Notebook PC

Hardware User's Manual

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1. Introducing the Notebook PC

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About This User's Manual

You are reading the Notebook PC User's Manual. This User's Manual provides information on the various components in the Notebook PC and how to use them. The following are major sections of this User's Manuals:

1. **Introducing the Notebook PC**
   Introduces you to the Notebook PC and this User's Manual.

2. **Knowing the Parts**
   Gives you information on the Notebook PC's components.

3. **Getting Started**
   Gives you information on getting started with the Notebook PC.

4. **Using the Notebook PC**
   Gives you information on using the Notebook PC's components.

5. **Appendix**
   Introduces you to optional accessories and gives additional information.

Notes For This Manual

A few notes and warnings in bold are used throughout this guide that you should be aware of in order to complete certain tasks safely and completely. These notes have different degrees of importance as described below:

NOTE: Tips and information for special situations.

TIP: Tips and useful information for completing tasks.

IMPORTANT! Vital information that must be followed to prevent damage to data, components, or persons.

WARNING! Important information that must be followed for safe operation.

< > **Text enclosed in < > or [ ] represents a key on the keyboard; do not actually type the**
[ ] **< > or [ ] and the enclosed letters.**

Safety Precautions

The following safety precautions will increase the life of the Notebook PC. Follow all precautions and instructions. Except as described in this manual, refer all servicing to qualified personnel. Do not use damaged power cords, accessories, or other peripherals. Do not use strong solvents such as thinners, benzene, or other chemicals on or near the surface.

IMPORTANT! Disconnect the AC power and remove the battery pack(s) before cleaning. Wipe the Notebook PC using a clean cellulose sponge or chamois cloth dampened with a solution of nonabrasive detergent and a few drops of warm water and remove any extra moisture with a dry cloth.

DO NOT place on uneven or unstable work surfaces. Seek servicing if the casing has been damaged.

DO NOT press or touch the display panel. Do not place together with small items that may scratch or enter the Notebook PC.

DO NOT expose to dirty or dusty environments. **DO NOT** operate during a gas leak.

DO NOT leave the Notebook PC on your lap or any part of the body in order to prevent discomfort or injury from heat exposure.

SAFE TEMP: This Notebook PC should only be used in environments with ambient temperatures between 5°C (41°F) and 35°C (95°F)

DO NOT throw the Notebook PC in municipal waste. Check local regulations for disposal of electronic products.

DO NOT place or drop objects on top and do not shove any foreign objects into the Notebook PC.

DO NOT expose to strong magnetic or electrical fields.

DO NOT expose to or use near liquids, rain, or moisture. **DO NOT** use the modem during an electrical storm.

Battery safety warning:
DO NOT throw the battery in fire.
DO NOT short circuit the contacts.
DO NOT disassemble the battery.

INPUT RATING: Refer to the rating label on the bottom of the Notebook PC and be sure that your power adapter complies with the rating.

DO NOT carry or cover a Notebook PC that is powered ON with any materials that will reduce air circulation such as a carrying bag.

Transportation Precautions

To prepare the Notebook PC for transport, you should turn it OFF and **disconnect all external peripherals to prevent damage to the connectors**. The hard disk drive's head retracts when the power is turned OFF to prevent scratching of the hard disk surface during transport. Therefore, you should not transport the Notebook PC while the power is still ON. Close the display panel and check that it is latched securely in the closed position to protect the keyboard and display panel.

CAUTION: The Notebook PC's surface is easily dulled if not properly cared for. Be careful not to rub or scrape the Notebook PC surfaces.

Cover Your Notebook PC

Purchase a carrying bag to protect the Notebook PC from dirt, water, shock, and scratches.

Charge Your Batteries

If you intend to use battery power, be sure to fully charge your battery pack and any optional battery packs before going on long trips. Remember that the power adapter charges the battery pack as long as it is plugged into the computer and an AC power source. Be aware that it takes much longer to charge the battery pack when the Notebook PC is in use.

Airplane Precautions

Contact your airline if you want to use the Notebook PC on the airplane. Most airlines will have restrictions for using electronic devices. Most airlines will allow electronic use only between and not during takeoffs and landings.

CAUTION! There are three main types of airport security devices: X-ray machines (used on items placed on conveyor belts), magnetic detectors (used on people walking through security checks), and magnetic wands (hand-held devices used on people or individual items). You can send your Notebook PC and diskettes through airport X-ray machines. However, it is recommended that you do not send your Notebook PC or diskettes through airport magnetic detectors or expose them to magnetic wands.
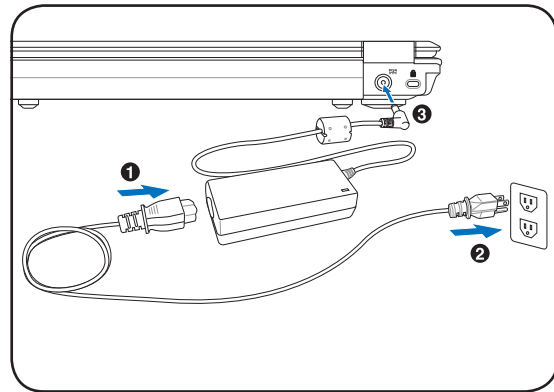

Preparing your Notebook PC

These are only quick instructions for using your Notebook PC. Read the later pages for detailed information on using your Notebook PC.
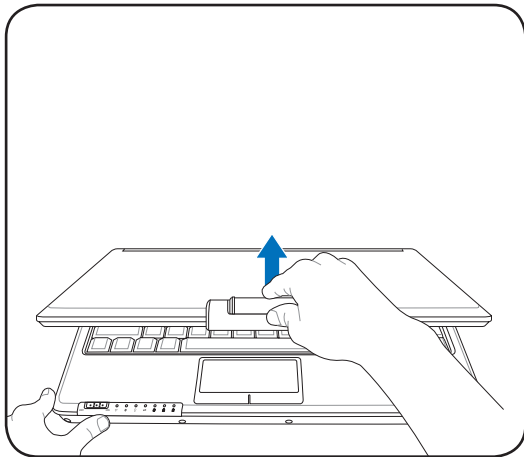
1. Install the battery pack
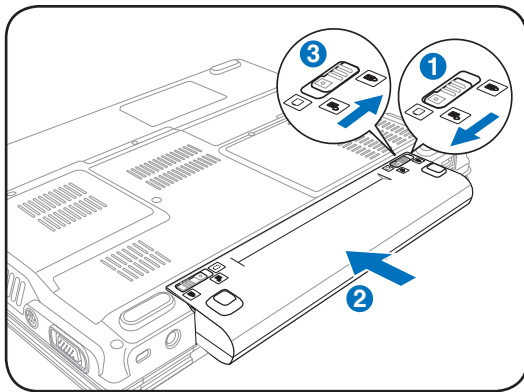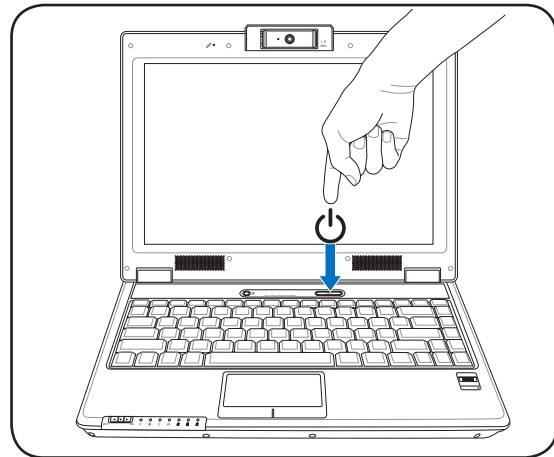
2. Connect the AC Power Adapter

3. Open the Display Panel

4. Turn ON the Notebook PC

👆 **IMPORTANT! When opening, do not force the display panel down to the table or else the hinges may break! Never lift the Notebook PC by the display panel!**

Press the power button and release.

(In Windows XP, this button can also be used to safely turn OFF the Notebook PC.)

1

2. Knowing the Parts

Basic sides of the Notebook PC

2 Knowing the Parts

Top Side

Refer to the diagram below to identify the components on this side of the Notebook PC.
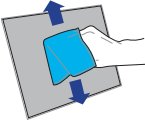
> **NOTE: The keyboard will be different for each territory.**
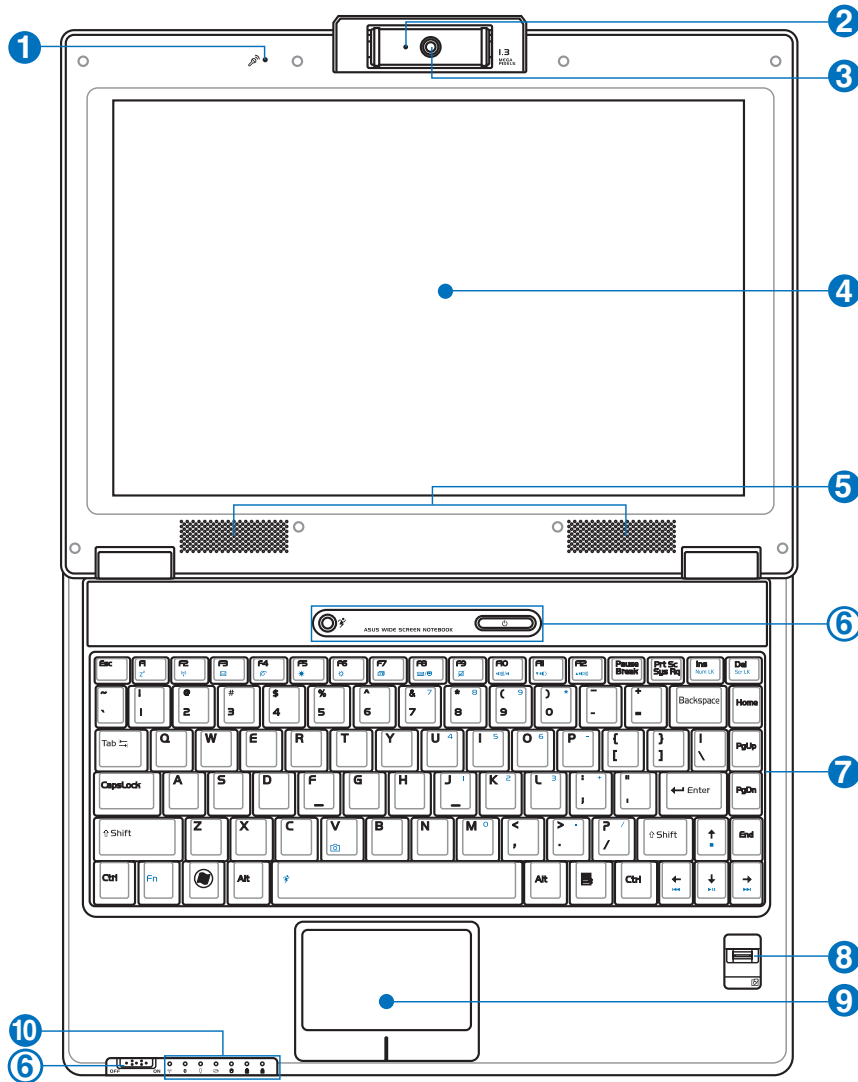
1 Microphone (Built-in)

The built-in mono microphone can be used for video conferencing, voice narrations, or simple audio recordings.

2 **Camera Indicator**

The camera indicator shows when the built-in camera is in use. The camera may be auto-activated by supported software.

3 ◎ **Multi-Position Camera (on selected models)**

The built-in camera allows picture taking or video recording. Can be used with video conferencing and other interactive applications. **CAUTION: The camera can be adjusted facing forward or facing backward but can only flip through the bottom. Do not rotate the camera upward past 35 degrees.**

4 🖥 **Display Panel**

The display panel functions the same as a desktop monitor. The Notebook PC uses an active matrix TFT LCD, which provides excellent viewing like that of desktop monitors. Unlike desktop monitors, the LCD panel does not produce any radiation or flickering, so it is easier on the eyes. Use a soft cloth without chemical liquids (use plain water if necessary) to clean the display panel.

5 ◁⫶ **Audio Speakers**

The built-in stereo speaker system allows you to hear audio without additional attachments. The multimedia sound system features an integrated digital audio controller that produces rich, vibrant sound (results improved with external stereo headphones or speakers). Audio features are software controlled.

6 ▭ **Instant Keys**

Instant keys allow you to launch frequently used applications with one push of a button. Details are described in section 3.

7 ⊞ **Keyboard**

The keyboard provides full-sized keys with comfortable travel (depth at which the keys can be depressed) and palm rest for both hands. Two Windows function keys are provided to help ease navigation in the Windows operating system.

8 🔳 **Fingerprint Scanner (on selected models)**

The fingerprint scanner allows use of security software using your fingerprint as your identification key.

9 ⊟ **Touchpad and Buttons**

The touchpad with its buttons is a pointing device that provides the same functions as a desktop mouse. A software-controlled scrolling function is available after setting up the included touchpad utility to allow easy Windows or web navigation.

10 Ω **Status Indicators (front)**

Status indicators represent various hardware/software conditions. See indicator details in section 3.

Bottom Side

Refer to the diagram below to identify the components on this side of the Notebook PC.

