TÜV CERT

CERTIFICATE

The TÜV CERT Certification Body
for QM Systems of RWTÜV Systems GmbH

hereby certifies in accordance with TÜV CERT
procedure that

ELITEGROUP COMPUTER SYSTEMS CO., LTD.
ECS MANUFACTURING (SHENZHEN) CO., LTD.
ELITE TECHNOLOGY (SHENZHEN) CO., LTD.

2F, No. 240, Sec. 1, Nei Hu Road, Taipei, Taiwan 114, R.O.C.
No. 22, Alley 38, Lane 91, Sec. 1, Nei Hu Road, Taipei, Taiwan 114, R.O.C.
No. 20 & No. 26, Free Trade Zone, Shatoujiao, Shenzhen City, GuangDong Province, China

has established and applies a quality system for

Design, Manufacturing and Sales of Mainboards,
Personal Computers, Notebooks and Peripheral Cards

An audit was performed, Report No. **2.5-1585/2000**

Proof has been furnished that the requirements according to

ISO 9001 : 2000 / EN ISO 9001 : 2000 / JIS Q 9001 : 2000 / ANSI/ASQC Q9001 : 2000

are fulfilled. The certificate is valid until **27 January 2007**

Certificate Registration No. **04100 2000 1325**

The company has been certified since **2000**

TGA-ZM-30-96-00

Essen, 04.03.2004

RWTÜV

The TÜV CERT Certification Body for QM Systems
of RWTÜV Systems GmbH

ROC. FE1737, RC

CERTIFICATION
S Z E C

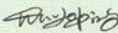# ISO14001
CERTIFICATE

Certificate NO.: 05-2001-065

We hereby certify that

ECS Manufacturing(Shenzhen) Co.,Ltd

by reason of its

Environmental Management System

has been awarded this certificate for
compliance with the standard

ISO14001:1996

The Environmental Management System
applies in the following area:

The manufacture of Mother Board and Peripheral Card and interrelated
management activities of ECS Manufacturing(Shenzhen) Co.,Ltd.
which is located in No.20,Free Trade Zone,Shatuojiao,Shenzhen, P. R.China.

Date of issue: 30th Dec 2001
Date of expiry: 29th Dec 2004
Signed by:

★ ★ ★
★ ★

SHENZHEN ENVIRONMENTAL MANAGEMENT SYSTEM CERTIFICATION CENTER

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Static Electricity Precautions

Static electricity could damage components on this motherboard. Take the following precautions while unpacking this motherboard and installing it in a system.

1. Don't take this mainboard 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 mainboard has been damaged, do not connect power to the system. Contact your motherboard vendor about those damages.

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.
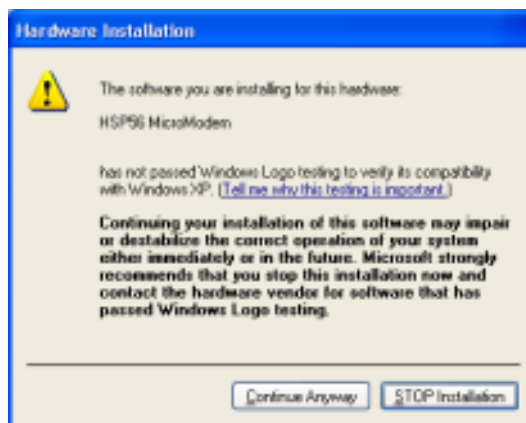
2. USB 2.0 Driver Limitations:
   2-1. The USB 2.0 driver only supports Windows XP and
        Windows 2000.
   2-2. If you connect a USB 2.0 hub to the root hub, plugging
        USB devices into this hub, the system might not success
        fully execute certain USB devices' connection because it
        could not recognize these devices.
Currently, we are working on such limitations' solution. As soon
as the solution is done, the updated USB drive will be released to
our website: www.pcchips.com.tw for your downloading.

Chapter 1 Introduction

This motherboard has a **LGA775 socket** for latest **Intel Pentium 4/Celeron** processors with **Hyper-Threading Technology** and Front-Side Bus (FSB) speeds up to **800** MHz. Hyper-Threading Technology, edsigned to take advantage of the multitasking features in Windows XP, gives you the power to do more things at once.

This motherboard integrates the **VIA PM800** Northbridge along with **VT8237** Southbridge that supports the **Serial ATA** interface for high-performance and mainstream desktop PCs; the built-in **USB 2.0** providing higher bandwidth, implementing **Universal Serial Bus Specification Revision 2.0** and is compliant with **UHCI 1.1** and **EHCI 1.0**.

