

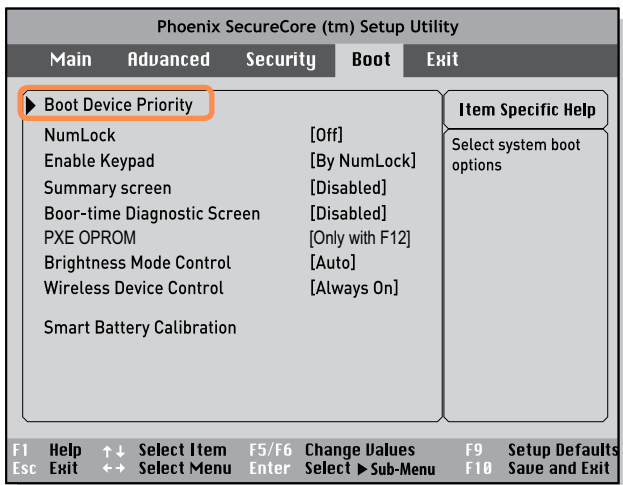
## Changing the Boot Priority

This computer is configured to boot from an external-type ODD first.

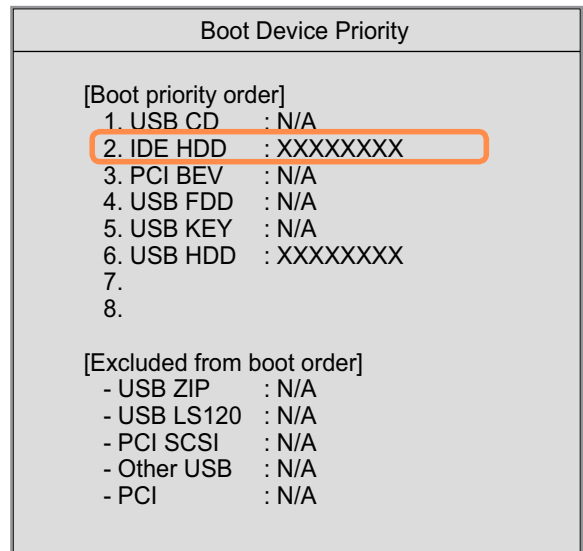
This chapter describes how to change the boot priority so that the computer boots from the hard disk drive first.

**1** Select the **Boot** menu in the BIOS Setup.

**2** Press **<Enter>** on the **Boot Device Priority** item.



**3** Press the down key (↓) to move to the **IDE HDD** item and press the **F6** key to move up to the top item.



**4** Press the **F10** key to save the settings and exit Setup.

The highest boot priority device is now set to the Hard Drive.

## Upgrading Memory

A memory is installed in the memory slot at the bottom of this computer. The procedures to replace the memory are described below.



- Replace new memory only after shutting the computer down completely. Do not replace memory when the computer is in Sleep mode.
- Disconnect main power plug and remove the battery before continuing.
- Only use the same type of memory as specified in the Product Specification.

### Replacing the Memory

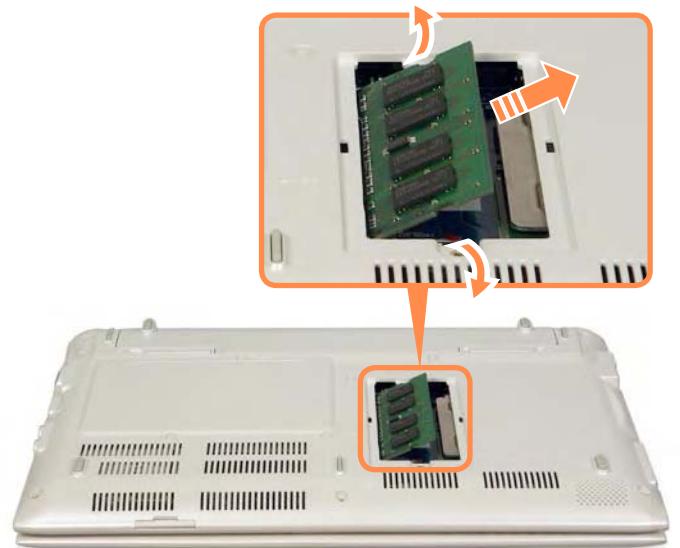
- 1 Remove the screw on the memory compartment cover at the bottom of the computer using a screw driver.



Fixing Screw

- 2 Pull the memory module latches outward. The memory module will pop up.

Remove the memory module out at an angle of 30 degrees.



- 3** Insert a new memory module into the memory slot at an angle of approximately 30 degrees aligning it to the angle of the memory slot.



**Memory Slot**

- 4** Push the memory module down so that it is completely fixed. If the memory does not fit easily, push the memory module down while pulling the memory module latches outward.



- 5** Close the memory compartment cover and fasten the screw.

## Battery

Please refer to the following instructions when running the computer on battery power without connecting the AC power.

A Lithium-Ion smart battery is supplied with this computer.



Carefully read and follow the precautions printed on the battery before using the battery.



### Precautions

Use only chargers specified in the User Manual.

Never heat the battery pack, put it near or in a fire or use at a temperature higher than 60°C, as this may cause fire.



Never cause a short circuit between the battery pack terminals or disassemble the battery pack.

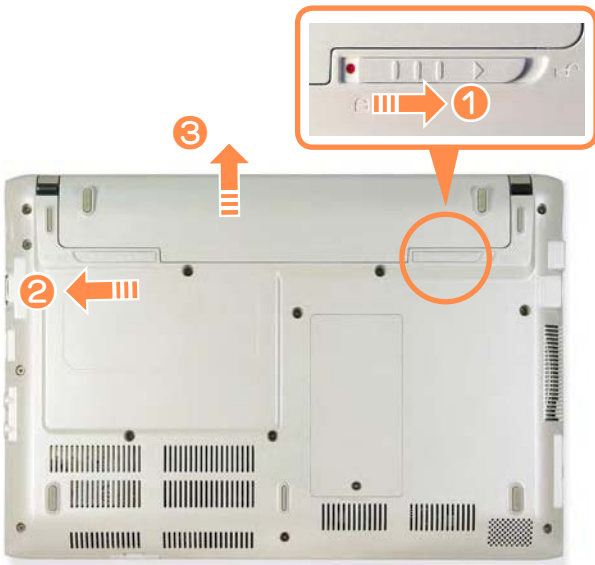
Carefully read and follow the precautions printed on the battery and the safety instructions in the User Manual before using the battery.

Please refer to the system operation environment (☞ 178) of this manual and operate and store the battery at room temperature.

## Installing/Removing the Battery

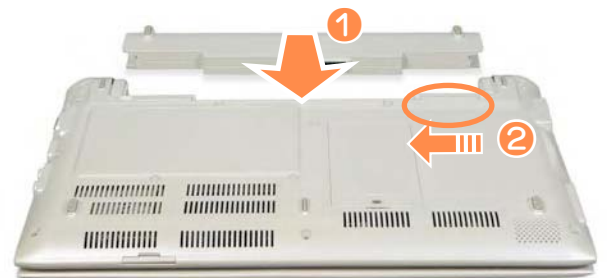
- 1 Shutdown the system, close the LCD panel and place the computer upside down on a flat surface.

**2** Slide the right battery latch to the **OPEN**  position and remove the battery while holding the left battery latch to the **OPEN**  position.



**3** To install the battery again, slide the battery into the system.

Slide and fix the right battery latch to the **CLOSE** (inside) position so that the battery is fixed.



If the right battery latch is not in the **CLOSE** (inside) position, there is a danger of data loss because the battery may become separated. Slide and fix the latch to the **CLOSE** position so that the red circle mark is hidden.



Check if the battery latch has been moved inwards.

## Charging the Battery

- 1 Attach the battery and connect the AC adapter to the DC-in jack of the computer.

The battery will then start charging.


- 2 When charging is complete, the Charge LED turns green.

Status	Charge LED
Charging	Red
Charging complete	Green
AC adapter not connected	Off

## Measuring the Remaining Battery Charge

You can view the battery charge status by completing the following procedures.

### To use the shortcut key to view

Press the **Fn** +  keys on the keyboard. The remaining battery charge (%) will be displayed for a moment.

You can only view the charge status in this way when Easy Display Manager is installed on your computer.



#### Battery Warning

- You will hear an alarm when the remaining battery charge reaches below 10%.  
In this case, connect the AC adapter or turn off the computer and install a fully charged battery.
- If the battery residual amount is 3~5%, the computer automatically shuts down after saving the data. The battery residual amount may vary depending on the computer model.


### Battery Usage Time Information

A battery is an expendable supply, so when using it over a long time, the capacity/battery life is shortened. If the battery life is reduced to under half of its initial time, we recommend purchasing a new battery.

For long periods of not using the battery, keep the battery after discharging it. This extends the battery life time.

