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## 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.

## **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.

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](http://www.pcchips.com.tw) for your downloading.

## **Chapter 1 Introduction**

This mainboard has a **Socket-A** supporting **AMD K7** processors with Front-Side Bus (FSB) speeds up to **400 MHz**.

This mainboard integrates the **SiS748** Northbridge and **SiS964** Southbridge chipsets that support the **Serial ATA** — a new 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 0.95**.

It features the **Gigabit Ethernet (optional)** interface that provides up to ten times the throughput (**10/100/1000 Mb/s** operation) and faster transfer rate (**1 Gigabit/s**) than conventional Ethernet connection. It improves system availability, data security, user bandwidth and network manageability.

It supports **AC 97 Audio Codec** and provides **Ultra DMA 66/100/133** function. It has one **8x AGP**, one **CNR** (Communications and Networking Riser) and five 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 parallel port and maximum eight USB2.0 ports – four back-panel ports and onboard USB connectors USB3/USB4 providing four extra ports by connecting the Extended USB Module to the mainboard.

This mainboard is an **ATX** mainboard and has power connectors for an ATX power supply. It is also certified by **WHQL** (Windows Hardware Quality Labs) that ensures you the hardware and drivers compatibility with Windows operating systems.

### Key Features

The key features of this mainboard include:

#### **Socket-A Processor Support**

- Supports AMD **Athlon XP/Athlon/Duron** processors
- Supports **400 MHz** Front-Side Bus

#### **Chipset**

There are **SiS748 Northbridge** and **SiS964 Southbridge** in the chipsets in accordance with an innovative and scalable architecture with proven reliability and performance.

- Supports AMD Athlon XP CPU up to 400 MHz and Synchronous/Quasi-synchronous Host-to-DRAM Timing
- Supports 266/333/400 DDR SDRAM and up to 3 unbuffered DIMM DDR266/333 or 2 unbuffered DIMM DDR400
- Integrated A.G.P. Compliant Target/66 MHz Host-to-PCI Bridge: AGP v3.0 Compliant and supports AGP 8X/4X interface
- Integrated Multi-threaded I/O link ensures concurrency of upstream/down stream data transfer with 1.2GB/s bandwidth
- PCI 2.2 Specification Compliance
- Integrated Multithreaded I/O Link Mastering with Read Pipelined Streaming

#### **Memory Support**

- Two 184-pin DIMM sockets for DDR SDRAM memory modules
- Supports **DDR400** memory bus
- Maximum installed memory is 2GB

## **Expansion Slots**

- One CNR slot
- One 8x AGP slot
- Five 32-bit PCI slots for PCI 2.2-compliant bus interface

## **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 33/66/100/**133** 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

## **AC97 Codec**

- 6- channel and compliant with Intel® AC'97 (REV. 2.3) Spec, meeting with Microsoft® PC2001 requirements
- Advanced power management and power saving capabilities.
- Stereo Line-in function shared with Surround out.
- High quality pseudo-differential analog CD Audio input.
- S/PDIF Input support: S/PDIF In is featured with interrupt, auto-lock, anti-noise, and anti-distortion functionalities support.
- Valuable add-on software technology: Support most industry standards of PC 3D sound and unique karaoke function support featured with microphone echo, key shifting, and vocal cancellation.

### **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
- Eight USB2.0 ports (four back-panel ports, onboard USB connectors USB3/4 providing two extra ports)
- Audio jacks for microphone, line-in and line-out

### **Fast Ethernet LAN (optional)**

- **Onboard Gigabit LAN:**
  - Integrated **10/100/1000** transceiver
  - Auto-Negotiation with Next page capability
  - Supports Full Duplex flow control (IEEE 802.3x), and IEEE 802.1Q VLAN tagging
  - Fully compliant with IEEE 802.3, IEEE 802.3u, IEEE 802.3ab
- **Onboard 10/100Mbps Ethernet LAN:**
  - 10 Mb/s and 100 Mb/s** operation
  - Integrated Fast Ethernet MAC, physical chip, and transceiver onto a single chip
  - Supports 10Mb/s and 100Mb/s N-way auto-negotiation
  - Support ACPI power management
  - Full Duplex Flow Control (IEEE 802.3x) and Half/Full duplex capability

### **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

## **BIOS Firmware**

This mainboard 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.

## **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.
- **ShowShifter** provides you with various options to create an ultimate home media center for your PC that you can use it to record and playback TV, enjoy your entertainment over a network, look at digital photos as a slide show on your TV or PC monitor, and so on
- **WinDVD creator Plus** is a storyboard interface making the entire DVD-making process as easy as moving pictures around on your screen.
- **WinDVD 4** provides the automatic WinDVD software installation.

### **Dimensions**

- ATX form factor of 305 x 224 mm

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

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### **Package Contents**

Your mainboard package ships with the following items:

- The mainboard
- The User 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 mainboard.

