Trademarks

KVM400M-L Series, V1.3A
KM400/January 2004

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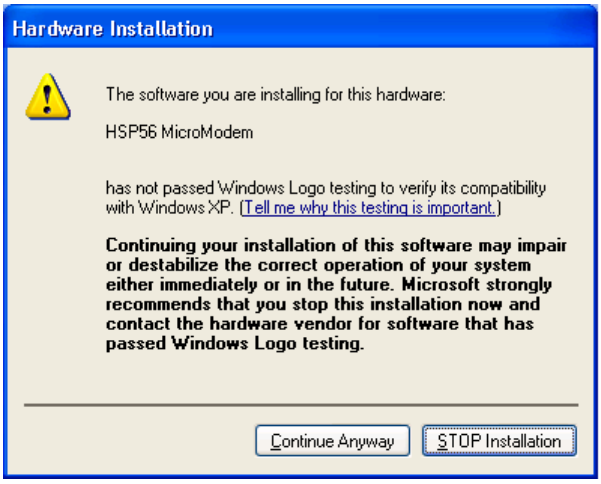
Notice:

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 successfully execute certain USB devices' connection because it could not recognize these devices.

Chapter 1

Introduction

This mainboard has a **Socket-462** processor socket for the **AMD K7** type of processors. You can install any of these processors on this mainboard. This mainboard supports front-side bus speed of **200**/166 MHz.

This mainboard integrates the **VIA KM400A/400** Northbridge along with **VT8237/8235CE** Southbridge chipsets that supports built-in **AC97 Codec**, **2 DDR400/**333 modules up to 2GB system memory. This mainboard has one **CNR** (Communications and Networking Riser) slot to support Audio and Modem application, two PCI slots and the built-in **10BaseT/100BaseTX Network Interface** (optional).

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 parallel port and maximum **eight** USB2.0 ports with SB **VT8237**, or maximum six ports with SB VT8235CE (four back-panel USB ports and two onboard connectors USB2/USB3 making **four**/two extra USB ports by connecting the Extended Module to the mainboard).

This mainboard is a FLEX ATX size (230 x 200 mm) mainboard that has power connectors for an ATX power supply.

Key Features

This mainboard has the following key features:

Socket-462 Processor Support

- Supports AMD **Athlon XP/Athlon/Duron** processors
- Supports **200 MHz** Front-Side Bus (with NB **KM400A**) or 166 MHz Front-Side Bus (with NB KM400)

Chipset

There are **VIA KM400A/400 Northbridge** and **VT8237/8235CE Southbridge** in this chipset in accordance with an innovative and scalable architecture with proven reliability and performance.

Northbridge	Front-Side Bus	DDR
KM400**A**	**200** MHz	**200** MHz
KM400	166 MHz	166 MHz

***Note**: There will be two extra USB connectors (USB2 & USB3) and two Serial ATA connectors (J4 & J5) when SB is VT8237; only one extra USB connector (USB2) when SB is VT8235CE.*

Memory Support

- Two 184-pin DIMM sockets for DDR memory modules
- Support DDR **400**/333 memory
- Maximum installed memory is 2GB

Expansion Slots

- One 8xAGP slot for AGP 2.0-compliant interface
- One CNR (Communications and Networking Riser) slot to insert special riser cards with Audio/Modem functionality
- Two 32-bit PCI slots for PCI 2.2-compliant bus interface

Onboard IDE channels

- Primary and Secondary PCI IDE channels
- Support for PIO (programmable input/output) modes
- Support for Multiword DMA modes
- Support for Bus Mastering and Ultra DMA ATA 100/**133** modes

Power Supply and Power Management

- ATX power supply connector
- Meets ACPI 1.0b and APM 1.2 requirements, keyboard power on/off
- Supports RTC Alarm, Wake On Modem, AC97 Wake-Up and USB Wake-Up

AC97 Audio Codec

- Compliant with AC'97 2.1 specification
- Three Audio Jacks – Line-Out, Line-In and Microphone-In
- Sound Blaster, Sound Blaster Pro Compatible
- Digital I/O compatible with consumer mode S/PDIF
- Advanced power management support

Onboard I/O Ports

The mainboard 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
- **Eight** USB2.0 ports with SB **VT8237**, or six ports with SB VT8235CE (four back-panel USB ports and onboard USB connectors making **four**/two extra USB ports
- Audio jacks for microphone, line-in and line-out

Hardware Monitoring

- Built-in hardware monitoring for CPU & System temperatures, fan speeds and mainboard voltages.

Onboard Flash ROM

- Supports Plug and Play configuration of peripheral devices and expansion cards

Built-in Ethernet LAN (optional)

- **10Base-TX/100Base-T Physical Layer Solution**
- Dual Speed – 100/10 Mbps

- MII Interface to Ethernet Controller/Configuration & Status
- 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 0.95
- 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
- Support PCI-Bus Power Management Interface Specification release 1.1
- Legacy support for all downstream facing ports

Bundled Software

- **PC-Cillin2002** provides automatic virus protection under Windows 98/ME/NT/2000/XP
- **Adobe Acrobat Reader V5.0** is the software to help users read .PDF files.

