakers
- Dolby® support for digital speakers
- Acer VVoIP support with echo cancellation

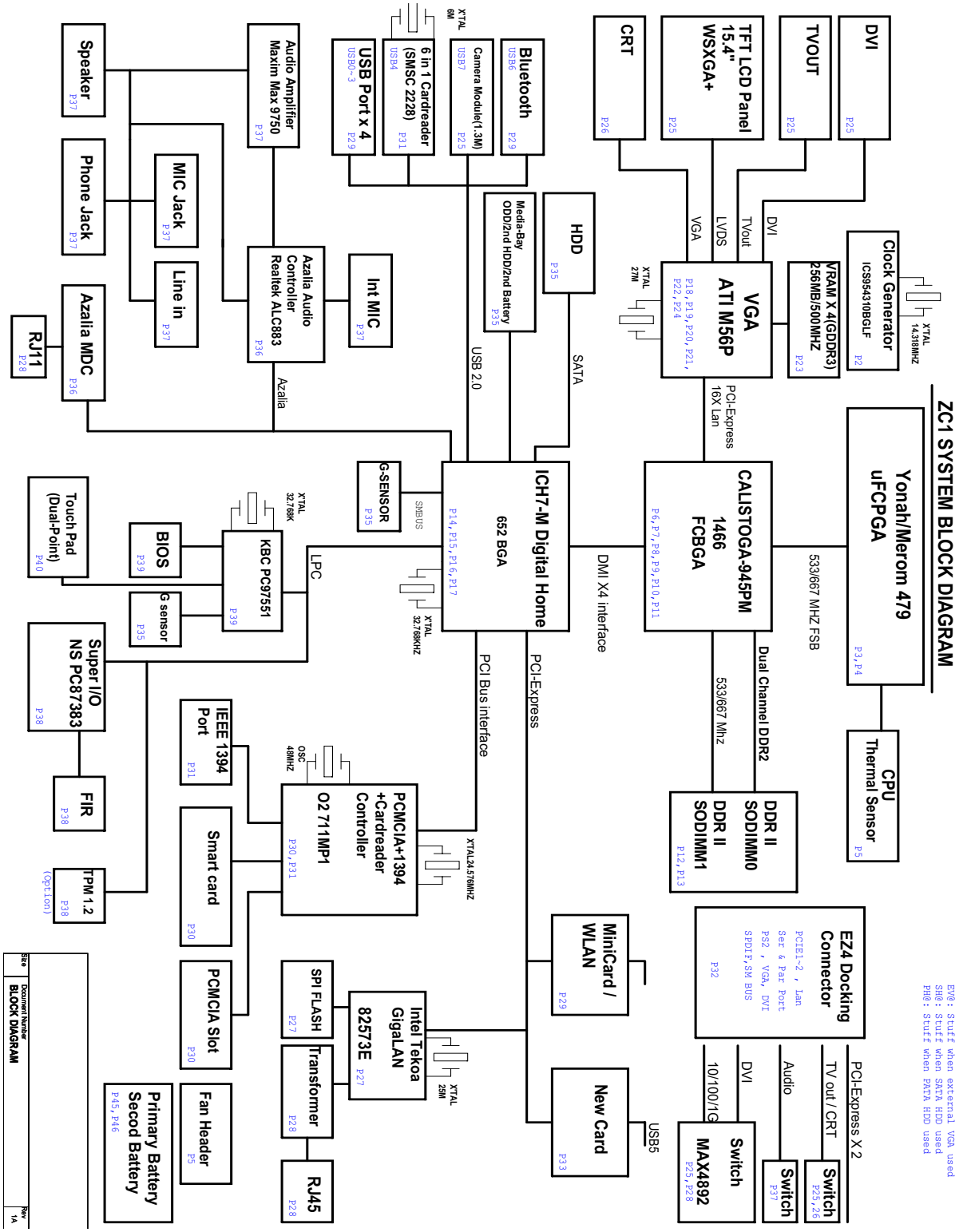
Weight

- 3 kg (6.6 lbs.) for 15.4 LCD model

Dimensions

- 364 (W) x 271 (D) x 26.3/38 (H) mm (14.33 x 10.66 x 1.03/1.49 inches)

Block Diagram



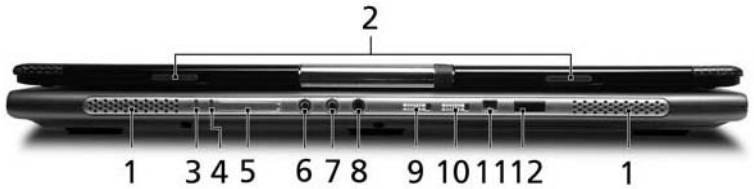
Outlook View

A general introduction of ports and indicators allow you to connect peripheral devices, as you would with a desktop PC.

Open View

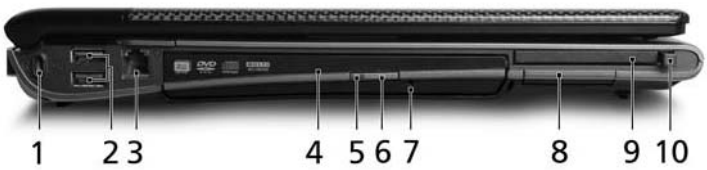
No.	Item	Description
1	Display screen	Displays computer output, also called Liquid-Crystal Display (LCD).
2	Microphone	Serves as an internal microphone for sound recording.
3	Palmrest	Serves to support your palms and wrists when you use the computer.
4	Camera	Captures photos and videos.
5	Easy-launch buttons	Buttons for launching frequently used programs.
6	Power button	Turns on and turns off the computer.
7	Status indicators	Light-Emitting Diodes (LEDs) that shows the status of the computer's functions and components.
8	Keyboard	Serves to key in the data.
9	Touchpad	Touch-sensitive pointing device which functions like a computer mouse.
10	Click buttons	The left and right buttons function like the left and right mouse buttons; the center button serves as a four-way scroll button.

Closed Front View



No.	Icon	Item	Description
1	N/A	Speakers	Left and right speakers deliver stereo audio output.
2	N/A	Latch	Locks and releases the LCD panel.
3		Power indicator	Lights when the computer is on.
4		Battery indicator	Lights when the battery is being charged.
5		Five-in-one card reader	Accepts Memory Stick, Memory Stick Pro, Multi Media Card (MMC), Secure Digital (SD) and xD-Picture Card **NOTE:** Only one card can operate at any given time.
6		Audio-in jack	Accepts audio line-in devices.
7		Microphone	Accepts inputs from an external microphone.
8		Headphones/speaker/ line-out jack with S/ PDIF support	Connects to audio line-out devices.
9		Bluetooth communication button/ indicator	Slide to enable/disable Bluetooth function. Lights to indicate the status of Bluetooth communications. (manufacturing option)
10		Wireless communications button/indicator	Slide to enable/disable Wireless function. Lights to indicate the status of wireless LAN communications. (manufacturing option)
11	1394	Four-pin IEEE 1394 port	Connects to IEEE 1394 devices.
12		Infrared port	Interfaces with infrared devices.

Left View



No.	Icon	Item	Description
1		Security key lock	Connects to a Kensington-compatible computer security lock.
2		Two USB 2.0 ports	Connect to USB 2.0 devices.
3		Modem (RJ-11) port	Connects to a phone line.
4	N/A	Optical disk drive	Accepts CDs or DVDs, depending on the optical disk type.
5	N/A	Optical disk access indicator	Lights up when the optical disk drive is active.
6	N/A	Optical disk drive eject button	Ejects the drive tray from the drive.
7	N/A	Emergency eject hole	Ejects the drive tray when the computer is turned off.
8	N/A	34 mm PCI Express Card	Accepts a 34 mm PCI Express Card.
9	N/A	PC Card slot	Accepts one Type II PC Card
10	N/A	PC Card slot eject button	Ejects the PC Card from the slot.

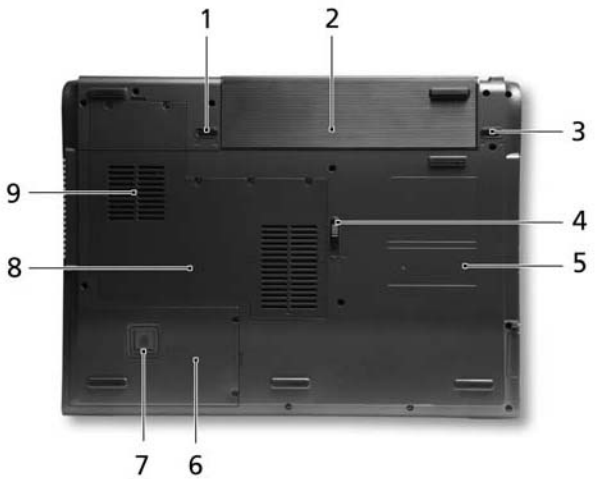
Right View

No.	Icon	Item	Description
1		SmartCard slot	Accepts the Travelmate SmartCard.
2		Two USB 2.0 ports	Connect to USB 2.0 devices.
3	N/A	Ventilation slots	Keep the computer stay cool.
4		Ethernet (RJ-45) port	Connects to an Ethernet 10/100/1000-based network (for selected model).
5		External display (VGA) port	Connects to an external display device.

Rear View

No.	Icon	Item	Description
1	DVI-D	DVI-D port	Supports digital video connections.
2		124-pin port (Replicator connector)	Connects to Acer ezDock.
3	S	S-video port / TV out port	Connects to a television or display device with S-video input.
4	N/A	Battery	Powers the computer.
5		Power jack	Connects to an AC adapter.

Bottom View



No.	Item	Description
1	Battery lock	Locks the battery in position.
2	Battery bay	Houses the computer’s battery pack.
3	Battery release latch.	Releases the battery for removal.
4	Optical drive bay release latch.	Releases the optical drive for removal.
5	Optical drive bay	Houses the computer’s optical drive.
6	Hard disk bay	Houses the computer's hard disk (secured by two screws).
7	Acer DASP (disk Anti-Shock Protection)	Protects the hard disk drive from shocks and bumps.
8	Wireless LAN and memory compartments	Houses the computer's Wireless LAN and main memory.
9	Ventilation slots and cooling fan	Keep the computer cool.

Using the Keyboard

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

Lock keys

The keyboard has three lock keys, each with its own status indicator.

Lock Key	Description
Caps Lock	When Caps Lock is on, all alphabetic characters are typed in uppercase.
Num Lock **Fn + F11**	When Num Lock is on, the embedded keyboard is in numeric mode.
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.

Embedded Numeric Keypad

The embedded numeric keypad functions like a desktop numeric keypad. It is indicated by small characters located on the right part of the keycaps.

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

Windows keys

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

Key	Icon	Description
Windows key		This key has the same effect as clicking on the Windows Start button. It launches the Start menu. It can also be used with other keys to provide a variety of functions: **+ Tab**: Activates the 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. **Shift +** **+ M**: Undoes the minimize all windows (**+ M**) action.
Application key		This key has the same effect as clicking the right mouse button. It opens the application's context menu.

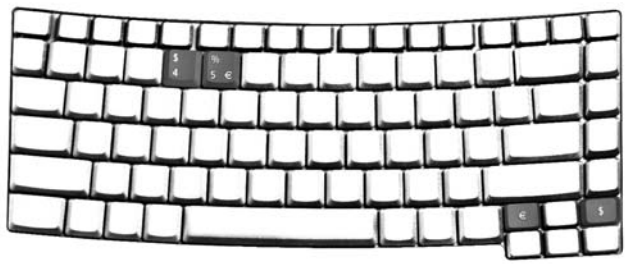
Hotkeys

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

Hot Key	Icon	Function	Description
Fn + F1		Hot key help	Displays help on hot keys.
Fn + F2		Acer eSetting	Launches the Acer eSetting in the Acer eManager.
Fn + F3		Acer ePower Management	Launches the Acer ePower Management in the Acer eManager.
Fn + F4		Sleep	Leads the computer to Sleep mode.
Fn + F5		Display toggle	Switches the display output between the display screen, external monitor (if connected) and both.
Fn + F6		Screen blank	Turns off the display screen backlight 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 sound volume.
Fn + ↓		Volume down	Decreases the sound volume.
Fn + →		Brightness up	Increases the screen brightness.
Fn + ←		Brightness down	Decreases the screen brightness.

Special keys

You can locate the Euro symbol and the US dollar sign on the upper center or bottom right side of the keyboard.



The Euro Symbol

1. Open a text editor or word processor.
2. Either directly press the **Euro** key on the bottom right side of the keyboard, or hold **Alt Gr** key then press the Euro symbol on the number **five** key.

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

The US Dollar Sign

1. Open a text editor or word processor.
2. Either directly press the **$** key on the bottom right side of the keyboard, or hold **Shift** and then press the US dollar sign on the number **four** key.

Indicators

The computer provides an array of three indicators located above the keyboard, in addition to four indicators on the front cover. These indicators show the status of the computer and its components.

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

Icon	Item	Description
	Caps Lock	Lights when Caps Lock is activated.
	Num Lock	Lights when Num Lock is activated.
	Media activity	Glitters when the hard disk or optical drive is active.
	Power	Lights when the computer is on.
	Battery	Lights when the battery is being charged.
	Bluetooth	Indicates the status of Bluetooth communication
	Wireless LAN	Indicates the status of wireless LAN communication

Easy-launch Buttons

There are four buttons located above the keyboard. These buttons are called easy-launch buttons. They are one user-programmable button, web browser button, mail button, and Acer Empowering Key . Press to run the Acer Empowering Technology. Although the mail and web browser buttons are pre-set to E-mail and Internet programs, they can be redefined by users. To set the web browser, mail and programmable buttons, run the Acer Launch Manager.

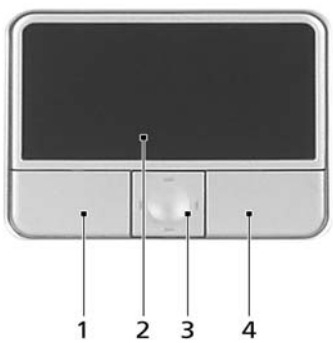
Easy-launch button	Default application
	Acer Empowering Technology (user-programmable)
Mail	E-mail application (user-programmable)
Web browser	Internet browser (user-programmable)
P	User-programmable

Touchpad

The built-in touchpad is a pointing device that senses movement on its surface. This means the cursor responds as you move your finger across the surface of the touchpad. The central location on the palmrest provides optimum comfort and support.

Touchpad Basics

Use the touchpad as follows:



- Move your finger across the touchpad (2) to move the cursor.
- Press the left (1) and right (4) buttons located on the edge of the touchpad to perform selection and execution functions. These two buttons are similar to the left and right buttons on a mouse. Tapping on the touchpad (2) is the same as clicking the left button.
- Use the four-way scroll (3) button to scroll up or down and move left or right a page. This button mimics your cursor pressing on the right scroll bar of windows applications.

Function	Left button (1)	Right button (4)	Main touchpad (2)	Center button (3)
Execute	Quickly click twice.		Tap twice (at the same speed as double-clicking a mouse button).	
Select	Click once		Tap once	
Drag	Click and hold. Then slide your finger across the touchpad to drag the cursor over the selection.		Tap twice (at the same speed as double-clicking a mouse button); rest your finger on the touchpad on the second tap and drag the cursor.	
Access context menu		Click once		
Scroll				Click and hold to move up/down/ left/right.

NOTE: Keep your fingers, as well as the surface of the touchpad dry and clean. The touchpad is sensitive to your finger movements: the lighter the touch, the better the response. Tapping hard will not increase the touchpad's responsiveness.

Acer Empowering Technology

Acer's innovative Empowering Technology makes it easy to have access to the frequently used functions and manage the 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 setting.
- **Acer eRecovery Management** backs up and 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 dispaly 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.

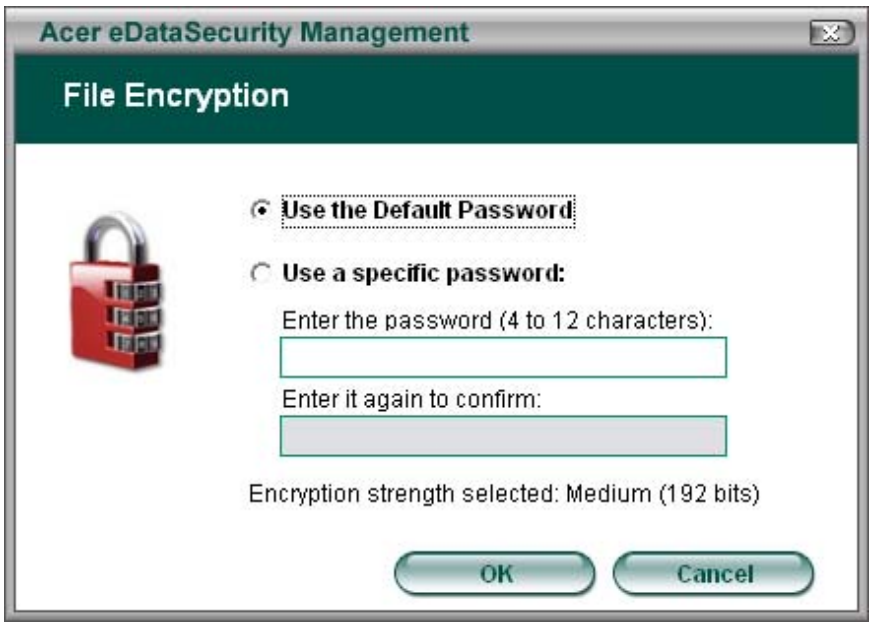
Acer eDataSecurity Management

Acer eDataSecurity Management is a handy file encryption utility that protects the files from being accessed by unauthorized persons. It is conveniently integrated with Windows Explorer as a shell extension for quick and easy data encryption and 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 and decrypt a file: the supervisor password and the file-specific password. The supervisor password is a “master” password that can decrypt any file on the system. The file-specific password is assigned when you encrypt each individual file.

Acer eDataSecurity Management setup wizard will prompt for a supervisor password and default file-specific password. This 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 to 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 the encrypted files!** Be sure to safeguard all related password.


Acer eDataSecurity Management
File Encryption
Use the Default Password
Use a specific password:
Enter the password (4 to 12 characters):
Enter it again to confirm:
Encryption strength selected: Medium (192 bits)
OK
Cancel


Acer eDataSecurity Management
File Decryption
File Decryption:
Enter the password:
Note:
If you forget the password, the Supervisor Password can be used instead.
OK
Cancel

Acer eLock Management

Acer eLock Management is a security utility that allow you to lock up your removable data, optical and floppy drives to ensure that data can not 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 at first. Once set, you may apply locks to any of the three kinds of devices. The lock(s) will 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 cancelled.

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

Acer ePerformance Management

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

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

Acer eRecovery Management

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

- Password protection
- Recovery of applications and drives
- Image or data backup:
  - Backup to HDD (set recovery point)
  - Backup to CD or DVD
- Image or data recovery tools:
  - Recovery from a hidden partition (factory defaults)
  - Recovery from the HDD (most recent user-defined recovery point)
  - Recovery from CD or DVD

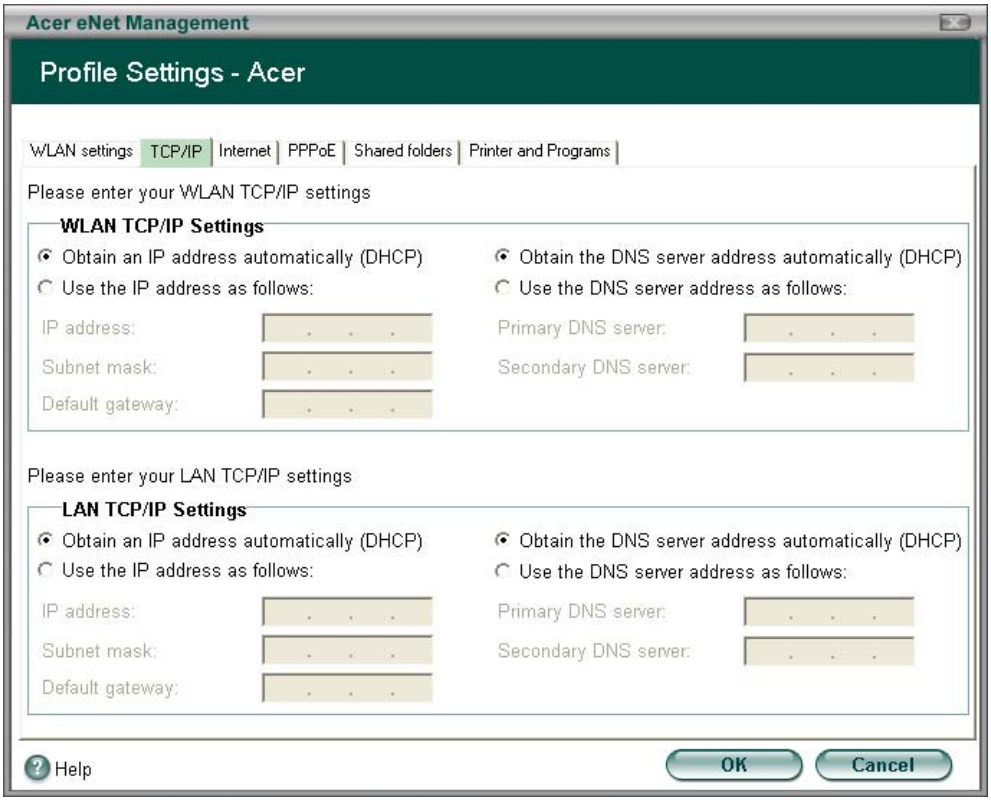
NOTE: If the computer did not come with a Recovery CD or System CD, please use Acer eRecovery Management's "System backup to optical disk" feature to burn a backup image to CD or DVD. To ensure the best results when recovering the system using a CD or Acer eRecovery Management, detach all peripherals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

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 the 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 the 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 task bar.

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. The settings stored include network connection settings (IP and DNS settings, wireless AP details, etc.), as well as default printer settings. The security and safety concerns mean that Acer eNet Management does not store username and password information.


Acer eNet Management
Profile Settings - Acer
WLAN settings
TCP/IP
Internet
PPPoE
Shared folders
Printer and Programs
Please enter your WLAN TCP/IP settings
WLAN TCP/IP Settings
Obtain an IP address automatically (DHCP)
Use the IP address as follows:
IP address:
Subnet mask:
Default gateway:
Obtain the DNS server address automatically (DHCP)
Use the DNS server address as follows:
Primary DNS server:
Secondary DNS server:
Please enter your LAN TCP/IP settings
LAN TCP/IP Settings
Obtain an IP address automatically (DHCP)
Use the IP address as follows:
IP address:
Subnet mask:
Default gateway:
Obtain the DNS server address automatically (DHCP)
Use the DNS server address as follows:
Primary DNS server:
Secondary DNS server:
Help
OK
Cancel

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.

AC mode

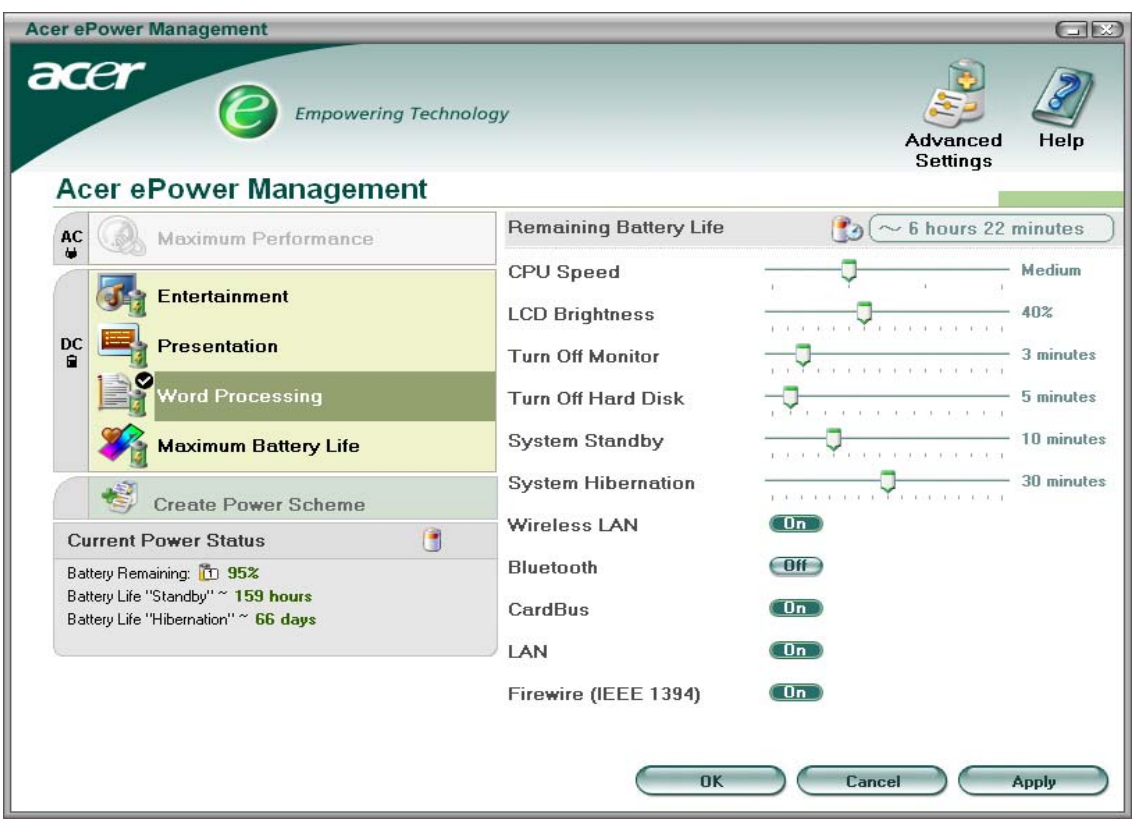
The default setting is “Maximum Performance.” You can adjust CPU speed, LCD brightness and other settings, or click on buttons to turn the following functions on or off: Wireless LAN, Bluetooth, CardBus, Memory Card, Audio, and Wired LAN.

