# LCD Brightness Control

> The screen brightness is automatically set to the brightest level when AC power is connected and the brightness is automatically set dimmer when the computer runs on battery power to extend the battery use time.

Controlling the Brightness Using the Keyboard

1 Click the **Charms menu > Settings** ⚙ **> Screen Adjustment icon** ☼ .

2 Adjust the brightness with the screen brightness control bar.
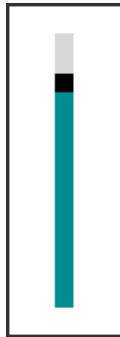
> - **Saving battery power consumption**
>   Decreases the LCD brightness when the computer is running on battery power to save battery power consumption.
> - **LCD bad pixels principle of computer**
>   Samsung observes the specifications regarding strict quality and reliability of LCD. But in spite of that, it is inevitable that there might be a small number of bad pixels. A large number of bad pixels can cause problems in appearance, but a small number of pixels doesn't affect the computer performance.
>   Therefore Samsung observes and manages the following dot principles:
>   - Bright dot : 2 or less
>   - Black dot : 4 or less
>   - Combination of Bright and Dark : 4 or less

> ⚠ **Instructions for Cleaning the LCD**
> Clean the LCD panel with a soft cloth lightly moistened with computer cleansing detergent moving in one direction.
> Cleaning the LCD panel with excessive force can damage the LCD.

A wired network is a network environment used for a company network or broadband internet connection at home.

> • You can use wired LAN by using the LAN adapter (Optional).
> • Since these descriptions are written on the basis of the latest operating system, Windows 8, some of the content and the figures of the descriptions may differ depending on the operating system. Since the procedures for other Windows operating systems are similar, use the computer referring to these descriptions.
> • The figures used for the description are of a representative model. Therefore the figures may differ from the real ones.
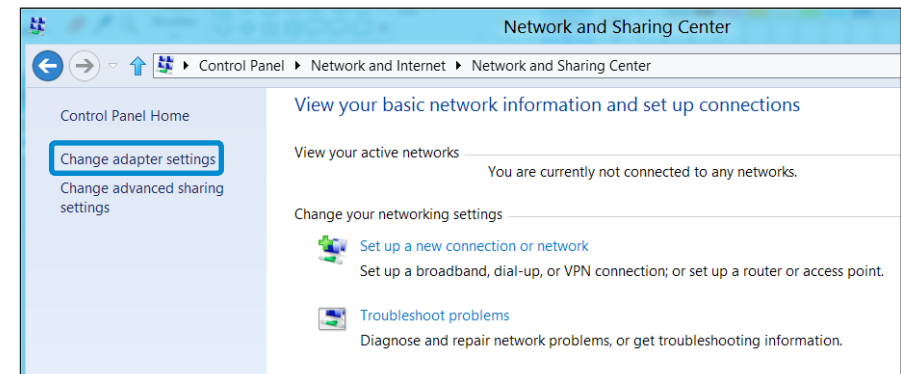
Connecting to the Wired LAN

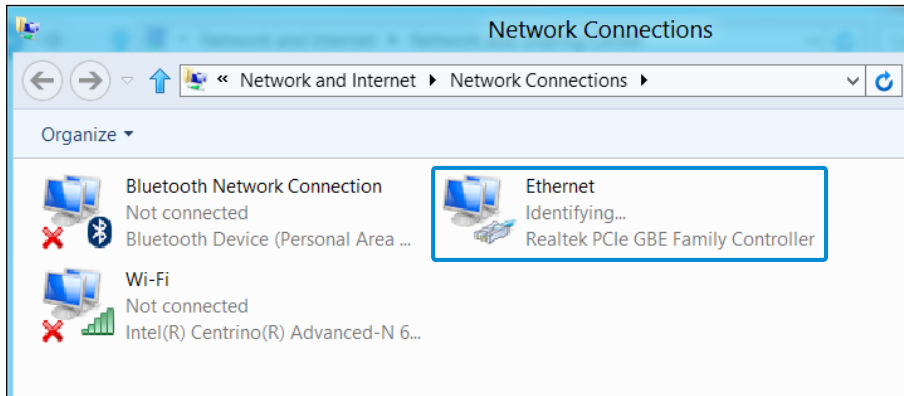**1** Connect the **LAN adapter** to the wired LAN port.

2 Connect the LAN cable to the connected LAN adapter.

LAN adapter
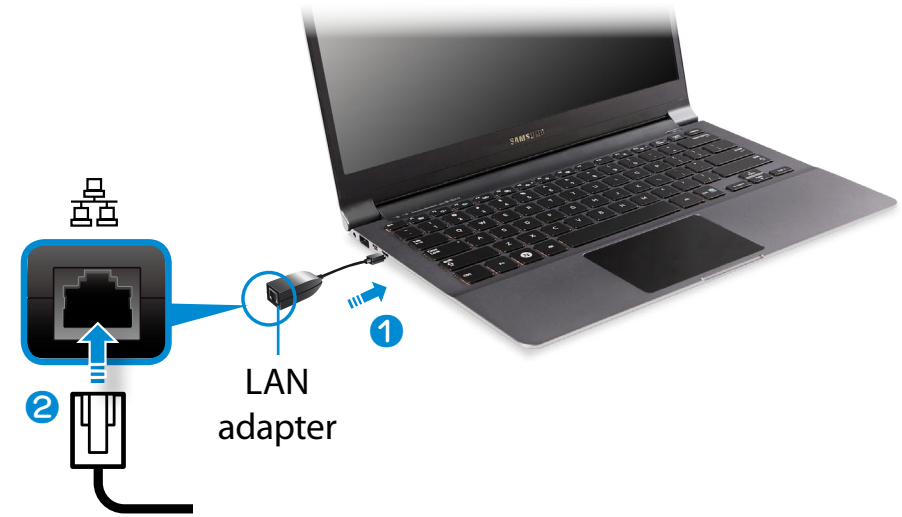
3 Click **Charms menu** on the Desktop **> Settings** ⚙ **> Control Panel > Network and Internet > Network and Sharing Center** and click on **Change adapter settings** in the left menu pane.

4 Select **Ethenet** and click the right button of the touch pad and select **Properties**.

> The LAN Device name may differ depending on your computer's Network Device.

5 Select **Internet Protocol Version 4(TCP/IPv4)** from the list of Network Components and click **Properties**.
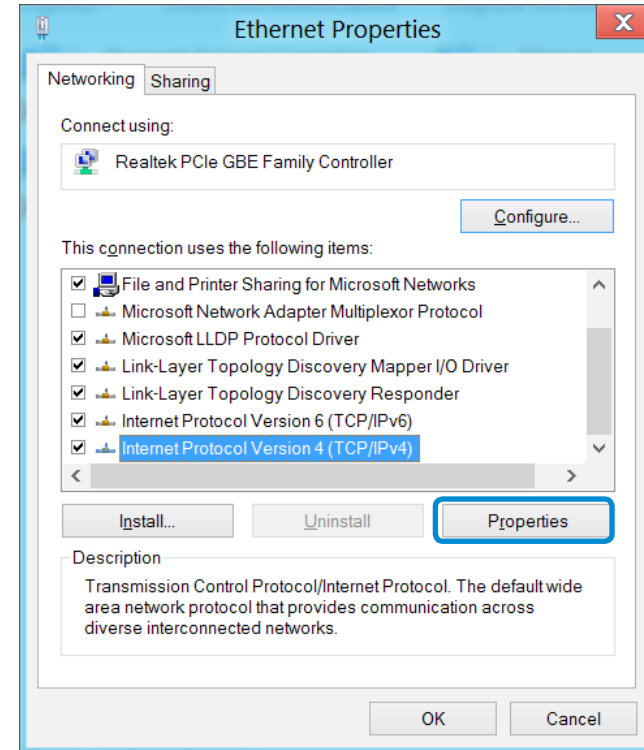
> • The Network Component name may differ depending on the Operating System Installed.
>
> • To add a network component, click Install in the screen shown in the figure above. You can add clients, services, and protocols.

6 Configure the IP settings.

When using DHCP, select **Obtain an IP address automatically**. To use a static IP address, select **Use the following IP address**, and set the IP address manually.

📝 When not using DHCP, ask your network administrator for the IP address.

7 When you have completed the settings, click the **OK** button.

The network settings have been completed.

Using the WOL (Wake On LAN) function

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

1 Click **Charms menu** on the Desktop > **Settings** ⚙ > **Control Panel** > **Network and Internet** > **Network and Sharing Center** and click on **Change adapter settings** in the left menu pane.
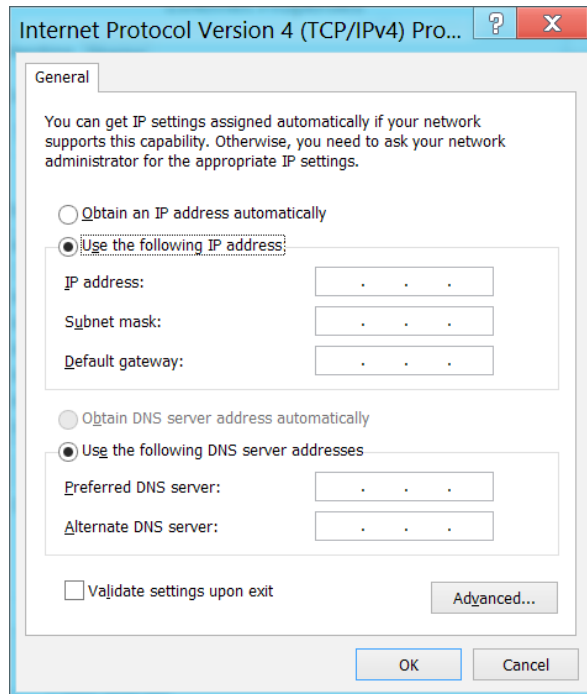
2 Right-click on the **Wired Ethernet Connection** and select **Properties**.

3 Click **Configure** > **Power Management** tab. **Select Allow this device to wake the computer**, then click **OK**. Restart the system.

- If the system wakes up from Sleep mode even though there is no received signal, use the system after disabling the <Wake On LAN> function.

- 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.

- <Wake On LAN> feature may not work while using Hybrid power saving feature. Hybrid sleep mode can be disabled from **Power Options** under **Control Panel**.

Wired Network

For Windows 8, Wake On LAN is not supported by Ping.

When connected to a 100Mbps/1Gbps wired LAN and the computer exits Sleep/hibernation mode, a message appears informing you of a connection to a 10Mbps/100Mbps wired LAN. This happens because when the computer exits standby/hibernate mode, restoring the network takes about 3 seconds. When the network is restored, it operates at 100Mbps/1Gbps.

When system is running on battery, some time it may take a few second extra after inserting LAN cable to be able to connect to internet. This symptom happen as a result of power saving feature to reduce battery consumption.

When system is running on battery, the Wired LAN speed is decreased automatically to reduce battery consumption. In such case, a 1Gbps /100Mbps LAN would function at 100Mbps/10Mbps speed.

Wireless Network (Optional)

A wireless network (Wireless LAN) environment is a network environment that enables communication between multiple computers at home or a small-size office through wireless LAN devices.
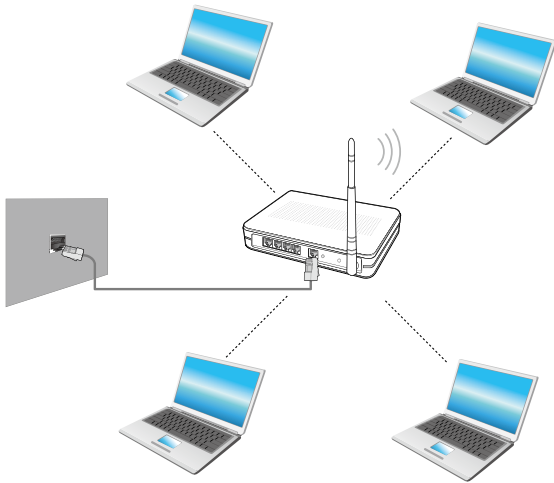
• The screen figures and terms may differ depending on the model.

• Depending on the program version, some functions may not be provided or different functions may be provided.

• The descriptions below are for computer models with a Wireless LAN card or device. A Wireless LAN device is optional.
  The pictures in this manual may differ from the actual product depending on your wireless LAN device model.

What is an Access Point (AP)?

An AP is a network device that bridges wired and wireless LANs, and corresponds to a wireless hub in a wired network. You can connect multiple wireless LAN installed computers to an AP.

Connecting to a Wireless LAN

If there is an AP, you can connect to the Internet via the AP using the Wireless LAN connection method provided by Windows.

1 If you click the **Charms menu** > **Settings** ⚙ > **Network Connections** 📶 icon, a list of available APs appears.

If you select an AP to connect to, the **Connect** button appears.

Networks

Airplane mode
Off

Wi-Fi

ABCDEFG

XXXXXXX

XXXXXXX

XXXXXXX

XXXXXXX

XXXXXXX

XXXXXXX

XXXXXXX ← AP List
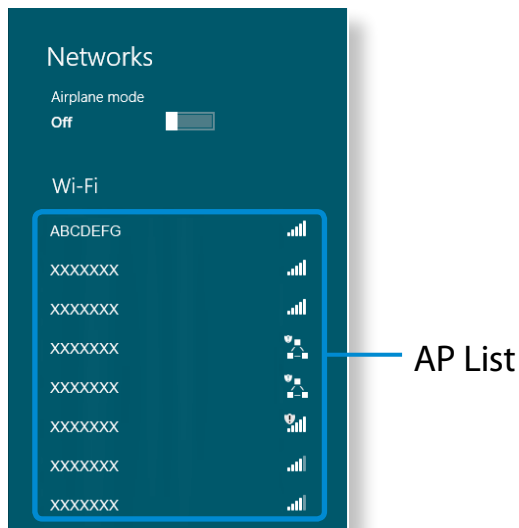
2 Click **Connect**.

If a network key is set for the AP, enter the network key and then click **OK**.

> 📝 For the network key, please ask your network administrator.

Networks

Airplane mode
Off

Wi-Fi

uready

ABCDEFG

☑ Connect automatically

[Connect]

XXXXXXX

XXXXXXX

XXXXXXX

XXXXXXX

XXXXXXX

XXXXXXX

XXXXXXX
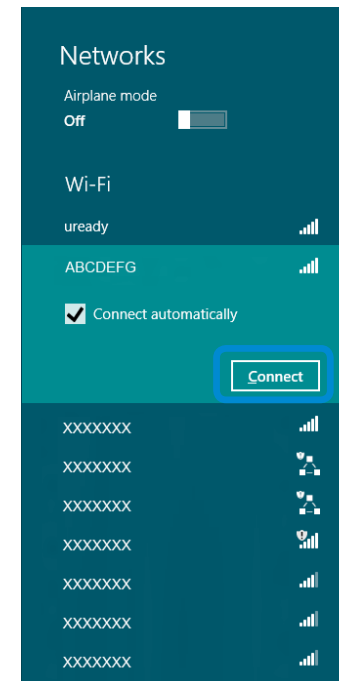
3 When the AP connection is completed, Connected is displayed next to the corresponding AP. You can now use the wireless network.

