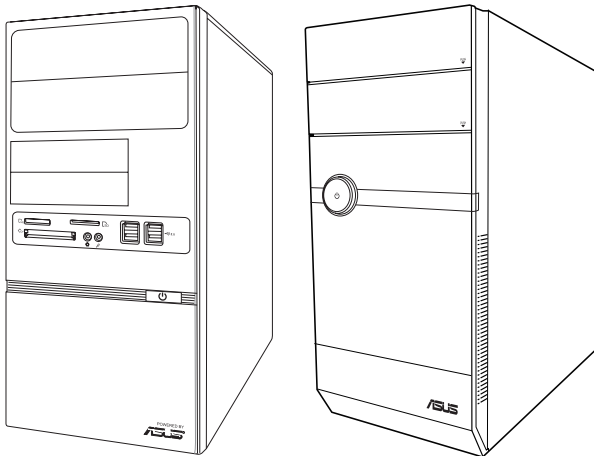




V-series P5G41E

ASUS PC (Desktop Barebone)

User's Manual



E5262

First Edition V1
December 2009

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Notices

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.



WARNING! The use of shielded cables for connection of the monitor to the graphics card is required to assure compliance with FCC regulations. Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

Canadian Department of Communications Statement

This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

This class B digital apparatus complies with Canadian ICES-003.

REACH

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

Safety information

Electrical safety

- To prevent electric shock hazard, disconnect the power cable from the electric outlet before relocating the system.
- When adding or removing devices to or from the system, ensure that the power cables for the devices are unplugged before the signal cables are connected. If possible, disconnect all power cables from the existing system before you add a device.
- Before connecting or removing signal cables from the motherboard, ensure that all power cables are unplugged.
- Seek professional assistance before using an adapter or extension cord. These devices could interrupt the grounding circuit.
- Ensure that your power supply is set to the correct voltage in your area. If you are not sure about the voltage of the electrical outlet you are using, contact your local power company.
- If the power supply is broken, do not try to fix it by yourself. Contact a qualified service technician or your retailer.

Operation safety

- Before installing the motherboard and adding devices on it, carefully read all the manuals that came with the package.
- Before using the product, ensure that all cables are correctly connected and the power cables are not damaged. If you detect any damage, contact your dealer immediately.
- To avoid short circuits, keep paper clips, screws, and staples away from connectors, slots, sockets and circuitry.
- Avoid dust, humidity, and temperature extremes. Do not place the product in any area where it may become wet.
- Place the product on a stable surface.
- If you encounter technical problems with the product, contact a qualified service technician or your retailer.



DO NOT throw the system components 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 and electronic equipment) should not be placed in municipal waste. Check local regulations for disposal of electronic products.



DO NOT throw the mercury-containing button cell battery in municipal waste. This symbol of the crossed out wheeled bin indicates that the battery should not be placed in municipal waste.

About this guide

Audience

This guide provides general information and installation instructions about the ASUS Vintage V-series P5G41E barebone system. This guide is intended for experienced users and integrators with hardware knowledge of personal computers.

How this guide is organized

This guide contains the following parts:

1. Chapter 1: System introduction

This chapter gives a general description of the ASUS V-series P5G41E. The chapter lists the system features, including introduction on the front and rear panel, and internal components.

2. Chapter 2: Starting up

This chapter helps you power up the system and install drivers and utilities from the support DVD.

3. Chapter 3: Motherboard info

This chapter gives information about the motherboard that comes with the system. This chapter includes the motherboard layout, jumper settings, and connector locations.

4. Chapter 4: BIOS setup

This chapter tells how to change system settings through the BIOS Setup menus and describes the BIOS parameters.

Conventions used in this guide



WARNING: Information to prevent injury to yourself when trying to complete a task.



CAUTION: Information to prevent damage to the components when trying to complete a task.



IMPORTANT: Instructions that you **MUST** follow to complete a task.



NOTE: Tips and additional information to aid in completing a task.

Where to find more information

Refer to the following sources for additional information and for product and software updates.

1. **ASUS Websites**

The ASUS websites worldwide provide updated information on ASUS hardware and software products. Refer to the ASUS contact information.

2. **Optional Documentation**

Your product package may include optional documentation, such as warranty flyers, that may have been added by your dealer. These documents are not part of the standard package.

System package contents

Check your V-series P5G41E system package for the following items.

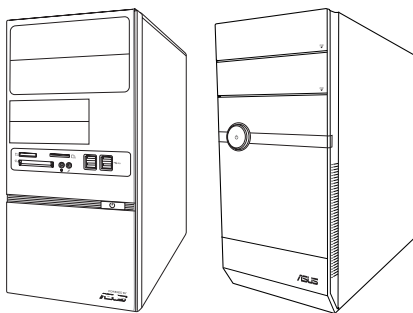


If any of the items is damaged or missing, contact your retailer immediately.

Item description	
1.	ASUS V-series P5G41E barebone system with <ul style="list-style-type: none">• ASUS motherboard• Power supply unit• ASUS chassis
2.	Cable <ul style="list-style-type: none">• AC power cable
3.	Support DVD
4.	Quick Installation Guide

Chapter 1

This chapter gives a general description of the ASUS V-series P5G41E. The chapter lists the system features including introduction on the front and rear panel, and internal components.



System introduction

1.1 Welcome!

Thank you for choosing the ASUS V-series P5G41E!

The ASUS V-series P5G41E is an all-in-one barebone system with a versatile home entertainment feature.

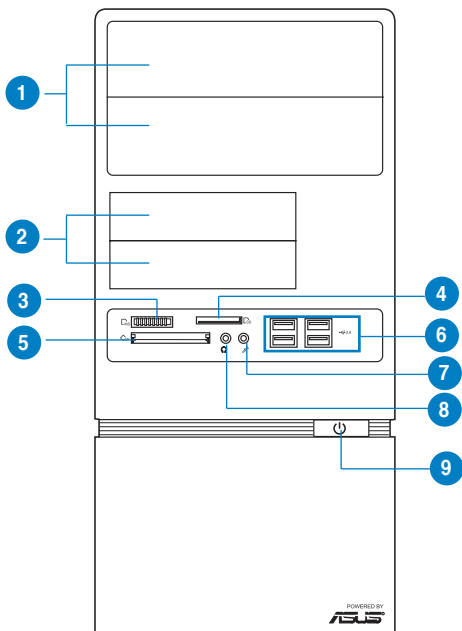
The system comes in a stylish casing and powered by the ASUS motherboard that supports the Intel® Core™2 Extreme / Core™2 Duo / Core™2 Quad / Pentium® dual-core / Celeron® processors in the 775-land package.

The system supports up to 8 GB of system memory using DDR3-1066/800 DIMMs. High-resolution graphics via integrated graphics controller or PCI Express x16 slot, Serial ATA, USB 2.0, and 8-channel audio feature the system and take you ahead in the world of power computing.

1.2 Front panel

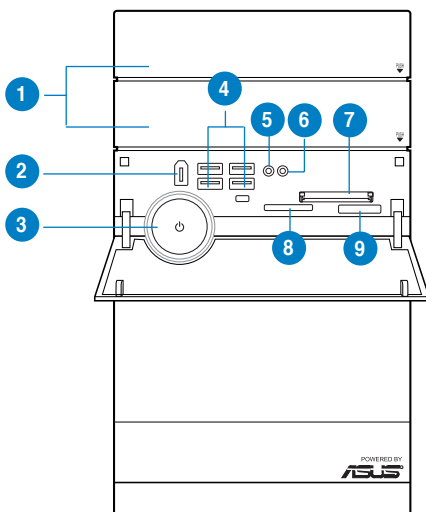
The front panel includes the optical drive bays, power button, and several I/O ports are located at the front panel.

1.2.1 V6-P5G41E front panel



1. **Two empty 5.25-inch drive bays.** These bays are for 5.25-inch IDE/SATA optical drives.
2. **Two empty 3.5-inch drive bays.** These bays are for 3.5-inch hard disk drives.
3. **MemoryStick® / Memory Stick Pro™ card slot**
4. **Secure Digital™ / Multimedia Card slot**
5. **CompactFlash® / Microdrive™ card slot**
6. **USB 2.0 ports.** These Universal Serial Bus 2.0 (USB 2.0) ports are available for connecting USB 2.0 devices such as a mouse, printer, scanner, camera, PDA, and others.
7. **Microphone port.** This Mic (pink) port connects a microphone.
8. **Headphone port.** This Line Out (lime) port connects a headphone with a stereo mini-plug.
9. **Power button.** Press this button to turn the system on.

1.2.3 V7-P5G41E front panel



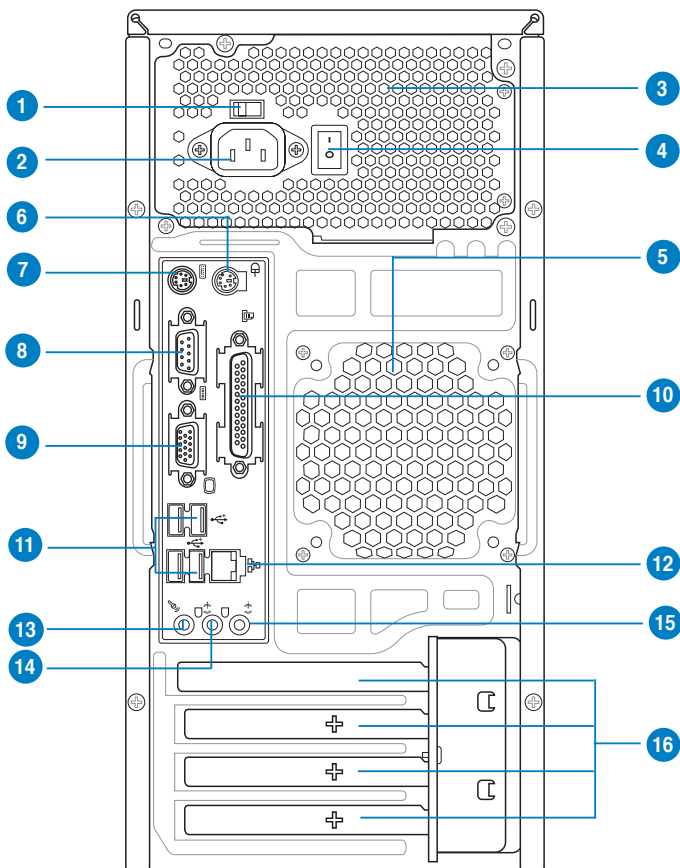
1. **Two empty 5.25-inch drive bays.** These bays are for 5.25-inch IDE/SATA optical drives.
2. **IEEE1394 port.** This port provides high-speed connectivity for audio/video devices, storage peripherals, PCs, or portable devices
3. **Power button.** Press this button to turn the system on.
4. **USB 2.0 ports.** These Universal Serial Bus 2.0 (USB 2.0) ports are available for connecting USB 2.0 devices such as a mouse, printer, scanner, camera, PDA, and others.
5. **Headphone port.** This Line Out (lime) port connects a headphone with a stereo mini-plug.
6. **Microphone port.** This Mic (pink) port connects a microphone.
7. **CompactFlash® / Microdrive™ card slot**
8. **MemoryStick® / Memory Stick Pro™ card slot**
9. **Secure Digital™ / Multimedia Card slot**



This V-series provide V6 and V7 two types of front panel for users to choose, refer to your product package for the front panel type you purchased.

1.3 Rear panel

The system rear panel includes the power connector and several I/O ports that allow convenient connection of devices.



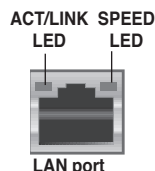
Do NOT cover the rear vent, and the ambient temperature is limited up to 35°C to prevent the system from overheating.

1. **Voltage selector.** This switch allows you to adjust the system input voltage according to the voltage supply in your area. See the section “Voltage selector” on page 1-6 before adjusting this switch.
2. **Power connector.** This connector is for the power cable and plug.
3. **Power supply unit fan vent.** This vent is for the PSU fan that provides ventilation inside the power supply unit.

4. **Power Switch.** This switch is for switching on/off the power supply unit.
5. **Chassis fan vent.** This vent is for the fan that provides ventilation inside the system chassis.
6. **PS/2 mouse port.** This green 6-pin connector is for a PS/2 mouse.
7. **PS/2 keyboard port.** This purple 6-pin connector is for a PS/2 keyboard.
8. **COM port.** This 9-pin COM1 port is for pointing devices or other serial devices..
9. **Video Graphics Adapter (VGA) port.** This 15-pin port is for a VGA monitor or other VGA-compatible devices.
10. **Parallel port.** This 25-pin port connects a parallel printer, a scanner, or other devices.
11. **USB 2.0 ports 1 ~ 4.** These 4-pin Universal Serial Bus (USB) ports are available for connecting USB 2.0 devices.
12. **LAN (RJ-45) port.** This port allows gigabit connection to a Local Area Network (LAN) through a network hub. Refer to the table below for the LAN port LED indications.

LAN port LED indications

Activity/Link		Speed LED	
Status	Description	Status	Description
OFF	No link	OFF	10 Mbps connection
ORANGE	Linked	ORANGE	100 Mbps connection
BLINKING	Data activity	GREEN	1 Gbps connection



13. **Microphone port (pink).** This port connects a microphone.
14. **Line Out port (lime).** This port connects a headphone or a speaker. In 4-channel and 6-channel configuration, the function of this port becomes Front Speaker Out.
15. **Line In port (light blue).** This port connects the tape, CD, DVD player, or other audio sources.



Refer to the audio configuration table below for the function of the audio ports in 2, 4, or 6-channel configuration.