📝 **NOTE: The bottom side may vary in appearance depending on model.**

📝 **NOTE: The battery pack size will vary depending on model.**
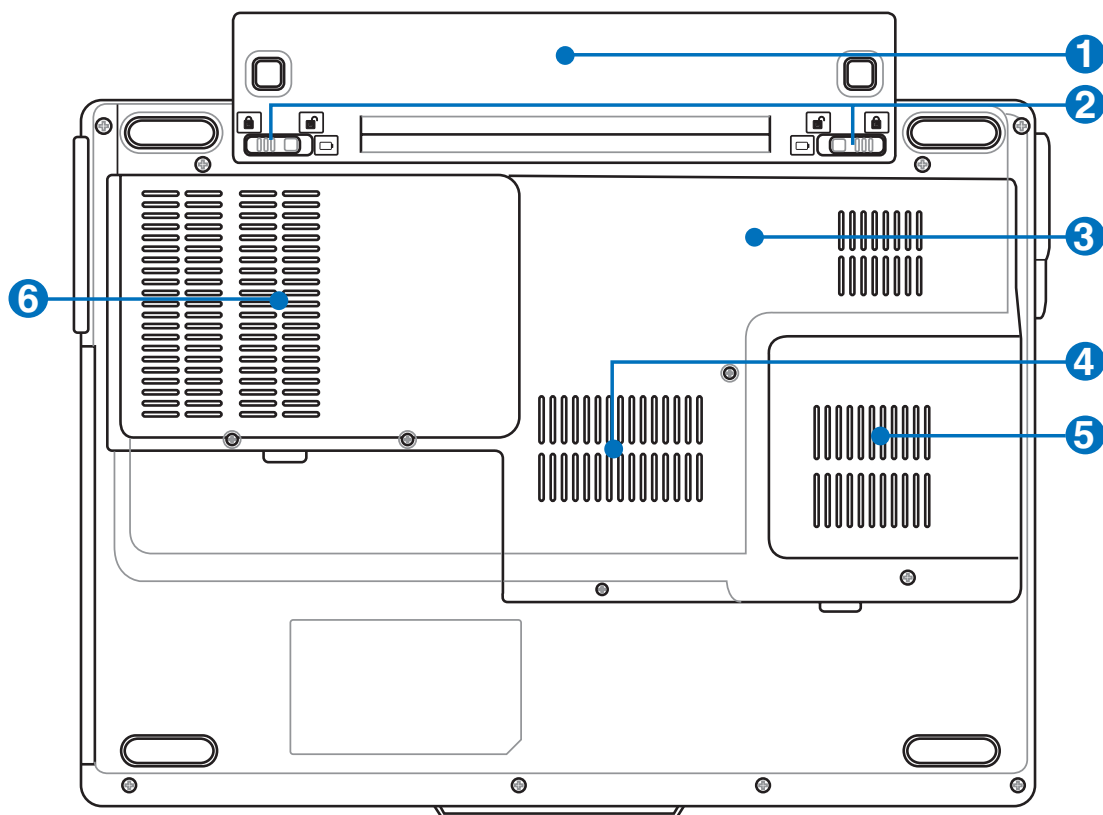
⚠️ **WARNING! The bottom of the Notebook PC can get very hot. Be careful when handling the Notebook PC while it is in operation or recently been in operation. High temperatures are normal during charging or operation. Do not use on soft surfaces such as beds or sofas which may block the vents. DO NOT PUT THE NOTEBOOK PC ON YOUR LAP OR OTHER PARTS OF THE BODY TO AVOID INJURY FROM THE HEAT.**

1 ▭ **Battery Pack**

The battery pack is automatically charged when the Notebook PC is connected to an AC power source and maintains power to the Notebook PC when AC power is not connected. This allows use when moving temporarily between locations. Battery time varies by usage and by the specifications for this Notebook PC. The battery pack cannot be disassembled and must be purchased as a single unit.

2 🔓 **Battery Lock - Spring**

The spring battery lock is used to keep the battery pack secured. When the battery pack is inserted, it will automatically lock. To remove the battery pack, this spring lock must be held in the unlocked position.

3 ▣ **Central Processor Unit (CPU) Compartment**

Some Notebook PC models feature a socketed-processor design to allow upgrading to faster processors in the future. Some models feature a ULV design for compactness and may not be upgraded. Visit an authorized service center or retailer for information on upgrades.
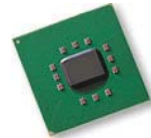
✋ **WARNING! End-user removal of the CPU or hard disk drive will void the warranty.**

4 〓 **Memory (RAM) Compartment**

The memory compartment provides expansion capabilities for additional memory. Additional memory will increase application performance by decreasing hard disk access. The BIOS automatically detects the amount of memory in the system and configures CMOS accordingly during the POST (Power-On-Self-Test) process. There is no hardware or software (including BIOS) setup required after the memory is installed. Visit an authorized service center or retailer for information on memory upgrades for your Notebook PC. Only purchase expansion modules from authorized retailers of this Notebook PC to ensure maximum compatibility and reliability.

5 � **Cooling Fan**

The cooling fan removes excess heat depending on temperature threshold settings.

✋ **IMPORTANT! Make sure that paper, books, clothing, cables, or other objects do not block any of the air vents or else overheating may occur.**

6 ⊟ **Hard Disk Drive Compartment**

The hard disk drive is secured in a compartment. Hard disk drive upgrades are to be done by authorized service centers or dealers only.

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2 Knowing the Parts

Left Side

Refer to the diagram below to identify the components on this side of the Notebook PC.

1 🖥 Display (Monitor) Output

The 15-pin D-sub monitor port supports a standard VGA-compatible device such as a monitor or projector to allow viewing on a larger external display.

2 HDMI HDMI Port

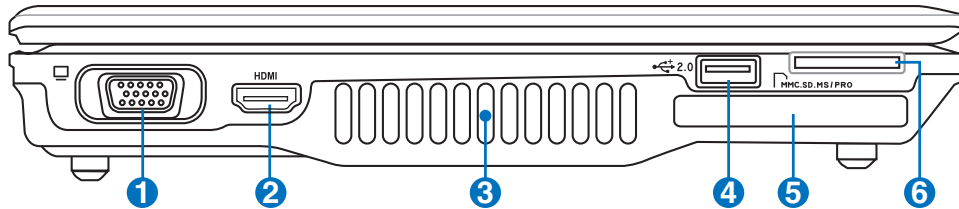HDMI (High-Definition Multimedia Interface) is an uncompressed all-digital audio/ video interface between any audio/video source, such as a set-top box, DVD player, and A/V receiver and an audio and/or video monitor, such as a digital television (DTV). Supports standard, enhanced, or high-definition video, plus multi-channel digital audio on a single cable. It transmits all ATSC HDTV standards and supports 8-channel digital audio, with bandwidth to spare to accommodate future enhancements or requirements.
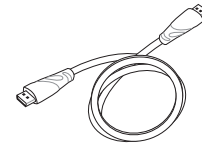
3 ✣ Air Vents

The air vents allow cool air to enter and warm air to exit the Notebook PC.

> **IMPORTANT! Make sure that paper, books, clothing, cables, or other objects do not block any of the air vents or else overheating may occur.**

4 ⟳ USB Port (2.0/1.1)
2.0

The USB (Universal Serial Bus) port is compatible with USB 2.0 or USB 1.1 devices such as keyboards, pointing devices, cameras, hard disk drives, printers, and scanners connected in a series up to 12Mbits/sec (USB 1.1) and 480Mbits/sec (USB 2.0). USB allows many devices to run simultaneously on a single computer, with some peripherals acting as additional plug-in sites or hubs. USB supports hot-swapping of devices so that most peripherals can be connected or disconnected without restarting the computer.

5 ⊡ ExpressCard Slot

One 26pin Express card slot is available to support one ExpressCard/34mm or one ExpressCard/54mm expansion card. This new interface is faster by using a serial bus supporting USB 2.0 and PCI Express instead of the slower parallel bus used in the PC card slot. (Not compatible with previous PCMCIA cards.)

6 Flash Memory Slot

Normally a PCMCIA or USB memory card reader must be purchased separately in order to use memory cards from devices such as digital cameras, MP3 players, mobile phones, and PDAs. This Notebook PC has a built-in memory card reader that can read many flash memory cards as specified later in this manual. The built-in memory card reader is not only convenient, but also faster than most other forms of memory card readers because it utilizes the high-bandwidth PCI bus.

Right Side

Refer to the diagram below to identify the components on this side of the Notebook PC.
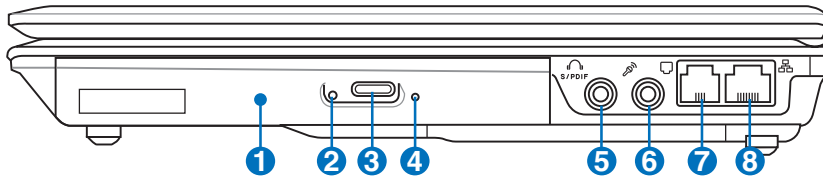
① Optical Drive

The Notebook PC comes in various models with different optical drives. The Notebook PC's optical drive may support compact discs (CD) and/or digital video discs (DVD) and may have recordable (R) or re-writable (RW) capabilities. See the marketing specifications for details on each model.

② Optical Drive Emergency Eject (location varies by model)

The emergency eject is used to eject the optical drive tray in case the electronic eject does not work. Do not use the emergency eject in place of the electronic eject.

③ Optical Drive Electronic Eject

The optical drive eject has an electronic eject button for opening the tray. You can also eject the optical drive tray through any software player or by right clicking the optical drive in Windows™ "My Computer."

④ Optical Drive Activity Indicator (location varies by model)

The optical drive activity indicator shows when data is being transferred by the optical disk drive. This indicator will light in proportion to the data size transferred.
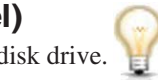
⑤ SPDIF Output Jack

This jack provides connection to SPDIF (Sony/Philips Digital Interface) compliant devices for digital audio output. Use this feature to turn the Notebook PC into a hi-fi home entertainment system.

Headphone Output Jack

The stereo headphone jack (1/8 inch) is used to connect the Notebook PC's audio out signal to amplified speakers or headphones. Using this jack automatically disables the built-in speakers.

⑥ Microphone Input Jack

The mono microphone jack (1/8 inch) can be used to connect an external microphone or output signals from audio devices. Using this jack automatically disables the built-in microphone. Use this feature for video conferencing, voice narrations, or simple audio recordings.

7   Modem Port

The RJ-11 modem port with two pins is smaller than the RJ-45 LAN port and supports a standard telephone cable. The internal modem supports up to 56K V.90 transfers. The built-in connector allows convenient use without additional adapters.

IMPORTANT! The built-in modem does not support the voltage used in digital phone systems. Do not connect the modem port to a digital phone system or else damage will occur to the Notebook PC.
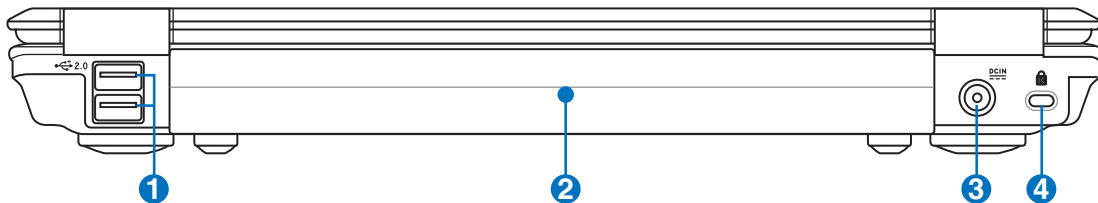
8   LAN Port

The RJ-45 LAN port with eight pins is larger than the RJ-11 modem port and supports a standard Ethernet cable for connection to a local network. The built-in connector allows convenient use without additional adapters.

2 Knowing the Parts

Rear Side

Refer to the diagram below to identify the components on this side of the Notebook PC.

1 ← USB Port (2.0/1.1)
2.0

The USB (Universal Serial Bus) port is compatible with USB 2.0 or USB 1.1 devices such as keyboards, pointing devices, cameras, hard disk drives, printers, and scanners connected in a series up to 12Mbits/sec (USB 1.1) and 480Mbits/sec (USB 2.0). USB allows many devices to run simultaneously on a single computer, with some peripherals acting as additional plug-in sites or hubs. USB supports hot-swapping of devices so that most peripherals can be connected or disconnected without restarting the computer.

2 ▭ Battery Pack

The battery pack is automatically charged when the Notebook PC is connected to an AC power source and maintains power to the Notebook PC when AC power is not connected. This allows use when moving temporarily between locations. Battery time varies by usage and by the specifications for this Notebook PC. The battery pack cannot be disassembled and must be purchased as a single unit.

3 ⎓ Power (DC) Input

The supplied power adapter converts AC power to DC power for use with this jack. Power supplied through this jack supplies power to the Notebook PC and charges the internal battery pack. To prevent damage to the Notebook PC and battery pack, always use the supplied power adapter. **CAUTION: MAY BECOME WARM TO HOT WHEN IN USE. BE SURE NOT TO COVER THE ADAPTER AND KEEP IT AWAY FROM YOUR BODY.**

4 🔒 Kensington® Lock Port

The Kensington® lock port allows the Notebook PC to be secured using Kensington® compatible Notebook PC security products. These security products usually include a metal cable and lock that prevent the Notebook PC to be removed from a fixed object. Some may also include a motion detector to sound an alarm when moved.

Front Side

Refer to the diagram below to identify the components on this side of the Notebook PC.
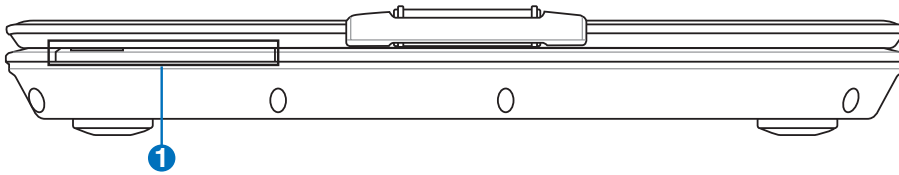
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❶ ◯ **Status Indicators (front)**
Status indicators represent various hardware/software conditions. See indicator details in section 3.

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3 Getting Started

3. Getting Started

Using AC Power
Using Battery Power
Powering ON the Notebook PC
Checking Battery Power
Restarting or Rebooting
Powering OFF the Notebook PC
**Special Keyboard Functions**
Switches and Status Indicators

Power System

Using AC Power

The Notebook PC power is comprised of two parts, the power adapter and the battery power system. The power adapter converts AC power from a wall outlet to the DC power required by the Notebook PC. Your Notebook PC comes with a universal AC-DC adapter. That means that you may connect the power cord to any 100V-120V as well as 220V-240V outlets without setting switches or using power converters. Different countries may require that an adapter be used to connect the provided US-standard AC power cord to a different standard. Most hotels will provide universal outlets to support different power cords as well as voltages. It is always best to ask an experienced traveler about AC outlet voltages when bringing power adapters to another country.
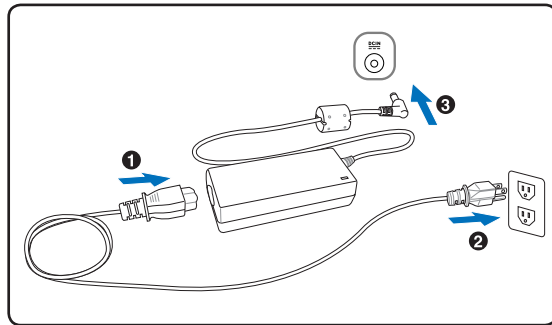
TIP: You can buy travel kits for the Notebook PC that includes power and modem adapters for almost every country.