Dimensions

- FLEX ATX form factor 230 x 200 mm

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

Package Contents

Your mainboard package contains the following items:

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

Optional Accessories

You can purchase the following optional accessories for this mainboard.

- Extended USB module
- CNR v.90 56K Fax/Modem card
- Card Reader (You can buy your own Card Reader from the third party, but please contact your local Card Reader vendor on any issues of the specification and compatibility.)

Static Electricity Precautions

Static electricity could damage components on this mainboard. Take the following precautions while unpacking this mainboard 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 mainboard by its edges. Do not touch those components unless it is absolutely necessary. Put this mainboard on the top of static-protection package with component side facing up while installing.

Pre-Installation Inspection

1. Inspect this mainboard 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 mainboard vendor about those damages.

Chapter 2

Mainboard Installation

To install this mainboard in a system, please follow the instructions in this chapter:

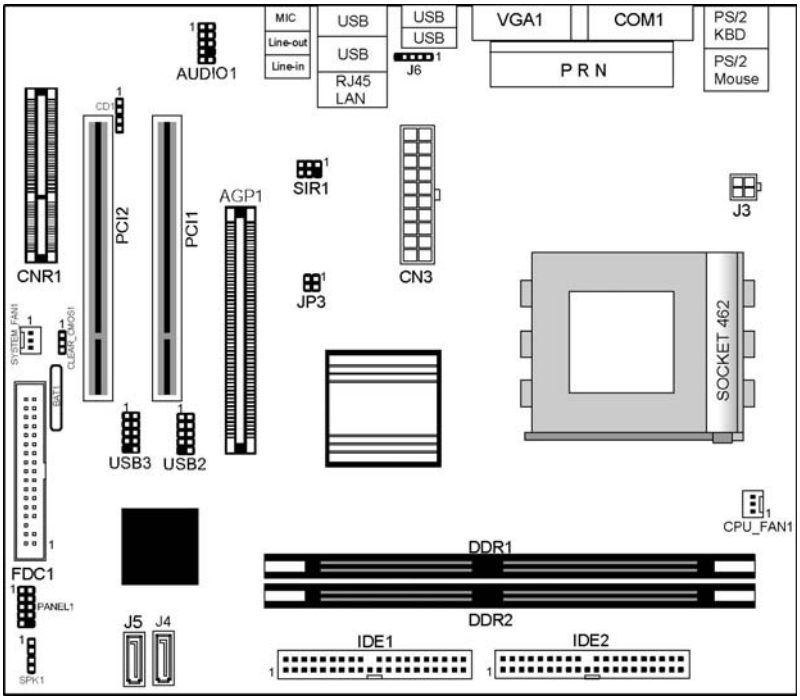
- Identify the mainboard components
- Install a CPU
- Install one or more system memory modules
- Verify that all jumpers or switches are set correctly
- Install the mainboard in a system chassis (case)
- Connect any extension brackets or cables to connectors on the mainboard
- Install any peripheral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

Note:

1. Before installing this mainboard, make sure jumper CLEAR_CMOS1 is under Normal setting. See this chapter for information about locating CLEAR_CMOS1 and the setting options.
2. Never connect power to the system during installation; otherwise, it may damage the mainboard.

Mainboard Components

Identify major components on the mainboard via this diagram underneath.

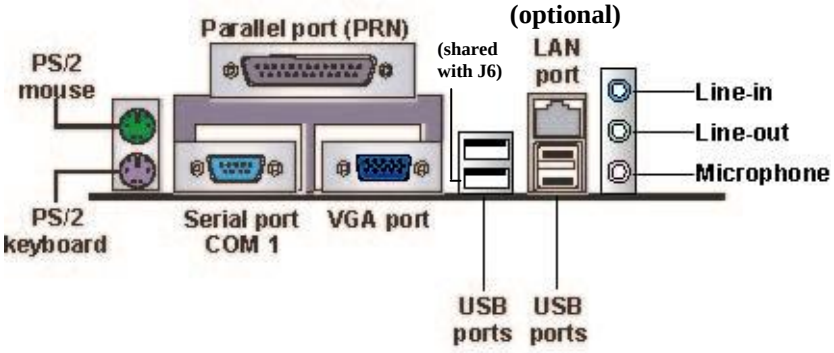


Note 1: Any jumpers on your mainboard not appearing in the illustration above are for testing only.

Note 2: There will be two extra USB connectors (USB2 & USB3) and two Serial ATA connectors (J4 & J5) when SB is VT8237; only one extra USB connector (USB2) when SB is VT8235CE.

I/O Ports

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



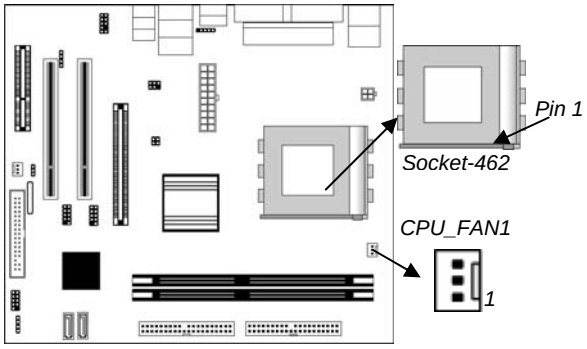
PS/2 Mouse	Use the upper PS/2 port to connect a PS/2 pointing device.
PS/2 Keyboard	Use the lower PS/2 port to connect a PS/2 keyboard.
Parallel Port (PRN)	Use the Parallel port (PRN) to connect printers or other parallel communications devices.
COM1	Use the COM port to connect serial devices such as mice or fax/modems. COM1 is identified by the system as COM1/3.
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. ***Note**: The lower USB port located beside the VGA port is shared with the J6 connector.*
Audio Ports	Use the three audio ports to connect audio devices. The first jack is for stereo Line-In signal. The second jack is for stereo Line-Out signal. The third jack is for Microphone.