Audio 2, 4, or 6-channel configuration

Port	Headset 2-channel	4-channel	6-channel
Light Blue	Line In	Rear Speaker Out	Rear Speaker Out
Lime	Line Out	Front Speaker Out	Front Speaker Out
Pink	Mic In	Mic In	Bass/Center

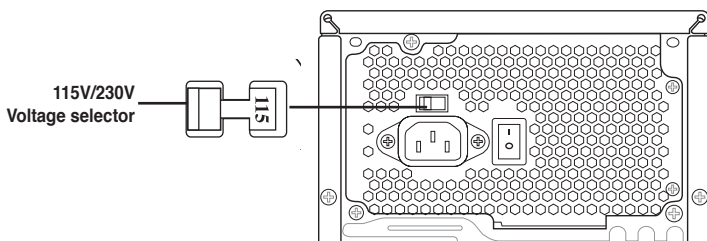
- 16. Expansion slot covers.** Remove these covers when installing expansion cards.

Voltage selector

The PSU has a 115 V/230 V voltage selector switch located beside the power connector. Use this switch to select the appropriate system input voltage according to the voltage supply in your area.

If the voltage supply in your area is 100-127 V, set this switch to 115 V.

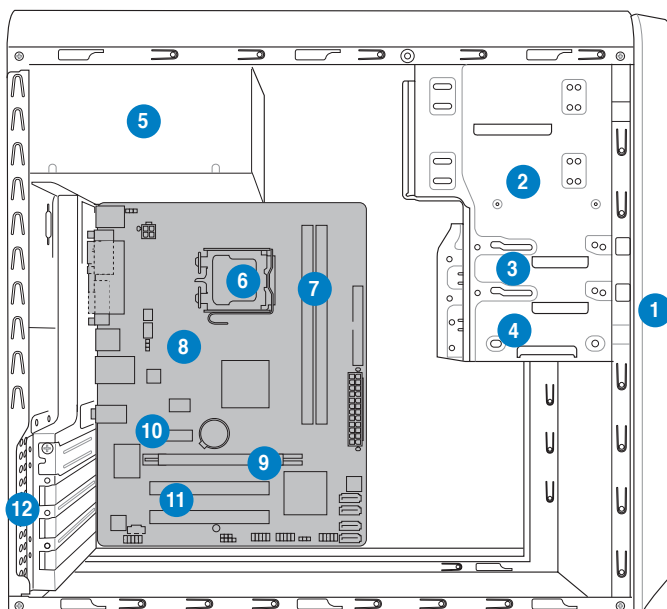
If the voltage supply in your area is 200-240 V, set this switch to 230 V.



Setting the switch to 115V in a 230V environment or 230V in a 115V environment will seriously damage the system!

1.4 Internal components

The illustration below is the internal view of the system when you remove the side cover and the power supply unit. The installed components are labeled for your reference.



- | | |
|---------------------------------|-------------------------|
| 1. Front panel cover | 8. ASUS motherboard |
| 2. 5.25-inch optical drive bays | 9. PCI Express x16 slot |
| 3. 3.5-inch drive bay | 10. PCI Express x1 slot |
| 4. Hard disk drive bay | 11. PCI slots |
| 5. Power supply unit | 12. Metal bracket lock |
| 6. CPU socket | |
| 7. DIMM sockets | |



Refer to the bundled Quick Installation Guide for installing additional system components and get assistance from professionals when you disassemble or assemble the system.

1.5 Qualified Vendors Lists (QVL)

DDR3-1066MHz capability

Vendor	Part No.	Size	SS/ DS	Chip Brand	Chip NO.	Timing Dimm (Bios)	Voltage	DIMM Support	
								A*	B*
Crucial	CT12864BA1067.8FF	1024MB	SS	Micron	9GF22D9KPT	7		•	•
Crucial	CT25664BA1067.16FF	2048MB	DS	Micron	9HF22D9KPT	7		•	•
Elpida	EBJ51UD8BAFA-AC-E	512MB	SS	Elpida	J5308BASE-AC-E			•	•
Elpida	EBJ51UD8BAFA-AE-E	512MB	SS	Elpida	J5308BASE-AC-E			•	•
Elpida	EBJ11UD8BAFA-AE-E	1024MB	DS	Elpida	J5308BASE-AC-E			•	•
Kingston	KVR1066D3N7/1G	1024MB	SS	Kingston	D1288JEKAPGA7U	7	1.5V	•	•
Kingston	KVR1066D3N7/2G	2048MB	DS	Kingston	D1288JEKAPGA7U	7	1.5V	•	•
Micron	MT8JTF12864AY-1G1D1	1024MB	SS	Micron	8ED22D9JNL			•	•
Micron	MT8JTF12864AZ-1G1F1	1024MB	SS	Micron	9GF22D9KPT	7		•	•
Micron	MT16JTF25664AY-1G1D1	2048MB	DS	Micron	8LD22D9JNL			•	•
Micron	MT16JTF25664AZ-1G1F1	2048MB	DS	Micron	9HF22D9KPT	7		•	•
OCZ	OCZ3SOE10662GK	2048MB(Kit of 2)	DS	N/A	Heat-Sink Package	7-7-7-16	1.75V	•	•
SAMSUNG	M378B2873EH1-CF8	1024MB	SS	Samsung	SEC 901 HCF8 K4B1G0846E			•	•
SAMSUNG	M378B5273BH1-CF8	4096MB	DS	SAMSUNG	846 K4B2G0846B-HCF8			•	•
Elixir	M2Y2G64CBHA9N-BE	2048MB	DS	N/A	Heat-Sink Package	7-7-7-20		•	•
Kingtiger	2GB DIMM PC3-8500	2048MB	DS	Hynix	H5TQ1G83AFP G7C			•	•



SS - Single-sided / DS - Double-sided
DIMM support:

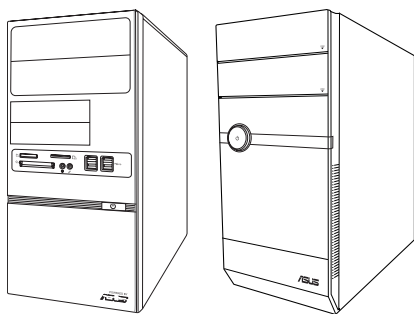
- A*: Supports one module inserted in any slot as Single-channel memory configuration.
- B*: Supports one pair of modules inserted into both the blue slots as one pair of dual-channel memory configuration.



Visit the ASUS website at www.asus.com for the latest QVLs.

Chapter 2

This chapter helps you power up the system and install drivers and utilities from the support DVD.



Starting up

2.1 Installing an operating system

The barebone system supports Windows® XP/Vista/7 operating systems (OS). Always install the latest OS version and corresponding updates so you can maximize the features of your hardware.



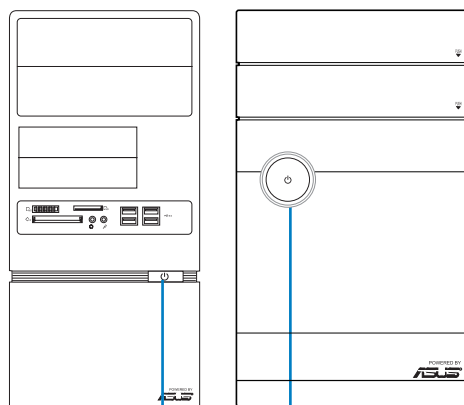
Motherboard settings and hardware options vary. Use the setup procedures presented in this chapter for general reference only. Refer to your OS documentation for more information.



- Windows XP OS setup cannot recognize Serial ATA hard drives in a RAID set without the necessary drivers. Use a RAID driver disk when installing Windows XP OS to a Serial ATA hard drive included in a RAID set.
- From the Windows XP setup screen, press F6 when prompted then follow succeeding screen instructions to install the SATA drivers.

2.2 Powering up

Press the system power button (⏻) to enter the OS.



Press to turn ON the system

2.3 Support DVD information

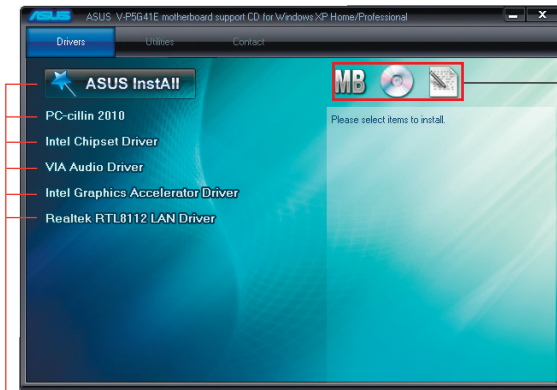
The support DVD that came with the system contains useful software and several utility drivers that enhance the system features.



- Screen display and driver options may not be the same for different operating system versions.
- The contents of the support DVD are subject to change at any time without notice. Visit the ASUS website at www.asus.com for updates.

2.3.1 Running the support DVD

To begin using the support DVD, place the DVD in your optical drive. The DVD automatically displays the Drivers menu if Autorun is enabled in your computer.



Click an icon to display support DVD/motherboard information

Click an item to install



If Autorun is NOT enabled in your computer, browse the contents of the support DVD to locate the file ASSETUP.EXE from the BIN folder. Double-click the ASSETUP.EXE to run the DVD.

ASUS InstAll

Launches the ASUS InstAll driver installation wizard.

PC-cillin 2010

Installs the PC-cillin 2010 to protect your system from the latest threats.

Intel Graphics Driver

Installs the Intel® graphics driver.

VIA Audio Driver

Installs the VIA audio driver and application.

Intel Graphics Accelerator Driver

Installs the Intel® Graphics Accelerator Driver.

Realtek RTL8112 LAN Driver

Installs the Realtek® RTL8112 LAN driver.

2.3.2 Utilities menu

The Utilities menu shows the applications and other software that the motherboard supports.



ASUS InstAll

Installs all of the utilities through the Installation Wizard.

ASUS Update

Allows you to download the latest version of the BIOS from the ASUS website.



Before using the ASUS Update, make sure that you have an Internet connection so you can connect to the ASUS website.

ASUS AI Manager

Installs the ASUS AI Manager.

Adobe Reader 9

Installs the Adobe® Reader that allows you to open, view, and print documents in Portable Document Format (PDF).

ASUS Express Gate Installer

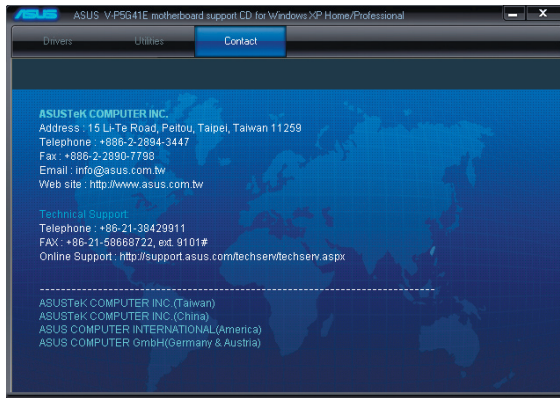
Installs the ASUS Express Gate application.

Microsoft DirectX 9.0c

Installs the Microsoft® DirectX 9.0c driver. The Microsoft DirectX® 9.0c is a multimedia technology that enhances computer graphics and sound. DirectX® improves the multimedia features of your computer so you can enjoy watching TV and movies, capturing videos, or playing games in your computer. Visit the Microsoft website (www.microsoft.com) for updates.

2.3.3 ASUS Contact information

Click the Contact tab to display the ASUS contact information. You can also find this information on the inside front cover of this user guide.

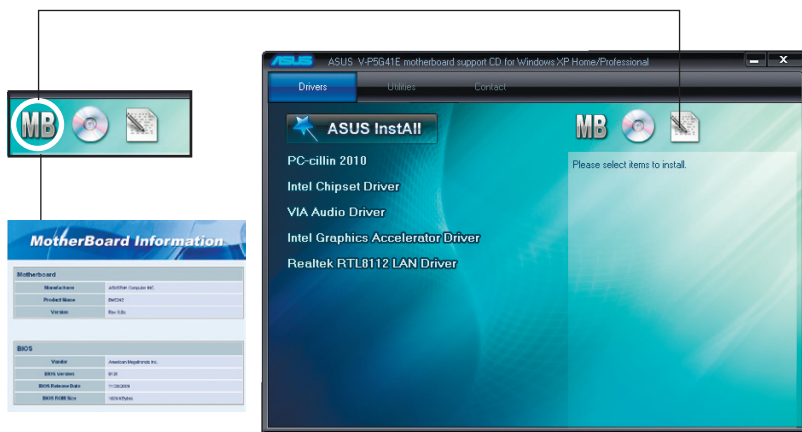


2.3.5 Other information

The icons on the top right corner of the screen give additional information on the motherboard and the contents of the support DVD. Click an icon to display the specified information.

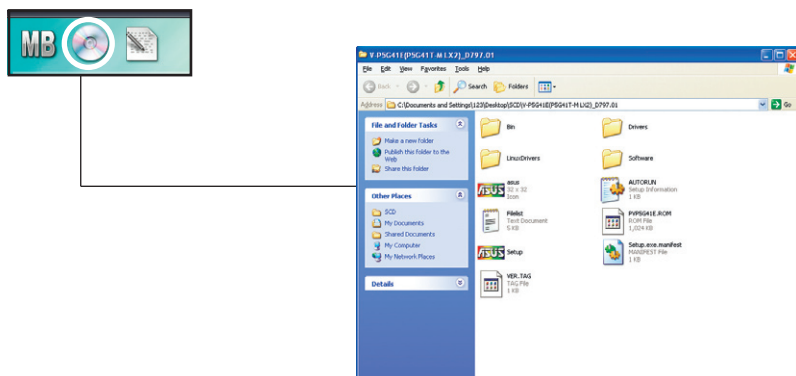
Motherboard Info

Displays the general specifications of the motherboard.