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.

Battery status

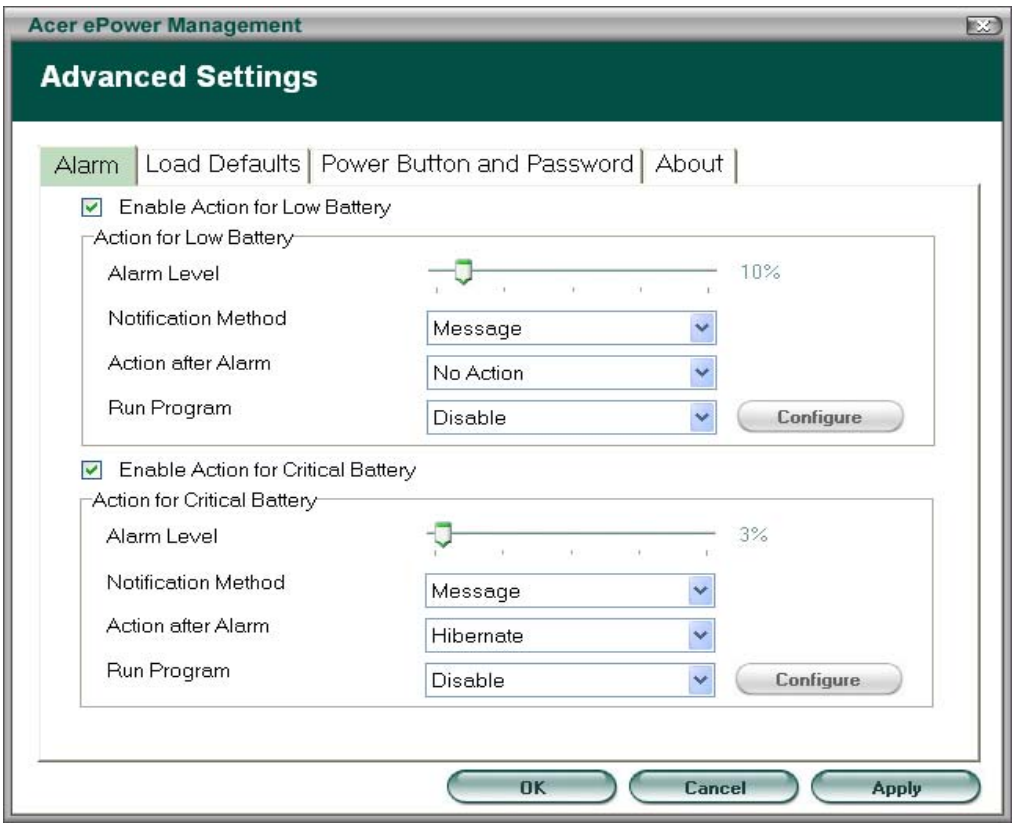
For real-time battery life estimates based on current usage, refer to the panel on the lower left side of the window.



You can also click “Advanced settings” to:

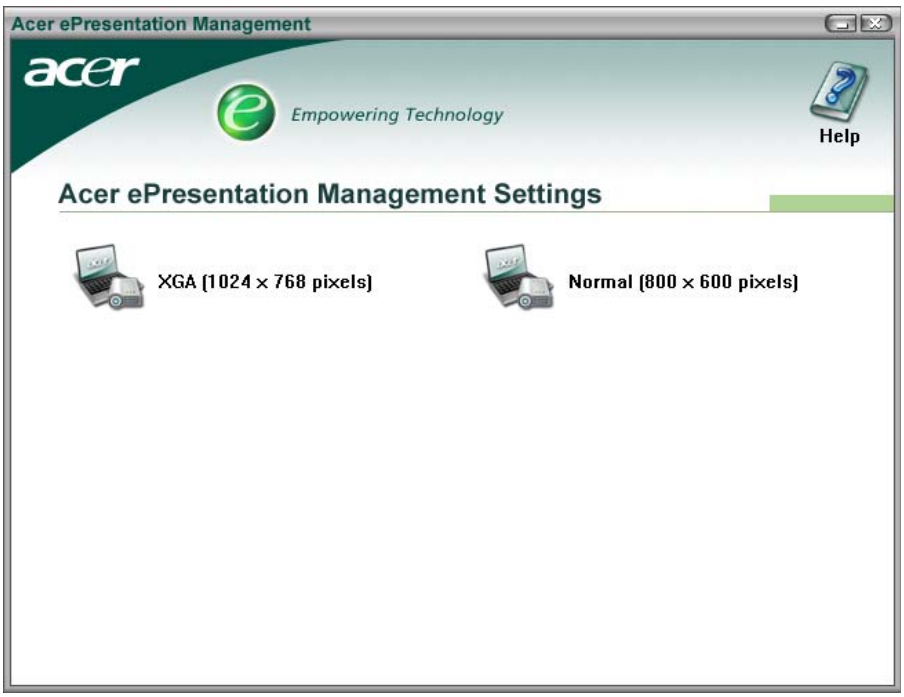
- Set alarms.
- Reload factory defaults.
- Select what actions will be taken when the cover is closed, and set passwords for accessing to the system after Hibernation or Stand-by.

- View information about Acer ePower Management.



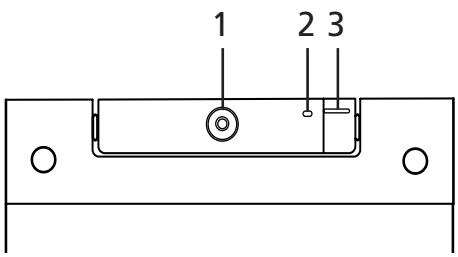
Acer ePresentation Management

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



Acer OrbiCam

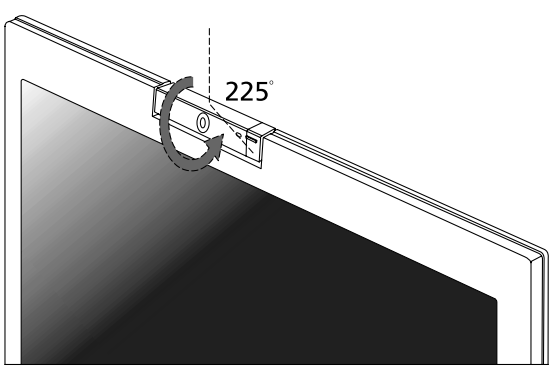
The Acer OrbiCam is a 1.3 megapixel CMOS camera appropriately mounted on the top of the LCD panel. The camera's 225-degree ergonomic rotation allows you to capture high-resolution photos or videos up front or at the back of the LCD panel. The Acer OrbiCam fully supports the Acer Video Conference technology so that you can transmit the best video quality over an instant messenger service.



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

Rotating the Acer Orbicam

The Acer OrbiCam rotates 225 degrees counterclockwise to achieve the desired angle. Refer to the illustrations below:



For your convenience, the camera snaps 45 degrees to match the position of your face in front in back of the LCD panel.

NOTE: Do not rotate the camera clockwise to prevent it from the damage.

Launching the Acer OrbiCam

To launch the Acer OrbiCam, double click on the Acer OrbiCam icon on the screen. or Click Start > All programs > Acer > Acer OrbiCam. The Acer OrbiCam capture windows window appears as below:

Changing the Acer OrbiCam settings

Resolution

To change the capture resolution, click the displayed resolution at the bottom right corner of the capture window, then select the desired resolution. Setting the camera resolution to 640 x 480 or larger does not change the capture window size.

Options

Click Options to display the Window, Preview, and Folder tabs. Use the options to change the capture window size, preview settings, and the folder for captured photos or videos.

Camera Settings

- Basic settings: Click the Camera Settings icon on the bottom right corner of the capture display, then select Camera Settings from the pop-up menu. You can adjust the Video, Audio, and Zoom/Face tracking options from this window.

- Capture settings: From the Camera Settings window, click the Driver Settings button. The Properties window will appear.

  - Device Settings allows you to change the camera brightness, contrast, hue, saturation, sharpness, etc.
  - Advanced Settings allows you to achieve gain control, implement image mirror, select image enhancements and anti-flicker settings, and turn on/off the camera indicator.
  - Zoom/Face Track Settings allows you to adjust the zoom level and turn the face tracking feature on or off.

Capturing photos or videos

To capture a photo or a video clip, rotate the Acer OrbiCam to get the desired angle, then click the Take a Picture or Record a Video button. The Windows Picture and Fax Viewer or the Windows Media Player automatically launches to display or play a preview of the photo/video clip.

NOTE: By default, all photos and videos are saved in the My Pictures and My Videos folder.

Using the Acer OrbiCam as webcam

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

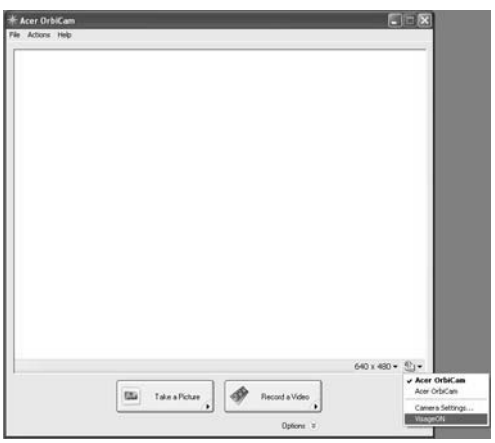
Enabling the Acer VisageON

The Acer VisageON technology comes with two features: Face tracking and Video effects (selected models only). The Face Tracking feature tracks your head movement and automatically centers your face in the capture window. The video effects feature allows you to select and apply an effect to your video transmissions.

NOTE: The face tracking feature is not capable of centering your face beyond the capture window frame. Minimal head movements are tracked more efficiently.

To enable the Acer VisageON:

1. Right click on this icon, then select VisageON from the pop-up menu.



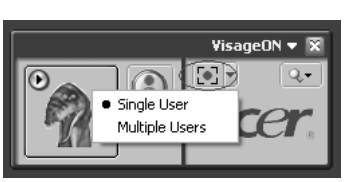
The VisageON window appears as below:

2. Select and apply a video effect in the left section of the VisageON window. Change the face tracking settings and options in the right section.

Using the face tracking feature

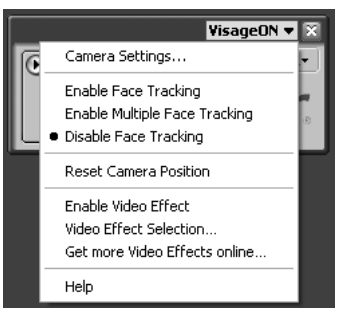
To use the face tracking feature:

1. Click the left icon down arrow button, then select Single User or Multiple Users from the pop-up menu. For multiple users, the face tracking feature automatically centers all the users' face in the capture window, otherwise the utility centers the face of the user closest to the camera.



2. Click the right icon to zoom in/out or reset the current view.

3. Click VisageON to display a menu that allows to change the configuration of the camera, face tracking and video effects settings.

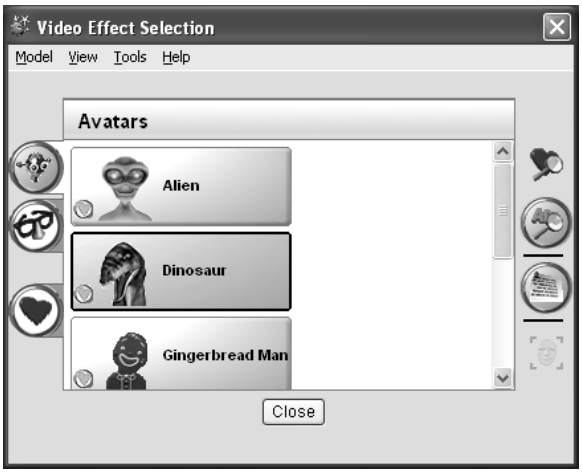


Using video effects (selected models only)

The Video Settings section allows you to select an avatar or accessory video effect from the list. To select an effect:

1. Click the encircled icon to display the available video effects. The Video Effect Selection window appears as below:

2. Click on a video effect to use. The selected effect appears in the video effects section of the VisageON window.



NOTE: When using avatars, you may have to calibrate the face points to achieve better tracking. Follow screen instructions in the VisageON to continue.

NOTE: You may use video effects when using the camera for IM chat/video sessions or call conferences.

Acer GraviSense

Acer GraviSense is an innovative utility designed to further protect your data by automatically moving the read/write heads of the Acer notebook's hard disk away from the storage disk (this is known as "parking" the heads) in the event that sudden shock is detected. Acer GraviSense can also be set to activate an alarm in case the notebook is moved by an unauthorized person.

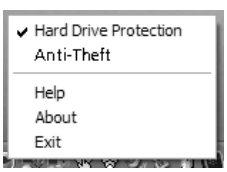
Using Acer GraviSense

You can launch Acer GraviSense in a number of ways:

- From the Start menu, go to Start > All programs > Acer GraviSense
- When Acer GraviSense is running, an icon will display in the task tray. Move the cursor on the icon to identify Acer GraviSense. Left click or right click on the icon to open a context menu.

Protecting the HDD

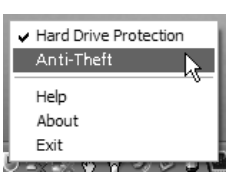
Right click on the tray icon to activate this feature and select HDD protection.



This function will park the HDD heads in the event that any sudden vibration or movement which exceeds the level tolerated by the HDD is detected.

Anti-Theft

Right click on the tray icon to activate this feature and select Anti-Theft.



When enabled, this feature will sound an alarm if the notebook is moved. This feature is password-protected to prevent unauthorized access.

Your password needs to be between four and eight characters, and should consist of letters and numbers. Once you've set the password, the Anti-theft feature will be activated.

If you enter a password that is invalid for any reason, you will be prompted to try again.

When this function is activated, Acer GraviSense will show a full screen image and a password window.

When Anti-Theft is activated, it will disable the following keys functions:

- Alt + Tab
- Ctrl +Shift + Esc
- Ctrl + Alt + Del
- Windows keys
- Task bar

Besides, the settings below will be changed to "do nothing" (the personal settings will be recovered once the Anti-Theft function is disable):

- Power button
- Sleep button
- Close the lid

If the system detects any movement when this function is activated, the system will emit a beep as a warning and prompt you to enter the password.

NOTE: Please remember the password for it can not be changed.

NOTE: You need to disable the Task Manager before setting the Anti-Theft function.

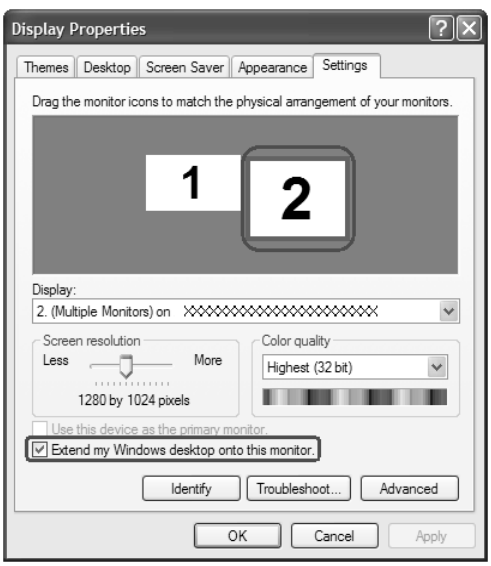
Using the System Utilities

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

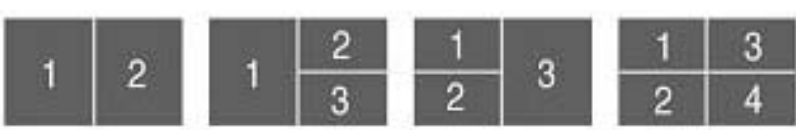
Acer GridVista (dual-display compatible)

NOTE: This feature is only available on certain models.

To enable the dual monitor feature of the notebook, first ensure that the second monitor is connected, then select Start, Control Panel, Display and click on Settings. Select the secondary monitor **(2)** icon in the display box and then click the check box Extend my windows desktop onto this monitor. Finally, click Apply to confirm the new settings and click OK to complete the process.

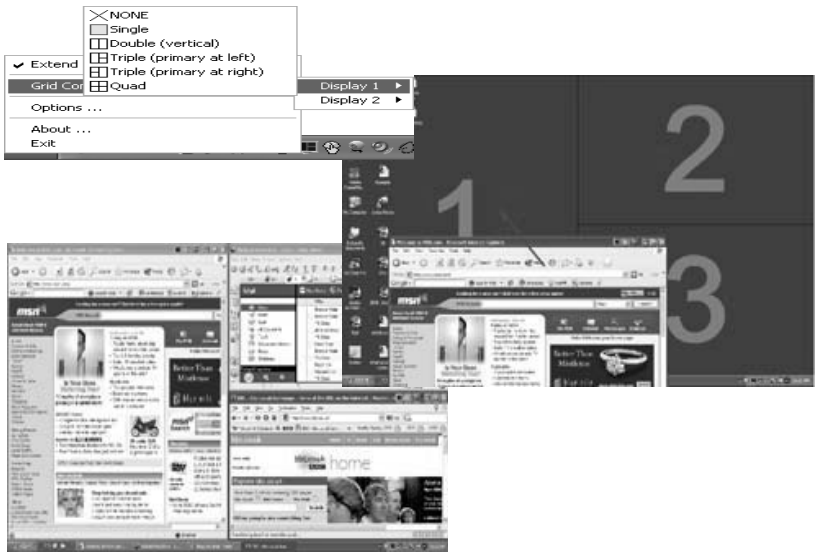


Acer GridVista is a handy utility that offers four pre-defined display settings so you can view multiple windows on the same screen. To access this function, please go to Start > All Programs and click on Acer GridVista. You may choose any one of the four display settings indicated below:



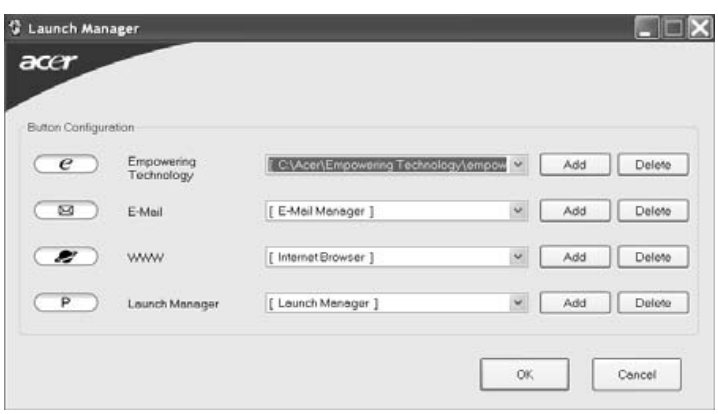
Acer Gridvista is dual-display compatible, allowing two displays to be partitioned independently. Acer GridVista is simple to set up:

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



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

Launch Manager



Launch Manager allows you to set the four easy-launch buttons located above the keyboard. You can access the Launch Manager by clicking on Start > All Programs > Launch Manager to start the application.

Hardware Specifications and Configurations

Processor

Item	Specification
CPU type	Intel® Pentium® M Yonah processor (dual core)
Package	Intel® 497-pin Micro-FCPGA
Core voltage	• 1.2875V (highest frequency mode) to 0.8375V (low frequency mode) • 0.75V (deeper sleep mode)
Feature	Intel® Architecture with Dynamic Execution, MMX and SpeedStep Technology
Bus speed	AGTL system bus interface, 64-bit data bus, 533/667 FSB operation
On-die primary (L1) cache	32KB instruction cache and 32KB write back data cache
On-die second (L2) cache	2048KB

North Bridge: Intel® 945PM (Calistoga)

Item	Specification
Package	Micro-FCBGA 1466-pin
Power	1.05V (core), 1.5V, VCCSM (DDR2 = 1.8V), 2.5V, 3.3V
Feature	• Processor host bus support • Integrated SDRAM controller up to 4GB (2 SODIMM support) Integrated SDRAM clock buffer to support 2 SODIMM • External Graphics interface for PCI Express Architecture support • DMI x 2 and DMI x 4 for connection between GMCH and ICH7M

South Bridge: ICH7M

Item	Specification
Package	BGA 652-pin
Power	1.05V (core), 1.5V, 3.3V, 5V, CMOS I/O
Feature	• Upstream accelerated Hub architecture interface for access to GMCH • PCI interface (six PCI Request/Grant pairs) • Bus master IDE controller (support Ultra 33/66/100) • Serial ATA (SATA) controller • USB 1.1 and USB 2.0 host controller • AC'97 2.3 interface • Low Pin Count (LPC) interface • IRQ controller • Enhanced DMA controller, interrupt controller, timers, RTC • Power management

Hard Disk Drive

Seagate			
Model	ST9120821AS	ST9120824AS	ST98823AS
Drive Specification			
Formatted Gbytes (512 bytes/sector)	120	100	80
Physical read/write head	4	4	3
Discs	2	2	2
Spindle Speed (RPM)	5400		
Internal transfer rate (Mbytes/sec. max.)	57.6		
I/O data transfer rate (Mbytes/sec. max.)	150		
ATA data transfer mode supported	SATA 1.0, SATA II PIO modes 0-4 Multiword DMA modes 0-2 Ultra DMA modes 0-6		
Bytes per sector	1024		
Average latency	5.56		
Average seek, read (msec. typical)	12.5		
Average seek, write (msec. typical)	14.5		
Cache buffer	8 Mbytes		
Startup current (typical, peak)	+5V: 1.1A		
Ambient temperature	5 to 55^{o}C (operating), -40 to 70^{o}C (nonoperating)		
Temperature gradient (^{o}C per hour max.)	20^{o}C (operating), 30^{o}C (nonoperating)		
Relative humidity	5% to 90% (operating), 5% to 95% (nonoperating)		
Relative humidity gradient	30% per hour max.		
Drive acoustics, sound power (bels) idle	2.4 (typical), 2.6 (max)		
Shock, operating (Gs max. at 0.5 msec.)	250		
Shock, nonoperating (Gs max. at 2 msec.)	800		
Vibration, operating	1.0 G (0 to peak, 5-500 Hz)		
Vibration, nonoperating	5 Gs (0 to peak, 5-500 Hz)		
Nonrecoverable read errors	1 per 10^{14} bits read, max.		
Seek power (typical)	2.20 watts		
Read/write power (typical)	Read: 1.90 watts; Write: 2.30 watts		
Idle mode, lower power (typical)	0.80 watts		
Standby mode	0.28 watts		
Sleep mode	0.28 watts		
Voltage tolerance	+5.0V +/- 5%		

System Clock

Item	Description
Chip	ICS954310BGLF or pin compatible device
Package	64-pin TSSOP
Power	3.3V
Feature	• Spread spectrum function support, for reducing EMI • SM bus interface support
Clock synthesizer	• 133/166 MHz for CPU and GMCH • 100 MHz clock buffer for GMCH, ICH7M, PCI-E device, SATA and Docking station • 96MHz GMCH • 48MHz for USB clock inside ICH7M • 33MHz PCI clock for PC device, SIO, LPC • 14.31818MHz for ICH7M and audio