A wireless wide area network (WWAN) is a mobile broadband network that is available in mobile phone service areas.

> * The descriptions below are for computer models with mobile broadband devices. A mobile broadband device is optional.
> * Depending on the version of the operating system, some functions may not be provided or different functions may be provided.
> * The pictures in this manual may differ from the actual product depending on your WWAN device model.

1 Click **Charms > Settings** ⚙ **> Network** to display available mobile broadband networks as shown below.

Networks

Flight mode
Off

Mobile broadband

XX

WiFi

setup

COM-AV-DWL-8200AP-A69

COM-AV-ROAMING2
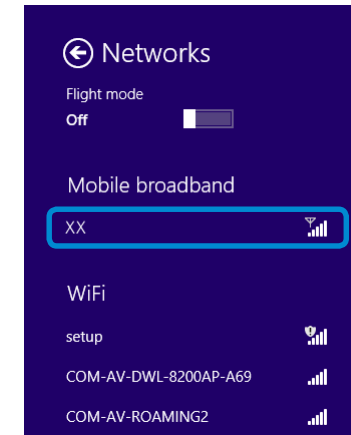
> If there are no available network service providers listed under Mobile broadband, turn off the computer, and insert the SIM card correctly, and then turn on the computer.

2 Select a carrier name to connect to and the **Connect** button is displayed.

3 If the Profile settings screen appears, follow the onscreen instructions to enter the required information.

4 The network connection is established and Internet access is available.

A TPM (Trusted Platform Module) security device is a security solution that protects your personal information by saving the user authentication data on the TPM chip installed on the computer.

To use the TPM security device, you have to initialize the TPM chip in the BIOS Setup, initialize the TPM program, and then register the user.

> - This function is only supported for models with TPM (security chip).
>
> - For more information, refer to the online help for the program.
>
> - The program version described in this manual is subject to change and the screenshots and terms used in this manual may differ from the actual product.

Setting Up the TPM

> To use the TPM function, you have to complete the following steps.

1 **Initializing the TPM chip**
Initializes the authentication information saved on the TPM chip.

2 **Installing the TPM program**
Installs the TPM program.

3 **Registering the TPM program**
Registers the TPM program.

If you complete the steps above, you can use the TPM function.
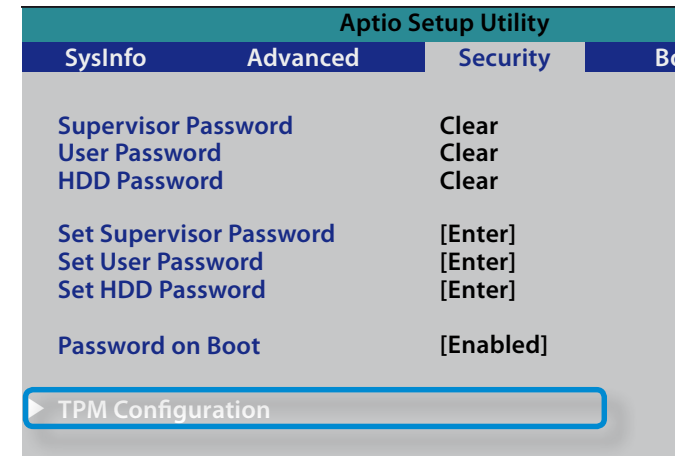
Initializing the TPM chip

When you use the TPM function for the first time or you want to register the user again, you have to initialize the TPM chip.

> ⚠ • Initializing the TPM chip erases all authentication information saved on the TPM chip. Any decision to initialize must be taken carefully.
>
> • To initialize the TPM chip again while the TPM function is in use, you have to decrypt any existing files and folders encrypted by the TPM function first. Otherwise, you will not be able to access the files and folders after re-initialization.
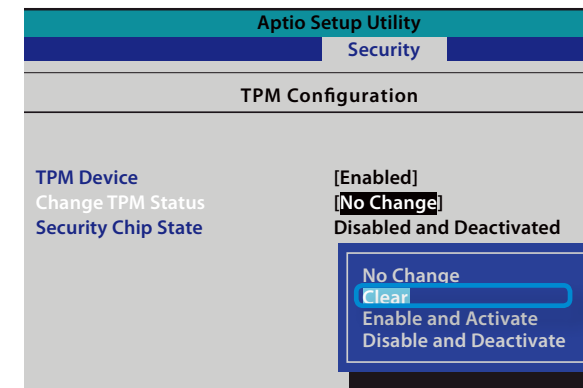
1 Restart the computer.

When the Samsung logo screen appears, press the **F2** key repeatedly.

2 If the BIOS screen appears, select the **Security > TPM Configuration** item and press **Enter**.

```
                          Aptio Setup Utility
   SysInfo          Advanced          Security              Bo

   Supervisor Password                  Clear
   User Password                        Clear
   HDD Password                         Clear

   Set Supervisor Password              [Enter]
   Set User Password                    [Enter]
   Set HDD Password                     [Enter]

   Password on Boot                     [Enabled]

 ▶ TPM Configuration
```

3 Set the **TPM Device** item to **Enabled** and set the **Change TPM Status** to **Clear**.

```
                     Aptio Setup Utility
                          Security

                     TPM Configuration


   TPM Device                  [Enabled]
   Change TPM Status           [No Change]
   Security Chip State         Disabled and Deactivated

                              No Change
                              Clear
                              Enable and Activate
                              Disable and Deactivate
```

4 Press the **F10** key to save the changes.

5 When the system reboots, press the corresponding key(s) by following the onscreen instructions.

6 When the computer restarts automatically and the Samsung logo screen appears, press the **F2** key repeatedly.

7 Select the **Security > TPM Configuration > Change TPM Status** item and set the item to **Enable and Activate**.

```
                    Aptio Setup Utility
                         Security

                    TPM Configuration


TPM Support                    [Enabled]
Change TPM Status              [No Change]
Security Chip State            Disabled and Deactivated

                               No Change
                               Clear
                               Enable and Activate
                               Disable and Deactivate
```
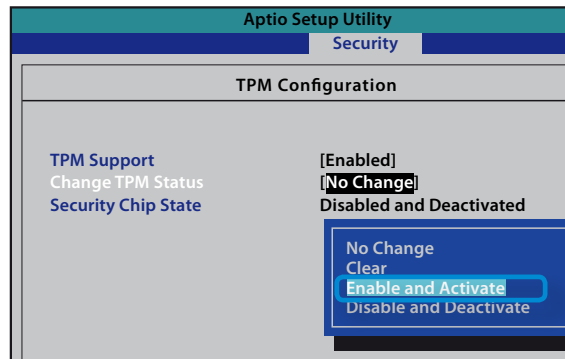
8 Press the **F10** key to save the changes.

9 When the system reboots, press the corresponding key(s) by following the onscreen instructions.

10 Press the **F10** key to save the changes. The computer automatically restarts. Initialization of the TPM chip has been completed. Now, install the TPM program and register the TPM program.

Installing the TPM program

You can install the TPM program as follows. Install the program according to the procedures below.

> This program is only provided for models with Recovery and the TPM function.

Method 1

1 Run **Recovery** and click on **System Software**.

  - If your computer does not boot up or if **System Software** does not display in the **Recovery** program, use **Method 2** to install the TPM program.

2 Click on **System Software** Installation.

3 The **SW Update** program will be launched.

  Select **TPM Host SW** and click **Install Now**.

> If the system software media is supplied with the product, you can install the program by using the system software media (only when supplied.)

4 After the installation, if you click **OK**, the computer restarts.

Method 2

1 Turn the computer on and immediately press the **F4** key several times.

2 After a moment, the **Recovery** program runs.

Click **System Software**.

3 When a pop-up window appears to ask you to reboot the system, click **Yes**.

The system starts to reboot. After a moment, the **SW Update** program automatically runs.

4 Connect to the network.

5 Select **TPM Host SW** and click **Install**.

6 After the program is completely installed, click **Close**.

**7** Close the **SW Update** window and reboot your computer again.

Registering the TPM program

1 From the **Start Screen**, right-click any area and select **All apps** ⊞ in the bottom right corner. Then, click **Infineon Security Platform Solution > Security Platform Management > User Settings**. (with administrator authority)

Alternatively, double-click the 🛈 icon on the Taskbar and run initialization with administrator authority.

2 The security authentication settings begin with the **Initialization Wizard**. When the Initialization Wizard appears, click **Next**.

> If the **status not initialized** message appears, click **Yes**.
>
> If you backup the emergency recovery file to an external storage device according to the instructions of the Initialization Wizard, you can use the TPM security device more safely.

3 Select a **Security Platform Feature** and set a **basic user password**.

4 Complete the registration according to the instructions.

5 The user registration for the TPM program has been completed. You can encrypt files and folders by using the encryption file system, and use files and folders to be encrypted by creating or copying them to the virtual drive.

The virtual drive is created in the following location.
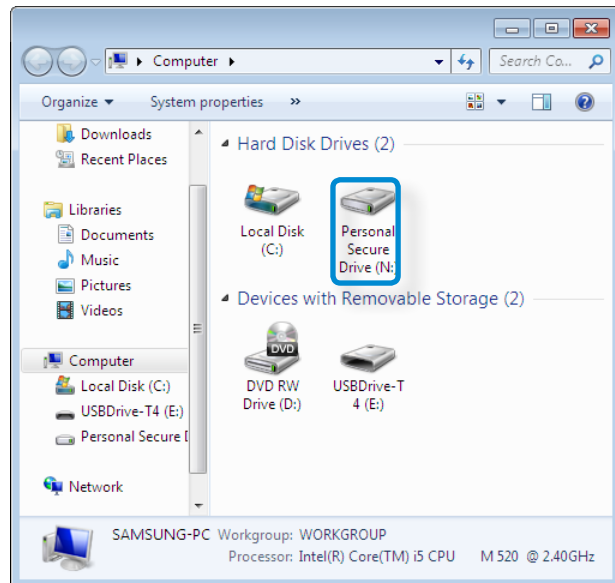
Using the TPM program

For more information about using the TPM program, refer to the online help for the program.

Encrypting a file (folder)

This function enables encrypting files and folders. You can safely protect documents through the Encrypt File System (EFS).

The Encrypt File System(EFS) function is supported by the following operating systems.

- Windows 7 Professional / Enterprise / Ultimate
- Windows 8 Pro / Enterprise

1 Right-click over the folder (or file) to be encrypted, and select **Encrypt** from the pop-up menu.
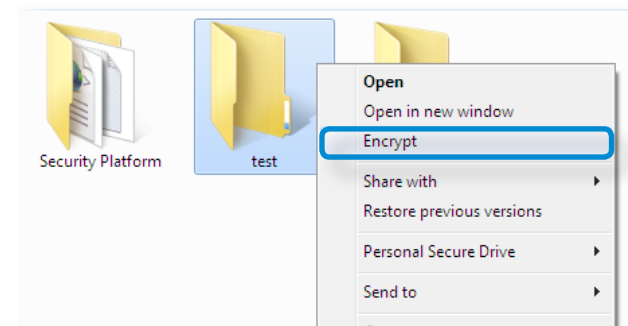
2 If the **Confirm Attribute Changes window** appears, select the range to apply the encryption to and click **OK**.
(This dialog box only appears when the folder is encrypted.)

> If the current operating system is Windows 8/7, the user account control window appears. In this case, click **Continue**.

3 In the **user authentication** window, enter the **Basic user password** you entered when registering the user and click **OK**.

4 You will be able to confirm that the color of the folder (file) name in the encrypted folder has been changed to green.
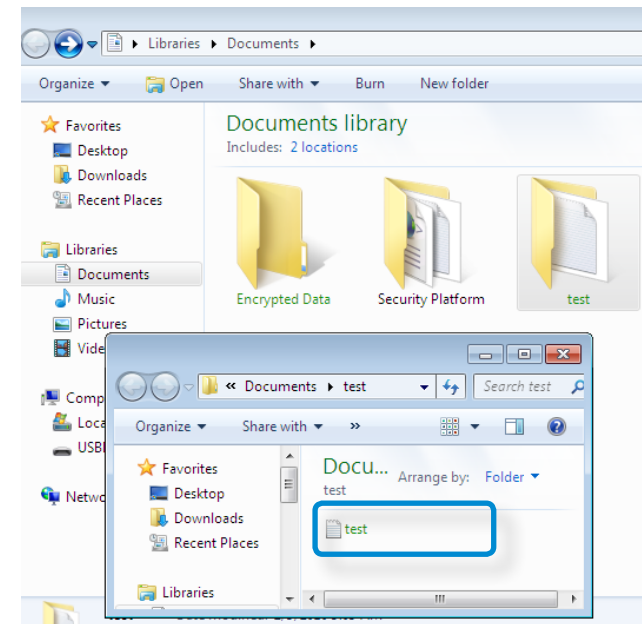
Opening an encrypted folder (file)

1 Double-click an encrypted folder (file).

2 If the user authentication window appears, enter the **basic user password** you entered when registering the user and click **OK**.

3 The folder (file) opens.

Decrypting an encrypted folder (file)

1 Right-click over an encrypted folder (file) and select **Decrypt** from the pop-up window.

2 If the user authentication window appears, enter the **basic user password** you entered when registering the user and click **OK**.

3 The folder (file) is decrypted.

Using the virtual drive (Personal Secure Drive: PSD)

The virtual drive (PSD) is a virtual space to save and manage confidential data. In the created virtual drive (PSD), you can create files and folders as with a normal drive (e.g. drive C:) and you can use confidential data saved on another drive by copying the data to the virtual drive (PSD).

When the virtual drive (PSD) does not appear

You can only use the virtual drive (PSD) when you have selected the Personal Secure Drive (PSD) option during the program registration.

 If you have not selected the option during the registration, complete the following steps.

1 From the **Start Screen**, right-click any area and select **All apps** ⊞ in the bottom right corner.

  Then, click **Infineon Security Platform Solution** > **Security Platform Management** > **User Settings** tab > **Configure Security Platform Features**.

2 When the **Initialization Wizard** appears, select **Personal Secure Drive (PSD)** and enter the user password.

3 Click **Next** several times according to the instructions of the **Initialization Wizard** to finish the wizard.

When the virtual drive (PSD) is not loaded

To use the virtual drive (PSD), the virtual drive (PSD) should be loaded first. If it is not loaded, you can load it according to the procedures below.

1 Right-click over the **Security Platform** [TPM] icon in the system tray of the Taskbar and select **Personal Secure Drive > Load** from the pop-up menu.

2 In the load window, enter the basic user password and click **OK**.

3 If you click **Start > Computer**, you will be able to confirm that the Personal Secure Drive is created.

> ⚠ Note that when you have copied confidential data to the PSD, the original data files are not encrypted.

When you have to register again (to erase the authentication information on the TPM chip)

To register a user again, you need to delete the existing authentication information saved on the TPM chip and then clear the TPM chip.

Register the user in the following order.

1 Delete the virtual drive.

2 Delete the existing authentication information saved on the TPM chip.

Using the TPM Security Device (Optional)

Deleting the virtual drive

If a virtual drive has been created, you have to delete the virtual drive before deleting the existing authentication information saved on the TPM chip.

