Notebook PC
Hardware User Guide
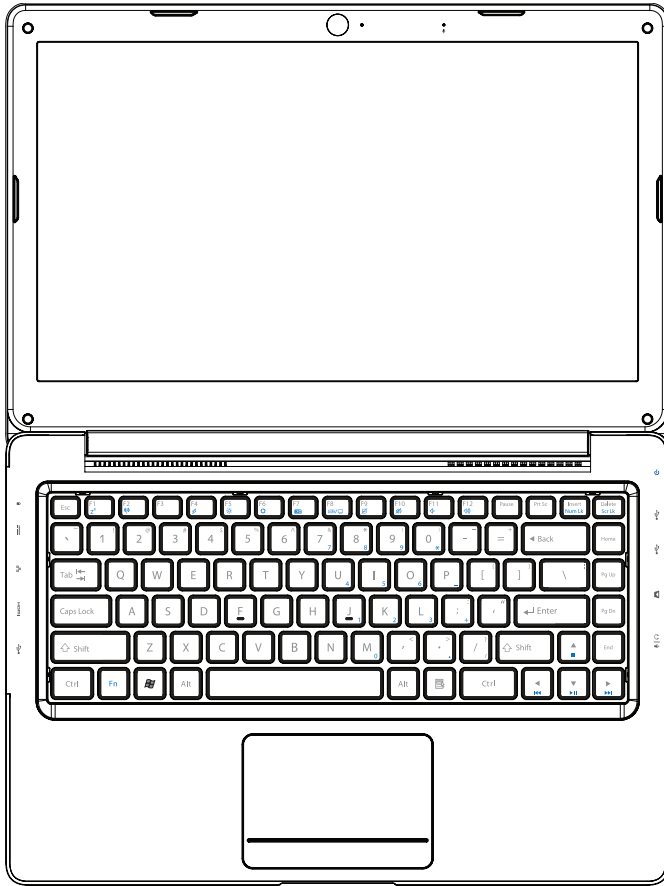
Table of Contents

1. Introducing the Notebook PC

2. Knowing the Parts

3. Getting Started

Table of Contents (cont.)

4. Using the Notebook PC

A. Appendix

Notes

1. Introducing the Notebook PC

About This User Guide

Safety Precautions

Transportation Precautions

Preparing your Notebook PC

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

1 Introducing the Notebook PC

General Overview

This document provides information on the various components in the Notebook PC and how to use them. The following are the major sections of this document:

1. Introducing the Notebook PC
   Introduces you to the Notebook PC and its documentation.

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.

Notes For The User

A few notes and warnings in bold are used throughout this document 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 document, 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 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.

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 carry or cover a Notebook PC that is powered ON with any materials that will reduce air circulation such as a carrying bag.

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 leave the Notebook PC on your lap or any part of the body in order to prevent discomfort or injury from heat exposure.

DO NOT expose to strong magnetic or electrical fields. The electromagnetic field may cause the computer to malfunction.

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

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

DO NOT expose to or use near liquids, rain, or moisture.

DO NOT expose to dirty or dusty environments. DO NOT operate during a gas leak. DO NOT use cut or damaged connection cables.

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

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.

Battery safety warnings:
DO NOT throw the battery in fire. DO NOT disassemble the battery. DO NOT short circuit the contacts. DO NOT handle damaged or leaking batteries.

CAUTION! Danger of explosion if battery is incorrectly replaced.

System Power Rating: **65W, 19V, 3.42A**

IMPORTANT: Listening to audio at full volume for long periods of time can damage the user's hearing, to prevent this please adjust audio levels to middle levels.

WARNING: To avoid bodily injury, DO NOT attempt to troubleshoot your notebook PC if any of the above conditions have damaged it, the battery, or the battery charger. Instead, unplug your notebook and contact a qualified computer technician.

1 Introducing the Notebook PC

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. Close the display panel and check that it is latched securely in the closed position to protect the keyboard and display panel.

IMPORTANT! 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. 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.