It supports 6-channel **AC'97 Audio Codec** and provides one **IDE Ultra DMA 133**/100/66 channel. It has one **8x AGP**, one **CNR** (Communications and Networking Riser), and three 32-bit **PCI** slots. There is a full set of I/O ports including two PS/2 ports for mouse and keyboard, one VGA port, one serial port, one parallel port, one LAN port (optional), three audio jacks for micropone, line-in and line-out, four back-panel USB 2.0 ports and onboard USB headers USB2/USB3 providing four 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 Support

- Supports the latest **Intel Pentium 4/Celeron Series** processors
- Supports up to **800 MHz** Front-Side Bus

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

There are **VIA PM800 Northbridge** and **VT8237 Southbridge** in the chipsets in accordance with an innovative and scalable architecture with proven reliability and performance.

- Defines Highly Integrated Solutions for Performance PC Desktop Designs—High performance Northbridge with 800/533 MHz Front Side Bus for Pentium 4 plus AGP 8x external bus.
- Provide superior performance between the CPU, DRAM, Ultra V-Link bus and AGP 8x graphics controller bus with pipelined, burst, and concurrent operation.
- Full Featured Accelerated Graphics Port (AGP) Controller —AGP v3.0 compliant with 8x transfer mode.
- Advanced High-Performance DDR SDRAM Controller — Supports DDR400, DDR333, DDR266, and DDR200 double-data-rate synchronous DRAM.
- Integrated Graphics with 2D/3D Video Acceleration.
- High Bandwidth 1GB/sec 16-bit Ultra V-Link Host Controller —Configurable outstanding transaction queue for Host to Ultra V-Link Client accesses.
- Advanced System Power Management Support – ACPI 1.0B and PCI Bus Power Management 1.1 compliant.

- PCI to system memory data streaming up to 132Mbyte/sec (data sent to north bridge via high speed Ultra V-Link interface)
- PCI-2.2 compliant, 32-bit 3.3V PCI interface with 5V tolerant inputs
- Support three PCI slots of arbitration and decoding for all integrated functions and LPC bus.
- Dual Channel Serial ATA/RAID Controller—Complies with Serial ATA Specification Revision 1.0

Memory Support

- Two 184-pin 2.5V DIMM sockets for DDR SDRAM memory modules
- Supports **DDR 400/**333/266/200 memory bus
- Maximum installed memory is 2GB

Expansion Slots

- One 8x AGP slot
- Three 32-bit PCI slots for PCI 2.2-compliant bus interface
- One Communications and Networking Riser (CNR) slot

Onboard IDE channels

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

Serial ATA

- Two Serial ATA Connectors
- Transfer rate exceeding best ATA (~150 MB/s) with scalability to higher rates
- Low pin count for both host and devices

AC'97 Audio Codec

- Compliant with AC'97 2.3 specification

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- 16-bit Stereo full-duplex CODEC with independent and variable sampling rate
- Support for 3.3v digital, 5v analog power supply and low power consumption management
- Three analog line-level stereo inputs with 5-bit volume control: LINE_IN, CD, AUX
- Front-Out, Surround-Out, MIC-In and LINE-In Jack Sensing
- Two analog line-level mono input
- Standard 48-Pin LQFP

Onboard I/O Ports

The motherboard has a full set of I/O ports and connectors:

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

Fast Ethernet LAN (optional)

- **100Base-TX/10Base-T Physical Layer Solution**
- Dual Speed - 100/10 Mbps
- Auto-Negotiation: 10/100, Full/Half Duplex
- Meet All Applicable IEEE802.3, 10Base-T and 100Base-TX Standards

USB 2.0

- Compliant with Universal Serial Bus Specification Revision 2.0
- Compliant with Intel's Enhanced Host Controller Interface Specification Revision 1.0
- Compliant with Universal Host Controller Interface Specification Revision 1.1

◆ PCI multi-function device consists of two **UHCI Host Controller** cores for full-/low-speed signaling and one **EHCI Host Controller** core for high-speed signaling
◆ Root hub consists 4 downstream facing ports with integrated physical layer transceivers shared by **UHCI** and **EHCI** Host Controller, up to eight functional ports
◆ Support PCI-Bus Power Management Interface Specification release 1.1
◆ Legacy support for all downstream facing ports

BIOS Firmware

This motherboard uses AMI 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 220 mm

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

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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 JP3 is under Normal setting. See this chapter for information about locating JP3 and the setting options.
2. Never connect power to the system during installation; otherwise, it may damage the motherboard.

Motherboard Components

LABEL	COMPONENTS
CPU_FAN	CPU Fan connector
DDR1-2	Two 184-pin DDR SDRAM sockets
ATX1	Standard 20-Pin ATX Power connector
PJ1	Standard 4-Pin ATX Power connector
IDE1/2	IDE connector
SYSFAN1	Chasis cooling fan connector
SATA1-2	Serial ATA connectors
JP3	Clear CMOS jumper
SW1	Front Panel Switch/LED header
FDD1	Floppy Disk Drive connector
IR1	Infrared header
USB2/3	Front Panel USB headers
SPK1	Speaker header
PCI 1-3	32-bit PCI slots
CD1	Analog Audio Input header
AUDIO1	Front Panel Audio header
AGP1	AGP slot
CNR	CNR slot