Installing the Processor

This mainboard has a Socket 462 processor socket. 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:



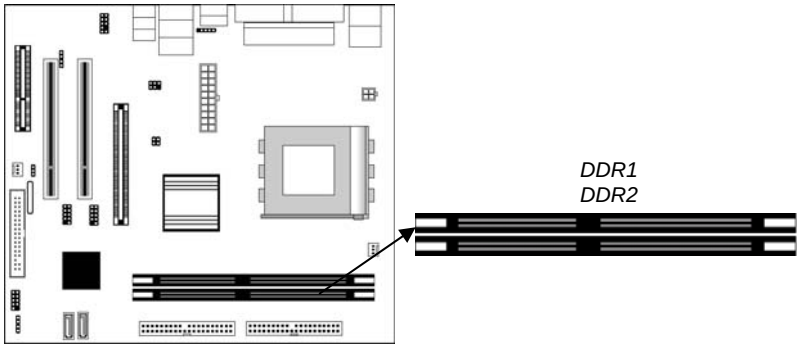
1. Unhook the locking lever of the CPU socket. Pull the locking lever away from the socket and raising it to the upright position.
2. Match the pin1 corner marked as the beveled edge on the CPU with the pin1 corner on the socket. Insert the CPU into the socket. Do not use force.
3. Push the locking lever down and hook it under the latch on the edge of socket.
4. Apply thermal grease to the top of the CPU.
5. Install the cooling fan/heatsink unit onto the CPU, and secure them all onto the socket base.
6. Plug the CPU fan power cable into the CPU fan connector (CPU_FAN1) on the mainboard.

Installing Memory Modules

This mainboard accommodates two 184-pin 2.5V unbuffered Double Data Rate SDRAM (DDR SDRAM) Dual Inline Memory Module (DIMM) sockets, and supports up to 2.0 GB of **DDR400** SDRAM with **KM400A NB** or DDR333 SDRAM with KM400 NB.

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 100MHz, 133MHz or 166MHz, **200MHz(KM400A)** memory bus.

DDR SDRAM provides 1.6 GB/s or 2.1 GB/s data transfer rate depending on whether the bus is 100MHz, 133MHz or 166MHz, **200MHz(KM400A)**. DDR SDRAM uses additional power and ground lines and requires 184-pin 2.5V unbuffered DIMM module.



Installation Procedure

These modules can be installed with up to 2 GB system memory. Following these steps to install the memory module.

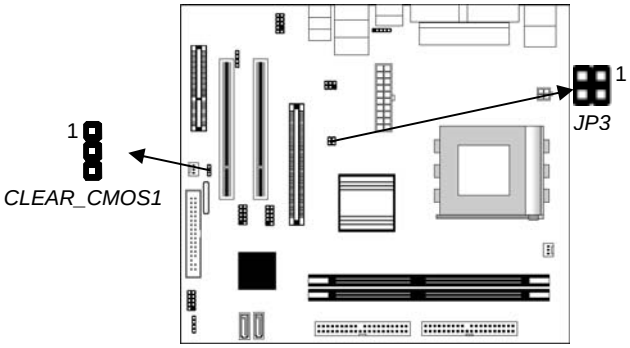
1. Push down the latches on both sides of the DIMM socket.
2. Align the memory module with the socket. There is a notch on the DIMM socket that you can install the DIMM module in the correct direction. Match the

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

Using a jumper cap to connect two pins is SHORT, removing it from these pins, OPEN.



Jumper CLEAR_CMOS1: Clear CMOS Memory

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 mainboard from operating. To clear the CMOS memory, disconnect all the power cables from the mainboard and then move the jumper cap into the CLEAR setting for a few seconds.

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

Jumper JP3: CPU Clock Selector

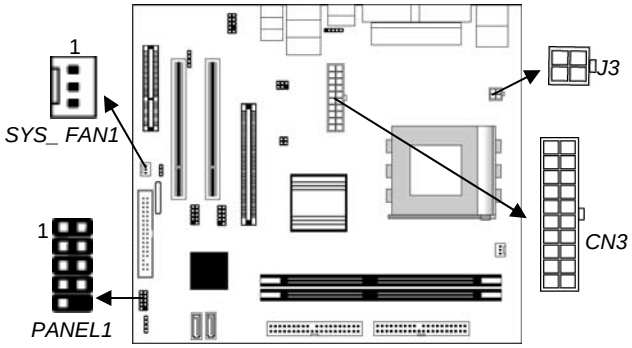
This jumper selects the processor clock frequency.