## Extending the Battery Usage Time

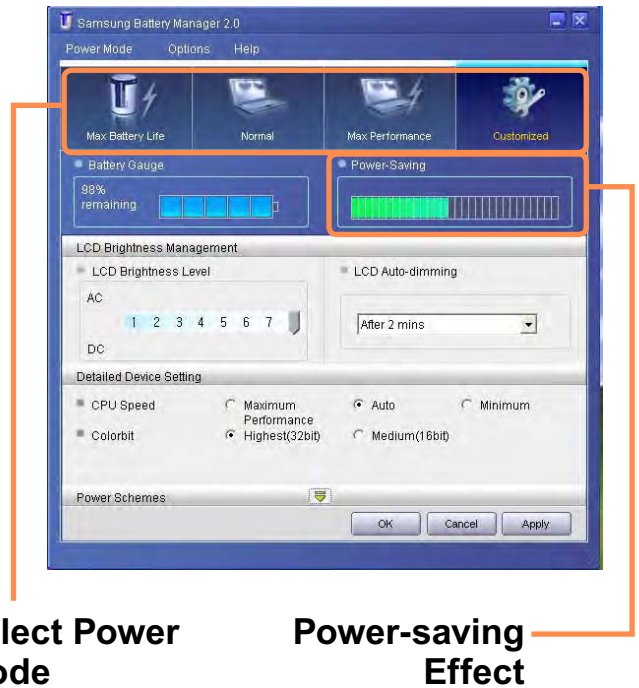
### Decreasing the LCD Brightness

Press the **Fn** +  keys on the keyboard to decrease the LCD brightness to extend the battery usage time.

### Using Samsung Battery Manager

Battery Manager is a management program that allows you to use the battery efficiently. You can select the optimized power mode depending on the system environment.

Click **Start > All Programs > Samsung > Samsung Battery Manager > Samsung Battery Manager**.



### Maximum Battery Mode

This mode is appropriate for the environment that requires maximum battery lifetime. The system performance may be degraded in this mode.

### General Mode

This mode is appropriate for the regular environment and it optimizes the performance of the system and battery.



## Maximum Performance Mode

This mode is appropriate for the environment that requires maximum system performance. The battery life may get shorter in this mode.

## User Settings Mode

This mode allows you to configure the detailed settings. You can set LCD brightness, power status, and color quality.



### What is the Power-saving Effect?

This product displays the battery life in each power mode. The higher the power saving effect increases, the longer the graph bar is displayed.

### When Using Games or Multimedia

The system may not operate properly in maximum battery mode. It is recommended to connect the AC adapter to the system or to use the system in general mode.

## Usage Mode of Samsung Battery Manager

- The maximum battery mode optimizes the system operation speed to increase the battery run time, so the program execution time may get longer.
- If you change the power settings, the properties in **Power Options** window will also be changed.
- Complete, install Samsung Battery Manager using the **System Software Media** in order to use the general mode.

## Disabling Unused Devices

If you turn off unused devices, battery lifetime will improve.

- 1 Click Device Manager from **Start > Control Panel > Performance and Maintenance > Systems > Hardware** tab.
- 2 Right-click the devices that you are not using and select **Disable**.

## Extending the Battery Life (Optional)

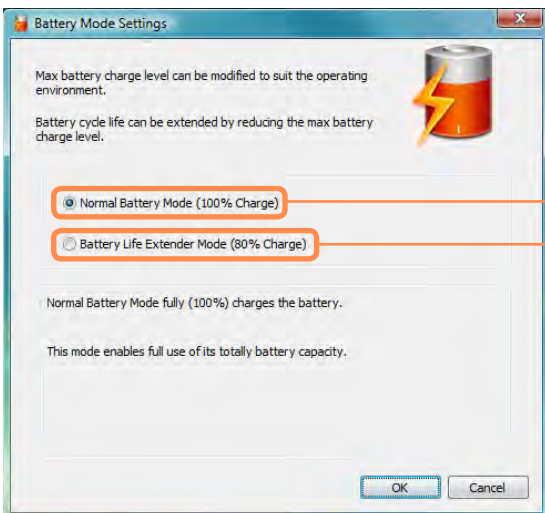
The Battery Life Extender is a battery power management program that enables extending the battery life. Users can change the settings depending on their requirements.



The Battery Life Extender is optional and may not be supplied depending on the model.

**1** Click **Start > All Programs > Samsung > Battery Life Extender > Battery Life Extender**.

**2** When the following screen appears, select a mode and click the **OK** button. You can use the battery in the selected mode.



**Battery Normal Mode**

**Battery Life Extension Mode**

**Battery Life Extension Mode**

### Battery Normal Mode

This mode maintains 100% of the battery charge when using the computer on AC power.

In this case, although the battery use time increases, the battery life is reduced.

### Battery Life Extension Mode

This mode maintains 80% of the battery charge when using the computer on AC power.

In this case, although the battery use time decreases, the battery life is extended.



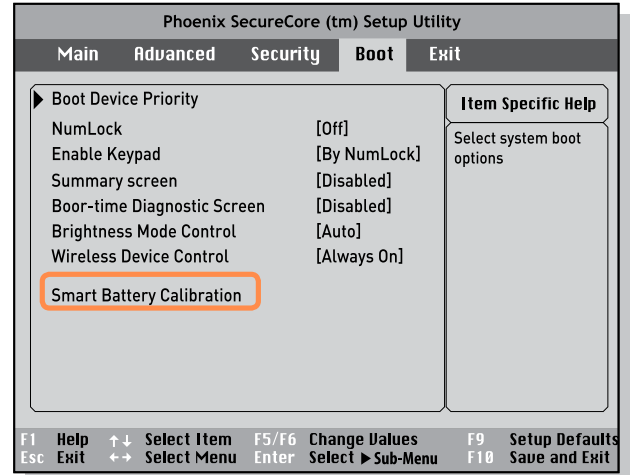
Press the **F2** key when the Samsung logo appears in the booting sequence to enter the BIOS Setup, select **Advanced > Battery Life Cycle Extension**, and set it to **Enable**. Then you can use the battery life cycle extension mode.

## Using the Battery Calibration Function

When charging/discharging the battery repeatedly for a short time only, the battery usage time may be reduced by the difference between the actual battery charge and the remaining charge display. In this case, the actual battery charge and the remaining charge display will be the same by discharging the battery completely using the Battery Calibration function, and then recharging it again.

- 1 Disconnect the AC power adapter after turning off the computer.
- 2 Restart your computer and press the **F2** button when the Samsung logo appears, to start the BIOS Setup.

- 3 Move to the **Boot > Smart Battery Calibration** item using the direction keys and press **<Enter>**.



- 4 Highlight **Yes** in the **Battery Calibration Confirmation** window and press **<Enter>**.

The Battery Calibration function is activated and the battery is forcefully discharged. To stop the operation, press the **<Esc>** button.

This operation requires 3~5 hours depending on the battery capacity and the remaining battery charge.

## Using the Security Lock Port

You can connect a Kensington lock to the Security Lock port to prevent your computer from being stolen when you have to use the computer in a public place.

To use this feature, you have to purchase the Kensington lock additionally. To use the Kensington lock, refer to the product manual.

Tie the Kensington lock cable to a fixed object and install the other end of the cable to the Security Lock port.



# Chapter 7.

## Appendix



<b>Reinstalling Windows XP (Optional)</b>	<b>144</b>
<b>Using Samsung Recovery Solution (Optional)</b>	<b>149</b>
<b>Questions and Answers</b>	<b>158</b>
Windows Related	158
Display Related	159
Sound Related	161
Wired LAN Related	164
Wireless LAN Related	165
Games and Programs Related	171
Bluetooth	173
Security Center	174
<b>Product Specifications</b>	<b>178</b>
<b>Glossary</b>	<b>188</b>
<b>Index</b>	<b>192</b>

## Reinstalling Windows XP (Optional)

You can reinstall Windows using the System Recovery CD when Windows does not work properly.

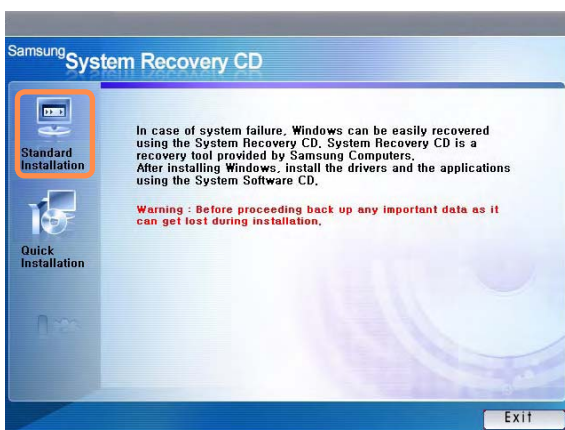
- A System Recovery CD may not be supplied depending on your computer model.
- To reinstall Windows when Windows does not boot, refer to page 147.
- To reinstall Windows using System Recovery Media, an external-type ODD must be connected before turning the computer on. The following descriptions assume that an external ODD is connected.

**!** Reinstalling Windows may delete data (files and programs) saved on the hard disk drive. Make sure to backup all important data. Samsung Electronics shall not be held liable for any loss of data.

## Reinstalling Windows

Explain Standard installation option as a standard.

- 1 Insert the system recovery CD into the CD-ROM drive.
- 2 In the initial screen, click **Standard Installation**.



- **Standard installation**  
You can change the settings for partitioning, the installation folder, etc. during the Windows installation. However, reinstalling Windows may delete the data on the hard disk drive such as files, programs, etc. In order to minimize damage from data loss, please remember to always back up data.
- **Quick Installation**  
This re-installs Windows with the user data and the system configuration intact. The user data in the already existing Windows folders may be preserved as the existing Windows folders are overwritten.