IMPORTANT! 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.
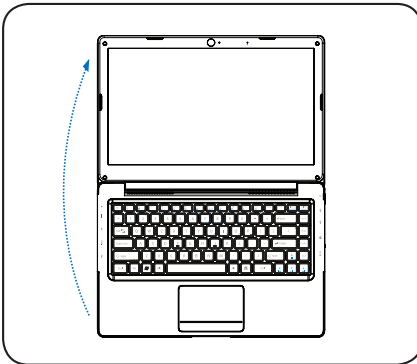
✋ **IMPORTANT! Selected models may feature display panels that do not fully open to a 180-degree angle, with such models do not attempt to force the display panel beyond its limit as it may cause damage to the device.**
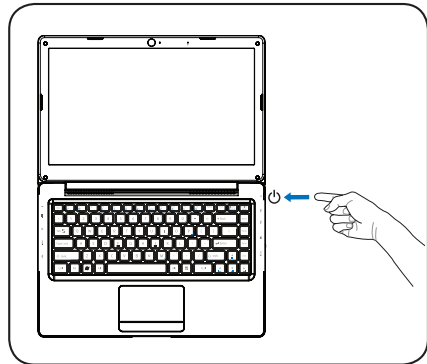
1. Connect the AC Power Adapter
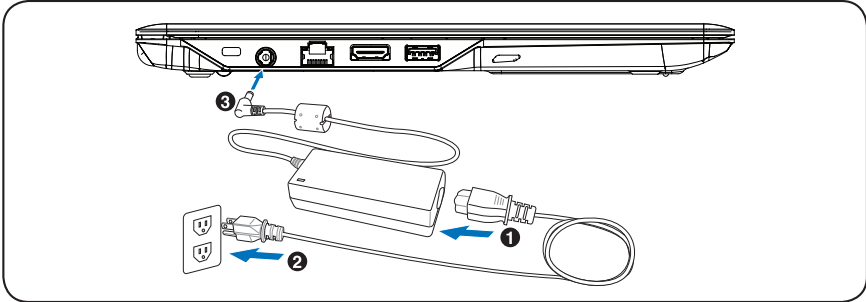
2. Open the Display Panel

✋ **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!**

3. Turn ON the Notebook PC

The power switch turns the Notebook PC ON and OFF or puts the Notebook PC into sleep or hibernation modes. Actual behavior of the power switch can be customized in Windows Control Panel > Power Options > System Settings.

Notes

2. Knowing the Parts

Basic sides of the Notebook PC

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

2 Knowing the Parts

Top Side

Refer to the diagram below to identify the components on these sides of the Notebook PC.

NOTE: The keyboard will be different for each territory.