Crystal and Oscillator

Item	Description
Feature	• 14.31818MHz crystal for clock chip • 32.768KHz for RTC inside ICH7M and HS97551 • 24.576MHz/48MHz O2MICRO OZ711MP1 • 27MHz crystal for ATI VGA M56P • 25MHz crystal for GigaLAN 82573E (Tekoa)

System Memory

Item	Description
Chipset	Intel® 945PM (Calistoga)
Feature	• DDR2 533/667 MHz SDRAM memory interface design • No DDR RAM on board • Two DDR SODIMM slots • Maximum memory up to 2GB for 32bit OS, 4GB for 64bit OS (with two 1GB/2GB SODIMM)

Thermal Sensor Control

Item	Description
Chip	Andigilog aSC7511
Package	Eight-pin SSOP
Interface	I^2C bus, address: 98h

BIOS

Item	Description
Vendor	Phoenix
Version	v2.002e
ROM type	SST 39VF080, one MB CMOS Boot block Flash Memory
Package	40-pin TSOP
Block size	64KB per block
Supply current	• Active current: 15 mA (typical) • Standby current: 4 uA (typical)

VGA

Item	Description
Chip	ATI M56P with VRAM 128MB/256MB
Package	BGA 708-pin
Feature	• PCI-E interface support • 3D graphics texturing enhancements • Integrated transform and lighting • Integrated two channels of 24bit LVDS transmitter to support up to SXGA LCD • Integrated TV decoder to support S-video with both PAL and NTSC through EZ-4 • 128MB/256MB DDR3 memory • DVD-ready motion compensation for MPEG-2 • Full ACPI compliant • ZV port support

PCMCIA & IEEE 1394 & Memory Card Reader

Item	Description
Chip	O2 Micro OZ711MP1
PCMCIA	
Feature	• PCI single chip solution, PCI 2.2 compliant • OHCI v1.1 • IEEE 1394.A four-pin
IEEE 1394	
Feature	• PC card 95 support with one Type II PCI Card bus • Reserved PCI-Express one wide type ME
Memory card reader	
Feature	• Five-in-one Card Reader

Super I/O

Item	Description
Controller	NS PC87383
Package	TQFP 64-pin
Feature	Parallel interface support: • An Enhanced Parallel Port (EPP) compatible with EPP 1.9, version EPP1.7 of the Xircom specification support • An extended capabilities port that is IEEE 1284 compliant including level two UART serial port interface: • MIDI baud rate support • Infrared support on UART2 (IrDA 1.1 support) PnP support: • Flexible IRQs, DMAs and base addresses • IRQs that can be multiplexed to the ten supported IRQs
Power consumption	5V / 25 ~ 55 mA

Audio and Amplifier

Item	Description
Chip	Realtek ALC833D Azadia Codec and Amplifier Maxim MAX9755
Feature	• HD Audio • SNR > 85, high-performance DACs with 95dB SNR (A-Weighting), ADCs with 85dB SNR (A-Weighting) • Internal Microphone • Two speakers, at least 1.5W / 30cc for each • 2* digital microphone array • VoIP function support • Universal jack function support

LAN

Item	Description
Chip	Intel® Tekoa GigaLAN (82573E)
Feature	• PCI-E GbE LAN • WOL support from S5 • LDCM support • Intel® AMT and Wake-on-LAN support
Connector type	RJ-45

Optical Disk Drive

Item	Specification	
Model name	HLDS GSA-4082N 8X SUPER MULTI	PANASONIC UJ-840B SUPER MULTI
Support disc format	DVD-ROM, DVD-R, DVD-RAM, DVD-RW, DVD+R, DVD+RW; CD-ROM, CD-ROM XA, CD-I, Video CD, CD-Extra, CD-Text, Photo CD, CD-DA, CD-R, CD-RW	DVD-Video, DVD-ROM, DVD-R, DVD-RW, DVD+R, DVD+R DL, DVD+RW, CD-DA, CD-ROM, CD-R, CD-RW, CD-ROMXA, Photo CD (multisession), Video CD, CD-Extra (CD+), CD-Text, Hybrid SACD
Transfer rate	DVD-ROM 16.62Mbytes/sec. (12X) max. CD-ROM 4800 kB/sec. (32X) max.	DVD-ROM 10.55 Mbytes/sec. (8X) max. CD-ROM 3600 kB/sec. (24X) max.
Interface	IDE (ATAPI)	IDE (ATAPI)
Operating voltage	+5.0V +/- 5%	+5.0V +/- 5%

Wireless LAN

Item	Description
Feature	• Mini-card: manufacturing option • 802.11a/b/g (Intel® Golan / 3rd party) • 802.11 pre-n (3rd party) • Built-in two antennas • Wi-Fi CERTIFIED™ solution, WPA2, WMM • CCX V3 and above

Modem

Item	Description
Controller	ICH7M
Data modem data baud rate (bps)	56K
Modem/bluetooth protocol supported	• V.90/V.92 AC-Link modem with PTT approval • Wake-on-Ring ready
Connector type	RJ-11

Bluetooth

Item	Description
Module	WNC BU5 Bluetooth miniUSB module
Controller	ICH7M

Bluetooth

Item	Description
Feature	• Bluetooth 1.1 qualified embedded USB module • Class two specification RF output power (max. + four dBm) • Full piconet and scatternet operation • Full Bluetooth data rate (723 KB/s) • USB 1.1 compliant interface • LED indicator built-in

KBC

Item	Description
Chip	PC97551
Package	LQFP 176-pin
Feature	• Host interface, base on Intel®'s LPC interface specification revision 1.0 • PC01 REV 0.3 and ACPI 1.0b compliant • 16bit risc core, with two MB address space, up to 20 MHz • Software and hardware controlled clock throttling • Share BIOS flash memory (internal and/or external) • 84 GPIO ports with variety of wake-up events • JTAG-base debugger interface

Keyboard

Item	Description
Controller	PC97551
Model name	Travelmate series: New Acer Ergo Keyboard with buttons embedded
Feature	• 88/89-key Acer FineTouch™ keyboard with five-degree curve • Inverted T cursor layout • 2.5 mm (minimum) key travel, spill proof support • Built-in touchpad with four-way integrated scroll button • 12 function keys • Four cursor keys • Two Windows® keys • Hotkey controls • Embedded numeric keypad • International language support • Four easy-launch buttons: web browser, mail, empowering key and user-programmable • Two front-access recovery type LED switch: WLAN, Bluetooth®

System Board Major Chips

Item	Controller
System core logic	• North bridge: Intel® 945PM (Calistoga) • South bridge: ICH7M
Super I/O	NS PC87383

System Board Major Chips

Item	Controller
PCMCIA & IEEE 1394 & Card Reader	O2 711MP1
Audio	Realtek ALC883
Video	ATI M56P
Keyboard	PC97551
LAN	Intel® Tekoa GigaLAN 82573E

Replicator Port

Item	Description
Feature	• 120 pins for signals and four pins for power • Power supplied from Acer ezDock • Max. six USB ports support • Two 1394 ports support • One new card socket and one PCMCIA card socket • GigaLAN and modem support • analog VGA, TV out and DVI-D support • One parallel, one serial port and two PS2 port for legacy devices support

Battery

Item	Specification
Vendor & model name	Panasonic pack 7800MAH / Sanyo pack 2600MAH
Battery Type	Li-Ion
Pack capacity	87 W
Number of battery cell	nine cell six cell (optional: 42 W 3800MAH Li-Ion 2nd battery pack)
Battery life	• 80% charge in one hour • two hour rapid charge system-off • 2.5 hour charge-in-use

System Power Management

Legacy Mode	ACPI Mode
Off	• Mech. Off (G3): All devices in the system are turned off completely. • Soft Off: (G2/S5): All devices in the system are turned off completely by OS shutdown.
On	• Working (G0/S0): Individual devices such as the CPU and hard disk may be power-managed in this state. • **S3** Sleeping State: CPU set power down, VGA suspend, PCMCIA suspend, Audio power down, HDD power down, CD-ROM power down, Super I/O low power mode. • **S4** Sleeping State: It is also called hibernation state. The system saves all system setting and data onto disk before the whole system is powered off.

System Wake Up Source under ACPI Mode

Event	S3	S4	S5	Remark
Power Button	Yes	Yes	Yes	
LAN (onboard)	Yes	Yes	Yes	This event only runs for onboard LAN. In S4 and S5, this feature is supported only with AC in.
RTC	Yes	Yes	Yes	In S4 and S5, this feature is supported only with AC in.
Lid Open	No	No	No	
Embedded Software Modem	Yes	No	No	This feature is supported only with AC in.
USB Input Device	No	No	No	
Any Key from Internal Keyboard	Yes	No	No	
PS/2 Input Device	No	No	No	
Battery Critically Low	Yes	No	No	This event should wake the system to Full On then notify the OS of the critically low batter.

LCD

Item	Specification		
Model name	Samsung LTN154P1-L02	CMO N154Z1-L01	QDI QD 15AL02-01
Display area	331.38 (H) X 207.1125 (V) mm (15.4” diagonal)	331.128 (H) X 206.955 (V) mm (15.4” diagonal)	331.2 (H) X 207.0 (V) mm (15.4” diagonal)
Driver element	a-Si TFT active matrix	a-Si TFT active matrix	-
Display colors	262,144	262,144	262,144
Number of pixel	1680 X RGB (3) X1050 pixels	1680 X RGB (3) X1050 pixels	1680 X RGB (3) X1050 pixels
Pixel arrangement	RGB vertical stripe	RGB vertical stripe	RGB vertical stripe
Pixel pitch	0.19725 (H) X 0.19725 (V) mm	0.1971 (H) X 0.1971 (V) mm	0.1971 (H) X 0.1971 (V) mm
Display mode	Normally white	Normally white	Normally white
Surface treatment	Haze (25), Hard-coating (3H)	Antiglare and Hard Coat (3H min.)	Antiglare, Hardness 3H

AC Adaptor

Item	Specification	
Model name	LiteOn PA-1900-04QB	ROHS Delta 90W ADP-90SB BBAHF
Input feature		
Rated voltage	for 100Vac or 240Vac input AC voltage	for 100Vac or 240Vac input AC voltage
Input voltage range	from 90Vac to 264Vac	from 90Vac to 265Vac

AC Adaptor

Item	Specification	
Rated frequency	for 50Hz or 60Hz	for 50Hz or 60Hz
Frequency range	from 47Hz to 63Hz	from 47Hz to 63Hz
Steady AC current	less than 1.5A rms at 100Vac input and maximum load	less than 1.5A rms at 100Vac input and maximum load
Output feature		
Rated voltage	19V	19V
Voltage range	18.05V to 20V	from 18.2V to 19.8V
Rated power	90 W	90 W
Output ripple and noise	less than 300mVp-p	less than 300mVp-p
Turn on delay time	within two seconds at 115 Vac input voltage	within two seconds at 115 Vac input voltage
Pin Number	three pin	three pin

Dimensions and Weight

Item	Description
Dimensions	364 (W) x 271 (D) x 26.3/38 (H) mm (14.33 x 10.66 x 1.03/1.49 inches)
Weight	3 kg (6.6 lbs.) for 15.4 LCD model

System Utilities

BIOS Setup Utility

The BIOS Setup Utility is a hardware configuration program built in the BIOS (Basic Input / Output System) of computer. Generally speaking, the 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. Otherwise, you can also refer to Chapter 4 Troubleshooting when problem arises.

Invoking BIOS Setup

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

There are six prime items in the BIOS Setup Utility. They are Information, Main, Advanced, Security, Boot and Exit. In the coming pages, we will explain the BIOS Setup Utility by item.

Part	Description
Information	Display the system informations.
Main	Allows the user to specify standard IBM PC AT system parameters.
Advanced	Provides advanced setting of the system.
Security	Provides security setting of the system.
Boot	Allows the user to specify the boot options.
Exit	Allows the user to save CMOS setting and exit Setup.

NOTE: During setup, all Fn function keys and power saving function are disabled.

Buttons

Hotkeys

- Fn + F1: Help Menu

  This hotkey will cause a help message on the screen that describes the definitions and functions of the unit's hotkeys.

- Fn + F2: Launch Acer eSetting

  This hotkey will launch the Acer eSetting utility.

- Fn + F3: Launch Acer ePower Management

  This hotkey will launch the Acer ePower management utility.

- Fn + F4: Sleep Button

  It is assigned as the Sleep Button in ACPI mode. Users can set the definition of Sleep Button in Windows Power Options.

- Fn + F5: Display Toggle

  It's used to switch the display device at run-time. The detail behavior is defined in Acer Display Mode Specification v0.02.

- Fn + F6: Display Blank

  This hotkey will make the LCD backlight turned off. This provides both a quick security features and some power savings. The LCD backlight will be turned on again when any of the following events occurs:

  - Any key pressed (not include USB keyboard)
  - Pointing device moved (not include USB mouse)

- Fn + F7: Touchpad On/Off

  This hotkey will cause the internal touchpad to be disabled/enabled.

- Fn + F8: Speaker On/Off

  It's assigned to turn on and turn off the audio output.

- Fn + F11: Number Lock

  The NumLock feature is a standard AT keyboard feature. In Acer system, the NumLock is off by default and for the internal keyboard as numeric keypad lock when the NumLock is on.

  If an external keyboard or keypad is linked, the NumLock will have the following limits:

  - NumLock is on when the system boots with external keyboard or numeric keypad. The external keyboard or keypad NumLock status is on and internal keyboard overlay numeric keys are disabled.
  - NumLock key can be typed on or off via the internal keyboard (Fn + F11) or the external keyboard or keypad, but NumLock affects the external keyboard or keypad only.
  - The NumLock shift state (NumLock is off) is NOT used for the cursor movement by the internal keyboard numeric keys.
  - The state of the NumLock is not changed by the linkage and removal of the external keyboard or keypad.

  This is to support the linkage of an external numeric keypad. It permits the users for full alphabet typing with the internal keyboard, and the external keypad for numeric typing.

- Fn + F12: Scroll Lock

The Scroll Lock is a standard AT keyboard feature.

- Fn + ↑: Volume Up

  It is assigned to increase the volume.

- Fn + ↓: Volume Down

  This hotkey is used to decrease the volume.

- Fn + →: Brightness Up

  It is assigned to increase the brightness of the LCD backlight.

- Fn + ←: Brightness down

  It is used to decrease the brightness of the LCD backlight.

- Fn + <Page Up>: Home

  This is a standard AT keyboard feature. When it is pressed, the cursor on the screen will skip to the beginning of the line.

- Fn + <Page Down>: End

  It is a standard AT keyboard feature. When it is pressed, the cursor on the screen will skip to the end of the line.

Launch Buttons

- e: Launch Acer eManager
- P: Launch Application (programmable)
- WWW: Web Browser
- Email: Launch Email
- Wireless: Wireless enabled/disabled
- Bluetooth: Bluetooth enabled/disabled

Power Button

The Power button should act as the ACPI defined Power button and users can determine its policy through the OS setting like Windows Power Options.

The override feature should be supported to allow the unconditional shutdown by pressing the Power button for more than four seconds.

Lid Switch

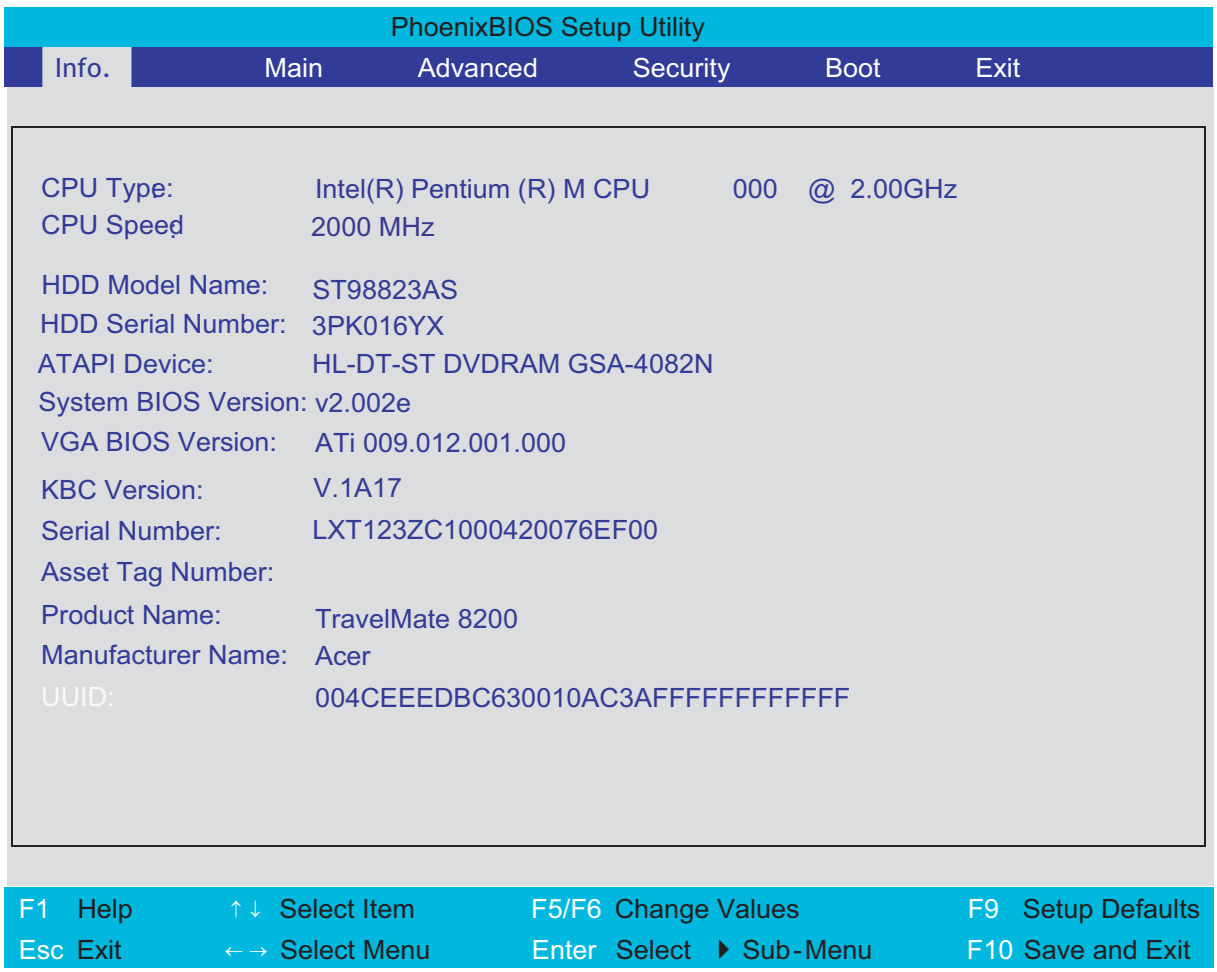
The function of Lid switch is defined as below:

- The LCD backlight should be turned off when the Lid switch is pressed. The LCD backlight will be lighted when the Lid switch is released again. This function is irrelevant to OS and should be always true when the system is powered on.
- When the system is running under ACPI mode, the function of the Lid switch should follow the OS setting.

Auto-Dim

The system supports an automatic dimming of the LCD brightness when the AC power source is not available (running on battery power). However, the users still can manually adjust the LCD brightness by their need. The current user setting of brightness (along with current power source) will be saved across power down and be restored at the next boot or resume.

Information Menu



- HDD Model Name:

  This item will show the Model name of HDD installed on Primary IDE master. The hard disk model name is automatically detected by the system. If there is no hard disk present or unknown type, “None” should be shown on this field.

- HDD Serial Number:

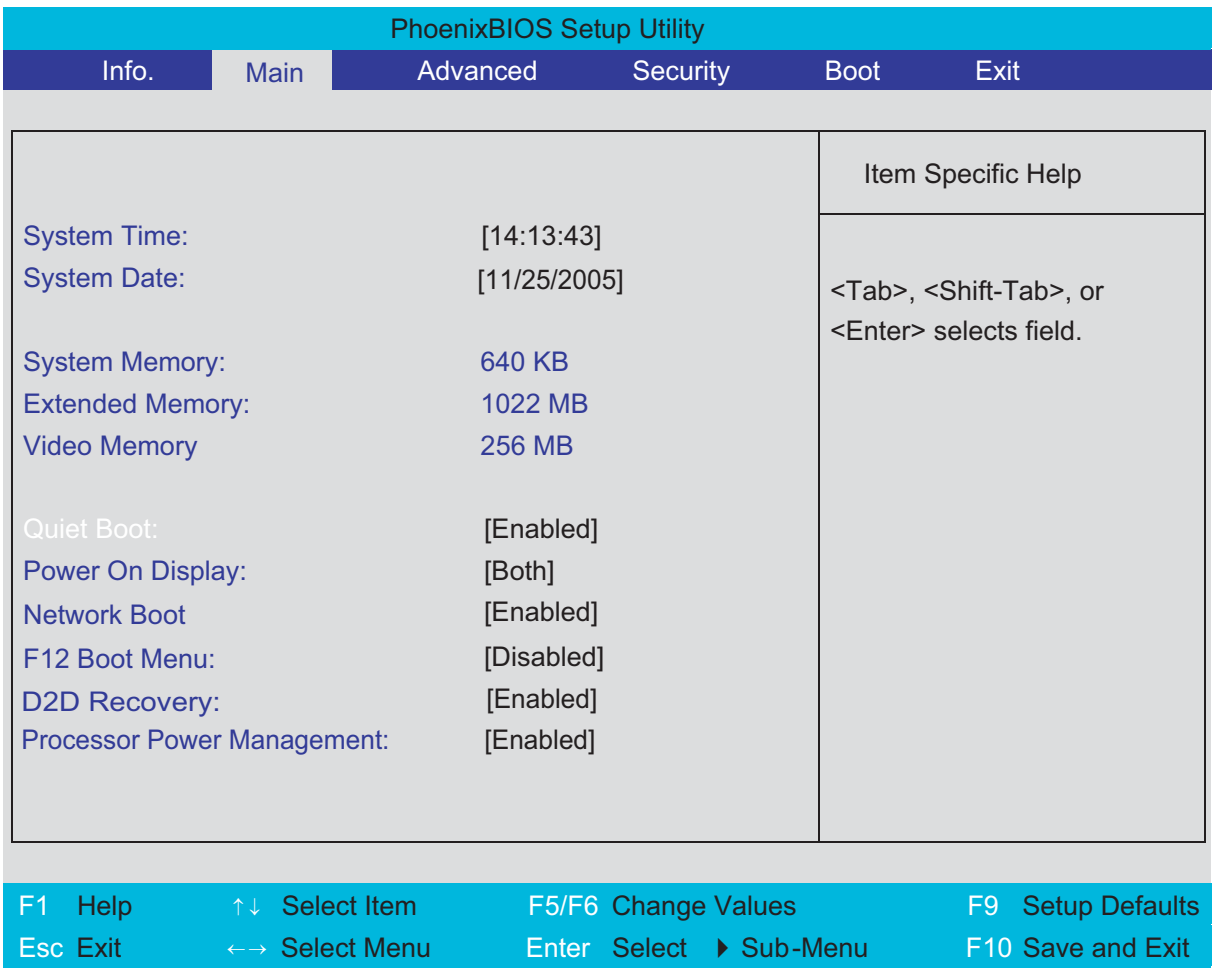
  This item will show the Serial number of HDD installed on Primary IDE master. If no hard disk or other devices are installed on Primary IDE master, it will display a blank line.

- UUID:

  It shows only when an internal LAN device is available.

NOTE: Other items are unit dependent.

Main Menu



- System Time and System Date:

  The hours are displayed with 24-hour format. The changes in these two items take effect immediately.
- System Memory:

  This item reports the memory size of system base memory. The size is fixed to 640KB.
- Extended Memory:

  It reports the memory size of the extended memory in the system. The extended memory size is equal to total memory size (one MB).
- Video Memory:

  It indicates the video memory size.
- Quiet Boot:
  - Enabled: Customer Logo is displayed, and Summary Screen is disabled.
  - Disabled: Customer Logo is displayed, and Summary Screen is enabled.
- Power on Display:
  - Auto: During power on 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 only in CRT (or projector) mode. Otherwise, it will be in LCD mode.
  - Both: Both the integrated LCD and the external video port (for an external CRT or projector)

will be enabled simultaneously.

- Network Boot:

  It permits the users to boot from network.

- F12 Boot Menu:

  - Enabled: When it is enabled, the users can modify device boot priority by pressing <F12> during POST.
  - Disabled: When it is not enabled, device boot priority will not be adjustable during POST.