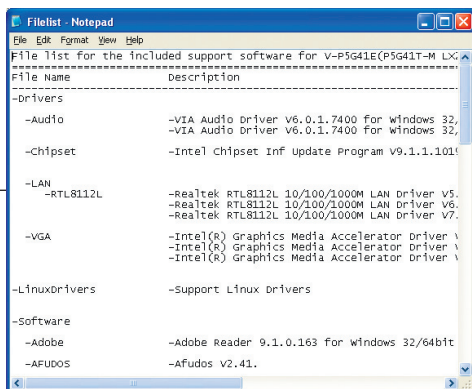
Browse this DVD

Displays the support DVD contents in graphical format.



Filelist

Displays the contents of the support DVD and a brief description of each in text format.



2.4 Software information

Most of the applications in the support DVD have wizards that will conveniently guide you through the installation. View the online help or readme file that came with the software for more information.

2.4.1 ASUS AI Manager

ASUS AI Manager is a utility which gives you quick and easy access to frequently-used applications.

Installing AI Manager

To install AI Manager on your computer:

1. Place the support CD in the optical drive. If Autorun is enabled, the Drivers installation wizard appears.



If Autorun is not enabled in your computer, locate the setup.exe file from the ASUS AI Manager folder in the support CD. Double-click the setup.exe file to start installation.

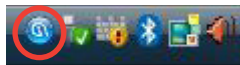
2. Click the **Utilities** tab, then click **ASUS AI Manager**.
3. Follow the screen instructions to complete the installation.

Launching AI Manager

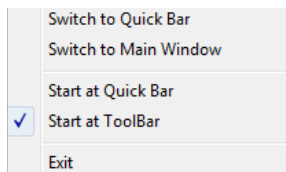
To launch the AI Manager from the Windows® desktop, click **Start > All Programs > ASUS > AI Manager 1.xx.xx > AI Manager**. The AI Manager quick bar appears on the desktop.



After launching the application, the AI Manager icon appears in the Windows® taskbar.

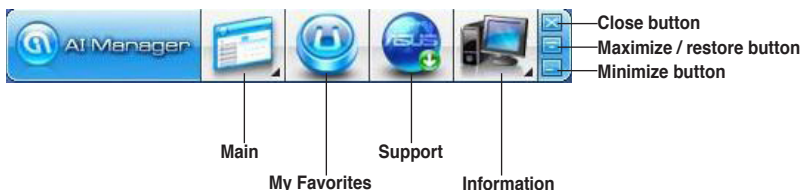





Right-click this icon to switch between quick bar and main window, and to launch the AI Manager either from the quick bar or taskbar.



AI Manager quick bar

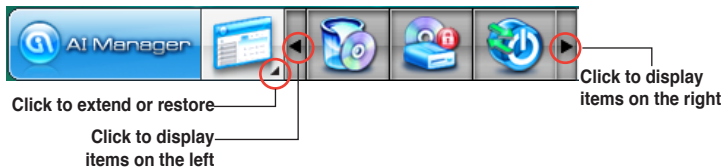
The AI Manager quick bar saves the desktop space and allows you to launch the ASUS utilities or display system information easily. Click any of the Main, My Favorites, Support or Information tab to display the menu's contents.



Click the Maximize/restore button  to switch between full window and quick bar. Click the Minimize button  to keep the AI Manager on the taskbar. Click the Close button  to quit the AI Manager.

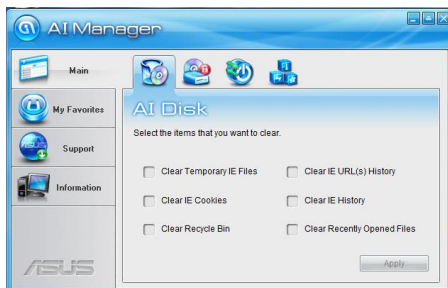
Main

The Main menu contains five utilities: **AI Disk**, **AI Security**, **AI Boosting**, and **AI Probe**. Click the arrow on the Main menu icon to browse through the utilities in the main menu.



AI Disk

AI Disk allows you to easily clear temporary IE files, IE cookies, IE URLs, IE history, or the Recycle Bin. Click the AI Disk icon on the quick bar to display the full AI Disk window and select the items you want to clear. Click **Apply** when done.



AI Security

AI Security enables you to set a password to secure your devices, such as USB flash disks and CD/DVD disks, from unauthorized access.



To lock a device:

1. When using AI Security for the first time, you are asked to set a password. Enter a password with at most 20 alphanumeric characters.
2. Confirm the password.
3. Key in the password hint (recommended).
4. When done, click **Ok**.
5. Select the device you want to lock, then click **Apply**.
6. Key in the password you have set previously, then click **Ok**. The selected device is locked and not accessible.



To unlock the selected device:

1. Uncheck the checkbox of the selected device, then click **Apply**.
2. Key in the password you have set previously, then click **Ok**. The selected device is unlocked.

To change password:

Click **Change Password**, then follow the on-screen instructions to change password.

AI Booting

AI Booting allows you to specify the boot device priority sequence.



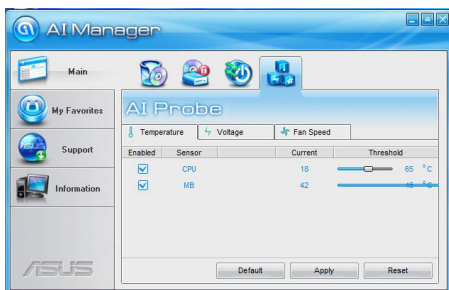
To specify the boot sequence:

1. Select a device, then click on the left/right button to specify the boot sequence.
2. When done, press **Apply**.

AI Probe

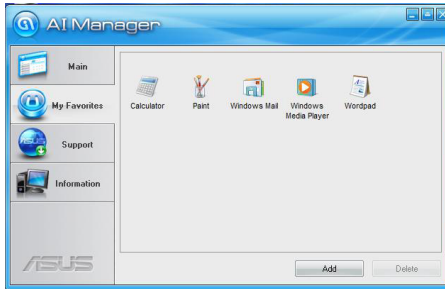
AI Probe automatically detects and displays the motherboard and CPU temperatures, CPU fan speed, and the voltage output. You can adjust the values as you need.

Click the **Temperature**, **Voltage**, or **Fan Speed** tab, then select an item to enable and change the value by dragging the bar.



My Favorites

My Favorites allows you to add applications that you frequently use, saving you from searching for the applications throughout your computer.



To add an application:

1. Click **Add**, then locate the application you want to add to **My Favorites**.
2. Click **Open** on the file location window. The application is added to **My Favorites** list.

Right click on the application icon to launch, delete, or rename the selected application. You can also double click to launch the selected application.

Support

Click any links on the **Support** window to go to the ASUS website, technical support website, download support website, or contact information.



Information

Click the tab on the **Information** window to see the detailed information about your system, motherboard, CPU, BIOS, installed device(s), and memory.



2.4.2 ASUS Express Gate

ASUS Express Gate is an instant-on environment that gives you quick access to the Internet. Eight seconds after powering on your computer, you can instantly surf the Internet, use Skype or other Express Gate applications without entering the Windows® OS.



-
- The actual boot time depends on the system configuration.
 - Download the latest Express Gate version from the ASUS website at www.asus.com.
-

Installing ASUS Express Gate



-
- Ensure to install ASUS Express Gate from the motherboard Support DVD before use.
 - ASUS Express Gate supports installation on SATA HDDs, USB HDDs, and flash drives with at least 1.2GB free disk space. When installing ASUS Express Gate on USB HDDs and flash drives, connect the drives to the motherboard USB port before turning on the computer.
 - ASUS Express Gate supports SATA devices in IDE mode only.
 - ASUS Express Gate supports SATA devices connected to motherboard chipset-controlled onboard SATA ports only. All onboard extended SATA ports and external SATA ports are NOT supported. See section 1.2.1 Motherboard layout for the exact location of the onboard SATA ports.
 - Ensure that your monitor supports the screen resolution of 1024 x 768 before using ASUS Express Gate; otherwise, it will not launch after you power on your computer and your computer boots to the OS directly.
 - We recommend that you install 1GB system memory or larger for a better performance of ASUS Express Gate.
-

To install Express Gate on your computer:

1. Place the Support DVD into the optical drive. The **Drivers** menu appears if **Autorun** is enabled on your computer.
2. Click the **Utilities** tab, then click **ASUS Express Gate**.
3. Select your preferred language, then click **OK**.
4. The InstallShield Wizard for Express Gate appears. Click **Next** to continue.

5. Select the target drive where you want to install Express Gate. If you have multiple partitions installed on your computer, it is recommended to install Express Gate in Drive C. Click **Next** to continue.
6. Follow the onscreen instructions to complete the installation.

The Splash Screen

The Express Gate's splash screen appears eight seconds after you power on your computer.



The actual boot time depends on the system configuration.



Click an application icon to enter the Express Gate environment and launch the selected application

Turn off the computer

Continue booting to the existing OS when the timer above the Exit icon counts down to zero (0); click to immediately enter the existing OS



- To enter the motherboard BIOS Setup program, click **Exit** on the splash screen and then hold down **** during POST.
- Click **?** in the Express Gate environment for the detailed software instructions.

Splash screen hot-keys

Key	Function
<PAUSE/BREAK>	Power off
ESC	Continue to boot OS

Express Gate Environment hot-keys:

Key	Function
<Alt> + <Tab>	Switch between softwares
<Ctrl> + <Alt> + 	Bring up Power-Off dialog box
<Ctrl> + <Alt> + <Print Screen>	Save screen snapshot as picture to file



When you are using ASUS Express Gate for the first time, launch an application from the splash screen, a first-time wizard will appear and guide you through basic Express Gate configurations including language, date, and time.

Using the LaunchBar

The LaunchBar allows you to launch applications and configure the Express Gate settings. The LaunchBar can be configured to auto-hide and dock at the bottom or top of the screen.



Launches the **Web Browser** for quick access to the Internet. You can



ASUS Express Gate supports file uploading from SATA HDDs, ODDs, and USB drives. It supports file downloading to USB drives only.



Launches the **Online Games**.



Launches the **Photo Manager**.



Launches the **Chat** instant messaging tool.



Launches the **Skype** application which allows you to chat with or call other people on Skype.



The indicator under an application icon indicates that the application is running. If an application stops responding, right-click its icon then select **Close** to force it to close.

The smaller icons on the right side of the LaunchBar are:



Displays your Express Gate version.



Launches the help file.



Launches the **Configuration Panel** which allows you to specify network settings and other settings.



Configures the network.



Adjusts the volume.



This icon appears only when a removable storage device / USB drive is connected. Left-click this icon to launch the **File Manager** window. Right-click it to eject the removable storage device / USB drive.




Exits ASUS Express Gate. Click **Yes** to enter the operating system you installed on the hard disk drive.



Powers off the computer.

Accessing the Internet

To configure the network settings:

1. Click **Configuration Panel**  on the LaunchBar.
2. Click **Network**.
3. Make the proper network configurations. Each network interface is enabled immediately after you tick the **Enable** checkbox.



The number of the LAN ports vary with the motherboard.

- **LAN settings**

If you connect your computer to a home router that is connected to your DSL/cable modem, enable all the LAN ports. Express Gate automatically uses the connected port.



If you plug the network cable into a different port while Express Gate is running (e.g. move the cable from LAN1 to LAN2, restart Express Gate to activate the new setting).

If your computer does not automatically get network settings from a DHCP server, click **Setup** to configure the static IP settings manually. If your computer automatically gets network settings from a DHCP server, skip this step.

- **WiFi settings (if supported)**

If you want to connect to a wireless network, click **Setup** to configure the WiFi options. In the **WiFi** tab of the **Advanced Network Settings** box, key in the network name of the wireless access point in the **SSID** field. If Security is enabled on the wireless access point, select the corresponding security algorithm from the dropdown list such as WEP or WAP in the **Encryption Type** field, and key in the password. Click **OK** to enable WiFi and establish the wireless connection.

- **xDSL / Cable dial-up (PPPoE) settings:**

If you use a network cable connected directly to your DSL/cable modem, click **Setup** to configure the xDSL/cable dial-up settings. Choose whether the DSL/cable modem is connected to your computer's LAN port. Key in the username and password for your account. Click **OK** to enable xDSL/cable dial-up and establish the PPPoE connection. When PPPoE is enabled, the port it uses will automatically be unchecked.

Using the Online Games

Express Gate introduces a **Splashtop Gaming** portal site which provides interesting games in different categories.



Enable the Internet connection to use the Online Games feature.

Using the Photo Manager

Photo Manager allows you to view pictures saved on your hard drive or external storage devices. You can view pictures in thumbnail view, in an enlarged view individually, in a filename/data list view, or play them in a slideshow. JPEG, GIF, BMP, and PNG formats are supported. Refer to the online Help for details.



ASUS Express Gate supports SATA devices connected to **motherboard chipset-controlled onboard SATA ports** only. All onboard extended SATA ports and external SATA ports are NOT supported.

Restoring to factory settings

To restore Express Gate to the factory settings:

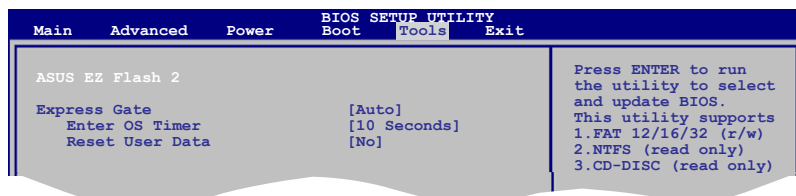
1. Click **Configuration Panel** on the LaunchBar.
2. Click **Environment Settings**.
3. Click **Restore** from the **General** tab. A confirmation dialog box appears. Click **Yes** to immediately restart Express Gate to finish clearing system settings. All bookmarks, network settings, and other changes you made will be cleared.



The first-time wizard will run again when you enter the Express Gate environment after clearing its settings.

