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Static Electricity Precautions

1. Don't take this motherboard and components out of their original static-proof package until you are ready to install them.
2. While installing, please wear a grounded wrist strap if possible. If you don't have a wrist strap, discharge static electricity by touching the bare metal of the system chassis.
3. Carefully hold this motherboard by its edges. Do not touch those components unless it is absolutely necessary. Put this motherboard on the top of static-protection package with component side facing up while installing.

Pre-Installation Inspection

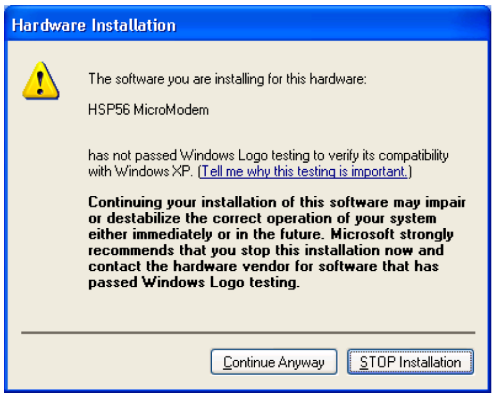
1. Inspect this motherboard whether there are any damages to components and connectors on the board.
2. If you suspect this motherboard has been damaged, do not connect power to the system. Contact your motherboard vendor about those damages.

P55G Series, V1.0
October 2007

Table of Contents

Notice:

1 Owing to Microsoft's certifying schedule is various to every supplier, we might have some drivers not certified yet by Microsoft. Therefore, it might happen under Windows XP that a dialogue box (shown as below) pop out warning you this software has not passed Windows Logo testing to verify its compatibility with Windows XP. Please rest assured that our RD department has already tested and verified these drivers. Just click the "Continue Anyway" button and go ahead the installation.



Chapter 1 Introduction

This motherboard has a **LGA775 socket** for latest **Intel® Core™ 2 Quad*/ Core™ 2 Duo/Pentium® D*/Pentium® 4*/Celeron® D** processors with **Hyper-Threading Technology** and Front-Side Bus (FSB) speeds up to **1066/ 800 MHz (Over spec up to 1333*).** Hyper-Threading Technology, designed to take advantage of the multitasking features, giving you the power to do more things at once.
This motherboard integrates a single-chip NVIDIA® MCP73V that supports the Serial ATA interface for high-performance and mainstream desktop PCs; the built-in **USB 2.0** providing higher bandwidth, implementing **USB 2.0 EHCI** and **USB 1.1 OHCI**. It supports **High Definition Audio Codec** and provides **Ultra DMA 133**/100/66/33 function. It has one **PCI Expressx16**, one **PCI Expressx1** and two 32-bit **PCI** slots. There is a full set of I/O ports including two PS/2 ports for mouse and keyboard, one serial port, one VGA port, one LAN port, four back-panel USB 2.0 ports and Audio jacks for microphone, line-in and line-out and onboard USB headers providing extra ports by connecting the Extended USB Module to the motherboard.

It is a **Micro ATX** motherboard and has power connectors for an ATX power supply.

Key Features

The key features of this motherboard include:

LGA775 Socket Processor

- Supports the latest **Intel® Core™ 2 Quad*/Core™ 2 Duo/Pentium® D*/Pentium® 4*/Celeron® D** processors with **Hyper-Threading Technology**
- Supports over spec up to **1333* MHz** Front-Side Bus

*" * " stands for this motherboard is ready to support Intel® Core™ 2 Quad/ Pentium® D/Pentium® 4 processor and over spec to support FSB1333 and DDR2 800. Please refer to memory QVL and CPU support list on PCCHIPS website.*

Note: Hyper-Threading technology enables the operating system into thinking it's hooked up to two processors, allowing two threads to be run in parallel, both on separate 'logical' processors within the same physical processor.

Chipset

The NVIDIA® **MCP73V** is a single-chip with proven reliability and performance.

- High Performance Host Interface: Supports **Intel® Core™ 2 Quad*/ Core™ 2 Duo/Pentium® D*/Pentium® 4*/Celeron® D** processor family with over spec up to FSB1333* MHz
- Hyper-Threading Technology
- System Memory Controller Support: DDR2 SDRAM with up to maximum memory of 4 GB.
- PCI Express Graphics Interface Support: One PCI Express x16 port
- PCI Bus Interface Support: PCI Revision 2.3 Specification at 33MHz
- Integrade Serial ATA Host Controller with Data transfer rates up to 3.0 Gb/s
- Intgrated IDE Controller: Ultra DMA-133/100/66/33 Bus Master EIDE Controller
- USB 2.0: Integrated USB 2.0 interface, supporting up to eight functional ports

Memory Support

- Two 240-pin DIMM sockets for DDR2 SDRAM memory modules
- Supports **DDR2 667**/533 **(Over spec up to 800*)** memory bus
- Maximum installed memory is 4 GB

Expansion Slots

- Two 32-bit PCI slots
- One **PCI Express x16** slot
- One **PCI Express x1** slot

Onboard IDE channels

- One IDE Connector
- Supports PIO (Programmable Input/Output) and DMA (Direct Memory Access) modes
- Supports IDE Ultra DMA bus mastering with transfer rates of **133**/100/ 66/33 MB/sec

Serial ATA

- Serial ATA Connector
- Transfer rate exceeding best ATA (**3.0 Gb/s**) with scalability to higher rates
- Low pin count for both host and devices

Audio

- 6 Channels of DAC support 16/20/24-bit PCM Format for 5.1 Audio Solution
- All ADCs support 48k/192k Independent Sample Rate
- Exceeds Microsoft PC2001 Requirement
- High Quality Differential CD input
- Power Support: Digital: 3.3V; Analog: 3.3V/5.0V

LAN

- 10/100 Mb/s dual speed transceiver
- MII interface for external MAC devices
- 10/100 Mb/s IEEE 802.3 compliant
- IEEE 802.3 Auto-Negotiation

Onboard I/O Ports

- Two PS/2 ports for mouse and keyboard
- One serial port
- One VGA port
- One LAN port
- Four back-panel USB2.0 ports
- Audio jacks for microphone, line-in and line-out

BIOS Firmware

This motherboard uses Award BIOS that enables users to configure many system features including the following:

- Power management
- Wake-up alarms
- CPU parameters and memory timing
- CPU and memory timing

The firmware can also be used to set parameters for different processor clock speeds.

Dimensions

- Micro ATX form factor of 244 x 194 mm

Note: Hardware specifications and software items are subject to change without notification.

Package Contents

Your motherboard package ships with the following items:

- The motherboard
- The User's Guide
- One diskette drive ribbon cable (optional)
- One IDE drive ribbon cable
- The Software support CD

Optional Accessories

You can purchase the following optional accessories for this motherboard.

- The Extended USB module
- The CNR v.90 56K Fax/Modem card
- The Serial ATA cable
- The Serial ATA power cable

Note: You can purchase your own optional accessories from the third party, but please contact your local vendor on any issues of the specification and compatibility.

Chapter 2 Motherboard Installation

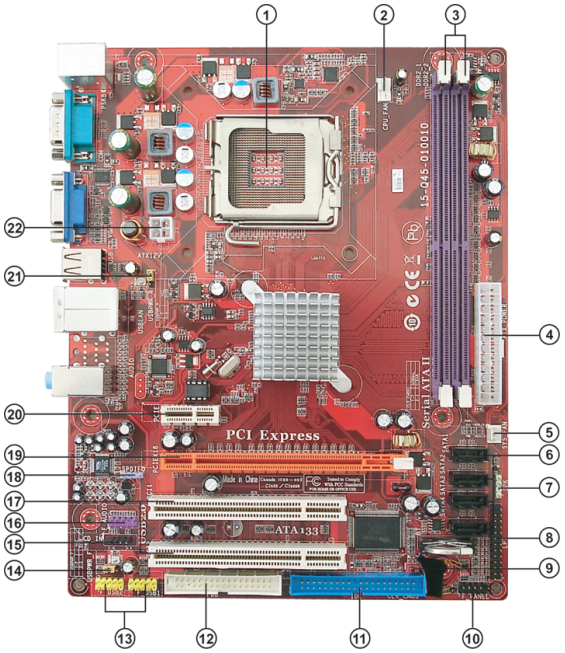
To install this motherboard in a system, please follow these instructions in this chapter:

- Identify the motherboard components
- Install a CPU
- Install one or more system memory modules
- Make sure all jumpers and switches are set correctly
- Install this motherboard in a system chassis (case)
- Connect any extension brackets or cables to headers/connectors on the motherboard
- Install peripheral devices and make the appropriate connections to headers/connectors on the motherboard

Note:

1. Before installing this motherboard, make sure jumper CLR_CMOS is under Normal setting. See this chapter for information about locating CLR_CMOS and the setting options.
2. Never connect power to the system during installation; otherwise, it may damage the motherboard.