With the AC power cord connected to the AC-DC converter, connect the AC power cord to an AC outlet (preferably with surge-protection) and then connect the DC plug to the Notebook PC. Connecting the AC-DC adapter to the AC outlet first allows you to test the AC outlet's power and the AC-DC converter itself for compatibility problems before connecting the DC power to the Notebook PC. The power indicator on the adapter (if available) will light if the power is within accepted ranges.

IMPORTANT! Damage may occur if you use a different adapter to power the Notebook PC or use the Notebook PC's adapter to power other electrical devices. If there is smoke, burning scent, or extreme heat coming from the AC-DC adapter, seek servicing. Seek servicing if you suspect a faulty AC-DC adapter. You may damage both your battery pack(s) and the Notebook PC with a faulty AC-DC adapter.

NOTE: This Notebook PC may come with either a two or three-prong plug depending on territory. If a three-prong plug is provided, you must use a grounded AC outlet or use a properly grounded adapter to ensure safe operation of the Notebook PC.

WARNING! THE POWER ADAPTER MAY BECOME WARM TO HOT WHEN IN USE. BE SURE NOT TO COVER THE ADAPTER AND KEEP IT AWAY FROM YOUR BODY.

Using Battery Power

The Notebook PC is designed to work with a removable battery pack. The battery pack consists of a set of battery cells housed together. A fully charged pack will provide several hours of battery life, which can be further extended by using power management features through the BIOS setup. Additional battery packs are optional and can be purchased separately through a Notebook PC retailer.

Installing and Removing the Battery Pack

Your Notebook PC may or may not have its battery pack installed. If your Notebook PC does not have its battery pack installed, use the following procedures to install the battery pack.

IMPORTANT! Never attempt to remove the battery pack while the Notebook PC is turned ON, as this may result in the loss of working data.
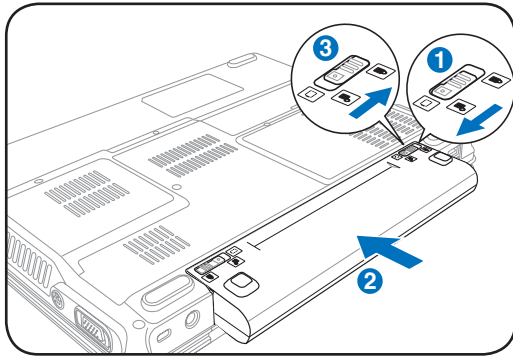
To install the battery pack: **To remove the battery pack:**
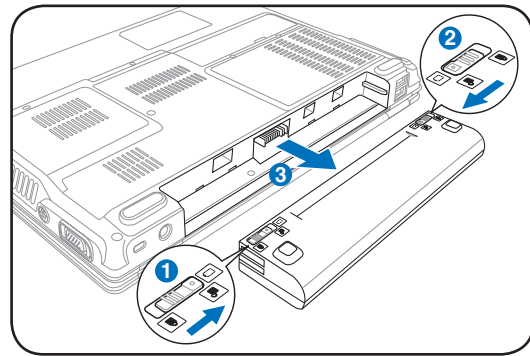
IMPORTANT! Only use battery packs and power adapters supplied with this Notebook PC or specifically approved by the manufacturer or retailer for use with this model or else damage may occur to the Notebook PC.

Battery Care

The Notebook PC's battery pack, like all rechargeable batteries, has a limit on the number times it can be recharged. The battery pack's useful life will depend on your environment temperature, humidity, and how your Notebook PC is used. It is ideal that the battery be used in a temperature range between 5˚C and 35˚C (41˚F and 95˚F). You must also take into account that the Notebook PC's internal temperature is higher than the outside temperature. Any temperatures above or below this range will shorten the life of the battery. But in any case, the battery pack's usage time will eventually decrease and a new battery pack must be purchased from an authorized dealer for this Notebook PC. Because batteries also have a shelf life, it is not recommended to buy extras for storing.

WARNING! For safety reasons, DO NOT throw the battery in fire, DO NOT short circuit the contacts, and DO NOT disassemble the battery. If there is any abnormal operation or damage to the battery pack caused by impact, turn OFF the Notebook PC and contact an authorized service center.

3 Getting Started

⏻ Powering ON the Notebook PC

The Notebook PC's power-ON message appears on the screen when you turn it ON. If necessary, you may adjust the brightness by using the hot keys. If you need to run the BIOS Setup to set or modify the system configuration, press [F2] upon bootup to enter the BIOS Setup. If you press [Tab] during the splash screen, standard boot information such as the BIOS version can be seen. Press [ESC] and you will be presented with a boot menu with selections to boot from your available drives.

> **NOTE: Before bootup, the display panel flashes when the power is turned ON. This is part of the Notebook PC's test routine and is not a problem with the display.**

> **IMPORTANT! To protect the hard disk drive, always wait at least 5 seconds after turning OFF your Notebook PC before turning it back ON.**

> **WARNING! DO NOT carry or cover a Notebook PC that is powered ON with any materials that will reduce air circulation such as a carrying bag.**

🔍 The Power-On Self Test (POST)

When you turn ON the Notebook PC, it will first run through a series of software-controlled diagnostic tests called the Power-On Self Test (POST). The software that controls the POST is installed as a permanent part of the Notebook PC's architecture. The POST includes a record of the Notebook PC's hardware configuration, which is used to make a diagnostic check of the system. This record is created by using the BIOS Setup program. If the POST discovers a difference between the record and the existing hardware, it will display a message on the screen prompting you to correct the conflict by running BIOS Setup. In most cases the record should be correct when you receive the Notebook PC. When the test is finished, you may get a message reporting "No operating system found" if the hard disk was not preloaded with an operating system. This indicates that the hard disk is correctly detected and ready for the installation of a new operating system.

🖥 Self Monitoring and Reporting Technology

The S.M.A.R.T. (Self Monitoring and Reporting Technology) checks the hard disk drive during POST and gives a warning message if the hard disk drive requires servicing. If any critical hard disk drive warning is given during bootup, backup your data immediately and run Windows disk checking program. To run Window's disk checking program: (1) right-click any hard disk drive icon in "My Computer", (2) choose Properties, (3) click the Tools tab, (4) click Check Now, (5) select a hard disk drive, (6) select Thorough to also check for physical damages, and (7) click Start. Third party disk utilities such as Symantec's Norton Disk Doctor can also perform the same functions but with greater ease and more features.

> **IMPORTANT! If warnings are still given during bootup after running a software disk checking utility, you should take your Notebook PC in for servicing. Continued use may result in data loss.**

Checking Battery Power

The battery system implements the Smart Battery standard under the Windows environment, which allows the battery to accurately report the amount of charge left in the battery. A fully-charged battery pack provides the Notebook PC a few hours of working power. But the actual figure varies depending on how you use the power saving features, your general work habits, the CPU, system memory size, and the size of the display panel.

To check the remaining battery power, move your cursor over the power icon. The power icon is a "battery" when not using AC power and a "plug" when using AC power. Double click on the icon for more information and settings.

2:53 hours (99%) remaning
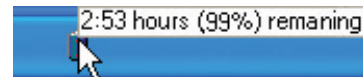
Move your mouse over the battery icon for remaining power information.

92% remaning (charging)
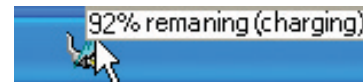
When the AC power is connected, charging status will be shown.

NOTE: You will be warned when battery power is low. If you continue to ignore the low battery warnings, the Notebook PC eventually enters suspend mode (Windows default uses STR).

Note: Screen captures shown here are examples only and may not reflect what you see in your system.

Adjust Power Properties
Open Power Meter

Right-click the battery icon for sub-menus.

Home/Office Desk
Portable/Laptop
Presentation
Always On
Minimal Power Management
Max Battery
● Power4 Gear

Left-click the battery icon for power management settings.

WARNING! Suspend-to-RAM (STR) does not last long when the battery power is depleted. Suspend-to-Disk (STD) is not the same as power OFF. STD requires a small amount of power and will fail if no power is available due to complete battery depletion or no power supply (e.g. removing both the power adapter and battery pack).

Charging the Battery Pack

Before you use your Notebook PC on the road, you will have to charge the battery pack. The battery pack begins to charge as soon as the Notebook PC is connected to external power using the power adapter. Fully charge the battery pack before using it for the first time. A new battery pack must completely charge before the Notebook PC is disconnected from external power. It takes a few hours to fully charge the battery when the Notebook PC is turned OFF and may take twice the time when the Notebook PC is turned ON. The battery charge light turns OFF when the battery pack is charged.

NOTE: The battery stops charging if the temperature is too high or the battery voltage is too high.

WARNING! Do not leave the battery pack discharged. The battery pack will discharge over time. If not using a battery pack, it must continued to be charged every three months to extend recovery capacity or else it may fail to charge in the future.

✳ Restarting or Rebooting

After making changes to your operating system, you may be prompted to restart the system. Some installation processes will provide a dialog box to allow restart. To restart the system manually, click Windows Start button and select Shut Down and then choose Restart.

(Screens are different depending on security settings.)

ⓞ Powering OFF

In Windows XP, power OFF the Notebook PC by clicking Windows Start button and select Shut Down and then choose Turn off (or Shut down). For operating systems without proper power management (DOS, Windows NT), you must close all applications and exit operating systems and then power OFF by holding the power switch for 2 seconds (as opposed to 1 second to power ON). Holding the power switch for 2 seconds is necessary in order to prevent accidental power-OFFs.

🖐 **IMPORTANT! To protect the hard drive, wait at least 5 seconds after turning OFF your Notebook PC before turning it back ON.**

🔎 Emergency Shutdown

In case your operating system cannot properly turn OFF or restart, hold the power button ⏻ over 4 seconds to shutdown your Notebook PC.
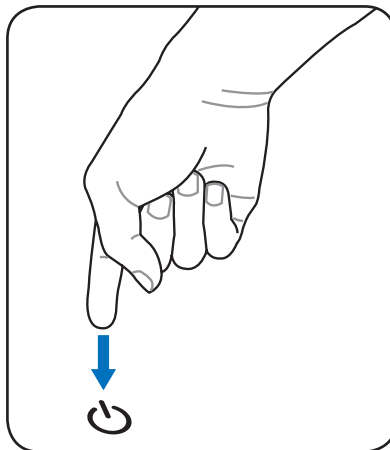
Special Keyboard Functions

Colored Hot Keys

The following defines the colored hot keys on the Notebook PC's keyboard. The colored commands can only be accessed by first pressing and holding the function key while pressing a key with a colored command.

> **NOTE: The Hot Key locations on the function keys may vary depending on model but the functions should remain the same. Follow the icons instead of the function keys.**

"Zz" Icon (F1): Places the Notebook PC in suspend mode (either Save-to-RAM or Save-to-Disk depending on sleep button setting in power management setup).

Radio Tower (F2): Wireless Models Only: Toggles the internal wireless LAN or Bluetooth (on selected models) ON or OFF with an on-screen-display. When enabled, the corresponding wireless indicator will light. Windows software settings are necessary to use the wireless LAN or Bluetooth.

Envelope Icon (F3): Pressing this button will launch your Email application while Windows is running.

"e" Icon (F4): Pressing this button will launch your Internet browser application while Windows is running.

Filled Sun Icon (F5):
Decreases the display brightness

Open Sun Icon (F6):
Increases the display brightness

LCD Icon (F7): Toggles the display panel ON and OFF. (On certain models; stretches the screen area to fill the entire display when using low resolution modes.)

LCD/Monitor Icons (F8): Toggles between the Notebook PC's LCD display and an external monitor in this series: Notebook PC LCD -> External Monitor -> Both. (This function does not work in 256 Colors, select High Color in Display Property Settings.)
NOTE: Must connect an external monitor "before" booting up the Notebook PC.

Crossed-out Touchpad (F9): Toggles the built-in touchpad LOCKED (disabled) and UNLOCKED (enabled). Locking the touchpad will prevent you from accidentally moving the cursor while typing and is best used with an external pointing device such as a mouse. Note: An indicator between the touchpad buttons will light when the touchpad is UNLOCKED (enabled) and not light when the touchpad is LOCKED (disabled).

Speaker Icons (F10):
Toggles the speakers ON and OFF (only in Windows OS)

Colored Hot Keys (Cont.)

Speaker Down Icon (F11):
Decreases the speaker volume (only in Windows OS)

Speaker Up Icon (F12):
Increases the speaker volume (only in Windows OS)

Num Lk (Ins): Toggles the numeric keypad (number lock) ON and OFF. Allows you to use a larger portion of the keyboard for number entering.

Scr Lk (Del): Toggles the "Scroll Lock" ON and OFF. Allows you to use a larger portion of the keyboard for cell navigation.

Fn+C: Toggles "Splendid Video Intelligent Technology" function ON and OFF. This allows switching between different display color enhancement modes in order to improve contrast, brightness, skin tone, and color saturation for red, green, and blue independently. You can see the current mode through the on-screen display (OSD).

OSD Icons	Normal	Gamma Correction	Vivid Mode	Theater Mode	Soft Mode	My Profile
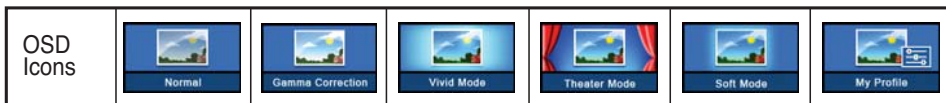
Fn+V: Toggles "ASUS Life Frame" software application.

Fn+T: Toggles "Power For Phone" software application.

Power4 Gear+ (Fn+Space Bar): The Power4 Gear+ button toggles power savings between various power saving modes. The power saving modes control many aspects of the Notebook PC to maximize performance versus battery time.

When you are using an AC power adapter, Power4 Gear+ will switch between modes in the AC power mode segment. When you remove the AC adapter, Power4 Gear+ will switch between modes in the battery (DC) mode segment. When you remove or apply the AC adapter, Power4 Gear+ will automatically shift you up or down into the proper mode segment (AC or DC).

Battery Mode				AC Mode		
High Performance	Game	DVD movie	Quiet Office	Super Performance	High Performance	Game
Presentation	CD-Audio	Battery Saving		Presentation	Quiet Office	

Microsoft Windows Keys

There are two special Windows keys on the keyboard as described below.

The key with the Windows Logo activates the Start menu located at the bottom left of the Windows desktop.

The other key, that looks like a Windows menu with a small cursor, activates the properties menu and is equivalent to pressing the right mouse button on a Windows object.