**3** The description for the standard installation appears. Click **Yes**. The installation starts, and the system will be restarted after a while.



When Quick Installation is selected, Setup proceeds with Step 3 before automatically installing Windows. Quick Installation overwrites the existing Windows version, so that drivers or applications do not need to be reinstalled.

**4** After the system has restarted, the message 'Press any key to boot from CD' appears. Do not press any key at this time. After a while the partition configuration screen appears. To not change the partition, press **Enter**.



#### **What is partition configuration?**

Partition configuration is a function that divides the hard disk drive into one or several partitions. Note that changing the partition deletes all of the data on the hard disk drive.

**5** Select the folder to install the Windows operating system. To delete the previous version of Windows and install in the current folder, press **L** on the keyboard.



If you press ESC to select another folder for the installation, new Windows folders are created causing a risk of dual booting.

**6** After the installation process copies the necessary folders for the Windows installation, restart the system, and the message "Press any key to boot from CD" is displayed. You do not need to enter anything. In a moment, the Windows XP installation screen will appear to proceed with the installation.

**7** When the **Regional and Language Options** window appears, click **Next**.

**8** When a window that requires your name and organization pops up, enter your name and the organization and click **Next**.

**9** When the **Date and Time Settings** window appears, click **Next**. Setup will continue.

**10** When the system restarts to display  
Press any key to boot from CD, do  
not press any key.

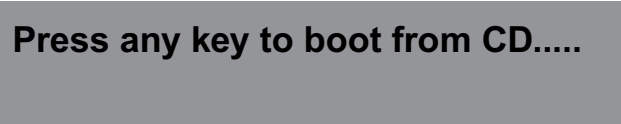
When you see the Windows desktop,  
this means that the installation process is  
completed.

Remove the system recovery CD  
and install the **device drivers and  
applications** from the **system software  
Media**.



## Reinstalling when Windows does not start

When Windows does not start, boot up with the System Recovery CD and from there you can reinstall Windows.

- 1** Insert the system recovery CD into the CD-ROM drive and start the computer.
- 2** If the following message appears on the screen, press any key from the keyboard.  


Press any key to boot from CD.....
- 3** Do not press any key at this time. After a while the partition configuration screen appears. To not change the partition, press **Enter**.
- 4** Select the desired file system (format). To maintain the current file system, press **Enter**.
- 5** Select the folder to install the Windows operating system. To delete the previous version of Windows and install in the current folder, press **L** on the keyboard.
- 6** After the installation process copies the necessary folders for the Windows installation, restart the system, and the message “Press any key to boot from CD” is displayed. You do not need to enter anything. In a moment, the Windows XP installation screen will appear to proceed with the installation.
- 7** Follow the instructions of the Windows XP installation wizard to continue with the installation.


**8** When the installation is complete, the computer will restart. When the system has restarted, the Press any key to boot from CD message appears.

Ignore the message.

The system boots and the Windows and Windows Registration screen appears. Register Windows, following the instructions to finish the Windows installation. Remove the System Recovery CD and install the **device drivers** and **application programs** using **Standard Installation** from the **System Software Media**.

## Using Samsung Recovery Solution (Optional)

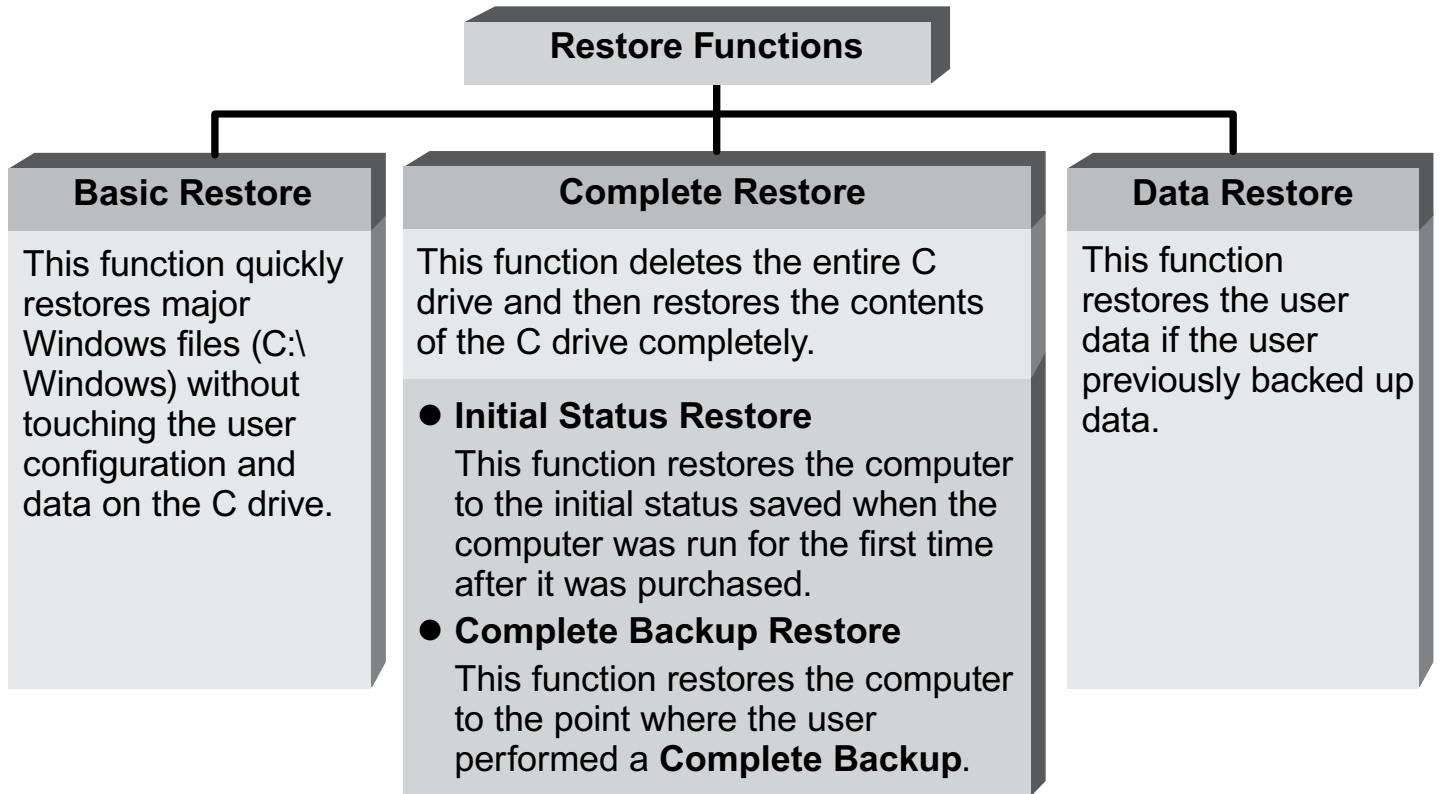
Samsung Recovery Solution provides a **Restore Function** that enables you to easily restore your computer to a previous, normal state when a problem occurs with your computer, as well as a **Backup Function** that enables you to easily save your computer's current status and your data.

-  Samsung Recovery Solution may not be provided or the version may differ depending on your computer model and the usage procedures may differ depending on the version. The screen images in this document may differ from actual product.
- For models with an SSD (Solid State Disk), Samsung Recovery Solution is not provided.
- To use the backup and restore function to DVD, an external ODD must be connected. The following descriptions assume that an external ODD is connected.

## Samsung Recovery Solution Functions

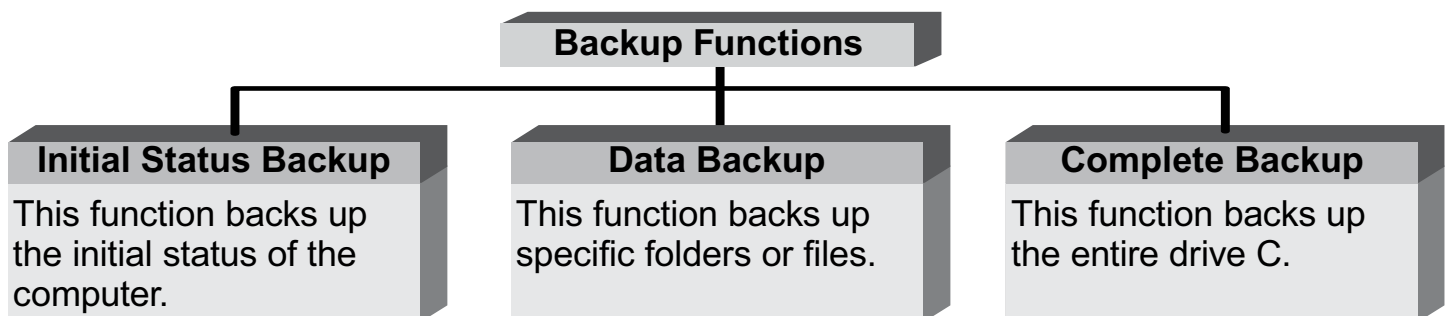
### ● Restore Function

Using this function, you can easily restore your computer to a previous, normal state without using the System Recovery CD or the Windows Installation CD, when your computer is no longer working properly or fails to boot up due to a problem. If you have backed up data, you can restore the backup data.



