

Mini PC PN50

User Manual



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About this manual

This manual provides information about the hardware and software features of your Mini PC, organized through the following chapters:

Chapter 1: Getting to know your Mini PC

This chapter details the hardware components of your Mini PC.

Chapter 2: Using your Mini PC

This chapter provides you with information on using your Mini PC.

Chapter 3: Upgrading your Mini PC

This chapter provides you with information on how to upgrade the memory modules, wireless modules, and hard disk drive / solid state drive of your Mini PC.

Appendix

This section includes notices and safety statements your Mini PC.

Conventions used in this manual

To highlight key information in this manual, some text are presented as follows:

IMPORTANT! This message contains vital information that must be followed to complete a task.

NOTE: This message contains additional information and tips that can help complete tasks.

WARNING! This message contains important information that must be followed to keep you safe while performing certain tasks and prevent damage to your Mini PC's data and components.

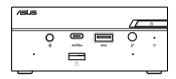
Typography

Bold text Indicates a menu or an item to select.

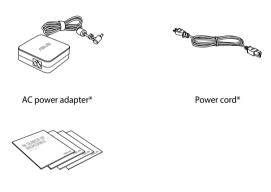
Italic This indicates sections that you can refer to in this manual.

Package contents

Your Mini PC package contains the following items:



ASUS Mini PC PN Series



Technical documentations

NOTE:

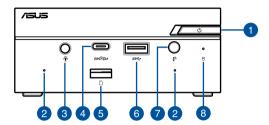
- *The bundled power adapter may vary by model and territories.
- Some bundled accessories may vary with different models.
 For details on these accessories, refer to their respective user manuals.
- The device illustration is for reference only. Actual product specifications may vary with models.
- If the device or its components fail or malfunction during normal and proper use within the warranty period, bring the warranty card to the ASUS Service Center for replacement of the defective components.

1

Getting to know your Mini
PC

Features

Front view



1 Power button

The power button allows you to turn the Mini PC on or off. You can use the power button to put your Mini PC to sleep mode or press it for four (4) seconds to force shutdown your Mini PC.

Microphone

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

Headphone/Headset/Microphone jack

This port allows you to connect amplified speakers or headphones. You can also use this port to connect your headset or an external microphone.





USB 3.2 Gen 2 Type-C[®]/DisplayPort combo port

This USB Type-C[®] (Universal Serial Bus) port provides a transfer rate of up to 10 Gbit/s, and supports Display port 1.4. Use a USB Type-C[®] adapter to connect your Mini PC to an external display. This port also supports the Battery Charging 1.2 technology that allows you to charge your USB devices

NOTE:

- Battery Charging 1.2 technology is only available on selected models, and provides a maximum of 5V / 1.5A output.
- When using only this port as a display output source, this port will support a resolution of up to 7680 x 4320 @30Hz, or 5120 x 2280 @120Hz. The resolution may also be affected by the cabling and output device.





Memory card slot

The built-in memory card reader enables your Mini PC to read and write data to and from Micro SD cards.





USB 3.2 Gen 1 port

The USB 3.2 Gen 1 (Universal Serial Bus) port provides a transfer rate up to 5 Gbit/s.





IR receiver

The remote sensor detects signal from your remote control, allowing you to access the control panel from a distance.

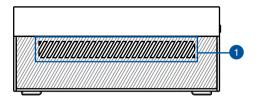
NOTE: The remote control is purchased separately

8

Drive activity indicator

This indicator lights up when your Mini PC is accessing the internal storage drive.

Left view

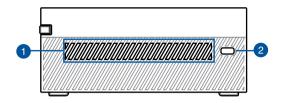


Air vents (intake vent)

The air vents allow cooler air to enter your Mini PC chassis.

IMPORTANT: For an optimum heat dissipation and air ventilation, ensure that the air vents are free from obstructions.

Right view



Air vents (intake vent)

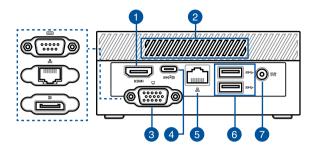
The air vents allow cooler air to enter your Mini PC chassis.