Keyboard as a Numeric Keypad

The numeric keypad is embedded in the keyboard and consists of 15 keys that make number intensive input more convenient. These dual-purpose keys are labeled in orange on the key caps. Numeric assignments are located at the upper right hand corner of each key as shown in the figure. When the numeric keypad is engaged by pressing [**Fn**][**Ins/Num LK**], the number lock LED lights up. If an external keyboard is connected, pressing the [**Ins/Num LK**] on the external keyboard enables/disables the NumLock on both keyboards simultaneously. To disable the numeric keypad while keeping the keypad on an external keyboard activated, press the [**Fn**][**Ins/Num LK**] keys on the Notebook PC.
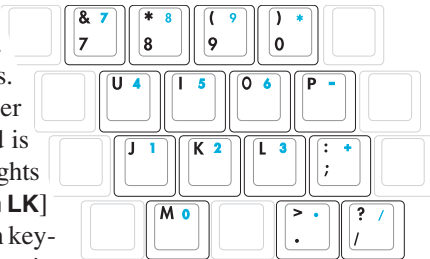
Keyboard as Cursors

The keyboard can be used as cursors while Number Lock is ON or OFF in order to increase navigation ease while entering numeric data in spreadsheets or similar applications.

With Number Lock OFF, press [**Fn**] and one of the cursor keys shown below. For example [**Fn**][**8**] for up, [**Fn**][K] for down, [**Fn**][**U**] for left, and [**Fn**][**O**] for right.

With Number Lock ON, use [**Shift**] and one of the cursor keys shown below. For example [**Shift**][**8**] for up, [**Shift**][**K**] for down, [**Shift**][**U**] for left, and [**Shift**][**O**] for right.
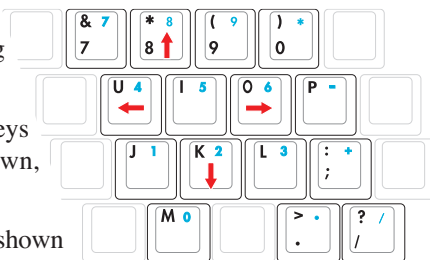
NOTE: The red arrows are illustrated here for your reference. They are not labeled on the keyboard as shown here.

Switches and Status Indicators

Switches
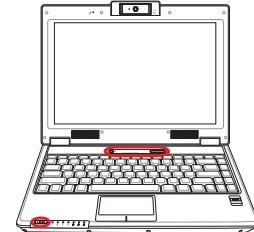
⚡ Power4 Gear+ Key

The Power4 Gear+ button toggles power savings between various power saving modes. The power saving modes control many aspects of the Notebook PC to maximize performance versus battery time.

When you are using an AC power adapter, Power4 Gear+ will switch between modes in the AC power mode segment. When you remove the AC adapter, Power4 Gear+ will switch between modes in the battery (DC) mode segment. When you remove or apply the AC adapter, Power4 Gear+ will automatically shift you up or down into the proper mode segment (AC or DC).

Battery Mode				AC Mode		
High Performance	Game	DVD movie	Quiet Office	Super Performance	High Performance	Game
Presentation	CD-Audio	Battery Saving		Presentation	Quiet Office	

((ᵢ)) Wireless Switch

Wireless Models Only: Toggles the internal wireless LAN or Bluetooth (on selected models) ON or OFF with an on-screen display. When enabled, the corresponding wireless indicator will light. Windows software settings are necessary to use the wireless LAN or Bluetooth.

⏻ Power Switch

The power switch allows powering ON and OFF the Notebook PC and recovering from STD. Use the switch once to turn ON and once to turn OFF the Notebook PC. In Windows XP, this button can also be used to safely turn OFF the Notebook PC. The power switch only works when the display panel is opened.

Status Indicators

Front
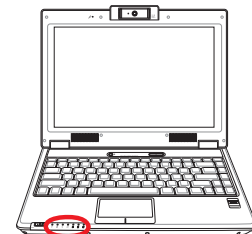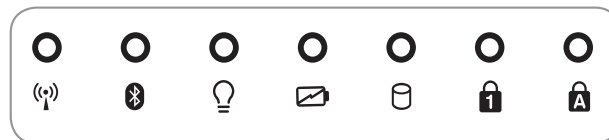
Wireless Indicator

This is only applicable on models with built-in wireless LAN and/or built-in Bluetooth. When the built-in wireless LAN and/or built-in Bluetooth is enabled, this indicator will light. (Windows software settings are necessary.)

Bluetooth Indicator

This is only applicable on models with internal Bluetooth (BT). This indicator will light to show that the Notebook PC's built-in Bluetooth (BT) function is activated.

Power Indicator

The power indicator lights when the Notebook PC is turned ON and blinks slowly when the Notebook PC is in the Suspend-to-RAM (Standby) mode. This indicator is OFF when the Notebook PC is turned OFF or in the Suspend-to-Disk (Hibernation) mode.

Battery Charge Indicator

The battery charge indicator is an LED that shows the status of the battery's power as follows:

ON: The Notebook PC's battery is charging when AC power is connected.

OFF: The Notebook PC's battery is charged or completely drained.

Blinking: Battery power is less than 10% and the AC power is not connected.

Drive Activity Indicator

Indicates that the Notebook PC is accessing one or more storage device(s) such as the hard disk. The light flashes proportional to the access time.

Number Lock Indicator

Indicates that number lock [Num Lk] is activated when lighted. Number lock allows some of the keyboard letters to act as numbers for easier numeric data input.

Capital Lock Indicator

Indicates that capital lock [Caps Lock] is activated when lighted. Capital lock allows some of the keyboard letters to type using capitalized letters (e.g. A, B, C). When the capital lock light is OFF, the typed letters will be in the lower case form (e.g. a,b,c).

◎ Multimedia Control Keys (on selected models)

The multimedia control keys allows for convenient controlling of the multimedia application. The following defines the meaning of each multimedia control key on the Notebook PC.
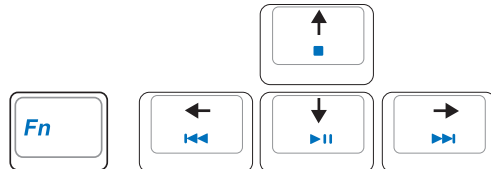
> Use the [Fn] key in combination with the arrow keys for CD control functions.

▶❙❙ CD Play/Pause

During CD stop, begins CD play.
During CD play, pauses CD play.

■ CD Stop

During CD stop: Ejects the CD tray.
During CD play: Stops CD play.

◄◄ CD Skip to Previous Track (Rewind) & Audio Volume Down

During CD play, this button has two functions:
　Track: The first push will restart the current track. Second push will skip to the **previous** track.
　Audio: Hold down to **decrease** audio volume.

►►❙ CD Skip to Next Track (Fast Forward) & Audio Volume Up

During CD play, this button has two functions:
　Track: Push once to skip to the **next** track during CD playing.
　Audio: Hold down to **increase** audio volume.

- -

◁》 Audio Volume Controls

Fn ◀》/◀	**Fn + Speaker Icons (F10):**	Toggles the audio volume ON and OFF
Fn ▼◀◀	**Fn + Down Speaker Icon (F11):**	Decreases the audio volume
Fn ◀◀》	**Fn + Up Speaker Icon (F12):**	Increases the audio volume

4. Using the Notebook PC

Pointing Device
Storage Devices
   Expansion Card
   Optical drive
   Flash memory card reader
   Hard disk drive
Memory (RAM)
Connections
   Modem Connection
   Network Connection
   Wireless LAN Connection (on selected models)
   Bluetooth Wireless Connection (on selected models)
Power Management Modes
Fingerprint Scanner (on selected models)
Trusted Platform Module (TPM) (on selected models)

⊞ **Pointing Device**

The Notebook PC's integrated touchpad pointing device is fully compatible with all two/three-button and scrolling knob PS/2 mice. The touchpad is pressure sensitive and contains no moving parts; therefore, mechanical failures can be avoided. A device driver is still required for working with some application software.

👆 **IMPORTANT! Do not use any objects in place of your finger to operate the touchpad or else damage may occur to the touchpad's surface.**

Cursor Movement

Right Click

Left Click

Using the Touchpad

Light pressure with the tip of your finger is all that is required to operate the touchpad. Because the touchpad is electrostatic sensitive, objects cannot be used in place of your fingers. The touchpad's primary function is to move the cursor around or select items displayed on the screen with the use of your fingertip instead of a standard desktop mouse. The following illustrations demonstrate proper use of the touchpad.

Slide finger forward

Slide finger left

Slide finger right

Slide finger backward

Moving The Cursor

Place your finger in the center of the touchpad and slide in a direction to move the cursor.

Scrolling (on selected models)

Slide your finger up or down on the right side to scroll a window up or down.

📝 **NOTE: A software-controlled scrolling function is available after setting up the included touchpad utility to allow easy Windows or web navigation.**

Scrolling on the fingerprint scanner
After software setup, you can use the fingerprint scanner as a scroll wheel like that on a mouse.
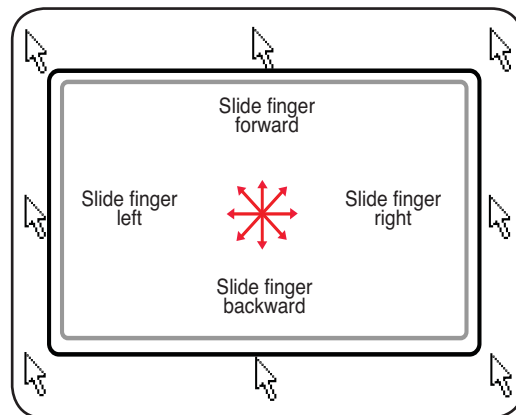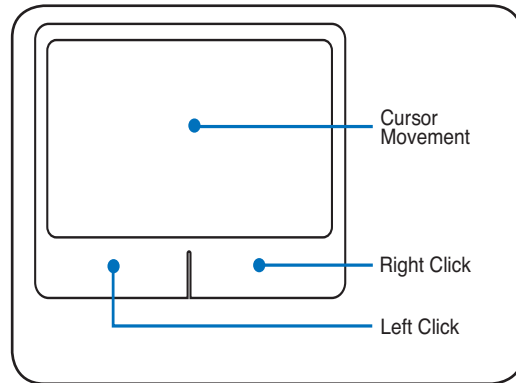
⊞ Touchpad Usage Illustrations

Clicking/Tapping - With the cursor over an item, press the left button or use your fingertip to touch the touchpad lightly, keeping your finger on the touchpad until the item is selected. The selected item will change color. The following 2 examples produce the same results.

Clicking
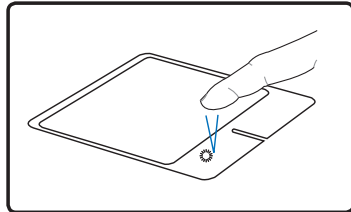
Press the left cursor button and release.

Tapping
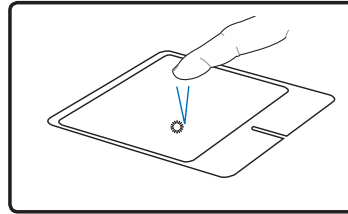
Lightly but rapidly strike the touchpad.

Double-clicking/Double-tapping - This is a common skill for launching a program directly from the corresponding icon you select. Move the cursor over the icon you wish to execute, press the left button or tap the pad twice in rapid succession, and the system launches the corresponding program. If the interval between the clicks or taps is too long, the operation will not be executed. You can set the double-click speed using the Windows Control Panel "Mouse." The following 2 examples produce the same results.

Double-
Clicking
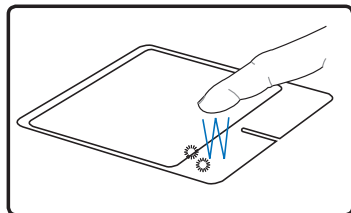
Press the left button twice and release.

Double-
Tapping
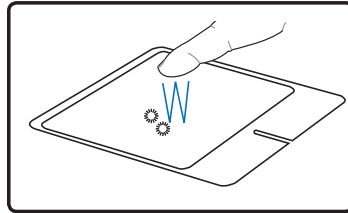
Lightly but rapidly strike the touchpad twice.

Dragging - Dragging means to pick up an item and place it anywhere on the screen you wish. You can move the cursor over the item you select, and while keeping the left button depressed, moving the cursor to the desired location, then release the button. Or, you can simply double-tap on the item and hold while dragging the item with your fingertip. The following illustrations produce the same results.

Dragging-
Clicking
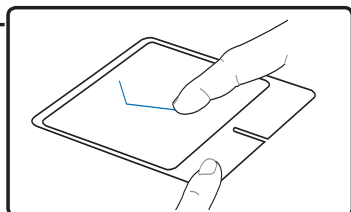
Hold left button and slide finger on touchpad.

Dragging-
Tapping
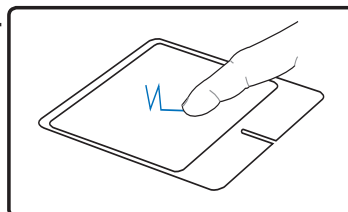
Lightly strike the touchpad twice, sliding finger on touchpad during second strike.

Caring for the Touchpad

The touchpad is pressure sensitive. If not properly cared for, it can be easily damaged. Take note of the following precautions.

- Make sure the touchpad does not come into contact with dirt, liquids or grease.
- Do not touch the touchpad if your fingers are dirty or wet.
- Do not rest heavy objects on the touchpad or the touchpad buttons.
- Do not scratch the touchpad with your finger nails or any hard objects.

NOTE: The touchpad responds to movement not to force. There is no need to tap the surface too hard. Tapping too hard does not increase the responsiveness of the touchpad. The touchpad responds best to light pressure.

Automatic Touchpad Disabling (on selected models)

Notebook PC models with newer chipsets will automatically disable the Notebook PC's touchpad when an external USB mouse is attached. To turn OFF this feature, deselect the option in Windows **Control Panel** - **Mouse Properties** - **Device Settings**.
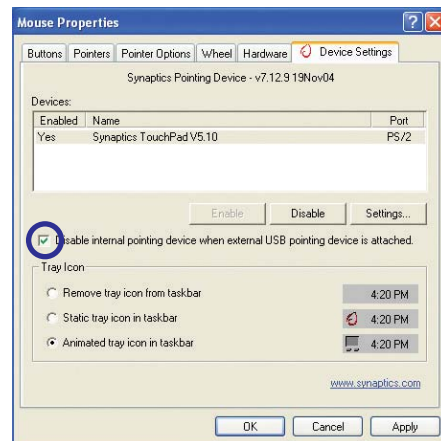
Storage Devices

Storage devices allow the Notebook PC to read or write documents, pictures, and other files to various data storage devices. This Notebook PC has the following storage devices:

- Expansion Card
- Optical drive
- Flash memory reader
- Hard disk drive

Expansion Card

One 26pin Express card slot is available to support one ExpressCard/34mm or one ExpressCard/54mm expansion card. This new interface is faster by using a serial bus supporting USB 2.0 and PCI Express instead of the slower parallel bus used in the PC card slot. (Not compatible with previous PCMCIA cards.)

