

# Using AVStation premium

AVStation premium is an integrated multimedia program that enables users to enjoy music, photographs, video, movies, etc. all with a single program.




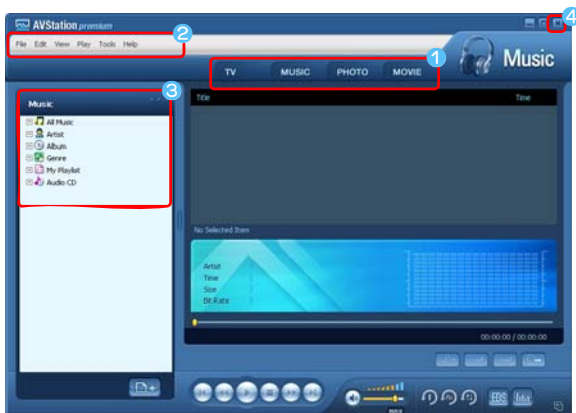
## Before You Start!

- AVStation premium is optional and may not be provided depending on the model.
- The screens used in this manual may differ from actual screens according to the program version.
- **TV Station is only available for systems supporting the TV function.**
- To play an audio CD or DVD, you have to connect the external USB ODD to the computer. The following descriptions presuppose that the external ODD is connected.
- For detailed usage, refer to the program help.

## Start and Screen Layout

To launch the program, select **Start > All Programs > Samsung > AVStation premium > AVStation premium**.

Alternatively double-click the **AVStation premium icon** () on the Desktop.



1 Station Bar

2 Menu Bar

3 Library

4 Exit

Press the Exit button to exit the program.

## MUSIC

You can play a music file or an audio CD.

## PHOTO

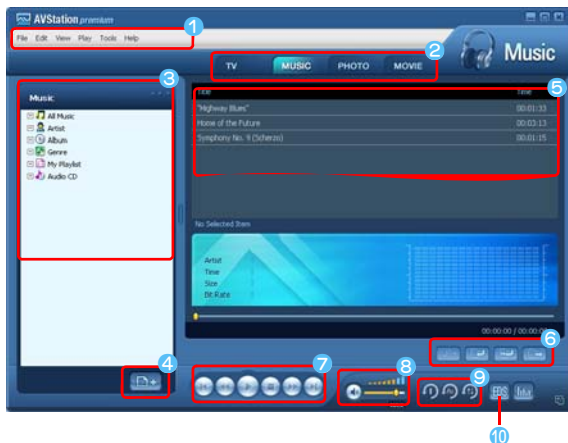
You can view or edit a photograph (image), and also view the photographs through a SlideShow.

## MOVIE

You can play a video (movie) file or a DVD/VCD title.

# MUSIC Station

Launch AVStation premium and click MUSIC on the Station Bar.



- 1 MUSIC Menu Bar
- 2 Station Bar
- 3 MUSIC Library
- 4 Register a File
- 5 Playlist
- 6 Playlist Control Buttons
- 7 Play Control Buttons
- 8 Volume Control
- 9 Play Options
- 10 EDS Setting Button



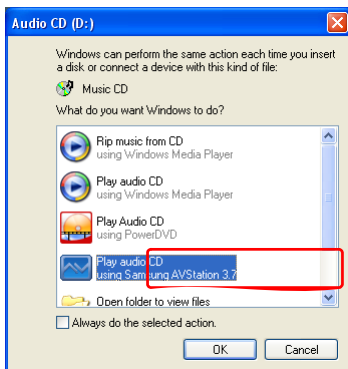
## What is EDS (Enhanced Digital Sound)?

EDS (Enhanced Digital Sound) is a sound quality enhancement technology developed by Samsung Electronics. You can listen to clearer sound if you enable the EDS function when playing music or video on AVStation premium.

## Playing an Audio CD

The procedures to play an audio CD are described below.

- 1 Launch AVStation premium and insert an audio CD into the CD drive.
- 2 In the **Audio CD** window, select **Play Audio CD using Samsung AVStation** and click the **OK** button.



- 3 The tracks on the audio CD are displayed in the Playlist and the first track is automatically played.



If an audio CD is already in the CD drive, double-click the **album title** in the **Audio CD** folder of the Library and add the tracks to the Playlist. The tracks added to the Playlist are played.

## Playing a Music File

If a music file is registered to the MUSIC Library, you can easily play the music file. For the procedures to register tracks to the Library, refer to (p74).

1  
2

- 1 Move to **MUSIC Station** and double-click on **All Music**.
- 2 Double-click a music file. The file is added to the playlist and played.



### • Play a Track not registered to the Library

Click **File > Open**, select a music file to be played and click **Open**. The selected track is registered to the Library and played.


### • Creating My Playlist

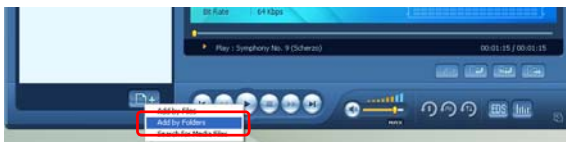
My Playlist is a personal album with which you can collect, manage and play your favorite music files. For the procedures to create My Playlist, refer to the descriptions of MUSIC Station in Help.

## Adding Music Files to the Library

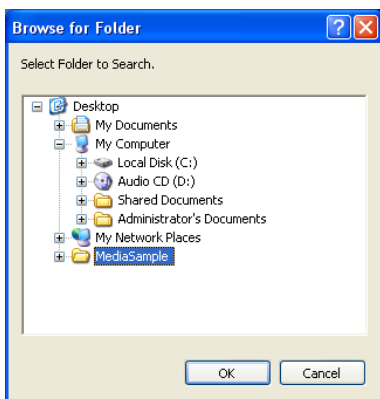
MUSIC Library is a library holding music files used by MUSIC Station. The procedures to add music files saved on the computer to the Library are described below.

You can add files, folders or search and add files. As an example, the procedures to add a folder are described below.

- 1 Click on the **Register a File** () button below the Library and click on **Add by Folders**.



- 2 Select a folder which included music files and click the **OK** button. The music files in the folder are added to the Library.



The tracks used in AVStation are automatically added to the Library.

## PHOTO Station

Launch AVStation premium and click PHOTO on the Station Bar.



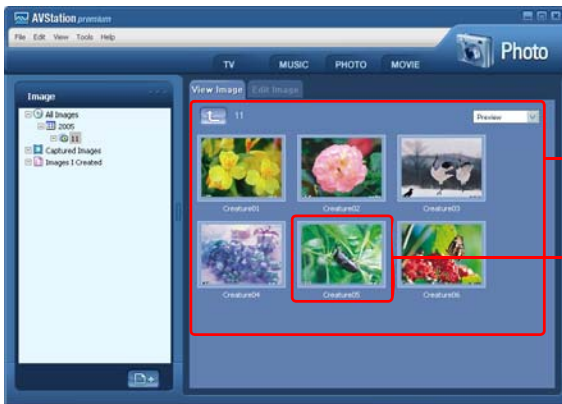
- 1 PHOTO Menu Bar
- 2 Station Bar
- 3 PHOTO Library
- 4 Register a File
- 5 Image Viewer Tab
- 6 Image Editor Tab
- 7 Move to a Higher-Level Folder
- 8 Preview/Zoom-in

## Viewing an Image

The procedures to view images registered to the PHOTO Library one by one and through a SlideShow are described below.




For the procedures to register image files to the Library, refer to (p77).

- 1 Move to **PHOTO Station** and double-click on **All Images**.
- 2 Click on a folder which includes images, and the images in the folder are displayed in the Image Viewer window.



- 3 Double-click on an image. The selected image is zoomed in on.



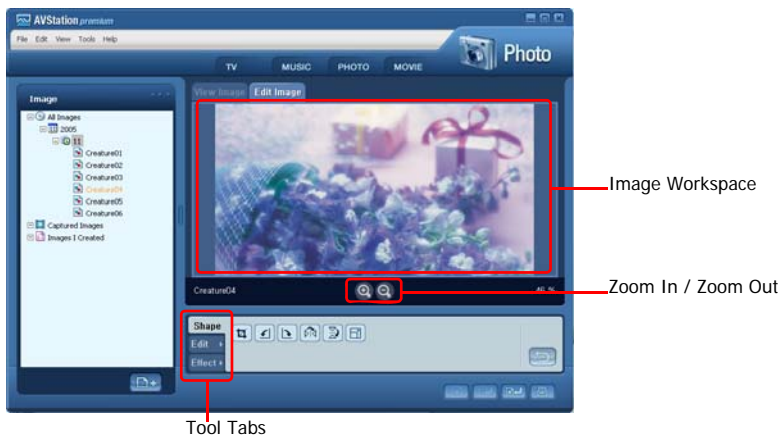
- **Viewing an Image not registered to the Library**  
Click **File > Open**, select an image file to view and click **Open**.  
The selected image file is registered to the Library and displayed in the Image Viewer window.
- **Viewing an Image in Full Screen or through a SlideShow.**  
Click the **Full Screen** (  ) button or **SlideShow** (  ) button below the Image Viewer window.  
To return to the Image Viewer window, double-click on the screen.
- **Watching a SlideShow while Listening to Music**  
To watch a SlideShow while listening to music, play music from MUSIC Station and run SlideShow.
- **Setting an Image as the Background.**  
Click the **Set as Background** (  ) button below the Image Viewer window. The selected image is set as the Desktop background.

## Editing an Image

You can change the shape of an image, edit an image or apply special effects to an image. The image editor functions are described below.

- 1 Select an image to edit in the **Image Viewer window**, and select the **Image Editor** tab. The Image Editor screen appears.

The Image Editor screen consists of an **Image Workspace window** and **3 Tool tabs**.




- 2 Edit the image using the Shape, Edit and Effect tools.



**Shape tool:** Change the shape of an image through cut, resize.

**Edit tool:** Draw a line, add some clip art or enter letters.


**Effect tool:** Apply various effects to an image.

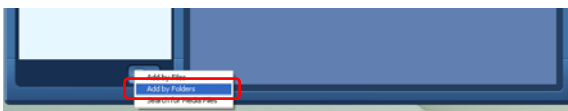
- 3 When finishing editing an image, click the **Save Edited Image** (  ) button below the Image Editor window. The edited image is saved.

## Adding Images to the Library

The PHOTO Library is a library holding image files to be used by PHOTO Station. The procedures to add image files saved on the computer to the Library are described below.

You can add files, add folders or search and add files. As an example, the procedures to add folders are described below.

- 1 Click the **Register a File** (  ) button below the Library and click on **Add by Folders**.



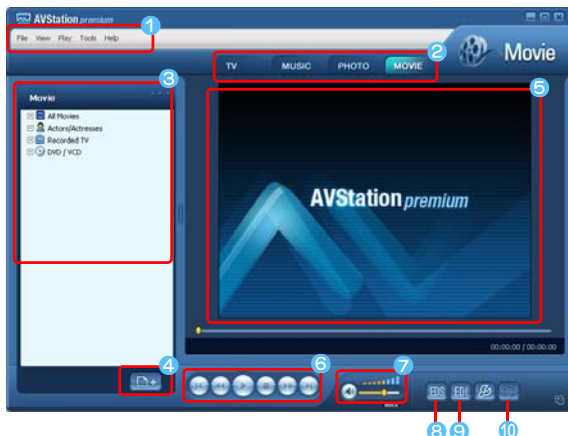
- 2 Select a folder which includes image files and click the **OK** button. The image files in the folder are added to the Library.



The image files used in AVStation are automatically added to the Library.

# MOVIE Station

Launch AVStation premium and click on **MOVIE** on the Station Bar.



- 1 MOVIE Menu Bar
- 2 Station Bar
- 3 MOVIE Library
- 4 Register a File
- 5 Video Play window
- 6 Play Control Buttons
- 7 Volume Control
- 8 EDS Setting Button (p72)
- 9 EDI Setting Button
- 10 Capture Button



## What is EDI (Enhanced Digital Image)?

EDI (Enhanced Digital Image) is a visual quality enhancement technology developed by Samsung Electronics. You can view a clearer and sharper picture by enabling the EDI function when watching TV or playing a video on AVStation premium.

However, some TV tuners and graphics cards are not supported by EDI.

For information on EDS (Enhanced Digital Sound), refer to p72.

## Playing a DVD

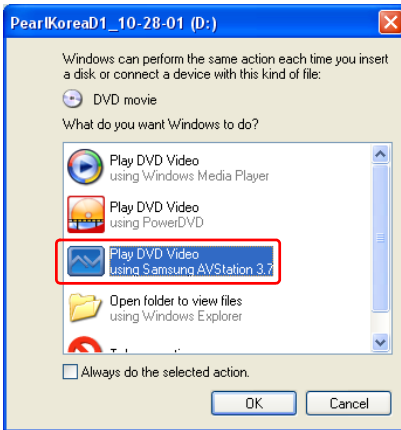
The procedures to play a DVD title are described below.



To play a DVD title, DVD playing software (e.g. CyberLink PowerDVD) must be installed. Install the DVD playing software first.

- 1 Launch AVStation premium and insert a DVD title into the DVD drive.
- 2 In the **'What do you want Windows to do?' window**, select **Play DVD Video using Samsung AVStation** and click the **OK** button.





- 3 The DVD title is played.