IMPORTANT: For an optimum heat dissipation and air ventilation, ensure that the air vents are free from obstructions.

Kensington security slot

The Kensington security slot allows you to secure your Mini PC using Kensington® security products.

Rear view



1 HDMI HDMI™ port

The HDMI™ (High Definition Multimedia Interface) port supports a Full-HD device such as an LCD TV or monitor to allow viewing on a larger external display.

NOTE: When using only this port as a display output source, this port will support a resolution of up to 3840 x 2160 @60Hz. The resolution may also be affected by the cabling and output device.

Air vents (exhaust vent)

The air vents allow your Mini PC chassis to expel hot air out.

IMPORTANT: For an optimum heat dissipation and air ventilation, ensure that the air vents are free from obstructions.

Configurable port

This port varies between models and consists of the following port options:

 ☐ VGA port

This port allows you to connect your Mini PC to an external display.

NOTE: When using only this port as a display output source, this port will support a resolution of up to 1920 x 1200 @60Hz. The resolution may also be affected by the cabling and output device.

Serial (COM) connector

The 9-pin serial (COM) connector allows you to connect devices that have serial ports such as mouse, modem, or printers.

異 LAN port

D

DisplayPort

The 8-pin RJ-45 LAN port supports a standard Ethernet cable for connection to a local network.

This port allows you to connect your Mini PC to an external display.

NOTE: When using only this port as a display output source, this port will support a resolution of up to 7680 x 4320 @30Hz, or 5120 x 2280 @120Hz. The resolution may also be affected by the cabling and output device.



USB 3.2 Gen 2 Type-C®/DisplayPort combo port

This USB Type-C[®] (Universal Serial Bus) port provides a transfer rate of up to 10 Gbit/s, and supports Display port 1.4. Use a USB Type-C[®] adapter to connect your Mini PC to an external display.

NOTE: When using only this port as a display output source, this port will support a resolution of up to 7680 x 4320 @30Hz, or 5120 x 2280 @120Hz. The resolution may also be affected by the cabling and output device.



The 8-pin RJ-45 LAN port supports a standard Ethernet cable for connection to a local network.

6 SS USB 3.2 Gen 1 port

The USB 3.2 Gen 1 (Universal Serial Bus) port provides a transfer rate up to 5 Gbit/s.

DCIN Power 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 Mini PC. To prevent damage to the Mini PC, always use the supplied power adapter.

WARNING! The power adapter may become warm to hot when in use. Do not cover the adapter and keep it away from your body.

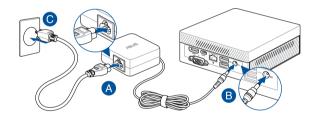
Getting started

Connect the AC power adapter to your Mini PC

To connect the AC power adapter to your Mini PC:

- A. Connect the power cord to the AC power adapter.
- B. Connect the DC power connector into your Mini PC's power (DC) input.
- C. Plug the AC power adapter into a 100V~240V power source.

NOTE: The power adapter may vary in appearance, depending on models and your region.



IMPORTANT!

- We strongly recommend that you use only the AC power adapter and cable that came with your Mini PC.
- We strongly recommend that you use a grounded wall socket while using your Mini PC.
- The socket outlet must be easily accessible and near your Mini PC.
- To disconnect your Mini PC from its main power supply, unplug your Mini PC from the power socket.

NOTE:

The power adapter may vary between models and territories, please refer to the following for more information on the different adapters:

65W Power adapter

- Input voltage: 100-240 Vac
- Input frequency: 50-60 Hz
- Rating output current: 3.42 A / 3.33 A (65.0 W)
- Rating output voltage: 19.0 V / 19.5 V

90W Power adapter

- Input voltage: 100-240 Vac
- Input frequency: 50-60 Hz
- Rating output current: 4.74A / 4.62 A (90.0 W)
- Rating output voltage: 19.0V / 19.5 V

Connect a display panel to your device

You can connect a display panel or projector to your device that has the following connectors:

- VGA connector
- DisplayPort
- HDMI[™] connector
- USB Type-C[®]/DisplayPort connector

NOTE: These ports may vary per model.