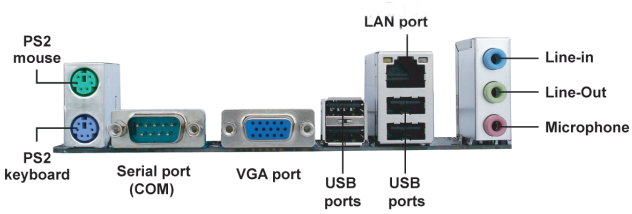
Motherboard Components



ITEM	LABEL	COMPONENTS
1	CPU Socket	LGA775 socket for Intel® Core™2 Quad*/ Core™2 Duo/ Pentium® D*/Pentium® 4*/Celeron® D CPUs
2	CPU_FAN	CPU cooling fan connector
3	DDR2_1~2	240-pin DDR2 SDRAM slots
4	ATX_POWER	Standard 24-pin ATX power connector
5	SYS_FAN	System cooling fan connector
6	SATA1~4	Serial ATA connectors
7	SPK	Speaker header
8	LPT	Onboard parallel port header
9	CLR_CMOS	Clear CMOS jumper
10	F_PANEL	Front panel switch/LED header
11	IDE	Primary IDE connector
12	FDD	Floppy disk drive connector
13	F_USB1~2	Front Panel USB headers
14	USBPWR_F	Front Panel USB Power Select Jumper
15	CD_IN	Analog audio input header
16	F_AUDIO	Front panel audio header
17	PCI1~2	32-bit add-on card slots
18	SPDIFO	SPDIF out header
19	PCIEX16	PCI Express slot for graphics interface
20	PCIE	PCI Express x1 slot
21	USBPWR_R	Real Panel USB PS/2 Power Select Jumper
22	ATX12V	Auxiliary 4-pin power connector

I/O Ports

The illustration below shows a side view of the built-in I/O ports on the motherboard.



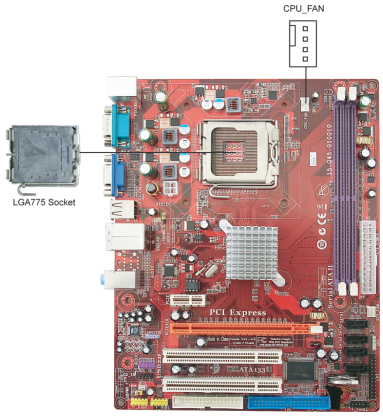
PS/2 Mouse	Use the upper PS/2 port to connect a PS/2 pointing device.
PS/2 Keyboard	Use the lower PS/2 port to connect a PS/2 keyboard.
COM	Use the COM port to connect serial devices such as mice or fax/modems. COM is identified by the system as COM.
VGA Port	Use the VGA port to connect VGA devices.
LAN Port	Connect an RJ-45 jack to the LAN port to connect your computer to the Network.
USB Ports	Use the USB ports to connect USB devices.
Audio Ports	Use these three audio jacks to connect audio devices. The first jack is for stereo Line-In signal, the second jack for stereo Line-Out signal, and the third jack for Microphone.

Installing the Processor

This motherboard has a **LGA775** socket for the latest **Intel® Core™ 2 Quad/ Core™ 2 Duo/Pentium® D/Pentium® 4/Celeron® D** processors. When choosing a processor, consider the performance requirements of the system. Performance is based on the processor design, the clock speed and system bus frequency of the processor, and the quantity of internal cache memory and external cache memory.

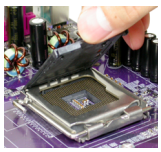
CPU Installation Procedure

Follow these instructions to install the CPU:

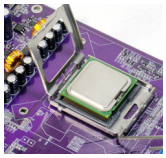


A. Read and follow the instructions shown on the sticker on the CPU cap.

B. Unload the cap
   - Use thumb & forefinger to hold the lifting tab of the cap.
   - Lift the cap up and remove the cap completely from the socket.



C. Open the load plate
   - Use thumb & forefinger to hold the hook of the lever, pushing down and pulling aside unlock it.
   - Lift up the lever.
   - Use thumb to open the load plate. Be careful not to touch the contacts.



D. Install the CPU on the socket
   - Orientate CPU package to the socket. Make sure you match triangle marker to pin 1 location.

E. Close the load plate
   - Slightly push down the load plate onto the tongue side, and hook the lever.
   - CPU is locked completely.

F. Apply thermal grease on top of the CPU.

G. Fasten the cooling fan supporting base onto the CPU socket on the motherboard.

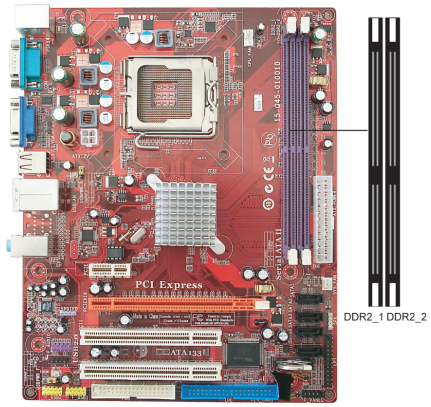
H. Make sure the CPU fan is plugged to the CPU fan connector. Please refer to the CPU cooling fan user's manual for mor detail installation procedure.

Note 1: To achieve better airflow rates and heat dissipation, we suggest that you use a high quality fan with 3800 rpm at least. CPU fan and heatsink installation procedures may vary with the type of CPU fan/ heatsink supplied. The form and size of fan/heatsink may also vary.
Note 2: The fan connector supports the CPU cooling fan of 1.1A~2.2A (26.4W max.) at +12V.
Note 3: Do Not remove the CPU cap from the socket before installing a CPU.
Note 4: Return Material Authorization (RMA) requests will be accepted only if the motherboard comes with the cap on the LGA775 socket.

Installing Memory Modules

This motherboard accommodates two 240-pin DIMM sockets for unbuffered **DDR2 667**/533 **(Over spec up to 800*)** memory modules, and maximum 4 GB installed memory.

Over its predecessor, DDR-SDRAM, DDR2-SDRAM offers greater bandwith and density in a smaller packahe along with a reduction in power consumption. In addition, DDR2-SDRAM offers new features and functions that enable a higher clock rate and data rate operations of 533 MHz, 667 MHz and over spec up to 800* MHz. DDR2 transfer 64 bits of data twice every clock cycle.



Memory Module Installation Procedure

These modules can be installed with up to 4 GB system memory. Refer to the following to install the memory module.

1. Push down the latches on both sides of the DIMM socket.
2. Align the memory module with the socket. There is a notch on the DIMM socket that you can install the DIMM module in the correct direction. Match the cutout on the DIMM module with the notch on the DIMM socket.
3. Install the DIMM module into the socket and press it firmly down until it is seated correctly. The socket latches are levered upwards and latch on to the edges of the DIMM.
4. Install any remaining DIMM modules.

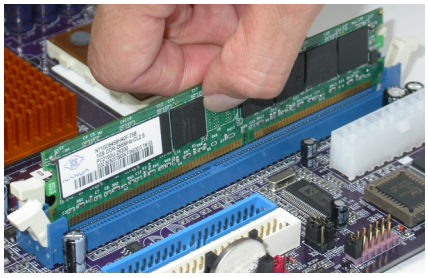


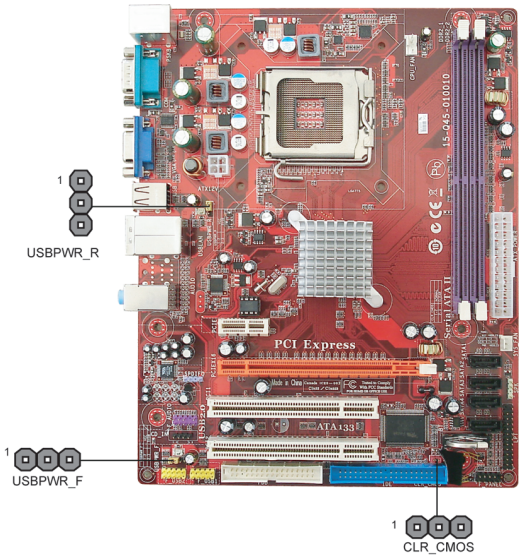
Table A: DDR2 (memory module) QVL (Qualified Vendor List)

The following DDR2 800/667/533 memory modules have been tested and qualified for use with this motherboard.