1 Right-click over ![icon] > ![icon] and click **Personal Secure Drive > Create/Manage**.

2 Click **Next**.

3 Enter the password that you entered when registering the TPM program and click **Next**.

4 Select Delete selected PSD and click **Next**.

5 Select "**I want to permanently delete my Personal Secure Drive without saving an unencrypted copy of its contents.**" and click **Next**.

6 Click **Next** and then **Finish**.

7 Now the virtual drive has been deleted.

Deleting the existing authentication information saved on the TPM chip.

1 On the desktop, select the **Charms menu > Settings > Control Panel > Programs > Uninstall a program > Infineon TPM Professional Package**. Then click **Uninstall**.

2 If the message window appears, click **Yes** to remove the program.

3 If the **Infineon Security Platform** message appears, click **No**.

4 Click the **Windows Explorer** ![icon] icon in the taskbar on the Desktop.

5 In **View > Options > Folder Options > View > Hidden files and folders** item, select the Show hidden files, folders, and drives option and click **OK**.

6 Click the **Start > Computer > Drive C: > ProgramData** folder and delete the **Infineon** folder.

7 Now the TPM Program has been deleted.

To use the TPM function, please repeat the procedures of the **TPM chip initialization** process.

You can enjoy photo, video and music files with the S Camera, S Gallery and S Player apps.

S Camera	You can take photos and record videos with the S Camera app, and view them directly in this app.
S Gallery	Only photos or videos recorded with the S Camera app can be viewed with the S Camera app.
S Player	You can view the photo, video and music files saved on the computer.

Depending on the version of the program, some functions may not be provided or different functions may be provided.

Third-party software related services

- For descriptions about and service requests for third-party software, please contact the relevant manufacturer.
- Some troubleshooting actions in response to service requests may not work depending on the software manufacturer.
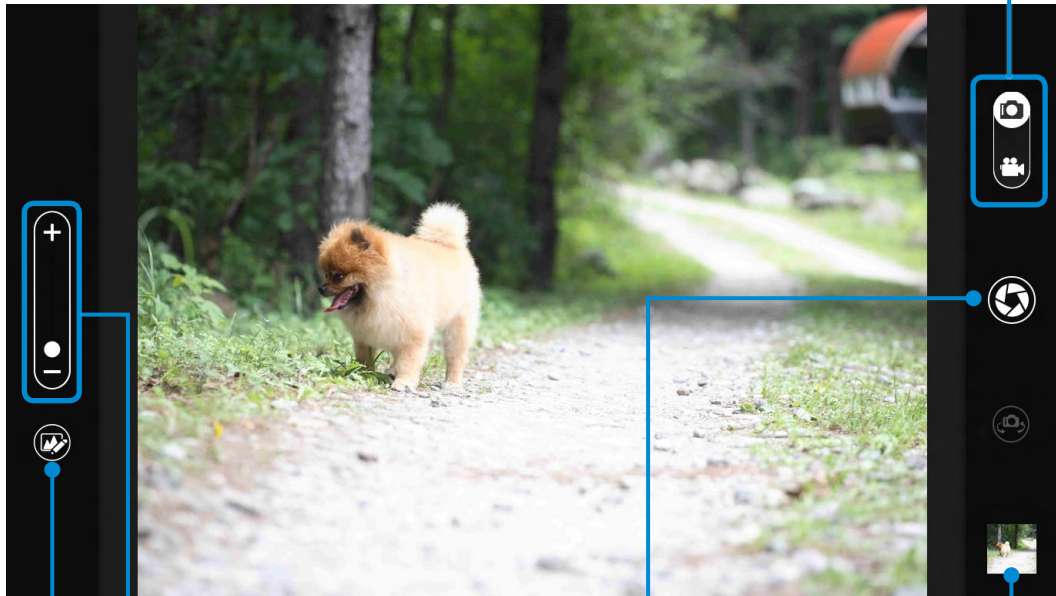
You can launch an app in the Start screen.

Using the Multimedia App (Optional)
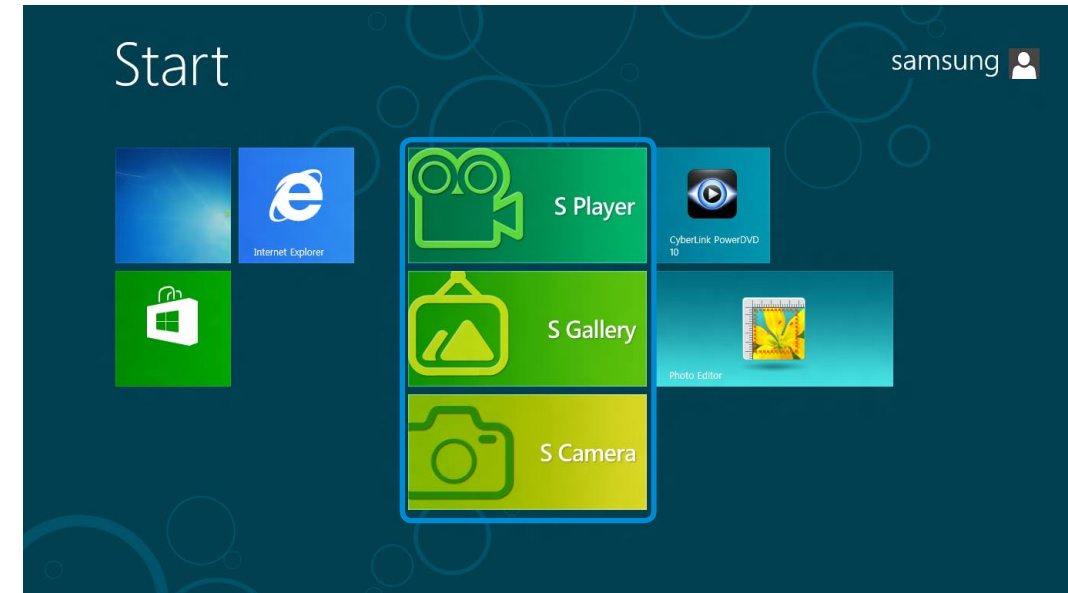
Using the S Camera app

1 Tap **Charm menu** > **Start** > **S Camera**.

Camera mode (Photo , Video)

Zoom in/out

Photo settings

Take a picture/
Record a video

Picture
preview

2 To take a picture, slide the camera mode bar into the Photo position.

To make a video recording, slide the camera mode bar to the Video position.

3 Tap on **Take a picture/Record a video** to take a picture or record a video.

4 You can view the picture or video using the **Picture preview** or **S Gallery** app.

> The S Camera app is not available in Desktop mode.

> **Precautions while taking a picture or video**
>
> • Do not take a picture or video of others without their consent.
>
> • Do not take a picture or video in locations where this is not allowed.
>
> • Do not take picture or videos in locations where you may infringe on others' privacy or confidential information may be exposed.

Using the S Gallery app

1 Tap **Charm menu** > **Start** ▦ > **S Gallery**.

2 You can view the pictures and videos taken by the S Camera.

In addition, you can apply special effects to the pictures using the photo editing function.

> 📝 You can take a picture in the S Gallery app by tapping the Camera icon.

Editing a photo

1 Select **Picture preview**.

Drag it upward slightly from the bottom center.

If the options menu appears, select **Edit** ▣ .

Using the Multimedia App (Optional)
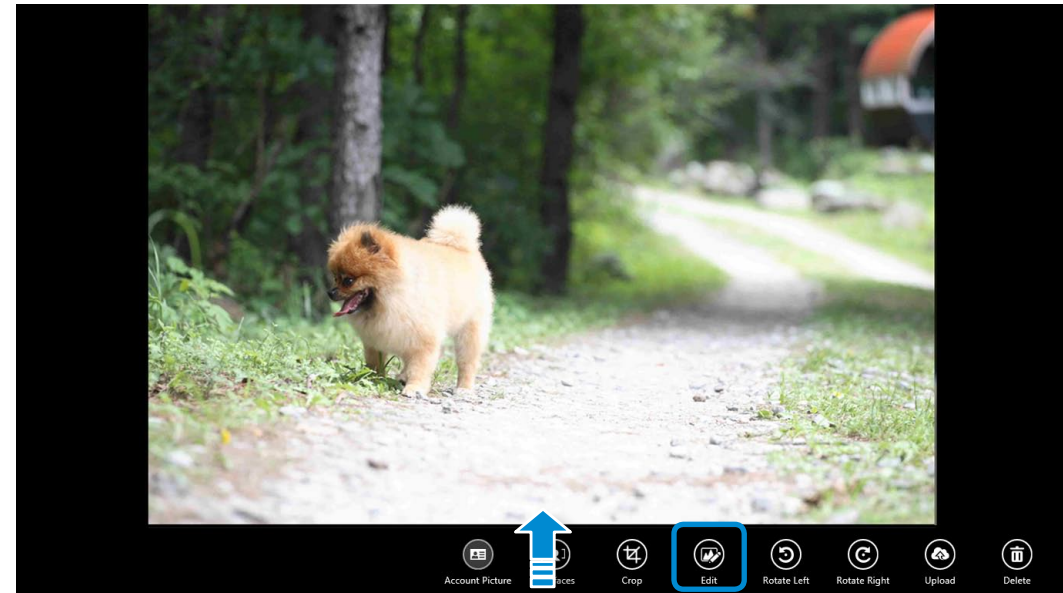
2 Select an effect to be applied to the photo.

E.g. If you select Draw

Line preview   Color   Undo

Erase/Draw   Line thickness   Save Close

Frame

Draw

Stamp
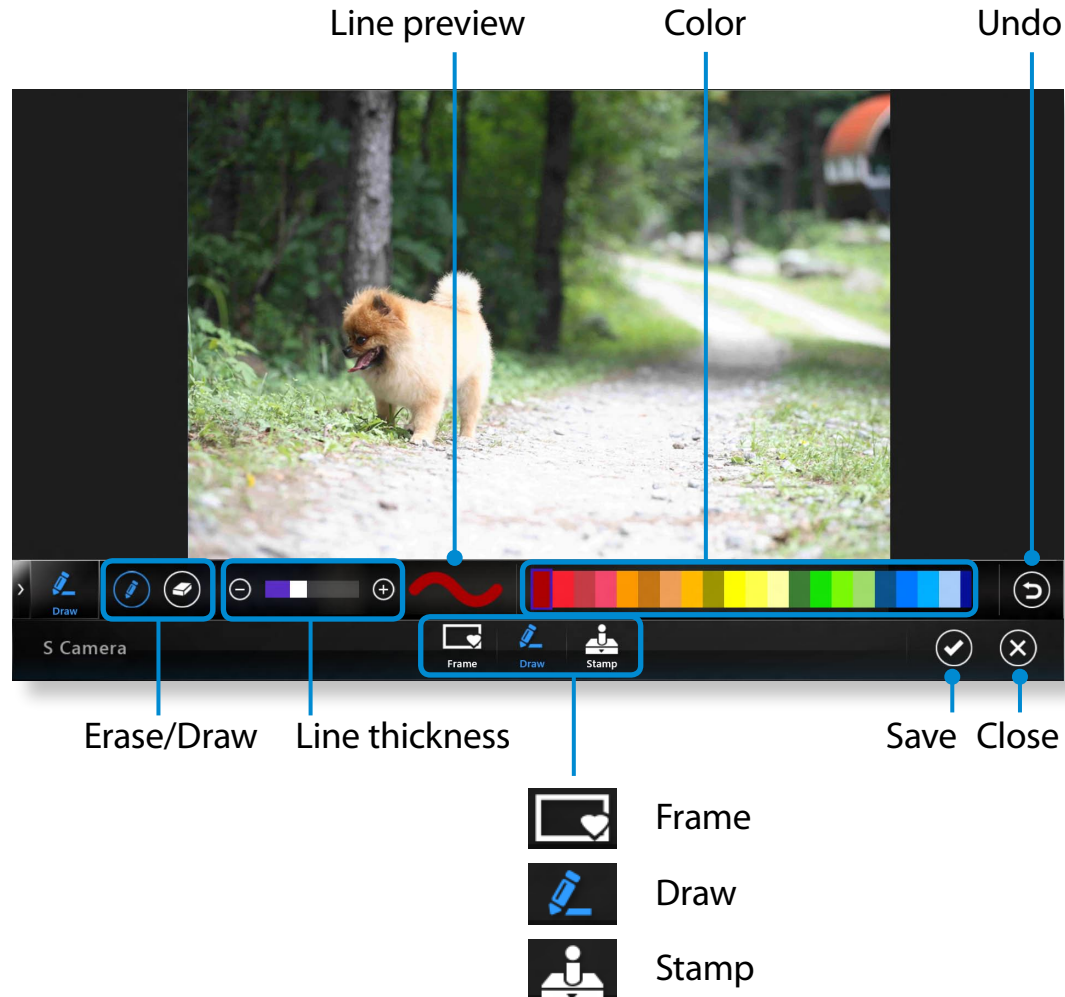
Using the S Player app

1 Tap **Charm menu** > **Start** > **S Player**.

My Music

My Photos   My Videos

Music playlist   Slideshow   My photo list
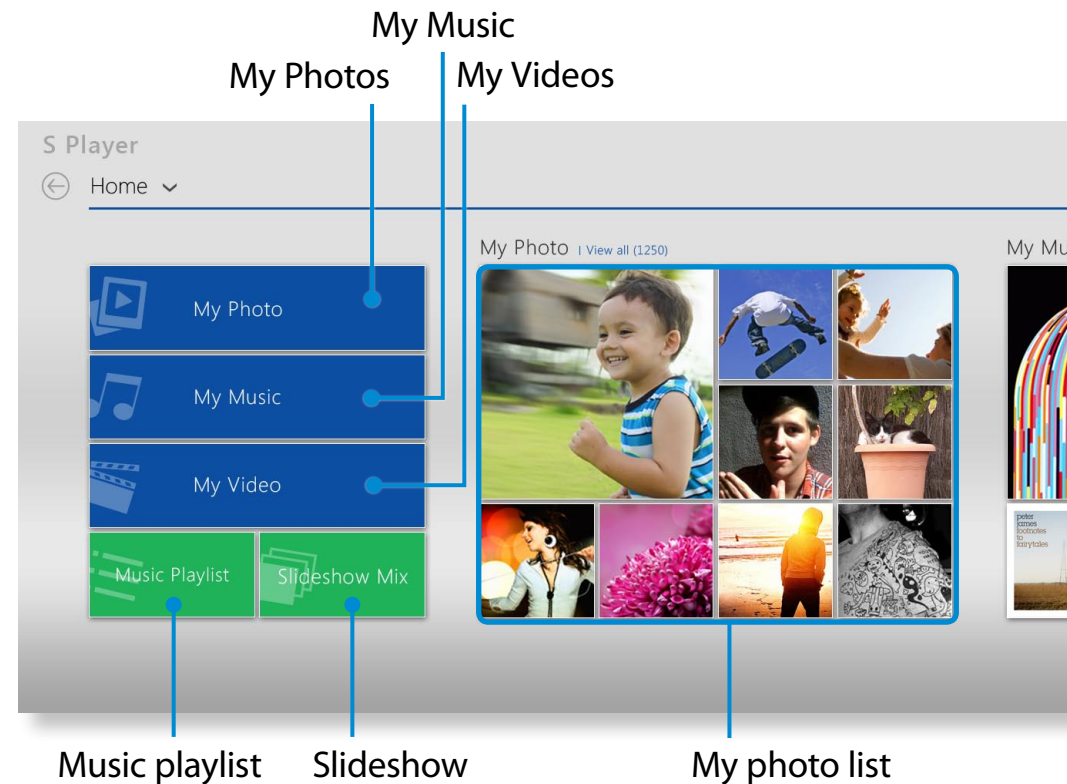
2 Select a menu to enjoy photo, video and music files.