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.
Parallel Port (LPT1)	Use the Parallel port to connect printers or other parallel communications devices.
COM1	Use the COM port to connect serial devices such as mice or fax/modems. COM1 is identified by the system as COM1.
VGA	Use the VGA port to connect VGA devices.
LAN Port (optional)	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 Pentium 4/Celeron** 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:
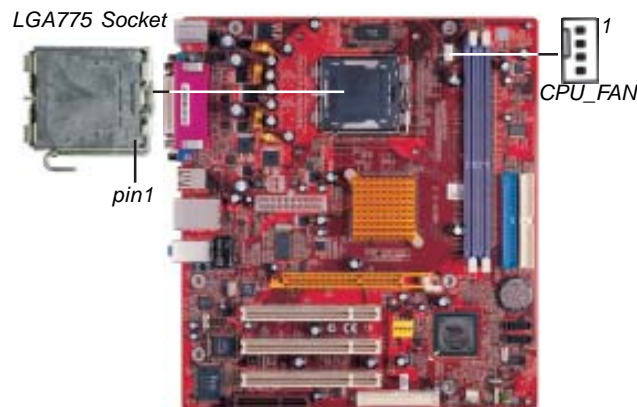
A. Unload the cap

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

B. 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.

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Be careful not to touch the contacts.

C.   Install the CPU on the socket

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

D.   Close the load plate

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

E.   Apply thermal grease on top of the CPU.

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

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

Note: 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.

Installing Memory Modules

This motherboard accommodates two 184-pin 2.5V DIMM sockets (Dual Inline Memory Module) for unbuffered **DDR 400**/333/266/200 memory modules (Double Data Rate SDRAM) and maximum 2.0 GB installed memory.

DDR SDRAM is a type of SDRAM that supports data transfers on both edges of each clock cycle (the rising and falling edges), effectively doubling the memory chip's data throughput. DDR DIMMs can synchronously work with 400/333/266/200 MHz memory and provide 3.2 GB/s, 2.7 GB/s, 2.1 GB/s and 1.6GB/s data transfer rate.

DDR1 DDR2
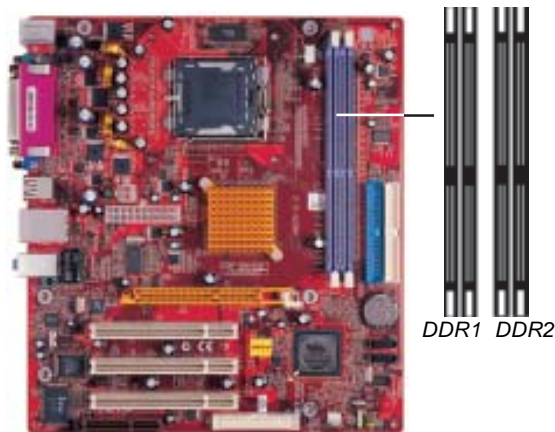
Memory Module Installation Procedure

These modules can be installed with up to 2 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.

Jumper Settings

Connecting two pins with a jumper cap is SHORT; removing a jumper cap from these pins, OPEN.
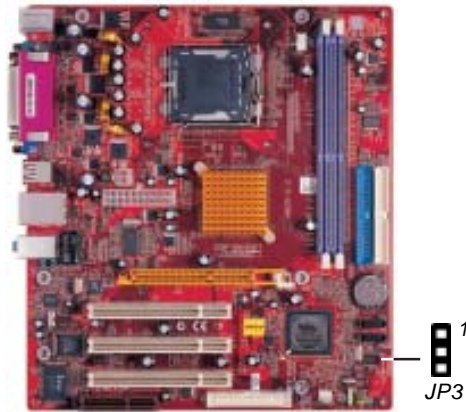
JP3: Clear CMOS Jumper

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
CMOS Clear	Short Pins 2-3

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.
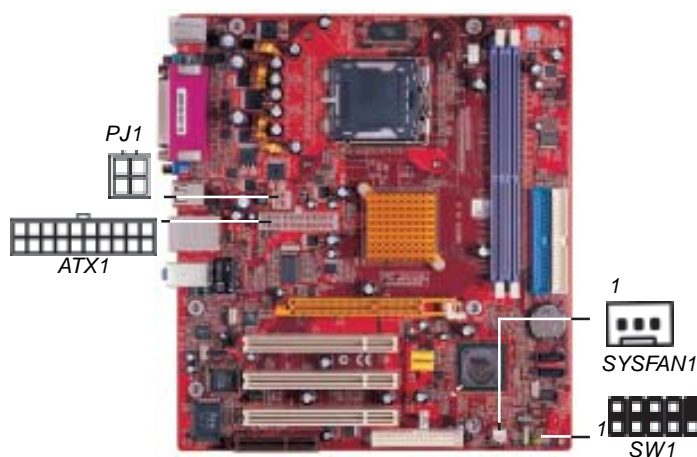
Connect the power connector from the power supply to the **ATX1** connector on the motherboard. The **PJ1** is a +12V connector for CPU Vcore power.