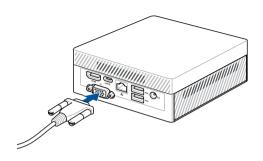
To connect a display panel to your Mini PC:

Connect one end of a VGA, DisplayPort, HDMI[™] or USB Type-C[®] cable to an external display, and the other end of the cable to your Mini PC's VGA port, DisplayPort, HDMI[™] port, or one of the USB 3.2 Gen 2 Type-C[®]/DisplayPort combo ports.

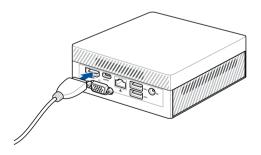
NOTE:

- Up to four display panels may be connected simultaneously when using both front and rear USB 3.2 Gen 2 Type-C[®]/ DisplayPort combo ports, HDMI™ port, and configurable port*.
- Using a one of the ports listed below as the only display output source will provide the following maximum resolution**:
 - Front USB 3.2 Gen 2 Type-C*/DisplayPort combo port Supports a resolution of up to 7680 x 4320 @30Hz, or 5120 x 2280 @120Hz.
 - Rear USB 3.2 Gen 2 Type-C*/DisplayPort combo port Supports a resolution of up to 7680 x 4320 @30Hz, or 5120 x 2280 @120Hz.
 - HDMI™ port Supports a resolution of up to 3840 x 2160 @60Hz.
 - Configurable VGA port
 Supports a resolution of up to 1920 x 1200 @60Hz.
 - <u>Configurable DisplayPort port</u> Supports a resolution of up to 7680 x 4320 @30Hz, or 5120 x 2280 @120Hz
- * This port may vary per model. Please refer to the Features section for the location of the ports.
- ** The maximum resolution may be affected by the cabling and output device.

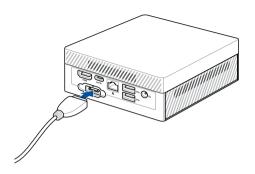
Connect display via VGA port



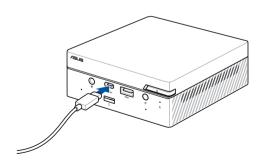
Connect display via HDMI™ port



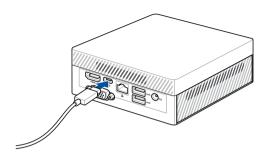
Connect display via DisplayPort



Connect display via front USB 3.2 Gen 2 Type-C*/DisplayPort combo port



Connect display via rear USB 3.2 Gen 2 Type-C[®]/DisplayPort combo port



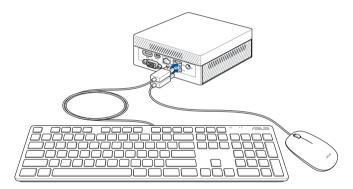
Connect the USB cable from keyboard or mouse

You can connect generally any USB keyboard and mouse to your Mini PC. You can also connect a USB dongle for a wireless keyboard and mouse set.

To connect a keyboard and mouse to your Mini PC:

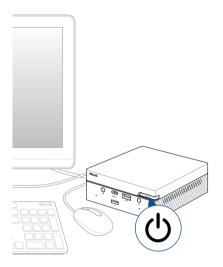
Connect the USB cable from your keyboard and mouse to any of the USB ports of your Mini PC.

NOTE: The keyboard varies with country or region.



Turn on your Mini PC

Press the power button to turn on your Mini PC.



Turning your Mini PC off

If your Mini PC is unresponsive, press and hold the power button for at least four (4) seconds until your Mini PC turns off.

Putting your Mini PC to sleep

To set your Mini PC to enter Sleep mode by pressing the Power button once, search for **Control Panel** in the Windows Search Box, then navigate to **Hardware and Sound** > **Power Options** > **Choose what the power button does**, and set **When I press the power button** to **Sleep**.

Entering the BIOS Setup

BIOS (Basic Input and Output System) stores system hardware settings that are needed for system startup in the Mini PC.