Type	Size	Vendor	Module Name
DDR2 533	512 MB	Aeneon	AET660UD00-370A98Z
		Infineon	HYS64T64400HU-3.7-A
		Kingston	KVR533D2N4/512
		PQI	MEABR321LA01AA
		Samsung	M378T6553BGO-CD5
	1 GB	Infineon	HYS64T128920HU-3.7-A
		PQI	MEABR421LA0106
DDR2 667	256 MB	Infineon	HYS64T32400HU-3S-A
	512 MB	A-DATA	M2OAD5G3H3166I1C52
		Apacer	AU512E667C5KBGC
		Apacer	AU512E667C5KBGY
		APOGEE	AU51082-667P005
		Corsair	VS512MB667D2
		Kingston	KVR667D2N5/512
		Nanya	NT512T64U88A0BY-3C
		PSC	AL6E8E63B-6E1T
		PSC	AL6E8E63J-6E1
		Ramxel	RML1520HC38D6F-667
		Transcend	Transcend K4T51083QC ZCE6
		Twinmos	8G25JK-ED
		Twinmos	TMM6208G8M30B
	1 GB	A-DATA	M2OAD5G3I4176I1C52
		Apacer	AU01GE667C5KBGY
		APOGEE	AU1G082-667P005
		Infineon	HYS64T128920HU-3S-A
		PQI	MEABR421LA0107
		PSC	AL7E8E63B-6E1T
		PSC	AL7E8E63J-6E1
		Ramaxel	RML1320HC38D7F-667
		Twinmos	8D23JK-TT
	2 GB	Hynix	HYMP125U64AP8-Y5-AB-A
		Kingston	KVR667D2N5/2G
		Nanya	NT2GT64U8HB0JY-3C
		Twinmos	8D-23MK-ED
DDR2 800	512 MB	A-DATA	M2OAD6G3H3160I1E53
		Aeneon	AET660UD00-25DB98X
		Apacer	AU512E800C5KBGC
		APOGEE	AU51082-800P505
		Infineon	HYS64T64000HU-25F-B
		Kingston	KHX6400D2ULK2/1G
		Nanya	NT512T64U88B0BY-25C
		PSC	AL6E8E63H-8E1
	1 GB	APOGEE	AU1G082-800P000
		Infineon	HYS64T128020HU-25F-B
		Kingston	KHX6400D2ULK2/2G
		Nanya	NT1GT64U8HB0BY-25C
		PSC	AL7E8E63H-8E1
		UMAX	53016042-7100B

Jumper Settings

Connecting two pins with a jumper cap is SHORT; removing a jumper cap from these pins, OPEN.



CLR_CMOS: Clear CMOS Jumper

Use this jumper to clear the contents of the CMOS memory. You may need to clear the CMOS memory if the settings in the Setup Utility are incorrect and prevent your motherboard from operating. To clear the CMOS memory, disconnect all the power cables from the motherboard and then move the jumper cap into the CLEAR setting for a few seconds.

Function	Jumper Setting
Normal	Short Pins 1-2
Clear CMOS	Short Pins 2-3

Note: To avoid the system unstability after clearing CMOS, we recommend users to enter the main BIOS setting page to "Load Optimal De-faults" and then "Save Changes and Exit".

USBPWR_F: FRONT PANEL USB POWER SELECT Jumper

Function	Jumper Setting
VCC	Short Pins 1-2
5VSB	Short Pins 2-3

USBPWR_R: REAR USB PS/2 POWER SELECT Jumper

Use this jumper to set the Rear USB PS/2 Power function.

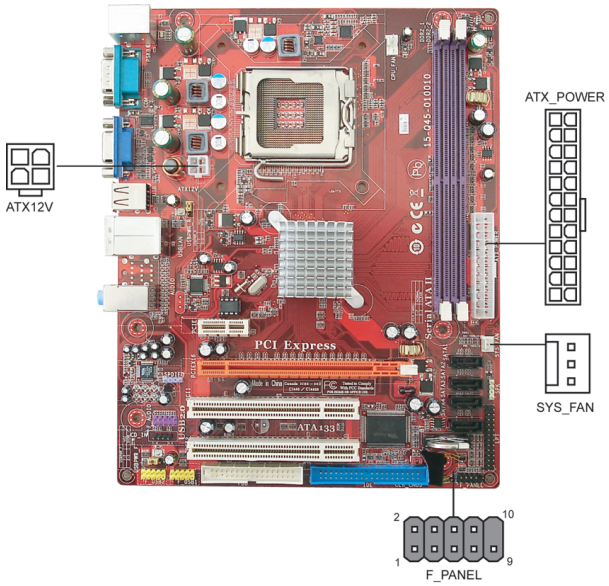
Function	Jumper Setting
VCC	Short Pins 1-2
5VSB	Short Pins 2-3

Note:1. Make sure the power supply provides enough SB5V voltage before selecting the SB5V function.
2. To wake up the computer by USB/PS2 KB/Mouse in S3 status, users have to place the USBPWR_F & USBPWR_R cap onto 2-3 pin instead of 1-2 as default, and then press into BIOS *"Power Management Setup"* page to choose the functions (USB/PS2KB/MS) you want to enable.

Install the Motherboard

Install the motherboard in a system chassis (case). The board is a Micro ATX size motherboard. You can install this motherboard in an ATX case. Make sure your case has an I/O cover plate matching the ports on this motherboard.

Install the motherboard in a case. Follow the case manufacturer's instructions to use the hardware and internal mounting points on the chassis.



Connect the power connector from the power supply to the **ATX_POWER** connector on the motherboard. The **ATX12V** is a +12V connector for CPU Vcore power.

If there is a cooling fan installed in the system chassis, connect the cable from the cooling fan to the **SYS_FAN** fan power connector on the motherboard.

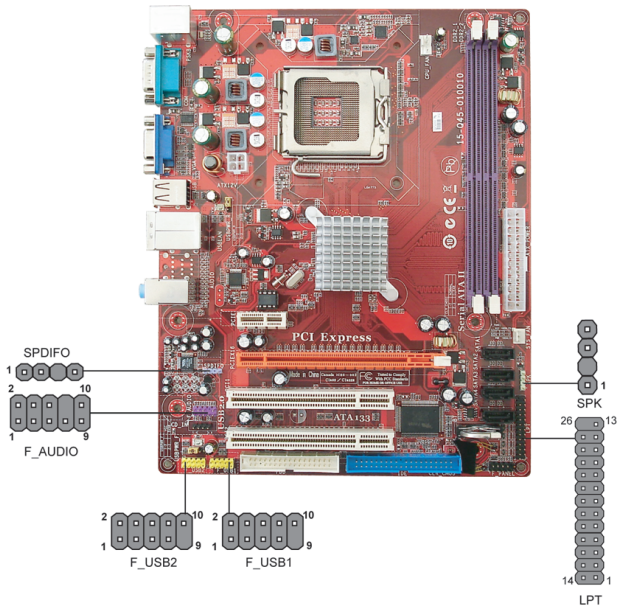
Connect the case switches and indicator LEDs to the **F_PANEL** header.

Here is a list of the F_PANEL pin assignments.

Pin	Signal	Pin	Signal
1	HD_LED_P(+)	2	FP PWR/SLP(+)
3	HD_LED_N(-)	4	FP PWR/SLP(-)
5	RESET_SW_N(-)	6	POWER_SW_P(+)
7	RESET_SW_P(+)	8	POWER_SW_N(-)
9	RSVD_DNU	10	KEY

Connecting Optional Devices

Refer to the following for information on connecting the motherboard's optional devices:



SPK: Speaker Header

Connect the cable from the PC speaker to the SPK header on the motherboard.