Configuring Express Gate in BIOS Setup

To enter the motherboard BIOS Setup program, click **Exit** on the splash screen and then hold down **** during POST. Go to the **Tools** menu to configure Express Gate. Refer to **4.7.2 Express Gate** for details.

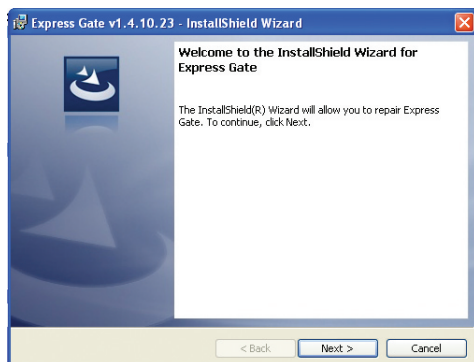


Repairing Express Gate

In case Express Gate does not start normally, reinstall the software or use the repair utility to repair Express Gate.

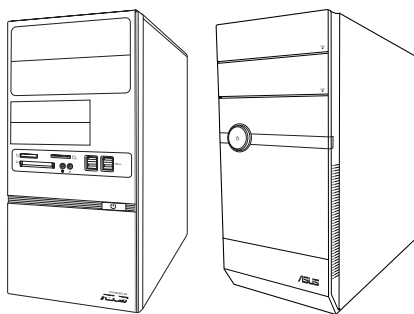
To repair Express Gate:

Click **Start > All Programs > Express Gate > Express Gate Installer > Repair this software**, then follow the onscreen instructions to complete the repair.



Chapter 3

This chapter gives information about the motherboard that comes with the system. This chapter includes the motherboard layout, jumper settings, and connector locations.

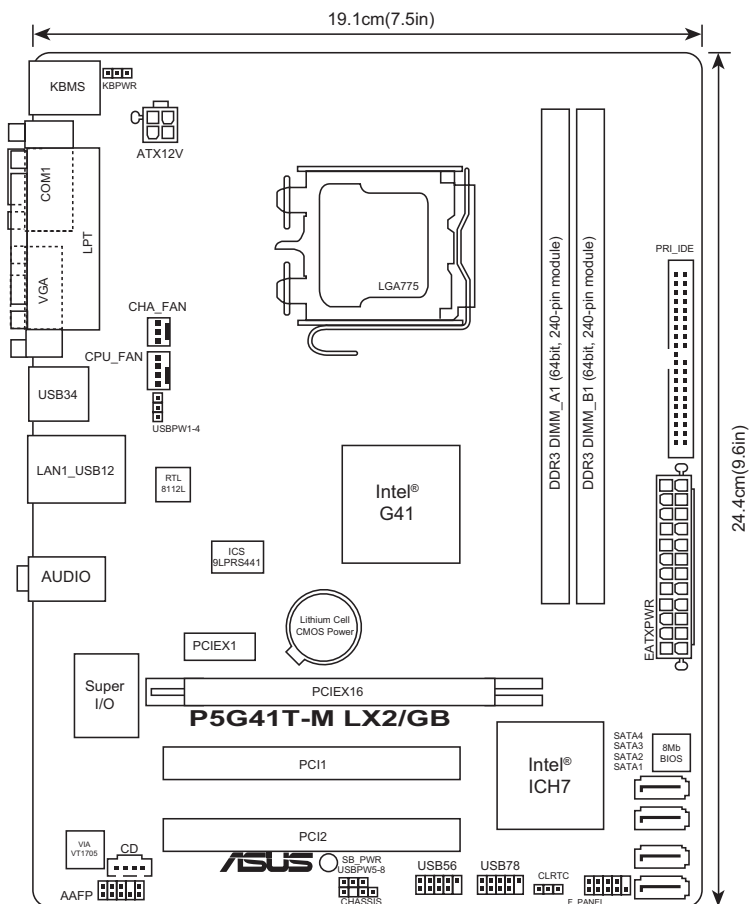


Motherboard info

3.1 Introduction

The Vintage V-series P5G41E barebone system comes with an ASUS motherboard. This chapter provides technical information about the motherboard for future upgrades or system reconfiguration.

3.2 Motherboard layout



3.3 Jumpers

1. Clear RTC RAM (3-pin CLRTC)

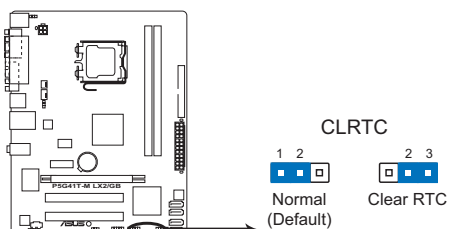
This jumper allows you to clear the Real Time Clock (RTC) RAM in CMOS. You can clear the CMOS memory of date, time, and system setup parameters by erasing the CMOS RTC RAM data. The onboard button cell battery powers the RAM data in CMOS, which include system setup information such as system passwords.

To erase the RTC RAM:

1. Turn OFF the computer and unplug the power cord.
2. Move the jumper cap from pins 1-2 (default) to pins 2-3. Keep the cap on pins 2-3 for about 5-10 seconds, then move the cap back to pins 1-2.
3. Plug the power cord and turn ON the computer.
4. Hold down the key during the boot process and enter BIOS setup to re-enter data.



Except when clearing the RTC RAM, never remove the cap on CLRTC jumper default position. Removing the cap will cause system boot failure!



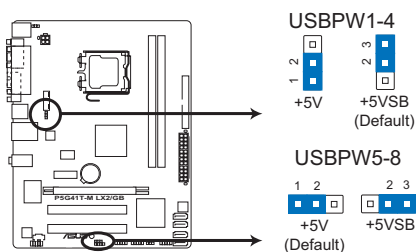
P5G41T-M LX2/GB Clear RTC RAM



- If the steps above do not help, remove the onboard battery and move the jumper again to clear the CMOS RTC RAM data. After clearing the CMOS, reinstall the battery.
- You do not need to clear the RTC when the system hangs due to overclocking. For system failure due to overclocking, use the CPU Parameter Recall (C.P.R.) feature. Shut down and reboot the system, then the BIOS automatically resets parameter settings to default values.

2. USB device wake-up (3-pin USBPW1-4, USBPW5-8)

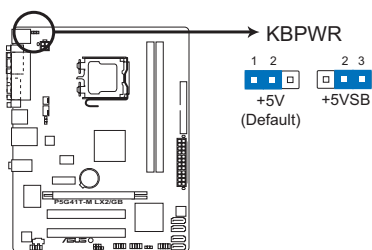
Set these jumpers to +5V to wake up the computer from S1 sleep mode (CPU stopped, DRAM refreshed, system running in low power mode) using the connected USB devices. Set these jumpers to +5VSB to wake up the computer from S3 and S4 sleep modes (no power to CPU, DRAM in slow refresh, power supply in reduced power mode).



P5G41T-M LX2/GB USB Device Wake Up

3. Keyboard power (3-pin KBPWR)

This jumper allows you to enable or disable the keyboard wake-up feature. When you set this jumper to pins 2-3 (+5VSB), you can wake up the computer by pressing a key on the keyboard (the default is the Space Bar). This feature requires an ATX power supply that can supply at least 1A on the +5VSB lead, and a corresponding setting in the BIOS.

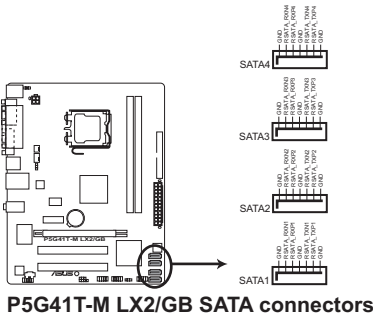


P5G41T-M LX2/GB Keyboard Power Setting

3.4 Connectors

1. Serial ATA connectors (7-pin SATA1, SATA2, SATA3, SATA4)

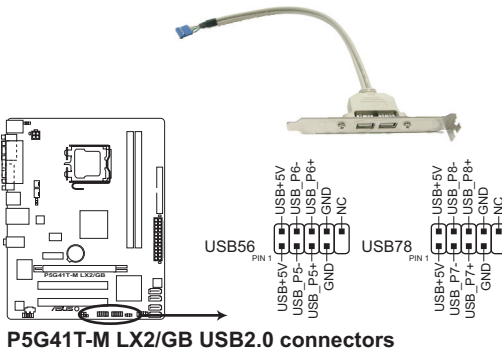
These connectors are for the Serial ATA signal cables for Serial ATA hard disk drives.



Install the Windows® XP Service Pack 2 or later version before using Serial ATA.

2. USB connectors (10-1 pin USB56, USB78)

These connectors are for USB 2.0 ports. Connect the USB module cable to any of these connectors, then install the module to a slot opening at the back of the system chassis. These USB connectors comply with USB 2.0 specification that supports up to 480 Mbps connection speed.



Never connect a 1394 cable to the USB connectors. Doing so will damage the motherboard!



The USB module is purchased separately.

3. IDE connector (40-1 pin PRI_IDE)

The onboard IDE connector is for the Ultra DMA 100/66 signal cable. There are three connectors on each Ultra DMA 100/66 signal cable: blue, black, and gray. Connect the blue connector to the motherboard's IDE connector, then select one of the following modes to configure your device.

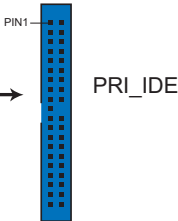
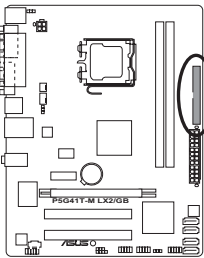
	Drive jumper setting	Mode of device(s)	Cable connector
Single device	Cable-Select or Master	-	Black
Two devices	Cable-Select	Master	Black
		Slave	Gray
	Master	Master	Black or gray
	Slave	Slave	



- Pin 20 on the IDE connector is removed to match the covered hole on the Ultra DMA cable connector. This prevents incorrect insertion when you connect the IDE cable.
- Use the 80-conductor IDE cable for Ultra DMA 100/66 IDE devices.



If any device jumper is set as "Cable-Select," ensure that all other device jumpers have the same setting.

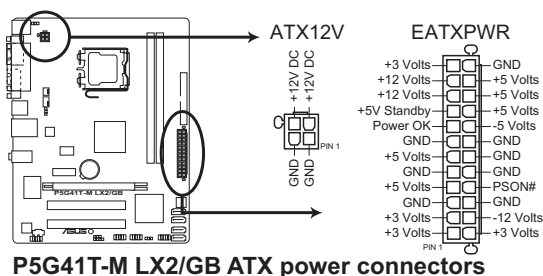


NOTE: Orient the red markings on the IDE ribbon cable to PIN 1.

P5G41T-M LX2/GB IDE connector

4. ATX power connectors (24-pin EATXPWR, 4-pin ATX12V)

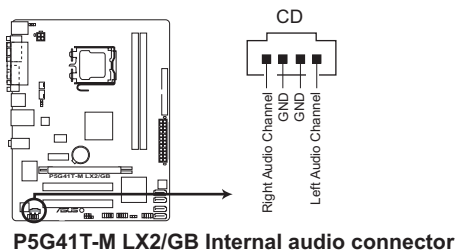
These connectors are for ATX power supply plugs. The power supply plugs are designed to fit these connectors in only one orientation. Find the proper orientation and push down firmly until the connectors completely fit.



- For a fully configured system, we recommend that you use a power supply unit (PSU) that complies with ATX 12 V Specification 2.0 (or later version) and provides a minimum power of 400 W.
- DO NOT** forget to connect the 4-pin ATX12V power plug; otherwise, the system will not boot.
- Use of a PSU with a higher power output is recommended when configuring a system with more power-consuming devices. The system may become unstable or may not boot up if the power is inadequate.
- The ATX 12 V Specification 2.0-compliant (400W) PSU has been tested to support the motherboard power requirements.

5. Optical drive audio connector (4-pin CD)

These connectors allow you to receive stereo audio input from sound sources such as a CD-ROM, TV tuner, or MPEG card.

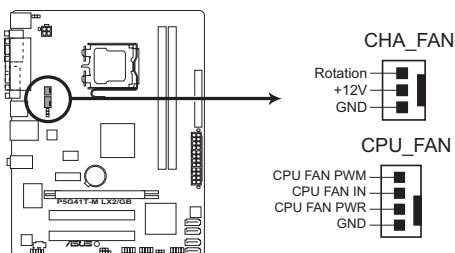


6. CPU and chassis fan connectors (4-pin CPU_FAN, 3-pin CHA_FAN)

Connect the fan cables to the fan connectors on the motherboard, ensuring that the black wire of each cable matches the ground pin of the connector.



DO NOT forget to connect the fan cables to the fan connectors. Insufficient air flow inside the system may damage the motherboard components. These are not jumpers! **DO NOT** place jumper caps on the fan connectors!



P5G41T-M LX2/GB fan connectors

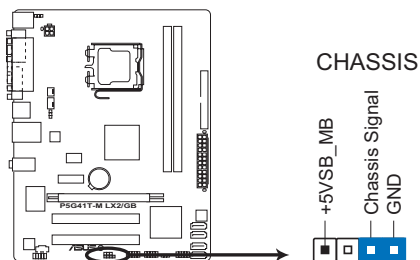


Only the 4-pin CPU fan connector supports the ASUS Q-Fan feature.

7. Chassis intrusion connector (4-1 pin CHASSIS)

This connector is for a chassis-mounted intrusion detection sensor or switch. Connect one end of the chassis intrusion sensor or switch cable to this connector. The chassis intrusion sensor or switch sends a high-level signal to this connector when a chassis component is removed or replaced. The signal is then generated as a chassis intrusion event.