If a DVD title is already in the DVD drive, double-click the **DVD title** in the **DVD / VCD** folder of the Library. The DVD title is played.

## Playing a Movie(Video) File

The procedures to play a video file registered to the MOVIE Library are described below. For the procedures to register files to the Library, refer to p80.

- 1 Move to **MOVIE Station** and double-click **All Movies**.
- 2 Double-click a video file. The file is played.




- **Playing a Video File not Registered to the Library**

Click **File > Open**, select a video file to be played and click **Open**. The selected file is registered to the Library and played.

- **Playing a Video File in Full Screen**

- 1) Double-click on the current playback screen.
- 2) The video is played in full screen. In full screen, move the mouse pointer to the bottom of the screen to show the Play Control bar.  
To play at the default screen size, double-click on the screen.

- **Capturing the Video Screen**

Click on **Capture Current Screen** () below the Play window when the desired image appears on the screen and click the **OK** button.


Captured images are saved in the **C:\Program Files\Samsung\AVStation Premium x.x\Data\Captured Images** folder.

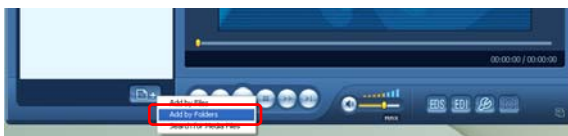
In addition, you can view captured images in the **PHOTO Station > Captured Images** folder.

## Adding Videos to the Library

The MOVIE Library is a library holding video files to be used by MOVIE Station. The procedures to add video files saved on the computer to the Library are described below.

You can add files, add folders or search and add files. As an example, the procedures to add folders are described below.

- 1 Click the **Register a File** () button below the Library and click **Add by Folders**.



- 2 Select a folder which includes video files and click the **OK** button. The video files in the folder are added to the Library.



The video files used in AVStation are automatically added to the Library.

# Using AVStation NOW / AVStation Viewer

Using these programs, you can play music, photographs, video and movies in full screen. You can enjoy multimedia using AVStation NOW when the computer is off and using AVStation Viewer when the computer is on.



## Before You Start!

- AVStation NOW and AVStation Viewer are optional and may not be provided depending on the model.

## ● AVStation NOW Restrictions

You can only use AVStation NOW when the computer is turned off.

Using AVStation NOW, you can play files registered to the AVStation premium Library, saved to My Computer, and saved on the multi-card slot. (For the procedures to register files to the Library, refer to p74, p77 and p80.)

If you define a login password for a Windows user account or if the folder is protected, you cannot play the files in the folder on AVStation NOW.


## ● AVStation Viewer Restrictions

Using AVStation Viewer, you can only play files registered to the AVStation premium Library. (For the procedures to register files to the Library, refer to p74, p77 and p80.)

- Since the screen layout and usage of the two programs are similar, the manual describes the functions and screens on the basis of AVStation NOW.
- The screen figures may differ from actual ones depending on the program version.
- **TV Station is only available for systems supporting the TV function.**
- In AVStation NOW, the Auto Scaler function is not available.

## Start / Exit AVStation NOW

### Starting

To turn the computer on, slide the **Power switch/AVS NOW switch** to the left () and hold it for more than 0.1 seconds.



If the **HOLD switch** on the left side of the computer is slid upwards all buttons of the computer are locked and do not work. If AVStation NOW is not launched, check the position of the **HOLD switch**.

## Exiting

Move the mouse pointer to the top screen and click the **Exit** (✕) button.



Alternatively, slide and hold the **Power switch/AVS NOW switch** to the right for more than 0.1 seconds.

## Start / Exit AVStation Viewer

### Starting

Select **Start > All Programs > Samsung > AVStation premium > AVStation Viewer** from Windows.

## Exiting

Move the mouse pointer to the top of the screen and click the **Exit** (✕) button.



## Screen Layout



### **MUSIC**

You can play a music file or audio CD.

### **PHOTO**

You can view a photograph or image file one by one or in a SlideShow.

### **MOVIE**


You can play a video, DVD or VCD title.

### **Settings**

You can set the Music, Photo and Movie settings.



#### **To move to the start screen while using the program**

Click over the top left in the current screen. Then the (  ) icon appears. If you click this icon, you can move to the start screen.

## MUSIC Station

The procedures to play a music file or an audio CD are described below.

### Playing a Music File

The procedures to play a music file registered to the MUSIC Library are described below. (For the procedures to register files, refer to p74.)

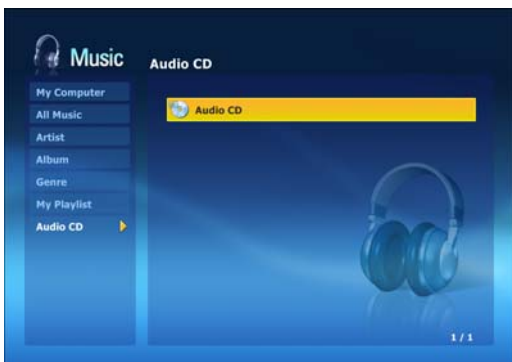
- 1 Launch AVStation NOW and click on **Music**.
- 2 Click on **All Music** and double-click a file in the right pane. The music file is played.



- 1 **My Computer**  
This only appears in AVStation NOW. You can manually find and play files on My Computer or a removable disk.
- 2 **All Music**
- 3 **Playlist Window**
- 4 **Music File**

### Playing an Audio CD

- 1 Launch AVStation NOW and insert an audio CD into the CD drive.
- 2 In the AVStation NOW start screen, click on **Music**.
- 3 Double-click the **Audio CD** in the left pane and double-click on an album or music file in the right pane. The selected music file is played.



## PHOTO Station

The procedures to view images registered to the PHOTO Library one by one and through a SlideShow are described below.

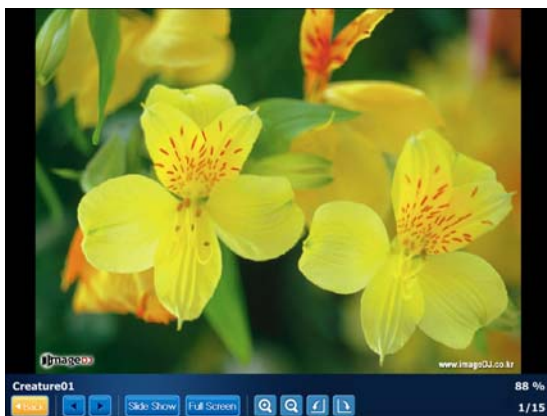
(For the procedures to register image files to the Library, refer to p77.)

- 1 Launch AVStation NOW and click on **Photo**.
- 2 Click on **All Images** and double-click on an image file in the right pane.



- 1 **My Computer**  
This only appears in AVStation NOW. You can manually find and play files on My Computer or a removable disk.
- 2 **All Images**
- 3 **Image File**

- 3 The selected image is zoomed in on.



### To view an image in Full Sreen or through a SlideShow.

Click on the **SlideShow** or **Full Screen** button below the zoomed in image.

To return to the previous status in the SlideShow or Full Screen, double-click on the screen.  
In AVStation NOW, double-click and click on **Back**.



# MOVIE Station

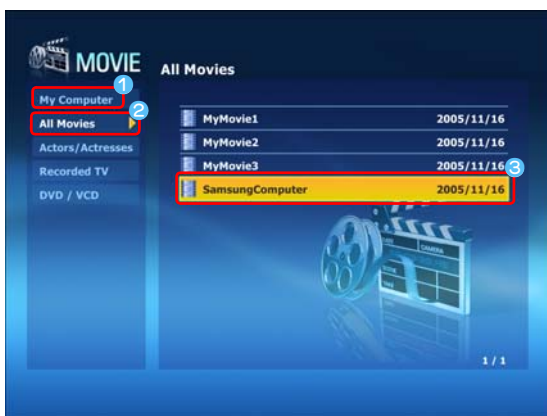
The procedures to play a video (movie) file or DVD/VCD title are described below.

## Playing a Movie File

The procedures to play a video file registered to the MOVIE Library are described below. (Refer to p80.)

- 1 Launch AVStation NOW and click the **Movie**.
- 2 Click on **All Movies** and double-click a movie file in the right pane.

The movie file is played.



- 1 **My Computer**  
This only appears in AVStation NOW. You can manually find and play files on My Computer or a removable disk.
- 2 **All movies**
- 3 **movie File**



### Showing the Play Control window

When clicking on the screen once, the Play Control window appears at the bottom.

## Playing a DVD

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- 1 Launch AVStation NOW and insert a DVD title into the DVD drive.
- 2 In the AVStation NOW start screen, click on **Movie**.
- 3 Click on **DVD/VCD** and double-click on the DVD title. The DVD title is played.



# CyberLink PowerDVD

CyberLink PowerDVD is a DVD player program.



## Before You Start!

CyberLink PowerDVD is supplied with the external USB ODD. So, it is optional and is not supplied with some models.

In addition, to use this program, you have to install the program manually using the external USB ODD.

- 1 Insert a DVD title into the DVD drive.
- 2 Select **Play DVD Video Using Power DVD** and click **OK**.



After a moment, the DVD title is played.

- 3 If the DVD title is not played automatically, click **Start > All Programs > CyberLink PowerDVD > CyberLink PowerDVD**.
- 4 Click the **Play** button in the CyberLink PowerDVD play control panel.



- 1 PLAY
- 2 SETTINGS



### **For more detailed usage**

For more detailed usage, click **Start > All Programs > CyberLink PowerDVD > PowerDVD Help**.

### **DVD Region Code**

A DVD title has a region code according to the international specifications so that it can be played only in that specific region. DVD titles with a region code will only play on a DVD drive with the same region code.

A DVD drive is sold with an empty region code and the region code is set when the user inserts a DVD title into the drive for the first time. Whenever DVD title is inserted with a region code that is different from that of the DVD drive, the region code of the DVD drive is automatically changed to the region code of the DVD title. However, the region code changes of a DVD drive is limited to 5 changes. After that, the region code is permanently fixed to the last region code.

# Voice Recorder

Video Recorder is a program which enables users to make recordings.

## Recording

- 1 Click **Start > All Programs > Samsung > Voice Recorder > Voice Recorder**.
- 2 Start recording near the built-in microphone at the front of the computer by clicking the **Record** (●) button.

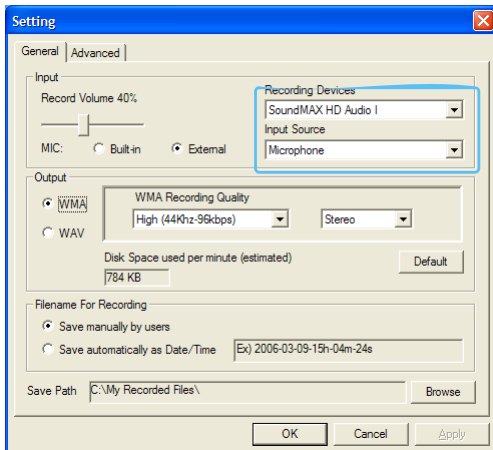


- 3 If the recording is complete, click the **Stop** (■) button. In the Save window, enter the file name and click **Save**.  
A recording file is saved to the 'C:\WMy Recorded FilesW' folder.
- 4 To play a recorded file, click the **Play** (▶) button.  
To play a previously recorded file, click the **Open** (📁) and select the file.



### When unable to make a recording using the built-in microphone

Click the **SETTING** button and check if the **Recording device** is set to **SoundMAX HD Audio I**, and the **Input Source** is set to **Microphone**. If the setting is not done properly, you will not be able to make a proper recording.



For more detailed usage, click the **Help** button.



## Chapter 6. Customizing Your Computer

<b>Using System Setup</b>	<b>94</b>
Starting System Setup	94
System Setup Screen	95
<b>Setting a Booting Password</b>	<b>97</b>
<b>Changing the Booting Priority</b>	<b>100</b>
<b>Using the Battery</b>	<b>101</b>
Removing and Attaching Battery	101
Charging the Battery	101
Monitoring the Battery Charge	102
Extending the Battery Usage Time	104
Tips for Using Your Computer	107
Travelling with Your Computer	108
Handling Spills	108
Storing the Computer for Long Periods	108

# Using System Setup

The System Setup (BIOS) program enables you to configure your computer hardware.



## Before You Start!

- Use the BIOS setup to define a booting password, change the booting priority or add a new device.  
Since incorrect settings may cause your system to malfunction or crash, take care when setting up the BIOS.
- The functions of the BIOS setup are subject to change for product function enhancement purposes.

## Starting System Setup

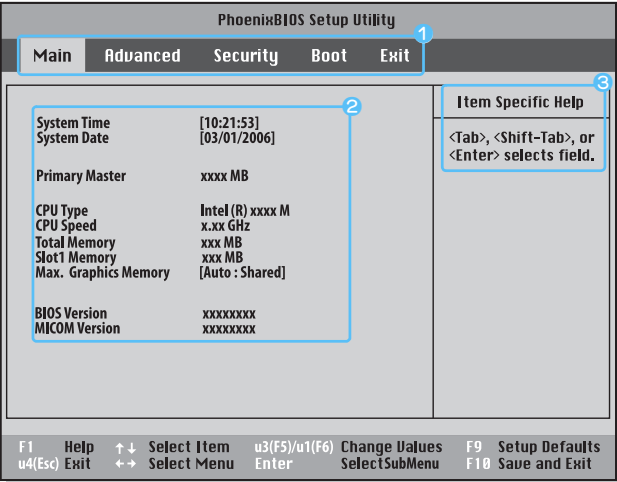
- 1 Slide the **Power switch** to the right to turn the computer on.
- 2 The booting screen (SAMSUNG logo) appears. Press the **Menu** button (⌂) on the right side of the computer.