Pin	Signal	Pin	Signal
1	VCC	2	Key
3	NC	4	Signal

SPDIFO: S/PIF Out Header

S/PDIF (Sony/Plilips Digital Interface) is a standard audio transfer file format and allows the transfer of digatal audio signals from one device to another without having to be converted first to an analog format. Via a specific audio cable, you can connect the SPDIFO header (S/PDIF output) on the motherboard to the S/PDIF digital input on the external speakers or AC Decode devices.

Pin	Signal	Pin	Signal
1	SPDIFOUT	2	5VA
3	KEY	4	GDN

F_AUDIO: Front Panel Audio Header

This header allows the user to install auxiliary front-oriented microphone and line-out ports for easier access.

Pin	Signal	Pin	Signal
1	PORT1L	2	GND
3	PORT1R	4	PRESENCE#
5	PORT2R	6	Sense1_return
7	SENSE_SEND	8	KEY
9	PORT2L	10	Sense2_return

F_USB1~2: Front panel USB Headers

The motherboard has four USB ports installed on the rear edge I/O port array. Additionally, some computer cases have USB ports at the front of the case. If you have this kind of case, use auxiliary USB headers F_USB1~2 to connect the front-mounted ports to the motherboard.

Pin	Signal	Pin	Signal
1	USBPWR0	2	USBPWR1
3	USB_FP_P0(-)	4	USB_FP_P1(-)
5	USB_FP_P0(+)	6	USB_FP_P1(+)
7	GROUND	8	GROUND
9	KEY	10	NC

1. Locate the F_USB1~2 headers on the motherboard.
2. Plug the bracket cable onto the F_USB1~2 headers.
3. Remove a slot cover from one of the expansion slots on the system chassis. Install an extension bracket in the opening. Secure the extension bracket to the chassis with a screw.

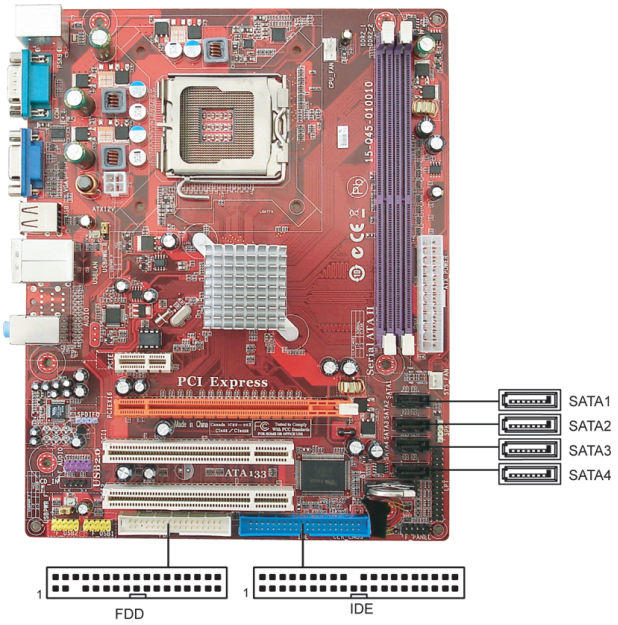
LPT: Onboard parallel port Header

This header allows the user to connect to the printer, scanner or devices.

Pin	Signal	Pin	Signal
1	STROBE	2	PD0
3	PD1	4	PD2
5	PD3	6	PD4
7	PD5	8	PD6
9	PD7	10	ACK
11	BUSK	12	PE
13	SLCT	14	ALF
15	ERROR	16	INIT
17	SLCTIN	18	Ground
19	Ground	20	Ground
21	Ground	22	Ground
23	Ground	24	Ground
25	Ground	26	Key

Install Other Devices

Install and connect any other devices in the system following the steps below.



Floppy Disk Drive

The motherboard ships with a floppy disk drive cable that can support one or two drives. Drives can be 3.5" or 5.25" wide, with capacities of 360 K, 720 K, 1.2 MB, 1.44 MB, or 2.88 MB.

Install your drives and connect power from the system power supply. Use the cable provided to connect the drives to the floppy disk drive connector **FDD**.

IDE Devices

IDE devices include hard disk drives, high-density diskette drives, and CD-ROM or DVD-ROM drives, among others.

The motherboard ships with an IDE cable that can support one or two IDE devices. If you connect two devices to a single cable, you must configure one of the drives as Master and one of the drives as Slave. The documentation of the IDE device will tell you how to configure the device as a Master or Slave device. The Master device connects to the end of the cable.

Install the device(s) and connect power from the system power supply. Use the cable provided to connect the device(s) to the Primary IDE channel connector **IDE** on the motherboard.

Serial ATA Devices

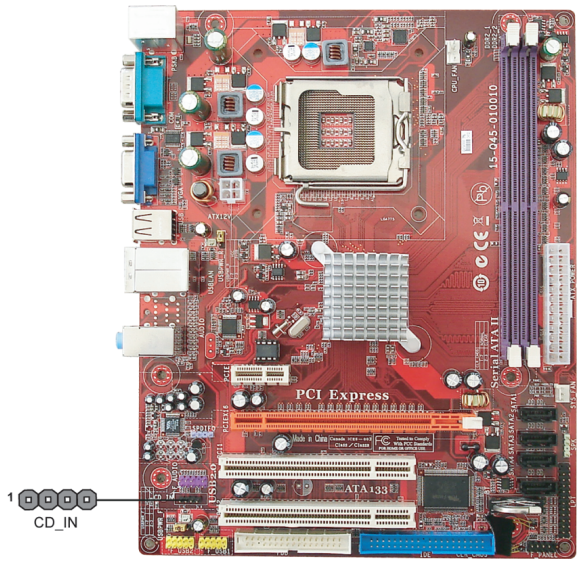
The **Serial ATA (Advanced Technology Attachment)** is the standard interface for the IDE hard drives, which is designed to overcome the design limitations while enabling the storage interface to scale with the growing media rate demands of PC platforms. It provides you a faster transfer rate of **3.0 Gb/s**. If you have installed a Serial ATA hard drive, you can connect the Serial ATA cables to the Serial ATA hard drive or the connector on the motherboard.

On the motherboard, locate the Serial ATA connectors **SATA1~4**, which support new Serial ATA devices for the highest data transfer rates, simpler disk drive cabling and easier PC assembly.

It eliminates limitations of the current Parallel ATA interface, but maintains register compatibility and software compatibility with Parallel ATA.

Analog Audio Input Header

If you have installed a CD-ROM drive or DVD-ROM drive, you can connect the drive audio cable to the onboard sound system.

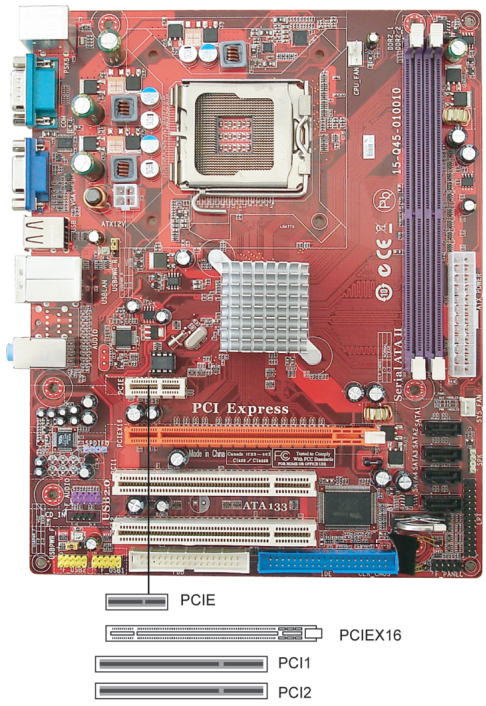


When you first start up your system, the BIOS should automatically detect your CD-ROM/DVD drive. If it doesn't, enter the Setup Utility and configure the CD-ROM/DVD drive that you have installed. On the motherboard, locate the 4-pin header **CD_IN**.

Pin	Signal
1	CD Left Channel
2	GND
3	GND
4	CD Right Channel

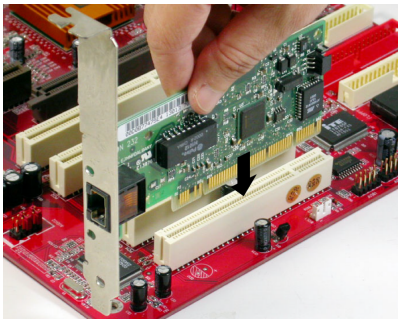
Expansion Slots

This motherboard has one PCI Ex16, one PCI Ex1 and two 32-bit PCI slots.