● **Backup Function**

You can backup the entire C drive or all your data to **another hard disk drive** or **DVD**. You can restore the backed up drive or data using the Restore function.



## Using Samsung Recovery Solution

Not only can you use Samsung Recovery Solution when Windows is running, but also when you are unable to boot up into Windows. Let's learn how to use Samsung Recovery Solution.

### Initial Status Backup

If you turn your computer on for the first time, the Initial Status Backup function is performed after registering Windows. This function saves an image of the Initial Status of the C drive to a secure location so that users can restore the computer to the Initial Status using the Complete Restore function. An Initial Status Backup is only performed once immediately after the computer is purchased.

- 1 If you turn the power on for the first time, the Register Windows screen appears. If you register Windows according to the instructions on the screen, the computer will be restarted.
- 2 When the computer has been restarted, the User Registration Complete message appears. Click **OK**. The computer will restart.

- 3 The **Initial Status Backup** screen appears.

To resize the C and D drives, click **Advanced** and partition the disk accordingly. Adjust the partition size using the slide bar and then click **Next**.



The partition disk function is only available when the computer is turned on for the first time and will not be available afterwards. Once you have completed the partitions, you cannot resize the partitions. Therefore partition the disk carefully.

- 4 The Initial Status Backup is performed to backup the initial status of the C drive to a secure location. This backup image is used for the **Complete Restore** function that restores your computer to the initial status when the computer is not working properly.
- 5 When the Initial Status Backup is complete, restart Windows.

## Quick Restore

---

Quick Restore enables you to easily restore your computer to a previous, normal state when a problem occurs with your computer. Quick Restore provides Basic Restore and Complete Restore (Computer Initial Status Restore) options.

### 1 – When Windows is running:

Click **Start > All Programs > Samsung > Samsung Recovery Solution > Samsung Recovery Solution**.

### – When Windows does not start:

Turn the computer on and press the **F4** key when the boot screen (SAMSUNG logo) appears. After a moment, the computer boots up in Restoration mode and the Samsung Recovery Solution screen appears.



The touch screen function is not supported in this mode even if your model supports a touch screen. In this mode, please use the touchpad or mouse instead of the touch screen.

2 If the Samsung Recovery Solution program is launched for the first time after purchasing the computer, the license agreement screen appears before the restoration is started. Read the agreement and click **Agree** to continue.

3 If the initial menu screen appears, click **Restore**.



If you click **Select by Symptom**, the Select by Symptom menu appears. If you select a symptom, a recommended restoration option will blink. Click the restoration option to continue.

4 Select either **Basic Restore** or **Complete Restore** from the Restore menu.

- A **Basic Restore** restores the major Windows files only while maintaining the user configuration and data on the C drive in a short time.
- A **Complete Restore** deletes the entire C drive and then restores the contents of the C drive.



Run **Complete Restore** if the computer does not work even after **Basic Restore** has been completed.

#### 4-1 If you have selected **Basic Restore**:

In the Basic Restore screen, click the **Next** button. The system will be restarted.

#### 4-2 If you have selected **Complete Restore**:

In the restoration point selection screen, select the restoration point described as 'Computer Initial Status' and click the **Next** button. The system will be restarted.



Since a Complete Restore deletes all user data as well as additionally installed programs, please backup your important data first using the Data Backup function, before running Complete Restore.

**5** The computer boots up into restoration mode and the restoration progress message appears. If you click **OK**, the restoration begins. The restoration may take some time, please wait for a moment.

**6** When the 'Restart the System' message appears after the restoration is complete, click **OK** to restart the system.



Make sure that the power cord is connected while the restoration is in progress. The first time the computer boots up after a Complete Restore has been performed, the speed of the boot process may be slowed down due to the system optimization process. At this time, do not shut the computer down by force.

## User Complete Backup/Restore

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A **Complete Backup** saves the complete image of the C drive onto another drive or DVD. A **Complete Restore** restores the image file saved by the Complete Backup onto the C drive. This guide describes the Complete Backup and Complete Restore procedures on the basis of backing up and restoring by using DVD.

## ● Complete Backup



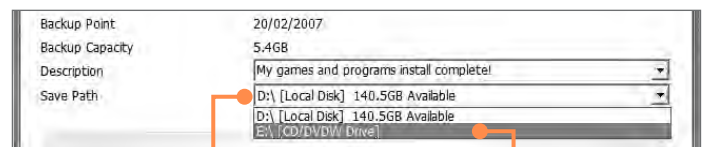
- If you run Complete Backup using a DVD, you can restore the computer even when a problem occurs with the hard disk or when the restoration area is removed.
- To perform a complete backup onto DVD, an external ODD that supports DVD burning must be connected.

**1** Click **Start > All Programs > Samsung > Samsung Recovery Solution > Samsung Recovery Solution**.

**2** When the initial menu screen appears, click **Backup**.

**3** Click **Complete Backup** in the backup menu.

**4** Enter a description for the backup regarding the current computer status in the Description field so that you can easily recognize it later, and specify the Save Path. If your computer has a DVD-Writer, you can specify the DVD drive as the Save Path.



**Select Drive D.  
Select the DVD drive.**

**5** If you click the **Next** button, the system restarts in restoration mode and the **Complete Backup** begins. If you have selected the DVD drive as the Save Path, the “Enter a blank DVD” message appears. Insert a blank DVD and click the **OK** button.



Samsung Recovery Solution supports DVD+R, DVD-R, DVD+RW, and DVD-RW, but does not support CD-R, CD-RW, DVD-RAM, DVD-DL (Dual Layer), HD-DVD, and Blu-Ray.



**6** The Complete Backup begins. If multiple DVDs are required, the expected number of DVDs is displayed in the progress screen. Whenever burning a DVD is completed, the “Insert the next DVD” message will appear. Continue the backup according to the instructions.

**7** When the ‘Restart the System’ message appears after the backup is complete, click **OK** to restart the system.

## ● Complete Restore

**1** – **When backing up onto DVD**  
Turn the computer on and insert the backup DVD into the DVD drive.  
If there are multiple backup DVDs, insert the first DVD.

– **When backing up to another drive**  
Proceed to Step 2.

**2** Click **Start > All Programs > Samsung > Samsung Recovery Solution > Samsung Recovery Solution**.



When you cannot start Windows, turn the computer on and press the F4 key in the boot screen to enter restoration mode.

**3** When the initial menu screen appears, click **Restore** and then click **Complete Restore**.

**4** Select a **Complete Backup** restoration point in the restoration point selection screen and click the **Next** button. The system is restarted.

**5** The restoration progress message appears after the computer boots up in restoration mode. If you click **OK**, the restoration begins.



If multiple DVDs have been used for a Complete Backup, whenever burning a DVD is completed, the “Insert the next DVD” message will appear.

**6** When the ‘Restart the System’ message appears after the restoration is complete, click **OK** to restart the system. The Complete Restore has been completed.

## User Data Backup/Restore

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**Data Backup** enables you to save specific files or folders onto another drive or DVD. **Data Restore** enables you to restore data using the data saved by a Data Backup when data is lost. This guide describes the Backup and Restore procedures on the basis of backing up and restoring by using DVD.

### ● Data Backup

- 1 Click **Start > All Programs > Samsung > Samsung Recovery Solution > Samsung Recovery Solution**.



When you cannot start Windows, turn the computer on and press the F4 key in the boot screen to enter restoration mode.

- 2 When the initial menu screen appears, click **Backup** and then click **Data Backup**.

- 3 In the data selection screen, select either **Basic Selection** or **Select from all**, select a folder or file to be backed up, and then click the **Next** button.

- 4 Enter a description for the backup in the **Description** field so that you can easily recognize it later and specify the **Save Path**. If your computer has a DVD-Writer, you can specify the DVD drive as the Save Path.



If you have specified a hard disk drive or a removable disk as the Save Path, the **SamsungRecovery\SamsungData** folder is created on the corresponding drive (e.g. D:\) and the data is saved to the folder. Take care to not delete the folder by mistake or on purpose.

- 5 If you click the **Next** button, the Data Backup begins. If you have selected the DVD drive as the Save Path, the “Enter a blank DVD” message appears. Insert a blank DVD and click the **OK** button.

- 6 The “Backup is completed” message appears.

## ● Data Restore

### 1 – When backing up onto DVD

Turn the computer on and insert the backup DVD into the DVD drive.

### – When backing up to another drive

Proceed to Step 2.

2 Click **Start > All Programs > Samsung > Samsung Recovery Solution > Samsung Recovery Solution**.

4 Select a backup item to be restored in the backup list and click the **Next** button.

5 Select a folder for the restoration and click the **Next** button. Data Restore begins.

6 When Data Restore is completed, check if the data has been restored to the specified folder.



When you cannot start Windows, turn the computer on and press the F4 key in the boot screen to enter restoration mode.

3 When the initial menu screen appears, click **Restore** and then click **Data Restore**.

## Questions and Answers

This section provides information on possible problems, solutions and other references for system use.

### Windows Related

**Q** The system does not shutdown properly.




**A** When the system does not shutdown normally, press and hold the **Power** button until the system manually shuts off. If the Power-Saving Mode is configured into the **Power** button, press and hold for more than 4 seconds to shut the system off. When the system is turned on after such manual shutdown, Scandisk will run to check errors in the system.