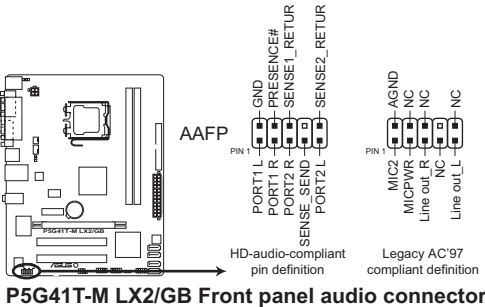
By default, the pins labeled “Chassis Signal” and “GND” are shorted with a jumper cap. Remove the jumper caps only when you intend to use the chassis intrusion detection feature.



P5G41T-M LX2/GB Chassis intrusion connector

8. Front panel audio connector (10-1 pin AAFP)

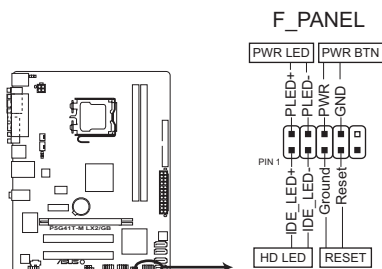
This connector is for a chassis-mounted front panel audio I/O module that supports either HD Audio or legacy AC'97 audio standard.



- We recommend that you connect a high-definition front panel audio module to this connector to avail of the motherboard's high-definition audio capability.
- By default, this connector is set to HD Audio. If you want to connect a High Definition front panel audio module to this connector, set the **Front Panel Type** item in the BIOS to [HD Audio]. See section "4.4.2 Chipset" for details.

9. System panel connector (10-1 pin F_PANEL)

This connector supports several chassis-mounted functions.



P5G41T-M LX2/GB System panel connector

- **System power LED (2-pin PLED)**

This 2-pin connector is for the system power LED. Connect the chassis power LED cable to this connector. The system power LED lights up when you turn on the system power, and blinks when the system is in sleep mode.

- **Hard disk drive activity LED (2-pin +HDLED)**

This 2-pin connector is for the HDD Activity LED. Connect the HDD Activity LED cable to this connector. The HD LED lights up or flashes when data is read from or written to the HDD.

- **ATX power button/soft-off button (2-pin PWRBTN)**

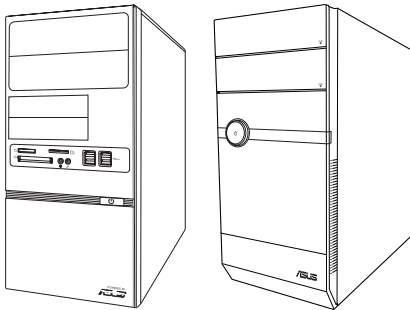
This 2-pin connector is for the system power button.

- **Reset button (2-pin RESET)**

This 2-pin connector is for the chassis-mounted reset button for system reboot without turning off the system power.

Chapter 4

This chapter tells how to change system settings through the BIOS Setup menus and describes the BIOS parameters.



BIOS setup

4.1 Managing and updating your BIOS

The following utilities allow you to manage and update the motherboard Basic Input/Output System (BIOS) setup.

1. **ASUS Update:** Updates the BIOS in Windows® environment.
2. **ASUS EZ Flash 2:** Updates the BIOS using a USB flash disk.
3. **ASUS CrashFree BIOS 3:** Updates the BIOS using a bootable USB flash disk or the motherboard support DVD when the BIOS file fails or gets corrupted.

Refer to the corresponding sections for details on these utilities.



Save a copy of the original motherboard BIOS file to a USB flash disk in case you need to restore the BIOS in the future.

4.1.1 ASUS Update utility

The ASUS Update is a utility that allows you to manage, save, and update the motherboard BIOS in Windows® environment. The ASUS Update utility allows you to:

- Save the current BIOS file
- Download the latest BIOS file from the Internet
- Update the BIOS from an updated BIOS file
- Update the BIOS directly from the Internet, and
- View the BIOS version information.

This utility is available in the support DVD that comes with the motherboard package.



ASUS Update requires an Internet connection either through a network or an Internet Service Provider (ISP).

Installing ASUS Update

To install ASUS Update:

1. Place the support DVD in the optical drive. The Drivers menu appears.
2. Click the **Utilities** tab, then click **Install ASUS Update**.
3. The ASUS Update utility is copied to your system.

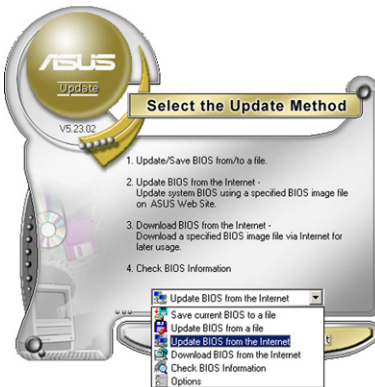
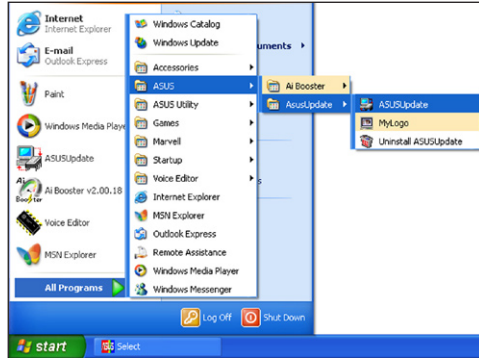


Quit all Windows® applications before you update the BIOS using this utility.

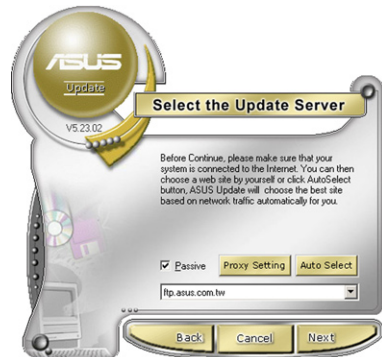
Updating the BIOS through the Internet

To update the BIOS through the Internet:

1. Launch the ASUS Update utility from the Windows® desktop by clicking **Start > Programs > ASUS > ASUSUpdate > ASUSUpdate**. The ASUS Update main window appears.



2. Select **Update BIOS** from the Internet option from the drop-down menu, then click **Next**.

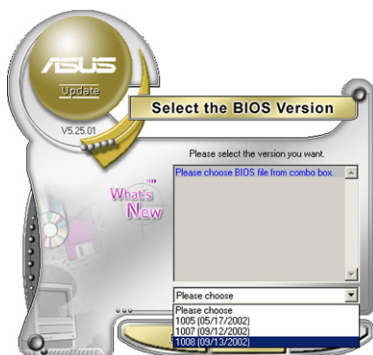


3. Select the ASUS FTP site nearest you to avoid network traffic, or click **Auto Select**. Click **Next**.

- From the FTP site, select the BIOS version that you wish to download. Click **Next**.
- Follow the screen instructions to complete the update process.



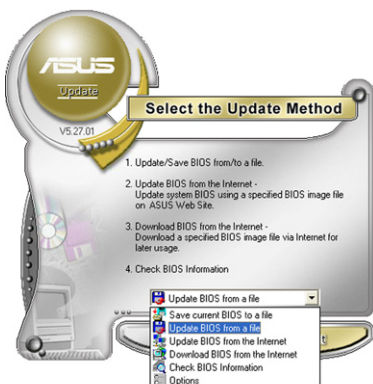
The ASUS Update utility is capable of updating itself through the Internet. Always update the utility to avail all its features.



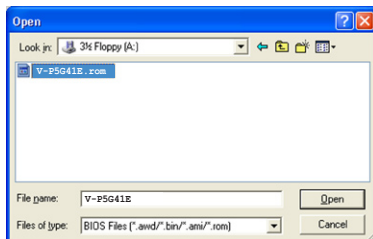
Updating the BIOS through a BIOS file

To update the BIOS through a BIOS file:

- Launch the ASUS Update utility from the Windows® desktop by clicking **Start > Programs > ASUS > ASUSUpdate > ASUSUpdate**. The ASUS Update main window appears.
- Select Update BIOS from a file option from the drop-down menu, then click **Next**.



- Locate the BIOS file from the Open window, then click **Open**.
- Follow the screen instructions to complete the update process.

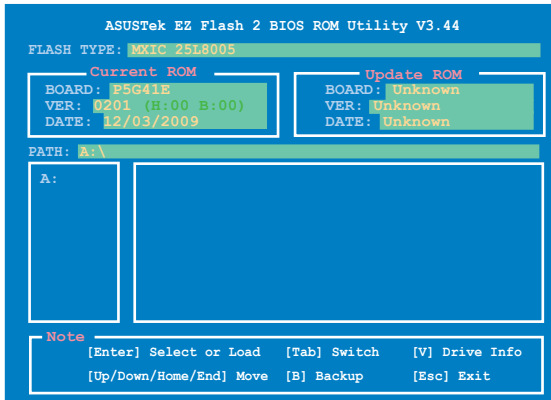


4.1.2 ASUS EZ Flash 2 utility

The ASUS EZ Flash 2 feature allows you to update the BIOS without having to go through the long process of booting from a floppy disk and using a DOS-based utility. The EZ Flash 2 utility is built-in the BIOS chip so it is accessible by pressing <Alt> + <F2> during the Power-On Self Tests (POST).

To update the BIOS using EZ Flash 2:

1. Visit the ASUS website (www.asus.com) to download the latest BIOS file for the motherboard.
2. Save the BIOS file to a USB flash disk, then restart the system.
3. You can launch the EZ Flash 2 by two methods.
 - (1) Insert the USB flash disk that contains the BIOS file to the the USB port. Press <Alt> + <F2> during POST to display the following.



- (2) Enter BIOS setup program. Go to the **Tools** menu to select **EZ Flash2** and press <Enter> to enable it.

You can switch between drives by pressing <Tab> before the correct file is found. Then press <Enter>.
4. When the correct BIOS file is found, EZ Flash 2 performs the BIOS update process and automatically reboots the system when done.



- This function can support devices such as USB flash disk with **FAT 32/16** format and single partition only.
- Do not shut down or reset the system while updating the BIOS to prevent system boot failure!

4.1.3 ASUS CrashFree BIOS

The ASUS CrashFree BIOS is an auto recovery tool that allows you to restore the BIOS file when it fails or gets corrupted during the updating process. You can restore a corrupted BIOS file using the motherboard support DVD or a removable device that contains the updated BIOS file.



- Before using this utility, rename the BIOS file in the removable device into **P5G41E.ROM**.
 - The BIOS file in the support DVD may not be the latest version. Download the latest BIOS file from the ASUS website at www.asus.com.
 - The removable device that ASUS CrashFree BIOS support vary with motherboard models. For motherboards without the floppy connector, prepare a USB flash disk before using this utility.
-

Recovering the BIOS

To recover the BIOS:

1. Turn on the system.
2. Insert the support DVD to the optical drive or the removable device that contains the BIOS file to the USB port or to the floppy disk drive, if supported.
3. The utility automatically checks the devices for the BIOS file. When found, the utility reads the BIOS file and starts flashing the corrupted BIOS file.
4. Turn off the system after the utility completes the updating process and turn on again.



DO NOT shut down or reset the system while updating the BIOS! Doing so can cause system boot failure!



Ensure to load the BIOS default settings to ensure system compatibility and stability. Select the Load Setup Defaults item under the Exit menu. Refer to section **4.8 Exit Menu** for details.

4.2 BIOS setup program

This motherboard supports a programmable Serial Peripheral Interface (SPI) chip that you can update using the provided utility described in section “4.1 Managing and updating your BIOS”.

Use the BIOS Setup program when you are installing a motherboard, reconfiguring your system, or prompted to “Run Setup”. This section explains how to configure your system using this utility.

Even if you are not prompted to use the Setup program, you can change the configuration of your computer in the future. For example, you can enable the security password feature or change the power management settings. This requires you to reconfigure your system using the BIOS Setup program so that the computer can recognize these changes and record them in the CMOS RAM of the SPI chip.

The SPI chip on the motherboard stores the Setup utility. When you start up the computer, the system provides you with the opportunity to run this program. Press during the Power-On Self-Test (POST) to enter the Setup utility. Otherwise, POST continues with its test routines.

If you wish to enter Setup after POST, reboot the system by doing any of the following procedures:

- Restart using the OS standard shut-down procedure.
- Press <Ctrl>+<Alt>+ simultaneously.
- Press the reset button on the system chassis.
- Press the power button to turn the system off then back on.



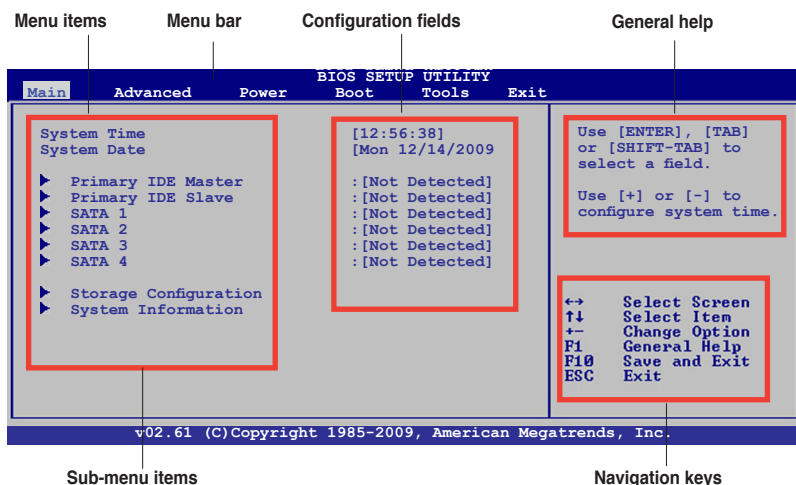
Using the **power button**, **reset button**, or the <Ctrl>+<Alt>+ keys to force reset from a running operating system can cause damage to your data or system. We recommend to always shut-down the system properly from the operating system.

The Setup program is designed to make it as easy to use as possible. Being a menu-driven program, it lets you scroll through the various sub-menus and make your selections from the available options using the navigation keys.