IMPORTANT! Selected models may feature display panels that do not fully open to a 180-degree angle, with such models do not attempt to force the display panel beyond its limit as it may cause damage to the device.
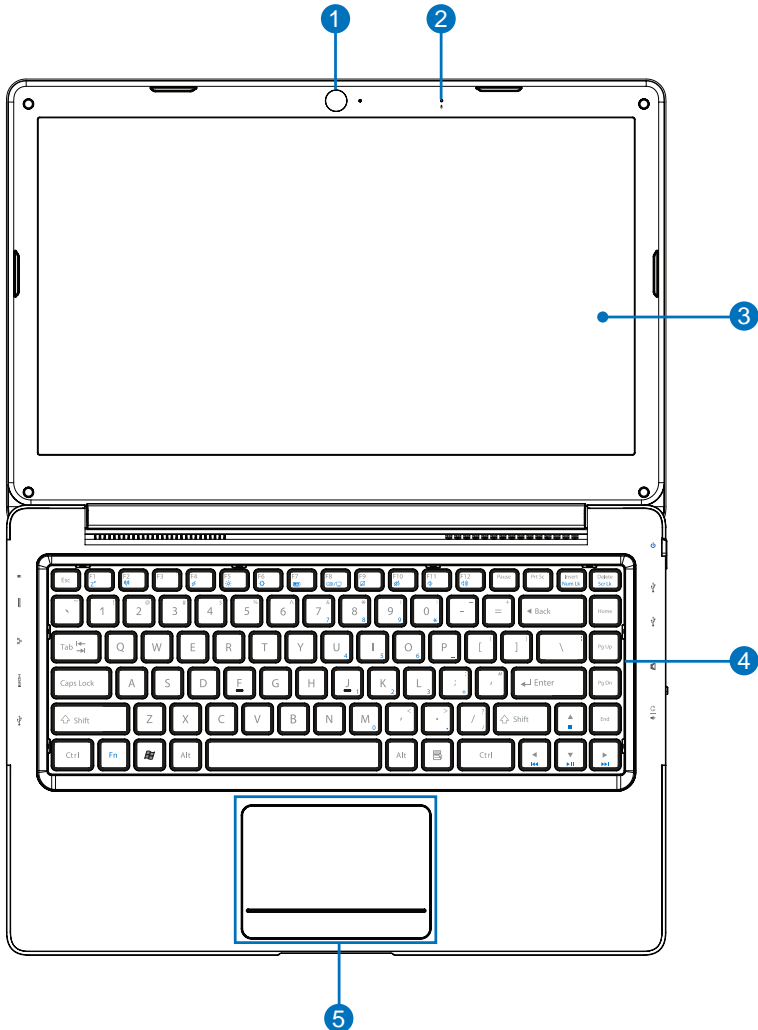
1. ◎ **Camera**

   The built-in camera allows picture taking or video recording. Can be used with video conferencing and other interactive applications.

2. 🎙 **Microphone (Built-in)**

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

3. 🖥 **Display Panel**

   The Notebook PC uses an ultra-clear flat panel which provides excellent viewing like that of desktop monitors without any harmful 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. WARNING: The display panel is fragile. Do not to bend or press the panel.

4. ⊞ **Keyboard**

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

5. ⊡ **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.

2   Knowing the Parts

Right Side

Refer to the diagram below to identify the components on this side of the Notebook PC.
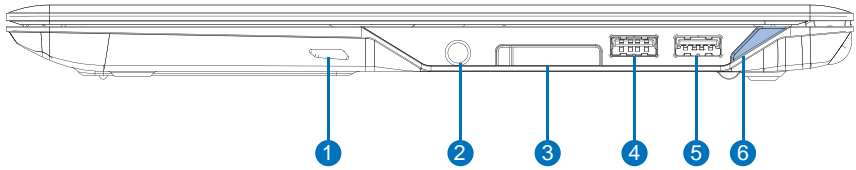
1   ◁) Audio Speaker

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.

2   ∩ Headphone Output / Microphone Input Combo Jack

The stereo combo jack (3.5mm) is used to connect the Notebook PC to amplified speakers, headphones, or a microphone. Using this jack automatically disables the built-in speakers.

3   ⌐M Flash Memory Card Reader

This Notebook PC has a built-in high-speed memory card reader that can conveniently read from and write to many flash memory cards used in devices such as digital cameras, MP3 players, mobile phones, and PDAs.

4   ⟜ USB Port (2.0/1.1)

USB (Universal Serial Bus) 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   ⟜ USB 3.0 Port

USB (Universal Serial Bus) 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.
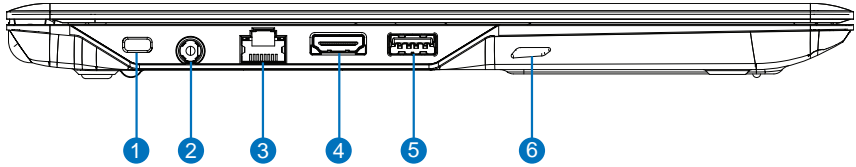
6   ⏻ Power Switch

The power switch turns the Notebook PC ON and OFF or puts the Notebook PC into sleep or hibernation modes. Actual behavior of the power switch can be customized in Windows Control Panel "Power Options."