CPU Clock	Pins 1-2	Pins 3-4
133 MHz	Off	Off
166 MHz	Off	On
100 MHz	On	Off
200 MHz	On	On

Install the Mainboard

Install the mainboard in a system chassis (case). The board is a FLEX ATX size mainboard. You can install this mainboard in an ATX case. Ensure your case has an I/O cover plate that matches the ports on this mainboard.

Install the mainboard in a case. Follow the instructions of the case manufacturer to use the hardware and internal mounting points on the chassis.



Connect the power connector from the power supply to the **CN3** connector on the mainboard. **J3** is the CPU Vcore power connector.

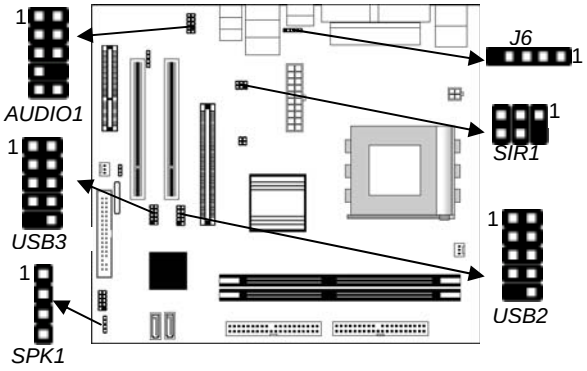
If there is a cooling fan installed in the system chassis, connect the cable from the cooling fan to the **SYS_FAN1** fan power connector on the mainboard.

Connect the case switches and indicator LEDs to the **PANEL1** connector.

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 mainboard's optional devices:



SPK1: Speaker Connector

Connect the cable from the PC speaker to the **SPK1** connector on the mainboard.

Pin	Signal	Pin	Signal
1	SPKR	2	NC
3	GND	4	+5V

AUDIO1: Front Panel Audio Connector

This header allows the user to install auxiliary front-oriented microphone and line-out ports for easier access.
Here is a list of AUDIO1 connector pin assignment.

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 Connector

The mainboard 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 connector USB2/USB3 to connect the front-mounted ports to the mainboard.

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 USB2/3 connector on the mainboard.
2. Plug the bracket cable onto the USB2/3 connector.
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.

***Note**: When the SB VIA VT8235CE chipset is on the mainboard, it has USB connector USB2 only; when the SB VIA VT**8237** on the mainboard, it has USB connectors **USB2 & USB3**.*

J6: USB Card Reader Connector (optional)

This connector is for connecting internal USB card reader. You can use a card reader to read or transfer files and digital images to your computer.

Pin	Signal	Pin	Signal
1	VCC	2	USB-
3	USB+	4	GND
5	KEY		

The J6 is shared with one of the USB ports of the I/O back panel. The USB port is located beside the VGA port connectors. See "I/O Ports" for more information.

Please check the pin assignment of the cable and the USB header on the mainboard. Make sure the pin assignment will match before plugging in. Any incorrect usage may cause unexpected damage to the system. The vendor won't be responsible for any incidental or consequential damage arising from the usage or misusage of the purchased product.

SIR1: Infrared Port

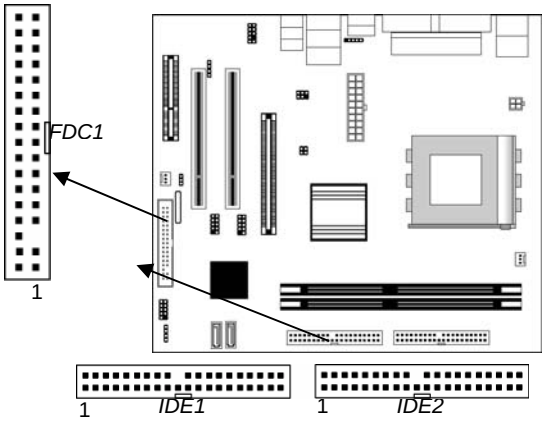
The infrared port allows the wireless exchange of information between your computer and similarly equipped devices such as printers, laptops, Personal Digital Assistants (PDAs), and other computers.

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

1. Locate the infrared port **SIR1** connector on the mainboard.
2. If you are adding an infrared port, connect the ribbon cable from the port to the IR1 connector and then secure the port to an appropriate place in your system chassis.

Install Other Devices

Install and connect other devices in the system as steps below.



Floppy Disk Drive

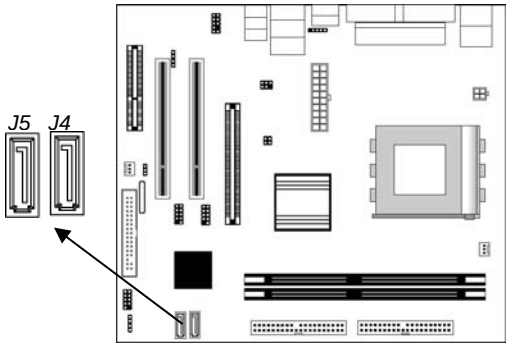
The mainboard ships with a floppy disk drive cable that can support one or two drives. Drives can be 3.5” or 5.25” wide, with capacities of 360K, 720K, 1.2MB, 1.44MB, or 2.88MB.
Install your drives and connect power from the system power supply. Use the cable provided to connect the drives to the floppy disk drive connector **FDC1**.