Follow the steps below to install an PCI Express/CNR/PCI expansion card.

1 Locate the PCI Express, CNR or PCI slots on the motherboard.
2 Remove the blanking plate of the slot from the system chassis.
3 Install the edge connector of the expansion card into the slot. Ensure the edge connector is correctly seated in the slot.
4 Secure the metal bracket of the card to the system chassis with a screw.



PCI Express Slot

You can install an external PCI Express graphics card that is fully compliant to the PCI Express Base Specification revsion 1.1.

PCI Slots

You can install the 32-bit PCI interface expansion cards in the slots.

Chapter 3 BIOS Setup Utility

Introduction

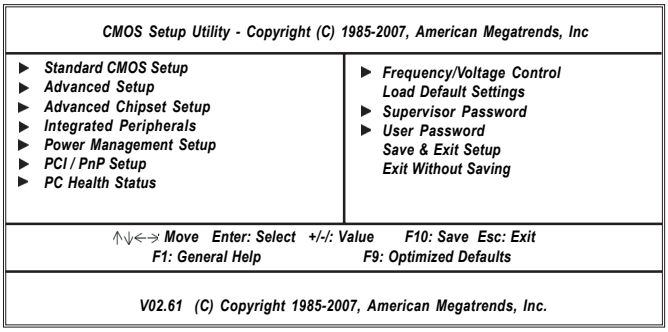
The BIOS Setup Utility records settings and information of your computer, such as date and time, the type of hardware installed, and various configuration settings. Your computer applies the information to initialize all the components when booting up and basic functions of coordination between system components.

If the Setup Utility configuration is incorrect, it may cause the system to malfunction. It can even stop your computer booting properly. If it happens, you can use the clear CMOS jumper to clear the CMOS memory which has stored the configuration information; or you can hold down the **Page Up** key while rebooting your computer. Holding down the **Page Up** key also clears the setup information.

You can run the setup utility and manually change the configuration. You might need to do this to configure some hardware installed in or connected to the motherboard, such as the CPU, system memory, disk drives, etc.

Running the Setup Utility

Every time you start your computer, a message appears on the screen before the operating system loading that prompts you to "*Hit <DEL>if you want to run SETUP*". Whenever you see this message, press the **Delete** key, and the Main menu page of the Setup Utility appears on your monitor.

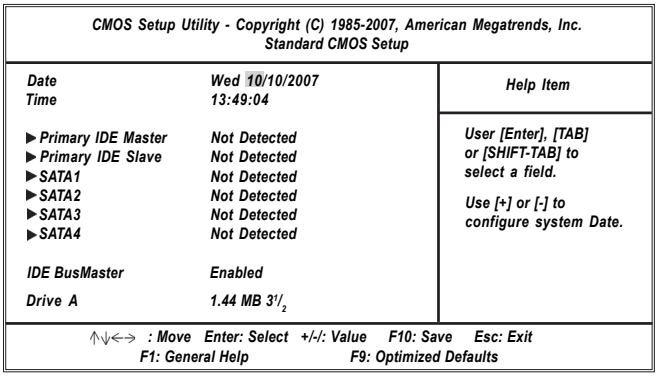


You can use cursor arrow keys to highlight anyone of options on the main menu page. Press **Enter** to select the highlighted option. Press the **Escape** key to leave the setup utility. Press +/-/ to modify the selected field's values.

Some options on the main menu page lead to tables of items with installed values that you can use cursor arrow keys to highlight one item, and press **PgUp** and **PgDn** keys to cycle through alternative values of that item. The other options on the main menu page lead to dialog boxes requiring your answer OK or Cancel by selecting the **[OK]** or **[Cancel]** key.
If you have already changed the setup utility, press **F10** to save those changes and exit the utility. Press **F1** to display a screen describing all key functions. Press **F9** to load optimtimal settings.

Standard CMOS Setup Page

This page displays a table of items defining basic information of your system.



Date & Time

These items set up system date and time.

Primary IDE Master/Primary IDE Slave

Use these items to configure devices connected to the Primary IDE channels. To configure an IDE hard disk drive, choose *Auto*. If the *Auto* setting fails to find a hard disk drive, set it to *User*, and then fill in the hard disk characteristics (Size, Cyls, etc.) manually. If you have a CD-ROM drive, select the setting *CDROM*. If you have an ATAPI device with removable media (e.g. a ZIP drive or an LS-120), select *Floptical*.

SATA1/2/3/4

These items display the status of auto detection of sata devices when "Onboard SATA-IDE" sets to "IDE".

IDE BusMaster

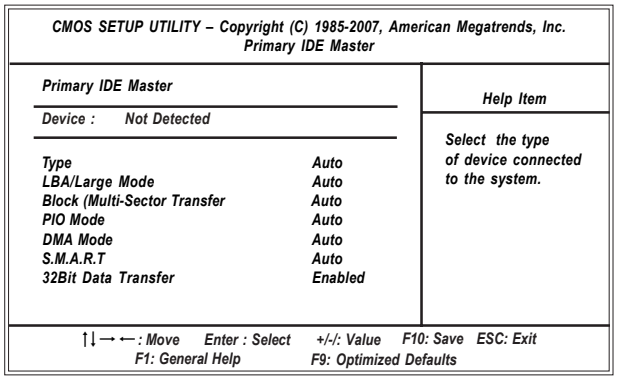
This item enables or disables the DMA under DOS mode. We recommend you to leave this item at the default value.

Drive A

The item defines the characteristics of any diskette drive attached to the system. You can connect one or two diskette drives.

► IDE Devices

Your computer has one IDE channel which can be installed with one or two devices (Master and Slave). In addition, this motherboard supports two SATA channels and each channel allows one SATA device to be installed. Use these items to configure each device on the IDE channel.



Type

Use this item to configure the type of the IDE device that you specify. If the feature is enabled, it will enhance hard disk performance by reading or writing more data during each transfer.

LBA/Large Mode

Use this item to set the LAB/Large mode to enhance hard disk performance by optimizing the area the hard disk is visited each time.

Block (Multi-Sector Transfer

If the feature is enabled, it will enhance hard disk performance by reading or writing more data during each transfer.

PIO Mode

Use this item to set the PIO mode to enhance hard disk performance by optimizing the hard disk timing.

DMA Mode

DMA capability allows user to improve the transfer-speed and data-integrity for compatible IDE devices.

S.M.A.R.T.

The S.M.A.R.T. (Self-Monitoring, Analysis and Reporting Technology) system is a diagnostics technology that monitors and predicts device performance. S.M.A.R.T. software resides on both the disk drive and the host computer.

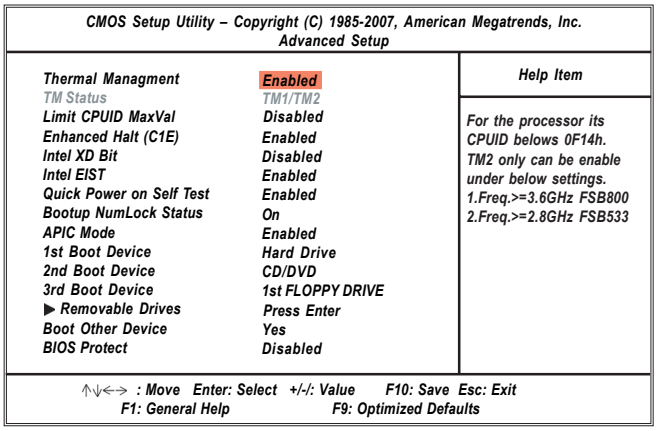
32Bit Data Transfer

Use this item to set the onboard SATA-IDE channel to be disabled, IDE, or RAID.

Press <Esc> to return to the Standard CMOS Setup page.

Advanced Setup Page

This page sets up more advanced information about your system. Handle this page with caution. Any changes can affect the operation of your computer.



Thermal Management

This item displays CPU's temperature and enables you to set a safe temperature to Prescott CPU.

*** TM Status**

This item display CPU Thermal Monitor status.