-
- The default BIOS settings for this motherboard apply for most conditions to ensure optimum performance. If the system becomes unstable after changing any BIOS settings, load the default settings to ensure system compatibility and stability. Select the **Load Default Settings** item under the Exit Menu. See section “4.8 Exit Menu.”
 - The BIOS setup screens shown in this section are for reference purposes only, and may not exactly match what you see on your screen.
 - Visit the ASUS website (www.asus.com) to download the latest BIOS file for this motherboard.
-

4.2.1 BIOS menu screen



4.2.2 Menu bar

The menu bar on top of the screen has the following main items:

Main	For changing the basic system configuration
Advanced	For changing the advanced system settings
Power	For changing the advanced power management (APM) configuration
Boot	For changing the system boot configuration
Tools	For configuring options for special functions
Exit	For selecting the exit options and loading default settings

To select an item on the menu bar, press the right or left arrow key on the keyboard until the desired item is highlighted.

4.2.3 Navigation keys

At the bottom right corner of a menu screen are the navigation keys for that particular menu. Use the navigation keys to select items in the menu and change the settings.

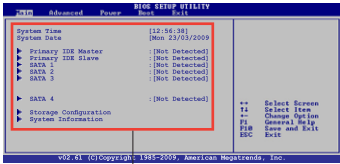


Some of the navigation keys differ from one screen to another.

4.2.4 Menu items

The highlighted item on the menu bar displays the specific items for that menu. For example, selecting Main shows the Main menu items.

The other items (Advanced, Power, Boot, Tool, and Exit) on the menu bar have their respective menu items.



Main menu items

4.2.5 Sub-menu items

A solid triangle before each item on any menu screen means that the item has a sub-menu. To display the sub-menu, select the item and press <Enter>.

4.2.6 Configuration fields

These fields show the values for the menu items. If an item is user-configurable, you can change the value of the field opposite the item. You cannot select an item that is not user-configurable.

A configurable field is enclosed in brackets, and is highlighted when selected. To change the value of a field, select it then press <Enter> to display a list of options. Refer to “2.2.7 Pop-up window.”

4.2.7 Pop-up window

Select a menu item then press <Enter> to display a pop-up window with the configuration options for that item.



Pop-up window

4.2.8 Scroll bar

A scroll bar appears on the right side of a menu screen when there are items that do not fit on the screen. Press the

Up/Down arrow keys or <Page Up> /<Page Down> keys to display the other items on the screen.

4.2.9 General help

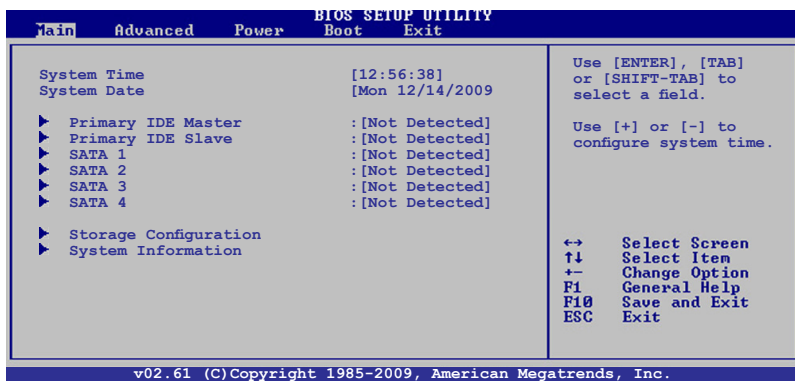
At the top right corner of the menu screen is a brief description of the selected item.

4.3 Main menu

When you enter the BIOS Setup program, the Main menu screen appears, giving you an overview of the basic system information.



Refer to section “4.2.1 BIOS menu screen” for information on the menu screen items and how to navigate through them.



4.3.1 System Time [xx:xx:xx]

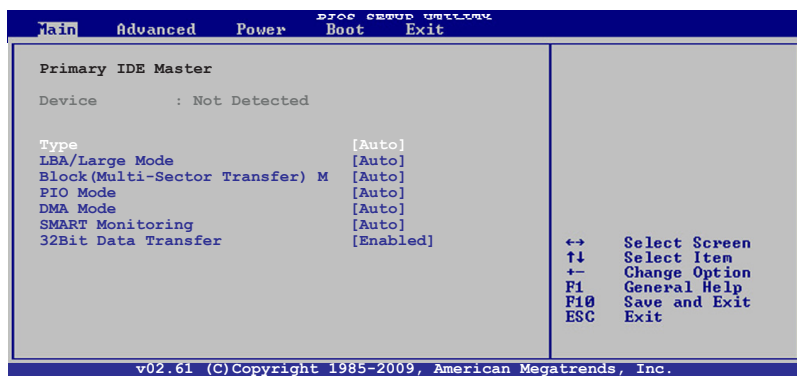
Allows you to set the system time.

4.3.2 System Date [Day xx/xx/xxxx]

Allows you to set the system date.

4.3.3 Primary IDE Master/Slave, SATA1~4

While entering Setup, the BIOS automatically detects the presence of IDE/SATA devices. There is a separate sub-menu for each IDE/SATA device. Select a device item then press <Enter> to display the IDE/SATA device information.



The BIOS automatically detects the values opposite the dimmed items (Device, Vendor, Size, LBA Mode, Block Mode, PIO Mode, Async DMA, Ultra DMA, and SMART monitoring). These values are not user-configurable. These items show N/A if no IDE/SATA device is installed in the system.

Type [Auto]

Selects the type of IDE drive. Setting to Auto allows automatic selection of the appropriate IDE device type. Select CDROM if you are specifically configuring a CD-ROM drive. Select ARMD (ATAPI Removable Media Device) if your device is either a ZIP, LS-120, or MO drive. Configuration options: [Not Installed] [Auto] [CDROM] [ARMD]



This item appears only when you select the **Primary IDE Master/Slave** devices.

LBA/Large Mode [Auto]

Enables or disables the LBA mode. Setting to Auto enables the LBA mode if the device supports this mode, and if the device was not previously formatted with LBA mode disabled. Configuration options: [Disabled] [Auto]

Block (Multi-sector Transfer) M [Auto]

Enables or disables data multi-sectors transfers. When set to Auto, the data transfer from and to the device occurs multiple sectors at a time if the device supports multi-sector transfer feature. When set to [Disabled], the data transfer from and to the device occurs one sector at a time. Configuration options: [Disabled] [Auto]

PIO Mode [Auto]

Selects the PIO mode. Configuration options: [Auto] [0] [1] [2] [3] [4]

DMA Mode [Auto]

Selects the DMA mode. Configuration options: [Auto]

SMART Monitoring [Auto]

Sets the Smart Monitoring, Analysis, and Reporting Technology.

Configuration options: [Auto] [Disabled] [Enabled]

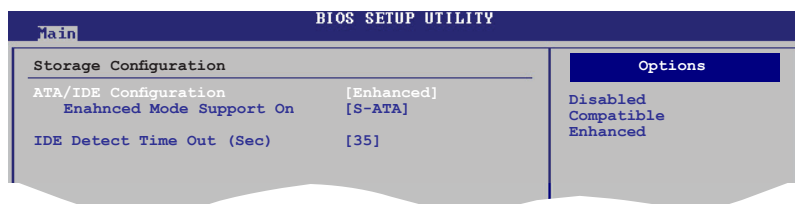
32Bit Data Transfer [Enabled]

Enables or disables 32-bit data transfer.

Configuration options: [Disabled] [Enabled]

4.3.4 Storage Configuration

The items in this menu allow you to set or change the configurations for the IDE devices installed in the system. Select an item then press <Enter> if you wish to configure the item.



ATA/IDE Configuration [Enhanced]

Allows you to configure ATA/IDE. Configuration options: [Disabled] [Compatible] [Enhanced]

Enhanced Mode Support On [S-ATA]

Allows you to set Serial ATA, Parallel ATA or both as native mode.

Configuration options: [S-ATA+P-ATA] [S-ATA] [P-ATA]

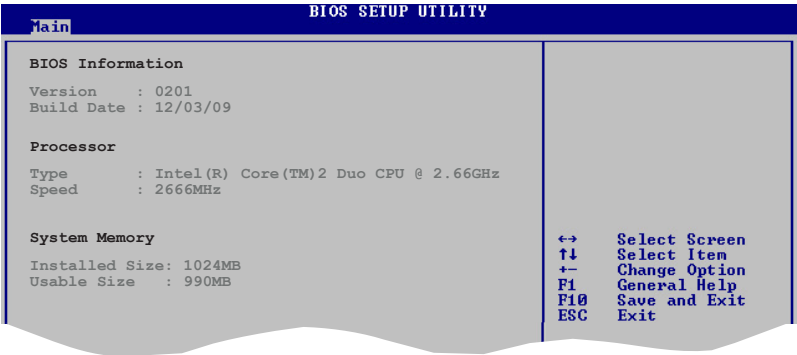
IDE Detect Time Out [35]

Selects the time out value for detecting ATA/ATAPI devices.

Configuration options: [0] [5] [10] [15] [20] [25] [30] [35]

4.3.5 System Information

This menu gives you an overview of the general system specifications. The BIOS automatically detects the items in this menu.



BIOS Information

Displays the auto-detected BIOS information.

Processor

Displays the auto-detected CPU specification.

System Memory

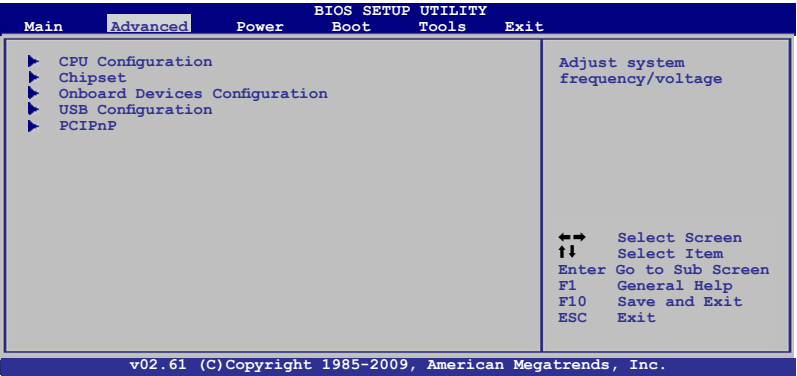
Displays the auto-detected system memory.

4.4 Advanced menu

The Advanced menu items allow you to change the settings for the CPU and other system devices.

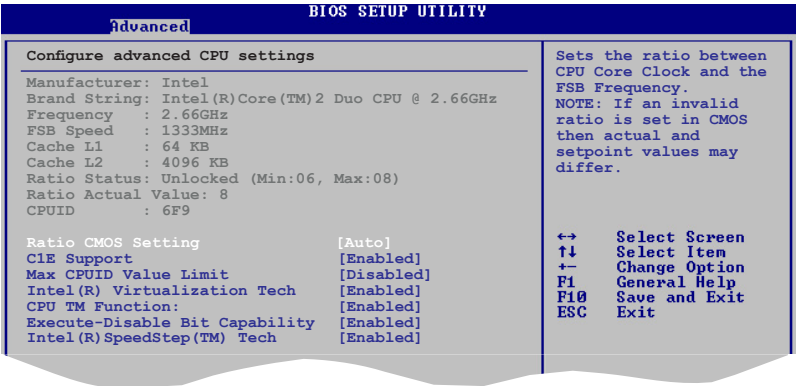


Take caution when changing the settings of the Advanced menu items. Incorrect field values can cause the system to malfunction.



4.4.2 CPU Configuration

The items in this menu show the CPU-related information that the BIOS automatically detects.



Ratio CMOS Setting [Auto]

Allows you to set the ratio between CPU Core Clock and the FSB frequency.
Configuration option: [Auto]



- If an invalid ratio is set in CMOS then actual and set values may differ.
- Key in ratio numbers directly.

C1E Support [Enabled]

Allows you to enable or disable Inter CPU Enhanced Halt (C1E) function, a CPU power-saving function in system halt state. When enable, the CPU core frequency and voltage will be reduced during the system halt state to decrease power consumption. Configuration options: [Disabled] [Enabled]

Max CPUID Value Limit [Disabled]

Allows you to determine whether to limit CPUID maximum value. Set this item to [Disabled] for Windows XP operating system; set this item to [Enabled] for legacy operating system such as Windows NT4.0. (Default: Disabled)
Configuration options: [Disabled] [Enabled]

Intel(R) Virtualization Tech [Enabled]

Enables or disables Intel® Virtualization Technology. Virtualization enhanced by Intel® Virtualization Technology allows a platform to run multiple operating systems and applications in independent partitions. With Virtualization, one computer system can function as multiple virtual systems. Configuration options: [Enabled] [Disabled]

CPU TM Function [Enabled]

Enables or disables Intel® CPU Thermal Monitor (TM) function, a CPU overheating protection function. When enabled, the CPU core frequency and voltage are reduced when the CPU overheats. Configuration options: [Disabled] [Enabled]

Execute-Disable Bit Capability [Enabled]

Enables or disables Intel® Execute Disable Bit function. This function enhance protection of your computer, reducing exposure to viruses and malicious buffer overflow attacks when working with its supporting software and system. Configuration options: [Disabled] [Enabled]



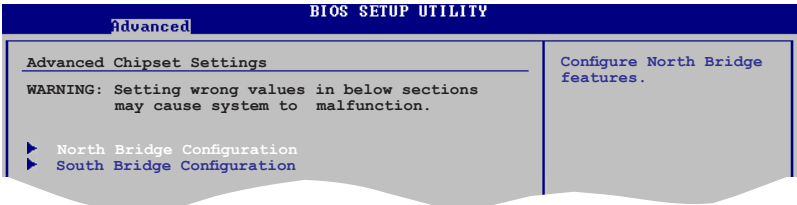
The following item appears only when you installed an Intel® Pentium® 4 or later CPU that supports the Enhanced Intel SpeedStep® Technology (EIST).