Inserting an Expansion Card

Be sure the ExpressCard
is level when inserting.
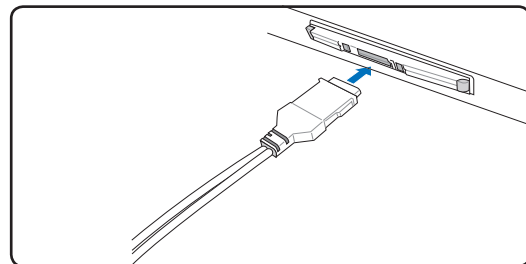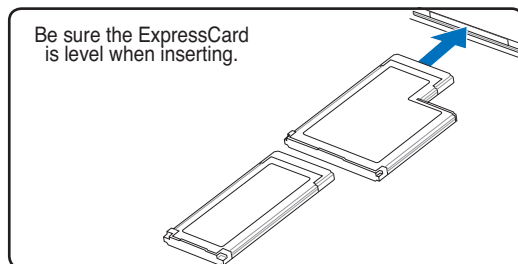
1. If there is an ExpressCard socket protector, remove it using the "Removing an Express-Card" instructions below.

2. Insert the ExpressCard with the connector side first and label side up. Standard ExpressCards will be flush with the Notebook PC when fully inserted.

3. Carefully connect any cables or adapters needed by the ExpressCard. Usually connectors can only be inserted in one orientation. Look for a sticker, icon, or marking on one side of the connector representing the top side.

Removing an Expansion Card

The ExpressCard slot does not have an eject button. Press the ExpressCard inwards and release to eject the ExpressCard. Carefully pull the ejected ExpressCard out of the socket.
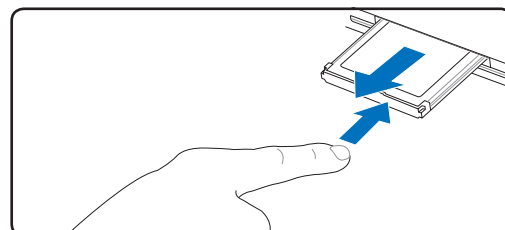
◎ Optical Drive

Inserting an optical disc
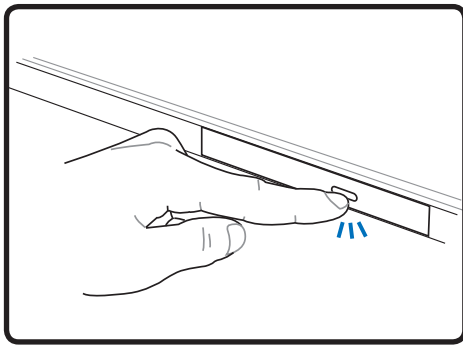
1. While the Notebook PC's power is ON, press the drive's eject button and the tray will eject out partially.
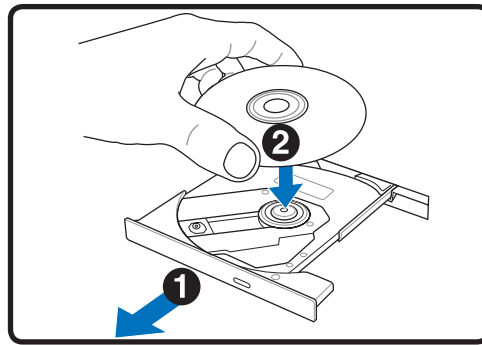
2. Gently pull on the drive's front panel and slide the tray completely out. Be careful not to touch the CD drive lens and other mechanisms. Make sure there are no obstructions that may get jammed under the drive's tray.
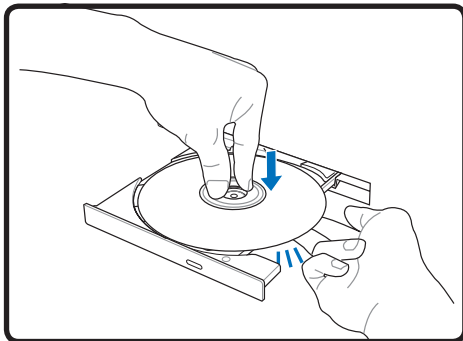
3. Hold the disc by the edge and face the disc's printed side up. Push down on both sides of the disc's center until the disc snaps onto the hub. **The hub should be higher than the disc when correctly mounted.**
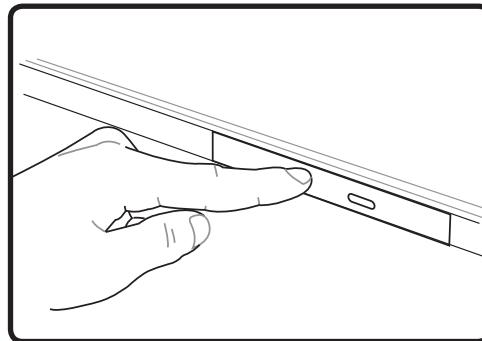
4. Slowly push the drive's tray back in. The drive will begin reading the table of contents (TOC) on the disc. When the drive stops, the disc is ready to be used.

📝 **NOTE: It is normal to hear as well as feel the CD spinning with great intensity in the CD drive while data is read.**

◎ Optical Drive (Cont.)

Removing an optical disc
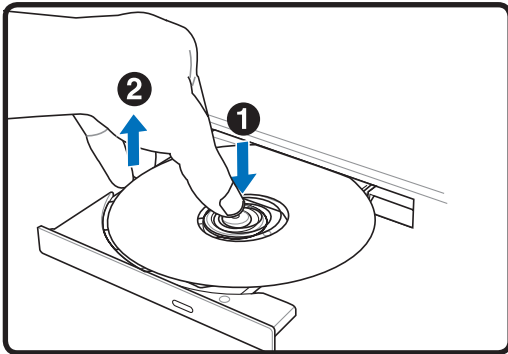
Eject the tray and gently pry the edge of the disc upwards at an angle to remove the disc from the hub.

Emergency eject

Actual location will vary by model.
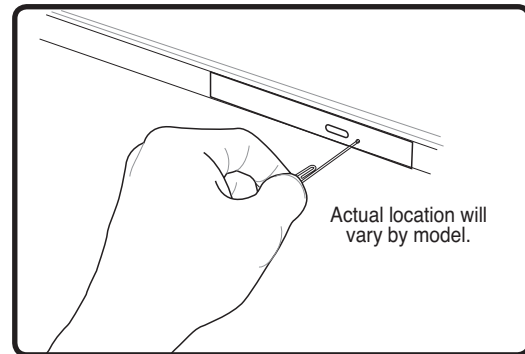
The emergency eject is located in a hole on the optical drive and is used to eject the optical drive tray in case the electronic eject does not work. Do not use the emergency eject in place of the electronic eject. **Note: Make sure not to stab the activity indicator located in the same area.**

Using the Optical Drive

Optical discs and equipment must be handled with care because of the precise mechanics involved. Keep in mind the important safety instructions from your CD suppliers. Unlike desktop optical drives, the Notebook PC uses a hub to hold the CD in place regardless of the angle. When inserting a CD, it is important that the CD be pressed onto the center hub or else the optical drive tray will scratch the CD.

WARNING! If the CD disc is not properly locked onto the center hub, the CD can be damaged when the tray is closed. Always watch the CD closely while closing the tray slowly to prevent damage.

A CD drive letter should be present regardless of the presence of a CD disc in the drive. After the CD is properly inserted, data can be accessed just like with hard disk drives; except that nothing can be written to or changed on the CD. Using the proper software, a CD-RW drive or DVD+CD-RW drive can allow CD-RW discs to be used like a hard drive with writing, deleting, and editing capabilities.

Vibration is normal for all high-speed optical drives due to unbalanced CDs or CD print. To decrease vibration, use the Notebook PC on an even surface and do not place labels on the CD.

Listening to Audio CD

The optical drives can play audio CDs, but only the DVD-ROM drive can play DVD audio. Insert the audio CD and Windows™ automatically opens an audio player and begins playing. Depending on the DVD audio disc and installed software, it may require that you open a DVD player to listen to DVD audio. You can adjust the volume using hotkeys or Windows™ speaker icon on the taskbar.

Flash Memory Card Reader

Normally a memory card reader must be purchased separately in order to use memory cards from devices such as digital cameras, MP3 players, mobile phones, and PDAs. This Notebook PC has a single built-in memory card reader that can use many flash memory cards as shown in the example below. The built-in memory card reader is not only convenient, but also faster than most other forms of memory card readers because it utilizes the internal high-bandwidth PCI bus.
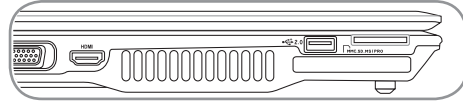
> ☞ **IMPORTANT! Flash memory card compatibility varies depending on Notebook PC model and flash memory card specifications. Flash memory card specifications constantly change so compatibility may change without warning.**

Flash Memory Card Examples

xD Picture Card

MMC (Multimedia Card)
MMC Plus
RS-MMC (Reduced Size) (with MMC adapter)

SD (Secure Digital)
MiniSD (with SD adapter)

Memory Stick Micro (with MS adapter)

Memory Stick (MS)
Memory Stick Magic Gate (MG)
Memory Stick Select

Memory Stick Duo/Pro/Duo Pro/MG (with MS adapater)
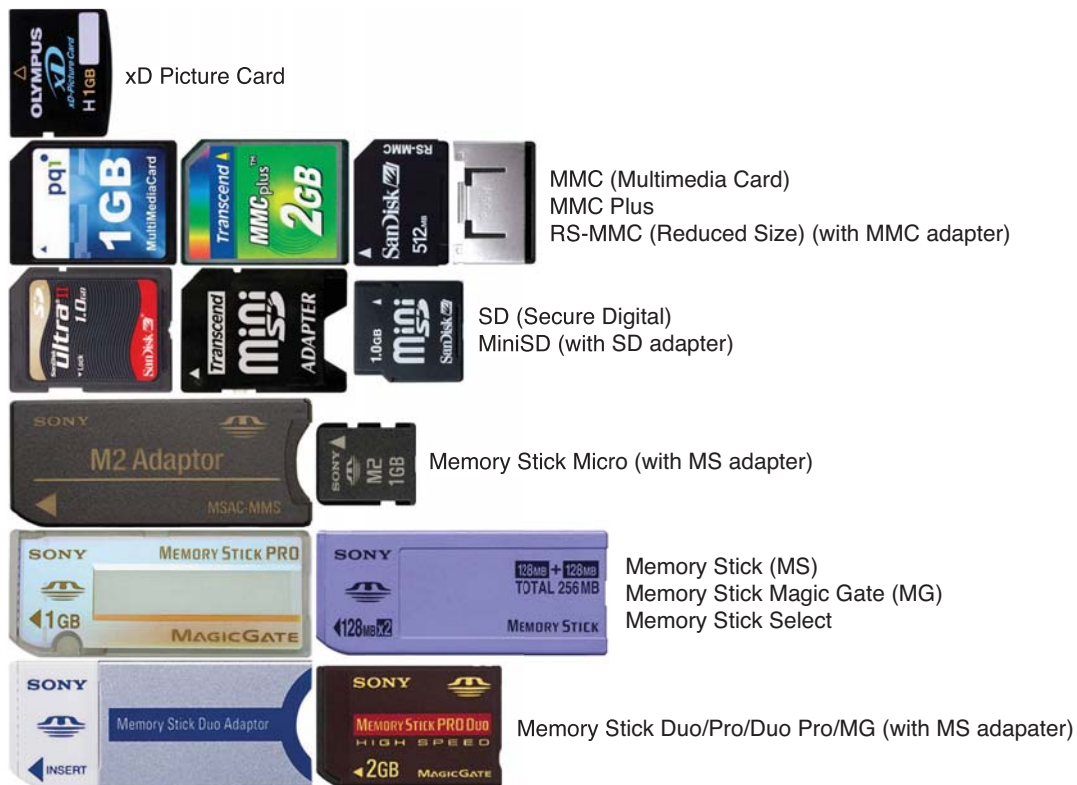
> ☞ **IMPORTANT! Never remove cards while or immediately after reading, copying, formatting, or deleting data on the card or else data loss may occur.**

Hard Disk Drive

Hard disk drives have higher capacities and operate at much faster speeds than floppy disk drives and optical drives. The Notebook PC comes with a replaceable 2.5" (6.35cm) wide and approximately .374" (.95cm) high hard disk drive. Current hard drives support S.M.A.R.T. (Self Monitoring and Reporting Technology) to detect hard disk errors or failures before they happen. When replacing or upgrading the hard drive, always visit an authorized service center or retailer for this Notebook PC.

IMPORTANT!   Poor handling of the Notebook PC may damage the hard disk drive. Handle the Notebook PC gently and keep it away from static electricity and strong vibrations or impact. The hard disk drive is the most delicate component and will likely be the first or only component that is damaged if the Notebook PC is dropped.
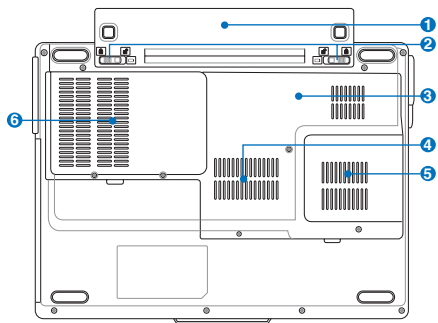
7 Hard Disk Drive Compartment

The hard disk drive is secured in a compartment. Hard disk drive upgrades should be done by authorized service centers or dealers.