IDE Devices

IDE devices include hard disk drives, high-density diskette drives, and CD-ROM or DVD-ROM drives, among others.
The mainboard 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 mainboard.
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 mainboard. If you have two devices on the cable, one must be Master and one must be Slave.

Serial ATA Connector: J4 & J5 (only for SB VT8237)

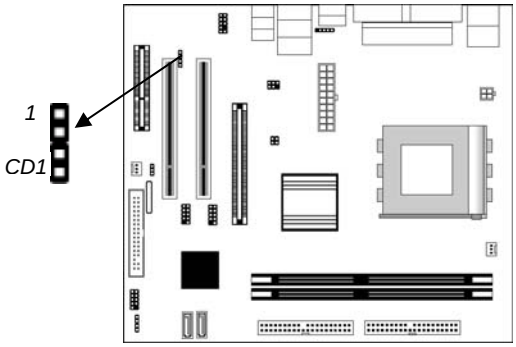
Your mainboard has two SATA connectors to support the Serial ATA (Advanced Technology Attachment) standard interface for the IDE hard drives.



The SATA connector supports new Serial ATA devices for the highest data transfer rates (1.5 Gbps burst), 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.

Internal Sound Connections

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

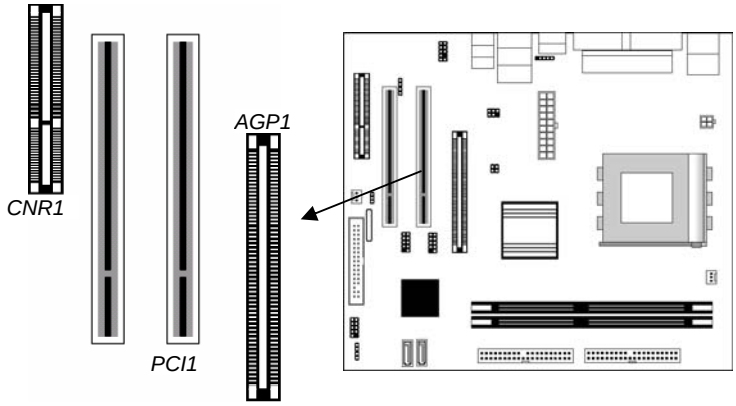


When you first start up your system, the BIOS should automatically detect your CD-ROM/DVD drive. If it doesn't, enter the Setup Utility and configure the CD-ROM/DVD drive that you have installed. On the mainboard, locate the 4-pin connector **CD1**.

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

Expansion Slots

This mainboard has one AGP, one CNR and two 32-bit PCI slots.



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

1. Locate the AGP, PCI or CNR slot on the mainboard.
2. Remove the slot cover from the system chassis.
3. Insert the expansion card edge connector into the slot and press it firmly down until fully inserted.
4. Secure the expansion card bracket in the system chassis with a screw.

PCI (Peripheral Components Interconnect) Slots

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

AGP (Accelerated Graphics Port) Slot

You can install a graphics adapter supporting 8xAGP specification in the AGP slot. This slot has one 8xAGP edge connector.

CNR (Communications Networking Riser) Slot

The CNR (Communications Networking Riser) slot is an industry standard slot that allows for the installation of a special audio/ modem riser card. Different territories have different regulations regarding the specifications of a modem card. You can purchase an approved CNR card in your area and install it directly into the CNR slot.

Chapter 3

BIOS Setup Utility

Introduction

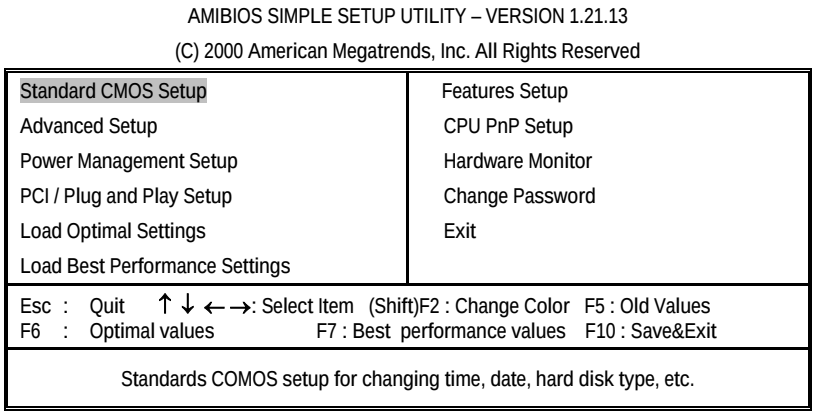
The BIOS Setup Utility records settings and information about your computer such as the date and time, the kind of hardware installed, and various configuration settings. Your computer uses this information to initialize all the components when booting up and functions as the basis for coordination between system components.

If the Setup Utility configuration is incorrect, it may cause the system to malfunction. It can even stop your computer from booting properly. If this happens, you can use the clear CMOS jumper to clear the CMOS memory used to store the configuration information.

You can run the setup utility and manually make changes to the configuration. You might need to do this to configure some of the hardware that you install on or connect to the mainboard, such as the CPU, system memory, disk drives, etc.