Limit CPUID MaxVal

This item can support Prescott CPUs for old OS. Users please note that under NT 4.0, it must be set "Enabled", while under WinXP, it must be set "Disabled"

Enhanced Halt (C1E)

This item enables or disables enhanced halt (C1E).

Intel XD Bit

This item allows users to enable or disable the Intel XD bit.

Intel EIST

This item allows users to enable or disable the EIST (Enhanced Intel SpeedStep technology).

Quick Power On Self Test

Enable this item to shorten the power on self testing (POST) and have your system start up faster. You might like to enable this item after you confident that your system hardware is operating smoothly.

Boot Up NumLock Status

This item determines if the NumLock key is active or inactive at system start-up time.

APIC Mode

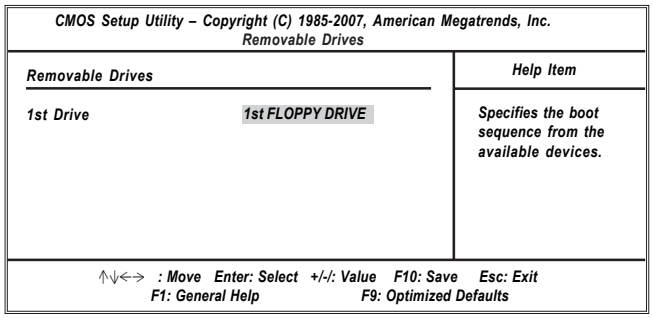
This item allows you to enable or disable the APIC (Advanced Programmable Interrupt Controller) mode. APIC provides symmetric multi-processing (SMP) for systems, allowing support for up to 60 processors.

1st/2nd/3rd Boot Device

Use these items to determine the device order the computer uses to look for an operating system to load at start-up time.

▸ Removable Drives (Press Enter)

Scroll to this item and press <Enter> to view the following screen:



Press <Esc> to return to Advanced Setup screen.

Boot Other Device

When it is set to "Yes", the system searches all other possible locations for operating system if it fails to find one in the devices specified under the First, Second, and Third boot devices.

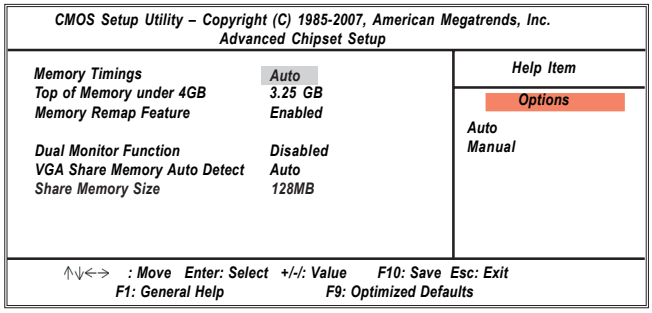
BIOS Protect

This item enables or disables BIOS protect.

Press <Esc> to return to the main menu page.

Advanced Chipset Setup Page

This page sets up more advanced chipset information about your system. Handle this page with caution. Any changes can affect the operation of your computer.



Memory Timings

This item allows you to enable or disable the memory timings defined by the Serial Presence Detect electrical. Users please note that if setting this item to auto, the following two items are not available.

Top of Memory under 4GB

This item shows the top of memory under 4GB.

Memory Remap Feature

This item allows you to remap the overlapped PCI memory above the total physical memory if you have a 64 bit OS and 4 GB of RAM.

Dual Monitor Function

This item enables or disables dual monitor function.

VGA Share Memory Auto Detect

This item lets allocate a portion of the main memory for the onboard VGA display application.

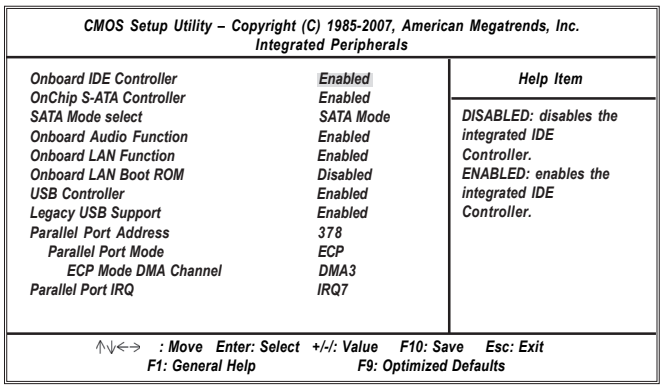
*** Share Memory Size**

This item shows the VGA memory size borrowed from main memory capability. In this case, 128MB is borrowed, which in the meanwhile the same the main memory loses.

Press <Esc> to return to the main menu page.

Integrated Peripherals Page

This page sets up some parameters for peripheral devices connected to the system.



OnBoard IDE Controller

Use this item to enable or disable the onboard IDE interface.

Onboard S-ATA Controller

This item allows you to enable or disable the onboard SATA controller.

SATA Mode select

Use this item to select the mode of the Serial ATA.

Onboard AUDIO Function

Use this item to enable or disable the onboard audio device.

OnBoard LAN Function

Use this item to enable or disable the onboard LAN function.

OnBoard LAN Boot ROM

Use this item to enable or disable the booting from the onboard LAN or a network add-in card with a remote boot ROM installed.

USB Controller

This item enables the USB controller. Leave this at the default "Enabled" if you want to connect USB devices to your computer.

Legacy USB Support

Use this item to enable or disable support for legacy USB devices. Setting to Auto allows the system to detect the presence of USB device at startup. If detected, the USB controller legacy mode is enabled. If no USB device is detected, the legacy USB support is disabled.

Parallel Port Address
Use this item to enable or disable the onboard Parallel port, and to assign a port address.

Parallel Port Mode
Use this item to select the parallel port mode. You can select Normal (Standard Parallel Port), ECP (Extended Capabilities Port), EPP (Enhanced Parallel Port), or BPP (Bi-Directional Parallel Port).

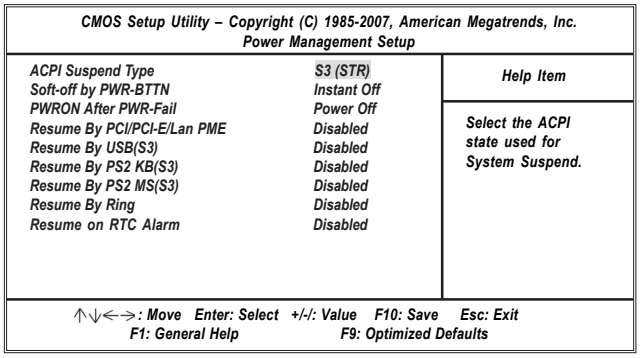
ECP Mode DMA Channel
Use this item to assign the DMA Channel under ECP Mode function.

Parallel Port IRQ
Use this item to assign IRQ to the parallel port.

Press <Esc> to return to the main menu setting page.

Power Management Setup Page

This page sets some parameters for system power management operation.



ACPI Suspend Type

Use this item to define how your system suspends. In the default, S3 (STR), the suspend mode is a suspend to RAM, i.e., the system shuts down with the exception of a refresh current to the system memory.

Soft-Off By PWR-BTTN
Under ACPI (Advanced Configuration and Power management Interface) you can create a software power down. In a software power down, the system can be resumed by Wake Up Alarms. This item lets you install a software power down that is controlled by the power button on your system. If the item is set to Instant-Off, then the power button causes a software power down. If the item is set to Delay 4 Sec, then you have to hold the power button down for four seconds to cause a software power down.

PWRON After PWR-Fail

This item enables your computer to automatically restart or return to its operating status.

Resume By PCI/PCI-E/Lan PME

These items specify whether the system will be awakened from power saving modes when activity or input signal of the specified hardware peripheral or component is detected.

Resume By USB(S3)

This item allows you to enable/disable the USB device wakeup function from S3/S4 mode.

Resume By PS2 KB(S3)

This item enable or disable you to allow keyboard activity to awaken the system from power saving mode.

Resume By PS2 MS(S3)

This item enable or disable you to allow mouse activity to awaken the system from power saving mode.

Resume By Ring

An input signal on the serial Ring Indicator (RI) line (in other words, an incoming call on the modem) awakens the system from a soft off state.