When an external keyboard is connected, press the **F2** key.



- 3 After a moment, the BIOS setup screen appears. The items of the BIOS setup may differ depending on the product.





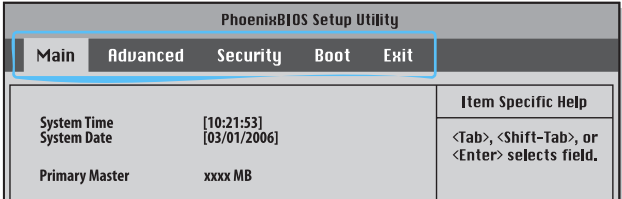
1 Setup Menu

2 Setup Items

3 Help

Descriptions of the selected item are displayed.

# System Setup Screen









Function	
Main	Changes the basic system.
Advanced	Configures the advanced functions on your computer.
Security	Enables the security functions, including passwords.
Boot	Specifies the order of the boot devices and configures them.
Exit	Specifies how to exit System Setup.

# System Setup Buttons(Keys)

The following Buttons(keys) are used in System Setup.



When an external keyboard is connected, you can use the keys enclosed in parenthesis. For example, you can press the **F1** key instead of the **Auto Scaler** button.

Button	Function
Auto Scaler Button (F1)	 When pressing the <b>Auto Scaler</b> button, Help appears. When pressing the button again, Help disappears.
Up & Down Keys ( ↑ , ↓ )	 Move the <b>joystick</b> up or down to move the cursor up and down.
Left & Right Keys ( ← , → )	 Move the <b>joystick</b> left or right to move the cursor left or right.
u3(F5) / u1(F6)	 Press the <b>u3</b> (F5) / <b>u1</b> (F6) u3 and u1 buttons to change the value of an item.
u4(Esc)	 Press the <b>u4</b> button to return to a higher-level menu or to move to the <b>Exit</b> menu.
Enter	 Selects an item or opens a submenu.
(F9)	To initialize the setup settings, press the <b>F9</b> key on the external keyboard. If an external keyboard is not connected, select <b>Exit</b> > <b>Load Setup Default</b> from the setup menu.
(F10)	To save the changes press the <b>F10</b> key on the external keyboard. If an external keyboard is not connected, select <b>Exit</b> > <b>Exit Saving Changes</b> from the setup menu.



## Exiting the System Setup

- 1 Move to **Exit** menu > **Exit Saving Changes** using the **joystick** and press the **Enter**.
- 2 Select **Yes** and press the **Enter** button. The System Setup is closed and Windows is started.

# Setting a Booting Password

When setting a password, you have to enter the password to start up the computer or enter the System Setup. By configuring a supervisor password, you can restrict system access to authorized users only and protect data and files saved on the computer.



### Before You Start!

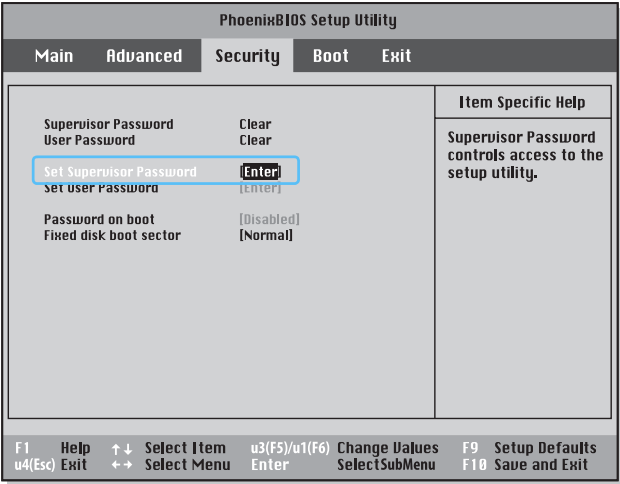
Do not lose or forget your password. If you have forgotten your password, contact a Samsung service center. In this case, a service fee will be charged.

For the setup buttons, refer to the description of 'System Setup Keys'. Page 107

## Setting a Supervisor Password

A Supervisor Password is required to turn the computer on or to start System Setup. When setting a Supervisor Password, users other than a supervisor cannot use the computer.

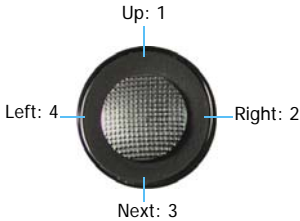
- 1 Select the **Security** menu in the System Setup.
- 2 In the **Set Supervisor Password** item, press <Enter>.



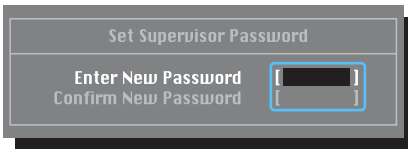
- 3** On the screen, the password setting buttons are described.

You can set a password by entering numbers between 1 and 4 with the **joystick**.

Since the **u2** button is used as Delete (BackSpace) and the **u4** button is used as Cancel (Esc), enter the password using the **joystick**.



Enter a password, press **<Enter>**, re-enter the password for confirmation, and press **<Enter>** again.



- 4** When a message confirming the password configuration appears in the **[Setup Notice]** window, press **<Enter>**.

The supervisor password has been set. The supervisor password is required to turn the computer on or to enter System Setup.

## Setting a User Password

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Users can start the system with their user password, but cannot enter the System Setup.

Before configuring a user password, a supervisor password must have been configured.

Deactivating the supervisor password also deactivates the user password.

However, please note that deactivating a user password does not deactivate the supervisor password.

In the **Set User Password** item, press **<Enter>** and complete the procedures of Step 3 of Setting a Supervisor Password.

## Activating the Booting Password

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Before activating the booting password, a supervisor password must have been configured.

Set the **Password on boot** option to **Enabled**. From now on, system booting will not proceed without the password.

## Deactivating the Password

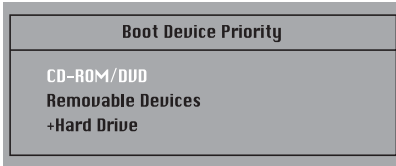
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- 1** On the password to be deactivated, press <**Enter**>. For example, to deactivate a supervisor password in the **Set Supervisor Password** item, press<**Enter**>.
- 2** In the **Enter Current Password** item, enter the currently configured password and press <**Enter**>.
- 3** Leave the **Enter New Password** item field empty, and press <**Enter**>.
- 4** Leave the **Confirm New Password** field empty, and press <**Enter**>.
- 5** In the [**Setup Notice**] window, press <**Enter**>.  
The password is deactivated.

# Changing the Booting Priority

The default booting priority of your computer is the CD-ROM, a removable device and the hard disk drive in this order. You can change the booting priority using the Boot menu of the System Setup.

- 1 Select the **Boot** menu in System Setup.
- 2 Press <Enter> on the **Boot Device Priority** item.



- 3 Use the **u1** or **u3** button to move a booting device up.
- 4 Exit from the **Boot** menu by pressing the **u4** button and move to the **Exit > Exit Saving Changes** menu using the **joystick** and press <Enter> to save the settings and exit the setup.

# Using the 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.



## Before You Start!

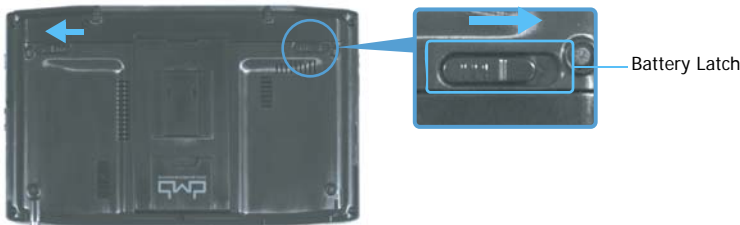
Carefully read and follow the precautions printed on the battery before using the battery.

### Precautions

- Use only charges specified in the user's guide.
- 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's guide before using the battery.
- Please refer to the system operation environment of this manual and operate and the store the battery at room temperature. (p.xx)

## Removing and Attaching Battery

- 1 Shutdown the system and place the computer upside down on a flat surface.
- 2 Pull the two battery latches outwards (⇐⇒), then remove the battery.



- 3 To install the battery again, slide the battery into the system. The battery latches move inwards and fix the battery automatically.



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 be charged.

2 When a charge is complete, the Charge LED turns green.

Charge LED	
Charging	Amber
Charging complete	Green
AC adapter not connected	Off

## Monitoring the Battery Charge

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

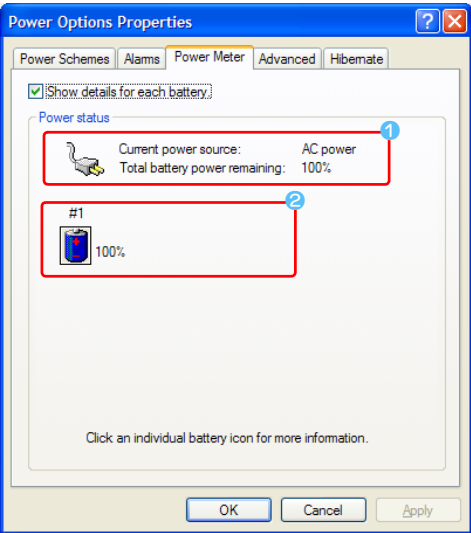
### Viewing through the Menu button

Press the **Menu** button and press on **Battery**.



### Viewing through the Control Panel

Select the **Start > Control Panel > Performance and Maintenance > Power Options > Power Meter** tab.



- 1 Power Supply Status
- 2 Remaining Battery Charge



## Viewing on the battery

---

Separate the battery and press the **PUSH** button on the battery. The remaining battery charge (%) will be displayed.



### 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.
- When the remaining battery charge is under 3%, the computer automatically saves the current work and turns off. This may differ according to the settings in the **Control Panel > Performance and Maintenance > Power Options > Alarms** tab.

## Using the Battery

---

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

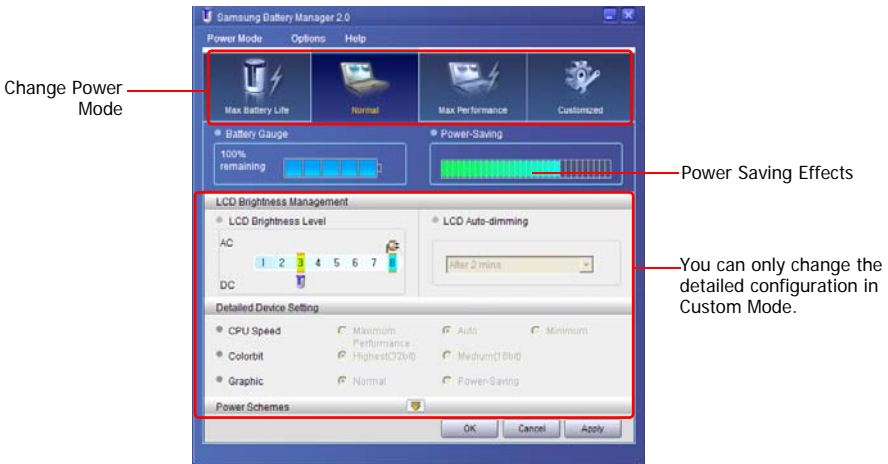
For long periods of not using the battery, keep the battery after discharging it. This extends the battery life time.

# Extending the Battery Usage Time

## Using Samsung Battery Manager

Battery Manager is a power management program that enables using battery power efficiently. You can select an optimized power mode according to your requirements.

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



### Maximum Battery Saving Mode

This mode is appropriate for conditions which require the maximum battery usage time. This may degrade the performance of the system.

### Normal Mode

This mode is appropriate for normal conditions. Both system performance and battery usage time are optimized.

### Maximum Performance Mode

This mode is appropriate for conditions that require maximum system performance. Therefore, the battery usage time may be reduced in this mode.

### Custom Mode

In this mode, a user can configure a detailed configuration to save the battery usage time. You can adjust the LCD brightness, the system standby time, the screen color quality, and the graphic mode values.



### Power Saving Effect

This shows the relative battery usage time for each power mode. The more effective the power saving, the longer the graph will appear.

### When Running a Game or Multimedia Application

A game or multimedia application may not work smoothly in Maximum Battery Saving Mode. Using this is recommended when the AC adapter is connected or in Normal or higher modes.

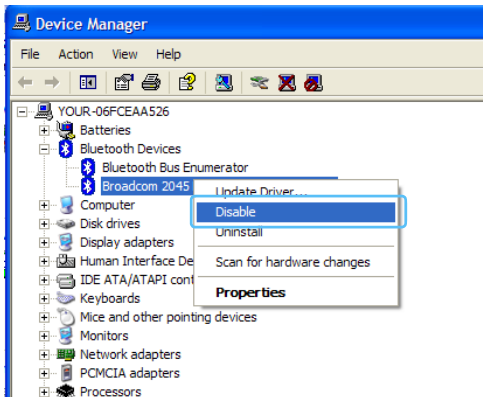
### Samsung Battery Manager Power Modes

- Since the Maximum Battery Saving Mode of the Samsung Battery Manager controls the system operating speed to extend the battery usage time, the performance of the system may be degraded.
- When changing the power settings in Custom Mode in the Samsung Battery Manager, the settings of the Power Options Properties window are changed accordingly.
- To use Normal Mode in Samsung Battery Manager after reinstalling Windows XP, you have to install the Samsung Battery Manager using the system software media.