**Q** The system freezes during program operation.

- A1** There is an error with the program currently being used. Press the **<Ctrl>**, **<Alt>**, and **<Delete>** keys simultaneously and click **End Task** in the **Windows Task Manager** window.
- A2** There is an error with the Windows OS. Reboot the system by using the **Power** button.


## Display Related


**Q** The LCD screen is too dark or too bright.

**A** Turn on the LCD backlight or adjust the screen brightness. Press **Fn** +  to turn on the LCD backlight or press **Fn** + , **Fn** +  to adjust the screen brightness.

**Q** The screen saver disturbs screen viewing during Media Player or video file operation.

**A** Click **Tools > Options > Player** and then clear the **Allow screen saver during playback in the Media Center** check box.

**Q** When I connect an external display and change the settings to display the screen image on both the LCD and the external display by pressing the **Fn** +  key combination, the screen is not displayed properly.

**A** Press **Fn** +  key combination again. If the screen is still not displayed or only part of the screen is displayed by doing this, that means the LCD resolution is too low or too wide and the external display support the resolution. Right-click over the Desktop, select Properties, select the Settings tab and change the resolution to 800 x 600.

**Q** The Taskbar on the bottom of the screen does not appear when a projector is used as the display device.

**A** This may happen, if the projector does not support LCD resolution. In this case change the resolution to 800 x 600 (recommended) on your computer.

**Q** Switching the MS-DOS command prompt to full screen mode or Windows mode by pressing the **<Alt>+<Enter>** keys does not operate properly.

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**A** Pressing the **<Alt>+<Enter>** keys using an USB keyboard, may cause the key input to be recognized as multiple key inputs depending on the keyboard input recognition time. In this case, the MS-DOS command prompt is repeatedly switched to full screen and then to Windows several times. Please press the **<Alt>+<Enter>** keys more quickly, or press the **<Alt>+<Enter>** keys using the system keyboard.

**Q** The shortcut icons are not displayed on the screen even if I press the shortcut key.

---

**A** The shortcut icons only appear when the Easy Display Manager program is installed.

**Q** The color is strange when the picture is displayed on the connected monitor (or projector).

---

**A** Check the monitor signal cable connection and reconnect the cable.

## Sound Related

### Q How to install and uninstall the sound driver.

**A** To install or uninstall the sound driver from this system, please follow the procedures below.

#### ● Sound Driver Components

The sound driver consists of the following 2 components and the 2 components are automatically installed during the installation.

- **Realtek High Definition Audio Driver:** Realtek High Definition Audio
- **WOW XT and TSXT Filter Driver : SRS**

#### ● Uninstalling the Sound Driver

To remove the sound driver due to a problem or for an update, follow the procedures below.

If you do not follow the sequence below, the sound driver may not be removed or the reinstalled driver, or may not work properly.

- ① Select **Start > Control Panel > Add or Remove Programs.**
- ② Remove **WOW XT and TSXT Filter Driver** first.

- ③ Remove **Realtek High Definition Audio Driver** and restart the computer.

#### ● Reinstalling the Sound Driver

If there is an already installed sound driver, uninstall the driver according to the procedures above.

The sound driver is included on the System Software Media.

- ① Insert the **System Software CD-ROM** into the CD-ROM drive.
- ② Select **Sound Driver** on either **Standard Installation** or **Custom Installation**, then the 2 components of the sound driver are automatically installed.

**Q** How can I configure the Recording Mixer while I am video or audio chatting?

---

### A1 Playback Mixer Settings

- 1 Double-click the **Volume** icon in the Taskbar and select **Options > Properties** from the menu.
- 2 Select **Realtek HD Audio Input** in the Mixer device field, confirm that the **Microphone** is selected in the **Show the following volume controls** field, and click the **OK** button.
- 3 Select the **Microphone** item in the **Record Control** window and close the window.

### A2 Realtek HD Sound Effect Manager Settings

- 1 Click **Start > Control Panel > Sounds, Speech, and Audio Devices > Realtek HD Sound Effect Manager**.
- 2 Click **Microphone** tab.
- 3 Select **Noise Suppression** and **Acoustic Echo Cancellation** and Click **OK**.

Using **Acoustic Echo Cancellation** option keeps the Microphone Volume muted in the Playback Mixer.

**Q** How can I configure the Recording Mixer while broadcasting music in WinAMP?

---

### A1 Playback Mixer Settings

- 1 Double-click the **Volume** icon in the Taskbar and select **Options > Properties** from the menu.
- 2 Select **Realtek HD Audio Input** in the Mixer device field, select **Stereo Mix** in the **Show the following volume controls** field, and click the **OK** button.
- 3 Select the **Stereo Mix** item in the **Record Control** window and close the window.

### A2 Realtek HD Sound Effect Manager Settings

- 1 Click **Start > Control Panel > Sounds, Speech, and Audio Devices > Realtek HD Sound Effect Manager**.
- 2 Click **Microphone** tab.
- 3 Unselect **Noise Suppression** and **Acoustic Echo Cancellation** and Click **OK**.



**Q** I cannot hear my voice through the built-in microphone.

---

**A** This is because the setting is configured so that sound from the built-in microphone to the speaker is muted to reduce the howling sound effect. You can use the microphone recording function normally, even in this state.

When using an external microphone, if you disable the microphone channel mute function of the play mixer, you can hear the sound input into the external microphone through the speaker.

**Q** I have a trouble with recording after selecting 'Acoustic Echo Cancellation' and unselecting Mute in the Microphone volume of the Playback Mixer.

---

**A** This is because the sound from the external microphone is muted by the **Acoustic Echo Cancellation** Algorithm considering the sound as a Acoustic Echo while the recording and playing back is processed at the same time. In this case, select Mute in the Microphone Volume of the Playback Mixer after selecting **Acoustic Echo Cancellation** item.

## Wired LAN Related

### Q <Wake On LAN> function

**A** <Wake On LAN> is a function that activates the system from Sleep mode when a signal (such as a ping or magic packet command) arrives over the network (wired LAN).

#### ● S3 WOL (Wake On LAN)

① Select **Start > Control Panel > Performance and Maintenance > System > Hardware > Device Manager > Network Adapters**.

② Double-click the **Marvell Yukon 88E8040 PCI-E Fast Ethernet Controller** item.



The above driver name may be different.

③ From **Power management** tab, select **“Allow this device to bring the computer out of standby”**, then click **OK**. Restart the system.

- If the system wake up from Sleep mode even though there is no received signal, use the system after disabling the <Wake On LAN> function.
- The LAN LED may not be turned off if System is shutdown without disabling the WOL <Wake on LAN> option.
- Connecting a wired LAN while using a wireless LAN may not activate the <Wake On LAN> function. Set the Wireless LAN to Disable to use the <Wake On LAN> function.
- When the computer exits standby/ hibernate mode a message informing 10Mbps wired LAN connection may appear. It is because restoring the network takes about 3 seconds. When the network is restored, it operates in 100Mbps.

## Wireless LAN Related

**Q** I cannot find an AP.

- **Check the Wireless LAN LED.**

**A** Check if the Wireless LAN LED is on. If off, press the **Wireless LAN On/Off** button **<Fn>+<F9>** to turn it on.

- **Reinstall the driver.**

**A** Reinstall the driver using the software media.

- **Check the Wireless Zero Configuration (WZC) service.**

**A** If the “Windows cannot make this wireless connection” message appears while searching for wireless networks, it indicates that a program other than Windows is set to manage the wireless LAN settings.

- **To use the wireless LAN settings using Windows:**

- A** ① Click **Start > Control Panel > Network and Internet Connections > Network Connections > Wireless LAN Connection**, right-click and check if the “Windows manages wireless network settings (W)” option is selected in the **Wireless Network** tab of the **Properties** window. If not, select the option.
- ② Click **Start > Control Panel > Performance and Maintenance > Administrative Tools > Computer Management** and click **Services and Applications > Services**. In the right pane, double-click **Wireless Zero Configuration** and check if the Startup Type is Automatic and the Status is Started.

**Q** I cannot connect to an AP.  
(The wireless connection is disconnected frequently.)

---

- **Check the Network Key.**
- A** Right-click the **Wireless Network Connections** icon from the **Taskbar** and click **View available wireless networks**. If wireless networks are found, it indicates that the device is operating properly but the network settings may have a problem. Please check the **Network Key** (Encryption Key) and the **AP settings**.
- **Check if there is a device nearby using the same frequency band.**
- A1** If there is a device nearby using the same frequency band such as another wireless LAN device, wireless video transceiver, microwave oven, plasma bulb, etc., channel interference may occur. If you experience interference from another device, it is recommended changing the AP channel.
- A2** When operating in IEEE802.11g mode, if there is a IEEE802.11b device operating nearby, you may experience low data rates or even disconnection as it operates in Hybrid mode.

- **Check the authentication type.**
- A** A connection may be disconnected after a period of time if the “Use IEEE 802.1x network authentication” option is selected when IEEE 802.1x authentication is not being used. View the properties of the corresponding AP in the Wireless Network Properties. In the Authentication tab, unselect the “Use IEEE 802.1x authentication in this network” option.  
For detailed information on the authentication server, ask your network administrator.
- **Check the AP settings.**
- A1** Check if the surroundings are appropriate for a wireless LAN. A wireless LAN connection may be limited by the surrounding environment and distance. Obstacles such as walls and door mats affect the quality of the wireless LAN signal. You have to install an AP in a high, open position far away from any other radio signal sources.