> 📝 Some files may not be played depending on their format.

Samsung Software Update

SW Update is a software program that searches for Samsung software programs and drivers installed when you purchased the computer and helps you update any drivers or programs.

> - You can check updatable files before performing the update only when you are connected to the internet.
> - SW Update does not provide any updates for device drivers or software programs installed separately by the user.

1 From the **Start Screen**, right-click any area and select **All apps** ⊞ in the bottom right corner.

   Then, click **SW Update**.

2 If the program is running for the first time, the User Agreement for personal information use appears.

   Click **Agree**.

3 The **SW Update** program runs.

   Select the items that you want to update before proceeding with the update process.

Software List
Software
Update
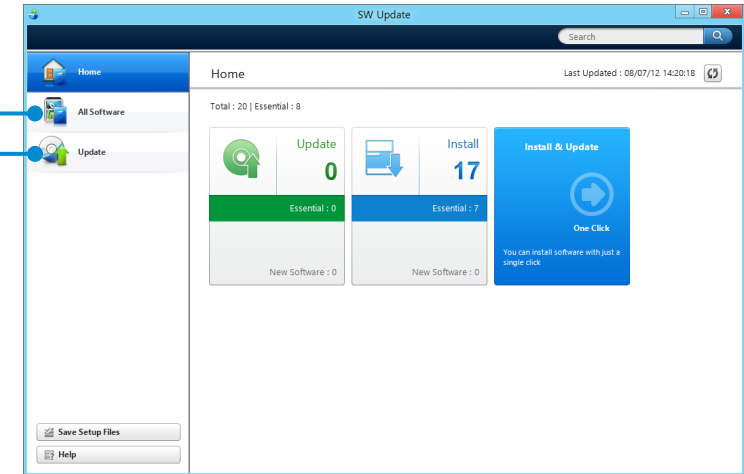
The Support Center program, which is Samsung's computer's troubleshooting guide, supports diagnosing the system and has a FAQ for frequently occurring problem(s).

> 📝 Support Center may not be provided or may be a different version depending on the model.

1 From the **Start Screen**, right-click any area and select **All apps** ⊞ in the bottom right corner.

Then, click **Support Center**.

2 Support Center is activated and starts diagnosing your computer.

After the diagnosing process is finished, the System Status menu displays a list of the current problems to be solved as shown.

Searching for computer's problems

Diagnosing Computer and Troubleshooting

FAQ for computer's major problems
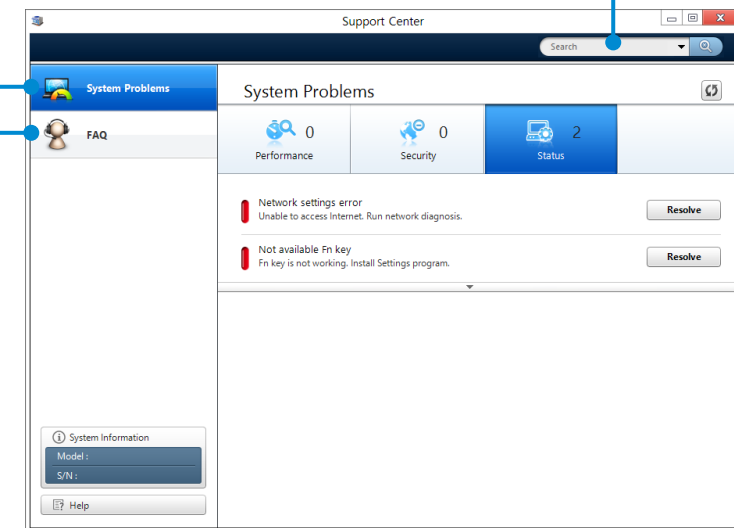
3 You can solve a problem by clicking the Troubleshoot button for the problem.

Chapter 4.
Settings and Upgrade

BIOS Setup

The BIOS Setup enables you to configure your computer hardware according to your needs.

> • Use the BIOS setup to define a boot password, change the booting priority, or add a new device.
>
> • Since incorrect settings may cause your system to malfunction or crash, take care when configuring the BIOS.
>
> • The functions of the BIOS setup are subject to change for product function enhancement purposes.
>
> • The BIOS Setup menus and items may differ depending on your computer model.

Entering the BIOS Setup

1   Turn the computer on.
    Immediately press the **F2** key several times.

2   After a moment, the BIOS setup screen appears.
    The items in the BIOS setup may differ depending on the product.

The BIOS Setup Screen

The BIOS Setup menus and items may differ depending on your computer model.

```
            XXXXXXXX  SecureCore (tm) Setup Utility
  SysInfo   Advanced      Security      Boot      Exit

  System Time              [10:21:53]          Item Specific Help
  System Date              [07/30/20XX]
                                            <Tab>, <Shift-Tab>,
  SATA Port 1              XXXXXXXX          or <Enter> selects
  SATA Port 2              XXXXXXXX          field.

  CPU Vender               XXXXXXXX
  CPU Type                 XXXXXXXX
  CPU Speed                X.XX GHz
  CPU VT (VT-x)            XXXXXXXX

  Total Memory             XXX MB
     Slot 1 Memory         XXX MB
     Slot 2 Memory         XXX MB

  BIOS Version             XXXXXXXX
  MICOM Version            XXXXXXXX
```
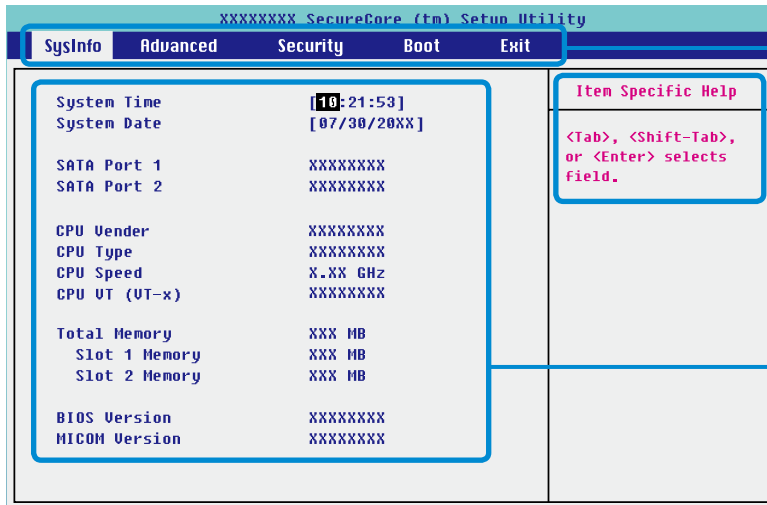
Setup Menu

Help
Help for the selected item appears automatically.

Setup Items

Setup Menu	Description
SysInfo	This is a description about the basic specifications of the computer.
Advanced	Using this menu, you can configure the major chipsets and additional functions.
Security	Used to configure security functions, including passwords.
Boot	This menu enables you to configure peripherals and booting related settings such as the boot priority.
Exit	Used to exit the Setup either saving the changes or not.

System Setup Keys

In the Setup, you have to use the keyboard.

F1	F1	Press to view the Setup Help.
Up & Down Keys	▲　▼	Press to move up and down.
F5/F6	F5　F6	Press to change the item value.
F9	F9	Press to load the default Setup settings.
ESC	Esc	Press to return to a higher level menu or to move to the **Exit** menu.
Left & Right Keys	◄　►	Press to move to another menu.
Enter	Enter	Press to select an item or to enter a sub menu.
F10	F10	Press to save the changes and exit Setup.

The keyboard image may differ from the actual keyboard.

Setting a Boot Password

If you set a password, you have to enter the password when you turn the computer on or enter the BIOS Setup.

By configuring a password, you can restrict system access to authorized users only and protect data and files saved on the computer.

> • The password setting provides the following 3 sub menus. (Supervisor Password, User Password and HDD Password)
>
> • Do not lose or forget your password.
>
> • Do not let others know your password.
>
> • If you forget the Supervisor Password or HDD Password, you will need to request assistance from the service center. In this case, a service fee will be charged.
>
> • When you forget the User Password, you can disable the Supervisor Password, and the User Password is also automatically disabled.
>
> • The screen images and terms may differ from actual product depending on the computer model and driver version.

Setting a Supervisor Password

If you set a Supervisor Password, you need to enter the password when you turn the computer on or enter the BIOS Setup.

Setting only the Supervisor Password and User Password is not very secure. You can use an HDD Password as well to increase the security level.

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

2 In the **Set Supervisor Password** item, press <**Enter**>.

> Supervisor Password   Clear
> User Password   Clear
> HDD Password   Clear
>
> Set Supervisor Password   [Enter]
> Set User Password   [Enter]
> Set HDD Password   [Enter]
>
> Password on boot   [Disabled]
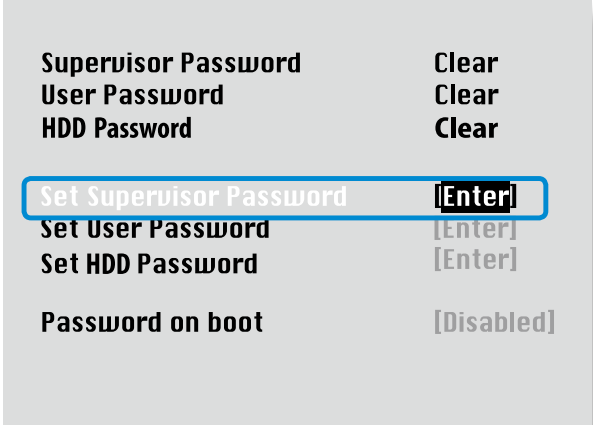
3 Enter a password, press <**Enter**>, re-enter the password for confirmation, and press <**Enter**> again.

The password can be up to 8 alphanumeric characters. Special characters are not allowed.

4 The supervisor password has been set.

The supervisor password is required to turn the computer on or to enter the BIOS Setup.

> For some models, if the password entered message appears in the **Setup Notice** window, the settings are not complete until the <**Enter**> key is pressed.

Setting a Boot Password

Setting a User Password

Using the User Password, you can turn the computer on but you cannot change the major settings of the BIOS Setup because you cannot enter the BIOS Setup.

This helps prevent unauthorized access to the major settings in the BIOS Setup menu.

Before configuring a user password, a **supervisor password** must have been configured. Deactivating the supervisor password also deactivates the user password.

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

Setting Up a Boot Password

To setup a boot password, the administrator password (**Set Supervisor Password**) should be set in advance.

Set the **Password on boot** item to **Enabled**.

Once a boot password is set, you have to enter a password to boot up the computer.

Be sure to remember the password for later use.

Setting up a Hard Disk Drive Password (Optional)

If you set a password for a hard disk drive, it cannot be accessed from another computer.

Press <**Enter**> in the **Set HDD Password** item and define a password as described in Step 3 of the Setting up the Supervisor Password.

- The hard disk drive password setting function is not provided for some models.

- **Changing the hard disk drive password**

  For security purposes, you can only change a hard disk drive password after restarting the computer by pressing the computer **Power** button.

  If you cannot change the hard disk drive password or the **HDD Password Frozen** message appears when entering the BIOS Setup and then selecting **Security > HDD Password**, press the **Power** button to turn the computer on again.

Setting a Boot Password

Deactivating the Password

1 Press <**Enter**> on the password to be deactivated. 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**>.

The password is deactivated.

For some models the password is only canceled if the <**Enter**> key is pressed in the **Setup Notice** window.

Changing the Boot Priority

As an example, the procedures to change the highest boot priority device to the hard disk drive are described below.

> 📝 The screen images and terms may differ from actual product depending on the computer model and driver version.

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

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

```
▶ Boot Device Priority

NumLock                        [Off]
Enable Keypad                  [By NumLock]
TouchPadMouse                  [Enabled]

InternalLAN                    [Enabled]
PXE OPROM                      [Disabled]

Smart Battery Calibration
```
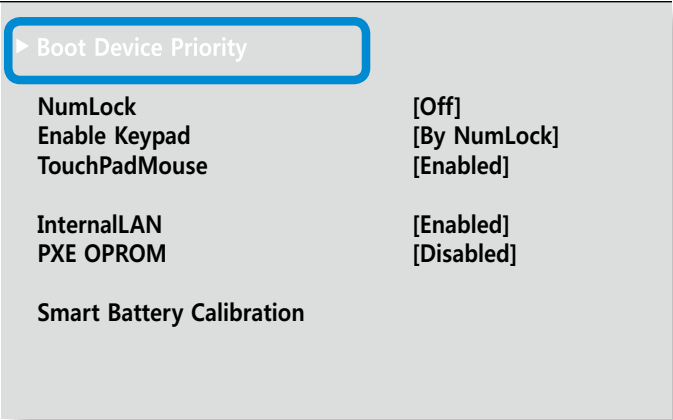
3 Press the down key (↓) to move to the **SATA HDD** item and press the **F6** key to move up to the top item.

```
                    Boot Menu

[Boot Priority Order]
    1. SATA CD     :   XXXXXXXXXXXX
    2. SATA HDD   :   XXXXXXXXXXXX
    3. USB CD      :   N/A
    4. USB FDD     :   N/A
    5. USB HDD     :   N/A
    6. NETWORK   :   N/A
```
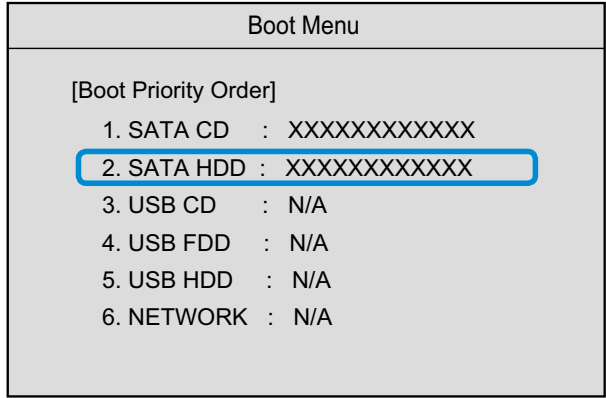
4 Press the **F10** key to save the settings and exit Setup.

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

> 📝 If you need to boot to **DOS** using a **USB** device, enter the BIOS Setup, select the **Advanced** menu and set the **Fast BIOS Mode** item to **Disabled**.

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

This computer is equipped with an internal battery.