Running the Setup Utility

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



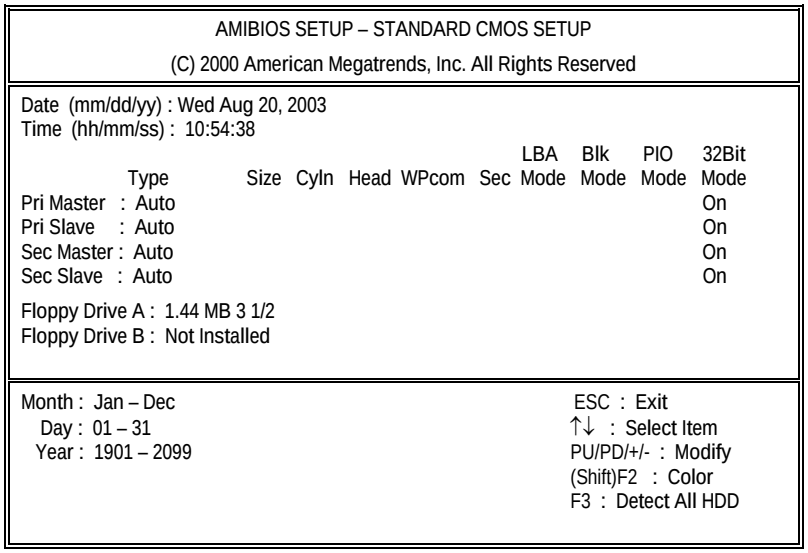
You can use the cursor arrow keys to highlight any of the options on the main menu page. Press **Enter** to select the highlighted option. To leave the setup utility, press the **Escape** key. To cycle through the Setup Utility's optional color schemes hold down the **Shift** key and press **F2**.

Some of the options on the main menu page lead to tables of items with installed values. In these pages, use the cursor arrow keys to highlight the items, and then use the **PgUp** and **PgDn** keys to cycle through the alternate values for each of the items. Other options on the main menu page lead to dialog boxes requiring you to answer Yes or No by hitting the **Y** or **N** keys.

If you have already made changes to the setup utility, press **F10** to save those changes and exit the utility. Press **F5** to reset the changes to the original values. Press **F6** to install the setup utility with a set of default values. Press **F7** to install the setup utility with a set of high-performance values.

Standard CMOS Setup Page

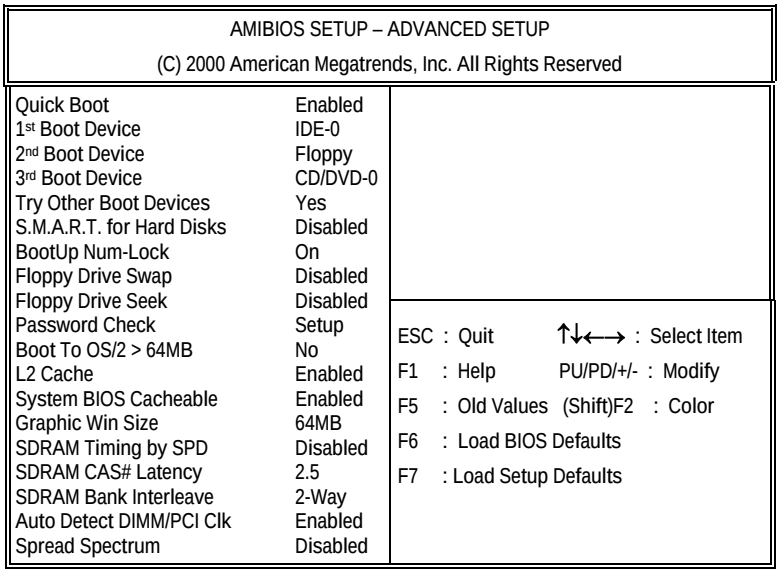
This page sets up basic information such as the date, the time, the IDE devices, and the diskette drives. If you press the F3 key, the system will automatically detect and configure the hard disks on the IDE channels.



Date & Time	Use these items to set the system date and time
Pri Master Pri Slave Sec Master Sec Slave	Use these items to 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 Drive A Floppy Drive B	Use these items to set the size and capacity of the floppy diskette drive(s) installed in the system.

Advanced Setup Page

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



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.
S.M.A.R.T. for Hard Disks	Enable this item if any IDE hard disks support the S.M.A.R.T. (Self-Monitoring, Analysis and Reporting Technology) feature.

BootUp Num-Lock	This item determines if the Num Lock key is active or inactive at system start-up time.
Floppy Drive Swap	If you have two diskette drives installed and you enable this item, drive A becomes drive B and drive B becomes drive A.
Floppy Drive Seek	If you enable this item, your system will check all floppy disk drives at start up. Disable this item unless you are using an old 360KB drive.
Password Check	If you have entered a password for the system, use this item to determine, if the password is required to enter the Setup Utility (*Setup*) or required both at start-up and to enter the Setup Utility (*Always*).
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.
L2 Cache	Leave these items enabled since all the processors that can be installed on this board have internal L2 cache memory.
System BIOS Cacheable	If you enable this item, a segment of the system BIOS will be copied to main memory for faster execution.
Graphic Win Size	This item defines the size of aperture if you use a graphic adapter.
SDRAM Timing by SPD	This item enables or disables the SDRAM timing defined by the Serial Presence Detect electrical.