  The boot device change is only for one-time change. In other words, when the system is rebooted, the boot device sequence will be the same as the one defined in the BIOS setup (Boot option).

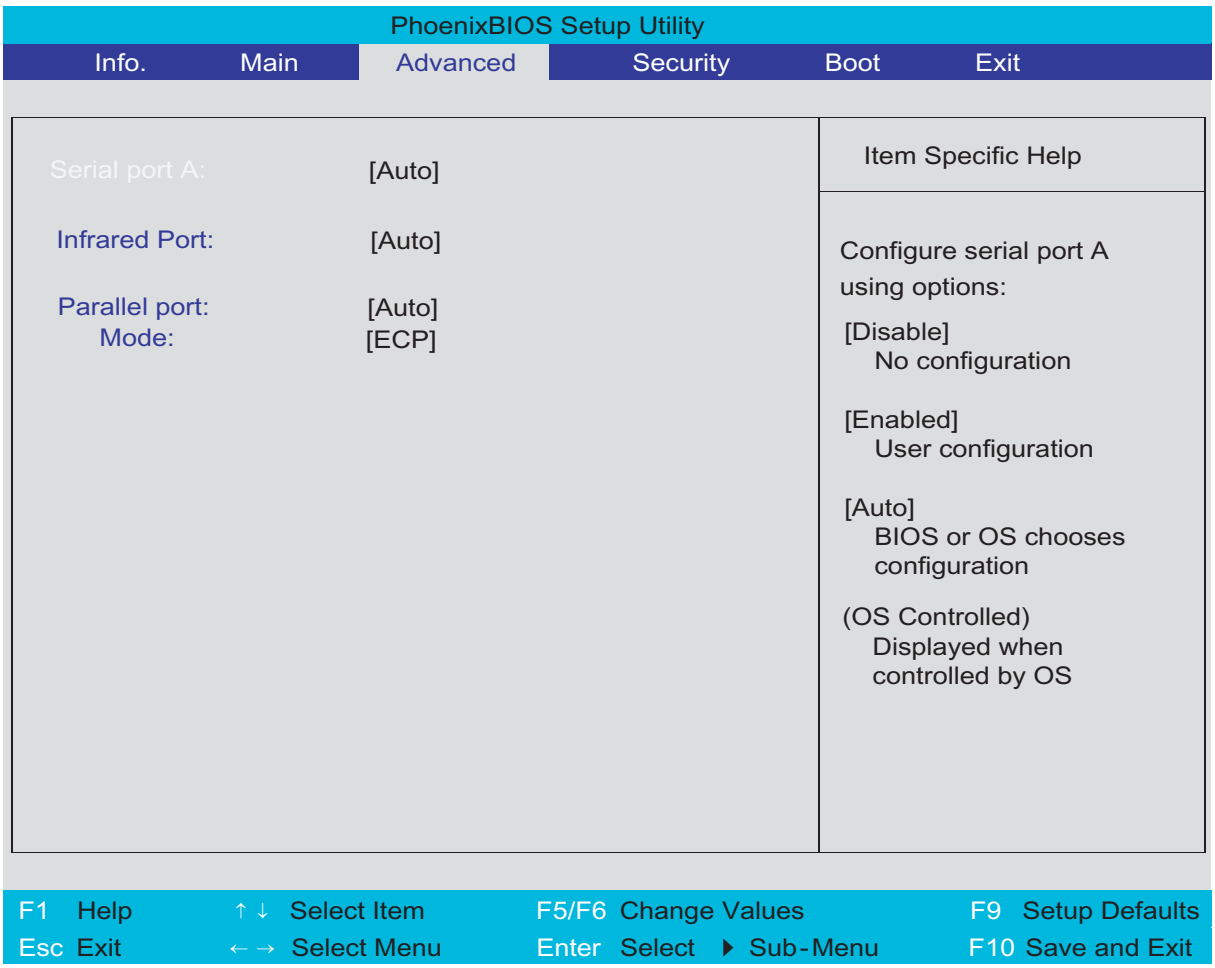
- D2D Recovery:

  It allows the users to enable or disable the disk-to-disk recovery.

- Processor Power Management:

  To save power in working state, the OS leads the CPU to low-power states (C1, C2 and C3) when the OS is idle. In the low-power state, the CPU does not run any instructions, and wakes up when an interruption, such as the OS scheduler's timer interruption, occurs.

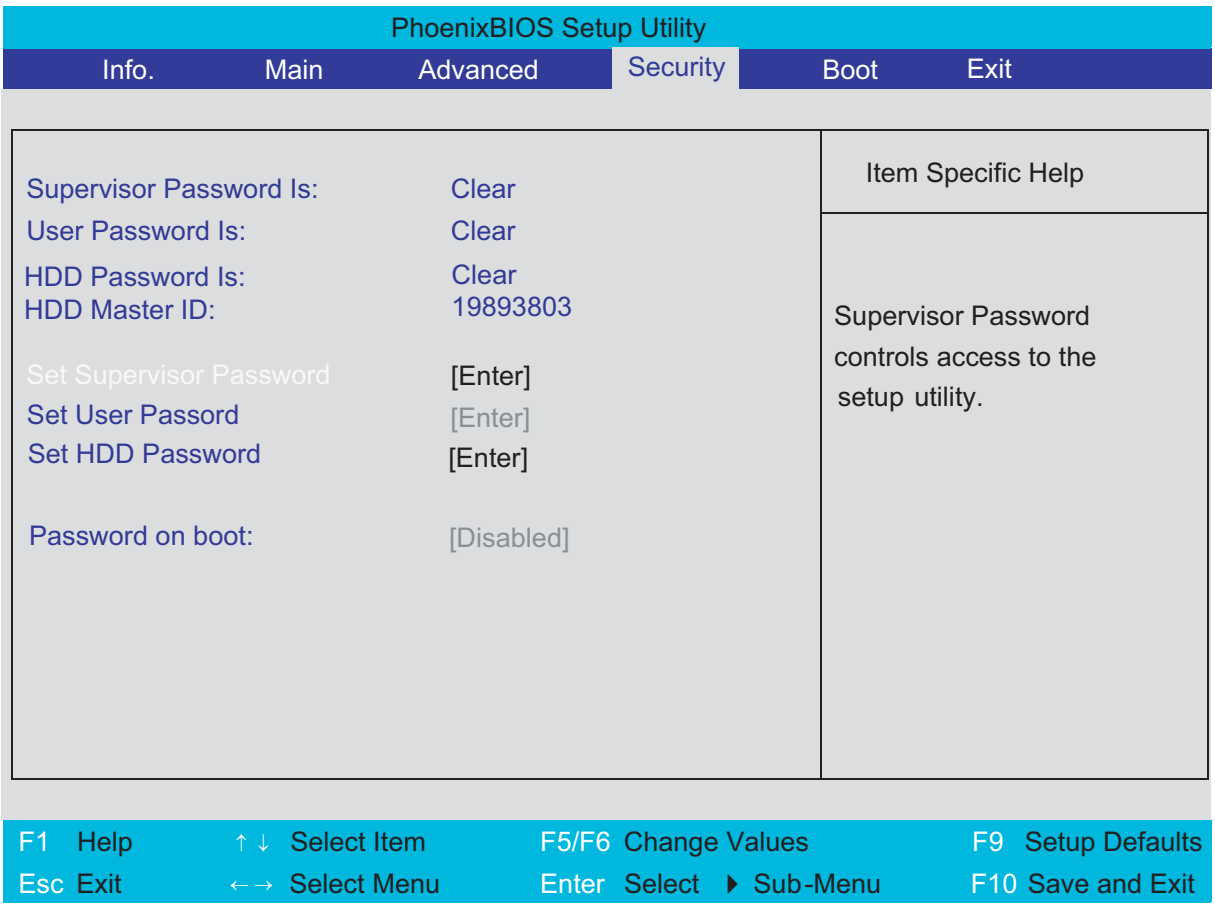
Advanced Menu



- Serial Port A:
  - Disabled: No configuration
  - Enabled: User configuration
  - Auto: BIOS or OS chooses configuration.
- Infrared Port:
  - Disabled: No configuration
  - Enabled: User configuration
  - BIOS or OS chooses configuration.
- Parallel Port:
  - Disabled: No configuration
  - Enabled: User configuration
  - Auto BIOS or OS chooses configuration.
- Mode:

  It permits to set the mode for the parallel port. There are four modes: output only, bi-directional, EPP and ECP.

Security Menu



The system supports three levels of password protection. The password support consists of a Supervisor Password, User Password, and Hard Disk Password. All the passwords are stored in a non-volatile storage device (EEPROM).

- Password Policy:

  All the passwords will obey the following rules:

  - All the passwords can be set or cleared in BIOS Setup Security screen.
  - The password entry consists of eight alphanumeric characters. At least one character must be assigned.
  - The valid keys are listed in the table below:

Symbol Character	Symbol Name
A-Z	letters A to Z (not case sensitive)
0-9	numerical characters
-	dash
=	equal sign
[	left bracket
]	right bracket
.	period

Symbol Character	Symbol Name
,	comma
;	semi-colon
/	slash
\	back slash

- The users can not change or remove password during resuming from S4.
- The max. number of times to retry the password is limited to three.

❑ Supervisor Password:

Supervisor Password controls the access of the whole BIOS Setup Utility. If the Supervisor Password is set, the system will pop up the password dialog box to ask for the password when the users press <F2> for entering BIOS Setup Utility.

If the Supervisor Password is set and Password on boot is enabled, the system will pop up the password dialog box to ask for the password when the system is powered on or resumes for S4 state.

If the users fail three times consecutively in password verification, the system will be hung up and the users need to manually power off the system.

❑ User Password:

If the User Password is set, the system will pop up the password dialog box to ask for the password when the users press <F2> for entering BIOS Setup Utility.

If the Supervisor Password is not set at first, the User Password can not be set. If the Supervisor Password is cleared, the User Password will be cleared, too.

If the User Password is set and Password on boot is enabled, the system will pop up the password dialog box to ask for the password when the system is powered on or resumes for S4 state.

If the users fail three times consecutively in password verification, the system will be hung up and the users need to manually power off the system.

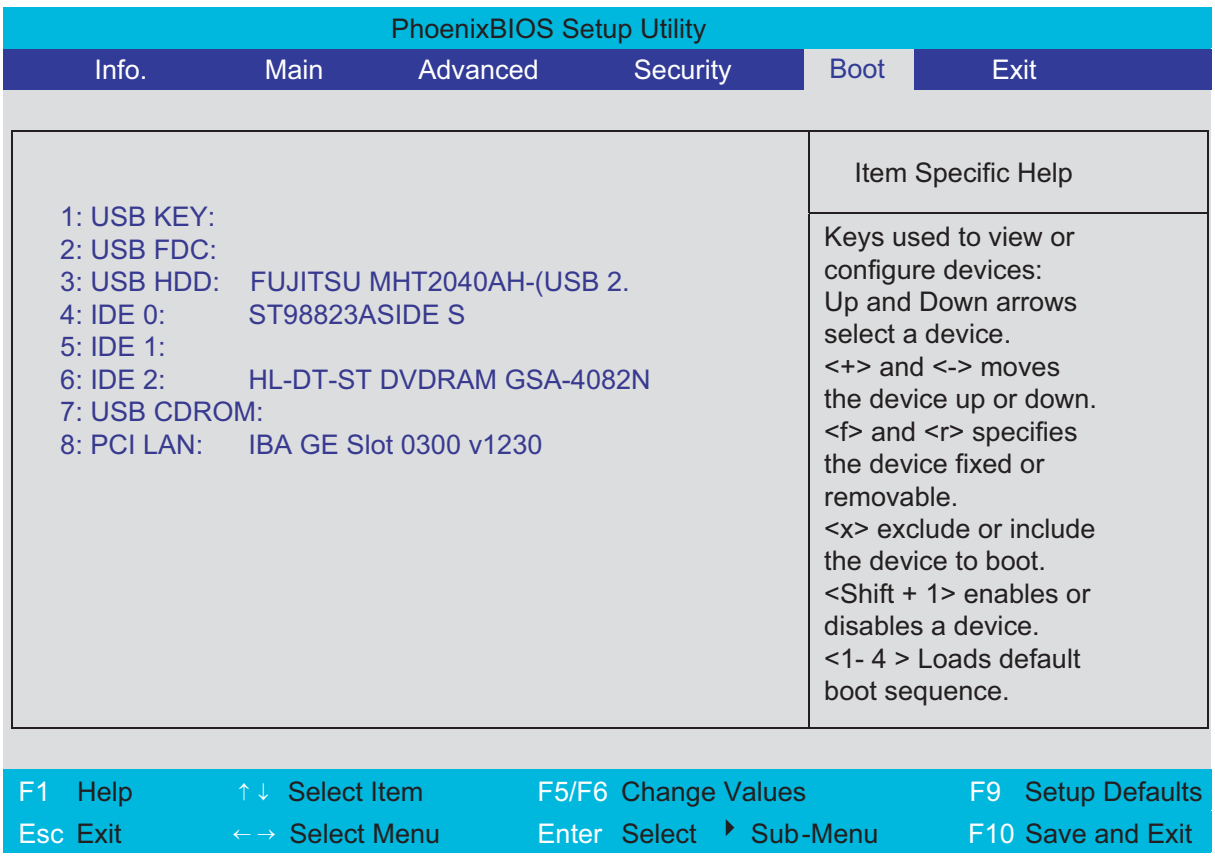
❑ Set Supervisor Password / User Password:

1. Highlight the item and press “Enter”, a dialog box will be shown to ask the users to enter new password and confirm new password.
2. If the users want to reset password, a current password will be required to be tapped in at first. If the current password is correct, the users are permitted to enter new password and confirm new password for verification. If the verification is OK, the password setting will be complete after the users press “Enter”.
3. If the password entered does not match the current password, a dialog box will be shown to ask to re-enter the password.

❑ Password on Boot:

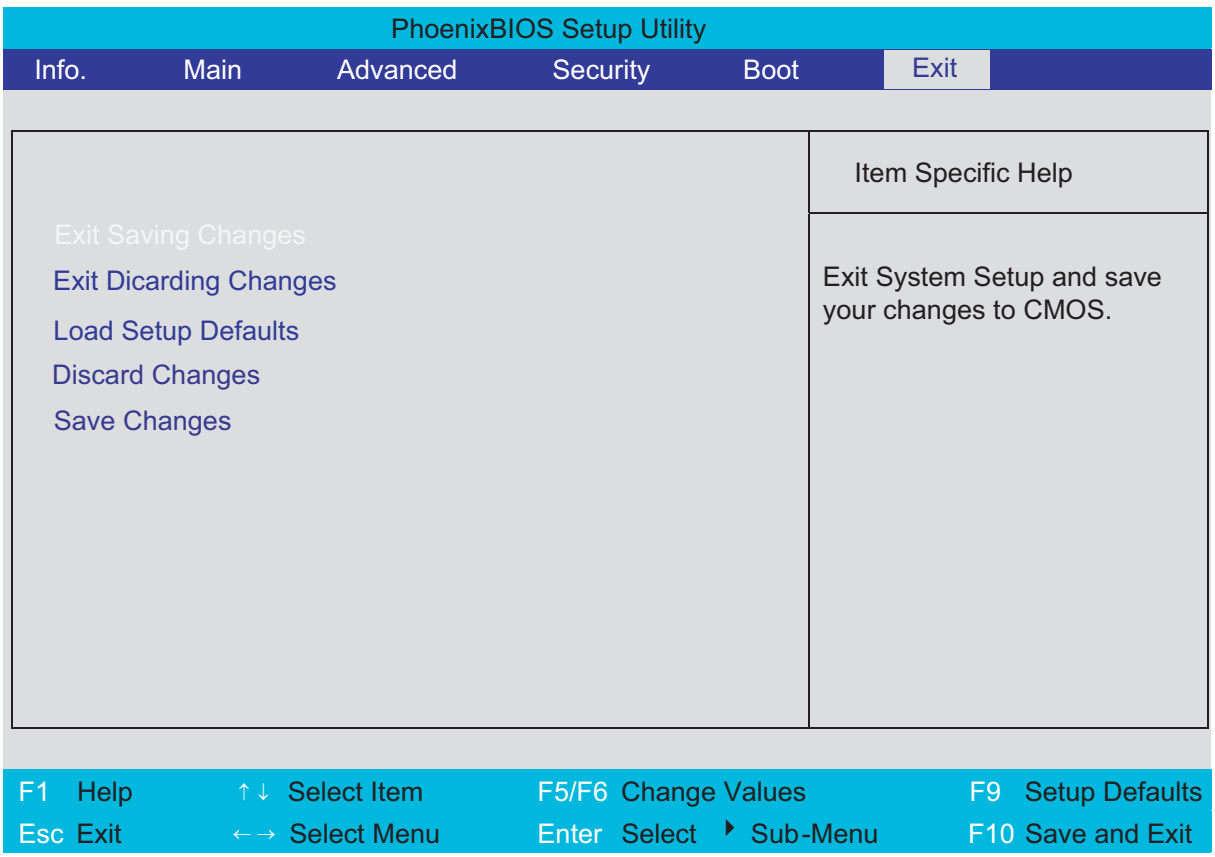
It allows the user to specify whether or not a password is required to boot.

Boot Menu



This menu allows the users to decide the order of bootable devices to load the operating system. It identifies all the bootable devices in the system and attempts to boot them in the order specified. Bootable devices include the diskette drive in module bay, the hard disk and the CD-ROM/DVD drive in module bay and onboard LAN device.

Exit Menu



- Exit Saving Changes:

  It allows the users to save changes to CMOS and reboot the system.
- Exit Discarding Changes:

  The users can exit the Setup not to save changes.
- Load Setup Defaults:

  It allows the users to load default values in CMOS Setup.
- Discard Changes:

  The users can discard previous changes in CMOS Setup.
- Save Changes:

  The users can save current changes in CMOS Setup.

Machine Disassembly and Replacement

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

To disassemble the computer, you need the tools below:

- Wrist ground strap and conductive mat for preventing electrostatic discharge
- Small Philips screw driver
- Plastic flat head screw driver
- Hexagonal 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

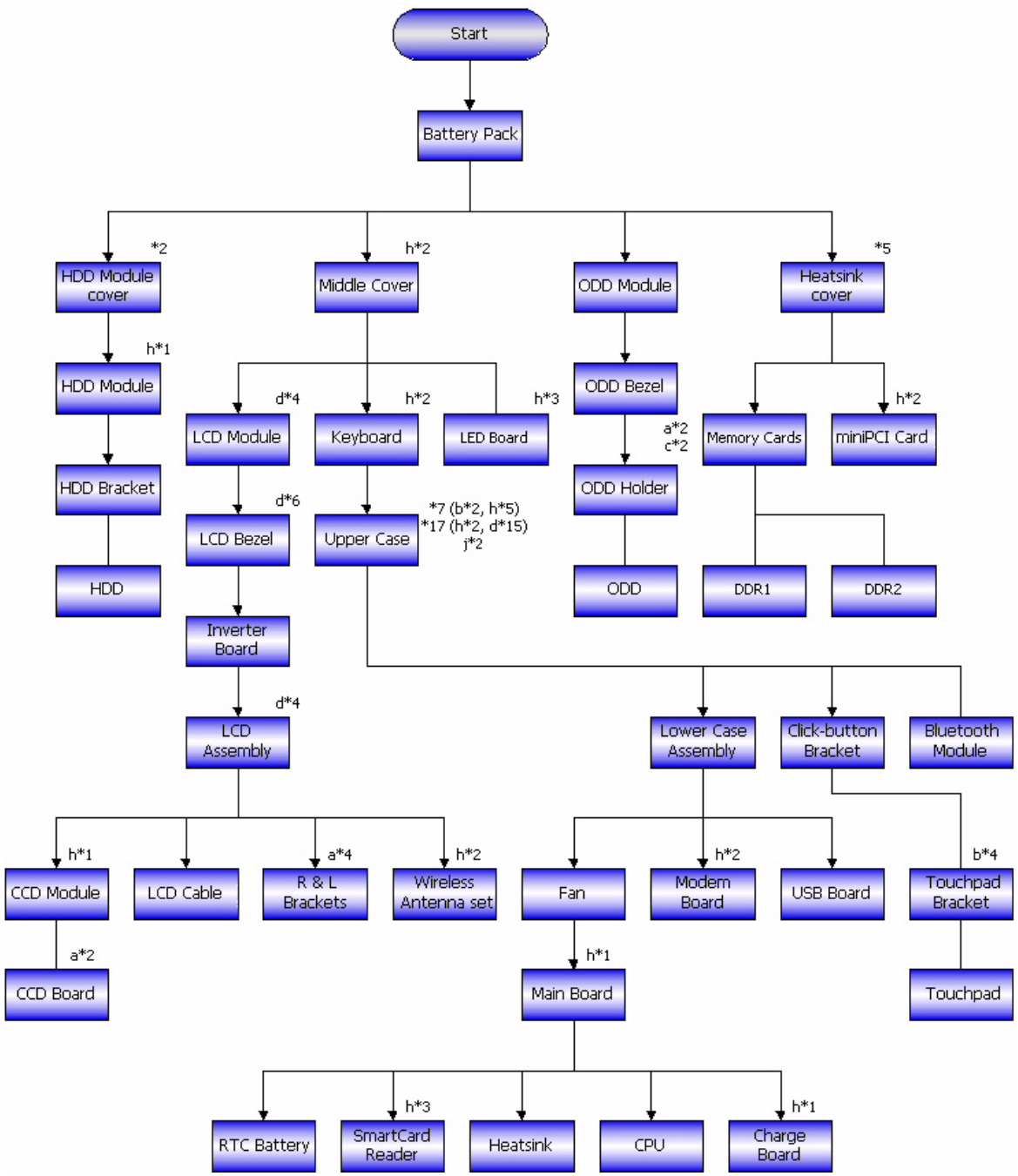
Before proceeding with the disassembly procedure, you have to make sure that:

1. The system and all peripherals are powered off.
2. The AC adaptor and all power and signal cables from the system are unplugged.
3. The battery pack is removed.

NOTE: There are several types of screws used to secure the main unit. The screws vary in length. Please refer to the screws table after the flowchart. Group the same type of screws together during service disassembling. Please also remember the screw location for each screw type. If you fasten the screws on the wrong location, the long screws may cause irrecoverable damage to the main board.

Disassembly Procedure Flowchart

The flowchart gives you a graphic representation on the entire disassembly and reassembly and instructs you how to remove the components.



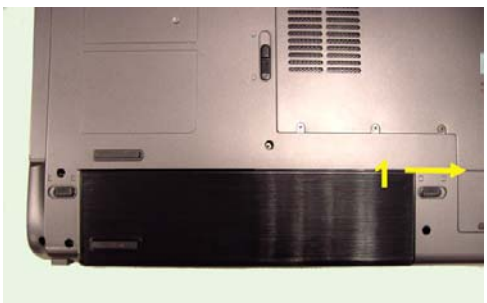
Screw List

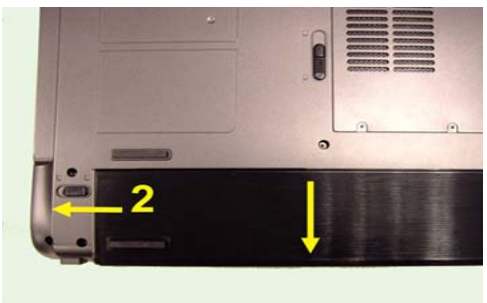
Item	Description
a	SCREW M2.0*2.5-I (NI) (NYLOK)
b	SCREW M2.5*6-I (BNI) (NYLOK)
c	SCREW M2.0*3.0-I-NI-NYLOK
d	SCREW M2.0*6.0-I-NI-NYLOK
e	SCREW M2.5*2-I (NI, NYLOK)
f	SCREW 2.5*3-I (NI, NYLOK)
g	SCREW 2.5*6-I (BNI) TAP
h	SCREW M2.5*4-I (BNI)
i	SCREW M2.5*4.0-I (NYLOK) EU
j	NUT IO EA1

Disassembly Procedure

Removing the Battery Pack

1. Unlock the battery pack.
2. Slide the battery latch, hold it then remove the battery.





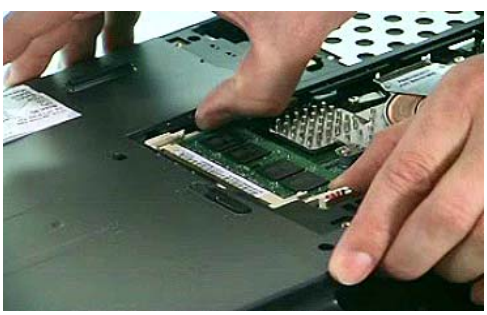
Removing the HDD Module

1. Release the two screws fastening the HDD module cover.
2. Detach the HDD module cover.
3. Release the screw fastening the HDD module.
4. Pull the HDD module backwards carefully then remove it.