## Turning Off Unnecessary Devices

Turning off unnecessary devices extends the battery usage time.

- 1 Select the **Start > Control Panel > Performance and Maintenance > System > Hardware** tab and click on **Device Manager**.
- 2 Right-click (press and hold the Stylus Pen for more than 3 seconds) a device you are not using, and select **Disable**.

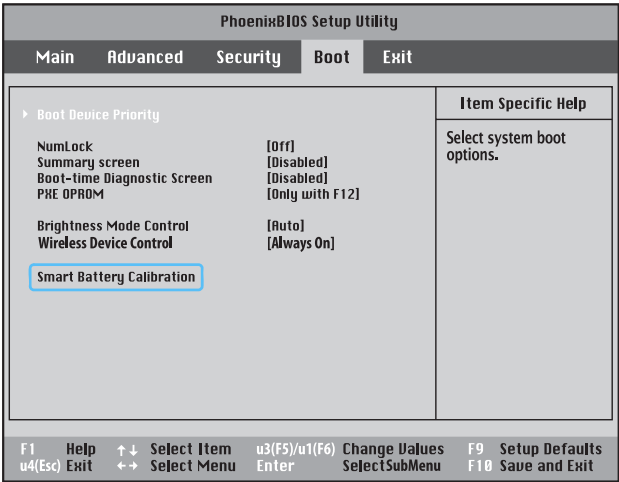


Example) Wireless LAN, Bluetooth, etc.

# Battery Calibration

When charging/discharging the battery repeatedly for only a short time, 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 system.
- 2 Restart your computer and press the **Menu** button when the SAMSUNG logo appears, to start System Setup.
- 3 Using the arrow keys, select **Smart Battery Calibration** in the **Boot** menu 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 discharged by force. To stop the operation press the **u4 (Esc)** button.

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

## Tips for Using Your Computer

The following information helps you avoid potential problems as you use your computer:



Do not try to disassemble your computer. Opening the system chassis voids your warranty. Only an authorised manufacturer service center can replace or add any parts inside the chassis.

- Follow all the instructions and cautions in your computer user documentation.
- The LCD has a polarized surface and can be damaged easily. To prevent damage, avoid touching the screen.
- Use only approved AC adapters, auto adapters, memory modules and other options.
- Because a notebook computer is small and has restricted air flow around components, it is more likely to overheat than a desktop computer. A fan inside your computer runs when needed to help eliminate heat. Make sure the fan vent on the left side of your computer is not blocked when you use the computer. Occasionally check the vents and remove any accumulated dust on the outside.
- Avoid using or storing the computer in extremely hot or cold areas, such as a car on a hot day. Keep the computer away from heaters and out of direct sunlight. Exposure to excessive heat may damage computer components. If you have left your computer in a hot place, let it cool down slowly to room temperature (with the LCD panel open) before using it.
- Do not remove the memory-module compartment door, or try to install a memory module when the computer is on.
- Set up your computer work area to avoid physical strain. Sit with your back straight and supported by your chair. Adjust your chair or work table so that your arms and wrists can remain in a relaxed position, parallel with the floor. Avoid bending or twisting your wrists as you work. Your hands should “float” slightly above the keyboard. Refer to a book on office ergonomics for more information on setting up your work area.
- Take frequent breaks from working at the computer to rest your eyes and stretch your muscles.
- Remember to save your data files frequently and to make backup copies of your files.
- A walkie-talkie must be kept more than 1 meter away from the device.  
Since a walkie-talkie transmits a very strong signal, it may cause a computer malfunction.

# Travelling with Your Computer

## Air Travel

---

If you are travelling by air, follow these tips:

- Take the computer with you as carry-on luggage. Do not check the computer with your baggage.
- Allow the computer and disks to go through the X-ray security devices. Do not hand-carry disks through the walk-through metal detectors, which can cause loss of data.
- Be prepared to turn off the computer during take off and landing.



Please follow the instruction of the corresponding facilities regarding the use of wireless devices (wireless LAN, Bluetooth , etc.) when in a wireless communication restricted area (e.g. airplane, hospital , etc.).

## Handling Spills

Do not spill anything on your computer. The best way to avoid spills is to avoid eating and drinking around your computer. If you do spill something on your computer, turn off your computer, unplug it immediately, and do the following:

- If you spill liquid on the keyboard, drain as much of the liquid from the keyboard as possible. Be careful not to let the liquid drip onto the LCD panel. Allow the system to dry for several days before trying to use it.
- If you spill liquid on an external keyboard or keypad, unplug it and drain as much of the liquid as possible. Allow the keyboard to sit at room temperature for a full day before trying to use it.



Sweet liquids leave a sticky residue that may jam the keyboard despite your efforts to dry it.

- If you spill liquid on the LCD panel, clean it immediately with a soft cloth and denatured alcohol or a proprietary LCD screen cleaner. Do not use water, window cleaner, acetone, aromatic solvent, or dry, rough towels to clean it.



Some liquids damage the polarized LCD screen. If your screen is damaged, contact your authorized manufacturer's service center for a replacement.

## Storing the Computer for Long Periods

If you will not be using the computer for a long period of time (a month or more), you should discharge the battery completely then remove the battery from the computer. This extends the life of the battery.

## Chapter 7. Troubleshooting / Appendix

<b>Using Magic Doctor</b>	<b>110</b>
<b>Using Norton AntiVirus</b>	<b>111</b>
<b>Restoring the System</b>	<b>112</b>
<b>Reinstalling Software</b>	<b>115</b>
<b>Reinstalling Windows XP</b>	<b>117</b>
Running the System Recovery Media	117
Quick Installation	118
Standard Installation	118
Installing Windows	
When You Cannot Run Windows	120
<b>Questions and Answers</b>	<b>121</b>
Windows Related	121
Display Related	121
Sound Related	123
Wired LAN Related	124
Wireless LAN Related	125
Games and Programs Related	129
Security Center	131
Other	133
<b>Specifications</b>	<b>134</b>
System Specification	134
Wireless LAN Specification (Optional)	135

# Using Magic Doctor

Magic Doctor is troubleshooting software provided by Samsung Computer. A user can diagnose system problems via one-click or by selecting diagnostic items.

- 1 Click **Start > All Programs > Samsung > Magic Doctor > Magic Doctor**.
- 2 Click on an icon at the top of the screen.



- **OneClick Diagnosis:** You can diagnose problems affecting the system connections and system operations via one-click.
- **User Diagnosis:** You can select the necessary diagnostic items and diagnose system problems.
- **System Recovery:** Launches the Restoring the System function of Windows XP. (p141)

- 3 When the system diagnosis is completed, the diagnostic result appears.

If problems are found, click the **Cure** button to correct the problem. Magic Doctor starts the correction operations.



# Using Norton AntiVirus

The Norton AntiVirus software is provided as the virus inspection program.

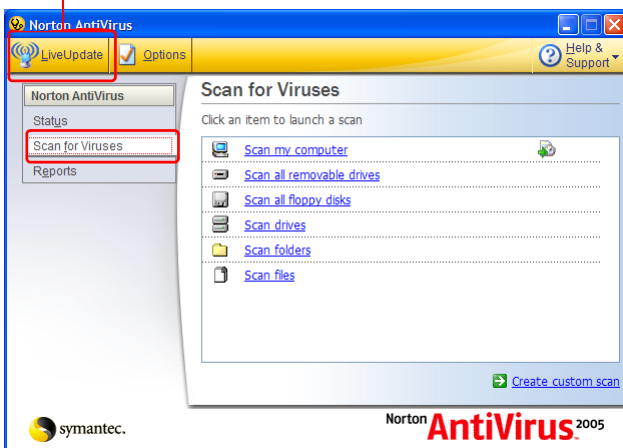


## Before You Start!

- When you first run Norton AntiVirus, the Norton AntiVirus Configuration window pops up. If you complete the configuration and your computer connect to network, you can download and install the latest updates via the network. When the live update is done, virus scanning starts automatically. To stop scanning, click on Stop.
- If you didn't configure the Norton AntiVirus program, a security alert icon (🚫) appears in the notification area on the right of the task bar. This indicates that the current security state of your computer is not secure. Configure the virus-scanning program to make the security alert icon disappear.

- 1 Select **Start > All Programs > Norton AntiVirus > Norton AntiVirus 200x**.
- 2 Click **Scan Virus**, select drive to inspect, and click **Scan**.

Vaccines for the latest viruses can be downloaded by connecting to Symantec's homepage.



- 3 If a virus is detected, select Automatic in Norton AntiVirus, and click **Next** to delete the virus.

# Restoring the System



This description is only for models running Windows XP.

The System Restore function allows you to restore your computer to an earlier copy (called restore point), and restores the settings if a problem occurs. The System Restore function is provided by Windows XP to enable the resolution of various problems without reinstalling Windows XP completely.

You can use System Restore in the following cases.

- **The system files are deleted or damaged by mistake.**
- **The system is unstable or a problem occurs in a device driver.**
- **A problem occurs after changing system files such as the registry.**
- **A problem occurs after installing a new program.**

## Creating a Restore Point

---

Restore points are created at predetermined times and at times of significant system events such as when a program or a driver is installed. You can also decide when to create your own restore points.

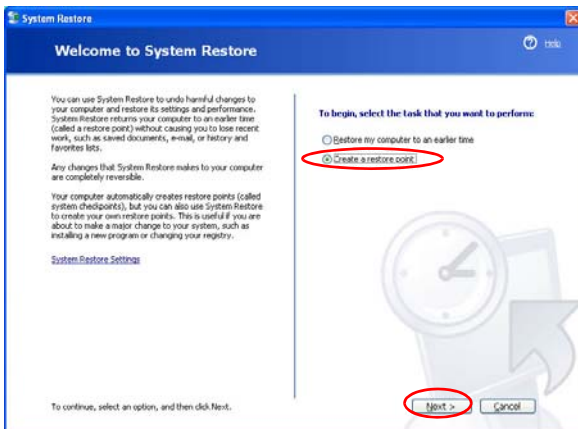


There has to be more than 200MB of free space on the hard disk drive. If the disk space is insufficient, a saved restore point might be deleted.

You are recommended to create a restore point when you have purchased a new computer and before installing new programs or device drivers. Before creating a restore point, check that the computer is operating properly.

The procedures to create your own restore point are described below.

- 1** Click **Start > All Programs > Accessories > System Tools > System Restore**.
- 2** Select "Create a restore point", and click **Next**.



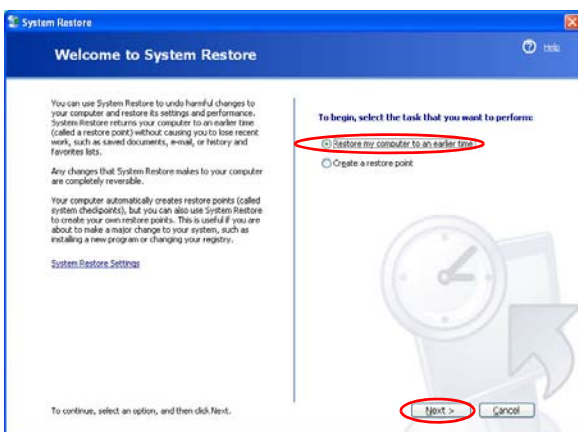
Since changes made after the Recovery Point may not be maintained, please back-up all necessary files to another location before performing system recovery.

- 3 In the Restore point description box, type a name to identify the restore point, and then click **Create**. A restore point has been created.

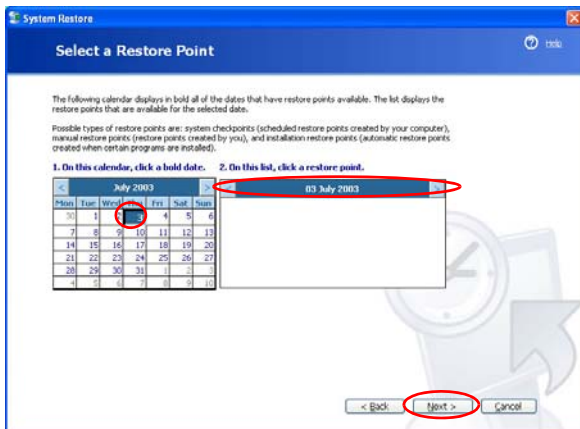
## Returning your computer to an earlier restore point

The procedures to return your computer to an earlier restore point when a problem has occurred are described below.

- 1 Click **Start > All Programs > Accessories > System Tools > System Restore**.
- 2 Select "Restore my computer to an earlier time", and then click **Next**.



- 3 Select the desired restore date from the calendar restoration and select the desired restore point from the list, and then click **Next**.



The date of the restore point is displayed in bold font.