In normal circumstances, the default BIOS settings apply to most conditions to ensure optimal performance. Do not change the default BIOS settings except in the following circumstances:

- An error message appears on the screen during the system bootup and requests you to run the BIOS Setup.
- You have installed a new system component that requires further BIOS settings or update.

WARNING! Inappropriate BIOS settings may result to instability or boot failure. We strongly recommend that you change the BIOS settings only with the help of a trained service personnel.

Load default BIOS settings

To load the default values for each of the parameters in your BIOS:

• Enter the BIOS by pressing <F2> or on the POST screen.

NOTE: POST (Power-On Self Test) is a series of software controlled diagnostic tests that run when you turn on your Mini PC.

- Navigate to the Exit menu.
- Select the Load Optimized Defaults option, or you may press <F5>.
- Select **OK** to load the default BIOS values.

Upgrading your Mini PC

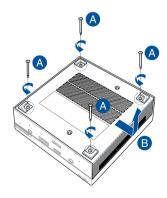
IMPORTANT!

- It is recommended that you install or upgrade the memory modules, wireless card, and solid state drive (SSD), under professional supervision. Visit an ASUS service center for further assistance.
- Ensure that your hands are dry before proceeding with the rest
 of the installation process. Before installing any of the features
 in this guide, use a grounded wrist strap or touch a safely
 grounded object or metal object to avoid damaging them due
 to static electricity.

NOTE: The illustrations in this section are for reference only. The slots may vary depending on model.

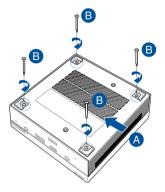
Removing the bottom cover

- Turn off your Mini PC then disconnect all cables and peripherals.
- 2. Place the Mini PC on a flat stable surface, with its top side facing down.
- Remove the four (4) screws from the bottom (A), then push the bottom cover towards the right to remove the bottom cover (B).



Replacing the bottom cover

Push the bottom cover from the right side towards the left side of the Mini PC (A), then secure it using the four (4) screws removed previously (B).

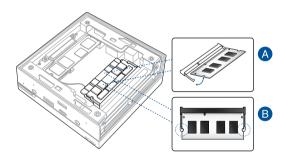


Installing memory modules

Your Mini PC comes with two SO-DIMM memory slots that allow you to install two DDR4 SO-DIMMs.

Align and insert the memory module into the slot (A) and press it down (B) until it is securely seated in place. Repeat the same steps to install the other memory module.

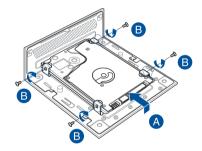
IMPORTANT! Refer to http://www.asus.com for the list of compatible DIMMs. You can only install DDR4 SO-DIMMs to the Mini PC's DIMM slots.



Installing 2.5" HDD or SSD

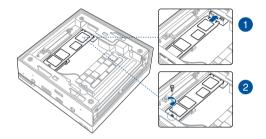
- 1. Prepare your 2.5" HDD or SSD, then align it with the storage bay on the bottom cover of your Mini PC.
- 2. Insert your HDD or SSD into the storage bay (A), then secure it with four (4) screws (B).

IMPORTANT! This device only supports 7mm and 9.5mm 2.5" HDD or SSD.



Installing the M.2 SSD (on selected models)

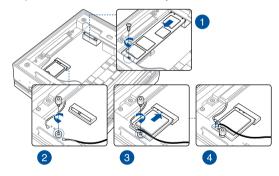
- 1. Align and insert the 2280 M.2 SSD into its slot inside the Mini PC.
- 2. Gently push down the 2280 M.2 SSD on top of the screw hole and fasten it using one of the bundled 3mm round screws.



Installing the wireless card

NOTE: Your Mini PC includes a M.2 slot for 2230 wireless and Bluetooth modules. Refer to http://www.asus.com for the list of compatible wireless and Bluetooth modules.

- (optional) Remove the M.2 SSD if an M.2 SSD is installed. To remove the M.2 SSD, remove the screw from the screw hole, then remove the M.2 SSD.
- 2. Remove the M.2 stand screw.
- Align and insert the wireless card into its slot inside the Mini PC, then gently push down the wireless card on top of the screw hole and fasten it using the previously removed stand screw.
- 4. (optional) Connect the antennas to your wireless card.