If there is a cooling fan installed in the system chassis, connect the cable from the cooling fan to the **SYSFAN1** fan power connector on the motherboard.

Connect the case switches and indicator LEDs to the **SW1** header.

Please refer to the following list of the SW1 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:
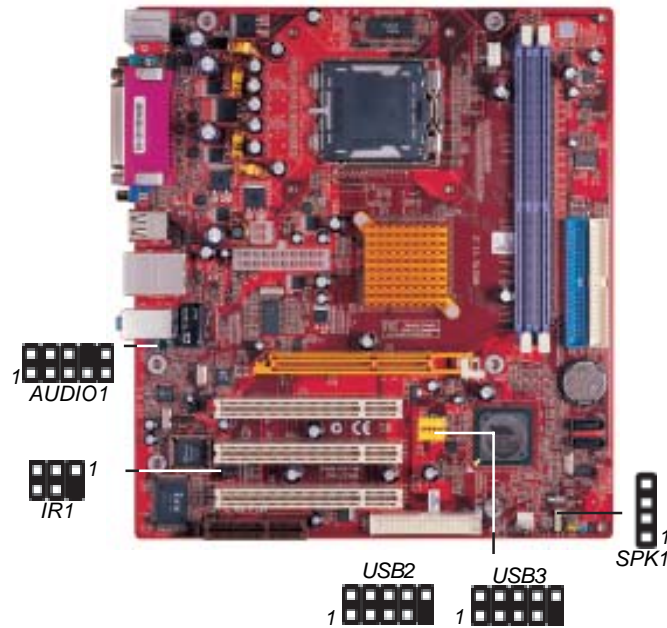
AUDIO1: Front Panel Audio Header

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

Pin	Signal	Pin	Signal
1	AUD_MIC	2	AUD_GND
3	AUD_MIC_BIAS	4	AUD_VCC
5	AUD_FPOUT_R	6	AUD_RET_R
7	HP_ON	8	KEY
9	AUD_FPOUT_L	10	AUD_RET_L

USB2/USB3: Front Panel USB Header

The motherboard has 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 USB2/USB3 to connect the front-mounted ports to the motherboard.

Pin	Signal	Pin	Signal
1	VERG_FP_USBPWR0	2	VERG_FP_USBPWR0
3	USB_FP_P0(-)	4	USB_FP_P1(-)
5	USB_FP_P0(+)	6	USB_FP_P1(+)
7	GROUND	8	GROUND
9	KEY	10	USB_FP_OC0

1. Locate the USB2/USB3 header on the motherboard.
2. Plug the bracket cable onto the USB2/USB3 header.
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.

SPK1: Speaker Header

Connect the cable from the PC speaker to the SPK1 header on the motherboard.

Pin	Signal	Pin	Signal
1	Vcc5	2	NC
3	GND	4	SPKR

IR1: Infrared Header

The infrared port allows the wireless exchange of information between your computer and similarly equipped devices such as printers, laptops, Personal Digital Assistants (PDAs), and other computers.

Pin	Signal	Pin	Signal
1	NC	2	KEY
3	VCC5	4	GND
5	IRTX	6	IRRX

1. Locate the infrared port-**IR1** header on the motherboard.
2. If you are adding an infrared port, connect the ribbon cable from the port to the IR1 header and then secure the port to an appropriate place in your system chassis.

Install Other Devices

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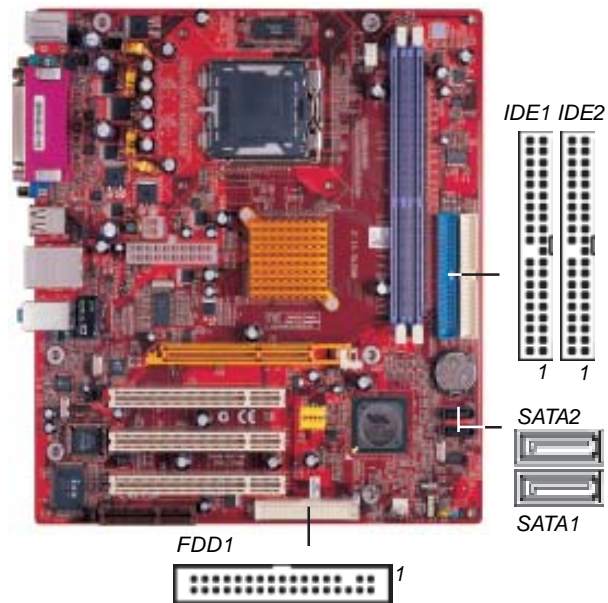
Floppy Disk Drive

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 360K, 720K, 1.2MB, 1.44MB, or 2.88MB.

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 **FDD1**.

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 **IDE1** on the motherboard.