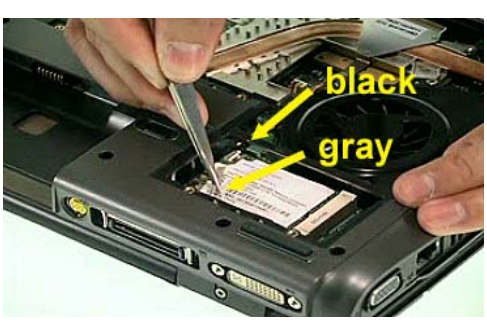
Removing the Memory and the MiniPCI Card

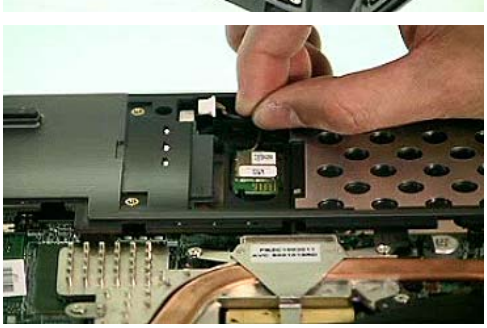
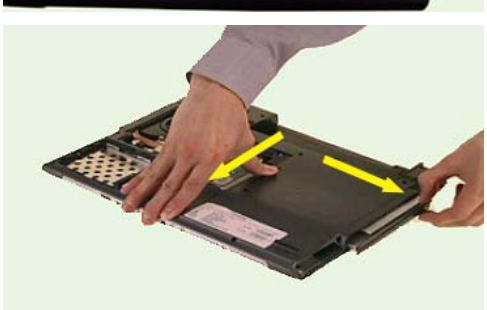
1. Release the five screws fastening the heatsink cover.
2. Detach the heatsink cover.
3. Pop up the memory card.
4. Then remove it from the slot.





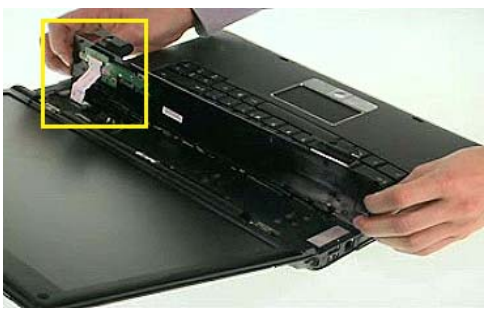
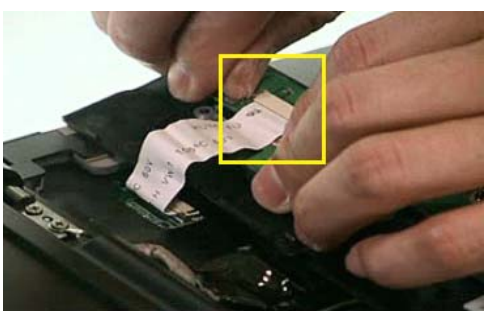

5. Disconnect carefully the main wireless antenna and the auxiliary wireless antenna.
6. Release the two screws fastening the miniPCI card then remove the miniPCI card.
7. Disconnect carefully the bluetooth module.
8. Slide the latch then remove the ODD module from the main unit.



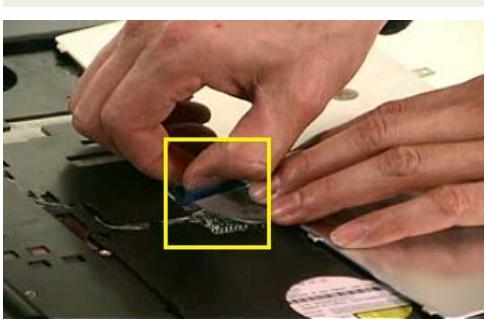
Disassembling the Main Unit

1. To remove the middle cover, you have to remove the two screws on the rear side.
2. Open the notebook as shown. Detach the middle cover carefully because the cable of LED board and main board is under the middle cover.
3. Disconnect the middle cover side cable then remove the middle cover.
4. Release the connector then disconnect the main board side cable as shown.

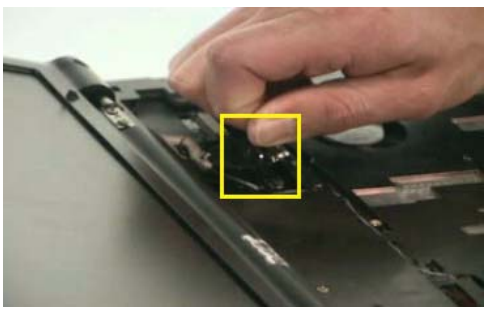
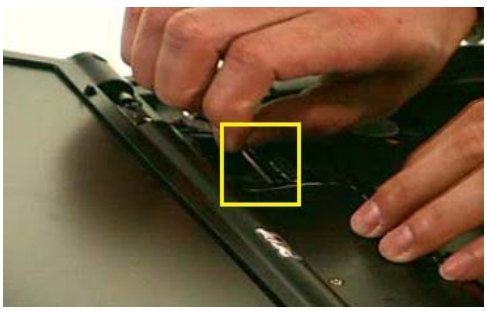
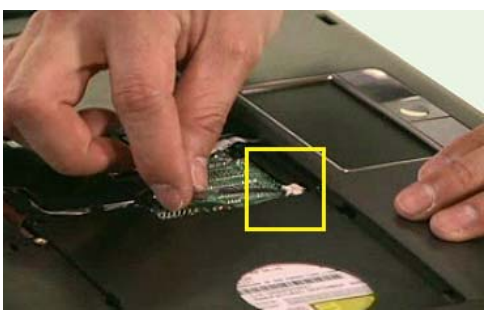





5. Remove the two screws fastening the keyboard.
6. Detach the keyboard carefully then turn it over as shown.
7. Disconnect the keyboard then remove the keyboard.

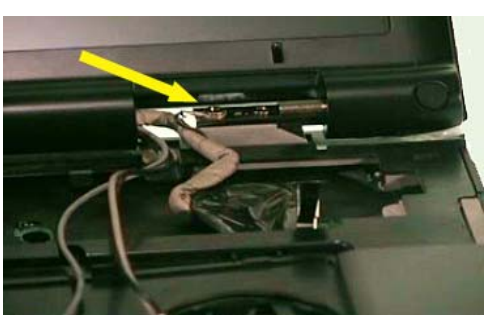


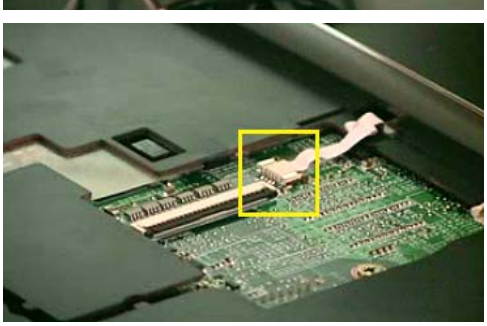


8. Disconnect the LCD cable.
9. Pull out the wireless antenna set from the main unit carefully.
10. Disconnect the microphone line and take it out from the main unit carefully.

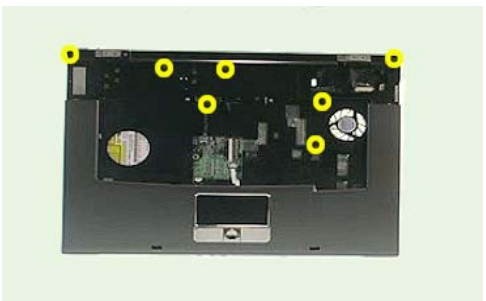




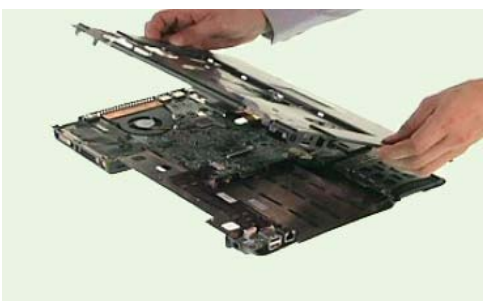
11. To detach the LCD module, you have to remove the four screws fastening the LCD hinges and the main unit.
12. There is a metal ring fastened on the right hinge. Do not mismatch when reassembling.
13. Then detach the LCD module.
14. Disconnect the touchpad cable.

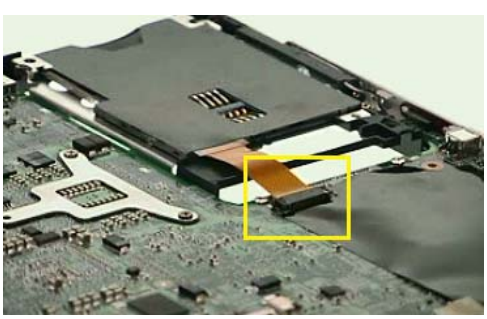
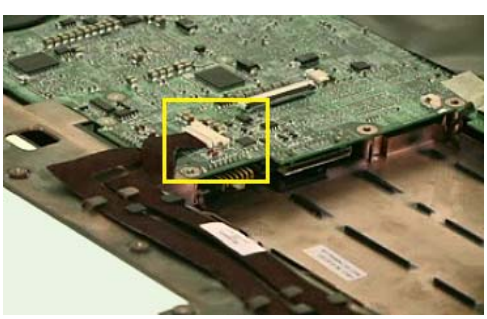
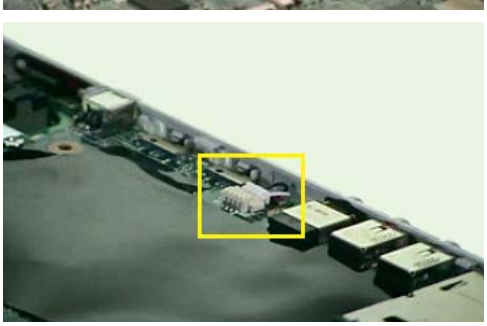
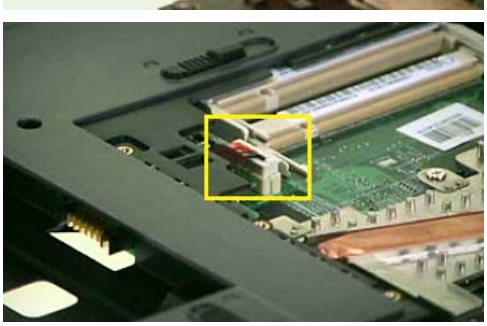


15. To separate the upper case from the main unit, you have to remove seven screws fastening the upper and lower case assembly.
16. Then remove the 18 screws on the bottom side of the main unit holding the upper and lower cases. One of these 18 screws secures the fan (marked in red).
17. Finally, remove the two hexagonal screws on the rear side of the main unit.
18. Now detach the upper case from the main unit.

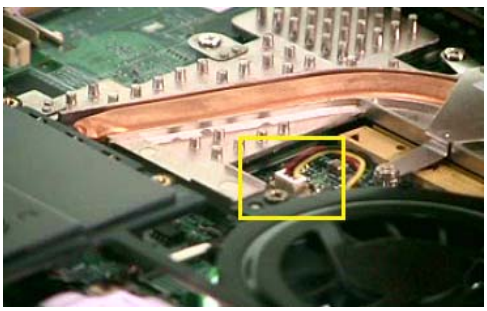
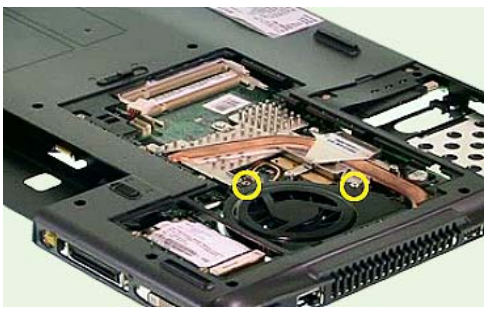


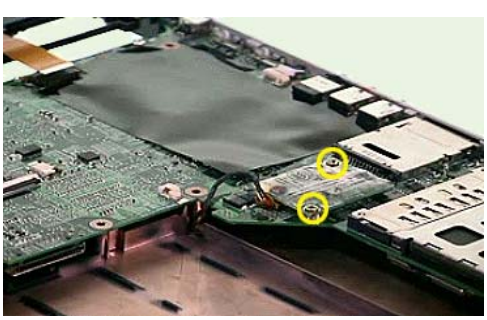
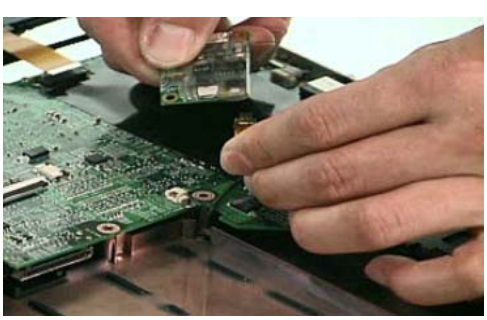
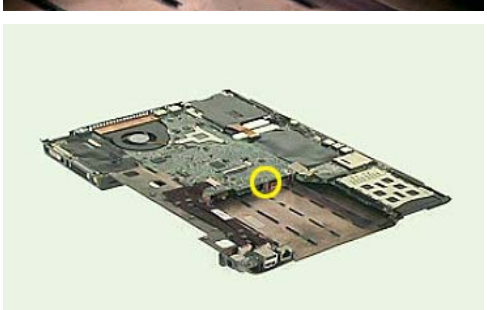
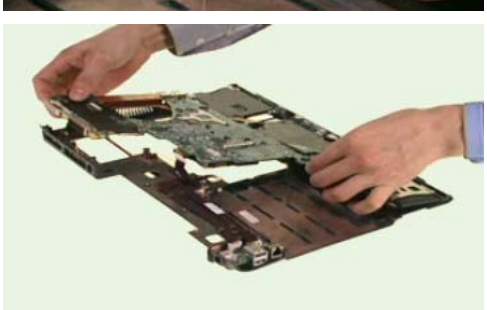
19. Release the connector and disconnect the Smart Card reader cable.
20. Disconnect the USB board cable.
21. Disconnect the speaker set cable.
22. Disconnect the other USB board cable on the bottom side of the main unit.

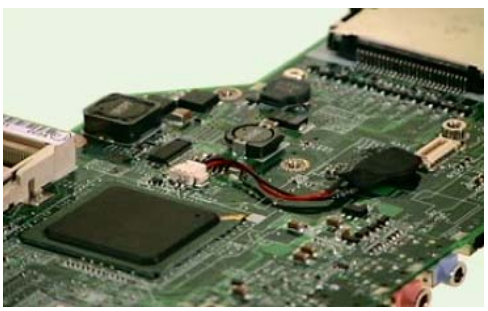
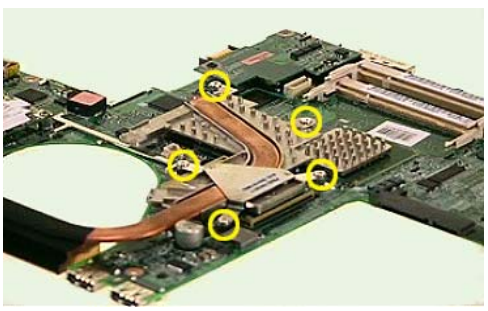
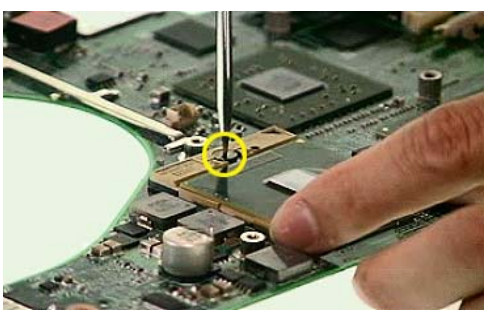
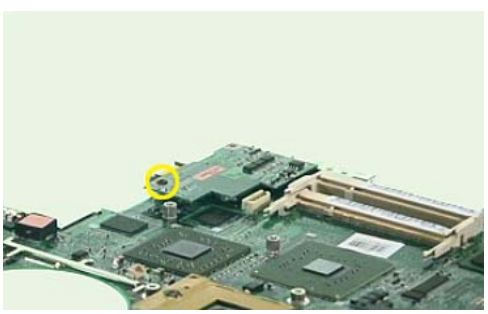
23. Disconnect the fan cable.
24. Remove the two screws fastening the fan.
25. Then detach the fan.

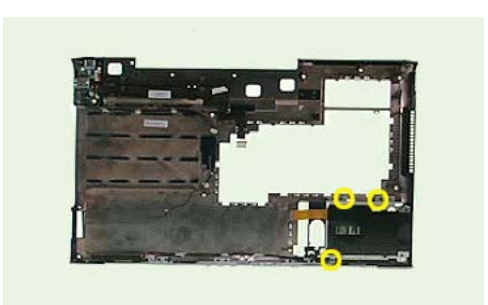
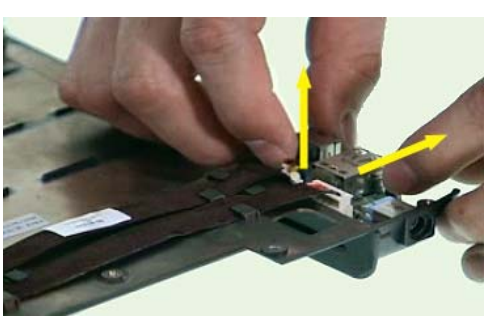
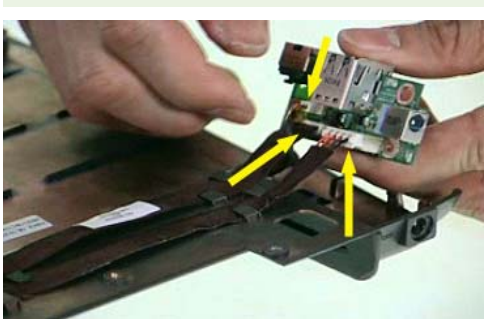
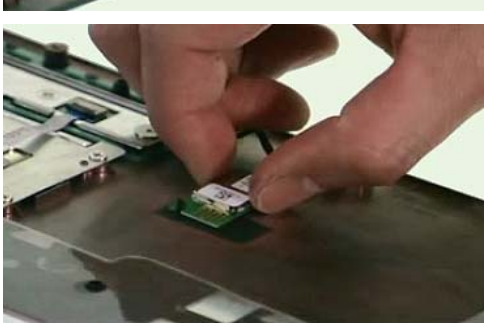

26. Remove the two screws fastening the modem board.
27. Detach the modem board from the main board carefully then disconnect it.
28. Remove the screw fastening the main board.
29. Separate the main board from the lower case carefully.

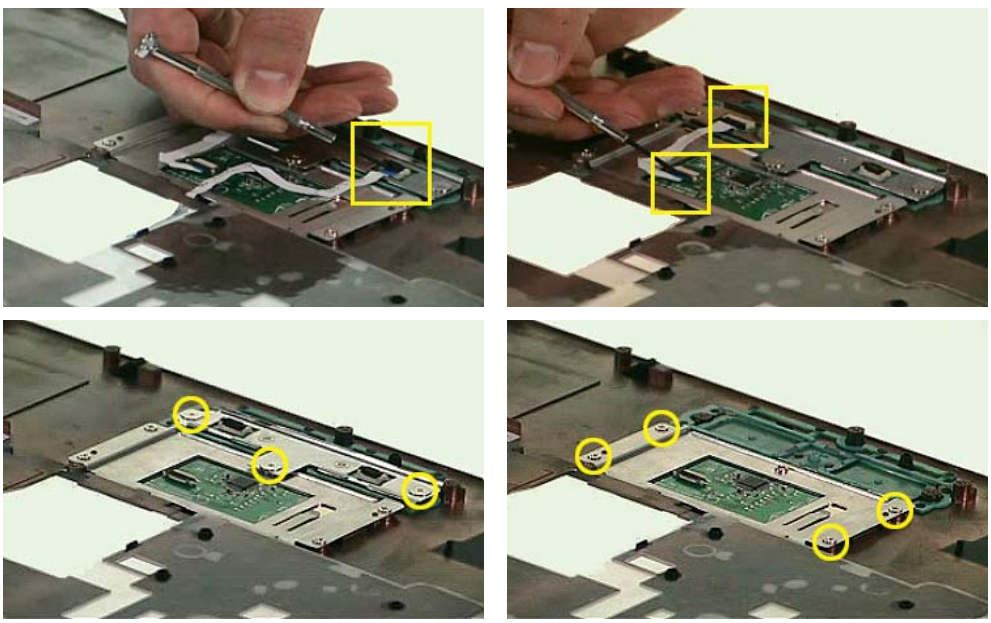
30. Disconnect the RTC battery on the main board then detach it.
31. Release the five screws fastening the heatsink then detach the heatsink.
32. Release the screw fastening the CPU by rotating the screw counter clockwise then detach the CPU.
33. Remove the screw fastening the charge board then detach it from the main board.

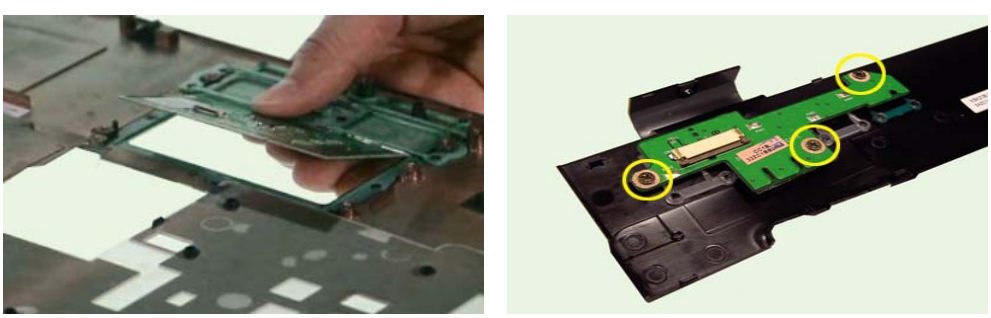
34. Remove the three screws fastening the Smart Card reader then detach the Smart Card reader from the lower case.
35. Pull the latch backwards softly and detach the USB board from its position.
36. Then disconnect carefully the four-pin USB cable, 10-pin USB cable and modem cable.
37. Detach the bluetooth module from the upper case.

38. Disconnect the click-button cable then remove it.
39. Disconnect the cable linking the click buttons and touchpad then remove it.
40. Remove the three screws fastening the click-button bracket then detach the click-button bracket.
41. Remove the four screws fastening the touchpad bracket then detach the touchpad bracket.



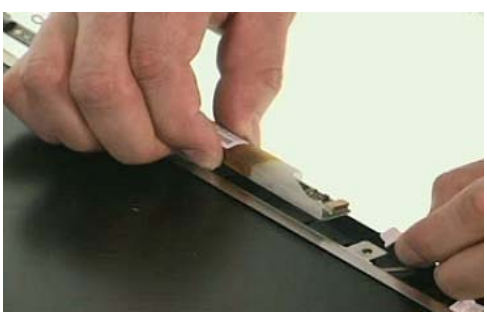
42. Then detach the touchpad.
43. Finally, remove the three screws securing the LED board then detach the LED board from the middle cover.



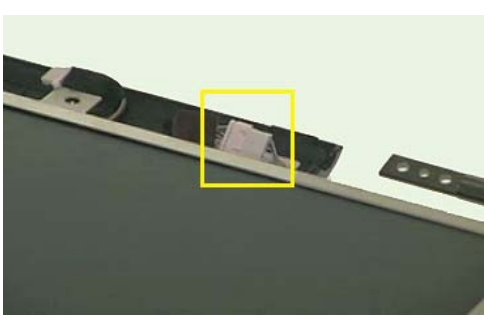
Disassembling the LCD Module

1. Detach the six LCD screw rubber cushions and remove the six screws fastening the LCD bezel.
2. Then carefully detach the LCD bezel.
3. Detach inverter board then disconnect the LCD backlight cable and the inverter cable.