Removing the Hard Disk Drive
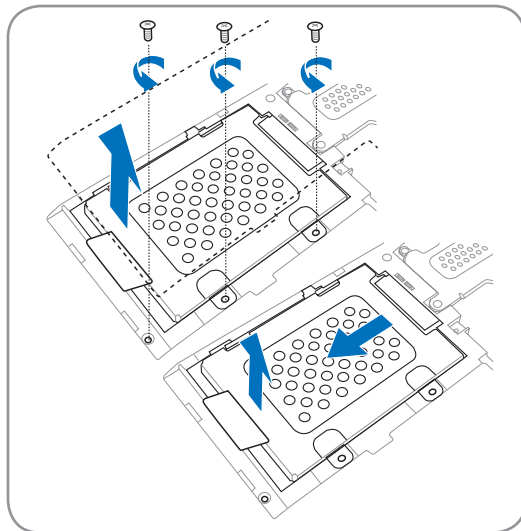
Installing the Hard Disk Drive
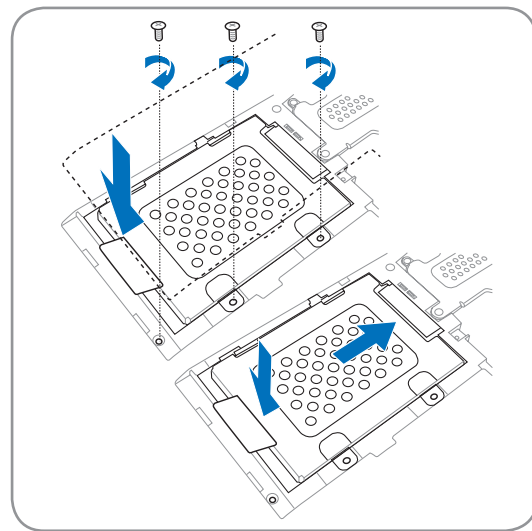
Memory (RAM)

Additional memory will increase application performance by decreasing hard disk access. The BIOS automatically detects the amount of memory in the system and configures CMOS accordingly during the POST (Power-On-Self-Test) process. There is no hardware or software (including BIOS) setup required after the memory is installed.
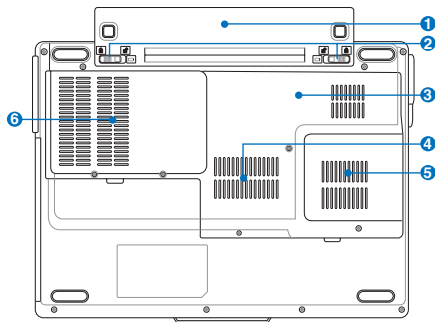
4 The memory compartment provides expansion capabilities for additional memory. Visit an authorized service center or retailer for information on memory upgrades for your Notebook PC. Only purchase expansion modules from authorized retailers of this Notebook PC to ensure maximum compatibility and reliability.

Installing a Memory Card

30°
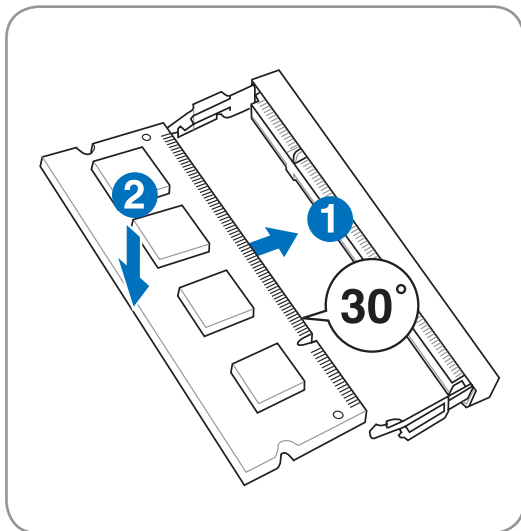
Removing a Memory Card
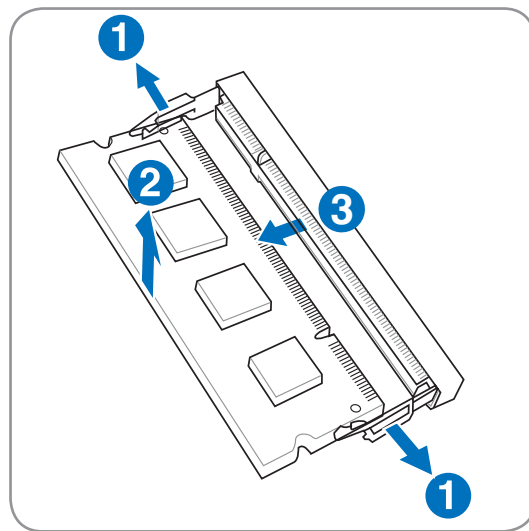
Connections

📝 **NOTE: The built-in modem and network cannot be installed later as an upgrade. After purchase, modem and/or network can be installed as an expansion card.**

Modem Connection

The telephone wire used to connect the Notebook PC's internal modem should have either two or four wires (only two wires (telephone line #1) is used by the modem) and should have an RJ-11 connector on both ends. Connect one end to the modem port and the other end to an analog telephone wall socket (the ones found in residential buildings). Once the driver is setup, the modem is ready to use.

📝 **NOTE: When you are connected to an online service, do not place the Notebook PC in suspend (or sleep mode) or else you will disconnect the modem connection.**

🔍 **Example of the Notebook PC connected to a telephone jack for use with the built-in modem:**

Telephone connector is the smaller of the two.

Telephone cables with RJ-11 connectors

Telephone Wall Jack

Telephone connection is optional
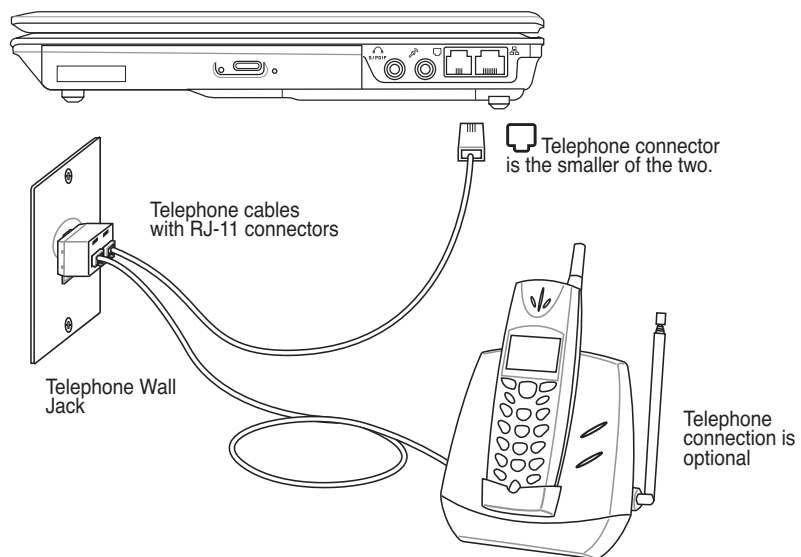
✋ **CAUTION: For electrical safety concerns, only use telephone cables rated 26AWG or higher. (see Glossary for more information)**

Network Connection

Connect a network cable, with RJ-45 connectors on each end, to the modem/network port on the Note-book PC and the other end to a hub or switch. For 100 BASE-TX / 1000 BASE-T speeds, your network cable must be category 5 or better (not category 3) with twisted-pair wiring. If you plan on running the interface at 100/1000Mbps, it must be connected to a 100 BASE-TX / 1000 BASE-T hub (not a BASE-T4 hub). For 10Base-T, use category 3, 4, or 5 twisted-pair wiring. 10/100 Mbps Full-Duplex is supported on this Notebook PC but requires connection to a network switching hub with "duplex" enabled. The software default is to use the fastest setting so no user-intervention is required.

1000BASE-T (or Gigabit) is only supported on selected models.

Twisted-Pair Cable

The cable used to connect the Ethernet card to a host (generally a Hub or Switch) is called a straight-through Twisted Pair Ethernet (TPE). The end connectors are called RJ-45 connectors, which are not compatible with RJ-11 telephone connectors. If connecting two computers together without a hub in between, a crossover LAN cable is required (Fast-Ethernet model). (Gigabit models support auto-crossover so a crossover LAN cable is optional.)

Example of the Notebook PC connected to a Network Hub or Switch for use with the built-in Ethernet controller.

LAN connector is the larger of the two.

Network Hub or Switch

Network cable with RJ-45 connectors
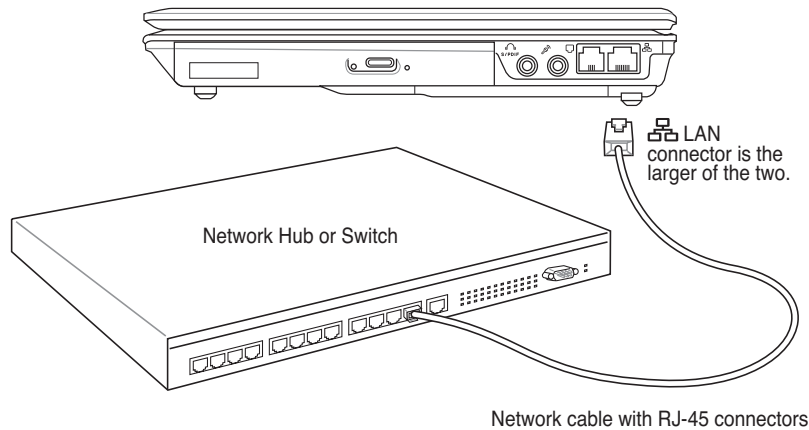
WARNING! Only use analog telephone outlets. The built-in modem does not support the voltage used in digital phone systems. Do not connect the RJ-11 to digital phone systems found in many commercial buildings or else damage will occur!

Wireless LAN Connection (on selected models)

The optional built-in wireless LAN is a compact easy-to-use wireless Ethernet adapter. Implementing the IEEE 802.11 standard for wireless LAN (WLAN), the optional built-in wireless LAN is capable of fast data transmission rates using Direct Sequence Spread Spectrum (DSSS) and Orthogonal Frequency Division Multiplexing (OFDM) technologies on 2.4GHz/5GHz frequencies. The optional built-in wireless LAN is backward compatible with the earlier IEEE 802.11 standards allowing seamless interfacing of wireless LAN standards.

The optional built-in wireless LAN is a client adapter that supports Infrastructure and Ad-hoc modes giving you flexibility on your existing or future wireless network configurations for distances up to 40 meters between the client and the access point.

To provide efficient security to your wireless communication, the optional built-in wireless LAN comes with a 64-bit/128-bit Wired Equivalent Privacy (WEP) encryption and Wi-Fi Protected Access (WPA) features.

These are examples of the Notebook PC connected to a Wireless Network.

Ad-hoc mode

The Ad-hoc mode allows the Notebook PC to connect to another wireless device. No access point (AP) is required in this wireless environment.

(All devices must install optional 802.11 wireless LAN adapters.)

Notebook PC   Desktop PC

PDA
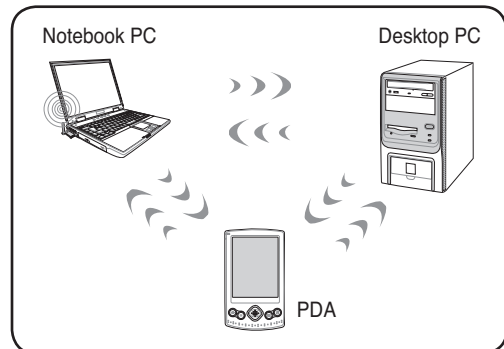
Infrastructure mode

The Infrastructure mode allows the Notebook PC and other wireless devices to join a wireless network created by an Access Point (AP) (sold separately) that provides a central link for wireless clients to communicate with each other or with a wired network.

(All devices must install optional 802.11 wireless LAN adapters.)

Notebook PC   Desktop PC

Access
Point

PDA
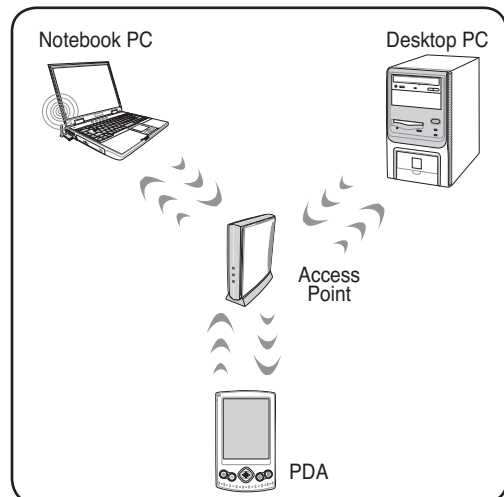
Intel PROSet (3945) Wireless LAN (on selected models)
Connecting to a network

Press [FN F2] (or double click the Wireless Console icon on the taskbar). Four icons will appear as shown here. Click on the 1st setting to activate both Wireless & Bluetooth, or you may select the 2nd option for Wireless activation only.

1. Click **Start | All Programs | Intel PROSet Wireless | Intel PROSet Wireless**.

2. Select the Network by double clicking or click on connect. (Eg: WL-520G network)

3. If the network has a security setup, a window will appear requesting a password to connect.

4. After connecting, it will indicate that "You are connected to (network)" and showing the IP address.

Trouble Shooting
Changing network profile password
1. Select the Network then click **Profile** and click **Properties**.

2. Profile name will not need to be changed. For "Operating Mode" select **Infrastructure mode**.

3. Select **Personal Security** and re-enter the password then click **Ok**.

ASUS Wireless LAN (on selected models)
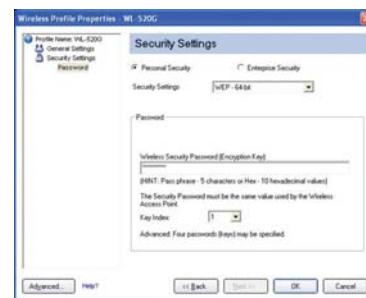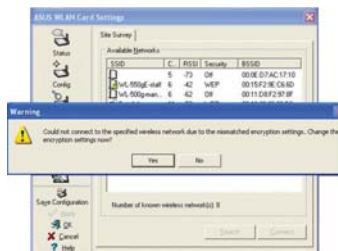## Connecting to a network

Press [FN F2] (or double click the Wireless Console icon on the taskbar). Four icons will appear as shown here. Click on the 1st setting to activate both Wireless & Bluetooth, or you may select the 2nd option for Wireless activation only.