Left Side

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

① 🔒 **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.

② 🔌 **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: The adapter may become warm to hot when in use. Be sure not to cover the adapter and keep it away from your body.**

③ 🖧 **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.

④ **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.
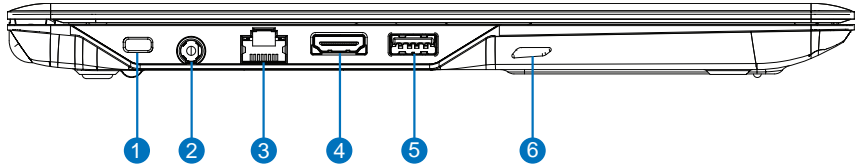
15

Left Side (cont.)

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

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5 ↩**USB 3.0 Port (*with High-Powered USB Port capability)***

USB (Universal Serial Bus) 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.

The High-Powered USB Port function allows the USB port to charge at a higher current (with a maximum current of 2.5A) than traditional USB ports when the notebook PC is in Suspend/Hibernate mode or when it is powered OFF.

- When the notebook PC is powered ON and in a normal power state, the port will function as a traditional USB port with normal charging (with a maximum of 500mA) and normal data transmission.

- The High-Powered charging function will not activate if the battery level is critically low and the AC adapter is not plugged in.

- The High-Powered USB Port does not support USB wakeup.

- The High-Powered charging function can be enabled or disabled in BIOS setup.

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6 ◁ᴐ **Audio Speaker**

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.

# 3. Getting Started

Power System
Special Keyboard Functions

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.
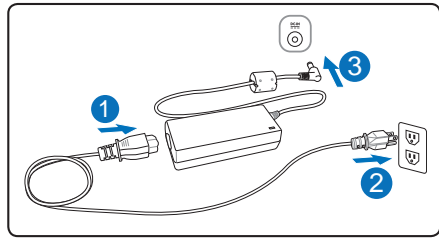
TIP: You can buy travel kits for the Notebook PC that includes power and modem adapters for almost every country.

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. If you use a power strip with your AC adapter, ensure that the total ampere rating of the products plugged in to the power strip does not exceed the ampere rating of the power strip.

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 DO NOT remove the grounding prong from the power cable plug. If you use a power extension cable, use the appropriate type, two-prong or three-prong, to mate with the AC adapter power cable.

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.

IMPORTANT! When in use plug the AC adapter cord into an AC outlet that is easily accessible at all times and place the adapter in a ventilated area, such as a desk top or on the floor. DO NOT place heavy objects on the AC adapter or cover it with papers or other items that will reduce cooling; also, DO NOT use the AC adapter inside a carrying case.

Using Battery Power

The Notebook PC is designed to work with a battery pack. 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.

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.

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.**

Power Options

The power switch turns ON and OFF the Notebook PC or puts the Notebook PC into sleep or hibernation modes. Actual behavior of the power switch can be customized in Windows Control Panel "Power Options."

For other options, such as "Switch User, Restart, Sleep, or Shut Down," click the arrowhead next to the lock icon.

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, choose Restart.

Emergency Shutdown

In case your operating system cannot properly turn OFF or restart, there is a manual way to shutdown your Notebook PC:
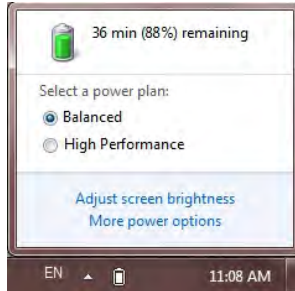
Hold the power button ⏻ over 4 seconds
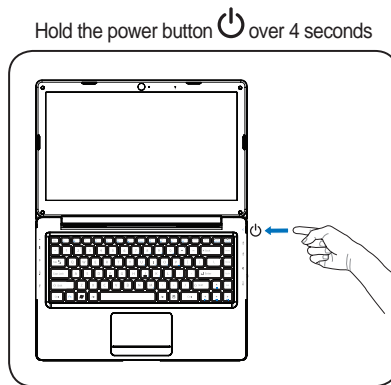
> **IMPORTANT! Do not use emergency shutdown while data is being written; doing so can result in loss or destruction of your data.**
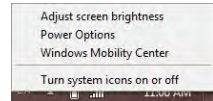
Checking Battery Power