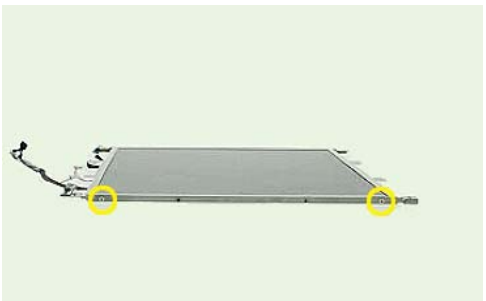
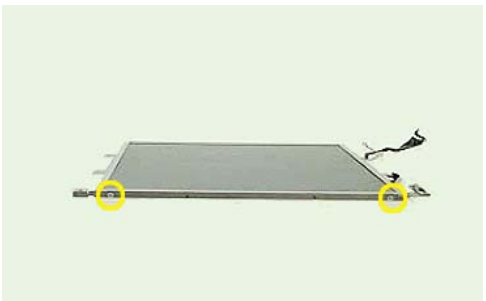


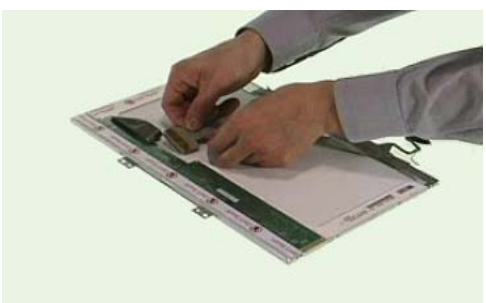



4. Remove the four screws securing the LCD bracket.
5. Disconnect the CCD module.
6. Detach the LCD.

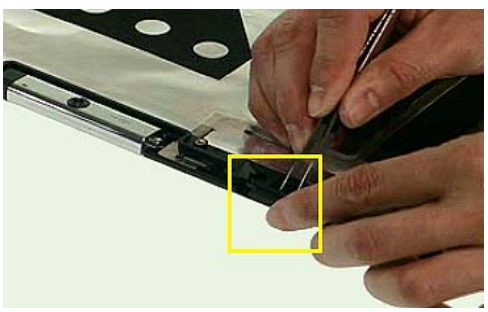
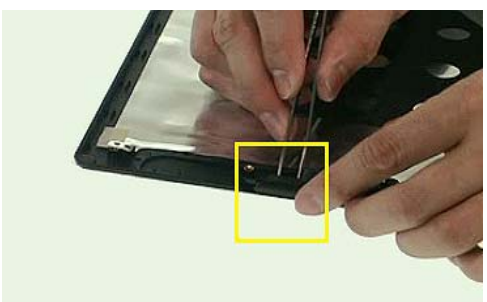
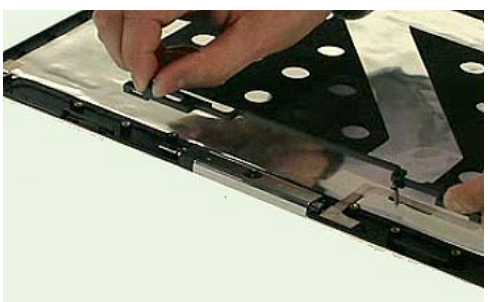

7. Remove the two screws fastening the LCD right bracket and detach the bracket.
8. Remove the two screws fastening the LCD left bracket and detach the bracket.
9. Carefully detach the tapes then disconnect the LCD cable.



10. Remove the two screws fastening the antenna set.
11. Then carefully detach the antenna set from the LCD panel.

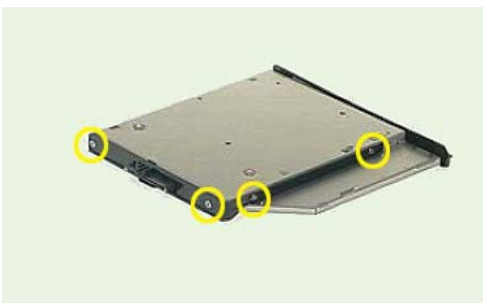
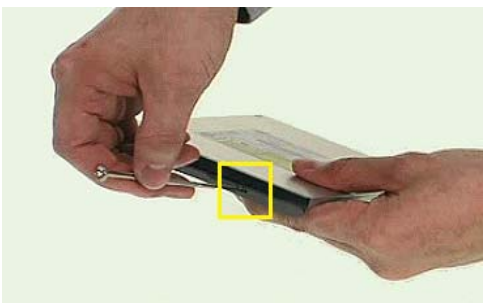

12. Remove the two screws fastening the LCD panel latch.
13. Take out the left LCD panel latch lock with tweezers.
14. Take out the right LCD panel latch lock with tweezers.
15. Then remove the latch.

16. Remove the screw fastening the CCD module.
17. Detach the CCD module carefully from the LCD panel.


Disassembling the ODD Module

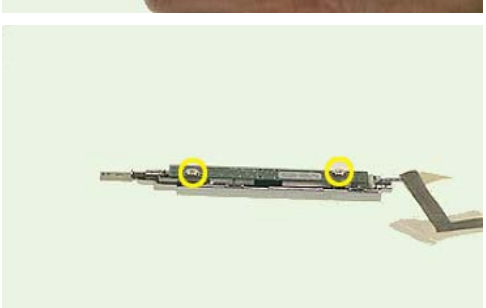
1. Remove the four screws fastening the ODD holder and detach the ODD holder.
2. Insert a screwdriver or a clip into the emergency eject hole to eject the optical disk drive as shown
3. Then detach the ODD bezel.


Disassembling the CCD Module

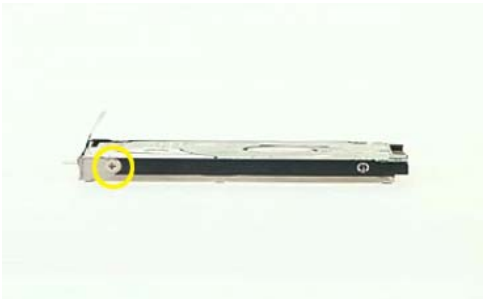
1. Detach the CCD module holder.
2. Separate the cases of the CCD module.
3. Remove the two screws fastening the CCD board and detach the CCD board.





Disassembling the HDD Module

1. Remove the two screws securing the HDD bracket and detach the HDD bracket.



Troubleshooting

Please use the following procedures 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 may occur errors or invalid responses.

1. Obtain the detailed fail symptoms as many as possible.
2. Verify the symptoms by attempting to recreate, running the diagnostic tests or repeating the same operation.

System Check Procedures

External Diskette Drive Check

Do the following procedures to isolate the possible effects from a controller, driver, or diskette. A writable, diagnostic diskette is required.

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

1. Boot from the diagnostic diskette and start the diagnostic programs.
2. See if FDD test is passed as the programs run the FDD test.
3. Follow the instructions in the message window.

If errors occur with the internal diskette driver, reconnect the diskette connector on the system board. If the errors still remain:

1. Reconnect the external diskette drive.
2. Replace the external diskette driver.
3. Replace the main board.

External CD-ROM Drive Check

Do the following procedures to isolate the possible effects from a controller, driver, or CD-ROM.

NOTE: Make sure that the CD-ROM does not have any label attached. The label may cause damage to the drive or make the drive fail.

1. Boot from the diagnostic diskette and start the diagnostic programs.
2. See if CD-ROM test is passed when the programs run the CD-ROM test.
3. Follow the instructions in the message window.

If errors occur, reconnect the connector on the system board. If the errors still remain:

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

Keyboard or Auxiliary Input Device Check

Remove the external keyboard if the internal keyboard is under test. If the internal keyboard does not work or an unexpected error appears, make sure that the flexible cable extending from the internal keyboard is correctly connected on the system board. If the keyboard is correctly connected, run the Keyboard test.

If errors occur, do the following procedures in sequence to correct the problems. Do not replace a non-defective FRU.

1. Reconnect the keyboard cable.
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 function, reconnect the cable and repeat the anterior procedures.

Memory Check

Follow the procedures below to correct the memory errors.

1. Boot from the diagnostic diskette and start the diagnostic programs.
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 correctly inserted into the connector. A wrong connection will cause errors.

Power System Check

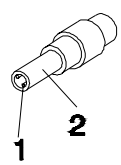
To verify the symptoms, power on the computer by using the following power sources separately.

1. Remove the battery pack.
2. Connect the power adaptor and check the power supply.
3. Disconnect the power adaptor and install the battery pack, then check the power supply.

If you think there is a power supply problem, please go to “Check the Power Adaptor” and “Check the Battery Pack” in this chapter.

Check the Power Adaptor

Unplug the power adaptor cable from the computer and measure the output voltage at the plug of the power adaptor cable. See the illustration and follow the procedures below.



pin 1: +19V to +20.5V
pin 2: 0V, ground

1. If the voltage is not correct, replace the power adaptor.
2. If the voltage is within the range:
   (1) Replace the system board.
   (2) If the problem is still not resolved, see “Undetermined Problems”.
   (3) If the voltage is not correct, go to the next step.

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

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

Check the Battery Pack

Follow the procedures below to check the battery pack.

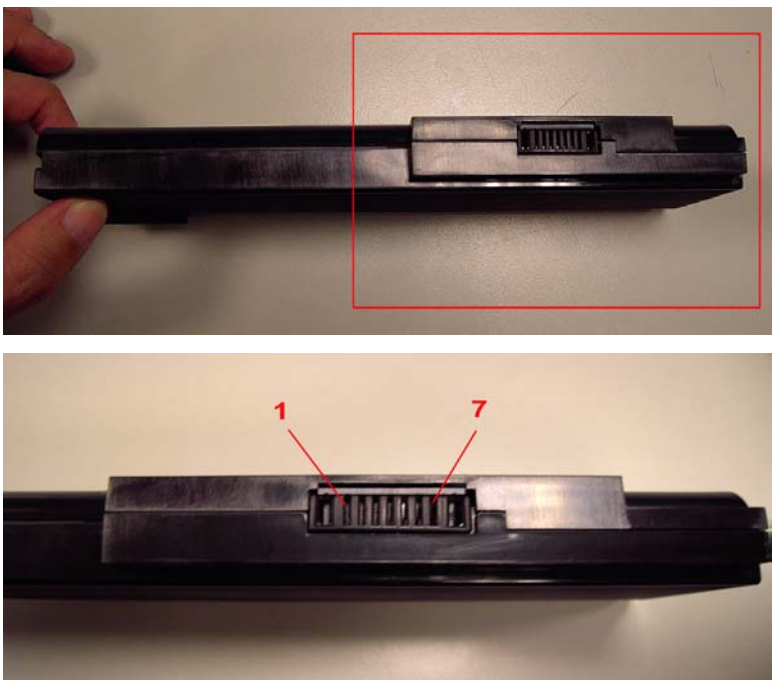
From software, this helps to identify the problem is on recharging or discharging.

1. Check the Power Management in Control Panel.
2. Then confirm that the parameters shown in the screen for Current Power Source and Total Battery Power Remaining are correct.

3. Repeat the step 1 and step 2 for both battery and adaptor.

From hardware, this helps to identify whether you should replace the battery pack or not.

1. Power off the system.
2. Remove the battery pack and measure the voltage between terminals one (+) and seven (-). There are seven terminals totally. See the illustration below.



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

If the battery status indicator does not light up, remove the battery pack. After the battery pack returns to room temperature, reinstall it to the system.

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

Touchpad Check

If the touchpad does not work, follow the procedures 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 will occur when a slight, steady pressure is applied to the touchpad pointer. This symptom is not a hardware problem.

Power-On Self-Test (POST) Error Message

The POST error message index lists the error message and their possible causes.

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

The error messages are listed in the coming pages to indicate the BIOS signals on the screen and the error symptoms classified by functions. If the symptom is not included on the list, please refer to “Undetermined Problems”.

NOTE: Most of the error messages occur during POST. Some of them show information about a hardware device, for example, the size of memory installed. Others may indicate problems 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, please reset the computer. Enter Setup and install Setup defaults to correct the errors.

Index of Error Messages

Error Code List

Error Code	Error Message
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 four short beeps then shut down system, no message will be shown.
No error code	Thermal critical high: In this situation BIOS will shut down the system, no message will be shown.

Error Message List

Error Message	FRU/Action in Sequence
Failure Fixed Disk	Reconnect hard disk drive connector. Run “Load Default Settings” in BIOS Setup Utility. Hard disk drive System board
Stuck Key	see ”Keyboard or Auxiliary Input Device Check”.
Keyboard error	see ”Keyboard or Auxiliary Input Device Check”.
Keyboard Controller Failed	see ”Keyboard or Auxiliary Input Device Check”.
Keyboard locked - Unlock key switch	Unlock external keyboard

Error Message List

Error Message	FRU/Action in Sequence
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
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”.
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

Error Message List

Error Message	FRU/Action in Sequence
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
No beep, power-on indicator turns off and LCD is blank.	Power source (battery pack and power adapter). See “Power System Check”. Ensure every connector is connected 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”. 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

POST Code

Code	Beeps	For Boot Block in Flash ROM
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 do not 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”. 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”. Battery pack Power adapter Hard drive & battery connection board System board

Power-Related Symptoms

Symptom/Error	Action in Sequence
The system doesn't power-off.	Power source (battery pack and power adapter). See Power System Check". Hold and press the power switch for more than 4 seconds. System board
Battery can't be charged.	See "Check the Battery Pack". 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.	Keyboard (if control is from the keyboard) Hard disk drive System board
The system does not enter hibernation mode and four short beeps every minute.	Press Fn + F4 and see if the computer enters hibernation mode. Touchpad Keyboard Hard disk connection board Hard disk drive System board

Power Management-Related Symptoms

Symptom/Error	Action in Sequence
The system does not enter standby mode after closing the LCD.	LCD cover switch System board
The system does not resume from hibernation mode.	Hard disk connection board Hard disk drive System board
The system does not resume from standby mode after opening the LCD.	LCD cover switch System board
Battery fuel gauge in Windows does not go higher than 90%.	Remove battery pack and let it cool for two hours. Refresh battery (continue to 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

Keyboard/Touchpad-Related Symptoms

Symptom/Error	Action in Sequence
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 can not correct the problems according to the anterior tables, see “Undetermined Problems”.

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 problems, follow the procedures below:

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 devices fail, which devices are incorrectly installed, whether a short circuit happens, or whether the system is inoperative.

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

NOTE: Verify if the power supply used at the time of failure is operating correctly. You can refer to “Power System Check”.

Follow the procedures below to isolate the failing FRU. Do not isolate non-defective FRU.

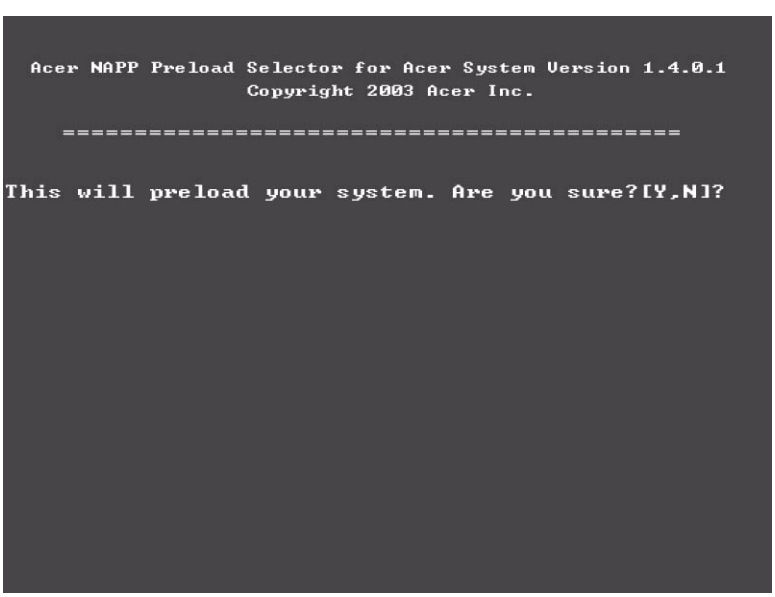
1. Power off the computer.
2. Visually check the devices. If any problems are found, replace the FRU.
3. Remove or disconnect all of the following devices:
   - ❑ Non-Acer devices
   - ❑ Printer, mouse, and other external devices
   - ❑ Battery Pack
   - ❑ Hard disk drive
   - ❑ DIMM
   - ❑ CD-ROM / Diskette drive module
   - ❑ PC cards
4. Power on the computer.
5. Determine if the problem has been resolved.
6. If the problem does not recur, reconnect the removed devices one at a time until you find the failed 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

Use NAPP CD to Build Master Hard Disk Drive

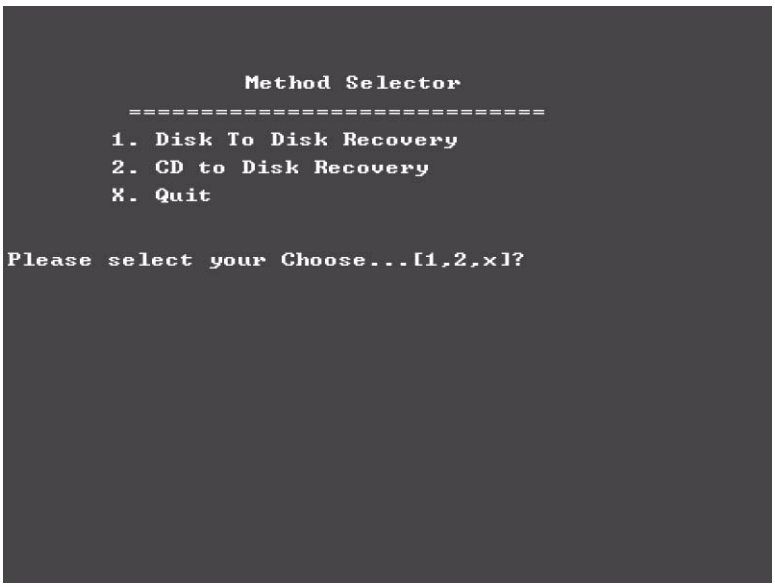
CD to Disk Recovery

1. Prepare NAPP CD, Recovery CD and System CD.
2. Put NAPP CD into the optical drive then boot up the system.
3. The system will ask you if you want to build NAPP Master HDD. Please press any key to continue.

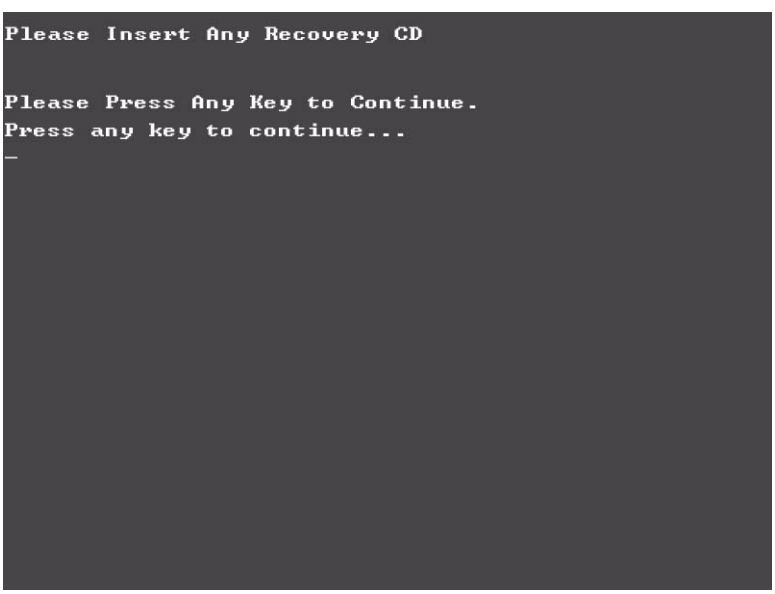
4. NAPP CD will start to preload the system, please press [Y].



5. Select CD to Disk Recovery



6. Put the Recovery CD to the optical drive. This step is to create image files to the system. You do not have to put the Recovery CD to the optical drive in order. Place one Recovery CD to the drive at one time till you finish all Recovery CDs.



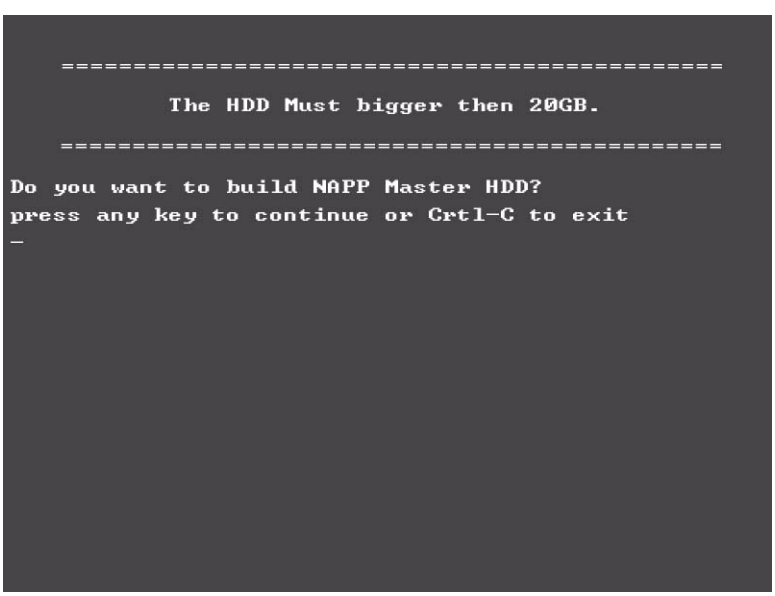
After you place the Recovery CD to the optical drive, you will see the display below.

7. Then insert the System CD to the optical drive.

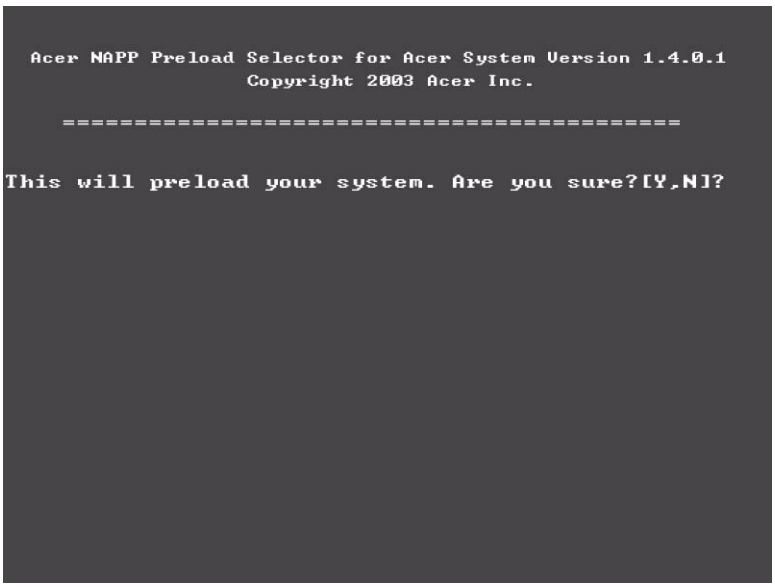
8. You will see the screen displaying “PASS” when the system has built NAPP Master hard disk drive.

Disk to Disk Recovery

1. Prepare NAPP CD, Recovery CD and System CD.
2. Put NAPP CD into the optical drive then boot up the system.
3. The system will ask you if you want to build NAPP Master HDD. Please press any key to continue.