SDRAM CAS# Latency	This item determines the operation of SDRAM memory CAS (column address strobe). It is recommended that you leave this item at the default value. The 2T setting requires faster memory that specifically supports this mode.
SDRAM Bank Interleave	Enable this item to increase SDRAM memory speed. When enabled, separate memory banks are set for odd and even addresses, and upcoming byte of memory is accessible while refreshing the current byte.
Auto detect DIMM/PCI Clk	When this item is enabled, BIOS will disable the clock signal of free DIMM/PCI slots.
Spread Spectrum	If you enable spread spectrum, it can significantly reduce the EMI(Electro-Magnetic Interference) generated by the system.

Power Management Setup Page

This page sets some of the parameters for system power management operation.

AMIBIOS SETUP – POWER MANAGEMENT SETUP
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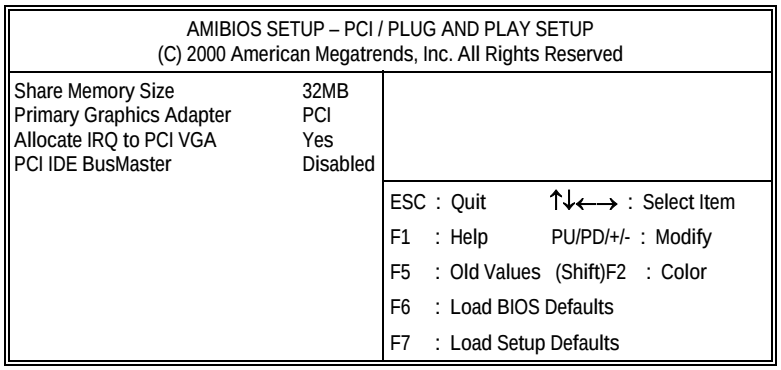
ACPI Aware O/S	Yes
Power Management	Enabled
Suspend Time out	Disabled
Resume On RTC Alarm	Disabled
RTC Alarm Date	15
RTC Alarm Hour	12
RTC Alarm Minute	30
RTC Alarm Second	30
LAN/Ring Power On	Disabled
Keyboard Power On	Disabled
Wake-Up Key	Any Key
Wake-Up Password	N/A

ESC : Quit ↑↓←→ : Select Item
F1 : Help PU/PD/+/- : Modify
F5 : Old Values (Shift)F2 : Color
F6 : Load BIOS Defaults
F7 : Load Setup Defaults

ACPI Aware O/S	Enable this item if you are using an O/S that supports ACPI function such as Windows 98/ME /2000.
Power Management	Use this item to select a power management scheme. Both APM and ACPI are supported.
Suspend Time Out	This sets 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 Date / Hour / Minute / Second	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. You must use an ATX power supply in order to use this feature.
Keyboard Power On Wake up key Wake up password	If you enable this item, system can automatically resume by pressing hot keys on the keyboard or typing in the password. 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 some of the parameters for devices installed on the PCI bus and devices that use the system plug and play capability.



Share Memory Size	This item lets you allocate a portion of the main memory for the onboard VGA display application with 8/16/32MB options.
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 a PCI slot.
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 disables the DMA under DOS mode. We recommend you to leave this item at the default value.

Load Optimal Settings

If you select this item and press **Enter** a dialog box appears. If you press **Y**, and then **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.

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

Load Best Performance Settings

If you select this item and press **Enter** a dialog box appears. If you press **Y**, and then **Enter**, the Setup Utility loads a set of best-performance default values. These default values are quite demanding and your system might not function properly if you are using slower memory chips or other low-performance components.

Features Setup Page

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

AMIBIOS SETUP – FEATURES SETUP
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OnBoard FDC	Enabled
OnBoard Serial PortA	3F8h/COM1
OnBoard IR Port	Disabled
OnBoard Parallel Port	378
Parallel Port Mode	ECP
Parallel Port IRQ	7
Parallel Port DMA	3
OnBoard PCI IDE	Enabled
Audio Device	Enabled
Modem Device	Auto
Ethernet Device	Enabled
Onboard USB Function	Enabled
USB Function for DOS	Disabled
ThumbDrive for DOS	Disabled

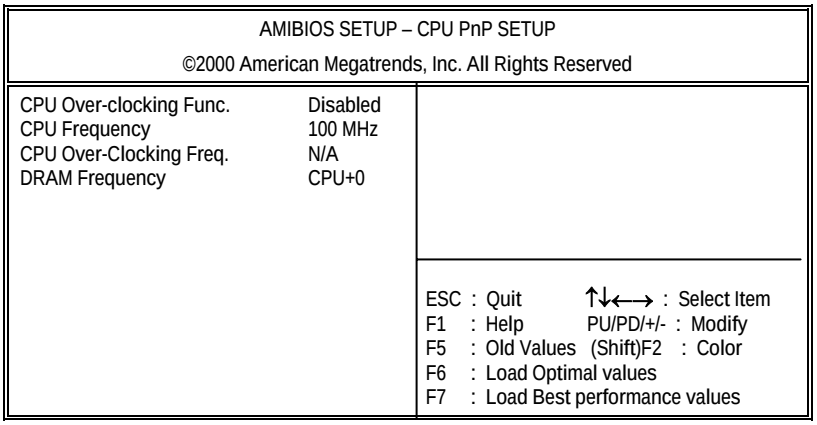
ESC : Quit ↑↓←→ : Select Item
F1 : Help PU/PD/+/- : Modify
F5 : Old Values (Shift)F2 : Color
F6 : Load BIOS Defaults
F7 : Load Setup Defaults