If the AP is excessively far away, or is installed at the end of a building and you are attempting to use the wireless LAN from the other end, you may not be able to use the wireless communication normally because the signal is blocked by obstacles between you and the AP (such as a wall).

- A2** Check if the AP operates properly. If the AP is not operating properly, turn it off and on again and try again.
- A3** Check if the AP firmware is the latest version. (For more information on the AP firmware, ask the AP manufacturer or your product provider.)
- A4** Check if the AP is properly connected to the network. Connect the LAN cable from the AP to a computer and check if the network is connected properly.
- A5** Check the **Network Key** (Encryption Key) settings again. If the automatic password converting function (passphrase function) is enabled and the wireless connection is normal but you cannot send data over the connection, please enter the **Network Key** (Encryption Key) manually.

**A6** Check the AP settings as follows.

If there are multiple APs running at the same time, check the channel setting of each AP. If the interval between the channels of the APs is narrow, you may experience electromagnetic interference. Set the channel numbers of the APs so that the intervals between the channels are maximized. (for example, Ch1, Ch5, Ch9, Ch13) computer.

It is recommended unselecting the Hide option of the AP. SSID (Service Set ID) is a name used to distinguish a wireless LAN from other wireless LANs.

It is recommended using Long Preamble. Preamble is a signal for data transmission synchronization. Although some APs support Short Preamble, there might be a compatibility problem.

Because “Fixed” channel selection is more stable than ‘Auto’ channel selection, “Fixed” channel selection is recommended. It is recommended not using the “Block Any” and “Any Connection Block” functions. Although these functions block connections at the client side when the network name is **Any** or **Blank**, it may cause a compatibility problem.


For more information on the AP settings, see the owner's manual supplied with the AP.


**Q Although a connection has been established, I cannot connect to the Internet.**

---

- **Check the TCP/IP settings.**

**A** If you cannot connect to the Internet but you are connected to an AP, check if the TCP/IP settings are configured properly.

When you are not connected to an AP, an **X** mark appears over the 'Wireless Network Connections' icon  in the Taskbar. If you double-click the icon, the Search for Wireless Connections window appears. Reconnect to a wireless network referring to the descriptions of **Connecting to a Wireless LAN** in the Using the Network section.

When you are connected to an AP, an **X** mark appears over the "Wireless Network Connections" icon  in the Taskbar. Double-click the icon and check if the IP address is properly allocated on the Support tab. If the IP address is not properly allocated, the IP address will be displayed as

follows; (for example, 169.254.xxx.xxx).

If your network does not support DHCP, you have to manually configure an IP address by asking your network administrator.

In addition, even if your network supports DHCP, the Internet connection may not be available if the DHCP server fails to allocate an IP address to your computer.

**Q I have configured both wired and wireless connections with the same IP address, but the network connections do not work properly.**

---

**A** You cannot use the same IP address for wired and wireless connections. To use only one IP address for both wired and wireless connections, you must disable one of them according to your requirements in Network Connections in the Control Panel.

**Q** After installing the Wireless LAN Setting program, the “AEGIS Protocol (IEEE 802.1x)” protocol appears in the [Local Area Connect Properties] window.

---

**A** The protocol is a security authentication protocol that is automatically installed when the Wireless LAN Settings program is installed and does not affect the program operation.

**Q** (For Intel PROSet) Although I have turned the wireless LAN off using the Turn Off Wireless LAN button in PROSet, the Wireless LAN LED is still on.

---

**A** This is normal. The Turn Off Wireless LAN button in **PROSet** just turns off the wireless LAN software. The wireless LAN hardware is not affected by this operation.

**Q** (For Intel PROSet) After installing PROSet, I cannot manage my wireless network in Windows.

---

**A** When clicking **Use Microsoft Client** in the **Tools** menu of the **PROSet**, you can manage wireless network in Windows.

Thereafter, if you wish to manage your wireless network, click **Activate Intel PROSet/Wireless** in the **Tools** menu of the **PROSet**.

**Q** Internet Connection or File Sharing doesn't work, when I use Internet Connection Sharing or Ad Hoc.


---

**A** You have to register the IP address allocated for Internet Connection Sharing or Ad Hoc as a 'Trusted IP' in McAfee SecurityCenter.

Click **McAfee SecurityCenter > Advanced menu > Configure > Internet and Network > Advanced > Trusted and Banned IPs**, and register the IP address or IP address range as a Trusted IP address. The IP address range for DHCP is 10.0.0.1 ~ 10.255.255.254 if not specified.

**Q** Computer-to-computer(ADHOC) wireless Network connection is established but not detected on the other wireless network.

---

- A** To enable peer-to-peer network search under Windows XP SP3 environment, you have to select additional options in the wireless profiles as follows:
- ➊ Right-click on the **Wireless Network Connection icon**  on the taskbar, and select **View Available Wireless Networks**.
  - ➋ Click **Change the order of preferred networks** on the left window.
  - ➌ At the **Preferred networks**, select the peer-to-peer network profile and click **Properties**.
  - ➍ Check **Connect even if this network is not broadcasting** item.
  - ➎ On the **Connection** tab, check **Connect when this network is in range** and click **OK**.



## Games and Programs Related


**Q** 3D game is not executed, or some functions are not working.

**A** Change the graphic setting of the game to “2D” or “Software Renderer,” then execute the program again.


**Q** I launched a game right after installing it, and the game is not executed.


**A** This problem may occur when the game is not compatible with Windows XP. Launch the game again, and it will be executed properly.

**Q** Fn +  Key combination does not work.

**A** While displaying video of VCD or MPEG, or the display setting is **Dual View**, you cannot toggle display devices. Also the installation of NetWare Client 32 program disables the function of Fn + .

**Q** While playing a game, pressing the Fn +  keys does not work or the screen is not properly displayed.

**A** Some games and 3D application programs may change the display device control. Therefore, pressing the Fn +  keys may terminate the running program or may display an abnormal screen.

Press the Fn +  keys before launching a program and do not press them while running the program.

**Q** Running speed of a game is too slow or fast.

**A** Change the setting of Power Schemes to “Always On.”  
(Click **Start > Control Panel > Performance and Maintenance > Power Options > Power Schemes** tab, then configure the Power schemes field to “Always On.”)

**Q Some part of a game image is not displayed or is displayed in black.**

---

- A** This may happen when running a game designed for DirectX 8.1 or which has 1024 x 768 as the default resolution, such as NHL 2003, MVP Baseball 2003, Special Forces, Hangame, Pmang etc.

**Q The picture is not displayed properly for some games.**

---

- A** Some games may not display the picture properly when the screen resolution is set to 1024 × 600 and the color quality is set to 32 bit. For these games, set the screen resolution to 1024 x 600 or 800 x 600, and the color quality to 16bit.

**Q Game play is not displayed smoothly on the screen.**

---

- A** For 3D games, the texture data for the 3D screen display is saved to the system memory. If there is insufficient system memory, the data is saved to the hard disk drive and loaded to memory when required. This operation may temporarily stop displaying the picture on the screen. In this case, lower the game resolution or the screen settings. In addition, some 3D games, such as Dungeon and Fighter, RollerCoaster Tycoon 3, Special Forces, Universe at War, Transformer the Game etc, take up lots of hardware resources so upgrading system memory to 2G is recommended.

## Bluetooth

### **Q** How to view the Bluetooth help information.

**A** Double-click the **My Bluetooth Environment shortcut icon** on the **Desktop** to launch the program, and then press the **F1** key to view the help information.

### **Q** I cannot find or connect the headset.

**A1** If the headset is connected to another device and is currently being used, you will not be able to locate it. In this case, even if you locate the headset, you will not be able to connect it. Disconnect the headset from the device and then try again.

**A2** For some headset models, if the headset is connected to the power adapter, the headset cannot be connected through the Bluetooth wireless connection. Disconnect the headset from the power adapter and try again.

**A3** A Bluetooth headset generally provides On/Off and Pairing modes. To connect the headset to another Bluetooth device such as a computer or cellphone, it must be in Pairing mode. Switch the headset to Pairing mode and try again.

In general, a Bluetooth headset in Pairing mode is automatically switched to On/ Off mode after a pre-determined period of time.

### **Q** I have connected the headset, but I cannot hear sound normally.

**A1** If the Bluetooth headset and the PC are successfully connected, check if the audio playing device in the Control Panel is set to Bluetooth audio or Bluetooth high-quality audio.

For a mono headset or a hands-free connection, voice communication is only provided when both the playing device and the recording device are set to Bluetooth audio. For a stereo headset, stereo music is only transmitted from the PC when the playing device is set to Bluetooth high-quality audio.

- A2** When a Bluetooth microphone is activated or is being used, Bluetooth high-quality audio is stopped. To use the Bluetooth microphone function, set the playing device to Bluetooth audio.
- A3** Check if the headset is properly connected and is operating normally.
- A4** Check the volume settings of the headset and the computer.
- A5** If a multimedia application such as Windows Media Player is running when connecting the headset, the headset may not be connected or recognized properly. Connect the headset first and then launch a multimedia application.

## Security Center

**Q** To change the popup window display settings when connected to the Internet. In the Windows XP SP3 environment, you can decide whether to display a popup window when connected to the Internet, for user convenience and security.