1. Click **Start | Programs | ASUS Utility | WLAN Card | ASUS WLAN Control Center.**

2. On the left hand side menu, click **Survey** to start scanning for available networks in your area.

3. The list will show all available networks within your area. Select the network you want and click **Connect**.

4. If the selected Network has security settings, you may be required to enter a password.

5. Click the **Encryption** tab to configure the Network Authentication mode and Password.

6. The **Status** tab will show connection status and details.

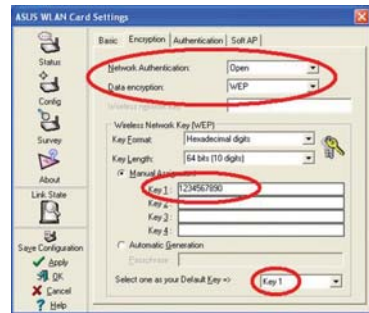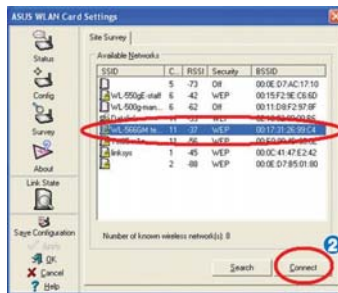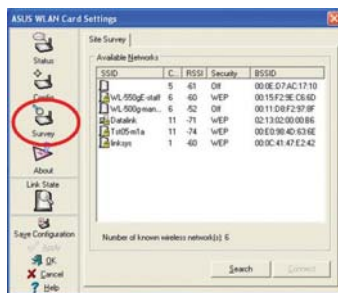**Note: Click "Save Configuration" and "Save" to remember settings for this network.**

Windows Wireless Network Connection
Connecting to a network

Press [FN F2] (or double click the Wireless Console icon on the taskbar). Four icons will appear as shown here. Click on the 1st setting to activate both Wireless & Bluetooth, or you may select the 2nd option for Wireless activation only.

1. Click on **Start** and select **Control Panel**

2. Click on the icon **Network Connections** (If this icon cannot be seen, click "Switch to Classic View" on the left side menu.

3. Right click on the icon **Wireless Network Connection** and select **View Available Wireless Networks**.

4. Select **Refresh network list** from the left side menu and a list of available network within your area and its signal strength will show. Select your network and click on **Connect**.

5. Detecting and connecting will start to initiate as shown here.

6. When connecting, you may have to enter a password.

7. After connection has been established, "Connected" will be shown on the right side above the signal strength indicator.
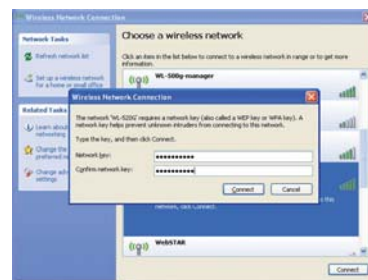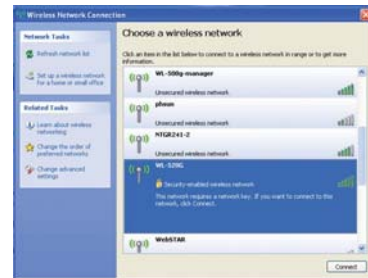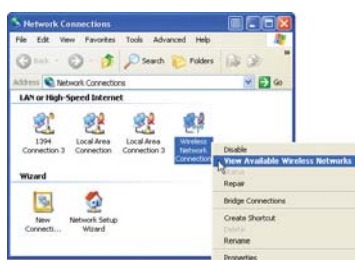
Bluetooth Wireless Connection (on selected models)

Notebook PCs with Bluetooth technology eliminates the need for cables for connecting Bluetooth-enabled devices. Examples of Bluetooth-enabled devices may be Notebook PCs, Desktop PCs, mobile phones, and PDAs.

> Note: If your Notebook PC did not come with built-in Bluetooth, you need to connect a USB or ExpressCard Bluetooth module in order to use Bluetooth.

Bluetooth-enabled mobile phones
You can wireless connect to your mobile phone. Depending on your mobile phone's capabilities, you can transfer phone book data, photos, sound files, etc. or use it as a modem to connect to the Internet. You may also use it for SMS messaging.

Bluetooth-enabled computers or PDAs
You can wireless connect to another computer or PDA and exchange files, share peripherals, or share Internet or network connections. You may also make use of Bluetooth-enabled wireless keyboard or mouse.

Pairing with Bluetooth-enabled devices

You first need to pair your Notebook PC with a Bluetooth-enabled device before you can connect to it. Make sure the Bluetooth-enabled device is turned ON and ready to accept a pair. Launch **Bluetooth Settings** from Windows **Start | Programs | Bluetooth** or select **Add New Connection** from the Bluetooth taskbar icon if available.
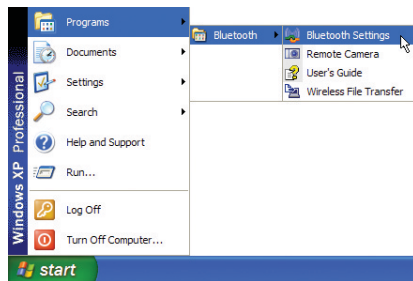
Bluetooth Settings from Windows **Start | Programs | Bluetooth**
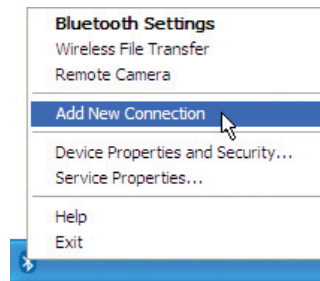
Add New Connection from the Bluetooth taskbar icon

Click **New Connection** from Bluetooth Settings.

Follow the wizard to add Bluetooth devices.

After complete, you should see your device in the window.

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Power Management Modes

The Notebook PC has a number of automatic or adjustable power saving features that you can use to maximize battery life and lower Total Cost of Ownership (TCO). You can control some of these features through the Power menu in the BIOS Setup. ACPI power management settings are made through the operating system. The power management features are designed to save as much electricity as possible by putting components into a low power consumption mode as often as possible but also allow full operation on demand. These low power modes are referred to as "Stand by" (or Suspend-to-RAM) and "Hibernation" mode or Suspend-to-Disk (STD). The Standby mode is a simple function provided by the operating system. When the Notebook PC is in either one of the power saving modes, the status will be shown by the following: "Stand by": Power LED Blinks and "Hibernation": Power LED OFF.

Full Power Mode & Maximum Performance

The Notebook PC operates in Full Power mode when the power management function is disabled by configuring Windows power management and SpeedStep. When the Notebook PC is operating in Full Power Mode, the Power LED remains ON. If you are conscious of both system performance and power consumption, select "Maximum Performance" instead of disabling all power management features.

ACPI

Advanced Configuration and Power Management (ACPI) was developed by Intel, Microsoft, and Toshiba especially for Windows and later to control power management and Plug and Play features. ACPI is the new standard in power management for Notebook PCs.

NOTE: APM was used in older operating systems like Windows NT4 and Windows 98. Because newer operating systems like Windows XP, Windows 2000, and Windows ME utilize ACPI, APM is no longer fully supported on this Notebook PC.

Suspend Mode

In "Stand by" (STR) and "Hibernation" (STD), the CPU clock is stopped and most of the Notebook PC devices are put in their lowest active state. The suspend mode is the lowest power state of the Notebook PC. The Notebook PC enters suspend mode when the system remains idle for a specified amount of time or manually using the [Fn][F1] keys. The Power LED blinks when the Notebook PC is in STR mode. In STD mode, the Notebook PC will appear to be powered OFF. Recover from STR by pressing any keyboard button (except Fn). Recover from STD by using the power switch (just like powering ON the Notebook PC).

Power Savings

In addition to reducing the CPU clock, this mode puts devices including the LCD backlight in their lower active state. The Notebook PC enters "Stand by" mode (low priority) when the system remains idle for a specified amount of time. The time-out can be set through Windows power management (higher priority). To resume system operation, press any key.

⚡ Power State Summary

STATE	ENTRY EVENT	EXIT EVENT
"Stand by"	• "Stand by" through Windows Start button • Timer as set though "Power Management" in Windows Control Panel (higher priority)	• Any device • Battery low
STR ("Stand by") (Suspend-to-RAM)	• Hotkey (see "Colored Hotkeys" under "Special Keyboard Functions" in the previous section)	• Signal from modem port • Power button or any key
STD ("Hibernate") (Suspend-to-Disk)	• Hotkey (see "Colored Hotkeys" under "Special Keyboard Functions" in the previous section)	• Power button
Soft OFF	• Power button (can be defined as STR or STD) • "Shut down" through Windows Start button	• Power button

❀ Thermal Power Control

There are three power control methods for controlling the Notebook PC's thermal state. These power control cannot be configured by the user and should be known in case the Notebook PC should enter these states. The following temperatures represent the chassis temperature (not CPU).

• The fan turns ON for active cooling when the temperature reaches the safe upper limit.

• The CPU decreases speed for passive cooling when the temperature exceeds the safe upper limit.

• The system shut down for critical cooling when temperature exceeds the maximum safe upper limit.

Stand by and Hibernate

Power management settings can be found in the Windows control panel. The following shows the power options properties in Windows. You can define "Stand By" or "Shut down" for closing the display panel, pressing the power button, or activating sleep mode. "Stand by" and "Hibernate" saves power when your Notebook PC is not in use by turning OFF certain components. When you resume your work, your last status (such as a document scrolled down half way or email typed half way) will reappear as if you never left. "Shut down" will close all applications and ask if you want to save your work if any are not saved.

"Stand by" is the same as Suspend-to-RAM (STR). This function stores your current data and status in RAM while many components are turned OFF. Because RAM is volatile, it requires power to keep (refresh) the data. To operate: select "Start" | "Shut down", and "Stand by".
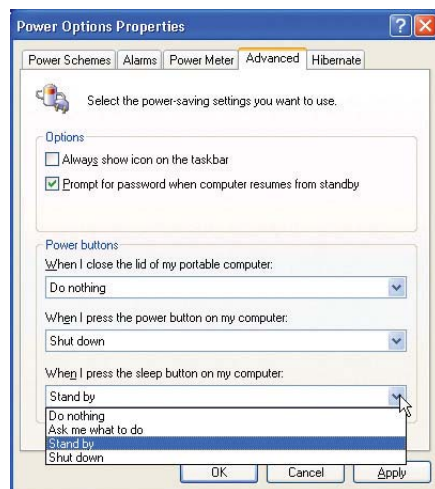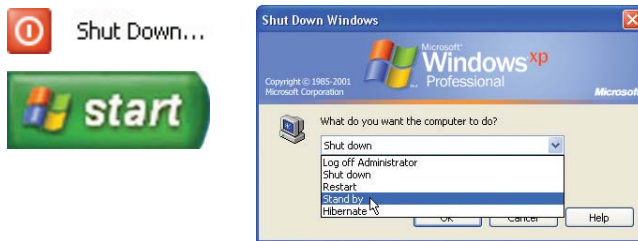
"Hibernate" is the same as Suspend-to-Disk (STD) and stores your current data and status on the hard disk drive. By doing this, RAM does not have to be periodically refreshed and power consumption is greatly reduced but not completely eliminated because certain wake-up components like LAN needs to remain powered. "Hibernate" saves more power compared to "Stand by". To operate: Enable hibernation in "Power Options" and select "Start" | "Shut down", and "Hibernate".
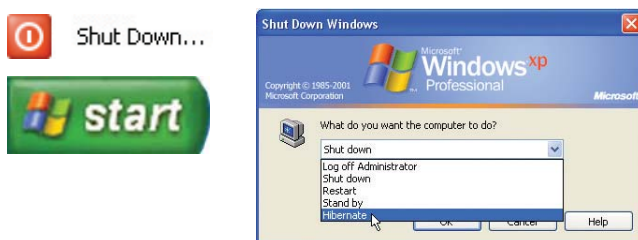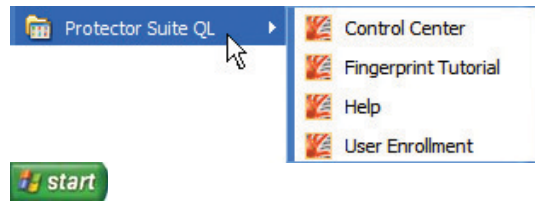
Fingerprint Scanner (on selected models)

The fingerprint scanner can be used for instant and secure user authentication.
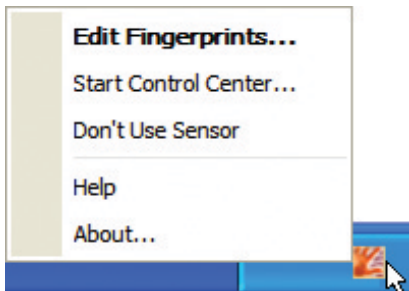
Left or right click the fingerprint taskbar icon to open the menu to edit fingerprints or make control settings.
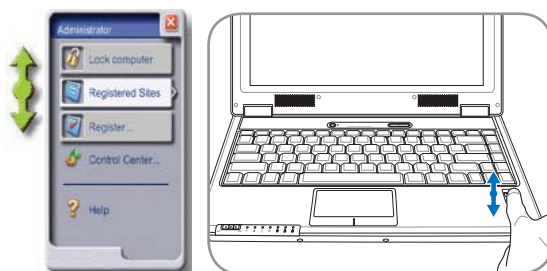
You can launch the **Control Center** from Windows "Start" if the taskbar icon is not running.

If you have not configured a user, you will be directed to the "User Enrollment". Follow the instructions to setup the fingerprint scanner.
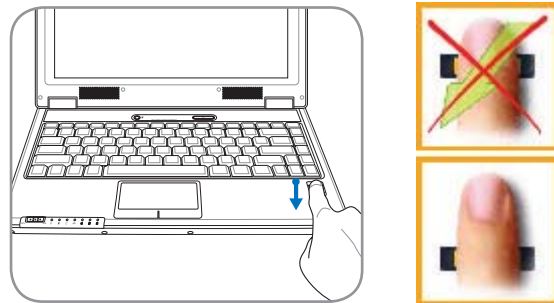
Scanning your fingerprint requires that your finger be straight and flat as shown here.

After software setup, you can use the fingerprint scanner as a scroll wheel like that on a mouse.

After you setup a user, you can open the Control Center to edit Fingerprints or make software settings.

Fingerprint Login

The fingerprint scanner can be used to replace the system bootup and/or Windows login password check. To use this feature:
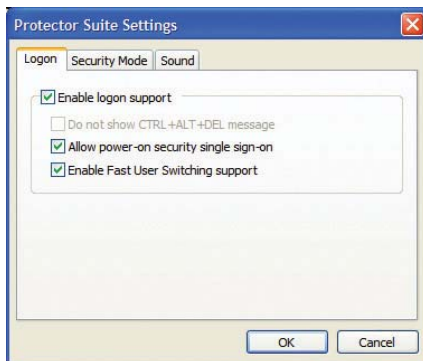
1. You must set a **Supervisor Password** on the "Security" page in BIOS SETUP UTILITY.