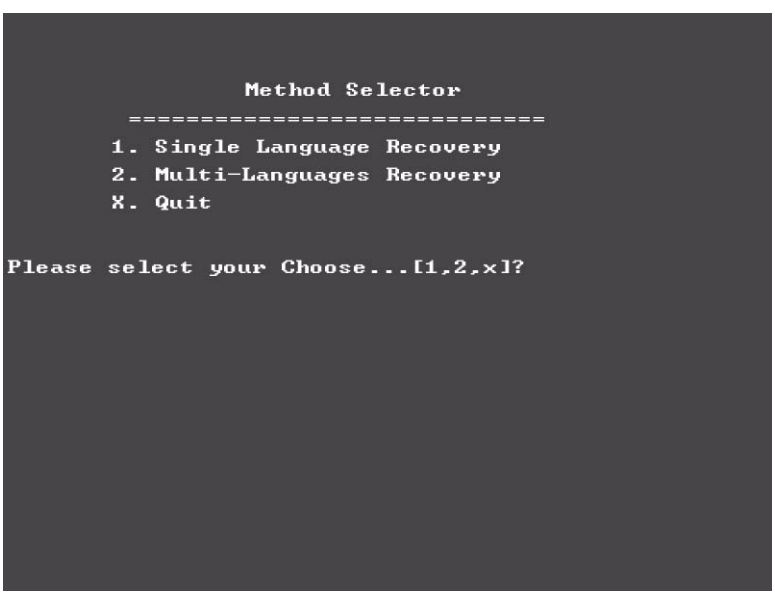


4. NAPP CD will start to preload the system, please press [Y].

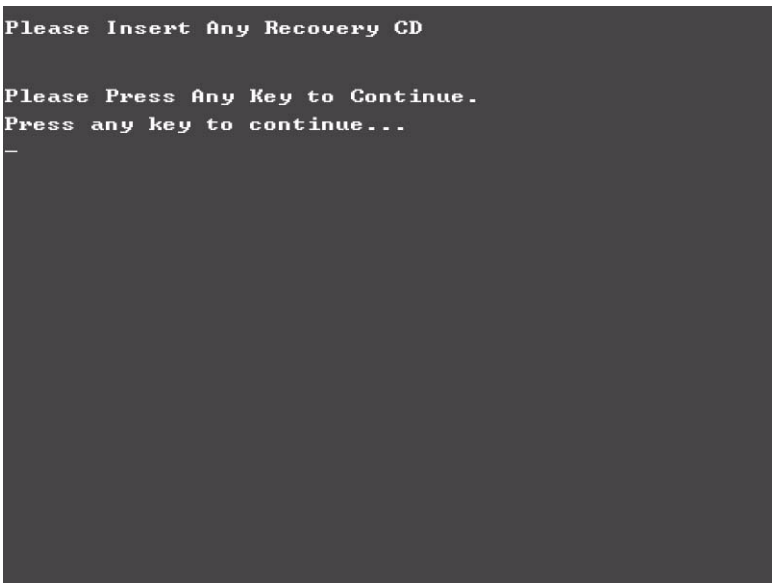


5. Select Disk to Disk Recovery then choose Single Language or Multi-Language Recovery.

NOTE: For Multi-Languages Recovery, no more than five languages could be loaded to the system.

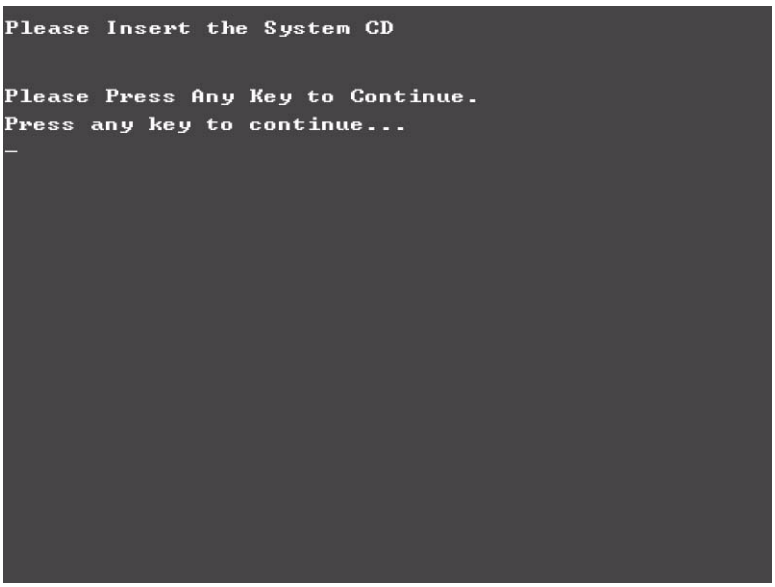


6. Put the Recovery CD to the optical drive. This step is to create image files to the system. You do not have to put the Recovery CD to the optical drive in order. Place one Recovery CD to the drive at one time till you finish all Recovery CDs.



After you place the Recovery CD to the optical drive, you will see the display below.

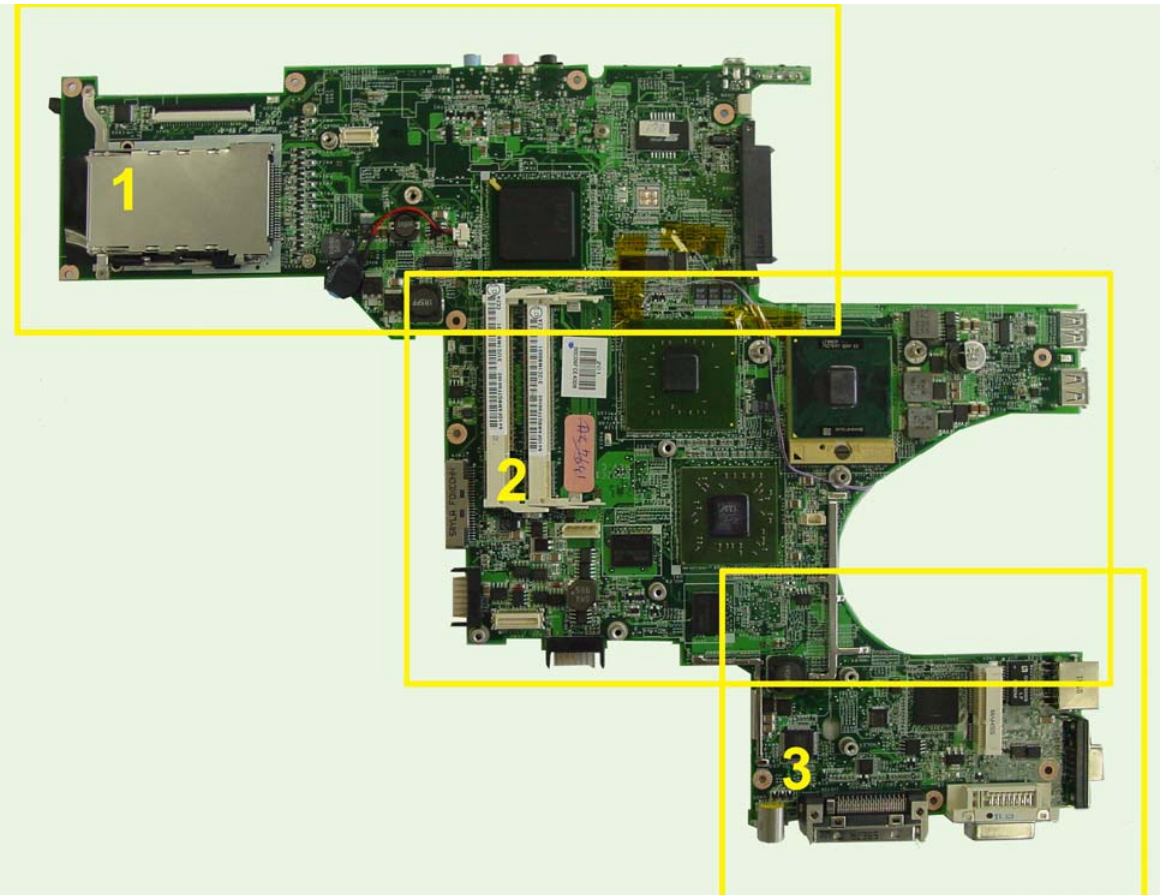
7. Then insert the System CD to the optical drive.



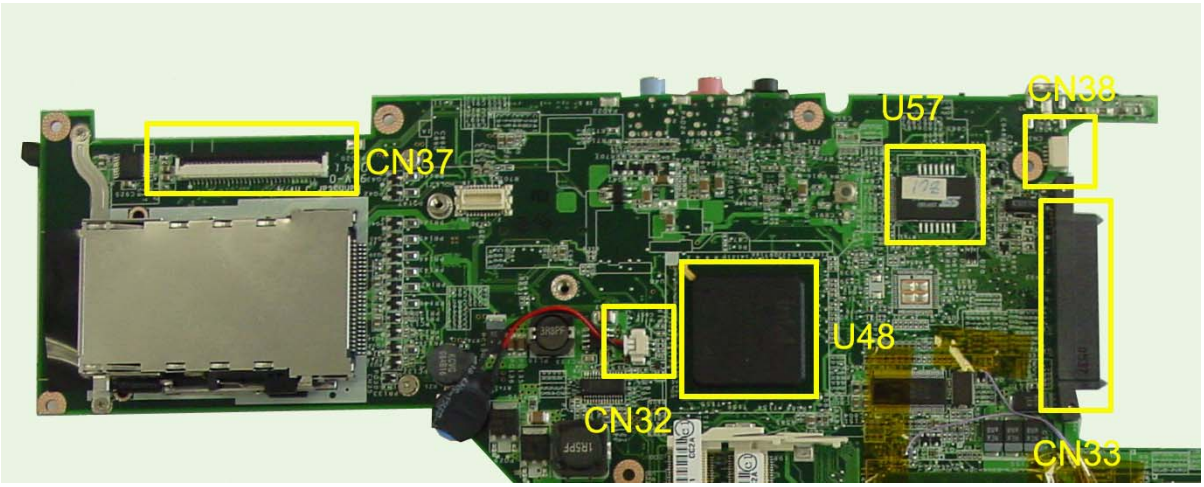
8. You will see the screen displaying “PASS” when the system has built NAPP Master hard disk drive.

Jumper and Connector Locations

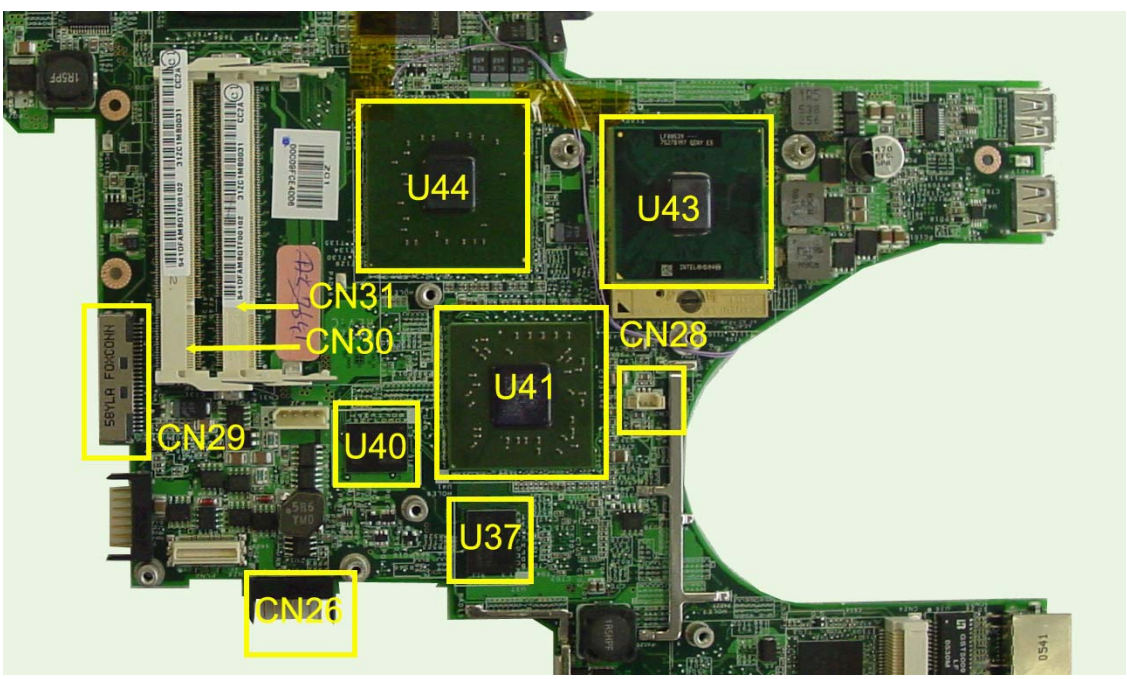
Top View of Main Board



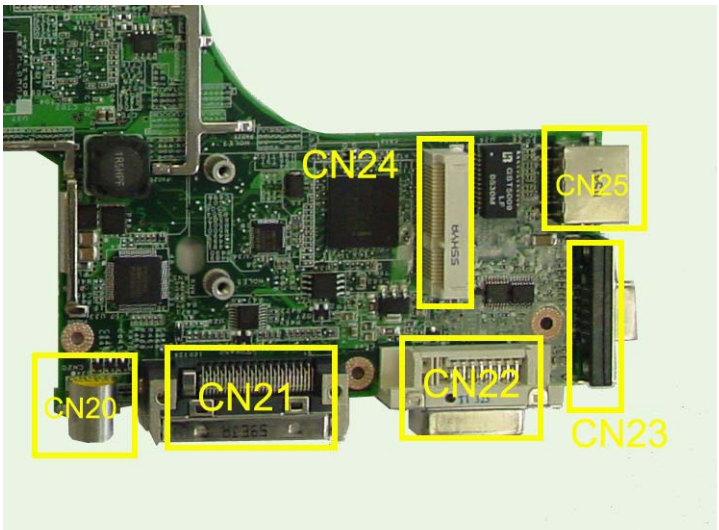
Part One of Top View



Part Two of Top View

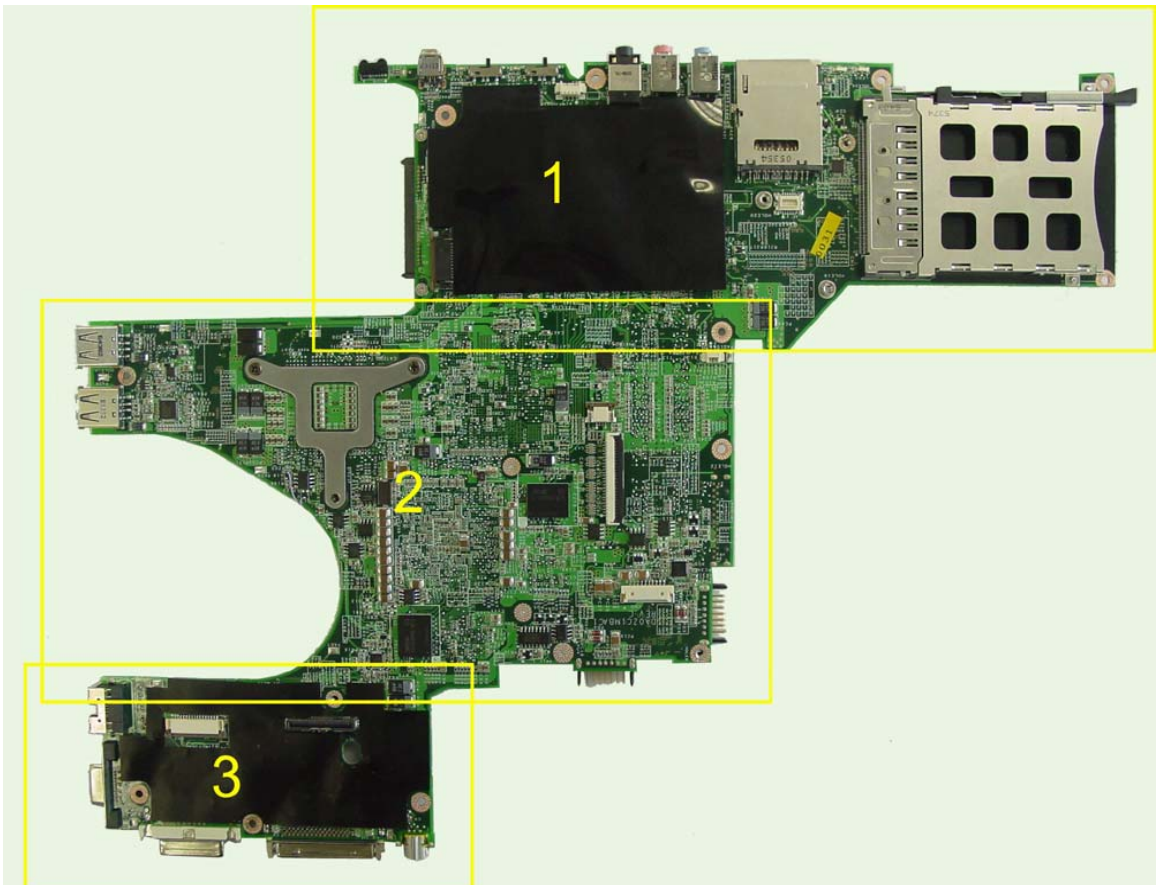


Part Three of Top View

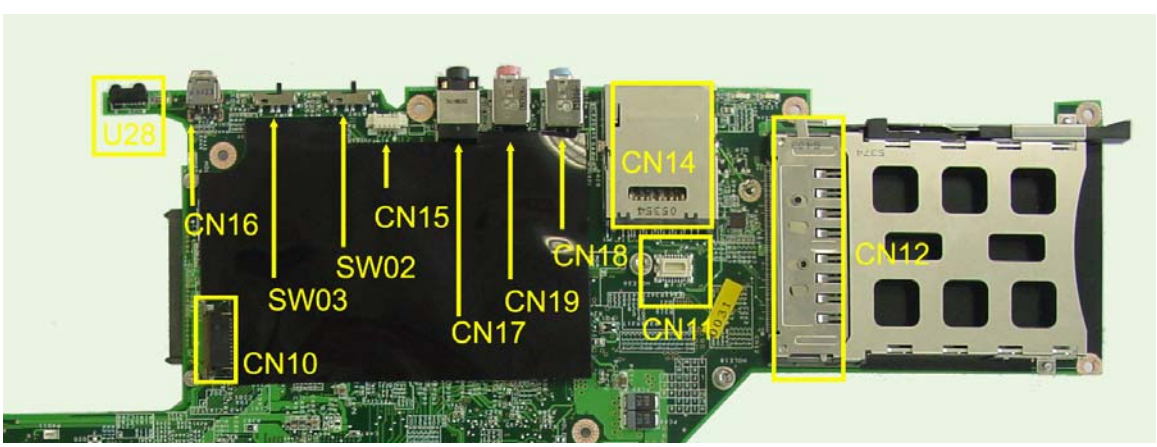


Item	Description	Item	Description
CN20	SVIDEO	CN32	RTC battery connector (two pin)
CN21	Docking	CN33	HDD connector (22 pin SATA)
CN22	DVI-D	CN37	Connector SMD FFC 30 pin
CN23	CRT connector	CN38	Bluetooth module connector (five pin)
CN24	mini card connector	U37	V-RAM
CN25	RJ45 W/ LED	U40	V-RAM
CN26	Battery connector (seven pin)	U41	VGA chip
CN28	Fan connector	U43	CPU
CN29	Media connector (M/B side)	U44	North bridge
CN30	DDR2 (9.2MM)	U48	South bridge
CN31	DDR2 (5.2MM)	U57	BIOS

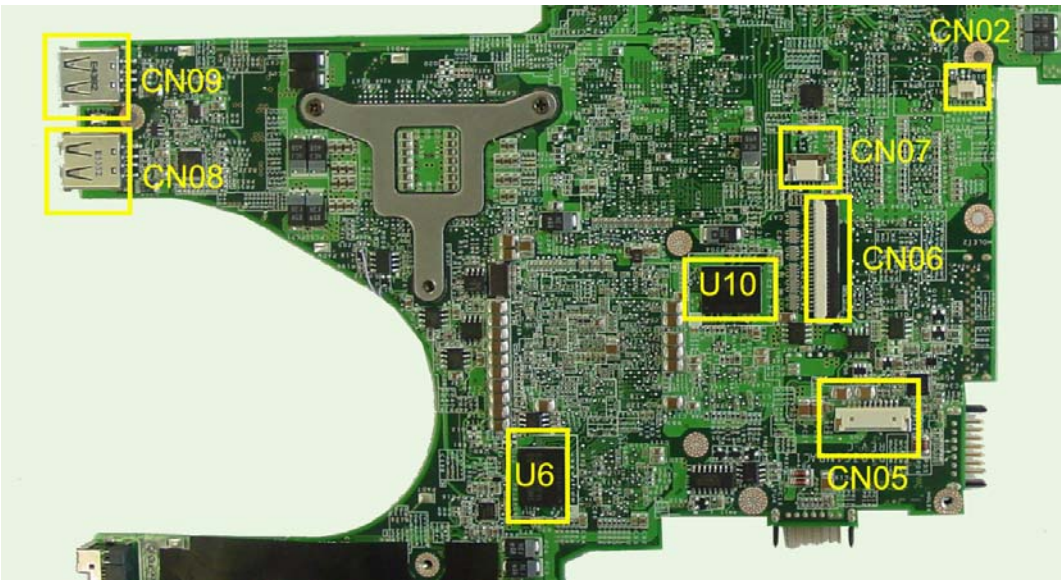
Bottom View



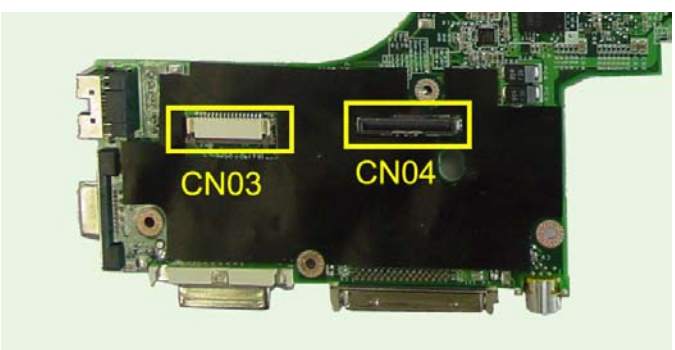
Part One of Bottom View



Part Two of Bottom View



Part Three of Bottom View



Item	Description	Item	Description
CN02	Mic connector (two pin)	CN15	Speaker connector (four pin)
CN03	Main board to button board FFC connector (16 pin)	CN16	1394 (four pin)
CN04	LCD connector (40 pin)	CN17	SPDIF (line out)
CN05	daughter board cable to main board (10 pin)	CN18	Audio jack/line in
CN06	Keyboard FFC connector (25 pin)	CN19	Audio jack/mic
CN07	Touchpad FFC connector (four pin)	U06	V-RAM
CN08	USB	U10	V-RAM
CN09	USB	U28	IR module
CN10	Smart card FFC connector	SW02	Slider switch

Item	Description	Item	Description
CN12	PCMCIA card header	SW03	Slider switch
CN14	Five-in-one card reader		

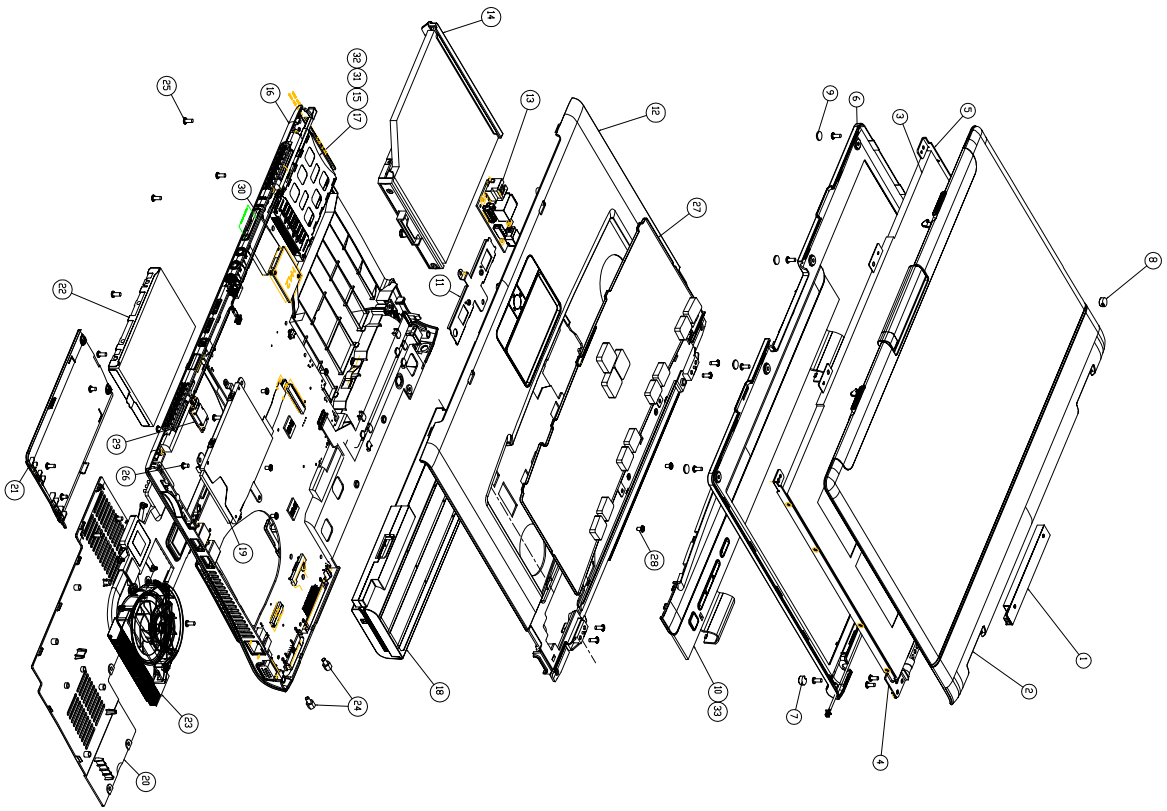
FRU (Field Replaceable Unit) List

This chapter offers the FRU (Field Replaceable Unit) list in global configuration of Travelmate 8200. Refer to this chapter whenever ordering the 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 is changed, 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 service.