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.
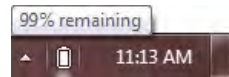
NOTE: Screen captures shown here are examples only and may not reflect what you see in your system.
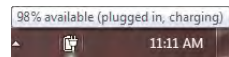
36 min (88%) remaining

Select a power plan:
○ Balanced
○ High Performance

Adjust screen brightness
More power options

EN ▲ 🔋 11:08 AM

Left-click the battery icon.

Adjust screen brightness
Power Options
Windows Mobility Center
Turn system icons on or off

Right-click the battery icon.

99% remaining
▲ 🔋 11:13 AM

Cursor over the battery icon without power adapter.

98% available (plugged in, charging)
🔌 11:11 AM

Cursor over the battery icon with power adapter.

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).

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 the power adapter).

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 status indicator on the Notebook PC 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.

3 Getting Started

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.

Sleep and Hibernate

Power management settings can be found in the Windows > Control Panel > Power Options. In System Settings, you can define "Sleep/Hibernate" or "Shut Down" for closing the display panel or pressing the power button. "Sleep" 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.
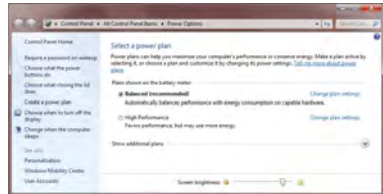
Sleep is the same as Suspend-to-RAM (STR). This function stores your current data and status in RAM while many components are turned OFF. Because RAM is volatile, it requires power to keep (refresh) the data. Click the Start button and the arrowhead next to the lock icon to see this option. You can also use the keyboard shortcut [Fn F1] to activate this mode. Recover by pressing any keyboard key except [Fn]. (NOTE: The power indicator will blink in this mode.)

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 "Sleep". Click the Start button and the arrowhead next to the lock icon to see this option. Recover by pressing the power button. (NOTE: The power indicator will be OFF in this mode.)

Thermal Power Control

There are three power control methods for controlling the Notebook PC's thermal state. These methods 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 temperature reaches the safe upper limit.
- The CPU decreases speed for passive cooling when the temperature exceeds the safe upper limit.
- The system shuts down for critical cooling when temperature exceeds the maximum safe upper limit.

Power Manager Utility

The Power Manager Utility provides the user with an integrated power management tool that:

- Features an integrated user interface which lets the user easily control/set a power plan.
- Provides a battery maintenance tool to extend battery life.
- Provides an add-on value tool, such as the peak-shift utility, for saving electricity.

Power Plans (*for monitoring power consumption*)

Power Plans shows real-time power consumption for the power mode selected by the user.