2. **Password Check** on the "Security" page in BIOS SETUP UTILITY must be set to [Fingerprint].
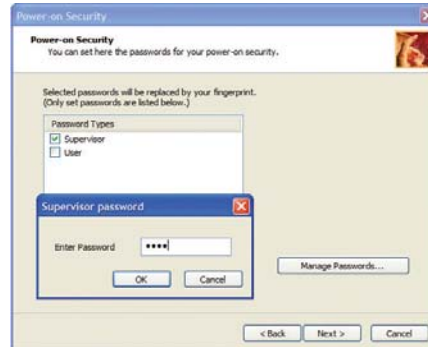

3. Choose **Power-on Security** in the "Control Center".

4. Select "**Replace the power-on and hard...**".

5. Select "**Allow power-on security single sign-on**" in **System Settings** from the "Control Center". This page allows you to select fingerprint logon options.

6. Set the password type for power-on security associated with your fingerprint in "Enroll or Edit Fingerprints" from the "Control Center". You will be asked for the relevant BIOS password based on your selection.

7. During system boot, you will see "Swipe finger to authorize access...". If you do not successfully do so in the allowed time, it will revert to "Enter Password: _". Pressing the [ESC] key will show "Biometric operation cancelled" and allow you to enter a password instead of using a fingerprint. In either case, you will see ***ACCESS GRANTED*** when authorized.

8. If you used a fingerprint on system boot, you will also automatically login to Windows with your account. You will see "Succeeded" on the login screen. If you used a password on system boot, you will be required to use your fingerprint or type in a password to login to Windows.

Trusted Platform Module (TPM) (on selected models)

The TPM, or Trusted Platform Module, is a security hardware device on the system board that will hold computer-generated keys for encryption. It is a hardware-based solution that an help avoid attacks by hackers looking to capture passwords and encryption keys to sensitive data. The TPM provides the ability to the PC or notebook to run applications more secure and to make transactions and communication more trustworthy.

The security features provided by the TPM are internally supported by the following cryptographic capabilities of each TPM: hashing, random number generation, asymmetric key generation, and asymmetric encryption/decryption. Each individual TPM on each individual computer system has a unique signature initialized during the silicon manufacturing process that further enhances its trust/security effectiveness. Each individual TPM must have an Owner before it is useful as a security device.
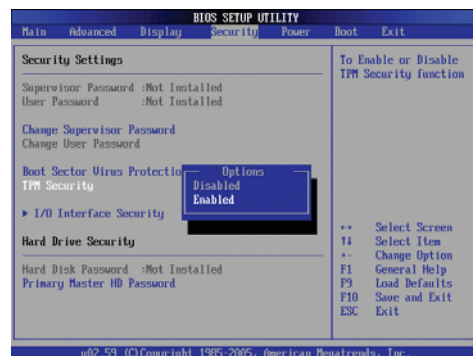
TPM Applications

TPM is useful for any customer that is interested in providing an addition layer of security to the computer system. The TPM, when bundled with an optional security software package, can provide overall system security, file protection capabilities and protect against email/privacy concerns. TPM helps provide security that can be stronger than that contained in the system BIOS, operating system, or any non-TPM application.

Note: The TPM is disabled by default. Use BIOS setup to enable it.

Enabling TPM Security

Enter **BIOS Setup** (press [F2] on system startup).
On **Security page**, set **TPM Security** to **[Enabled]**

Important: Use your TPM application's "Restore" or "Migration" function to backup your TPM security data.
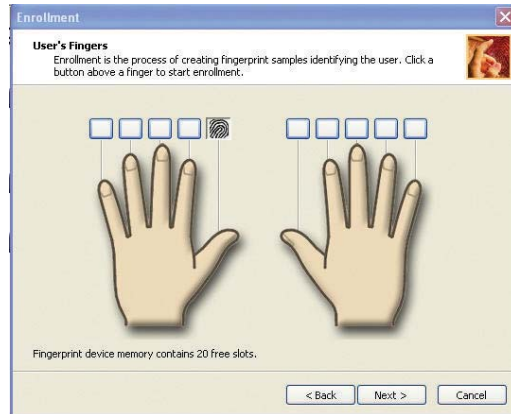
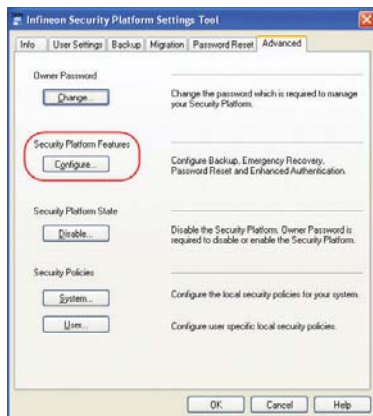## TPM Setup for Fingerprint Scanner

These instructions will show you how to use the fingerprint scanner to authenticate the Infineon TPM.
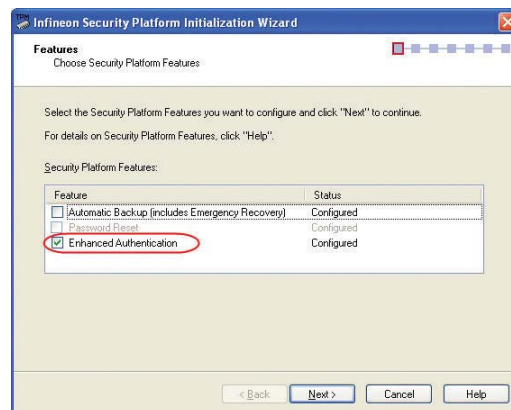

1. Initialize Infineon TPM Security Platform.
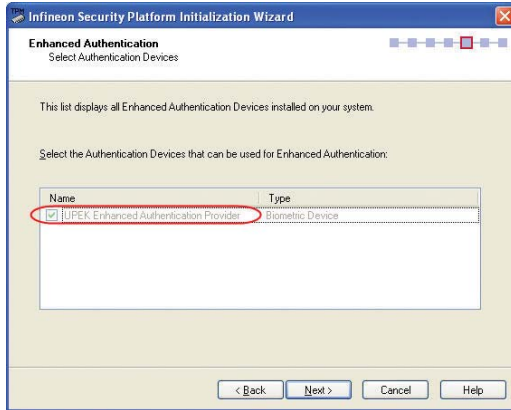

2. Enroll fingerprint using PSQL.

3. Setting Infineon Security Platform: Click Configure... on the "Advanced" page.

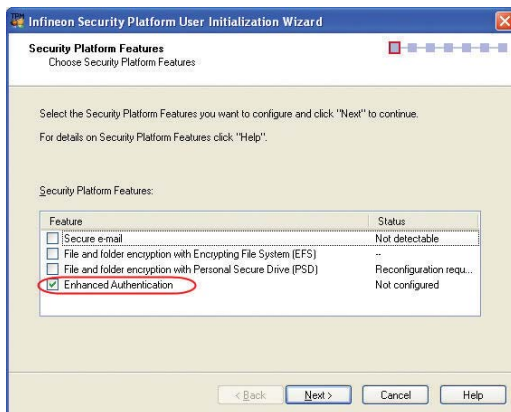4. Check Enhanced Authentication and click Next.
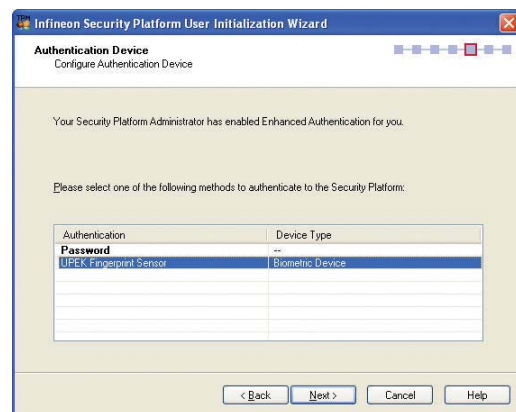
TPM Setup for Fingerprint Scanner (Cont.)

5. Choose UPEK Enhanced Authentication Provider.

6. Click Configure... in User Settings page.

7. Check the Enhanced Authentication and Next.

8. Select the UPEK Fingerprint Sensor and Next.

9. Enter the old password and a new passphrase.

10. Swipe finger to authenticate.

TPM Setup for Fingerprint Scanner (Cont.)

11. Settings are complete. Authentication when accessing TPM in Infineon Security Platform will change from asking TPM basic password to Biometric device (Fingerprint Reader) or new passphrase.

12. This is the original screen before setting enhanced authentication.

**13. This is the screen after setting enhanced authentication.**

14. This is the screen after setting enhanced authentication if fingerprint not successful in the allowed time (previous screen).
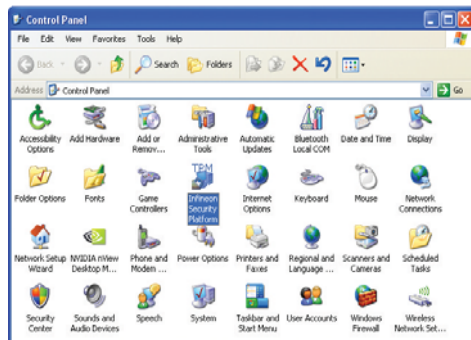
Clearing TPM Secured Data

When **Supervisor Password** is installed, **TPM Security Clear** will appear. Use this item to clear all data secured by TPM.
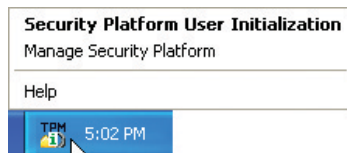
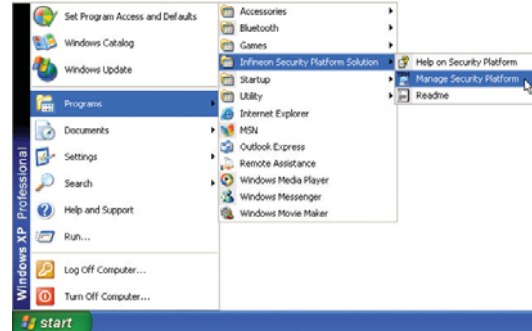☞ **Important: Use should routinely backup your TPM secured data.**
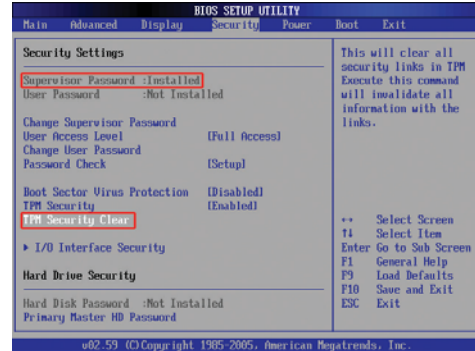
Running Security Platform in Windows

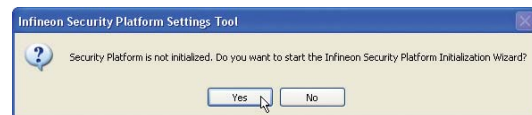You can launch the Security Platform application from Windows "Control Panel".

You can launch the Security Platform application from Windows "Start" menu.

When the Security Platform is running, this icon will show in the Windows taskbar. You can choose to initialize or manage here.

When you launch the Security Platform application for the first time, answer **Yes** and follow the instructions to configure it.

Appendix

Optional Accessories & Connections
Operating System and Software
   System BIOS Settings
   Common Problems and Solutions
   Windows Software Recovery
   NTFS Converter
Glossary
Declarations and Safety Statements
Notebook PC Information

NOTE: Photos and icons in this manual are used for artistic purposes only and do not show what is actually used in the product itself.

A Appendix

Optional Accessories

These items, if desired, come as optional items to complement your Notebook PC.

USB Hub (Optional)

Attaching an optional USB hub will increase your USB ports and allow you to quickly connect or disconnect many USB peripherals through a single cable.

USB Flash Memory Disk

A USB flash memory disk is an optional item that can replace the 1.44MB floppy disk and provide storage up to several hundred megabytes, higher transfer speeds, and greater durability. When used in current operating systems, no drivers are necessary.

USB Floppy Disk Drive

An optional USB-interface floppy disk drive can accept a standard 1.44MB (or 720KB) 3.5-inch floppy diskette.

> **WARNING! To prevent system failures, use** (Windows XP Safely Remove Hardware) **on the taskbar before disconnecting the USB floppy disk drive. Eject the floppy disk before transporting the Notebook PC to prevent damage from shock.**

Windows Vista

Safely remove USB Mass Storage Device - Drive(A:)

Safely Remove Hardware

5:15 PM
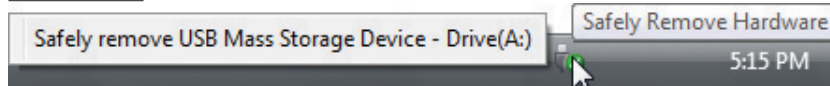
Vehicle Power Adapter

The vehicle power adapter provides a source of power for using the Notebook PC and/or charging the Notebook PC's battery pack while in transit when no AC power is available. This product is an essential tool for today's mobile professional. Your purchase will enhance the power, performance, and versatility of your portable computer while traveling on the road or on the sea. The Vehicle Power Adapter can be used in vehicles or boats using a standard cigarette lighter socket. The Vehicle Power Adapter accepts input ranges from 10.8VDC (Volts - Direct Current) to 16VDC and provides 19VDC up to 120W (Watts).

Optional Connections

These items, if desired, may be purchased from third-parties.

USB Keyboard and Mouse

Attaching an external USB keyboard will allow data entry to be more comfortable. Attaching an external USB mouse will allow Windows navigation to be more comfortable. Both the external USB keyboard and mouse will work simultaneously with the Notebook PC's built-in keyboard and touchpad.
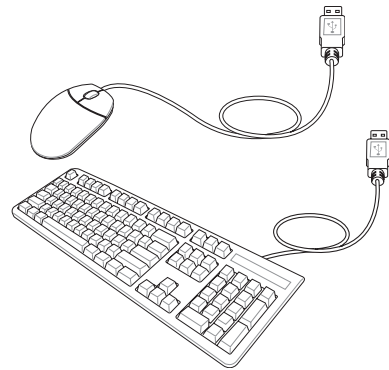
Printer Connection

One or more USB printers can be simultaneously used on any USB port or USB hub.