- 4 Confirm the selected restore point and click **Next**. System Restore shuts down Windows, and starts the restoration processes.
- 5 After the restoration is complete, Windows restarts. In the [System Restore completed] dialog, click **OK**. Your computer has been restored to the selected restore point.

## Undoing the last restoration

The procedures to undo a restoration are described below.

- 1 Click **Start > All Programs > Accessories > System Tools > System Restore**.
- 2 Select "Undo my last restoration", and then click **Next**.
- 3 Confirm the restoration information to undo, and then click **Next**. System Restore shuts down Windows and starts undoing the restoration.
- 4 After the undo restoration is complete, Windows restarts. In the [Undo the last restoration completed] dialog, click **OK**. Your computer has been restored to the point prior to the last restoration.

# Reinstalling Software

If you have reinstalled the Windows operating system, or the system and program do not operate properly, you can re-install the driver and program using the system software Media.



## Before You Start!

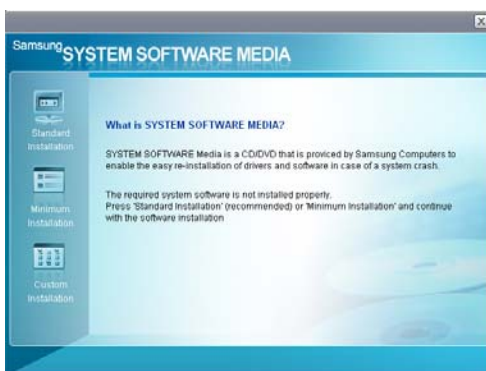
If a program has a problem, it is recommended to remove the program using Add or Remove Programs in the Control Panel and to reinstall it using the system software media. To use the system software media, **the external USB ODD must be connected** to the computer. The following descriptions presuppose that the external USB ODD is connected.



This computer is optimized for Microsoft Windows XP, therefore drivers for other operating systems are not included on the System Software Media.

## Running the system software Media

Insert the system software Media into the CD-ROM drive. The initial screen appears automatically.



- **Standard Installation:** This displays a list of drivers or programs that are not currently installed on your computer from the system software Media provided. All necessary components are installed using the factory defaults.
- **Minimum Installation:** This displays the components (driver, Windows programs, etc) that, if not installed, may cause problems with the system performance. You can install only required components.
- **Custom Installation:** You can customize the installation of drivers and programs.

## Installing drivers and programs

---

- 1 Click **Standard Installation** in the main window of the System Software Media. (Standard Installation is recommended)
- 2 The system is scanned to display the drivers and programs that need to be installed.
- 3 Click **OK**. The drivers and programs are automatically installed as factory defaults.



- 4 When done, restart the system.

# Reinstalling Windows XP

If Windows XP is not operating properly due to an error in the system, or if you have replaced the hard disk drive, you can reinstall Windows XP using the system recovery media.



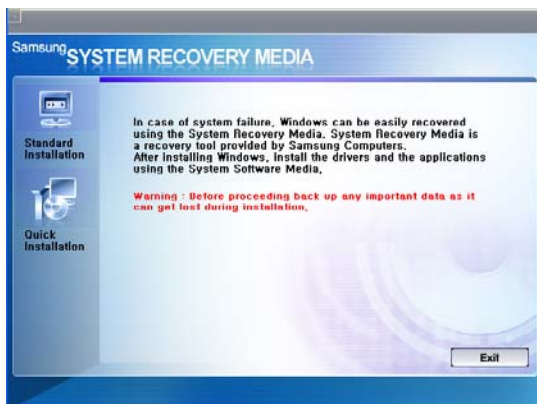
## Before You Start!

- To use the system recovery media, the external USB ODD must be connected to the computer. The following descriptions presuppose that the external ODD is connected.
- There are two Windows installation modes: Standard Installation, which allows users to change options, and Quick Installation, which allows users to install Windows easily.
- If you cannot run Windows, refer to page 128 to install Windows.

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 your data. Samsung Electronics is not liable for any data loss.

## Running the System Recovery Media

Insert the **system recovery media** into the external USB ODD. The start screen automatically appears.



### • Standard Installation

**You can change the settings for Regional and Language Options, Date and Time, Computer Name, User Accounts, etc. during the Windows installation.**

However, after reinstalling Windows, you have to manually reinstall device drivers and programs using the system software media.

### • Quick Installation

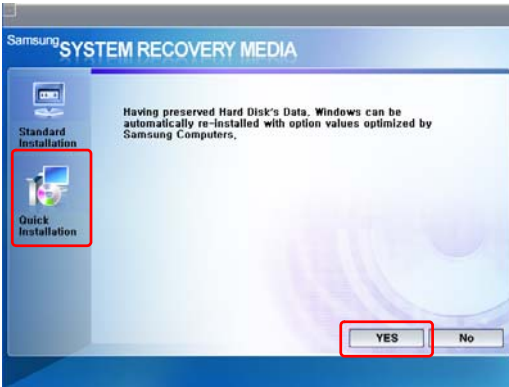
**This reinstalls Windows with the user data and the system settings intact by overwriting the Windows folder.**

Since the user data and the system settings in the already existing Windows folders are preserved, you do not have to reinstall device drivers and programs.

## Quick Installation

The Windows Quick Installation procedures are described below.  
You can install using the Stylus Pen.

- 1 In the system recovery media start screen, click **Quick Installation**.



- 2 The description for the Quick Installation appears.  
Click **Yes** to start Windows installation.  
When the installation is complete, the Windows Desktop appears. Remove the **system recovery media** from the ODD.

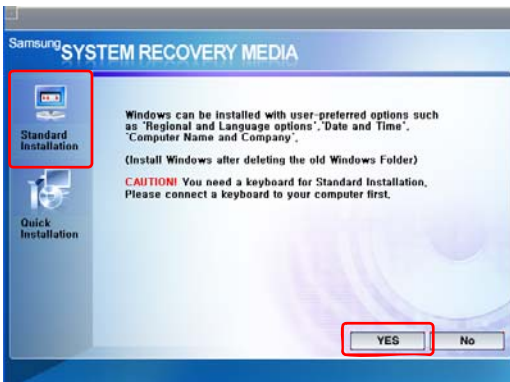
## Standard Installation

The Windows Standard Installation procedures are described below.



For the Standard Installation, a USB keyboard is required. The following descriptions suppose that the external USB ODD and USB keyboard are connected.

- 1 In the system recovery media start screen, click **Standard Installation**.





- 2** The description for the Standard Installation appears.

Click **Yes** to start the Windows installation. The system restarts and the Windows installation begins.



If you have set a booting password, enter the booting password when booting the system to continue the installation.

- 3** After the system has restarted, the message '**Press any key to boot from DVD**' appears. Do not press any key at this time.

After a while the partition setting screen appears.

To not change the partition, move to the C:Partition 2 using the direction key ( ↓ ) and press <**Enter**>.



Partition setting 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.

- 4** 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 the **ESC key** to select another folder for the installation, new Windows folders are created causing a risk of dual booting.

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

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

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



A window that requires the computer name and the administrator password appears. Enter the computer name and the administrator password and click Next.

- 8** When the **Date and Time Settings** window appears, click **Next**. Setup continues and the system restarts.

- 9** When the system restarts, the message "**Press any key to boot from DVD**" is displayed. You do not need to enter anything. In a moment, the Windows XP Desktop appears. When you see the Windows desktop, this means that the installation process is completed.

- 10** Remove the **system recovery media** and install the device drivers and applications from the **system software media**. (Page 123)

## Installing Windows When You Cannot Run Windows

If you cannot run Windows, you have to boot the system with the system recovery media and reinstall Windows.



To install Windows, the external USB ODD and USB keyboard must be connected to the computer.



Before you install Windows, you must have to connect external USB Keyboard.

If you connect external USB keyboard while installing Windows, USB keyboard does not work.

- 1** Insert the **system recovery media** into the external USB ODD and turn the computer on.
- 2** When the system restarts, the message "**Press any key to boot from DVD**" is displayed. You do not need to press anything.
- 3** After a while the partition setting screen appears. To install Windows in the selected partition without change, press **<Enter>**.
- 4** Select a **file system** (format). To keep 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** The subsequent procedures are the same as those after Step 5 of **<Standard Installation>**. (Page 127)

# Questions and Answers

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

## Windows Related

### Q1 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.

### Q2 The system freezes during program operation

- A1** There is an error with the program currently being used. Press the <Ctrl>, <Alt>, and <Del> 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

### Q1 The LCD screen is too dark or too bright

- A** Adjust the LCD brightness. Press the **Menu** button and click on **Brightness UP** or **Brightness Down**.

### Q2 The screen saver disturbs Media Player playing a movie or video clip after the screen saver is activated while Media Player is playing.

- A** Unselect **Tools > Options > Player > Allow screen saver during playback** in the Media Player.

### Q3 In the following cases, the screen blinks or displays noise for a short time

**Click the Graphics Related tab, Change Resolution, Change Display Device, Remove the AC Adapter, Restart the System, Change Power Mizer level.)**

- A** This may happen while the video driver is examining the connected device. While busy detecting, any connected display devices may blink or some noise may occur.
- In addition, pressing the Auto Scaler button, the screen may blink or display noise for a short time while the resolution changes or the Down Scale (resolution zoom out) function operates.

**Q4 When I connect a projector, and change the settings to display the screen image on both the LCD and the projector by pressing the Menu button, the screen is not displayed properly.**

- A** Press the Menu button and press the LCD/CRT twice to select LCD+CRT. If the screen image or some part of it is not displayed on the screen, this is because the LCD resolution is low or the current resolution is too wide and cannot be supported by the projector. Press the Auto Scaler button and change the resolution to 800x600 pixels.

**Q5 The shortcut icons are not displayed on the screen.**

- A** The shortcut icons only appear when both the Magic Keyboard and Samsung Display Manager programs are installed.

**Q6 When I connect an external monitor and select the monitor, no screen image is displayed (Clone Mode).**

- A** This may happen when the current resolution is inappropriate or Dual View (Extended Mode) is selected. Try the following methods.

**1. When the current resolution is inappropriate**

This computer supports the 800x480 WVGA resolution. Since this resolution is lower than that of the operating system, the above symptom may appear when the external monitor cannot support this resolution. Change the resolution to 800x600 pixels, press the Menu button and press the LCD/CRT twice to select LCD+CRT.

**2. When Dual View (Extended mode) is selected**

When Dual View is selected, the Clone Mode is not supported. In this case, unselect the Dual View, press the Menu button to select the Clone Mode.

For the procedures to unselect the Dual View, refer to (page 36).

**Q7 In the Display Properties window, resolution starts from 800x600.**

- A** Even if the current resolution is 800x480 pixels, it may be represented as 800x600 in the Display Properties. This is because the lowest resolution of the operating system is 800x600 and is unable to show the 800x480 resolution in the Display Properties window.

**Q8 Pressing [Start] displays a [Some items cannot be shown] message.**

- A** This message appears when all start menu items cannot be displayed in the default resolution (800x480 pixels). In this case, change the resolution to 1024x600

**Q9 The whole screen image is not displayed on the screen.**

- A** This may happen when a program or game is designed for at least 800x600 pixels. In this case, press the Auto Scaler button and change the resolution. Whenever the button is pressed, the screen resolution changes to 800X480 > 800x600 > 1024x600 pixels, in this sequence.

### Q10 When I press the Auto Scaler button, letters on the screen are blurry.

- A** In resolutions provided by Auto Scaler, the letters on the screen may be blurred because these are not the optimal resolutions of the LCD panel.

In this case, press the Auto Scaler button again and change the screen resolution to 800x480 pixels which is the default resolution of the LCD panel.

## Sound Related

### Q1 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 3 components and the 3 components are automatically installed during the installation.

- **High Definition Audio - KB888111** : Microsoft UAA Bus Driver for High Definition Audio
- **SoundMAX**: SoundMAX Integrated Digital HD 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 **SoundMAX** 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 Connect the external USB ODD and insert the **System Software Media** into the ODD.
- ② Select the Sound Driver on either Standard Installation or Custom Installation, then the 3 components of the sound driver are automatically installed.

### Q2 How can I use an additional function when making a recording using the microphone?

- A** To use an addition function so as to record sound by emphasizing the sound between the two microphones, configure the settings as follows.

- ① Click **Start > Control Panel > Sound, Speech and Audio Devices > SoundMAX**.
- ② In the **Microphone Peripherals**, select '**Directional Beam**' and click the **OK** button.

# Wired LAN Related

## Q1 The <Wake On LAN> function

**A** <Wake On LAN> is a function that activates the system from standby (S3) when a signal (such as ping or magic packet commands) arrives from the network (wired LAN).

- **Using the <Wake On LAN> function**

- ➊ Click on **My Network Place> View network connections** on the Desktop.
- ➋ Right-click the Local Area Connection (press and hold the Stylus Pen for more than 3 seconds) and click **Properties**.
- ➌ Click **Configure**, and select the **Power Management** tab. Select 'Allow this device to bring the computer out of standby', then click OK. Restart the system.

- If the system in standby mode is activated when there is no received signal, use the system after disabling the <Wake On LAN> function.

- When turning the power off when <Wake On LAN> is disabled, the LAN LED may continue to be lit up.

- The <Wake On LAN> function operates only when the LAN is ON.

- 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.