Intel(R) SpeedStep(TM) Technology [Enabled]

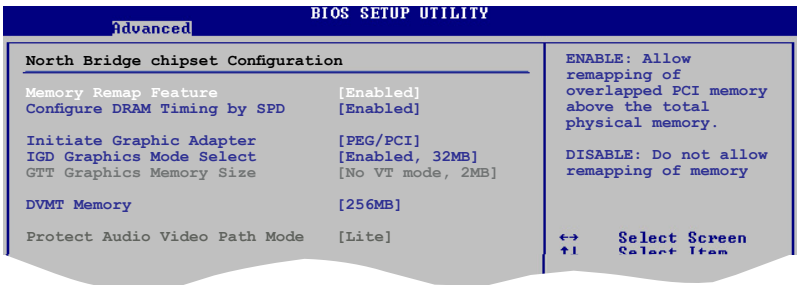
Allows you to use the Enhanced Intel® SpeedStep™ Technology. When set to [Enabled], you can adjust the system power settings in the operating system to use the EIST feature. Set this item to [Disabled] if you do not want to use the EIST. Configuration options: [Enabled] [Disabled]

4.4.2 Chipset

The Chipset menu allows you to change the advanced chipset settings. Select an item then press <Enter> to display the sub-menu.



North Bridge Configuration



Memory Remap Feature [Enabled]

Allows you to enable or disable the remapping of overlapped PCI memory above the total physical memory. Configuration options: [Enabled] [Disabled]

Configure DRAM Timing by SPD [Enabled]

Allows you to enable or disable configuring DRAM Timing by SPD. Configuration options: [Enabled] [Disabled]

Initiate Graphic Adapter [PEG/PCI]

Allows you to select the graphics controller as the primary boot device. Configuration options: [IGD] [PCI/IGD] [PCI/PEG] [PEG/IGD] [PEG/PCI]

IGD Graphics Mode Select [Enabled, 32MB]

Allows you to select the amount of system memory used by the IGD graphics device. Configuration options: [Disabled] [Enabled, 32MB] [Enabled, 64MB] [Enabled, 128MB]

DVMT Memory [256MB]

Allows you to select the DVMT memory. Configuration options: [128MB] [256MB] [Maximum DVMT]



The [Maximum DVMT] option only appears when installing 1GB DDR2 DIMMs into the DIMM sockets.

Protect Audio Video Path Mode [Lite]

Allows you to set the Protected Audio Video Path (PAVP). Configuration options: [Disabled] [Lite] [Paranoid]

To use the High-Bandwidth Digital Content Protection (HDCP) function, set this option to either **[Lite]** or **[Paranoid]**. If you select Paranoid Mode, the system reserves 96MB for playing and storing the decrypted contents. The operation system and other programs cannot use this reserved memory, and Vista Aero (DWM) is disabled.

Feature	PAVP Lite	PAVP Paranoid
Compressed video buffer is encrypted	Yes	Yes
HW 128-bit AES decryption	Yes	Yes
Protected memory (96MB reserved during boot)	No	Yes

South Bridge Configuration

BIOS SETUP UTILITY		
Advanced		
South Bridge chipset Configuration		Options
Audio Controller	[Enabled]	Enabled
Front Panel Support Type	[HD Audio]	Disabled
Onboard Gigabit LAN	[Enabled]	
Onboard LAN Boot ROM	[Disabled]	

Audio Controller [Enabled]

Allows you to set the audio controller. Configuration options: [Enabled] [Disabled]



The following item does not appear when the **Audio Controller** item is set to [Disabled].

Front Panel Type [HD Audio]

Allows you to select the front panel support type. If High Definition Audio Front Panel is used, set this item to [HD Audio] mode.

Configuration options: [AC97] [HD Audio]

Onboard Gigabit LAN [Enabled]

Allows you to enable or disable the onboard LAN controller.

Configuration options: [Enabled] [Disabled]

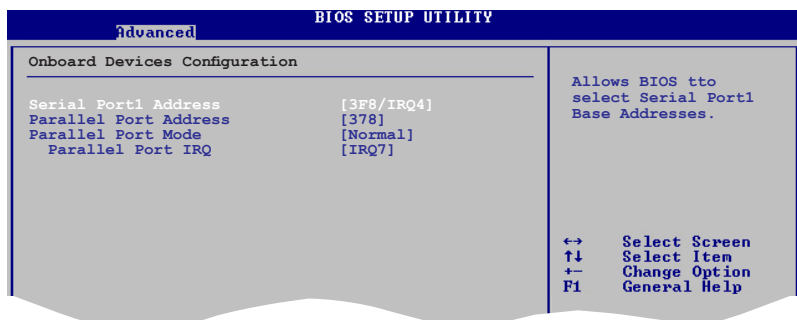
Onboard LAN Boot ROM [Disabled]

Allows you to enable or disable the boot ROM in the onboard LAN controller.

This item appears only when the Onboard LAN item is set to Enabled.

Configuration options: [Disabled] [Enabled]

4.4.3 Onboard Devices Configuration



Serial Port1 Address [3F8/IRQ4]

Allows you to select the Serial Port1 base address.

Configuration options: [Disabled] [3F8/IRQ4] [2F8/IRQ3] [3E8/IRQ4] [2E8/IRQ3]

Parallel Port Address [378]

Allows you to select the Parallel Port base addresses.

Configuration options: [Disabled] [378] [278] [3BC]

Parallel Port Mode [Normal]

Allows you to select the Parallel Port mode.

Configuration options: [Normal] [EPP] [ECP] [EPP+ECP]

EPP Version [1.9]

Appears only when the **Parallel Port Mode** item is set to [EPP] or [EPP+ECP].

This item allows you to set the Parallel Port EPP version. Configuration options: [1.9] [1.7]

ECP Mode DMA Channel [DMA3]

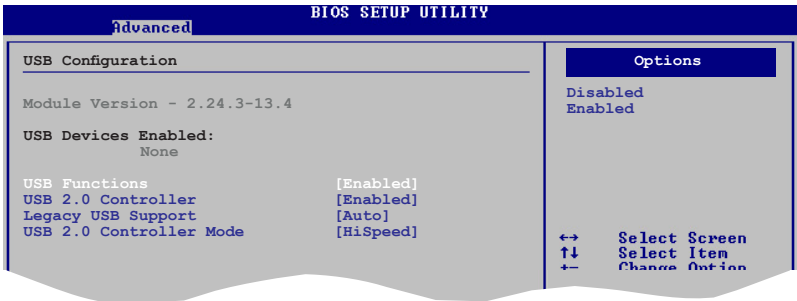
Appears only when the **Parallel Port Mode** item is set to [ECP] or [EPP+ECP]. This item allows you to set the Parallel Port ECP DMA. Configuration options: [DMA0] [DMA1] [DMA3]

Parallel Port IRQ [IRQ7]

Allows you to select parallel port IRQ. Configuration options: [IRQ5] [IRQ7]

4.4.4 USB Configuration

The items in this menu allows you to change the USB-related features. Select an item then press <Enter> to display the configuration options.



The Module Version and USB Devices Enabled items show the auto-detected values. If no USB device is detected, the item shows None.

USB Functions [Enabled]

Allows you to enable or disable the USB functions.
Configuration options: [Disabled] [Enabled]

USB 2.0 Controller [Enabled]

Allows you to enable or disable USB 2.0 controller.
Configuration options: [Enabled] [Disabled]

Legacy USB Support [Auto]

Allows you to enable or disable support for USB devices on legacy operating systems (OS). Setting to Auto allows the system to detect the presence of USB devices at startup. If detected, the USB controller legacy mode is enabled. If no USB device is detected, the legacy USB support is disabled.
Configuration options: [Disabled] [Enabled] [Auto]

USB 2.0 Controller Mode [HiSpeed]

Allows you to configure the USB 2.0 controller in HiSpeed (480 Mbps) or Full Speed (12 Mbps). Configuration options: [FullSpeed] [HiSpeed]



The following items may only appear when a USB storage device is plugged.

USB Mass Storage Device Configuration

USB Mass Storage Reset Delay [20 Sec]

Allows you to set the maximum time that the BIOS waits for the USB storage device to initialize. Configuration options: [10 Sec] [20 Sec] [30 Sec] [40 Sec]

Emulation Type [Auto]

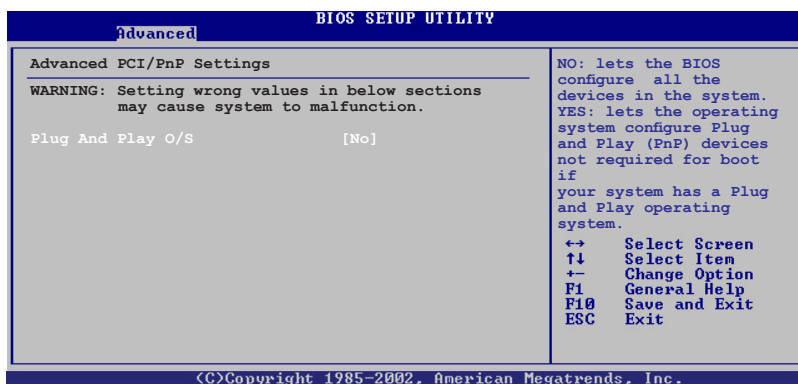
Allows you to set the emulation type. Configuration options: [Auto] [Floppy] [Forced FDD] [Hard Disk] [CDROM]

4.4.5 PCI PnP

The PCI PnP menu items allow you to change the advanced settings for PCI/PnP devices. The menu includes setting IRQ and DMA channel resources for either PCI/PnP or legacy ISA devices, and setting the memory size block for legacy ISA devices.



Take caution when changing the settings of the PCI PnP menu items. Incorrect field values can cause the system to malfunction.



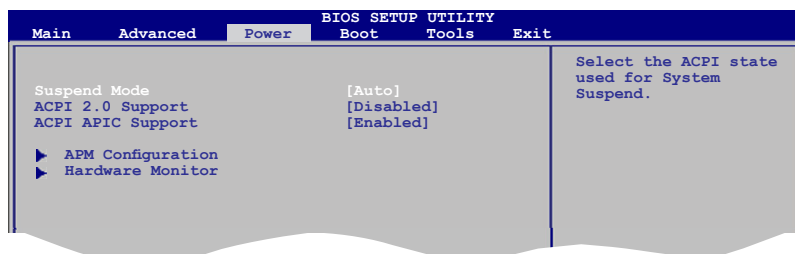
Plug And Play O/S [No]

When set to [No], BIOS configures all the devices in the system. When set to [Yes] and if you install a Plug and Play operating system, the operating system configures the Plug and Play devices not required for boot.

Configuration options: [No] [Yes]

4.5 Power menu

The Power menu items allow you to change the settings for the Advanced Power Management (APM). Select an item then press <Enter> to display the configuration options.



4.5.1 Suspend Mode [Auto]

Allows you to select the Advanced Configuration and Power Interface (ACPI) state to be used for system suspend. Configuration options: [S1 (POS) Only] [S3 Only] [Auto]

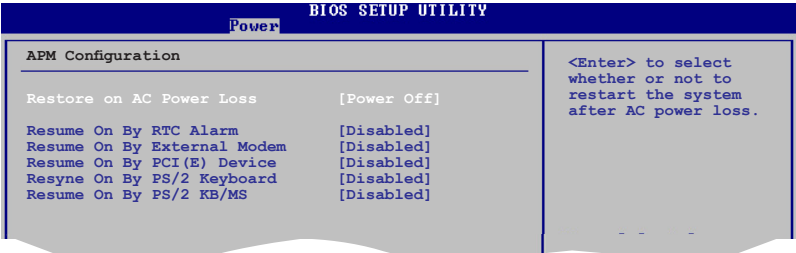
4.5.2 ACPI 2.0 Support [Disabled]

Allows you to add more tables for Advanced Configuration and Power Interface (ACPI) 2.0 specifications. Configuration options: [Disabled] [Enabled]

4.5.3 ACPI APIC Support [Enabled]

Allows you to enable or disable the Advanced Configuration and Power Interface (ACPI) support in the Application-Specific Integrated Circuit (ASIC). When set to Enabled, the ACPI APIC table pointer is included in the RSDT pointer list. Configuration options: [Disabled] [Enabled]

4.5.4 APM Configuration



Restore on AC Power Loss [Power Off]

When set to [Power Off], the system goes into off state after an AC power loss. When set to [Power On], the system goes on after an AC power loss. When set to [Last State], the system goes into either off or on state, whatever the system state was before the AC power loss. Configuration options: [Power Off] [Power On] [Last State]

Resume On By RTC Alarm [Disabled]

Allows you to enable or disable RTC to generate a wake event. When this item is set to [Enabled], the items RTC Alarm Date, RTC Alarm Hour, RTC Alarm Minute, and RTC Alarm Second appear with set values. Configuration options: [Disabled] [Enabled]

Resume On By External Modem [Disabled]

Allows you to enable or disable external modem to generate a wake event. Configuration options: [Disabled] [Enabled]

Resume On By PCI(E) Devices [Disabled]

When set to [Enabled], this parameter allows you to wake the system through a PCI / PCI Express card. This feature requires an ATX power supply that provides at least 1A on the +5VSB lead. Configuration options: [Disabled] [Enabled]

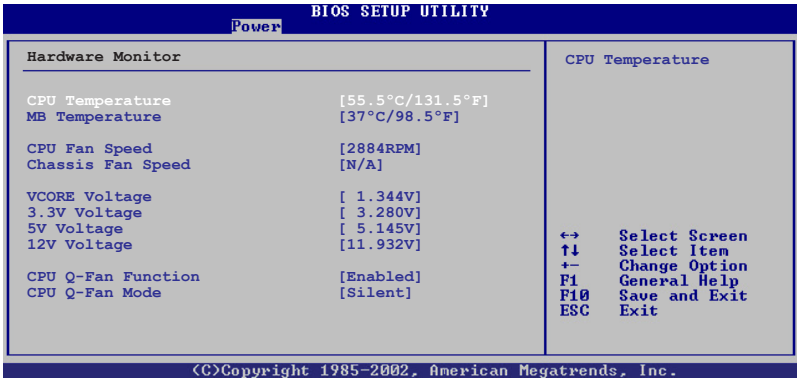
Power On By PS/2 Keboard [Disabled]

Allows you to enable or disable the PS/2 keyboard to generate a wake event. This feature requires an ATX power supply that provides at least 1A on the +5VSB lead. Configuration options: [Disabled] [Space Bar] [Power Key] [Ctrl-Esc]

Power On By PS/2 Mouse [Disabled]

Allows you to enable or disable the PS/2 mouse to generate a wake event. This feature requires an ATX power supply that provides at least 1A on the +5VSB lead. Configuration options: [Disabled] [Enabled]

4.5.5 Hardware Monitor



CPU Temperature [xxx°C/xxx°F]

The onboard hardware monitor automatically detects and displays the CPU temperatures. Select Ignored if you do not wish to display the detected temperatures.