> ⚠ **Precautions**
>
> • **Users cannot remove or replace the internal battery.**
>
> • **To remove or replace the battery, use an authorized service center in order to protect the product and users. You will be charged for this service.**
>
> • Use only chargers specified in the User Manual.
>
> • Never heat the battery pack, put it near or in a fire or use at a temperature higher than 60°C, as this may cause fire.
>
> • Please refer to the system operation environment of this manual and operate and store the battery at room temperature.

> 📝 • Before using the computer for the first time, make sure to connect the AC adapter and charge the battery completely.
>
> • The images used for the illustration are of a representative model, therefore the images may differ from the the actual product.

The location of the internal battery

Charging the Battery

1 An internal battery is embedded. Connect the AC adapter to the power input jack of the computer. The battery will start charging.

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

Status	Charge LED	
Charging	🔴 🟠	**Red** or **orange**
Charging complete	🟢	**Green**
AC adapter not connected	⚪	**Off**

Battery

Measuring the Remaining Battery Charge

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

Confirming the battery charge in the Taskbar

Disconnect the AC adapter and move the mouse cursor over the battery icon in the system tray of the Taskbar to confirm the remaining battery charge.
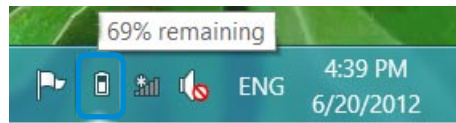
Battery Usage Time Information

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

When not using the battery for a long time, store the battery after charging it to 30-40% of its capacity. This extends the battery life time.

Extending the Battery Usage Time

Decreasing the LCD Brightness

1 Click the **Charms menu** > **Settings** ⚙ > **Screen Adjustment icon** ☀ .

2 Adjust the brightness with the screen brightness control bar. The battery life will be extended.
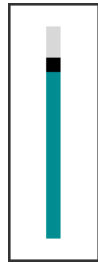
Using the power management program

This program helps you use the battery more efficiently and supports the power mode optimized for the operating environment.

1 Click **Charms menu** on the Desktop > **Settings** ⚙ > **Control Panel** > **Hardware and Sound** > **Power Options**.

Alternatively, right-click the power measuring device icon 🔋 in the notification area of the taskbar and select **Power Options**.

2 If the following screen appears, select one of the modes.
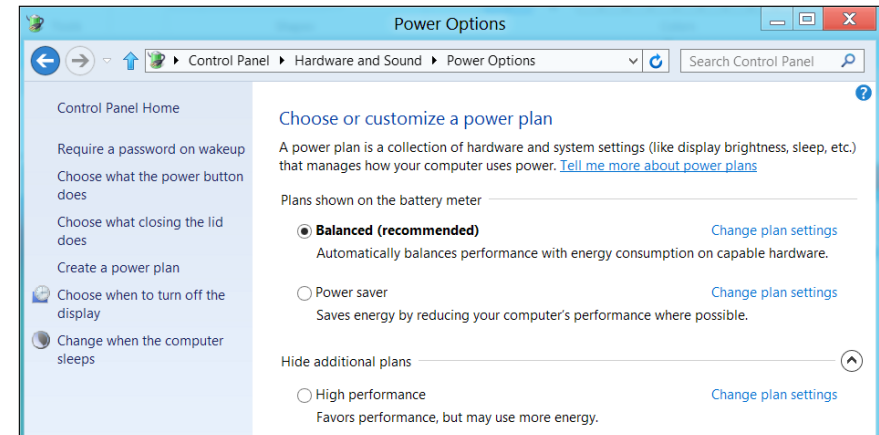
Using the Battery Calibration Function

When charging/discharging the battery repeatedly for a short time only, the battery usage time may be reduced by the difference between the actual battery charge and the remaining charge display.

In this case, the actual battery charge and the remaining charge display will be the same by discharging the battery completely using the Battery Calibration function, and then recharging it again.

> The screen images and terms may differ from actual product depending on the computer model and driver version.

1 Disconnect the AC power adapter after turning off the computer.

2 Turn the computer back on, and press the **F2** key to enter the Setup screen.

3 Move to the **Boot > Smart Battery Calibration** item using the direction keys and press <**Enter**>.
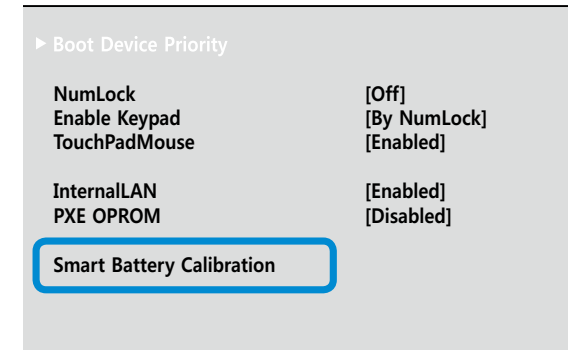
4 Highlight **Yes** in the **Battery Calibration Confirmation** window and press <**Enter**>.

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

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

Chapter 5.
Troubleshooting

If a problem occurs with your computer, **Recovery** (recovery program) allows you to easily restore your computer to the default (factory) settings. Alternatively, you can back up your computer so that you can restore it to your preferred state at any time.

Recovery Introduction

Recover

Back Up

Help

Function	Description
Recover	Restores the entire Windows drive.
Back Up	You can back up your entire Windows drive.

- Recovery may not be provided or may be a different version depending on the model.

- For models whose hard disk or SSD capacity is less than 64 GB, the Recovery program is not provided.

- The instructions are provided based on Recovery 1.0 version. Some functions may differ slightly or be excluded depending on the version. Refer to the program's Help section for more information.

- An ODD (CD/DVD drive, etc.) is not supported by the Recovery program.

Recovering/Backing up the Computer (Optional)

Recovering

You can recover your computer to the default (factory) status when your computer does not boot up.

1 - **If Windows does not start**

   Turn your computer on and press the **F4** key.
   Run recovery mode.

   - **If Windows is running**

   From the **Start Screen**, right-click any area and select **All apps** ⊞ in the bottom right corner.
   Then, click **Recovery**.

2 If the program is running for the first time, you need to agree to the **User Agreement**.

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

   Select a recovery point and click **Recover**.

> 📝 If you set the User Data Maintenance to ON, the computer is restored while maintaining the current user data.
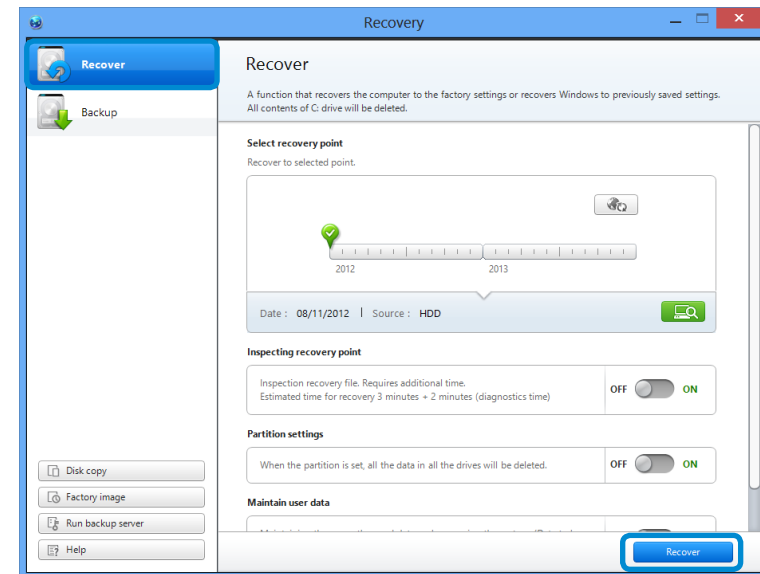
4 Recover is performed based on the screen instructions. If the recover is completed, you can use your computer normally.

Recovering after a Backup

You can recover your computer after you have backed up your computer to a separate drive or external storage device.

Backing up

1 To back up your computer to an external storage device, connect the external storage device and select the relevant drive.

2 Click **Backup** in the Recovery Home screen.

Select the drive to save and click **Backup.**

> ✎ You cannot select a DVD drive.
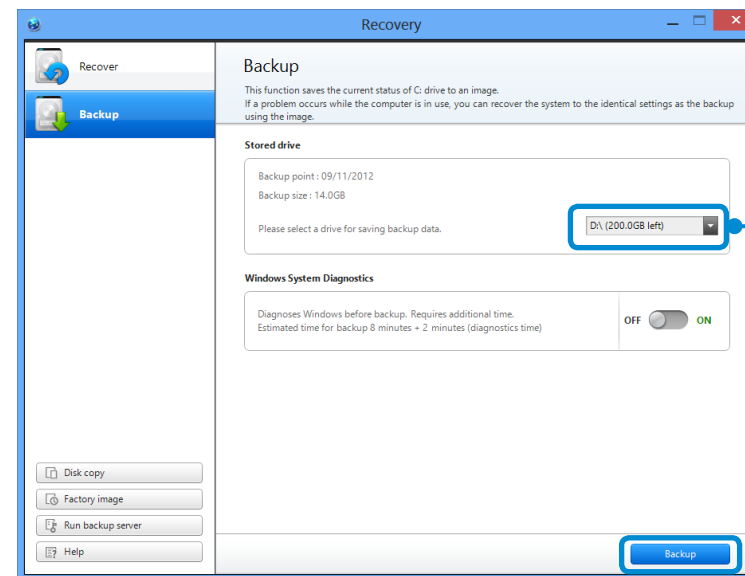
Select the drive to save to.

3 The backup process is performed based on the instructions.

Recovering

You can recover your computer using the backup from the above process.

1 If the backup image is saved to an external storage device, connect the device.

2 Start **Recovery** and click **Recover**.

3 Select a **Recover Option** and click **Recover**.

Select a point to recover.

4 The recover is performed based on the screen instructions. You can use your computer after the recover is completed.
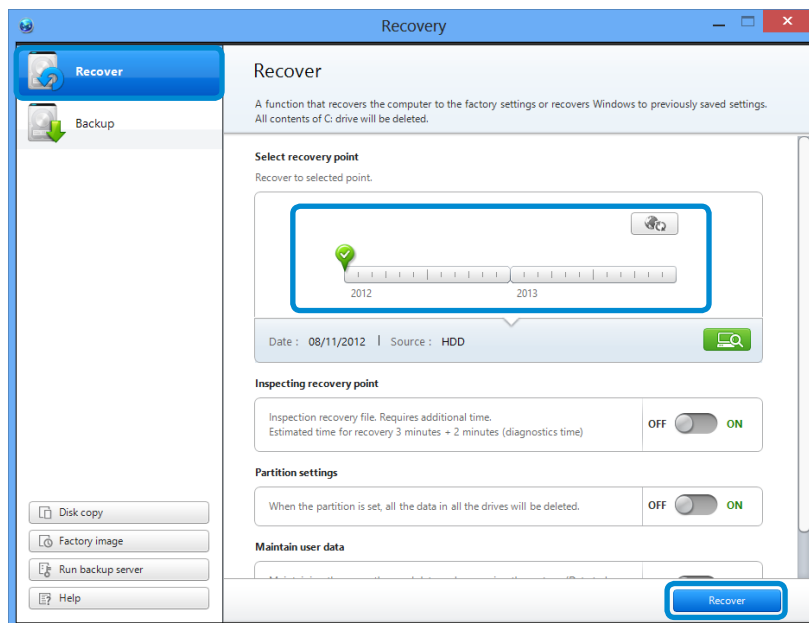
To copy the external storage disk

When you replace a storage device such as the HDD, SSD, etc. (hereafter referred to as a hard disk) built into your computer, you can move your existing data to the new storage device easily and safely.

> ⚠ The new storage device must have sufficient capacity to save your existing data.

> 📝 You need to purchase an external hard USB connector separately to connect the hard disk and your computer.

1 You need to purchase an external hard USB connector separately to connect the hard disk and your computer.

2 Start **Recovery** and click **Disk copy**.

3 Select an option in **Disk recovery Point** and click **Disk copy**.
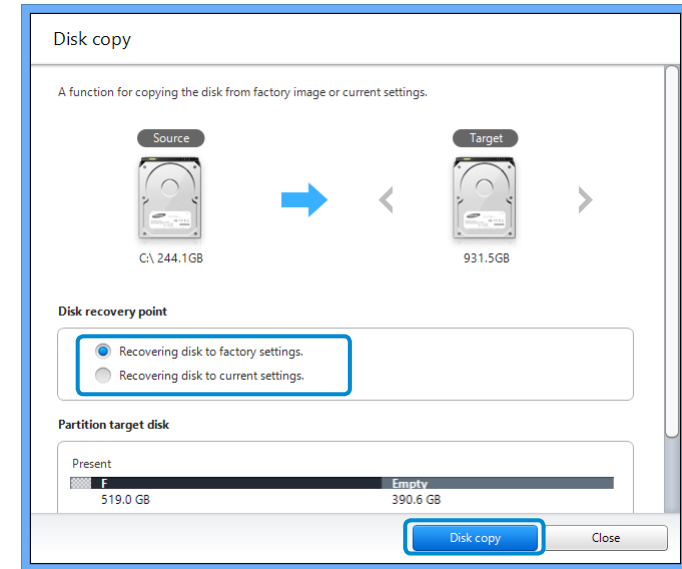
4 The data on the current hard disk is saved to the new hard disk.

5 If the data is completely saved, open the hard disk cover at the bottom of your computer and replace the existing hard disk with the new one.

> 📝 If you cannot open the cover at the bottom of the computer, contact the Samsung Service Center to request assistance.
>
> In this case, you may be charged for the relevant service.

6 Your computer is now equipped with a new hard disk.

You can use your computer with a larger hard disk capacity with the same configuration as the old one.

Export Disk Image Function

If you frequently recover your computer to the default (factory) settings, you can conveniently recover your computer after exporting the default (factory) status disk image to an external storage device.

1 Connect the external storage device, and then select a drive to save to.

2 Click **Run**.

3 Perform the process by following the instructions to completely save the default (factory) status disk image to the external storage device.

   Now disconnect the saved external storage device and store it separately.

4 If your computer needs to be restored to the default (factory) settings, connect the external storage device with the saved image.

5 Start **Recovery** and click **Recover**. Select **Factory Default Point** and click **Recover**. The **Recover** process is started.

   When the recover process is finished, you can use your computer with the default (factory) settings.

Computer Recovery Function in Windows 8

If a problem occurs with your computer, the recovery program allows you to restore your computer to the default settings.

> For models where the SSD is less than 64GB, use the Windows System Restore function instead of the Recovery program.

1 Click the **Charms menu** > **Settings** > **Change PC Settings** > **General**.

2 Click the **Start** button for **Refresh....** or **Remove.....**.

Refresh....	If your PC does not work properly, you can restore your PC while keeping your media files such as your photo, video and music files, etc. as well as your personal documents.
Remove….	You can remove all items in your PC and reinstall Windows again.

> **You should back up the files in the following folders before using the PC Recovery function since these files are not kept.**
>
> \Windows, \Program files, \Program files(x86), \ProgramData, OEM Folder (ex) c:\samsung), \User\<user name>\AppData

3 Follow the onscreen instructions to proceed with the recovery process.

  If the recovery is complete, you can use your computer normally.