- ➊ Click on **My Network Place> View network connections** on the Desktop.
- ➋ Right-click (press and hold the Stylus Pen for more than 3 seconds) over **Wireless Network Connection** and select **Disable**.

## Q2 When I am connected to a 100Mbps wired LAN and the computer exits standby/hibernation mode, a message appears informing of a connection to a 10Mbps wired LAN.

**A** When the computer exits standby/hibernate mode, restoring the network takes about 3 seconds. When the network is restored, it operates at 100Mbps.

## Q3 To use the network at the maximum data rate, configure the following options.

**A** Click **Start > Control Panel > Performance and Maintenance > System > Hardware > Device Manager > Network adapters** and Right-click (press and hold the Stylus Pen for more than 3 seconds) **Marvell Yukon88E8036 PCI-E Fast Ethernet Controller** and click **Properties > Advanced**.

Configure as follows and click the **OK** button.

- ➊ BatteryModeLinkDetection : EnergyDetect+☒,
- ➋ BatterySpeedSettings : FullSpeed

## Wireless LAN Related

### Q1 The Wireless LAN device is operating properly, but I cannot connect to the Internet or to another computer.

**This is due to an incorrect configuration, or a configuration error. Check the following check lists:**

- A1** If you are using a computer-to-computer (Ad Hoc) network connection, check that the name of the configured network (SSID) is correct. The network name (SSID) is case sensitive.
- A2** If you are using a network key (encryption key), you have to use the same network keys for an AP (Access Point) or a computer-to-computer network (Ad Hoc). The network key of the AP is configured in the AP management program. Ask your network administrator or AP manager for more detailed information.
- A3** Check that the device driver is properly installed. If the driver is not properly installed, you will find a yellow exclamation mark on the network icon by clicking Start > Control Panel > Performance and Maintenance > System > Hardware tab > Device Manager > Network adapters > Wireless LAN adapter. If there is a yellow exclamation mark, please reinstall the device driver with the system software Media.
- A4** Referring to A2 of Q3, Check that the network bridge configuration is correct.

### Q2 The signal strength is excellent, but I cannot connect to the network.

**Even if the signal strength is excellent, the network connection may not operate properly if the TCP/IP properties are not properly configured, or the network key (encryption key) is incorrect.**

- A1** Check that the TCP/IP properties are configured properly. When you connect to an AP, click the Wireless Network Connection icon on the taskbar and select the Support tab. If the IP is not allocated properly, the IP address will be displayed as follows (e.g. 169.254.xxx.xxx).

If the network does not provide DHCP, you have to specify the correct IP address by asking your network administrator.

Even if the network provides DHCP, the server may not allocate an IP address to the client properly, and the client station cannot connect to the network.

- A2** Referring to A2 of Q1, check that the network key is correct.
- A3** Referring to Q4, check that AP is operating properly.

### Q3 I cannot connect to the AP.

- **Check the Computer Settings**

- A1** Verify whether the wireless LAN function of the computer is on by doing the following. If the wireless LAN function is off, turn it on.
  - For Windows XP, verify that the wireless network connection has been set to "Enable" in Start > Control Panel > Network Connections.
  - Check if the wireless LAN is turned on.

- A2** Verify whether the same network key (encryption key) has been entered in both the AP and the computer.

The network key is an encryption key for encrypting data transmitted between the AP and the computer. It is recommended setting the network key manually.

- **Check the AP Settings**

For the AP settings, refer to the User's Guide provided by the AP manufacturer.

- A3** Verify whether the environment is suitable for using a wireless LAN.

The use of a wireless LAN may be restricted according to the environment and distance. Obstacles such as walls or doors affect the use of a wireless LAN. Install the AP in a high and open space 50cm from the wall and far removed from any other radio signal sources.

- A4** Verify whether the AP is operating properly.

- When the AP is not operating normally, turn off the AP and after a short while turn it on again.

- Verify whether the AP's firmware is the most recent version. (Contact the AP manufacturer or the place where you purchased the AP for details of the AP firmware.)

- A5** Verify whether the AP has been properly connected to the network.

Verify whether the network is operating normally by connecting the wired network cable, which has been connected to the AP, to your computer.

- A6** Check the network key settings (encryption key).

When automatic code conversion (a passphrase function) has been selected and data communication is not functioning even with a normal wireless connection, it is recommended entering the network key (encryption key) manually.

- A7** Check the AP settings as follows. (The following is recommended for a standard environment and thus may differ according to the specific wireless network environment.)

- When several APs are present simultaneously, check the channel setting for each AP. When different APs are using nearby channels, interference may occur between electronic waves. Set the APs' channels further apart from each other. (Ex: Ch1, Ch5, Ch9, Ch13)

- When an AP's SSID (Service Set ID) option is set to "Hide", you cannot search for that AP on the computer. We recommend canceling the "Hide" option for an AP. The SSID is a name for distinguishing one wireless LAN from another wireless LAN.

- It is recommended using Long Preamble. Preamble is a signal for data transmission synchronization. Short Preamble may be supported by some types of APs but may cause compatibility problems.

- It is recommended using a static IP.

- Since static channel selection is more reliable than auto channel selection, it is recommended setting a static channel.



**Q4 In the Windows XP 'Available wireless networks' window, the Wireless Network Connection is displayed as 'Not Available'.**

- A1** Check if the wireless LAN is turned on.
- A2** Check if there is additional program for a wireless LAN connection installed. Windows XP supports wireless LAN connections through the Wireless Zero Configuration (WZC) service. Therefore, an additional program for wireless LAN connection is not required, unless the network requires a specific program. However, installation of some wireless LAN related programs may sometimes disable the [View Available Wireless Networks] window supported by WZC service. Exit the wireless LAN related program then check whether the window is enabled.
- A3** Initialize the device driver.  
Click Start > Control Panel > Performance and Maintenance > System > Hardware tab > Device Manager > Network adapters, and select the wireless LAN adapter. Right-click the network adaptor and select 'Disable'. Then right-click over the network adaptor and select 'Enable' after a short wait to check that the device is operating properly.
- A4** Right-click the My computer icon, and select Manage. When the Computer Management window appears, double-click Services and Applications on the left, and then click Services from the sub menu tree. Select the Standard tab in the right pane, double-click Wireless Zero Configuration and check that Startup Type is configured to Automatic, and the Service status is Started.
- A5** In the case of Windows XP, click Advanced in the [Wireless Network Connection] dialog box (see "Connecting to an Access Point (AP)" (p44)) and make sure that 'Use Windows to configure my wireless network settings' is selected.  
This may happen when a third-party wireless network setup program (e.g. PROSet) other than Windows XP default program is installed. For setting up a wireless network using the Windows XP program, this option should be selected.

**Q5 When connecting to a computer-to-computer (Ad Hoc) network, I cannot connect to another computer connected to the same computer-to-computer network.**

- A1** Make sure that the security settings and network name of the computer-to-computer (Ad Hoc) network is correct.
- A2** Check the TCP/IP properties of the computers to be connected through the computer-to-computer (Ad Hoc) network. All of the computers to be connected through a computer-to-computer (Ad Hoc) network should be configured so that their IP addresses are within the same subnet range.
- If the TCP/IP Settings are configured to DHCP, the address is automatically configured to an address within the subnet IP range. This will take about 2~3 minutes.
  - If the IP address is configured to static IP in TCP/IP properties, select Use the following IP address in the TCP/IP properties of the wireless adapter, configure IP address: 10.0.0.1~10.0.0.254, and Subnet mask: 255.255.0.0, and then try again.
  - A fixed IP is recommended for a small-size network.

**Q6 When using a computer-to-computer (Ad Hoc) network, sometimes I cannot search the access point.**

- A** It may happen occasionally when you are using a computer-to-computer (Ad Hoc) network connection. Even if you cannot find some access points, the computer-to-computer (Ad Hoc) network is operating properly. Click Refresh to view the latest search result.

**Q7 The network does not operate properly when both the wireless and the wired network connections are simultaneously configured with the same IP address.**

- A** You cannot use the wireless and the wired network connections using the same IP address simultaneously. To use either the wireless or the wired network in turn with the same IP address, you have to Disable whichever network device will not be using in the network connection of the Control Panel.

**Q8 The wireless LAN does not work properly when there is a device operating on an adjacent frequency in the vicinity of the product.**

- A1** Channel interference may occur when a wireless video transceiver or a microwave oven is being used. If you experience channel interference from other equipment, it is recommended changing the channel to connect to the AP. For more information about AP settings, refer to the User Manual supplied by the AP manufacturer.
- A2** Since IEEE802.11g equipment operates in hybrid mode when there is active IEEE802.11b equipment, the data rate may be degraded.

**Q9 An established wireless LAN connection is disconnected after 2~3 minutes, and the connection is not recovered.**

- A1** This may be caused by channel interference. Change the channel of the AP, and reconnect.
- A2** This may be caused by selecting the 'Use IEEE 802.1x network authentication' option when IEEE 802.1x authentication is not available.
- Check the properties of the AP in the wireless network settings. If the 'Use IEEE 802.1x authentication in this network' option is selected, deselect the option on the Authentication tab.
- For more detailed information about authentication server, ask your network administrator.
- A3** If the AP is configured to 'Use network authentication (Shared Key)'
- If the AP is configured to authentication shared mode, all computers to be connected should be configured as follows:
- If you are using Windows XP, select network authentication(shared mode) in the wireless network settings.
- Select Start > Control Panel > Network and Internet Connections > Network Connections, right-click the Wireless Network Connection icon and then select View Available Wireless Networks.

Select Change Advanced Settings from the left menu, select an AP from Preferred networks window in the Wireless Networks tab, and click the Properties button. Select Shared Mode in the Network Authentication field of the Association tab, and then click the OK button.

If the Preferred networks window in the Wireless Network tab is empty, click View Wireless Networks, select an AP to connect to, and select Shared Mode in the Network Authentication field of the Connection Information tab as described above.

For more detailed network authentication procedures, ask your AP (Access Point) administrator.

**Q10 After Wireless LAN Setup Program is installed, The "AEGIS Protocol (IEEE 802.1x) v2.2.1.0" appears in the [Local Area Connection Properties] window.**

- A** The AEGIS Protocol is a security authentication protocol that is automatically installed when Wireless LAN Setup Program is installed and does not affect the operation of other programs.

**Q11 I want to use the Wireless LAN power saving function to extend the system battery use time.**

- A** You can configure this in the Samsung Battery Manager program. Run the Samsung Battery Manager and select **Options > Wireless LAN Power Saving > On** from the menu.

However, this setting may affect the performance of the Wireless LAN.

In addition, the wireless LAN connection might be disconnected while configuring this.

## Games and Programs Related

**Q1 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.

**Q2 While playing a game, pressing the Menu button or pressing the LCD/CRT item 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 Menu button and clicking the LCD/CRT item may terminate the running program or may display an abnormal screen.

Press the Menu button and press the LCD/CRT item before launching a program and do not press these buttons while running the program.

**Q3 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'.)

**Q4 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, such as NHL 2003, MVP Baseball 2003, etc.

**Q5 The game screen is displayed small.**

- A**
- ❶ Right-click on the Desktop and select **Properties** from the pop-up menu.
  - ❷ In the [Display Properties] window, select the **Settings** tab > **Advanced** > **Intel Graphics Media Accelerator Driver for Mobile** tab.
  - ❸ Select the **Display Device** menu and click on 'Notebook' in the 'Single Display' field.
  - ❹ Select the **Display Setting** menu, click 'Full Screen' in the **Extended Display** field and click the **Apply** button.

**Q6 The picture is not displayed properly for some games.**

- A** Some games such as 'Harry Potter and the Sorcerer's Stone', 'Harry Potter and the Chamber of Secrets', etc. may not display the picture properly when the screen resolution is set to 1024x768 and the color quality is set to 32 bit.
- For these games, set the screen resolution to 1024x768, and the color quality to 16 bit.

**Q7 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. (For Delta Force: Black Hawk Down, Medal of Honor, Battle Field, 1942, etc.)

**Q8 If I run a program, an error message appears or the program does not launch.**

- A** This may happen when the program does not support the 800x480 pixels resolution. This is caused by a program that is designed for a minimum resolution of 800x600 pixels and fails to support a resolution lower than its minimum resolution.
- In this case, change the screen resolution to 800x600 pixels or press the Auto Scaler button to change the resolution.

# Security Center

## Q1 To change the popup window display settings when connected to the Internet.

**In the Windows XP SP2 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:
- ❶ Click on Internet Options in Start > Control Panel > Security Center > Manage security settings for.
  - ❷ 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:
- ❶ Click on Internet Options in Start > Control Panel > Security Center > Manage security settings for.
  - ❷ In the Privacy tab of Internet Properties, click on Settings from Block pop-ups.
  - ❸ Enter a URL to want to allow pop-ups into Address of Web site to allow and click on Add.
  - ❹ 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 on Remove.

## Q2 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 SP2 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.

## Q3 When you see a Windows Security Alert icon () appear on the right part of the task bar.

**With the Security Center feature added, Windows XP SP2 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 task bar 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.

- ❶ Click on Windows Firewall in Start > Control Panel > Security Center > Manage security settings for.
- ❷ From the General tab of Windows Firewall, select ON (recommended).
- ❸ 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 on 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.

- ❶ Click on Automatic Updates in Start > Control Panel > Security Center > Manage security settings for.
- ❷ 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 on 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.