1. Choose the specific power plan you want to view the power consumption chart for here.

2. Choose the time frame you want for the power consumption chart here.

3. The power consumption chart will be displayed in this area.

3 Getting Started

Battery Health

Battery Health provides the user with tools to extend the life of the battery by allowing the user to select battery charging behavior when the AC adapter is plugged in. When peak-shift is enabled by the user, this option will not function.
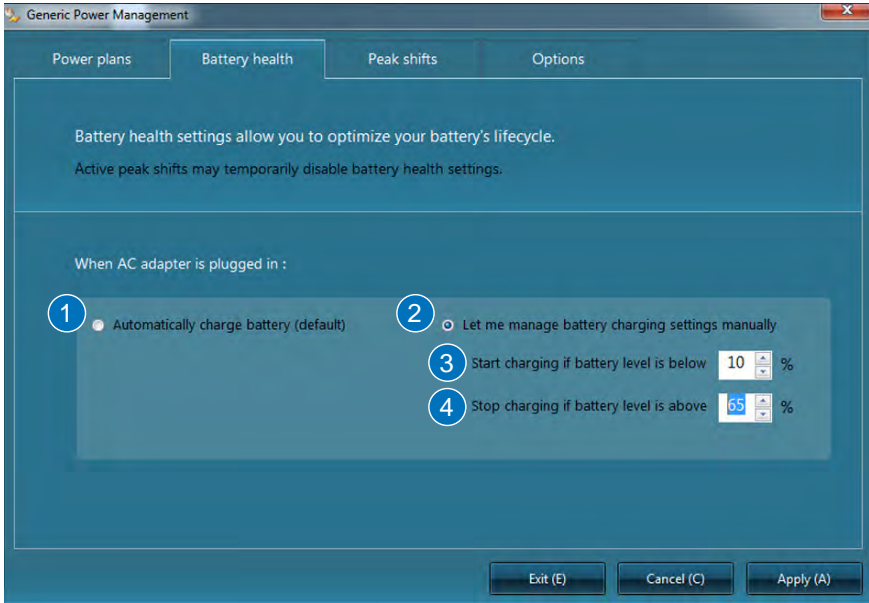
1. Choose this option if you want the battery to continuously charge until full.

2. Choose this option if you want to manually set battery charging behavior.

3. Set the battery level at which to start charging here. This field cannot be over 96% and cannot be lower than the low battery warning level set by the operating system.

4. Set the battery level at which to stop charging here.

Peak Shift

Peak shift allows the user to set specific time periods in which the PC will only use battery power even when the AC adapter is plugged in, in order to stop the PC from using energy from the power socket during periods of peak power demand. When the adapter is plugged in and peak shift is activated, Windows will still show that the adapter is plugged in.
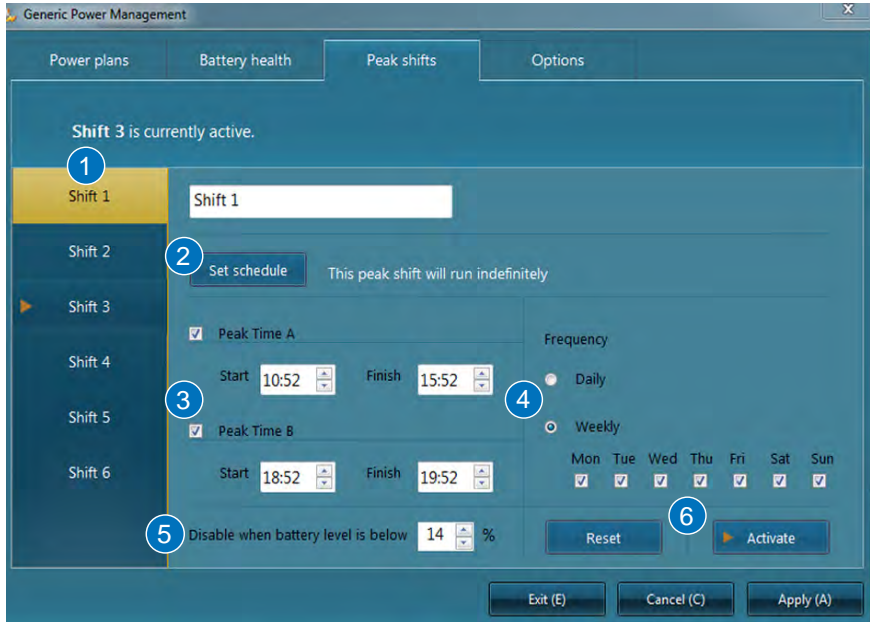
1. Choose an individual peak shift you want to activate or edit.

2. Choose this option if you want the selected peak shift to only be activated for a specific time span. A menu to select start and end dates will open if this option is chosen.

3. Choose the start and end time for the selected peak shift, you may choose up to two different time periods for each individual peak shift.

4. Choose how frequently the selected peak shift will occur.

5. Choose the minimum battery level at which the battery will start charging during the peak shift.

6. Choose whether to activate or reset the selected peak shift.