> You can restore required Samsung software programs through **All Apps** ⊞ > **SW Update**.

You can reinstall Windows using the **SYSTEM RECOVERY MEDIA** for Windows when Windows is no longer working properly. (For models supplied with a SYSTEM RECOVERY MEDIA.)

For models supplied with the Samsung Recovery Solution, you can reinstall Windows using the Samsung Recovery

Solution.

These descriptions are for Windows 7/8 and Windows Vista and for supported models only.

> - A **SYSTEM RECOVERY MEDIA** may not be supplied depending on your computer model.
> - If you cannot start Windows, or if you want to delete all existing data and reinstall Windows, install Windows according to the descriptions in **[Reinstalling when Windows does not start]**.
> - Some pictures may differ from actual product.
> - These descriptions may differ depending on the operating system.

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

Reinstalling in Windows

1 Insert the **SYSTEM RECOVERY MEDIA** into the DVD drive.

2 If the Select Windows Installation window appears, click **Install Now**. When the Select Update window appears, click on the relevant item.

> - If you select **Go online to get the latest updates for installation** in the Select Update window, the latest updates are installed and Step 4 follows. At this time, the computer must be connected to the Internet.
> - For Windows 7/8, the screen asking for the operating system to be installed may appear depending on the version. If you click the Next button, the screen of Step 3appears.

3 If the User Agreement screen appears, select **I accept the license terms** and then click **Next**.

> For Windows 7/8, this screen may not appear depending on the version.

4 The following window appears, select an installation option.

If you click **Custom**, the procedures from Step 5 continue sequentially.
If you click **Upgrade**, the procedures from Step 6 continue sequentially.

> • For Windows 7/8, this screen may not appear depending on the version.
>
> • **Custom**
>   Select this option to **Reinstall Windows**. You have to reinstall all necessary device drivers and programs after the Custom installation. In addition, unnecessary folders and files may remain on the hard disk drives after the installation (e.g. C:\ Windows.old, etc.).
>
> • **Upgrade**
>   Select this option to **Upgrade Windows** while maintaining current files, configurations and programs. Although you therefore do not need to reinstall the device drivers and programs, some programs may not work properly after the upgrade.

5 When a window appears asking for the location to install the operating system to, select a disk drive partition and click the **Next** button.

> ⚠ Drive D includes an area to save the backup image used by Samsung Recovery Solution. Installing Windows to drive C is recommended.

> ✎ When previous Windows installation files are in the selected partition, a message appears informing you that the files and folders will be moved to the Windows. old folder. Click the **OK** button.

6 The Windows installation continues.

The computer will restart 3 times during the installation.

If the **Press any key to boot from CD or DVD...** message appears after a restart, do not press any button.

7 Register a user according to the instructions on the Windows screen.

8 When the registration is complete, the Windows Desktop screen appears.
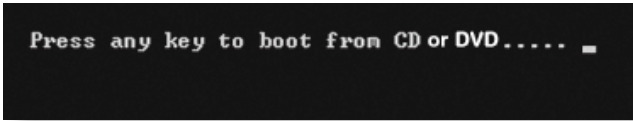
> ✎ For a smooth computer operation, installing the necessary software installation is recommended.

Reinstalling when Windows does not start

When Windows does not start, boot up with the SYSTEM RECOVERY MEDIA and from there you can reinstall Windows.

1 Insert the **SYSTEM RECOVERY MEDIA** into the DVD drive and restart the computer.

2 If the **Press any key to boot from CD or DVD...** message appears while booting, press any key on the keyboard.

Press any key to boot from CD or DVD.....

3 After a while, the Options windows such as Language, Time, Keyboard, etc. appear. Confirm the settings and click the **Next** button.

4 If the **Select Windows Installation** window appears, click **Install Now**.

> For Windows 7/8, the screen asking for the operating system to be installed may appear depending on the version. If you click the **Next** button, the screen of Step 5 appears.

5 If the User Agreement screen appears, select **I accept the license terms** and then click **Next**.

> For Windows 7/8, this screen may not appear depending on the version.

6 When the window asking for the installation type appears, click **Custom**.

> For Windows 7/8, this screen may not appear depending on the version.

7 When a window appears asking for the location to install the operating system to, select the partition of the disk drive and then click the **Next** button.

> ⚠ Drive D includes an area to save the backup image used by Samsung Recovery Solution. Installing Windows to drive C is recommended.

> - A If you click **Drive Options (Advanced)**, you can delete, format, create or expand a partition. Click on a function and proceed according to the instructions on the screen.
> - When previous Windows installation files are in the selected partition, a message appears informing you that the files and folders will be moved to the Windows.old folder. Click the **OK** button.

8 The subsequent steps are the same as those from Step 7 of Installing in Windows.

You can look for potential problems that may occur with the system and view the relevant solutions. Also, you may look up any reference(s) required while operating the computer.

Recovery Related

Q1   **What is a Recovery Area?**

A   Samsung computers have an additional partition to recover computers or save backup files. (Only for models with the Recovery.)

This partition is called a Recovery Area and it includes a recovery image that comprises of the OS and application programs.

Q2   **The capacity representation of the hard disk drive(HDD) in Windows is different from the product specifications.**

A   The capacity of the storage device (HDD) of the manufacturer is calculated assuming that 1KB=1,000 Bytes. However, the operating system (Windows) calculates the storage device capacity assuming that 1KB=1,024 Bytes, and therefore the capacity representation of the HDD in Windows is smaller than the actual capacity.

The capacity representation in Windows may be smaller than the actual capacity because some programs occupy a certain area of the HDD outside of Windows.

For models with Recovery, the HDD capacity representation in Windows may be smaller than the actual capacity because Recovery uses a hidden area of about 5~20GB of the HDD to save the recovery image, and that hidden area is not counted towards the total size available to Windows.

The size of Recovery varies by models because of the different size of applied programs.

Q3   **What is a recovery image?**

A   This refers to the computer status (including operating system, specific driver(s), software(s), etc.) which is converted to a data image. It is required to recover your computer and is embedded in the computer's hard disk. However, this is not provided for storage devices where the capacity is less than 64 GB due to the small capacity.

Q4   **How can I restore a computer that does not have the Recovery program?**

A   You can restore the computer using the system recovery function provided by Windows.

Refer to the Restore Functionality item in the Help section for more details.

Windows 8 Related

Q1 **I cannot find the Start button on the Desktop.**

A There's no Start button in **Windows 8**.

You can use the Control Panel, PC-running menu(s), etc. by activating the **Charms menu**.

Q2 **I cannot find the computer's Shutdown button.**

A **Click the Charms menu > Settings > Power** to display the **Power Options** menu.

Click **Shutdown**.

Q3 **The App disappeared in the Start screen.**

A Click the **Charms menu > Search** to display all installed Apps. Right-click over the corresponding App to select in a Tile in the Start Screen.

Q4 **Since I'm familiar with Windows 7, I would like the Desktop screen to appear as it does in Windows 7.**

A Currently, there is no way to set the Desktop to appear by default.

Press the **Windows key + D key** simultaneously to reveal the Desktop when the Start screen appears. This is currently the only workaround.

Q5 **How can I install a printer driver?**

A Run your driver installation file and follow the corresponding instructions. You can install it in the same method as the existing OS.

Refer to your printer manual for detailed instructions for each model.

Q6 **How can I uninstall the driver?**

A On the Desktop, click **Charms menu > Settings > Control Panel > Programs and Features**.

Click the program. Then click **uninstall**.

Q7   **How can I change the screen settings, environment
settings, type size, color, and so on?**

A   Click **Charms menu > Settings > Change PC Settings >
Personalization**. You can set the OS settings such as the
screen design, etc.

To configure your computer in detail, click the **Charms
menu** in **Desktop > Settings > Control Panel**.

You can configure your computer in the same way as
existing Windows systems.

Q8   **Active X does not run in Internet Explorer on the Start
screen.**

A   Since Internet Explorer on the Start screen complies with the
HTML5 web standards, it does not support Active X. However,
Internet Explorer on the Desktop supports Active X.

► How to activate Active X:

If you right-click over the Internet Explorer, the following
window appears. Press the button and click **View on the
Desktop**. Active X is now enabled.

Q9   **I want to remove the pre-installed Windows 8
operating system and install a different OS.**

A   If you want to install a different operating system on your
PC, you need to change the BIOS settings first.

For more information, visit http://www.samsung.com and
go to **Customer Support > Troubleshooting**. Search for
Windows 8 and look through the list of search results for the
relevant issue.

Display Related

Q1   **The Desktop displayed on the TV after connecting via the HDMI port does not fit the screen.**

A   Go to the Graphics Control Panel to adjust the screen settings.

▶ **For Intel graphics cards**

Right-click over the Desktop and go to **Graphics Properties > Display > General**. Adjust the **Horizontal Ratio** and **Vertical Ratio** settings to fit your screen and click **OK**.

▶ **For AMD graphics cards**

1. Right-click over the Desktop and select **Graphics Properties > Desktop and Display > My Digital Flat Panel > Expansion Options (Digital Flat Panel)**.

2. Adjust the control bar to fit the TV corners and click **Apply**.

Sound Related

Q1   **I cannot hear any sound from the TV after connecting via the HDMI port.**

A   1. Right-click over the taskbar on the Desktop and click **Play Device**.

2. Change the option to Digital Audio (HDMI), HDMI device, HDMI Output or another option and click **Set as Default**. Then click **OK**.

Others

Q1   **You can configure your computer in the same way as existing Windows systems.**

A   If you want to start your computer in DOS via a USB device, set the **Fast BIOS Mode** item in the **Advanced** menu in the BIOS Setup to **Disabled** before using this feature.

Chapter 6.
Appendix

Important Safety Information

Safety Instructions

Your system is designed and tested to meet the latest standards for safety of information technology equipment. However, to ensure safe use of this product, it is important that the safety instructions marked on the product and in the documentation are followed.

> ⚠ Always follow these instructions to help guard against personal injury and damage to your system.

Setting Up your System

• Read and follow all instructions marked on the product and in the documentation before you operate your system. Retain all safety and operating instructions for future use.

• Do not use this product near water or a heat source such as a radiator.

• Set up the system on a stable work surface.

• The product should be operated only with the type of power source indicated on the rating label.

• Ensure that the electrical outlet you are using to power your equipment is easily accessible in case of fire or short circuit.

• If your computer has a voltage selector switch, make sure that the switch is in the proper position for your area.

• Openings in the computer case are provided for ventilation. Do not block or cover these openings. Make sure you provide adequate space, at least 6 inches (15 cm), around the system for ventilation when you set up your work area. Never insert objects of any kind into the computer ventilation openings.

• Ensure that the fan vents on the bottom of the casing are clear at all times. Do not place the computer on a soft surface, doing so will block the bottom vents.

• If you use an extension cord with this system, make sure that the total power rating on the products plugged into the extension cord does not exceed the extension cord power rating.

• For Notebooks with glossy display bezels the user should consider the placement of the Notebook as the bezel may cause disturbing reflections from surrounding light and bright surfaces.

Important Safety Information

Care During Use

- Do not walk on the power cord or allow anything to rest on it.

- Do not spill anything on the system. The best way to avoid spills is to not eat or drink near your system.

- Some products have a replaceable CMOS battery on the system board. There is a danger of explosion if the CMOS battery is replaced incorrectly. Replace the battery with the same or equivalent type recommended by the manufacturer.

  Dispose of batteries according to the manufacturers instructions. If the CMOS battery requires replacement insure that a qualified technician performs the task.

- When the computer is turned off, a small amount of electrical current still flows through the computer.
  To avoid electrical shock, always unplug all power cables, remove the battery and modem cables from the wall outlets before cleaning the system.

- Unplug the system from the wall outlet and refer servicing to qualified personnel if:

  – The power cord or plug is damaged.

  – Liquid has been spilled into the system.

  – The system does not operate properly when the operating instructions are followed.

  – The system was dropped or the casing is damaged.

  – The system performance changes.

The Instruction On Safety Operation of NotePC

1. When installing and operating devices please refer to safety requirements in the user guide.

2. Devices can be used only with the equipment specified in the technical specifications of the devices.

3. If any smell of burning or smoke is detected from the computer the unit should be switched off and battery removed. The unit should be checked by a qualified technician before reuse.

4. Service and repair of devices should be carried out by authorized service centers.

5. Do not allow your portable computer to operate with the base resting directly on exposed skin for extended periods of time. The surface temperature of the base will rise during normal operation (particularly when AC Power is present). Allowing sustained contact with exposed skin can cause discomfort or eventually a burn.

Replacement Parts and Accessories

Use only replacement parts and accessories recommended by manufacturer.

> ⚠ To reduce the risk of fire, use only No. 26 AWG or larger telecommunications line cord.

> 📝 Do not use this product in areas classified as hazardous. Such areas include patient care areas of medical and dental facilities, oxygen rich environments, or industrial areas.

Battery Disposal

> ⚠ Do not put rechargeable batteries or products powered by non-removable rechargeable batteries in the garbage.

Contact the Samsung Helpline for information on how to dispose of batteries that you cannot use or recharge any longer.

Follow all local regulations when disposing of old batteries.

> ⚠ THERE IS A RISK OF EXPLOSION IF BATTERY IS REPLACED BY AN INCORRECT TYPE.
>
> DISPOSE OF USED BATTERIES ACCORDING TO THE INSTRUCTIONS.

Laser Safety

All systems equipped with CD or DVD drives comply with the appropriate safety standards, including IEC 60825-1. The laser devices in these components are classified as "Class 1 Laser Products" under a US Department of Health and Human Services (DHHS) Radiation Performance Standard. Should the unit ever need servicing, contact an authorized service location.

> ⚠ • **Laser Safety Note:**
>
>   Use of controls or adjustments or performance of procedures other than those specified in this manual may result in hazardous radiation exposure. To prevent exposure to laser beams, do not try to open the enclosure of a CD or DVD drive.
>
> • Class 1M laser radiation when operating part is open.
>
>   Do not view directly with optical instruments.
>
> • Class 3B invisible laser radiation when open.
>
>   Avoid exposure to the beam.

Replacement Parts and Accessories

Connect and Disconnect the AC adapter

The socket-outlet shall be installed near the equipment and shall be easily accessible.

Do not unplug the power cord by pulling the cable only.

Power Cord Requirements

The power cord set (wall plug, cable and AC adapter plug) you received with your computer meets the requirements for use in the country where you purchased your equipment.

Power cord sets for use in other countries must meet the requirements of the country where you use the computer. For more information on power cord set requirements, contact your authorized dealer, reseller, or service provider.

General Requirements

The requirements listed below are applicable to all countries:

- All power cord sets must be approved by an acceptable accredited agency responsible for evaluation in the country where the power cord set will be used.

- The power cord set must have a minimum current capacity of 7 A and a nominal voltage rating of 125 or 250 volts AC, as required by each country's power system. (USA ONLY)

- The appliance coupler must meet the mechanical configuration of an EN 60 320/IEC 320 Standard Sheet C7 (or C5) connector, for mating with appliance inlet on the computer.