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

Exploded Diagram

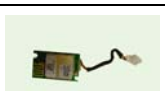
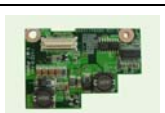
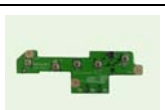
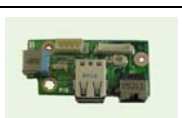


Item	Part number	Description	Qty
1	ASG23170198	INV MODULE ZF1(8-20V,V=700,REV=A1A)	1
2	3GZC1LCTN00	ZC1 LCD COVER CARBON ASSY	1
3	AA15AL02002	LCD15.4"CWXGA+ID115AL02	1
4	FBZC1010113	HINGE-L-AJP-ZC1	1
5	FBZC1013016	HINGE-R-AJP-ZC1	1
6	3HZC1LBTN05	ZC1 LCD BEZEL ASSY	1
7	GAZC1004016	LCD-RUBBER-R-ZC1	1
8	GAZC1003010	LCD-RUBBER-L-ZC1	1
9	GAZC1002013	LCD-RUBBER-PAD1-ZC1	4
10	6AZC1KCTN00	ZC1 KB COVER ASSY	1
11	FBZC1004017	TP-BD-BKT-ZC1	1
12	492C1TCTN03	ZC1 TOP CASE SUB ASSY	1
13	63ZC1UB0005	ZC1 USB/B ASSY	1
14	64ZC1CDTN15	ZC1 SUPER MULTI (PAD) ASSY	1
15	6ZC1CPU2000	ZC1 CPU VDNAH-D GROUP (GPM2)	1
16	38ZC1BCTN05	ZC1 BASE CASE ASSY	1
17	61ZC1PA0001	ZC1 PCB ASSY(PM/M56-256/SATA)	1
18	6ZC1BTL1905	ZC1 BATTERY GROUP(LI 9CELL)	1
19	DFHDI2MR447	SMART CARD (WITH BKT)	1
20	3CZC1TATN07	ZC1 THERMAL DOOR ASSY	1
21	60ZC1HDTN00	ZC1HDD DOOR ASSY	1
22	6ZC1HDA0006	ZC1 HDD (160GB) 5400RPM SATA GROUP	1
23	31ZC1TATN02	ZC1 THERMAL MODULE ASSY	1
24	MBEA1001012	NUT ID EAI	2
25	MME2506OL69	SCREW M2.5*6-I(BNI)(NYLOK)	29
26	MME2504I243	SCREW M2.5*4.0-I(BK4G)(NYLOK)	20
27	6ZC10KBBR003	ZC1 K/B MODULE (UD GROUP	1
28	MME2503OL65	SCREW M2.5*3.0-I(BNI)(NYLOK)EP	2
29	2BZC1BTTN11	ZC1 BLUETOOTH ASSY (T60HP2BAD)	1
30	27ZC1MDTN00	ZC1 MODEM ASSY	1
31	6ZC1RM00509	ZC1 SUMB/533MZ DDR2 GROUP	1
32	2BZC1PB0002	ZC1 POWER/B ASSY	1
33	3BZC1BB0003	ZC1 BUTTON/B ASSY	1
34			
35			
36			
37			
38			

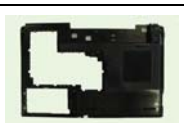
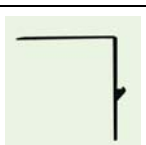
UNIT: MM

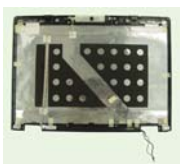
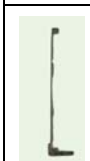
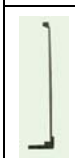
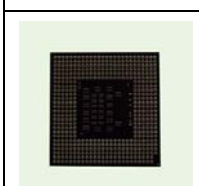
RANGE	TOLERANCE
0~10	±0.10
10~50	±0.15
50~100	±0.20
100~	±0.25

Parts

CATEGORY	PARTNAME	DESCRIPTION	ACER PART NO.
ADAPTER			
N/A	ADAPTER 90W 3 PIN LITEON PA-1900-04QB ROHS	ZC1 ADAPTER LITEON S/P	AP.09003.009
	ADAPTER 90W 3 PIN DELTA ADP-90SB BBAHF ROHS	ZC1 ADAPTER DELTA S/P	AP.09001.005
	BATTERY SANYO LI-ION COMO 9 CELL 2.6	ZC1 BATTERY SANYO 9 CELL S/P	BT.00903.005
	BATTERY PANASONIC LI-ION COMO 9 CELL 2.6	ZC1 BATTERY PANASONIC 9 CELL S/P	BT.00905.001
	PRISMATIC COMO 2ND 6 CELL 1.9 P SANYO PACK 3800MAH	ZC1 2ND BATTERY SANYO 6 CELL S/P	BT.00603.015
BOARD			
	MODEM BOARD 56K (MDC) T60M893.T00 S/P	ZF1 MODEM 56K (MDC) T60M893.T00 S/P	54.T72V7.001
	BLUETOOTH MODULE FOXCONN T60H928.01 W/ ANTENNA	ZC1 FOX BULETOOTH (T60H928.01) S/P	54.TAXV7.001
	MINI PCI WIRELESS BOARD 802.11 A/B/G MOW2 INTEL MM872659	ZC1 W/L 3945ABG MOW2 S/P	KI.GLN01.002
	MINI PCI WIRELESS BOARD 802.11 A/B/G MOW1 INTEL MM872612	ZC1 W/L 3945ABG MOW1 S/P	KI.GLN01.001
	MINI PCI WIRELESS BOARD 802.11 A/B/G ROW INTEL MM874511	ZC1 W/L 3945ABG ROW S/P	KI.GLN01.003
	TOUCHPAD BOARD	ZC1 TOUCHPAD BOARD ASSY S/P	55.TAXV7.001
	POWER BOARD	ZC1 POWER BOARD ASSY S/P	55.TAXV7.002
	BUTTON BOARD	ZC1 BUTTON BOARD ASSY S/P	55.TAXV7.003
	USB BOARD	ZC1 USB BOARD ASSY S/P	55.TAXV7.004
	LCD INVERTER BOARD W/ TYPE	ZF1 INV (8-20V, V=700, REV=A1A) S.P.	19.TAXV7.001

	OPTICAL DEVICE CONNECTOR BOARD	ZC1 CD ROM BOARD ASSY S/P	55.TAXV7.005
CABLE			
N/A	POWER CORD US 3 PIN ROHS	ZB1 PWR CORD US S/P	TBD
	POWER CORD EU 3 PIN ROHS	ZB1 PWR CORD (CEE) S/P	TBD
	POWER CORD UK 3 PIN ROHS	TBD	TBD
	POWER CORD ITALIAN 3 PIN ROHS	TBD	TBD
	POWER CORD DANISH 3 PIN ROHS	TBD	TBD
	POWER CORD SWISS 3 PIN ROHS	TBD	TBD
	POWER CORD PRC 3 PIN ROHS	TBD	TBD
	POWER CORD US-110V (BSMI) ROHS	TBD	TBD
	POWER CORD AU W/ LABEL 3 PIN ROHS	TBD	TBD
	POWER CORD AF 3 PIN ROHS	TBD	TBD
	POWER CORD AF-S INDIA ROHS	TBD	TBD
	POWER CORD KOREA 2 PIN ROHS	TBD	TBD
	POWER CORD JAPAN ROHS	TBD	TBD
	POWER CORD ISRAEL 3 PIN ROHS	TBD	TBD
	POWER CORD US 3 PIN	ET2S POWER CORD S/P US	27.A03V7.001
	POWER CORD EU	ZC1 POWER CORD EU S/P	TBD
	POWER CORD UK	ET2S POWER CORD SPARE PART UK	TBD
	POWER CORD CONTINENTAL	EI2 POWER CORD 3P CONTINENTAL S.P.	TBD
	POWER CORD ISRAEL	ZL6A POWER CORD S/P ISR S.P.	TBD
	POWER CORD ITALIAN	EI2 POWER CORD 3P ITALY S.P.	TBD
	POWER CORD SWISS	ZE1 POWER CORD 3P SWISS S.P.	TBD
	POWER CORD US-110V (BSMI)	ZL3E POWER CORD S/P TWN	TBD
	POWER CORD AF 3 PIN	ZI5 POWER CORD S/P AF	27.T48V7.001
	POWER CORD DANISH 3 PIN	ET2S POWER CORD S/P DANISH	27.A03V7.006
	POWER CORD AUSTRALIA W/ LABEL	ZL6A POWER CORD S/P AU S.P.	TBD
	POWER CORD SOUTH AFRICA-S (INDIA)	ZL6A POWER CORD S/P INDIA S.P.	TBD
	POWER CORD US-110V	ZL3E POWER CORD S/P THAI	TBD
	POWER CORD JAPAN	TBD	TBD
	POWER CORD PRC 3 PIN	ET2S POWER CORD S/P PRC	27.A03V7.003

	MODEM CABLE	ZC1 CABLE MDC (2/2P, REV1A) S/P	50.TAXV7.001
	FFC CABLE TOUCHPAD BOARD TO MAIN BOARD LF	ZC1 CABLE MB TP/B (122.5MM, 4/4, 2A) S/P	50.TAXV7.002
	FFC CABLE BUTTON BOARD TO MAINBOARD LF	ZC1 CABLE BUTTON BOARD (60MM, 16/16, 2A) S/P	50.TAXV7.003
N/A	FFC CABLE - TP/B TO TP LF	ZC1 CABLE TP/B TO TP (76MM, 12/12, 2A) S/P	50.TAXV7.004
	USB CABLE - 10/10P	ZC1 CABLE USB (10/10P, REV1A) S/P	50.TAXV7.005
	USB CABLE - 4/4P	TBD	50.TAXV7.006
	LCD CABLE 15.4 IN. WXGA	ZC1 CABLE 15" SXGA + ID5 (40/40P R1A) S/P	50.TAXV7.007
N/A	DCIN CABLE	ZC1 CABLE DCIN (5/5P, REV1A) S/P	TBD
CASE / COVER / BRACKET ASSEMBLY			
	MIDDLE COVER	ZC1 KB COVER ASSY S/P	42.TAXV7.001
	UPPER CASE W/ TP	ZC1 TOP ASSY S/P	60.TAXV7.001
	LOWER CASE W/ SPEAKER	ZC1 BASE CASE ASSY S/P	60.TAXV7.002
	THERMAL DOOR	ZC1 THERMAL DOOR ASSY S/P	42.TAXV7.002
	TP BOARD SUPPORT BRACKET	ZC1 TP BD SUPPORT BRACKET S/P	33.TAXV7.001
N/A	DUMMY-NEW CARD	ZC1 DUMMY-NEW-CARD S/P	42.TAXV7.003
	OPTICAL DEVICE HOLDER	ZC1 ODD-HOLDER S/P	42.TAXV7.006
	SUPER MULTI G BASE BEZEL	ZC1 SUPER MULTI BEZEL ASSY S/P	42.TAXV7.007

	HDD BRACKET	ZC1 HDD BRACKET S/P	33.TAXV7.002
	HDD DOOR	ZC1 HDD DOOR ASSY S/P	42.TAXV7.004
	LCD PANEL CARBON 15.4 IN. W/ LOGO ANTENNA CCD MODULE	ZC1 15.4 LCD COVER Carbon ASSY S/P	60.TAXV7.004
	LCD BEZEL W/ RUBBER PAD 15.4 IN.	ZC1 15.4 LCD BEZEL ASSY S/P	60.TAXV7.005
	LCD BRACKET W/HINGE 15.4 IN. - L	ZC1 HINGE-L S/P	33.TAXV7.004
	LCD BRACKET W/HINGE 15.4 IN. - R	ZC1 HINGE-R S/P	33.TAXV7.005
N/A	PCMCIA SLOT	ZF1 PCMCIA SLOT ASSY S.P	22.T72V7.001
N/A	2ND HDD BASE ASSY	ZC1 2ND HDD BASE ASSY S/P	60.TAXV7.003
N/A	2ND HDD BRACKET	ZL1 2ND BRACKET ASSY S/P	33.TAXV7.003
N/A	2ND HDD COVER ZC1 (EBZC1027, REV3A) LF	ZC1 2ND HDD COVER S/P	42.TAXV7.005
COMMUNICATION MODULE			
N/A	WIRELESS LAN ANTENNA	ZC1 ANTENNA (81.ED415.009) S/P	50.TAXV7.011
CPU			
	CPU INTEL YONAH CORE DUO FSB-667 2.16G 2M L8VN	ZC1 Intel CPU YONAH 2.16G S/P	KC.26001.DTP
	CPU INTEL YONAH CORE DUO FSB-667 2.0G 2M L8VP	ZC1 Intel CPU YONAH 2.0G S/P	KC.25001.DTP
	CPU INTEL YONAH CORE DUO FSB-667 1.83G 2M L8VQ	ZC1 Intel CPU YONAH 1.83G S/P	KC.24001.DTP
	CPU INTEL YONAH CORE DUO FSB-667 1.66G 2M L8VR	ZC1 Intel CPU YONAH 1.66G S/P	KC.23001.DTP

DVD RW DRIVE			
	DVD SUPER MULTI HLDS GSA-4082N	ZC1 SUPER MULTI HLDS GSA-4082N ASSY S/P	6M.TAXV7.001
	DVD SUPER MULTI DRIVE HLDS GSA-4082N DL G BASE	ZF1A SUPER MULTI (HLDS GSA-4082N) S/P	KU.0080D.017
	DVD SUPER MULTI PAN UJ-850	ZC1 DVD SUPERMUTI PAN UJ850 ASSY S/P	6M.TAXV7.002
	DVD SUPER MULTI UJ-850BAA-A FW1.5	ZC1 DVD SUPERMUTI PAN UJ850 S/P	KU.00807.025
HDD			
	HDD 80GB 2.5 IN. SEGATE MERCURY2 ST98823AS FW:3.06 LF	ZC1 HDD Seagate 80G S/P	KH.08001.023
	HDD 100GB 2.5 IN. SEGATE MERCURY2 ST9100824AS FW:3.06 LF	ZC1 HDD Seagate 100G S/P	KH.10001.008
	HDD 120GB 2.5 IN. SEGATE MERCURY2 ST9120821AS FW:3.06 LF	ZC1 HDD Seagate 120G S/P	KH.12001.025
KEYBOARD			
	TM8200 KEYBOARD DARFON US INTERNATIONAL	ZC1 K/B MODULE (UI) S/P	KB.TAX07.001
	TM8200 KEYBOARD DARFON CHINESE	ZC1 K/B MODULE (TAIWAN) S/P	KB.TAX07.002
	TM8200 KEYBOARD DARFON SPANISH	ZC1 K/B MODULE (SPANISH) S/P	KB.TAX07.003
	TM8200 KEYBOARD DARFON THAI	ZC1 K/B MODULE (THAI) S/P	KB.TAX07.004
	TM8200 KEYBOARD DARFON BRAZILIAN PROTUGESE	ZC1 K/B MODULE (BRAZIL) S/P	KB.TAX07.005
	TM8200 KEYBOARD DARFON KOREA	ZC1 K/B MODULE (KOREAN) S/P	KB.TAX07.006
	TM8200 KEYBOARD DARFON UK	ZC1 K/B MODULE (UK) S/P	KB.TAX07.007

	TM8200 KEYBOARD DARFON GERMAN	ZC1 K/B MODULE (GERMAN) S/P	KB.TAX07.008
	TM8200 KEYBOARD DARFON ITALIAN	ZC1 K/B MODULE (ITALIAN) S/P	KB.TAX07.009
	TM8200 KEYBOARD DARFON FRENCH	ZC1 K/B MODULE (FRENCH) S/P	KB.TAX07.010
	TM8200 KEYBOARD DARFON SWISS/G	ZC1 K/B MODULE (SWISS) S/P	KB.TAX07.011
	TM8200 KEYBOARD DARFON PORTUGUESE	ZC1 K/B MODULE (PORTUGUESE) S/P	KB.TAX07.012
	TM8200 KEYBOARD DARFON ARABIC	ZC1 K/B MODULE (ARAB-EN) S/P	KB.TAX07.013
	TM8200 KEYBOARD DARFON BELGIUM	ZC1 K/B MODULE (BELGIUM) S/P	KB.TAX07.014
	TM8200 KEYBOARD DARFON SWEDEN	ZC1 K/B MODULE (SWEDISH) S/P	KB.TAX07.015
	TM8200 KEYBOARD DARFON CZECH	ZC1 K/B MODULE (CZECH) S/P	KB.TAX07.016
	TM8200 KEYBOARD DARFON HUNGAIAN	ZC1 K/B MODULE (HUNGARIAN) S/P	KB.TAX07.017
	TM8200 KEYBOARD DARFON NORWAY	ZC1 K/B MODULE (NORWEGIAN) S/P	KB.TAX07.018
	TM8200 KEYBOARD DARFON DANISH	ZC1 K/B MODULE (DANISH) S/P	KB.TAX07.019
	TM8200 KEYBOARD DARFON TURKISH	ZC1 K/B MODULE (TURKISH) S/P	KB.TAX07.020
	TM8200 KEYBOARD DARFON CANADIAN FRENCH	ZC1 K/B MODULE (FRA-CAN) S/P	KB.TAX07.021
	TM8200 KEYBOARD DARFON JAPANESE	ZC1 K/B MODULE (JA) S/P	KB.TAX07.022
	TM8200 KEYBOARD DARFON GREEK	ZC1 K/B MODULE (GREEK) S/P	KB.TAX07.023
	TM8200 KEYBOARD DARFON HEBREW	ZC1 K/B MODULE (HEBREW) S/P	KB.TAX07.024
	TM8200 KEYBOARD DARFON RUSSIAN	ZC1 K/B MODULE (RUSSIAN) S/P	KB.TAX07.025
	TM8200 KEYBOARD DARFON SLOVENIA (SLO)	ZC1 K/B MODULE (SLOVAK) S/P	KB.TAX07.026
	TM8200 KEYBOARD DARFON CROATIA (CR)	ZC1 K/B MODULE (CROATIAN) S/P	KB.TAX07.027
	TM8200 K/B MODULE FARSI	ZC1 K/B MODULE (FARSI) S/P	TBD
	TM8200 K/B MODULE BULGARIAN	ZC1 K/B MODULE (BULGARIAN) S/P	TBD
	TM8200 K/B MODULE POLAND	ZC1 K/B MODULE (POLAND) S/P	TBD
	TM8200 K/B MODULE CHINA	ZC1 K/B MODULE (CHINA) S/P	TBD
	TM8200 K/B MODULE DUTCH	ZC1 K/B MODULE (DUTCH) S/P	TBD
	TM8200 K/B MODULE LA	ZC1 K/B MODULE (LA) S/P	TBD
	TM8200 K/B MODULE ICELAND	ZC1 K/B MODULE (ICELAND) S/P	TBD
	TM8200 K/B MODULE US	ZC1 K/B MODULE (US) S/P	TBD

LCD			
	LCD MODULE 15.4 IN. CARBON ASSY W/ ANTENNA CCD	ZC1 LCD QDI (15.4WSXGA+) CARBON S/P	6M.TAXV7.003
	LCD MODULE 15.4 IN. COATING ASSY W/ ANTENNA CCD	ZC1 LCD QDI (15.4WSXGA+) Pre. S/P	6M.TAXV7.004
	LCD 15.4 IN. WSXGA+ QDI QD15AL02-01 NON GLARE LF	ZC1 15.4 (WSXGA+) QD15AL02 S/P	LK.15409.014
	LCD 15.4 IN.WSXGA+ CMO N154Z1-L01 NON GLARE LF	ZC1 LCD15.4 WSXGA + (N154Z1-L01) S/P	LK.1540D.009
	LCD 15.4 IN. WSXGA+ SAMSUNG LTN154P1-L02-V NON GLARE LF	ZC1 LCD15.4 WSXGA + LTN154P1-L02-V S/P	LK.15406.008
MEMORY			
	HYNIX SO-DIMM DDRII 533 512MB HYMP564S64P6-C4	ZC1 HYNIX DDRII 533 512MB RAM S/P	KN.5120G.005
	INFINEON SO-DIMM DDRII 533 512MB HYS64T64020HDL-3.7-A LF (0.11U)	ZC1 INFINEON DDRII 533 512MB RAM S/P	KN.51202.021
	NANYA SO-DIMM DDRII533 512MB NT512T64UH8A1FN-37B LF	ZC1 NANYA DDRII533 512MB RAM S/P	KN.51203.023
	SAMSUNG SO-DIMM DDRII533 512MB M470T6554CZ3-CD500 LF	ZC1 SAMSUNG DDRII533 512MB RAM S/P	KN.5120B.015
	NANYA SO-DIMM DDRII667 512MB NT512T64UH8A1FN-3C LF	ZC1 NANYA DDRII667 512MB RAM S/P	KN.51203.025
	NANYA SO-DIMM DDRII533 1GB NT1GT64UH8A0BN-37B LF	ZC1 NANYA DDRII533 1GB RAM S/P	KN.1GB03.006
	INFINEON SO-DIMM DDRII533 1GB HYS64T128021HDL-3.7-A LF (0.11u)	SO-DIMM DDRII533 1GB HYS64T128021HDL-3.7-A LF (0.11u)	KN.1GB02.023
	NANYA SO-DIMM DDRII667 1GB NT1GT64U8HA0BN-3C LF	SO-DIMM DDRII667 1GB NT1GT64U8HA0BN-3C LF	KN.1GB03.009
	ELPIDA SO-DIMM DDRII533 512MB GU33512AGEPN612C	SO-DIMM DDRII533 512MB GU33512AGEPN612C	KN.51209.005
MAIN BOARD			
	MAINBOARD 945PM M56P256MB SATA W/READER, NEW CARD W/ O CPU MEMORY	ZC1 M/B ASSY S/P	MB.TAX06.001
HEATSINK			
	THERMAL MODULE	ZC1 THERMAL MODULE ASSY S/P	60.TAXV7.007
SPEAKER			
N/A	SPEAKER	ZC1 SPEAKER PB2510KN04S-9LB S/P	23.TAXV7.001
READER			
	SMART CARD READER	ZC1 SMART CARD S/P	60.TAXV7.008

MISCELLANEOUS			
N/A	LCD-RUBBER-PAD1-ZC1(GAZC1002,REV3A)LF	ZC1 LCD-RUBBER-PAD1 S/P	47.TAXV7.001
	LCD-RUBBER-L-ZC1(GAZC1003,REV3A)LF	ZC1 LCD-RUBBER-L S/P	47.TAXV7.002
	LCD-RUBBER-R-ZC1(GAZC1004,REV3A)LF	ZC1 LCD-RUBBER-R S/P	47.TAXV7.003
	CARD-READER-RUBBER-ZC1(EBZC1040,REV3A)LF	ZC1 CARD READER RUBBER S/P	47.TAXV7.004
	RUBBER FOOT	ZC1 RUBBER FOOT S/P	47.TAXV7.005
SCREWS			
N/A	SCREW M2.0*2.5-I (NI) (NYLOK)	ET2S SCREW MM2.0X3.0 SPARE PART	86.A03V7.012
	SCREW M2.5*6-I (BNI) (NYLOK)	ZG1S I2.5*3M-BNIH(M2.5L3) S/P	86.T25V7.012
	SCREW M2.0*3.0-I-NI-NYLOK	ZI1S SCREW M2.0X5-I-NI-NYLOK S/P	86.T23V7.006
	SCREW M2.0*6.0-I-NI-NYLOK	DT1 SCREW MM25060IL69 SPARE PART	86.A08V7.004
	SCREW M2.5*2-I (NI, NYLOK)	ZI1S SCREW M2.5X2-I-NI-NYLOK S/P	86.T23V7.018
	SCREW M2.5*3-I (NI, NYLOK)	ET2S SCREW MM2.5X3.0 SPARE PART	86.A03V7.010
	SCREW M2.5*6-I (BNI) TAP	ZC1 SCREW M2.5*6-I(BNI)TAP S/P	86.TAXV7.001
	SCREW M2.5*4-I (BNI)	ZI1S SCREW M2.5X4-I-BNI S/P	86.T23V7.019
	SCREW M2.5*4.0-I (NYLOK) EU	ZI1S SCREW M2.5X4-I-NYLOK S/P	86.T23V7.009