If you want to install more IDE devices, you can purchase a second IDE cable and connect one or two devices to the Secondary IDE channel connector **IDE2** on the motherboard. If you have two devices on the cable, one must be Master and one must be Slave.

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 plat-

forms. It provides you a faster transfer rate of **150 MB/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 connecter on the motherboard.

On the motherboard, locate the Serial ATA connectors **SATA1-2**, 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.
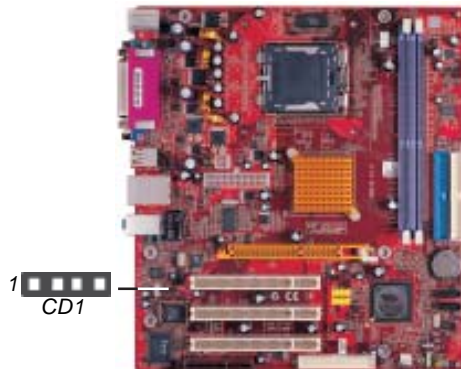
When you first start up your system, the BIOS should automatically detect your CD-ROM/DVD drive. If it doesn't, enter the Setup Utility and configure the CD-ROM/DVD drive that you have installed. On the motherboard, locate the 4-pin header **CD1**.

Pin	Signal
1	CD IN L
2	GND
3	GND
4	CD IN R

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Expansion Slots

This motherboard has one AGP, one CNR and three 32-bit PCI slots.
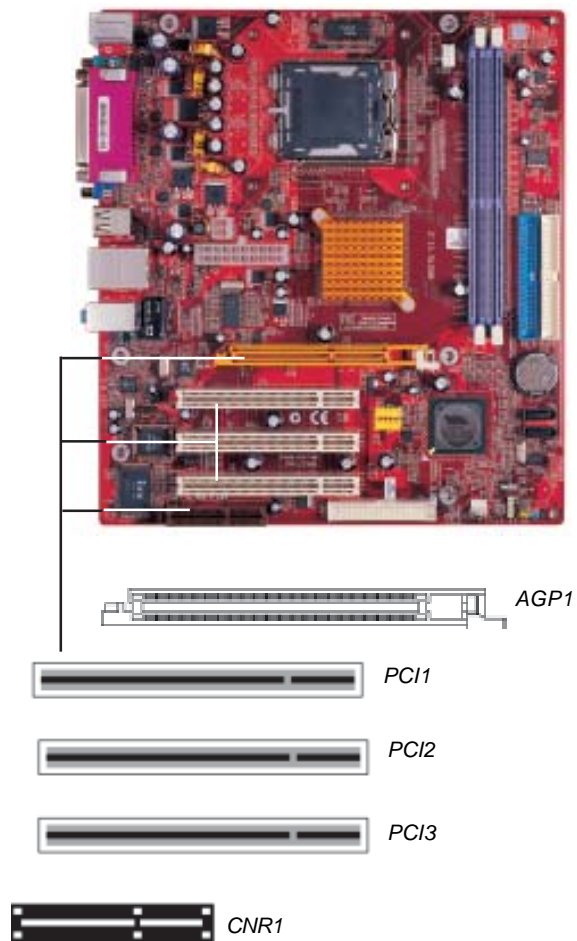
Follow the steps below to install an AGP/CNR/PCI/PCI Express expansion card.

1. Locate the AGP, CNR, PCI and PCI Express 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.

8x/4x AGP Slot

You can install a graphics adapter that supports the 8x/4xAGP specification and has a 8x/4x AGP edge connector in the AGP slot.

CNR Slot

You can install the CNR (Communications and Networking Riser) cards in this slot, including LAN, Modem, and Audio functions.

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.

CMOS SETUP UTILITY – Copyright (C) 1985-2004, American Megatrends, Inc

▪*Standard CMOS Setup* ▪*Advanced Setup* ▪*Features Setup* ▪*Power Management Setup* ▪*PCI / Plug and Play Setup* ▪*BIOS Security Features*	▪*CPU PnP Setup* ▪*Hardware Monitor* *Load Optimal Defaults* *Save Changes and Exit* *Discard Changes and Exit*

↑↓←→ : Move   Enter: Select   +/-/: Value   F10: Save   Esc: Exit
F1: General Help   F9: Optimized Defaults

Standards COMOS setup for changing time, date, hard disk type, etc.
V02.56 (C) 1985-2004, American Megatrends, Inc.

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 **+** and **-** 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 **[OK]** or **[Cancel]**.

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 install the setup utility with a set of default values.