Regulatory Compliance Statements

Wireless Guidance

(If fitted with 2.4G band or 5G band)

Low power, Radio LAN type devices (radio frequency (RF) wireless communication devices), operating in the 2.4GHz/5GHz 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 RF field strength of the wireless device or devices that may be embedded in your notebook are well below all international 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 using. Regardless of the power levels, care should be taken to minimize human contact during normal operation.

Some circumstances require restrictions on wireless devices. Examples of common restrictions are listed on the next page:

- 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.
802.11ABGN (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.

Regulatory Compliance Statements

> • 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.

United States of America

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.

Regulatory Compliance Statements

> ⚠ **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 Intel 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 generates, uses, and can radiate radio frequency energy. If not installed and used in accordance with the instructions, it may cause harmful interference. 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.

Regulatory Compliance Statements

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

(If fitted with 2.4G band or 5G band)

Low power, Radio LAN type devices (radio frequency (RF) wireless communication devices), operating in the 2.4GHz/5GHz 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 device is restricted to indoor use due to its operation in the 5.15 to 5.25 GHz frequency range. FCC requires this product to be used indoors for the frequency range 5.15 to 5.25 GHz to reduce the potential for harmful interference to co-channel Mobile Satellite systems. High power radars are allocated as primary users of the 5.25 to 5.35 GHz and 5.65 to 5.85 GHz bands. These radar stations can cause interference with and /or damage this device.

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.

Regulatory Compliance Statements

Health and safety information

Exposure to Radio Frequency (RF) Signals

Certification Information (SAR)

This product can contain an embedded radio transmitter and receiver. It is designed and manufactured not to exceed the exposure limits for radio frequency (RF) energy set by the Federal Communications Commission (FCC) of the U.S. government. These FCC exposure limits are derived from the recommendations of two expert organizations, the National Council on Radiation Protection and Measurement (NCRP) and the Institute of Electrical and Electronics Engineers (IEEE). In both cases, the recommendations were developed by scientific and engineering experts drawn from industry, government, and academia after extensive reviews of the scientific literature related to the biological effects of RF energy.

The exposure limit set by the FCC for wireless devices employs a unit of measurement known as the Specific Absorption Rate (SAR). The SAR is a measure of the rate of absorption of RF energy by the human body expressed in units of watts per kilogram (W/kg). The FCC requires wireless devices to comply with a safety limit of 1.6 watts per kilogram (1.6 W/kg). The FCC exposure limit incorporates a substantial margin of safety to give additional protection to the public and to account for any variations in measurements.

SAR tests are conducted using standard operating positions accepted by the FCC with the wireless transmitting at its highest certified power level in all tested frequency bands. Although the SAR is determined at the highest certified power level, the actual SAR level of the device while operating can be well below the maximum value. This is because the device is designed to operate at multiple power levels so as to use only the power required to reach the network. In general, the closer you are to a wireless base station antenna, the lower the power output.

Before a new model is available for sale to the public, it must be tested and certified to the FCC that it does not exceed the exposure limit established by the FCC. Tests for each model are performed in positions and locations (e.g. at the bottom on the body) as required by the FCC.

For body worn operation, this model has been tested and meets the FCC RF exposure guidelines when used with Samsung accessory designated for this product. Non-compliance with the above restrictions may result in violation of FCC RF exposure guidelines.

SAR information on this and other model can be viewed on-line at http://www.fcc.gov/oet/ea/fccid/. This site uses this product FCC ID number on the outside of the product. Sometimes it may be necessary to remove the battery pack to find the number. Once you have the FCC ID number for a particular product, follow the instructions on the website and it should provide values for typical or maximum SAR for a particular product.

Regulatory Compliance Statements

FCC Part 68 (If fitted with a modem device.)

This equipment complies with part of the FCC rules. On the back of this equipment is a label that contains, among other information, the FCC registration number and ringer equivalence number (REN) for this equipment. If requested, this information must be provided to the telephone company.

This equipment uses the following USOC jacks : RJ11C

An FCC compliant telephone cord and modular plug is provided with this equipment. This equipment is designed to be connected to the telephone network or promises wiring using a compatible modular jack which is Part 68 compliant. See Installation Instructions for details.

The REN is used to determine the quantity of devices which may be connected to telephone line. Excessive RENs on the telephone line may result in the devices not ringing in response to an incoming call. In most, but not all areas, the sum of RENs should not exceed five (5.0). To be certain of the number of devices that may be connected to a line, as determined by total RENs, contact the local telephone company to determine the maximum REN for the calling area.

If the terminal equipment causes harm to the telephone network, the Telephone Company will notify you in advance that temporary discontinuance of service may be required. But if advance notice is not practical, the telephone company will notify the customer as soon as possible. Also, you will be advised of your right to file a complaint with the FCC if you believe it is necessary.

The telephone company may make changes in its facilities, equipment, operations, or procedures that could affect the operation of the equipment. If this happens, the telephone company will provide advanced notice in order for you to make necessary modifications to maintain uninterrupted service.

If trouble is experienced with this equipment (Modem) for repair or warranty information, please contact your local distributor. If the equipment is causing harm to the telephone network, the telephone company may request that you disconnect the equipment until the problem is resolved.

The user must use the accessories and cables supplied by the manufacturer to get optimum performance from the product.

No repairs may be done by the customer.

This equipment cannot be used on public coin phone service provided by the telephone company. Connection to party line service is subject to state tariffs.

The Telephone Consumer Protection Act of 1991 makes it unlawful for any person to use a computer or other electronic device, including fax machines, to send any message unless such message clearly contains in a margin at the top or bottom of each transmitted page or on the first page of the transmission, the date and time it is sent and an identification of the business or other entity, or other individual sending the message and the telephone number of the sending machine or such business, other entity, or individual. (The telephone number provided may not be any number for which charges exceed local or long-distance transmission charges.)

In order to program this information into your fax machine, refer to your communications software user manual.

Canada

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 limitesapplicables aux appareils numériques de Classe B prescrites dans le règlement sur le brouillage radioélectrique édicté par Industrie Canada.

Intentional Emitter per RSS 210

This device complies with RSS 210 of Industry Canada. Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of this device."

L' utilisation de ce dispositif est autorisée seulement aux conditions suivantes : (1) il ne doit pas produire de brouillage et (2) l' utilisateur du dispositif doit étre prêt à accepter tout brouillage radioélectrique reçu, même si ce brouillage est susceptible de compromettre le fonctionnement du dispositif.

The term "IC" before the equipment certification number only signifies that the Industry Canada technical specifications were met. To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (EIRP) is not more than that required for successful communication. To prevent radio interference to the 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.

Pour empecher que cet appareil cause du brouillage au service faisant l'objet d'une licence, il doit etre utilize a l'interieur et devrait etre place loin des fenetres afin de Fournier un ecram de blindage maximal. Si le matriel (ou son antenne d'emission) est installe a l'exterieur, il doit faire l'objet d'une licence.

(If fitted with 2.4G band or 5G band)

Low power, Radio LAN type devices (radio frequency (RF) wireless communication devices), operating in the 2.4GHz/5GHz 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.

Regulatory Compliance Statements

When using IEEE 802.11a wireless LAN, this product is restricted to indoor use due to its operation in the 5.15- to 5.25-GHz frequency range. Industry Canada requires this product to be used indoors for the frequency range of 5.15 GHz to 5.25 GHz to reduce the potential for harmful interference to co-channel mobile satellite systems. High power radar is allocated as the primary user of the 5.25- to 5.35-GHz and 5.65 to 5.85-GHz bands. These radar stations can cause interference with and/or damage to this device.

The maximum allowed antenna gain for use with this device is 6dBi in order to comply with the E.I.R.P limit for the 5.25- to 5.35 and 5.725 to 5.85 GHz frequency range in point-to-point operation.

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.

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.

(Si l'appareil est équipé d'une bande 2,4 G ou 5 G)

Des dispositifs de basse puissance, de type radio LAN (périphériques de communication sans fil par radiofréquence RF) fonctionnant sur une bande de 2.4GHz/5GHz sont peut-être intégrés dans votre appareil. Cette section est applicable uniquement si ces dispositifs sont présents. Consultez l'étiquette du système pour vérifiez la présence de dispositifs sans fil.

Les dispositifs sans fil qui peuvent être intégrés dans votre système sont uniquement aptes pour une utilisation au Canada si l'étiquette du système présente un nombre d'identification d'Industrie Canada.

En cas d'utilisation d'un LAN sans fil IEEE 802.11a, ce produit ne peut être utilisé qu'à l'intérieur en raison de son fonctionnement dans une plage des fréquences allant de 5,15 à 5,25 GHz. Industrie Canada exige l'utilisation de ce produit à l'intérieur pour une plage des fréquences allant de 5,15 à 5,25 GHz afin de réduire les éventuelles interférences nuisibles avec les systèmes mobiles par satellite du même canal. Le radar de grande puissance est considéré comme l'utilisateur principal des bandes de 5,25 à 5,35 GHz et de 5,65 à 5,85 GHz. Ces stations radar peuvent provoquer des interférences avec ce périphérique et/ou l'endommager.

Le gain d'antenne maximum autorisé avec ce périphérique est de 6 dBi afin de respecter la limite de P.I.R.E. pour une plage des fréquences de 5,25 à 5,35 GHz et de 5,725 à 5,85 GHz dans un fonctionnement point à point.

La sortie de puissance du dispositif sans fil (ou des dispositifs) qui peut être intégré dans votre système est bien inférieure aux limites d'exposition de RF établies par Industrie Canada.

Regulatory Compliance Statements

Son utilisation est soumise aux deux conditions suivantes : 1) ce dispositif ne peut pas provoquer d'interférences nuisibles et 2 2) ce dispositif doit accepter toute interférence reçue, y compris les interférences qui peuvent provoquer des anomalies dans le système.

> ⚠ Afin de prévenir des interférences de radio au service autorisé, ce dispositif est prévu pour être utilisé à l'intérieur et éloigné des fenêtres pour fournir une protection maximum. Un équipement (ou son antenne de transmission) qui est installé à l'extérieur est sujet à une autorisation.

> ⚠ Les dispositifs sans fil ne peuvent pas être réparés par l'utilisateur. Ne les modifiez en aucune façon. La modification d'un dispositif sans fil annulera votre autorisation à son utilisation. Contactez le fabricant pour la réparation.

Telecommunications per DOC notice (for products fitted with an IC-compliant modem)

The Industry Canada label identifies certified equipment. This certification means that the equipment meets certain telecommunications network protective, operation, and safety requirements. The Department does not guarantee the equipment will operate to the users' satisfaction.

Before installing this equipment, users should make sure that it is permissible to be connected to the facilities of the local telecommunications company. The equipment must also be installed using an acceptable method of connection. In some cases, the inside wiring associated with a single-line individual service may be extended by means of a certified connector assembly. The customer should be aware that compliance with the above conditions may not prevent degradation of service in some situations.

Repairs to certified equipment should be made by an authorized Canadian maintenance facility designated by the supplier. Any repairs or alterations made by the user to this equipment, or equipment malfunctions, may give the telecommunications company cause to request the user to disconnect the equipment.

Users should make sure, for their own protection, that the electrical ground connections of the power utility, telephone lines, and internal metallic water pipe system, if present, are connected together. This precaution may be particularly important in rural areas.

Regulatory Compliance Statements

> ⚠ To avoid electrical shock or equipment malfunction do not attempt to make electrical ground connections by yourself. Contact the appropriate inspection authority or an electrician, as appropriate.

The **Ringer Equivalence Number** (REN) assigned to each terminal device provides an indication of the maximum number of terminals allowed to be connected to a telephone interface. The termination on an interface may consist of any combination of devices subject only to the requirement that the sum of the Ringer Equivalence Numbers of all the devices does not exceed 5.

Déclarations sur les télécommunications selon DOC (pour des produits munis d'un modem homologué par la IC)

L'étiquette d'Industrie Canada identifie un équipement autorisé. Cette autorisation signifie que l'équipement satisfait certaines exigences pour la sécurité, fonctionnement et protection des réseaux téléphoniques. Le département ne garantie pas que l'équipement fonctionne comme le désirerait l'utilisateur.

Avant d'installer l'équipement, les utilisateurs doivent s'assurer que leur connexion aux installations de la compagnie de télécommunication locale soit permise.

L'équipement doit être également installé selon une méthode acceptable de connexion. Dans certains cas, l'installation électrique associée à un service de ligne individuel peut être rallongé par un connecteur homologué. Le client doit savoir que

la conformité aux conditions précédentes ne garantit pas un fonctionnement parfait dans toutes les situations.

Les réparations de l'équipement homologué doivent être effectuées dans les installations de maintenance canadiennes autorisées par le fournisseur. Les réparations ou modifications effectuées par l'utilisateur sur cet équipement, ou anomalies de l'équipement, peuvent faire que la compagnie de télécommunication demande la déconnexion de l'équipement.

Les utilisateurs doivent s'assurer, pour leur propre protection, que les raccordements électriques à la terre, les lignes de téléphone et l'infrastructure de la conduite d'eau, si il y en a, sont connectés ensemble. Cette précaution peut être particulièrement importante dans les zones rurales.

> ⚠ Afin d'éviter une électrocution ou le disfonctionnement de l'équipement, n'essayez pas de faire vous-même les raccordements électriques à la terre. Contactez l'autorité inspectrice adéquate ou un électricien, selon il conviendra.

Le **Numéro d'équivalence d'appel** (REN) attribué à chaque dispositif terminal fourni une indication du nombre maximum de terminales qui peuvent être connectées à une interface téléphonique. Le bout d'une interface peut contenir n'importe quelle combinaison de dispositifs sujets uniquement à la condition que le total des numéros d'équivalence d'appel de tous les dispositifs ne dépasse pas 5.

Regulatory Compliance Statements

Brazil

Este produto esta homologado pela ANATEL, de acordo com os procedimentos regulamentados pela Resolucao 242/2000, e atende aos requisitos tecnicos aplicados.

Este equipamento opera em caráter secundário, isto é, não tem direito a proteção contra interferência prejudicial, mesmo de estações do mesmo tipo, e não pode causar interferência a sistemas operando em caráter primário.

European Union

European Union CE Marking and Compliance Notices

Products intended for sale within the European Union are marked with the Conformité Européene (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 2004/108/EC
- Low Voltage Directive 2006/95/EC
- R&TTE Directive 1999/5/EC

Manufacturer Information

Samsung Electronics Co., Ltd.

416, Maetan-3Dong, Yeongtong-Gu, Suwon-City, Gyeonggi-Do, 443-742, Korea

Samsung Electronics Suzhou Computer Co., Ltd.

No. 198, Fangzhou Road, Suzhou Industrial Park, Jiangsu Province, 215021, China

Tel: +86-512-6253-8988

For the web or the phone number of Samsung Service Centre, see the Warranty or contact the retailer where you purchased your product.

Regulatory Compliance Statements

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 2.4GHz/5GHz 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 a Notified Body Registration Number and 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.

The low band 5.15 - 5.35 GHz is for indoor use only.