- A1** To display most of the popup windows when connected to the Internet:
  - 1** Click Internet Options in **Start > Control Panel > Security Center > Manage security settings for**.
  - 2** In the Privacy tab of Internet Properties, clear Block pop-ups.
- A2** To display popup windows only from the current site when connected to the Internet:

Place the cursor on the notification area at the bottom of the Internet address bar and right-click to display a menu, from which you can select Temporarily Allow Pop-ups or Always Allow Pop-ups from This Site.


**A3** To display popup windows from a particular site:

- ① Click Internet Options in **Start > Control Panel > Security Center > Manage security settings for**.
- ② In the Privacy tab of Internet Properties, click Settings from Block pop-ups.
- ③ Enter a URL to want to allow pop-ups into Address of Web site to allow and click Add.
- ④ You will find that the entered address is added to the allowed sites list. The next time you connect to the Web site, you will see pop-ups appearing.  
When you need to re-block a permitted site, select the Web site address that you want to block from the Allowed Sites and click Remove.

**Q** When you connect to a Web site, you see the message, “To help protect your security, Internet Explorer stopped this site from installing an ActiveX control on your computer” or “This site might require the following ActiveX control” below the address bar.

---

- A** Windows XP SP3 blocks unsigned ActiveX controls from being installed when connected to certain Web sites for security reasons. On some Web sites that have no ActiveX controls installed, applications are not started or do not display properly.  
In this case, to install ActiveX controls, right-click the notification area to display a menu from which you can select Install ActiveX control.

**Q** When you see a Windows Security Alert icon  appear on the right part of the Taskbar. With the Security Center feature added, Windows XP SP3 checks the Firewall, the automatic updates configuration and installation of virus-checking programs to display a Windows Security Alert icon on the right part of the Taskbar when it judges that the computer is vulnerable to attacks from the Internet. In this case, check the following to install the necessary components.

---

**A1** Set up the Windows Firewall.

When you set up the Windows Firewall, you will be protected from unauthorized access through the Internet or the network.

- 1 Click Windows Firewall in **Start > Control Panel > Security Center > Manage security settings for.**
- 2 From the General tab of Windows Firewall, select **ON** (recommended).

- 3 If you want to allow a certain program or service to gain access to your computer using the Firewall, select and check the program or service that you want to allow access from, in the Exceptions tab of the Windows Firewall. If you want to add a program to Programs and Services, click Add Program and select it.

**A2** Set up Windows Automatic Updates.  
This automatically downloads and installs critical updates via the Internet to keep your computer up to date.

- 1 Click Automatic Updates in **Start > Control Panel > Security Center > Manage security settings for.**
- 2 From general tab of Automatic Updates window, select Automatic (recommended).

**A3** Keep your computer current with the latest virus updates. (ex: Norton Antivirus) Even when you have installed Norton AntiVirus on your computer, Windows cannot recognize the program until you configure the settings, displaying a Security Alert icon.

When you first use or install Norton AntiVirus for the first time, follow the Registration Wizard steps to configure the registration settings.

To protect your computer from virus attacks with the latest updates, click **Options to display the Norton AntiVirus Options** window. From the left menu of the window, check Run Automatic Protection to select Automatic Protection and check Run LiveUpdate to select LiveUpdate.

**A4** Two virus scanning programs on one computer may cause system conflicts. Remove one of the programs from the system.

**A5** If Windows does not recognize the existence of an anti-virus program even when it has been installed, your computer could be vulnerable to attacks from the Internet. You should install an anti-virus program that your computer is able to identify.

Check the following programs which Windows can detect and select one from the list.

A list of anti-virus programs that Windows can detect:

- Symantec Norton Anti-Virus
- NetworkAssociates (McAfee)
- TrendMicro
- ComputerAssociates
- Panda
- Kaspersky
- Ahnlabs (AhnLab)



Visit the Microsoft Web site ([www.microsoft.com](http://www.microsoft.com)) regularly to check the latest list.

## Product Specifications

The system specifications may differ depending on the derived models. For detailed system specifications, refer to the product catalog.

<b>CPU</b>	Intel ATOM™ Processor
<b>Main Memory</b>	Memory type: DDR2 SODIMM
<b>Main Chipset</b>	Intel 945GSE + ICH7M
<b>Hard Disk Drive (Optional)</b>	9.5mmH SATA HDD or 9.5mmH SATA SSD
<b>Graphics</b>	Intel 945GSE (Internal)
<b>Operating Environment</b>	Temperature : -5~40°C for storage, 10~32°C when operating Humidity : 5~90% for storage, 20~80% when operating
<b>Operating Voltage</b>	100 - 240VAC
<b>Frequency</b>	50/60Hz
<b>Output Power</b>	40W
<b>Output Voltage</b>	19VDC 2.1A(40W)

- The weight and dimension listed are approximate values and may vary a bit from the actual product.
- Optional components may not be provided or different components may be provided depending on the computer model.
- The system specifications are subject to change without notice.



## Wireless LAN Specifications (802.11a/b/g, 802.11n Card)

### Intel 802.11ABG WLAN

- **The Name of the Registered Equipment** : Special Low Power Wireless Device for Wireless Data Communication Systems.

Item		Detailed Specifications
Physical Specifications	Dimensions	30.0 × 50.95mm (Width X Height)
	Operating Temperature And Humidity	Same as System Operations Temperature: Bet. 0°C and 70°C, Humidity: Less than 85%
Power Specifications	Power	3.3V
Network Specifications	Compatibility	IEEE 802.11a, IEEE 802.11b, IEEE 802.11g
	Operating System	Microsoft Windows XP/Vista
	Media Access Protocol (MAC)	CSMA/CA (Collision Avoidance) with Acknowledgement (ACK)
	Security	Wired Equivalent Privacy support (WEP) 64bit/128bit WPA*

- \* This device supports the Wireless LAN Security Specifications WPA (Wi-Fi Protected Access) for Wi-Fi.  
To connect to a WPA wireless network, you have to configure the settings according to the network connection environment. For detailed setting information, ask your network administrator.

## ● Radio Specifications

<b>RF Band</b>	2.4GHz, 5GHz
<b>Supported Channels</b>	Channels allowed per country.
<b>Device</b>	Transceiver
<b>Modulation Scheme</b>	11a mode : OFDM
	11b mode : DSSS
	11g mode : OFDM
<b>Data Rate (Mbps)*</b>	11a mode** : MAX 54Mbps
	11b mode : MAX 11Mbps
	11g mode*** : MAX 54Mbps
<b>Antenna Type</b>	Built-in Antenna

\* The data rate may differ from the real data transmission rate.

\*\* 11a mode is only supported when the device is connected to an IEEE 802.11a device.  
(e.g. Access Point supporting IEEE 802.11a)

\*\*\*11g mode is only supported when the device is connected to an IEEE 802.11g device.  
(e.g. Access Point supporting IEEE 802.11g)

## Intel 802.11AGN WLAN

- **The Name of the Registered Equipment** : Special Low Power Wireless Device for Wireless Data Communication Systems.

Item		Detailed Specifications
Physical Specifications	Dimensions	30.0 × 50.95mm (Width X Height)
	Operating Temperature And Humidity	Same as System Operations Temperature: Bet. 0°C and 70°C, Humidity: Less than 85%
Power Specifications	Power	3.3V
Network Specifications	Compatibility	IEEE 802.11a, IEEE 802.11b, IEEE 802.11g, IEEE 802.11n
	Operating System	Microsoft Windows XP/Vista
	Media Access Protocol (MAC)	CSMA/CA (Collision Avoidance) with Acknowledgement (ACK)
	Security	Wired Equivalent Privacy support (WEP) 64bit/128bit WPA*

- \* This device supports the Wireless LAN Security Specifications WPA (Wi-Fi Protected Access) for Wi-Fi.  
To connect to a WPA wireless network, you have to configure the settings according to the network connection environment. For detailed setting information, ask your network administrator.

## ● Radio Specifications

<b>RF Band</b>	2.4GHz, 5GHz
<b>Supported Channels</b>	Channels allowed per country.
<b>Device</b>	Transceiver
<b>Modulation Scheme</b>	11a mode : OFDM 11b mode : DSSS 11g mode : OFDM 11n mode : MIMO
<b>Data Rate (Mbps)*</b>	11a mode** : MAX 54Mbps 11b mode : MAX 11Mbps 11g mode*** : MAX 54Mbps 11n mode**** : MAX 450Mbps, MAX 300Mbps
<b>Antenna Type</b>	Built-in Antenna

\* The data rate may differ from the real data transmission rate.

\*\* 11a mode is only supported when the device is connected to an IEEE 802.11a device. (e.g. Access Point supporting IEEE 802.11a)

\*\*\* 11g mode is only supported when the device is connected to an IEEE 802.11g device. (e.g. Access Point supporting IEEE 802.11g)

\*\*\*\* 11n mode is only supported when it is connected to an IEEE802.11n device (e.g. Access Point supporting IEEE802.11n).

## Wireless LAN Specifications (802.11BG Card)

### Intel 802.11BG WLAN

- **The Name of the Registered Equipment** : Special Low Power Wireless Device for Wireless Data Communication Systems.