NOTE:

- Connecting antennas to your wireless card may strengthen the wireless signal.
- A soft clicking sound indicates that the antenna has been securely attached on the wireless card.

Appendix

Safety information

Your Mini PC is designed and tested to meet the latest standards of safety for information technology equipment. However, to ensure your safety, it is important that you read the following safety instructions.

Setting up your system

- Read and follow all instructions in the documentation before you operate your system.
- Do not use this product near water or a heated source.
- Set up the system on a stable surface.
- Openings on the chassis are for ventilation. Do not block or cover these openings. Make sure you leave plenty of space around the system for ventilation. Never insert objects of any kind into the ventilation openings.
- Use this product in environments with ambient temperatures between 0°C and 35°C.
- If you use an extension cord, make sure that the total ampere rating
 of the devices plugged into the extension cord does not exceed its
 ampere rating.
- This product should be connected by means of a power cord to a socket-outlet with earthing connection.
- This equipment should be installed and operated with a minimum distance of 20cm between the radiator and your body.

Care during use

- · Do not walk on the power cord or allow anything to rest on it.
- Do not spill water or any other liquids on your system.
- When the system is turned off, a small amount of electrical current still flows. Always unplug the power cord from the power outlets before cleaning the system.

- If you encounter the following technical problems with the product, unplug the power cord and contact a qualified service technician or your retailer.
 - The power cord or plug is damaged.
 - Liquid has been spilled into the system.
 - The system does not function properly even if you follow the operating instructions.
 - The system was dropped or the cabinet is damaged.
 - The system performance changes.
- Avoid contact with hot components inside the device. During operation, some components become hot enough to burn the skin.
 Before you open the device cover, turn off the device, disconnect the power, and wait approximately 30 minutes for the components to cool.
- Disposal of a battery into fire or a hot oven, or mechanically crushing or cutting of a battery, that can result in an explosion;
- Leaving a battery in an extremely high temperature surrounding environment that can result in an explosion or the leakage of flammable liquid or gas;
- A battery subjected to extremely low air pressure that may result in an explosion or the leakage of flammable liquid or gas.

Lithium-Ion Battery Warning

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

NO DISASSEMBLY

The warranty does not apply to the products that have been disassembled by users

Regulatory notices

COATING NOTICE

IMPORTANT! To provide electrical insulation and maintain electrical safety, a coating is applied to insulate the device except on the areas where the I/O ports are located.

Federal Communications Commission Statement

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- · This device may not cause harmful interference, and
- This device must accept any interference received including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with manufacturer's instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

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

IMPORTANT! Outdoor operations in the 5.15~5.25 GHz band is prohibited. This device has no Ad-hoc capability for 5250~5350 and 5470~5725 MHz

CAUTION! Any changes or modifications not expressly approved by the grantee of this device could void the user's authority to operate the equipment.

RF exposure warning

This equipment must be installed and operated in accordance with provided instructions and the antenna(s) used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter. End-users and installers must be provide with antenna installation instructions and transmitter operating conditions for satisfying RF exposure compliance.

ISED Radiation Exposure Statement for Canada

This equipment complies with ISED radiation exposure limits set forth for an uncontrolled environment. To maintain compliance with ISED RF exposure compliance requirements, please avoid direct contact to the transmitting antenna during transmitting. End users must follow the specific operating instructions for satisfying RF exposure compliance.

Operation is subject to the following two conditions:

- This device may not cause interference and
- This device must accept any interference, including interference that may cause undesired operation of the device.

HDMI Compliance Statement

The terms HDMI, HDMI High-Definition Multimedia Interface, and the HDMI Logo are trademarks or registered trademarks of HDMI Licensing Administrator, Inc.