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

EU R&TTE Compliance Statements

cs	**Česky [Czech]**	Samsung tímto prohlašuje, že tento Notebook PC je ve shodě se základními požadavky a dalšími příslušnými ustanoveními směrnice 1999/5/ES.
da	**Dansk [Danish]**	Undertegnede Samsung erklærer herved, at følgende udstyr Notebook PC overholder de væsentlige krav og øvrige relevante krav i direktiv 1999/5/EF.
de	**Deutsch [German]**	Hiermit erklärt Samsung, dass sich das Gerät Notebook PC in Übereinstimmung mit den grundlegenden Anforderungen und den übrigen einschlägigen Bestimmungen der Richtlinie 1999/5/EG befindet.
et	**Eesti [Estonian]**	Käesolevaga kinnitab Samsung seadme Notebook PC vastavust direktiivi 1999/5/ EÜ põhinõuetele ja nimetatud direktiivist tulenevatele teistele asjakohastele sätetele.
en	**English**	Hereby, Samsung, declares that this Notebook PC is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.
es	**Español [Spanish]**	Por medio de la presente Samsung declara que el Notebook PC cumple con los requisitos esenciales y cualesquiera otras disposiciones aplicables o exigibles de la Directiva 1999/5/CE.

Regulatory Compliance Statements

	Ελληνική [Greek]	ΜΕ ΤΗΝ ΠΑΡΟΥΣΑ Samsung ΔΗΛΩΝΕΙ ΟΤΙ Notebook PC ΣΥΜΜΟΡΦΩΝΕΤΑΙ ΠΡΟΣ ΤΙΣ ΟΥΣΙΩΔΕΙΣ ΑΠΑΙΤΗΣΕΙΣ ΚΑΙ ΤΙΣ ΛΟΙΠΕΣ ΣΧΕΤΙΚΕΣ ΔΙΑΤΑΞΕΙΣ ΤΗΣ ΟΔΗΓΙΑΣ 1999/5/ΕΚ.
	Français [French]	Par la présente Samsung déclare que l'appareil Notebook PC est conforme aux exigences essentielles et aux autres dispositions pertinentes de la directive 1999/5/CE.
	Italiano [Italian]	Con la presente Samsung dichiara che questo Notebook PC è conforme ai requisiti essenziali ed alle altre disposizioni pertinenti stabilite dalla direttiva 1999/5/CE.
	Latviski [Latvian]	Ar šo Samsung deklarē, ka Notebook PC atbilst Direktīvas 1999/5/EK būtiskajām prasībām un citiem ar to saistītajiem noteikumiem.
	Lietuvių [Lithuanian]	Šiuo Samsung deklaruoja, kad šis Notebook PC atitinka esminius reikalavimus ir kitas 1999/5/ EB Direktyvos nuostatas.
	Nederlands [Dutch]	Hierbij verklaart Samsung dat het toestel Notebook PC in overeenstemming is met de essentiële eisen en de andere relevante bepalingen van richtlijn 1999/5/EG.
	Malti [Maltese]	Hawnhekk, Samsung, jiddikjara li dan Notebook PC jikkonforma mal-ħtiāijiet essenzjali u ma provvedimenti oħrajn relevanti li hemm fid-Dirrettiva 1999/5/EC.

	Magyar [Hungarian]	Alulírott, Samsung nyilatkozom, hogy a Notebook PC megfelel a vonatkozó alapvetõ követelményeknek és az 1999/5/EC irányelv egyéb elõírásainak.
	Polski [Polish]	Niniejszym Samsung oświadcza, Ŝe Notebook PC jest zgodny z zasadniczymi wymogami oraz pozostałymi stosownymi postanowieniami Dyrektywy 1999/5/EC.
	Português [Portuguese]	Samsung declara que este Notebook PC está conforme com os requisitos essenciais e outras disposições da Directiva 1999/5/CE.
	Slovensko [Slovenian]	Samsung izjavlja, da je ta Notebook PC v skladu z bistvenimi zahtevami in ostalimi relevantnimi določili direktive 1999/5/ES.
	Slovensky [Slovak]	Samsung týmto vyhlasuje, že Notebook PC spĺňa základné požiadavky a všetky príslušné ustanovenia Smernice 1999/5/ES.
	Suomi [Finnish]	Samsung vakuuttaa täten että Notebook PC tyyppinen laite on direktiivin 1999/5/ EY oleellisten vaatimusten ja sitä koskevien direktiivin muiden ehtojen mukainen.
	Svenska [Swedish]	Härmed intygar Samsung att denna Notebook PC står I överensstämmelse med de väsentliga egenskapskrav och övriga relevanta bestämmelser som framgår av direktiv 1999/5/ EG.

Regulatory Compliance Statements

Íslenska [Icelandic]	Hér með lýsir Samsung yfir því að Notebook PC er í samræmi við grunnkröfur og aðrar kröfur, sem gerðar eru í tilskipun 1999/5/EC.
Norsk [Norwegian]	Samsung erklærer herved at utstyret Notebook PC er i samsvar med de grunnleggende krav og øvrige relevante krav i direktiv 1999/5/EF.
Türkiye [Türkçe]	Bu belge ile, Samsung bu Notebook PC'nin 1999/5/EC Yönetmeliğinin temel gerekliliklerine ve ilgili hükümlerine uygun olduğunu beyan eder.

To view the EU Declaration of Conformity for this product (in English only), go to: http://www.samsung.com/uk/support/download/supportDownMain.do then search the model number of the product.

If the Declaration of Conformity for the model you are interested in is not available on our web-site, please contact your distributor.

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.

Regulatory Compliance Statements

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.

The low band 5.15 - 5.35 GHz is for indoor use only.

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)

The low band 5.15 - 5.35 GHz is for indoor use only.

European Telecommunication Information (for products fitted with EU-approved modems)

Marking by the symbol C E indicates compliance of this equipment to the Radio and Telecom Terminal Equipment Directive 1999/5/EC. Such marking is indicative that this equipment meets or exceeds the following technical standards:

CTR 21 - Attachment requirements for pan-European approval for connection to the analogue Public Switched Telephone Networks (PSTNs) of TE (excluding TE supporting voice telephony services) in which network addressing, if provided, is by means of Dual Tone Multi-Frequency (DTMF) signaling.

> ⚠ Although this equipment can use either loop disconnect (pulse) or DTMF (tone) signaling, only the performance of the DTMF signaling is subject to regulatory requirements for correct operation.
>
> It is therefore strongly recommended that the equipment is set to use DTMF signaling for access to public or private emergency services. DTMF signaling also provides faster call setup.

This equipment has been approved to Council Decision 98/482/EEC - "CTR 21" for Pan-European single terminal connection to the Public Switched Telephone Network (PSTN).

However, due to differences between the individual PSTNs provided in different countries, the approval does not, of itself, give an unconditional assurance of successful operation on every PSTN termination point. In the event of problems, you should contact manufacturer Technical Support.

RTC CAUTION

CAUTION : Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Discard used batteries according to the Manufacturer's instruction.

Attention: Danger d'explosion si les piles sont mal palcées. Remplacez les piles usagées uniquement par des piles de type identique ou équivalent recommandees par is fabriquant. Otez les piles usagées selon les instructions du fabriquant.

WEEE Symbol Information

Correct disposal of this product (Waste Electrical & Electronic Equipment)

(Applicable in countries with separate collection systems)

This marking on the product, accessories or literature indicates that the product and its electronic accessories (e.g. charger, headset, USB cable) should not be disposed of with other household waste at the end of their working life.

To prevent possible harm to the environment or human health from uncontrolled waste disposal, please separate these items from other types of waste and recycle them responsibly to promote the sustainable reuse of material resources.

Household users should contact either the retailer where they purchased this product, or their local government office, for details of where and how they can take these items for environmentally safe recycling.

Business users should contact their supplier and check the terms and conditions of the purchase contract. This product and its electronic accessories should not be mixed with other commercial wastes for disposal.

India Only

For more information on safe disposal and recycling visit our website www.samsung.com/in or contact our Helpline numbers - 18002668282, 180030008282.

Correct disposal of batteries in this product

(Applicable in countries with separate collection systems)

This marking on the battery, manual or packaging indicates that the batteries in this product should not be disposed of with other household waste at the end of their working life. Where marked, the chemical symbols Hg, Cd or Pb indicate that the battery contains mercury, cadmium or lead above the reference levels in EC Directive 2006/66. If batteries are not properly disposed of, these substances can cause harm to human health or the environment.

To protect natural resources and to promote material re-use, please separate batteries from other types of waste and recycle them through your local, free battery return system.

USA ONLY

This Perchlorate warning applies only to primary CR (Maganese Dioxide) Lithium coin cells in the product sold or distributed ONLY in California USA.
"Perchlorate Material- special handling may apply, See www.dtsc.ca.gov/hazardouswaste/perchlorate."

Dispose unwanted electronics through an approved recycler.

To find the nearest recycling location, go to our website: www.samsung.com/recyclingdirect Or call, (877) 278-0799

For battery recycling go to call2recycle.org; or call 1-877-723-1297

Samsung Packaging Take-Back Program

In partnering with select recyclers, Samsung offers packaging take-back at no cost to you.

Simply call the following number for the locations nearest you.

CRT Processing, LLC

(877) 278-0799

Kathy Severson – Logistics contact

Dispose unwanted electronics through an approved recycler.

To find the nearest recycling location, go to our website:

www.samsung.com/recyclingdirect Or call, (877) 278-0799

TCO Certified (for corresponding models only)

Congratulations!

This product is TCO Certified for Usability and the Environment.

The product you have just purchased carries the TCO Certified label. This means that your computer is designed, manufactured and tested according to some of the strictest performance and environmental criteria in the world. That makes for a high performance product designed with the user in focus and one that also minimizes the impact on the climate and our natural environment.

TCO Certified is a third party verified program, where every product model is tested by an accredited impartial test laboratory. All criteria have been developed by TCO Development in collaboration with scientists, product experts, users as well as manufacturers all over the world.

Here are some of the features offered with this product:

Usability – Designed for You

- Good visual ergonomics and image quality, ensuring top performance and reduced risk of eye strain. Several requirements within the area of luminance, contrast, resolution and color

- Designed with the option to connect an external display, keyboard and mouse (recommended when working with a notebook or netbook for longer periods)

- Ergonomic keyboard design – for ease of use and good readability

- Fully tested according to rigorous safety standards

- Low Electric and Magnetic field emissions. Low acoustic noise levels

Environment– Designed for the Planet

- Brand demonstrates corporate social responsibility and has a certified environmental management system (EMAS or ISO 14001)

- Very low energy consumption both in idle- and standby mode, reducing climate impact

- Restrictions on hazardous materials: chlorinated and brominated flame retardants, plasticizers, plastics and heavy metals such as cadmium, mercury, lead and hexavalent chromium (mercury ban and limits on hazardous flame retardants go beyond RoHS compliance)

- Both product and product packaging are designed for recycling

- The brand company offers take-back options

For more information, please visit

www.tcodevelopment.com

TCO Certified – Technology for You and the Planet

TCOF1190 TCO Document Version 2.0

Product Specifications

The system specifications may differ depending on the derived models.

For detailed system specifications, refer to the product catalogue.

CPU	Intel Core i3/i5/i7 Processor
Main Memory	Memory type: DDR3 SDRAM
Main Chipset (Optional)	Intel HM65 / HM75
Storage Device	SSD
Graphics	Intel HD Graphics (Internal)
Operating Environment	Temperature: -5~40°C for storage, 10~32°C when operating Humidity: 5~90% for storage, 20~80% when operating
AC/DC Rating	Input: 100-240VAC, 50 ~ 60Hz, Output: 19VDC, 2.1A
PC Rating	19VDC 2.1A (40W)

- Optional components may not be provided or different components may be provided depending on the computer model.
- The system specifications are subject to change without notice.
- The Storage device capacity of a computer in which Recovery is installed, is represented as smaller than the product specification.
- For this product, you cannot replace, add or upgrade the memory due to the design of the computer architecture.
- The amount of memory that Windows can use may be smaller than the actual amount of memory available.

Registered Trademarks

Samsung is a registered trademark of Samsung Co., Ltd.

Intel, Core are registered trademarks of the Intel Corporation.

Microsoft, MS-DOS, and Windows are registered trademarks of the Microsoft Corporation.

The terms HDMI and HDMI High-Definition Multimedia Interface, and the HDMI Logo are trademarks or registered trademarks of HDMI Licensing LLC in the United States and other countries.

All other product or company names mentioned herein are registered trademarks of their respective companies.

ENERGY STAR® Partner

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

HDMI

Glossary

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

Backup

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

Chargeable USB

This program enables supplying power to a specific USB port when the system is in power saving mode, hibernation mode or off.

Client

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

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

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

Device Manager

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

DHCP (Dynamic Host Configuration Protocol)

This refers to automatically allocating IP addresses to the users on the network by the network administrators.

Direct X

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

Driver

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

D-sub (D-subminiature)

This is the cable connecting a general CRT monitor and the computer. Analog video is output through this cable.

DVD (Digital Versatile Disk)

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

Firewall

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

HDMI

This is a digital video / audio interface specification that transmits video and audio signals over a single cable.

Hibernation Mode

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

Icon

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

IEEE802.XX

This is a set fo specifications developed by the 802 committee of IEEE for the LAN connection method called XX.

LAN (Local Area Network)

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

LCD (Liquid Crystal Display)

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

Glossary

Network

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

Network Administrator

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

Notification Area

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

Partition

This refers to the act or practice of dividing the storage space of a hard disk drive into separate data areas known as partitions. If a 100GB hard disk drive is partitioned into 2 x 50GB partitions, the hard disk drive can be used as if there are 2 hard disk drives.

PCMCIA(Personal Computer Memory Card International Association) card

This is an extended card slot specification for mobile computers such as a notebook computer. Not only a memory, device but also most peripherals such as hard disk drives, LAN cards, etc. can be connected to this card slot.

Protocol

A protocol is a set of rules used by computers to communicate with each other across a network. A protocol is a convention or standard that controls or enables the connection, communication, and data transfer between computing endpoints. It defines the data transmission procedures and the transmission medium for more efficient network functions.

Quick Launch

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

SDHC (Secure Digital High Capacity) card

This is the extension of the SD card that supports over 2GB bytes.

Glossary

SDXC (Secure Digital eXtended Capacity)

SDXC provides a higher capacity and speed than the SDHC specification. This is a new SD card specification that can theoretically implement a memory capacity up to 2TB.

For high capacity implementation, apply the exFAT specifications.

Server

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

Share

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

Shared Folder

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

Sleep Mode

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

System File

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

TCP/IPv4

This is a 4 byte (32 bit) address system separated into each byte (8 bits) by a dot and each byte is represented as a decimal number.

USB (Universal Serial Bus)

This refers to a serial interface standard developed to replace the conventional interface standards such as Serial and PS/2.

The data transmission specifications are one of the interface standards used to connect a computer to peripheral devices. These specifications include USB 1.0, 1.1, 2.0 and 3.0.

It is appropriate to support peripheral devices that require high data rates such as an AV device, secondary HDD or CD-RW. The higher the version (e.g. USB 3.0), the higher the data rate provided.

Windows Media Player

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

Index