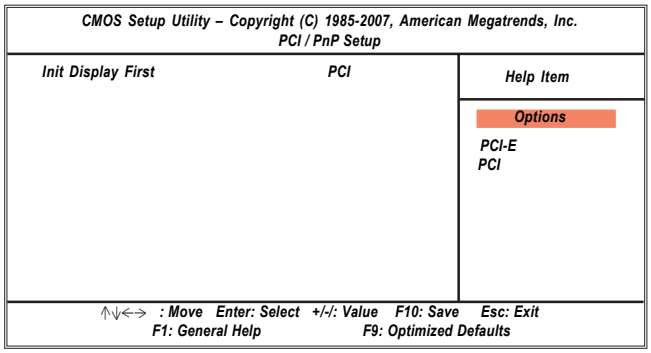
Resume on RTC Alarm

The system can be turned off with a software command. If you enable this item, the system can automatically resume at a fixed time based on the system's RTC (realtime clock). Use the items below this one to set the date and time of the wake-up alarm. You must use an ATX power supply in order to use this feature.

Press <Esc> to return to the main menu setting page.

PCI / PnP Setup Page

This page sets up some parameters for devices installed on the PCI bus and those utilizing the system plug and play capability.



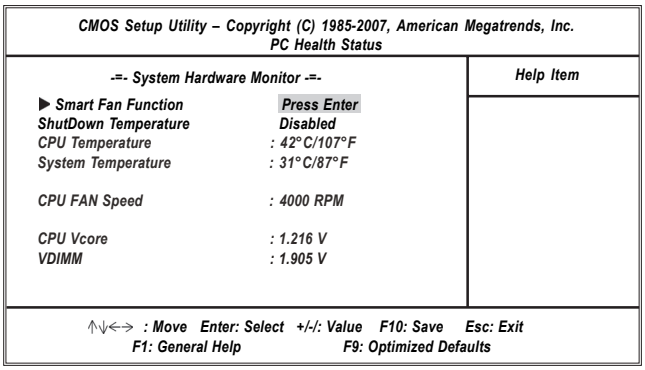
Init Dispaly First

This item allows you to choose the primary display card.

Press <Esc> to return to the main menu setting page.

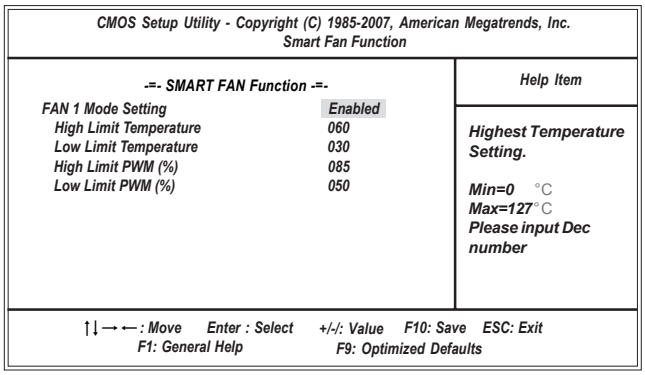
PCI Health Status Page

This page helps you monitor the parameters for critical voltages, temperatures and fan speeds.



▶ Smart Fan Function

Scroll to this item and press <Enter> to view the following screen:



Press <Esc> to return to the PC Health Status page.

Shutdown Temperature
Enable you to set the maximum temperature the system can reach before powering down.

System Component Characteristics

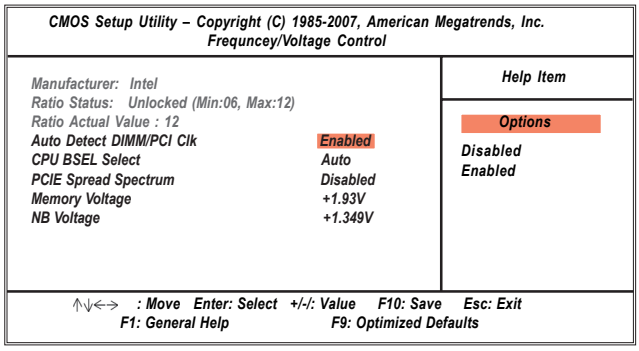
These fields provide you with information about the system current operating status.

- CPU Temperature
- System Temperature
- CPU Fan Speed
- CPU Vorce
- VDIMM

Press <Esc> to return to the main menu setting page.

Frequency/Voltage Control Page

This page helps you to set the clock speed and system bus for your system. The clock speed and system bus are determined by the kind of processor you have installed in your system.



Manufacturer
This item indicates the brand of the CPU installed in your system.

Ratio Status
This item shows the Locked/Unlocked ratio status of CPU installation in your system.

Ratio Actual Value

This item shows the actual ratio of the CPU installed in your system.

Auto Detect DIMM/PCI Clk
When this item is enabled, BIOS will disable the clock signal of free DIMM/PCI slots.

CPU BSEL Select
This item is used to select the CPU BSEL.

PCIE Spread Spectrum
If you enable spread spectrum, it can significantly reduce the EMI (Electro-Magnetic interface) generated by the PCIE.

Memory Voltage
This item allows users to adjust the DDR memory voltage.

NB Voltage
This item allows users to adjust the Northbridge voltage.

Press <Esc> to return to the main menu setting page.

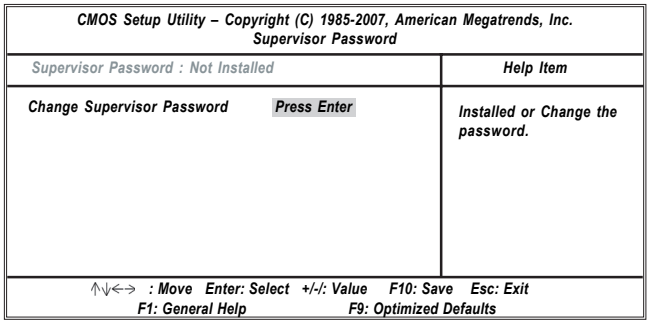
Load Default Settings

This option opens a dialog box to ask if you are sure to install optimized defaults or not. You select [OK], and then <Enter>, the Setup Utility loads all default values; or select [Cancel], and then <Enter>, the Setup Utility does not load default values.

Note: It is highly recommend that users enter this option to load optimal default values for accessing the best performance.

Supervisor Password Page

This page helps you set up some parameters for the hardware monitoring function of this motherboard.



Supervisor Password
This item indicates whether a supervisor password has been set. If the password has been installed , Installed displays. If not, Not Installed dispalys.

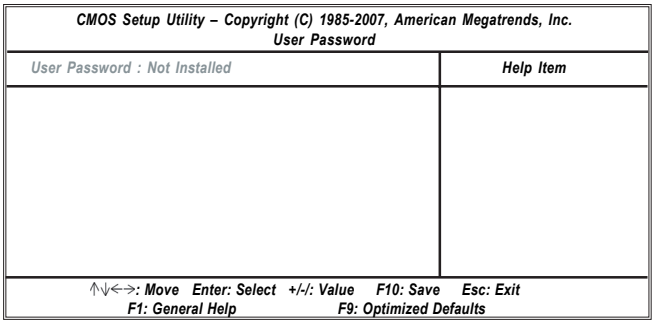
Change Supervisor Password

You can select this option and press<Enter> to access the sub menu. You can use the sub menu to change the supervisor password.

Press <Esc> to return to the main menu setting page.

User Password Page

This page helps you set up some parameters for the hardware monitoring function of this motherboard.



User Password

This item indicates whether a user password has been set. If the password has been installed , Installed displays. If not, Not Installed dispalys.

Press <Esc> to return to the main menu setting page.

Save & Exit Setup

Highlight this item and press <Enter> to save the changes that you have made in the Setup Utility and exit the Setup Utility. When the Save and Exit dialog box appears, press [OK] to save and exit, or press [Cancel] to return to the main menu.

Exit Without Saving

Highlight this item and press <Enter> to discard any changes that you have made in the Setup Utility and exit the Setup Utility. When the Exit Without Saving dialog box appears, press [OK] to discard changes and exit, or press [Cancel] to return to the main menu.

Note: If you have made settings that you do not want to save, use the “Exit Without Saving” item and presst [OK] to discard any changes you have made.

Chapter 4 Software & Applications

Introduction

This chapter describes the contents of the support CD-ROM that comes with the motherboard package.