Compliance Statement of Innovation, Science and Economic Development Canada (ISED)

This device complies with Innovation, Science and Economic Development Canada licence exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

CAN ICES-3(B)/NMB-3(B)

Déclaration de conformité de Innovation, Sciences et Développement économique Canada (ISED)

Le présent appareil est conforme aux CNR d'Innovation, Sciences et Développement économique Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes: (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

CAN ICES-3(B)/NMB-3(B)

Wireless Operation Channel for Different Domains

N. America	2.412-2.462 GHz	Ch01 through CH11
Japan	2.412-2.484 GHz	Ch01 through Ch14
Europe ETSI	2.412-2.472 GHz	Ch01 through Ch13

Regional notice for California



WARNING

Cancer and Reproductive Harm - www.P65Warnings.ca.gov

Declaration of compliance for product environmental regulation

ASUS follows the green design concept to design and manufacture our products, and makes sure that each stage of the product life cycle of ASUS product is in line with global environmental regulations. In addition, ASUS disclose the relevant information based on regulation requirements.

Please refer to http://csr.asus.com/Compliance.htm for information disclosure based on regulation requirements ASUS is complied with:

EU REACH and Article 33

Complying with the REACH (Registration, Evaluation, Authorization, and Restriction of Chemicals) regulatory framework, we publish the chemical substances in our products at ASUS REACH website at http://csr.asus.com/english/REACH.htm

EU RoHS

This product complies with the EU RoHS Directive. For more details, see http://csr.asus.com/english/article.aspx?id=35

Japan JIS-C-0950 Material Declarations

Information on Japan RoHS (JIS-C-0950) chemical disclosures is available on http://csr.asus.com/english/article.aspx?id=19

India RoHS

This product complies with the "India E-Waste (Management) Rules, 2016" and prohibits use of lead, mercury, hexavalent chromium, polybrominated biphenyls (PBBs) and polybrominated diphenyl ethers (PBDEs) in concentrations exceeding 0.1% by weight in homogenous materials and 0.01% by weight in homogenous materials for cadmium, except for the exemptions listed in Schedule II of the Rule.

Vietnam RoHS

ASUS products sold in Vietnam, on or after September 23, 2011, meet the requirements of the Vietnam Circular 30/2011/TT-BCT.

Các sản phẩm ASUS bán tại Việt Nam, vào ngày 23 tháng 9 năm2011 trở về sau, đều phải đáp ứng các yêu cầu của Thông tư 30/2011/TT-BCT của Việt Nam.

Turkey RoHS

AEEE Yönetmeliğine Uygundur

ASUS Recycling/Takeback Services

ASUS recycling and takeback programs come from our commitment to the highest standards for protecting our environment. We believe in providing solutions for you to be able to responsibly recycle our products, batteries, other components as well as the packaging materials. Please go to http://csr.asus.com/english/Takeback.htm for detailed recycling information in different regions.

Ecodesign Directive

European Union announced a framework for the setting of ecodesign requirements for energy-related products (2009/125/EC). Specific Implementing Measures are aimed at improving environmental performance of specific products or across multiple product types. ASUS provides product information on the CSR website. The further information could be found at https://csr.asus.com/english/article.aspx?id=1555.



DO NOT throw the device in municipal waste. This product has been designed to enable proper reuse of parts and recycling. This symbol of the crossed out wheeled bin indicates that the product (electrical, electronic equipment, and mercury-containing button cell battery) should not be placed in municipal waste. Check local technical support services for product recycling.

ENERGY STAR complied product

ENERGY STAR is a joint program of the U.S. Environmental Protection Agency and the U.S. Department of Energy helping us all save money and



protect the environment through energy efficient products and practices.

All ASUS products with the ENERGY STAR logo comply with the ENERGY STAR standard, and the power management feature is enabled by default. The monitor and computer are automatically set to sleep after 10 and 30 minutes of user inactivity. To wake your computer, click the mouse or press any

key on the keyboard.

Please visit http://www.energystar.gov/powermanagement for detail information on power management and its benefits to the environment. In addition, please visit http://www.energystar.gov for detail information on the ENERGY STAR joint program.

NOTE: Energy Star is NOT supported on FreeDOS and Linux-based products.

EPEAT (Electronic Product Environmental Assessment Tool) registered products

The public disclosure of key environmental information for ASUS EPEAT registered products is available on CSR web site http://csr.asus.com/english/article.aspx?id=41. More information about EPEAT program and purchaser guidance can be found on the EPEAT website www.epeat.net.