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Standard CMOS Setup Page

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

```
CMOS SETUP UTILITY – Copyright (C) 1985-2004, American Megatrends, Inc.
                        Standard CMOS Setup
 System Time              00:01:25              Help Item
 System Date              Thu 05/06/2004

                                               User [Enter], [TAB] or
  ▸ Primary IDE Master     Not Detected         [SHIFT-TAB] to select a
  ▸ Primary IDE Slave      Not Detected         field.
  ▸ Secondary IDE Master   Not Detected         Use [+] or [-] to configure
  ▸ Secondary IDE Slave    Not Detected         system time.


 Floppy A                 1.44 MB 3 1/2"
 Floppy B                 Disabled


   ↑↓←→  : Move    Enter: Select   +/-/: Value   F10: Save   Esc: Exit
         F1: General Help                        F9: Optimized Defaults
```

Date & Time

These items set up system date and time.

Primary IDE Master/Primary IDE Slave/Secondary IDE Master/Secondary IDE Slave

These items configure devices connected to the Primary and Secondary 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*.

Floppy A/Floppy B

These items set up size and capacity of the floppy diskette drive(s) installed in the system.

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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.

```
CMOS SETUP UTILITY – Copyright (C) 1985-2004, American Megatrends, Inc.
                          Advanced Setup

Quick Boot                  Enabled            Help Item
1st Boot Device             PM-Maxtor 6Y060P0
2nd Boot Device             SS-MATSHITA CR-58   Allows BIOS to skip
3rd Boot Device             1st Floppy Drive    certain tests while
Try Other Boot Device       Yes                 booting. This will
Bootup Num-Lock             On                  decrease the time
Boot To OS/2 > 64MB         No                  needed to boot the
AGP Aperture Size           64MB                system.
DRAM Timing                 Auto BY SPD
Hyper Threading Function    Enabled
Auto Detect DIMM/PCI Clk    Enabled
Spread Spectrum             Disabled
DRAM Driving                Normal
Max CUPID Value Limit       Disabled

     ↑↓←→  : Move   Enter: Select  +/-/: Value   F10: Save   Esc: Exit
          F1: General Help                    F9: Optimized Defaults
```

Quick Boot

If you enable this item, the system starts up more quickly be elimination some of the power on test routines.

1st Boot Device/2nd Boot Device/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.

Try Other Boot Device

If you enable this item, the system will also search for other boot devices if it fails to find an operating system from the first two locations.

BootUp Num-Lock

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

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Boot To OS/2> 64MB

Enable this item if you are booting the OS/2 operating system and you have more than 64MB of system memory installed.

AGP Aperture Size

This item defines an AGP for the graphics. Leave this item at the default value 64MB.

DRAM Timing

This item allows you to enable or disable the DRAM timing defined by the Serial Presence Detect electrical.

Hyper-Threading Function

You can set "Disabled" or "Enabled" to control HT CPU support in O.S. Set "Enabled" to test HT CPU function.

Auto detect DIMM/PCI Clock

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

Spread Spectrum

Use this item to set the system bus spread spectrum for the installed processor.

DRAM Driving

The default value is "Normal". If the system is unstable while using some DDR SDRAMs, you may select "High" option.

Max CUPID Value Limit

When this item is enabled, you can use Prescott CPU and LGA-775 CPU and there will be a normal NT4.0 installation; otherwise, the automatically restarting will occur while installing.

Features Setup Page

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

```
CMOS SETUP UTILITY – Copyright (C) 1985-2004, American Megatrends, Inc.
                         Features Setup
┌──────────────────────────────────────────┬──────────────────┐
│ OnBoard Floppy Controller      Enabled    │   Help Item      │
│ Serial Port1 Address           3F8/IRQ4   ├──────────────────┤
│ OnBoard IR Port                Disabled   │ Allows BIOS to   │
│ Parallel Port Address          378        │ Enable or Disable│
│    Parallel Port Mode          ECP        │ Floppy Controller│
│      ECP Mode DMA Channel      DMA3        │                  │
│    Parallel Port IRQ           IRQ7       │                  │
│ OnBoard PCI IDE Controller     Both       │                  │
│ OnBoard SATA-IDE               Enhanced   │                  │
│ Audio Device                   Enabled    │                  │
│ Modem Device                   Auto       │                  │
│ Ethernet Device                Enabled    │                  │
│ OnBoard USB Function           Enabled    │                  │
│ USB Function For DOS           Disabled   │                  │
├──────────────────────────────────────────┴──────────────────┤
│  ↑↓←→  : Move   Enter: Select  +/-/: Value  F10: Save  Esc: Exit │
│     F1: General Help                    F9: Optimized Defaults │
└──────────────────────────────────────────────────────────────┘
```

OnBoard Floppy Controller

Use this item to enable or disable the onboard floppy disk drive interface.

Serial Port1 Address

Use this item to enable or disable the onboard COM1 serial port, and to assign a port address.

Onboard IR Port

Use this item to enable or disable the onboard IR port function.

Parallel Port Address

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

Parallel Port Mode (ECP)

Use this item to select the parallel port mode. You can select Normal (Standard Parallel Port), ECP (Extended Capabilities

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Port), EPP (Enhanced Parallel Port) or EPP&ECP (Enhanced Parallel Port & Extended Capabilities 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.