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

OnBoard Serial PortA	Use these items 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 infrared port, and to assign a port address.
Onboard Parallel Port	Use this item to enable or disable the onboard LPT1 parallel port, and to assign a port address. The Auto setting will detect and available address.
Parallel Port Mode	Use this item to set the parallel port mode. You can select SPP (Standard Parallel Port), ECP (Extended Capabilities Port), EPP (Enhanced Parallel Port), or ECP + EPP.
Parallel Port IRQ	Use this item to assign either IRQ 5 or 7 to the parallel port.
Parallel Port DMA	Use this item to assign a DMA channel to the parallel port. The options are 0, 1 and 3.
Onboard PCI IDE	This item enables or disables either or both of the onboard Primary and Secondary IDE channels.
Audio Device	This item enables or disables the onboard AC'97 audio chip.
Modem Device	This item enables or disables the onboard AC'97 modem chip.
Ethernet Device	This item enables or disables the onboard Ethernet LAN.
Onboard USB Function	Enable this item if you plan to use the USB ports on this mainboard.
USB Function for DOS	Enable this item if you plan to use the USB ports on this mainboard in a DOS environment.
ThumbDrive for DOS	Enable this item to make a small portion of memory storage device for the USB ports.

CPU PnP Setup Page

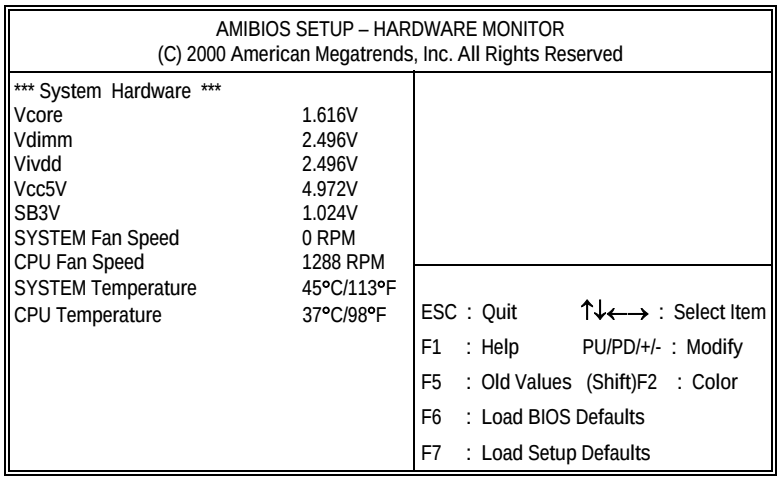
This page lets you manually configure the mainboard for the CPU. The system will automatically detect the kind of CPU that you have installed and make the appropriate adjustments to the items on this page.



CPU Over-Clocking Func.	This item enables or disables the CPU over-clocking function installed in your system.
CPU/DRAM Frequency Ratio	This item adjusts the CPU/DRAM frequency installed in your system.
CPU Over-Clocking Frequency	This item decides CPU over-clocking frequency 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.

Hardware Monitor Page

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



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.

Change Password

If you highlight this item and press **Enter**, a dialog box appears which lets you enter a Supervisor password. You can enter no more than six letters or numbers. Press **Enter** after you have typed in the password. A second dialog box asks you to retype the password for confirmation. Press **Enter** after you have retyped it correctly. The password is then required to access the Setup Utility or for that and at start-up, depending on the setting of the Password Check item in Advanced Setup.

Change or Remove the Password

Highlight this item, press Enter and type in the current password. At the next dialog box, type in the new password, or just press Enter to disable password protection.

Exit

Highlight this item and press **Enter** to save the changes that you have made in the Setup Utility configuration and exit the program. When the Save and Exit dialog box appears, press **Y** to save and exit, or press **N** to exit without saving.

Chapter 4

Software & Applications

Introduction

This chapter describes the contents of the support CD-ROM that comes with the mainboard 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 98/ME/2000/XP, it will automatically install all the drivers and utilities for your mainboard; 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.

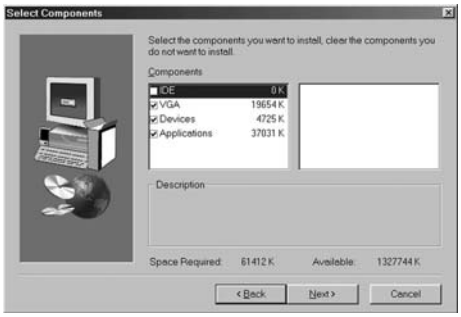
The **Setup** button runs the software auto-installing program as explained in next section.
The **Browse CD** button is a standard Windows command that you can check the contents of the disc with the Windows 98 file browsing interface.
The **Exit** button closes the Auto Setup window. To run the program 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 98/ME/2000/XP

If you are under Windows 98/ME/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.

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.