Item		Detailed Specifications
Physical Specifications	Dimensions	30.0 × 50.95mm (Width X Height)
	Operating Temperature And Humidity	Same as System Operations Temperature: Bet. 0°C and 70°C, Humidity: Less than 85%
Power Specifications	Power	3.3V
Network Specifications	Compatibility	IEEE 802.11b, IEEE 802.11g
	Operating System	Microsoft Windows XP/Vista
	Media Access Protocol (MAC)	CSMA/CA (Collision Avoidance) with Acknowledgement (ACK)
	Security	Wired Equivalent Privacy support (WEP) 64bit/128bit WPA*

- \* This device supports the Wireless LAN Security Specifications WPA (Wi-Fi Protected Access) for Wi-Fi.  
To connect to a WPA wireless network, you have to configure the settings according to the network connection environment. For detailed setting information, ask your network administrator.

## ● Radio Specifications

<b>RF Band</b>	2.4GHz
<b>Supported Channels</b>	Channels allowed per country.
<b>Device</b>	Transceiver
<b>Modulation Scheme</b>	11b mode : DSSS
	11g mode : OFDM
<b>Data Rate (Mbps)*</b>	11b mode : MAX 11Mbps
	11g mode** : MAX 54Mbps
<b>Antenna Type</b>	Built-in Antenna

\* The data rate may differ from the real data transmission rate.

\*\* 11g mode is only supported when the device is connected to an IEEE 802.11g device.  
(e.g. Access Point supporting IEEE 802.11g)

## Atheros 802.11BG WLAN

- **The Name of the Registered Equipment** : Special Low Power Wireless Device for Wireless Data Communication Systems.

Item		Detailed Specifications
Physical Specifications	Dimensions	30.0 × 50.95mm (Width X Height)
	Operating Temperature And Humidity	Temperature: Between 0°C and 70°C, Maximum Humidity: 85%
Power Specifications	Power	3.3V
Network Specifications	Compatibility	IEEE 802.11b, IEEE 802.11g
	Operating System	Microsoft Windows XP/Vista
	Media Access Protocol (MAC)	CSMA/CA (Collision Avoidance) with Acknowledgement (ACK)
	Security	Wired Equivalent Privacy support (WEP) 64bit/128bit WPA*

- \* This device supports the Wireless LAN Security Specifications WPA (Wi-Fi Protected Access) for Wi-Fi.  
To connect to a WPA wireless network, you have to configure the settings according to the network connection environment. For detailed setting information, ask your network administrator.

## ● Radio Specifications

<b>RF Band</b>	2.4GHz
<b>Supported Channels</b>	Channels allowed per country.
<b>Device</b>	Transceiver
<b>Modulation Scheme</b>	11b mode : DSSS
	11g mode : OFDM
<b>Data Rate (Mbps)*</b>	11b mode : MAX 11Mbps
	11g mode** : MAX 54Mbps
<b>Antenna Type</b>	Built-in Antenna

\* The data rate may differ from the real data transmission rate.

\*\* 11g mode is supported only when you are connected to an IEEE 802.11g device (e.g. An Access Point supporting IEEE 802.11g).



## Registered Trademarks


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## ENERGY STAR® Partner



As an ENERGY STAR® Partner, SAMSUNG has determined that this product meets the ENERGY STAR® guidelines for energy efficiency.

## Glossary

The Glossary lists the terminologies used in this User Guide. For terminologies other than these, look in Windows Help.

### **Backup**

A way to save the current data to restore it later if necessary. A backup is a way to restore computer data when the data or computer is damaged.

### **Client**

This refers to a computer that uses a shared network resource provided by a server.

### **DDR SDRAM** (Double Data Rate Synchronous Dynamic Random Access Memory)

DRAM is a memory type whose cells consist of a capacitor and transistor manufactured at a low price. SDRAM is a memory type whose performance has been improved by synchronizing the clock with the external CPU clock. DDR SDRAM is a memory type whose performance has been improved by doubling the operating speed of the SDRAM and is widely used nowadays. This computer uses DDR SDRAM.

### **Device Manager**

An administrative tool used to manage computer devices. You can add or remove hardware or update a device driver using the Device Manager.

### **Direct X**

An application interface developed to enable Windows application programs to access hardware devices at a very high speed. Since the operating speed of graphics, memory and sound cards must be very fast to provide high quality video and sound for games, Direct X enables faster control and interaction between applications and hardware devices. By using Direct X, the multimedia performance of Windows has been hugely improved.

### **Driver**

Software that interacts between the hardware and the operating system. An operating system knows the hardware information and controls the hardware. In general, a driver is supplied with the corresponding hardware device.

**DVD (Digital Versatile Disk)**

DVD was developed to replace CD (compact disk). Although the shape and size of the disc are the same as that of a CD, the capacity of a DVD is at least 4.7GB while the capacity of a CD is 600MB. DVD video is digital unlike VHS (analog) video and supports MPEG2 compression and digital audio. To play a DVD, a DVD drive is required.

**Firewall**

A security system used to protect an internal network or intranet from external networks through an authentication procedure.

**Hibernation Mode**

A power mode that saves all data in memory to the hard disk and turns the CPU and hard disk off. When canceling Hibernation Mode, all application programs that were running are restored to their last state.

**Icon**

This refers to a small image that represents a file that users can use.

**LAN (Local Area Network)**

A communications network connecting computers, printers and other devices within a local area such as within a building. A LAN enables all connected devices to interact with other devices on the network. The current LAN uses the Ethernet media access control method developed in the early 1980s. To connect to an Ethernet, a network card called a LAN card, Ethernet card or network interface card is required. To exchange data between computers, a protocol is required besides the hardware equipment. Windows XP uses TCP/IP as the default protocol.

**LCD (Liquid Crystal Display)**

There are Passive Matrix and Active Matrix LCD types. This computer uses the Active Matrix type LCD called a TFT LCD. Since an LCD is implemented by transistors instead of a cathode-ray tube unlike a CRT, its size can be slim. And because it does not blink, it reduces eye strain.

**Network**

A group of computers and devices, such as printers and scanners, connected by a communications link. A network can be either small or large and can be connected permanently through cables or temporarily through telephone lines or wireless links. The biggest network is the Internet, a worldwide network.

**Notification Area**

This refers to the right area of the Taskbar including program icons such as the volume control, the power options and the time.

**Power Schemes**

This refers to a pre-determined power management option group. For example, you can set the time the computer waits before entering Standby Mode, or before the monitor or hard drive turns off. The settings are saved as a power scheme.

**Quick Launch**

This refers to a toolbar that can be configured so that you can launch a program such as Internet Explorer or display the Windows Desktop with one click. You can add any icon to the quick launch area of the Taskbar and launch frequently used program by clicking that icon.

**Server**

In general, a server refers to a computer that provides shared resources for network users.

**Share**

This refers to setting a resource of a computer such as a folder or printer so that other users can also use it.

**Shared Folder**

A folder that can be used by other users on the network.

**SSD (Solid State Disk)**

This refers to a device that saves information to semiconductors unlike a normal hard disk drive (HDD). There are two types of SSD. One saves data to the DRAM and the other saves data to the Flash Memory. Since there are no mechanical parts, an SSD provides a much better performance than an HDD. Especially, a Flash Memory-Type SSD provides high reliability and durability.

**Network Administrator**

A user who plans, configures and manages network operations. Sometimes, a network administrator is called a system administrator.

**Sleep Mode**

A power mode that enables computers to save power consumption when they are not being used. When a computer is in Sleep Mode, the data on the computer memory is not saved to the hard disk. If the power is turned off, the data in memory will be lost.

**System File**

System Files refer to files that are read and used by the Windows operating system. In general, system files must not be deleted or moved.

**USB (Universal Serial Bus)**

This refers to a serial interface standard developed to replace the conventional interface standards such as Serial and PS/2. While USB 1.1 supports 12Mbps (12 million bits per second), USB 2.0 supports a data rate that is 40 times (480Mbps) faster than that of USB 1.1. The data rate of USB 2.0 is equivalent to that of IEEE1394. Therefore USB 2.0 is used for A/V devices supported by IEEE 1394 and a 2nd HDD and CDRW that require a high data rate.

**Windows Media Player**

A multimedia program included with Windows. Using this program, you can play a media file, create an audio CD, listen to a radio broadcast, search and manage media files, and copy files to a portable device, etc.

# Index

## B

Battery	134
Battery Calibration	141
BIOS Setup	124
Booting Priority	131

## C

CD Drive / Recording	66
Charge	136
Click	63
Connect / Output Monitor	71
Control Panel	85

## D

Desktop / Change	81
Dual View	73

## E

Easy Network Manager	100
----------------------	-----

## H

Help	80
------	----

## L

LCD Brightness	122
----------------	-----

## M

Memory	132
Multi Card Slot	68

## N

Network	100
---------	-----

## P

Password	128
Product Specifications	178
Program	105

## R

Recorder	77
Remaining Battery Charge	137
Resolution / Color	89

## S

Safety Precautions	8
Samsung Battery Manager	138
Samsung Update Plus	111
Security Lock Port	142
Shortcut Keys	59
Status Indicators	51

## T

Touchpad	62
----------	----

## U

User Accounts / Switch User	87
-----------------------------	----

## V

Volume Control	75
----------------	----

## W

Windows XP	79
Wired Network	91
Wireless Network	94