## Other

### Q1 I cannot run any functions.

- A1** This may happen when the computer is in the HOLD status. In the HOLD status, the Charging LED blinks for a moment. Slide the HOLD switch downwards and try again.
- A2** If the computer is running on battery power, check the battery charge status.

### Q2 The [Power Switch] and the [AVStation now] switch do not work.

- A1** This may happen when the computer is in the HOLD status. In the HOLD status, the Charging LED blinks for a moment. Slide the HOLD switch downwards and try again.
- A2** To use the switch, you have to slide and hold the switch for more than 0.1 seconds. Slide and hold the switch for more than 0.1 seconds before releasing it.
- A3** If the computer is running on battery power, check the battery charge status.

# Specifications

## System Specification

The system specifications will be described below. The system specifications may differ depending on the derived models.

	Specification	Remarks
<b>CPU</b>	Intel Celeron M ULV	Optional
<b>Cache memory</b>	Celeron (512KB)	Optional
<b>Main memory</b>	256MB ~ Max 1GB, Memory type : DDR2 SODIMM	Optional
<b>Main Chipset</b>	Intel 915GMS / 400 MHz FSB Support, Intel ICH6-M	Optional
<b>Hard disk drive (HDD)</b>	1.8" HDD20 ~ 60GB	Optional
<b>Graphics</b>	Intel 915GMA 900 Graphics	Optional
<b>Sound</b>	AD1986 (2CH)	
	Wired LAN: Marvell Yukon 88E8036 PCI-E Fast Ethernet Controller	Optional
	Broadcom BCM4401E 10/100	
	Wireless LAN: 802.11BG	Optional
	Bluetooth 2.0+EDR	Optional
<b>CF Card Slot</b>	Type I× and II Compatible	
	USB 2.0 x 2, Video (Monitor) Out Port, Headphone Jack, Wired LAN Port, DC-in Jack, External ODD Power Port	Optional
	227.5 x 138 x 24~25.7	W x D x H
<b>LCD</b>	7" WVGA (800x480)	
	779g (without Bluetooth)	Optional
<b>Battery</b>	Lithium-Ion smart battery: 3 Cells	
	Temperature (storage) : -5 ~ 40°C (operation) : 10 ~ 32° C	
	Humidity (storage) : 5% ~ 90% (operation) : 20% ~ 80%	
	100 - 240 VAC	
	50 - 60 Hz	
	60W	
	19.0VDC	

The system specifications are subject to change without notice. For detailed system specifications, refer to the product catalog.

The capacity of the hard disk drive with Samsung Recovery Solution will be displayed as less than the specified capacity.



# Wireless LAN Specification (Optional)

## Atheros AR5006EX Wireless Network Adapter Device

### Product Specification

Item		Detailed Specifications
Physical Specifications	Dimensions	(Width X Height) 59.75 X 44.70 mm
	operation temperature and humidity	Same as system operation
Power Specification	Power Saving Mode	726mW
	Receiving Mode	1.353W
	Transmission Mode	2.046W
	Power	3.3V
Network Specifications	Compatibility	IEEE 802.11g, IEEE 802.11b
	Operating System	Microsoft Windows XP - NDIS5 Miniport Driver
	Media Access Protocol	CSMA/CA (Collision Avoidance) with Acknowledgement(ACK)
	Security	Wired Equivalent Privacy support (WEP) 64bit / 128bit *WPA, *CCX

\* This piece of equipment supports the Wi-Fi wireless LAN security standard, WPA (Wi-Fi Protected Access) and CCX (Cisco Compatible eXtensions). To connect to a wireless network consisting of the WPA and CCX, certificates or Atheros Client Utility may be required depending on the network settings. For more information, ask your network administrator.

### Radio Specifications

RF Band	2.4 GHz
Support Channels	Channels allowed per country.
Device	Transceiver
Modulation Scheme	11b Mode: DSSS, CCK 11g Mode: OFDM
Standard Output Power	MAX 10 mW
*Transmission Rate	**11g mode: 54, 48, 36, 24, 18, 12, 9, 6
Antenna Type	1ea internal antennas (main)

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

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

# Abbreviations

A . . . . .	Amperes
AC . . . . .	Alternating current
ACPI . . . . .	Advanced Configuration and Power management Interface
APM . . . . .	Advanced Power Management
ATA . . . . .	AT attachment (refers to the hard-drive interface in an AT-compatible computer)
ATAPI . . . . .	AT attachment packet interface
BBS . . . . .	Bulletin board system
BIOS . . . . .	Basic input/output system
C . . . . .	Centigrade
CD . . . . .	Compact disc
CD-ROM . . . .	Compact disc read-only memory
cm . . . . .	Centimeters
COM . . . . .	Communication (as in communication port)
CMOS . . . . .	Complementary metal-oxide semiconductor
DC . . . . .	Direct current
DMA . . . . .	Direct memory access
DPMS . . . . .	Display power-management signaling
DRAM . . . . .	Dynamic random access memory
DSTN . . . . .	Double layer super twist nematic
ECP . . . . .	Extended capabilities port
EPP . . . . .	Enhanced parallel port
g . . . . .	gram
G . . . . .	Gravity
GB . . . . .	Gigabytes
hr. . . . .	hour
Hz . . . . .	Hertz
IDE . . . . .	Integrated drive electronics
I/O . . . . .	Input/output
IRQ . . . . .	Interrupt request line
ISA . . . . .	Industry Standard Architecture
KB . . . . .	Kilobytes
kg . . . . .	Kilograms
LAN . . . . .	Local-area network
lb. . . . .	Pounds
LBA . . . . .	Logical block addressing
LCD . . . . .	Liquid-crystal display
m . . . . .	Meters
mA . . . . .	Milliampere
mAhr . . . . .	Milliampere hour

MB . . . . .	Megabyte
mm . . . . .	millimeter
MPEG . . . . .	Motion Picture Experts Group
MPU . . . . .	Microprocessor unit
ms . . . . .	Millisecond
PDF . . . . .	Portable document format
PC . . . . .	Personal computer
PCI . . . . .	Peripheral component interconnect
PCMCIA . . . . .	Personal Computer Memory Card International Association
POST . . . . .	Power-on self-test
PNP . . . . .	Plug and play
PS/2 . . . . .	Personal System/2
RAM . . . . .	Random-access memory
ROM . . . . .	Read-only memory
SVGA . . . . .	Super video graphics array
TFT . . . . .	Thin-film transistor
USB . . . . .	Universal serial bus
V . . . . .	Volt
VAC . . . . .	Voltage alternating current
VCC . . . . .	Voltage collector current
VDC . . . . .	Voltage direct current
whr . . . . .	Watt hour

# Glossary

## **AC adapter**

The AC (or alternating current) adapter regulates current coming into your computer from the wall outlet. The current at the wall outlet is alternating current and needs to be changed by the adapter to DC (direct current) before your computer can use it for power.

## **ACPI**

ACPI (Advanced Configuration and Power Interface)- a method for describing hardware interfaces in terms abstract enough to allow flexible and innovative hardware implementations and concrete enough to allow shrink-wrap OS code to use such hardware interfaces.

## **BIOS**

BIOS stands for basic input/output system. The BIOS is software (often called firmware) that is independent of any operating system. It enables the computer to communicate with the screen, keyboard, and other peripheral devices without using programs on the hard disk. The BIOS on your computer is flash BIOS, which means that it has been recorded on a flash memory chip that can be updated if needed.

## **Boot**

To start your computer. A cold boot resets the entire computer and runs through all computer self-tests. A warm boot clears out computer memory only.

## **Boot disk**

A disk containing operating system programs required to start your computer. A boot disk can be a floppy disk, hard drive, or compact disc.

## **Byte**

The basic unit of measure for computer memory. A character—such as a letter of the alphabet—uses one byte of memory. Computer memory is often measured in kilobytes (1,024 bytes) or megabytes (1,048,576 bytes).

Each byte is made up of eight bits. For more information on bytes and bits, see an introductory book on computers.

## **Cache memory**

Cache is very fast, zero-wait-state memory located between the microprocessor and main memory. Cache reduces the average time required by the microprocessor to get the data it needs from the main memory by storing recently accessed data in the cache.

## **CardBus**

CardBus technology enables the computer to use 32-bit PC Cards. Hardware in the computer and the Windows operating system provide support for the 32-bit cards. The voltage of 32-bit cards (3.3 volts) is lower than that of 16-bit cards (5 volts). The 32-bit cards can transmit more data at a time than the 16-bit cards, thus increasing their speed.

## **CMOS memory**

CMOS (complementary metal oxide semiconductor) memory is powered by the CMOS battery. The System Setup settings and other parameters are maintained in CMOS memory. Even when you turn your computer off, the information in CMOS memory is saved.

**COM port**

COM stands for communication. COM ports are the serial ports in your computer.

**Compact Disc**

A compact disc (CD).

**Conventional memory**

The first 640 KB of system memory. Operating systems and application programs can directly access this memory without using memory-management software.

**Disk**

The device used by the computer to store and retrieve information. Disk can refer to a floppy disk, hard disk, or RAM disk.

**Disk cache**

A software device that accumulates copies of recently used disk sectors in RAM. The application program can then read these copies without accessing the disk. This, in turn, speeds up the performance of the application.

A cache is a buffer for transferring disk sectors in and out of RAM. Data stored in a disk cache is a copy of data already stored on the physical disk.

**DMA (direct memory access)**

A method of transferring data from a device to memory without having the data pass through the microprocessor. Using DMA can speed up system performance.

**DPMS**

Display Power Management Signalling. Displays or monitors that comply with this can be managed by the Power Management features found in the system setup.

**Floppy disk**

A removable disk, also called floppy or diskette.

**Hard drive**

Also called fixed disk. A hard drive is connected to the computer and can be installed or removed. Data written to a hard drive remains until it is overwritten or corrupted.

The 2.5-inch hard drive in your computer was designed for use in a notebook computer. Because hard drives in notebook computers are smaller than those in desktop computers, their maximum storage capacity may be less than that of desktop hard drives. However, because of their smaller size, the drives handle shock and vibration better than larger drives, which is important for a notebook computer.

**I/O**

Input/output. Refers to peripheral devices, such as printers, that are addressed through an I/O address.

**I/O address**

I/O stands for input/output. Peripheral devices, such as printers, are addressed through the I/O port address.

**IRQ (interrupt request line)**

The IRQ is a hardware line that a device uses to signal the microprocessor when the device needs the microprocessor's services. The number of IRQs is limited by industry standards.

**LCD (liquid-crystal display)**

The LCD screen on your computer differs from the display screen of a desktop monitor. Most desktop monitors use CRT (cathode-ray tube) displays, which work by moving an electron

beam across phosphor dots on the back of the screen. The phosphor dots light up to show the image. LCDs use a liquid-crystal solution between two sheets of polarizing material. Electric current passing through the liquid aligns the crystals so that light can or cannot pass through them, creating an image.

**MB (megabyte)**

1,024 kilobytes.

**Megabit**

1,048,576 bits or about 128 kilobytes.

**Operating system**

A program that supervises the computer's operation, including handling I/O. Application programs and users can request operating-system services. A user might request operation-system services to copy files or format a disk. An application program might use the operating system to obtain keyboard input, write data to a file, or write data to a screen.

**PC Card**

PC Card stands for personal computer card. The Personal Computer Memory Card International Association (PCMCIA) defines the standards used to develop all PC Cards. PC Card types include: modems, Ethernet adapters, SCSI adapters, ATA cards, and memory cards.

**PC slot**

The PC slot is the hardware slot in the computer where the PC Card is placed.

**Pixel**

A pixel is an individual dot in a graphic displayed on your computer. The pixels are so close together that they look as though they are connected. An LCD screen displays thousands or millions of pixels.

**Plug and Play**

A plug and play operating system automatically configures computer components to work with your system. With this type of operating system, you normally do not need to set jumpers on devices or set memory addresses or IRQs.

**RAM (random access memory)**

The computer's system memory, including conventional and extended memory. You can write to and read from RAM. Information stored in RAM is temporary, and is erased when the system is turned off.

**Refresh rate**

The refresh rate is the rate at which the image on the LCD screen is rewritten to the screen. A fast refresh rate helps keep the image from flickering.

**Resolution**

The resolution is the sharpness or clarity of the image on your LCD screen. Resolution is measured by the number of pixels the computer's screen can display. For example, a resolution of 800 x 600 means that the screen can display 800 pixels in row and can display 600 rows. The more pixels displayed, the higher the resolution and the better the image.

**ROM (read-only memory)**

Permanent computer memory dedicated to a particular function. For example, the instructions for starting the computer when you first turn on power are contained in ROM. You cannot write to ROM. (ROM is not the same as RAM).

**Sector**

Also known as disk sector. The portion of a track that is numbered and can hold a specified number of characters (usually 512 KB).

**Shadow RAM**

A write-protected area of RAM that contains a copy of the BIOS. As the computer boots, the BIOS is copied from its permanent location in ROM to RAM. The BIOS can be executed much faster in RAM than in ROM. The BIOS remains in shadow RAM until you turn off the computer.

**TFT (thin film transistor) LCD**

A TFT LCD uses a separate transistor circuit to control each pixel. This technology provides the best resolution for an LCD screen. A TFT LCD is also sometimes called an active matrix LCD.