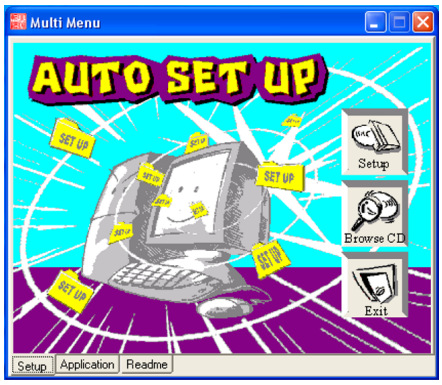
The support CD-ROM contains all useful software, necessary drivers and utility programs to properly run our products. More program information is available in a README file, located in the same directory as the software.

To run the support CD, simply insert the CD into your CD-ROM drive. An Auto Setup screen automatically pops out, and then you can go on the auto-installing or manual installation depending on your operating system.

If your operating system is Windows 2000/XP/Vista, it will automatically install all the drivers and utilities for your motherboard.

Installing Support Software

1 Insert the support CD-ROM disc in the CD-ROM drive.
2 When you insert the CD-ROM disc in the system CD-ROM drive, the CD automatically displays an Auto Setup screen.
3 The screen displays three buttons of **Setup**, **Browse CD** and **Exit** on the right side, and three others **Setup**, **Application** and **ReadMe** at the bottom. Please see the following illustration.



The **Setup** button runs the software auto-installing program as explained in next section.

The **Browse CD** button is a standard Windows command that you can check the contents of the disc with the Windows file browsing interface.

The **Exit** button closes the Auto Setup window. To run the program again, reinsert the CD-ROM disc in the drive; or click the CD-ROM driver from the Windows Explorer, and click the Setup icon.

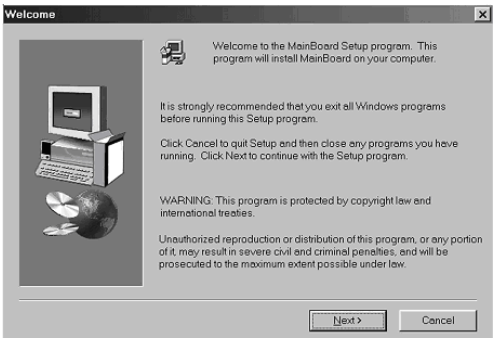
The **Application** button brings up a software menu. It shows the bundled software that this mainboard supports.

The **ReadMe** brings you to the Install Path where you can find out path names of software driver.

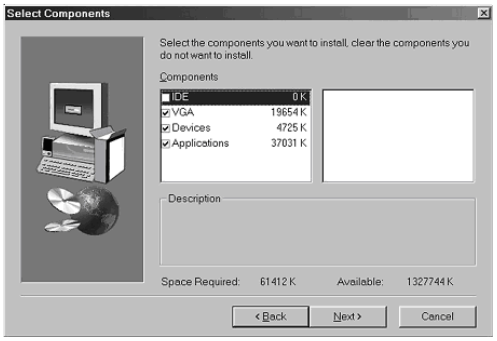
Auto-Installing under Windows 2000/XP/Vista

If you are under Windows 2000/XP, please click the **Setup** button to run the software auto-installing program while the Auto Setup screen pops out after inserting the support CD-ROM:

1 The installation program loads and displays the following screen. Click the **Next** button.



2 Select the items that you want to setup by clicking on it (the default options are recommended). Click the **Next** button to proceed.



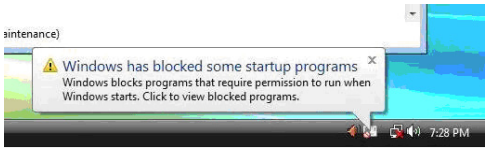
3 The support software will automatically install.

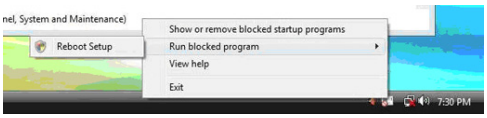
Once any of the installation procedures start, software is automatically installed in sequence. You need to follow the onscreen instructions, confirm commands and allow the computer to restart as few times as needed to complete installing whatever software you selected. When the process is finished, all the support software will be installed and start working.

During the Windows Vista Driver Auto Setup Procedure, users should use one of the following two methods to install the driver after the system restart.

Method 1. Run Reboot Setup

Windows Vista will block startup programs by default when installing drivers after the system restart. You must select taskbar icon **Run Blocked Program** and run **Reboot Setup** to install the next driver, until you finish all drivers installation.





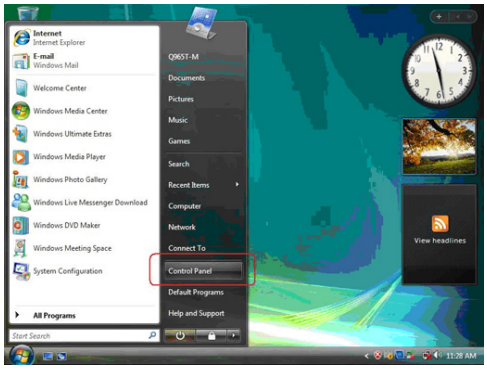
Method 2. Disable UAC (User Account Control)

* For administrator account only. Standard user account can only use Method 1.

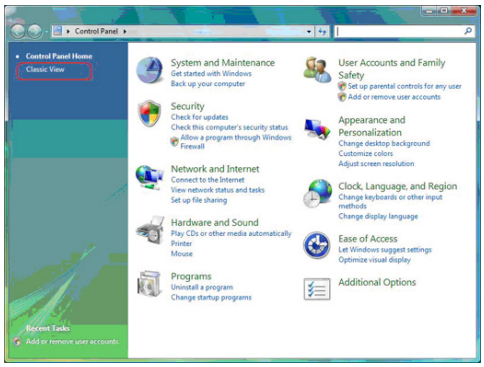
Disable Vista UAC function before installing drivers, then use CD driver to install drivers, it will continue to install drivers after system restart without running blocked programs.

Follow these instructions to Disable Vista UAC function:

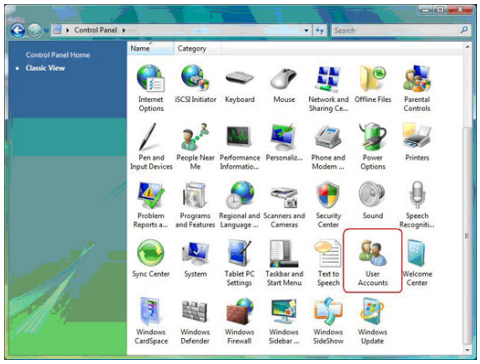
1. *Go to* ***Control Panel***.



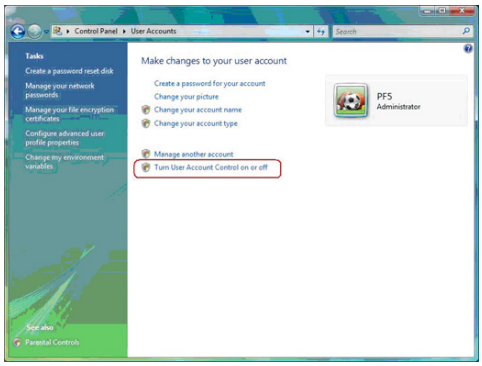
2. *Select* ***Classic View***.



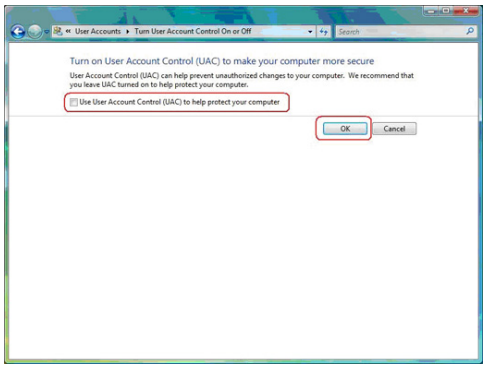
3. *Set* ***User Account***.



*4. Select **Turn User Account Control on or off** and press **Continue**.*



*5. Disable **User Account Control (UAC) to help protect your computer** item and press **OK**, then press **Restart Now**. Then you can restart your computer and continue to install drivers without running blocked programs.*



Bundled Software Installation

All bundled software available on the CD-ROM is for users' convenience. You can install bundled software as follows:

1 Click the **Application** button while the Auto Setup screen pops out after inserting the support CD-ROM.
2 A software menu appears. Click the software you want to install.
3 Follow onscreen instructions to install the software program step by step until finished.