MB Temperature [xxx°C/xxx°F]

The onboard hardware monitor automatically detects and displays the MB temperatures. Select Ignored if you do not wish to display the detected temperatures.

CPU Fan Speed (RPM) [xxxxRPM] or [N/A] or [Ignored]

The onboard hardware monitor automatically detects and displays the CPU fan speed in rotations per minute (RPM). If the fan is not connected to the motherboard, the field shows N/A. Select Ignored if you do not wish to display the detected speed.

Chassis Fan Speed [xxxxRPM] or [N/A] or [Ignored]

The onboard hardware monitor automatically detects and displays the chassis fan speed in rotations per minute (RPM). If the chassis fan is not connected, the specific field shows N/A. Select Ignored if you do not wish to display the detected speed.

VCORE Voltage, 3.3V Voltage, 5V Voltage, 12V Voltage

The onboard hardware monitor automatically detects the voltage output through the onboard voltage regulators.

CPU Q-Fan Function [Enabled]

Allows you to enable or disable the CPU Q-Fan function.
Configuration options: [Disabled] [Enabled]

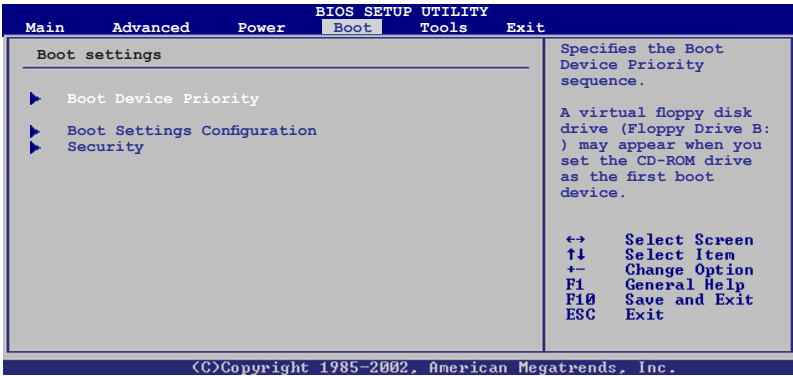
CPU Q-Fan Function [Silent]

Allows you to select the CPU Q-Fan mode.

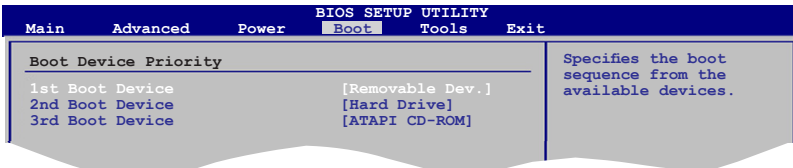
Configuration options: [Performance] [Optional] [Silent]

4.6 Boot menu

The Boot menu items allow you to change the system boot options. Select an item then press <Enter> to display the sub-menu.



4.6.1 Boot Device Priority



1st ~ xxth Boot Device [Removable Dev.]

These items specify the boot device priority sequence from the available devices. The number of device items that appears on the screen depends on the number of devices installed in the system. Configuration options: [Removable Device] [Hard Drive] [ATAPI CD-ROM] [Disabled]



- To select the boot device during system startup, press <F8> when ASUS Logo appears.
- To access Windows® OS in Safe Mode, do any of the following:
 - Press <F5> when ASUS Logo appears.
 - Press <F8> after POST.

4.6.2 Boot Settings Configuration

BIOS SETUP UTILITY		
Boot		
Boot Settings Configuration		
Quick Boot	[Enabled]	Allows BIOS to skip certain tests while booting. This will decrease the time needed to boot the system.
Full Screen Logo	[Enabled]	
AddOn ROM Display Mode	[Force BIOS]	
Bootup Num-Lock	[On]	
Wait For 'F1' If Error	[Enabled]	
Hit 'DEL' Message Display	[Enabled]	

Quick Boot [Enabled]

Enabling this item allows the BIOS to skip some power on self tests (POST) while booting to decrease the time needed to boot the system. When set to [Disabled], BIOS performs all the POST items. Configuration options: [Disabled] [Enabled]

Full Screen Logo [Enabled]

This allows you to enable or disable the full screen logo display feature. Configuration options: [Disabled] [Enabled]



Set this item to [Enabled] to use the ASUS MyLogo2™ feature.

Add On ROM Display Mode [Force BIOS]

Sets the display mode for option ROM. Configuration options: [Force BIOS] [Keep Current]

Bootup Num-Lock [On]

Allows you to select the power-on state for the NumLock. Configuration options: [Off] [On]

Wait for 'F1' If Error [Enabled]

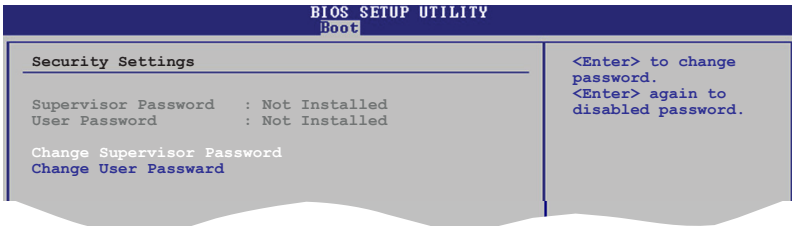
When set to [Enabled], the system waits for the F1 key to be pressed when error occurs. Configuration options: [Disabled] [Enabled]

Hit 'DEL' Message Display [Enabled]

When set to [Enabled], the system displays the message "Press DEL to run Setup" during POST. Configuration options: [Disabled] [Enabled]

4.6.3 Security

The Security menu items allow you to change the system security settings. Select an item then press <Enter> to display the configuration options.



Change Supervisor Password

Select this item to set or change the supervisor password. The Supervisor Password item on top of the screen shows the default Not Installed. After you set a password, this item shows Installed.

To set a Supervisor Password:

1. Select the Change Supervisor Password item and press <Enter>.
2. On the password box, key in a password containing up to six letters or numbers, or both, then press <Enter>.
3. Confirm the password when prompted.

The message "Password Installed" appears after you successfully set your password.

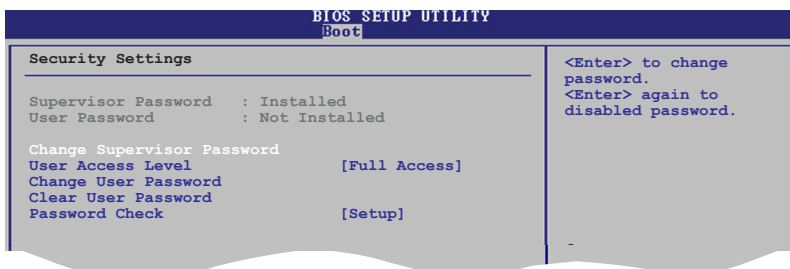
To change the supervisor password, follow the same steps as in setting a user password.

To clear the supervisor password, select the Change Supervisor Password then press <Enter> twice. The message "Password Uninstalled" appears.



If you forget your BIOS password, you can clear it by erasing the CMOS Real Time Clock (RTC) RAM. See section "4.3 Jumper" for information on how to erase the RTC RAM.

After you have set a supervisor password, the other items appear to allow you to change other security settings.



User Access Level [Full Access]

This item allows you to select the access restriction to the Setup items.

Configuration options: [No Access] [View Only] [Limited] [Full Access]

No Access prevents user access to the Setup utility.

View Only allows access but does not allow change to any field.

Limited allows changes only to selected fields, such as Date and Time.

Full Access allows viewing and changing all the fields in the Setup utility.

Change User Password

Select this item to set or change the user password. The User Password item on top of the screen shows the default Not Installed. After you set a password, this item shows Installed.

To set a User Password:

1. Select the Change User Password item and press <Enter>.
2. On the password box, key in a password containing up to six letters or numbers, or both, then press <Enter>.
3. Confirm the password when prompted.

The message "Password Installed" appears after you set your password successfully.

To change the user password, follow the same steps as in setting a user password.

Clear User Password

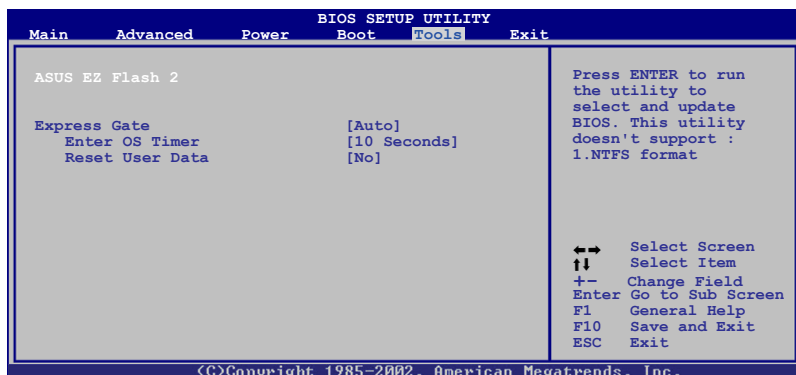
Select this item to clear the user password.

Password Check [Setup]

When set to [Setup], BIOS checks for user password when accessing the Setup utility. When set to [Always], BIOS checks for user password both when accessing Setup and booting the system. Configuration options: [Setup] [Always]

4.7 Tools menu

The Tools menu items allow you to launch special functions. Select an item then press <Enter> to display the sub-menu.



4.7.1 ASUS EZ Flash 2

Allows you to run ASUS EZ Flash 2. When you press <Enter>, a confirmation message appears. Use the left/right arrow key to select between [Yes] or [No], then press <Enter> to confirm your choice. Please see section 4.1.2 for details.

4.7.2 Express Gate [Auto]

Allows you to enable or disable the ASUS Express Gate feature. The ASUS Express Gate feature is a unique instant-on environment that provides quick access to the Internet browser and Skype. Configuration options: [Disabled] [Enabled]

Enter OS Timer [10 Seconds]

Allows you to set the countdown duration that the system waits at the Express Gate's first screen before starting Windows or other installed OS. Choose [Prompt User] to stay at the first screen of Express Gate for user action.

Configuration options: [Prompt User] [1 Second] [3 Seconds] [5 Seconds] [10 Seconds] [15 Seconds] [20 Seconds] [30 Seconds]

Reset User Data [No]

Allows you to clear Express Gate's user data. Configuration options: [No] [Reset]

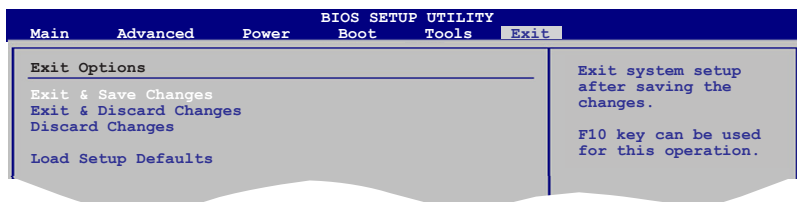
When setting this item to [Reset], the user data is cleared the next time you enter the Express Gate. User data includes the Express Gate's settings as well as any personal information stored by the web browser such as bookmarks, cookies, or browsing history. This is useful in the rare case where corrupt settings prevent the Express Gate environment from launching properly.



-
- The first time wizard runs again when you enter the Express Gate environment after clearing its settings.
 - When changing any of the Express Gate settings, ensure to save the settings to the BIOS.
-

4.8 Exit menu

The Exit menu items allow you to load the optimal or failsafe default values for the BIOS items, and save or discard your changes to the BIOS items.



Pressing <Esc> does not immediately exit this menu. Select one of the options from this menu or <F10> from the legend bar to exit.

Exit & Save Changes

Once you are finished making your selections, choose this option from the Exit menu to ensure the values you selected are saved to the CMOS RAM. An onboard backup battery sustains the CMOS RAM so it stays on even when the PC is turned off. When you select this option, a confirmation window appears. Select **OK** to save changes and exit.



If you attempt to exit the Setup program without saving your changes, the program prompts you with a message asking if you want to save your changes before exiting. Press <Enter> to save the changes while exiting.

Exit & Discard Changes

Select this option only if you do not want to save the changes that you made to the Setup program. If you made changes to fields other than System Date, System Time, and Password, the BIOS asks for a confirmation before exiting.

Discard Changes

This option allows you to discard the selections you made and restore the previously saved values. After selecting this option, a confirmation appears. Select **OK** to discard any changes and load the previously saved values.

Load Setup Defaults

This option allows you to load the default values for each of the parameters on the Setup menus. When you select this option or if you press <F5>, a confirmation window appears. Select **OK** to load default values. Select **Exit & Save Changes** or make other changes before saving the values to the non-volatile RAM.

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