# Index

<b>A</b>		<b>P</b>	
AP / AP Connection	53	Password	109
Auto Scaler Button	29	Playlist	78
AVStation NOW	87	Program	70
AVStation premium	77	Program Launcher	75
<b>B</b>		<b>Q</b>	
Battery	112	Quick Launch Button	30
Battery Calibration	116	<b>R</b>	
Battery Remaining Charge	113	Resolution / Color	46
BIOS (BIOS, Setup) Setting	106	<b>S</b>	
Bluetooth / Help	65	Samsung Battery Manager	114
Booting Priority	111	Samsung Network Manager	56
<b>C</b>		Samsung Update Plus	73
Charge	112	Shared Server	59
Click	22	Shared Client	60
Control Panel	43	Slideshow	82
Creating a Document	47	Small Office Network	53
CyberLink PowerDVD	71, 95	Specifications	141
<b>D</b>		SRS	30
Desktop / Change	40	Status Indicators	16
Dual View	35	Stylus Pen	22
DVD Play	94, 95	<b>T</b>	
<b>I</b>		Tablet PC Input Panel	24
Internet Sharing	58	Writing Pad	24
<b>M</b>		Character Pad	25
Magic Doctor	118	On-Screen Keyboard	26
Maximum Battery Saving Mode	114	Touchkit	23
Menu Button	29	<b>U</b>	
Monitor Connection / Output	34	User Account / Switch User	44
Multimedia	70	<b>V</b>	
Music Play	78, 90	Video Play	84, 93
<b>N</b>		Volume Control	28
Network	49	<b>W</b>	
Network Status Diagnosis	62	Windows XP	38
Norton AntiVirus	120	Wired Network	50
<b>O</b>		Wireless Network	53
Overviews	16	Wireless LAN Service	53



# Regulatory Compliance Statements

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## Wireless Guidance

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Low power, Radio LAN type devices (radio frequency (RF) wireless communication devices), operating in the 2.4 GHz Band, may be present (embedded) in your notebook system. The following section is a general overview of considerations while operating a wireless device.

Additional limitations, cautions, and concerns for specific countries are listed in the specific country sections (or country group sections). The wireless devices in your system are only qualified for use in the countries identified by the Radio Approval Marks on the system rating label. If the country you will be using the wireless device in, is not listed, please contact your local Radio Approval agency for requirements. Wireless devices are closely regulated and use may not be allowed.

The power output of the wireless device or devices that may be embedded in your notebook is well below the RF exposure limits as known at this time. Because the wireless devices (which may be embedded into your notebook) emit less energy than is allowed in radio frequency safety standards and recommendations, manufacturer believes these devices are safe for use. Regardless of the power levels, care should be taken to minimize human contact during normal operation.

This transmitter must not be collocated or operate in conjunction with any other antenna or transmitter except the installed Bluetooth transmitter.

Some circumstances require restrictions on wireless devices. Examples of common restrictions are listed below:



Radio frequency wireless communication can interfere with equipment on commercial aircraft. Current aviation regulations require wireless devices to be turned off while traveling in an airplane. 802.11B/G (also known as wireless Ethernet or Wifi) and Bluetooth communication devices are examples of devices that provide wireless communication.



In environments where the risk of interference to other devices or services is harmful or perceived as harmful, the option to use a wireless device may be restricted or eliminated. Airports, Hospitals, and Oxygen or flammable gas laden atmospheres are limited examples where use of wireless devices may be restricted or eliminated. When in environments where you are uncertain of the sanction to use wireless devices, ask the applicable authority for authorization prior to use or turning on the wireless device.



Every country has different restrictions on the use of wireless devices. Since your system is equipped with a wireless device, when traveling between countries with your system, check with the local Radio Approval authorities prior to any move or trip for any restrictions on the use of a wireless device in the destination country.



If your system came equipped with an internal embedded wireless device, do not operate the wireless device unless all covers and shields are in place and the system is fully assembled.



Wireless devices are not user serviceable. Do not modify them in any way. Modification to a wireless device will void the authorization to use it. Please contact manufacturer for service.



Only use drivers approved for the country in which the device will be used. See the manufacturer System Restoration Kit, or contact manufacturer Technical Support for additional information.

## **USA and Canada Safety Requirements and Notices**

Do not touch or move antenna while the unit is transmitting or receiving.

Do not hold any component containing the radio such that the antenna is very close or touching any exposed parts of the body, especially the face or eyes, while transmitting.

Do not operate the radio or attempt to transmit data unless the antenna is connected; if not, the radio may be damaged.

### **Use in specific environments:**

The use of wireless devices in hazardous locations is limited by the constraints posed by the safety directors of such environments.

The use of wireless devices on airplanes is governed by the Federal Aviation Administration (FAA).

The use of wireless devices in hospitals is restricted to the limits set forth by each hospital.



### **Explosive Device Proximity Warning**

Do not operate a portable transmitter (such as a wireless network device) near unshielded

blasting caps or in an explosive environment unless the device has been modified to be qualified for such use.



### **Use On Aircraft Caution**

Regulations of the FCC and FAA prohibit airborne operation of radio-frequency wireless devices because their signals could interfere with critical aircraft instruments.

### **Other Wireless Devices**

**Safety Notices for Other Devices in the Wireless Network:** Refer to the documentation supplied with wireless Ethernet adapters or other devices in the wireless network.



The Part 15 radio device operates on a non-interference basis with other devices operating at this frequency. Any changes or modification to said product not expressly approved by Samsung could void the user's authority to operate this device.

## **Unintentional Emitter per FCC Part 15**

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.



This equipment has been tested and found to comply with the limits for a Class B digital device pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generate uses and can radiate radio frequency energy and if not installed and used in accordance with the instructions may cause harmful interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

If necessary, the user should consult the dealer or an experienced radio/television technician for additional suggestions. The user may find the following booklet helpful: “Something About Interference.” This is available at FCC local regional offices. Our company is not responsible for any radio or television interference caused by unauthorized modifications of this equipment or the substitution or attachment of connecting cables and equipment other than those specified by our company. The correction will be the responsibility of the user. Use only shielded data cables with this system.

## **Intentional emitter per FCC Part 15**

Low power, Radio LAN type devices (radio frequency (RF) wireless communication devices), operating in the 2.4 GHz Band, may be present (embedded) in your notebook system. This section is only applicable if these devices are present. Refer to the system label to verify the presence of wireless devices.

Wireless devices that may be in your system are only qualified for use in the United States of America if an FCC ID number is on the system label.

This transmitter must not be collocated or operate in conjunction with any other antenna or transmitter except the installed Bluetooth transmitter.

Operation of this device is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation of the device.



Wireless devices are not user serviceable. Do not modify them in any way. Modification to a wireless device will void the authorization to use it. Contact manufacturer for service.

## Unintentional Emitter per ICES-003

This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus as set out in the radio interference regulations of Industry Canada.

Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de Classe B prescrites dans le règlement sur le brouillage radioélectrique édicté par Industrie Canada.

## Intentional Emitter per RSS 210

Low power, Radio LAN type devices (radio frequency (RF) wireless communication devices), operating in the 2.4 GHz Band, may be present (embedded) in your notebook system. This section is only applicable if these devices are present. Refer to the system label to verify the presence of wireless devices.

Wireless devices that may be in your system are only qualified for use in Canada if an Industry Canada ID number is on the system label.

The power output of the wireless device (or devices), which may be embedded in your notebook, is well below the RF exposure limits as set by Industry Canada.

This transmitter must not be collocated or operate in conjunction with any other antenna or transmitter except the installed Bluetooth transmitter.

Operation of this device is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation of the device.




To prevent radio interference to licensed service, this device is intended to be operated indoors and away from windows to provide maximum shielding. Equipment (or its transmit antenna) that is installed outdoors is subject to licensing.



Wireless devices are not user serviceable. Do not modify them in any way. Modification to a wireless device will void the authorization to use it. Contact manufacturer for service.

## European Union CE Marking and Compliance Notices

Products intended for sale within the European Union are marked with the Conformité Européenne (CE) Marking, which indicates compliance with the applicable Directives and European standards and amendments identified below. This equipment also carries the Class 2 identifier.

The following information is only applicable to systems labeled with the CE mark .


## European Directives

This Information Technology Equipment has been tested and found to comply with the following European directives:

- EMC Directive 89/336/EEC with amending directives 92/31/EEC & 93/68/EEC as per
  - EN 55022 Class B
  - EN 61000-3-2
  - EN 61000-3-3
  - EN 55024
- Low Voltage Directive (Safety) 73/23/EEC as per EN 60950(A1/A2/A3/A4/A11)
- Radio and Telecom Terminal Equipment Directive 199/5/EC as per
  - CTR21 (if fitted with a modem device)
  - ETS 300 328 (if fitted with a 2.4 GHz band embedded wireless device)
  - ETS 301 489-1 (if fitted with a 2.4 GHz band embedded wireless device)
  - ETS 301 489-17 (if fitted with a 2.4 GHz band embedded wireless device)

## European Radio Approval Information (for products fitted with EU-approved radio devices)

This Product is a Notebook computer; low power, Radio LAN type devices (radio frequency (RF) wireless communication devices), operating in the 2.4 GHz band, may be present (embedded) in your notebook system which is intended for home or office use. This section is only applicable if these devices are present. Refer to the system label to verify the presence of wireless devices.

Wireless devices that may be in your system are only qualified for use in the European Union or associated areas if a CE mark  with the Alert Symbol is on the system label.

The power output of the wireless device or devices that may be embedded in you notebook is well below the RF exposure limits as set by the European Commission through the R&TTE directive.



See 802.11b and 802.11g restrictions for specific countries or regions within countries under the heading “European Economic Area Restrictions” below.

### **Translated Statements of Compliance**

#### **[English]**

This product follows the provisions of the European Directive 1999/5/EC.

#### **[Danish]**

Dette produkt er i overensstemmelse med det europæiske direktiv 1999/5/EC

#### **[Dutch]**

Dit product is in navolging van de bepalingen van Europees Directief 1999/5/EC.

#### **[Finnish]**

Tämä tuote noudattaa EU-direktiivin 1999/5/EC määräyksiä.

#### **[French]**

Ce produit est conforme aux exigences de la Directive Européenne 1999/5/EC.

#### **[German]**

Dieses Produkt entspricht den Bestimmungen der Europäischen Richtlinie 1999/5/EC

#### **[Greek]**

Το προϊόν αυτό πληροί τις προβλέψεις της Ευρωπαϊκής Οδηγίας 1999/5/EC.

#### **[Icelandic]**

Þessi vara stenst reglugerð Evrópska Efnahags Bandalagsins númer 1999/5/EC

#### **[Italian]**

Questo prodotto è conforme alla Direttiva Europea 1999/5/EC.

#### **[Norwegian]**

Dette produktet er i henhold til bestemmelsene i det europeiske direktivet 1999/5/EC.

#### **[Portuguese]**

Este produto cumpre com as normas da Diretiva Europeia 1999/5/EC.



**[Spanish]**

Este producto cumple con las normas del Directivo Europeo 1999/5/EC.

**[Swedish]**

Denna produkt har tillverkats i enlighet med EG-direktiv 1999/5/EC.

**European Economic Area Restrictions**

**Local Restriction of 802.11b/802.11g Radio Usage**

[Note to integrator: The following statements on local restrictions must be published in all end-user documentation provided with the system or product incorporating the Wireless product.]



Due to the fact that the frequencies used by 802.11b/802.11g wireless LAN devices may not yet be harmonized in all countries, 802.11b/802.11g products are designed for use only in specific countries or regions, and are not allowed to be operated in countries or regions other than those of designated use.

As a user of these products, you are responsible for ensuring that the products are used only in the countries or regions for which they were intended and for verifying that they are configured with the correct selection of frequency and channel for the country or region of use. Any deviation from permissible settings and restrictions in the country or region of use could be an infringement of local law and may be punished as such.

The European variant is intended for use throughout the European Economic Area. However, authorization for use is further restricted in particular countries or regions within countries, as follows:

**General**

European standards dictate maximum radiated transmit power of 100 mW effective isotropic radiated power (EIRP) and the frequency range 2400 – 2483.5 MHz.

**Belgium**

The product may be used outdoors, but for outdoor transmissions over a distance of 300m or more, a license from the BIPT is required.

This restriction should be indicated in the manual as follows:

Dans le cas d'une utilisation privée, à l'extérieur d'un bâtiment, au-dessus d'un espace public, aucun enregistrement n'est nécessaire pour une distance de moins de 300m. Pour une distance supérieure à 300m un enregistrement auprès de l'IBPT est requise. Pour une utilisation publique à l'extérieur de bâtiments, une licence de l'IBPT est requise. Pour les enregistrements et licences, veuillez contacter l'IBPT.

## **France**

For Metropolitan departments:

2.400 - 2.4835 GHz for indoor use.

2.400 -2.454 GHz (channels 1 to 7) for outdoor use.

For Guadeloupe, Martinique, St Pierre et Miquelon, Mayotte:

2.400 - 2.4835 GHz for indoor and outdoor use.

For Reunion, Guyane:

2.400 - 2.4835 GHz for indoor use.

2.420 - 2.4835 GHz for outdoor use (channels 5 to 13)