OnBoard PCI IDE Controller

Use this item to enable or disable either or both of the onboard Primary and Secondary IDE channels.

OnBoard SATA-IDE

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

Audio Device

Use this item to enable or disable the onboard audio.

Modem Device

This item enables or disables the MC'97 modem chip.

Ethernet Device

Use this item to enable or disable the onboard Ethernet.

Onboard USB Function

Enable this item if you plan to use the USB ports on this motherboard.

USB Function For DOS

Enable this item if you plan to use the USB ports on this motherboard in a DOS environment.

Power Management Setup Page

This page sets some parameters for system power management operation.

```
CMOS SETUP UTILITY – Copyright (C) 1985-2004, American Megatrends, Inc.
                        Power Management Setup

ACPI Aware O/S           Yes            Help Item
Power Management         Enabled
Suspend Time Out         Disabled       Enable / Disable
Resume on RTC Alarm      Disabled       ACPI support for
LAN/Ring Power On        Disabled       Operating System.
Keyboard Power On        Disabled       Enable: If OS
     Wake-Up Key         Any Key        supports ACPI.
                                        Disable: If OS does
                                        not support ACPI.


    ↑↓←→  : Move   Enter: Select  +/-/: Value  F10: Save  Esc: Exit
       F1: General Help                      F9: Optimized Defaults
```

ACPI Aware O/S

This itme supports ACPI (Advanced Configuraion and Power Management Interface). Use this item to enable or disable the ACPI feature.

Power Management

Use this item to enable or disable a power management scheme. If you enable power management, you can use this item below to set the power management operation. Both APM and ACPI are supported.

Suspend Time Out

This item sets up the timeout for Suspend mode in minutes. If the time selected passes without any system activity, the computer will enter power-saving Suspend mode.

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.

LAN/Ring Power On

The system can be turned off with a software command. If you enable this item, the system can automatically resume if there is an incoming call on the Modem/Ring, or traffic on the network adapter. You must use an ATX power supply in order to use this feature.

Keyboard Power On/Wake-Up Key

If you enable this item, system can automatically resume by pressing any keys, hot or power key or typing in the password on the keyboard. You must enable the Keyboard Power On jumper and use an ATX power supply in order to use this feature.

PCI / Plug and Play Setup Page

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

```
CMOS SETUP UTILITY – Copyright (C) 1985-2004, American Megatrends, Inc.
                      PCI / Plug and Play Setup

  Primary Graphics Adapter      PCI          Help Item
  Share Memory Size             32MB
  Allocate IRQ to PCI VGA       Yes                Options
  PCI IDE BusMaster             Disabled     PCI
                                             AGP



    ↑↓←→   : Move   Enter: Select  +/-/: Value  F10: Save  Esc: Exit
        F1: General Help                   F9: Optimized Defaults
```

Primary Graphics Adapter

This item indicates if the primary graphics adapter uses the PCI or the AGP bus. The default PCI setting still lets the onboard display work and allows the use of a second display card installed in an AGP slot.

Share Memory Size

This item lets you allocate a portion of the main memory for the onbaord VGA display application with these options of 64/32/16/8 MB.

Allocate IRQ to PCI VGA

If this item is enabled, an IRQ will be assigned to the PCI VGA graphics system. You set this value to No to free up an IRQ.

PCI IDE BusMaster

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

BIOS Security Features Setup Page

This page helps you install or change a password.

```
CMOS SETUP UTILITY – Copyright (C) 1985-2004, American Megatrends, Inc.
                    BIOS Security Features Setup
┌──────────────────────────────────────────┬──────────────────────┐
│ Security Settings                         │      Help Item       │
├──────────────────────────────────────────┼──────────────────────┤
│ Supervisor Password : Not Installed       │  Install or Change   │
│ Change Supervisor Password   Press Enter  │  the password.       │
│ Password Check               Setup        │                      │
│                                           │                      │
├──────────────────────────────────────────┴──────────────────────┤
│  ↑↓←→  : Move   Enter: Select  +/-/: Value  F10: Save  Esc: Exit │
│       F1: General Help                  F9: Optimized Defaults    │
└──────────────────────────────────────────────────────────────────┘
```

Supervisor Password

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

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.

Password Check

This item enables users to choose the time when the system will perform password check.

CPU PnP Setup Page

This page helps you manually configure the mainboard for the CPU. The system will automatically detect the type of installed CPU and make the appropriate adjustments to the items on this page.

```
CMOS SETUP UTILITY – Copyright (C) 1985-2004, American Megatrends, Inc.
                              CPU PnP Setup

 Manufacturer           :    Intel              Help Item
 DRAM Frequency         :    Auto
 CPU Over-clocking Func. :   Disabled
 CPU Frequency          :    200MHz        Auto
                                           CPU-100
                                           CPU-66
                                           CPU-33
                                           CPU+0



   ↑↓←→  : Move   Enter: Select  +/-/: Value  F10: Save  Esc: Exit
        F1: General Help                   F9: Optimized Defaults
```

Manufacturer

This item shows the brand of the CPU installed in your system.

DRAM Frequency

This item shows the frequency of the DRAM in your system.

CPU Over-clocking Func.

This item decides the CPU over-clocking function installed in your system. If the over-clocking fails, please turn off the system power. And then, hold the PageUp key (similar to the Clear CMOS function) and turn on the power, the BIOS will recover the safe default.

CPU Frequency

This item shows the frequency of the CPU installed in your system.

Hardware Monitor Page

This page sets up some parameters for the hardware monitoring function of this motherboard.

```
CMOS SETUP UTILITY – Copyright (C) 1985-2004, American Megatrends, Inc.
                        Hardware Monitor Setup
┌────────────────────────────────────────────┬──────────────────────────┐
│       -=- System Hardware Monitor-=-        │        Help Item         │
│                                             │                          │
│  Vcore                 :   1.280 V          │                          │
│  Vdimm                 :   2.576 V          │                          │
│  Vivdd                 :   1.520 V          │                          │
│  Vcc5V                 :   4.954 V          │                          │
│  SB3V                  :   3.184 V          │                          │
│  VBAT                  :   3.184 V          │                          │
│  CPU FAN Speed         :   4440 RPM         │                          │
│  SYSTEN FAN Speed      :   0 RPM            │                          │
│  CPU Temperature       :   72ºC/161ºF       │                          │
│  SYSTEM Temperature    :   32ºC/89ºF        │                          │
│                                             │                          │
├─────────────────────────────────────────────────────────────────────┤
│  ↑↓←→   : Move   Enter: Select  +/-/: Value  F10: Save   Esc: Exit     │
│      F1: General Help                        F9: Optimized Defaults    │
└───────────────────────────────────────────────────────────────────────┘
```

CPU/System Temperature

These items display CPU and system temperature measurement.

FANs & Voltage Measurements

These items indicate cooling fan speeds in RPM and the various system voltage measurements.

Load Optimal Defaults

If you select this item and press **<Enter>** a dialog box appears. If you select **[OK]**, and then press **<Enter>**, the Setup Utility loads a set of fail-safe default values. These default values are not very demanding and they should allow your system to function with most kinds of hardware and memory chips.

Save Changes and Exit

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

Discard Changes and Exit

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 Discard Changes and Exit dialog box appears, select [OK] to discard changes and exit, or [Cancel] to return to the main menu.

> **Note:** *If you have made settings that you do not want to save, use the "Discard Changes and Exit" item and select [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, it will automatically install all the drivers and utilities for your motherboard; if Windows NT or manual installation, please follow the instructions described as the Installing under Windows NT or Manual Installation section.

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 98 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

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.
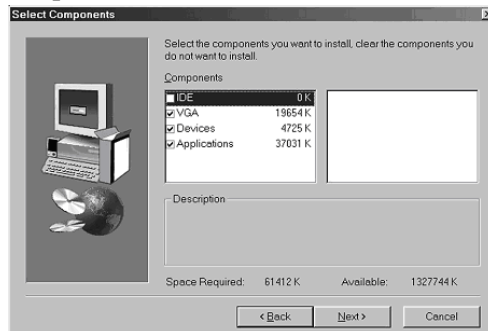
3   The support software will automatically install.

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.

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Installing under Windows NT or Manual Installation

If you are under Windows NT, the auto-installing program doesn't work out; or you have to do the manual installation, please follow this procedure while the Auto Setup screen pops out after inserting the support CD-ROM:

1　Click the **ReadMe** to bring up a screen, and then click the Install Path at the bottom of the screen.
2　Find out your mainboard model name and click on it to obtain its correct driver directory.
3　Install each software in accordance with the corresponding driver path.

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.

Hyper-Threading CPU

While you are in Windows Task Manager, please push down
ctrl+Alt Del keys. A dual CPU appears in the CPU Usage
History&Device Manager under WinXP.
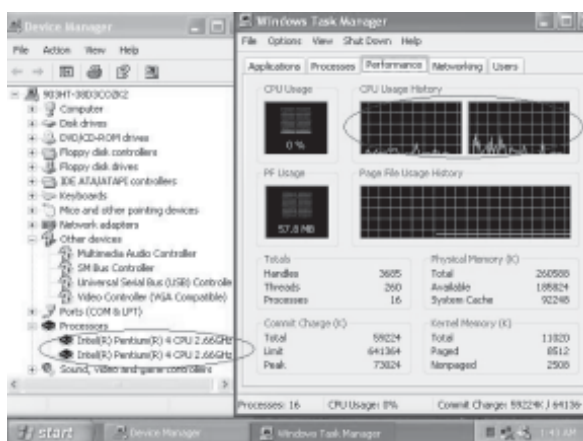
Note: *Hyper-Threading Function only works under WINXP
Operating System; therefore, disable it under other Operating
System.*

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