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

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**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.*

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## ***Chapter 2 Mainboard Installation***

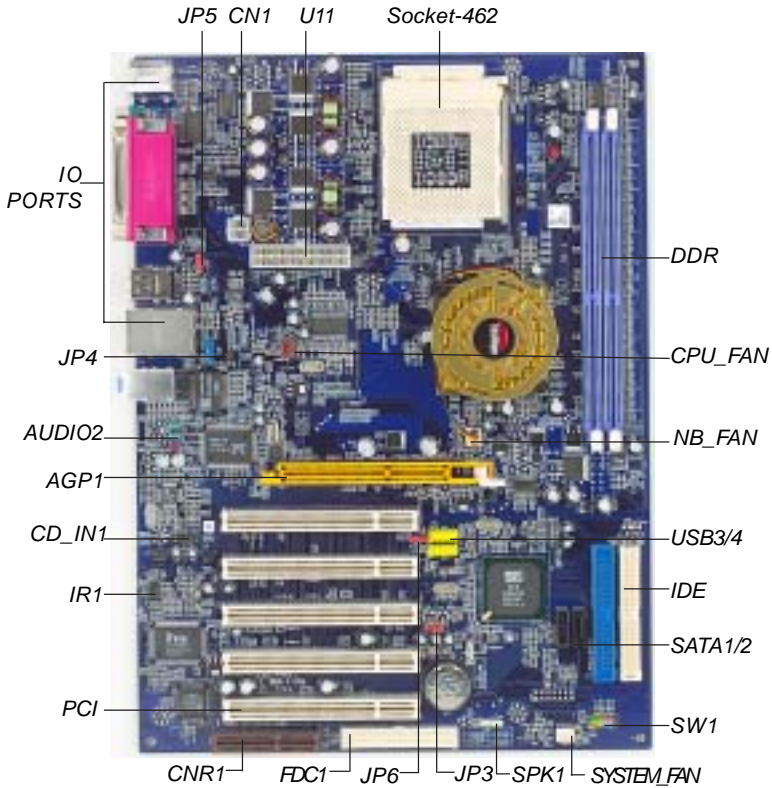
To install this mainboard in a system, please follow these instructions in this chapter:

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

**Note:**

1. Before installing this mainboard, 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 mainboard.

## Mainboard Components

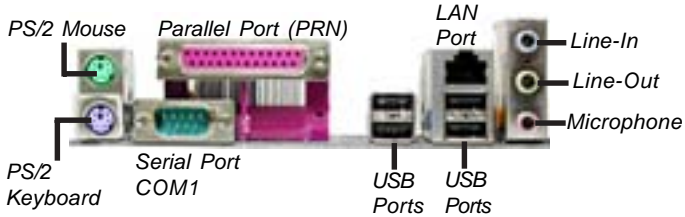


**CONNECTORS :**

1. AUDIO2: Front Panel Audio	9. JP4: LAN selector
2. CD_IN1: Analog Audio	10. JP5/6: USB Power selector
3. CN1: CPU Vcore power	11. NB_FAN: Power Cooling fan
4. CPU_FAN: CPU fan	12. SATA1/2: Serial ATA
5. FDC1: Floppy Disk Drive	13. SPK1: Speaker
6. IDE1/2: IDE channel	14. SW1: Front Panel
7. IR1: Infrared port	15. U11: ATX Power
8. JP3: Clear CMOS	16. USB3/4: Front Panel USB

## I/O Ports

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



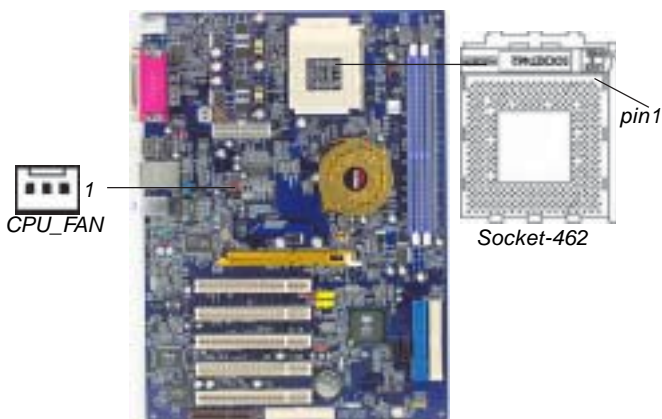
<b>PS/2 Mouse</b>	Use the upper PS/2 port to connect a PS/2 pointing device.
<b>PS/2 Keyboard</b>	Use the lower PS/2 port to connect a PS/2 keyboard.
<b>Parallel Port (PRN)</b>	Use the Parallel port to connect printers or other parallel communications devices.
<b>COM1</b>	Use the COM port to connect serial devices such as mice or fax/modems. COM1 is identified by the system as COM1.
<b>LAN Port (optional)</b>	Connect an RJ-45 jack to the LAN port to connect your computer to the Network.
<b>USB Ports</b>	Use the USB ports to connect USB devices.
<b>Audio Ports</b>	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 motherboard has a Socket 478 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.



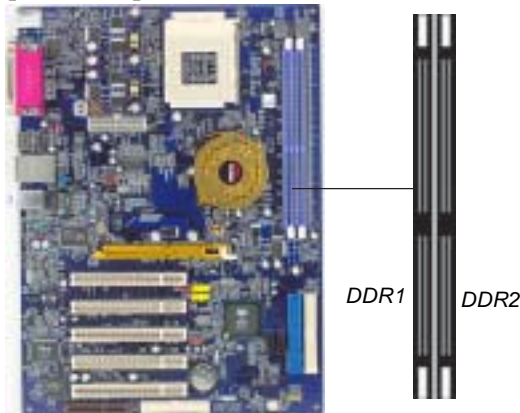
- 3 Push the locking lever down and hook it under the latch on the edge of socket.
- 4 Apply thermal grease to the top of the CPU.
- 5 Install the cooling fan/heatsink unit onto the CPU, and secure them all onto the socket base.
- 6 Plug the CPU fan power cable into the CPU fan connector (CPU\_FAN) on 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 **400** MHz DDR SDRAM.

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 100 MHz or 133 MHz memory bus.

DDR SDRAM provides 1.6 GB/s, 2.1 GB/s or 3.2 GB/s data transfer rate when the bus is 100 MHz, 133 MHz or 200 MHz respectively. DDR SDRAM uses additional power and ground lines and requires 184-pin 2.5V unbuffered DIMM module.



## **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.

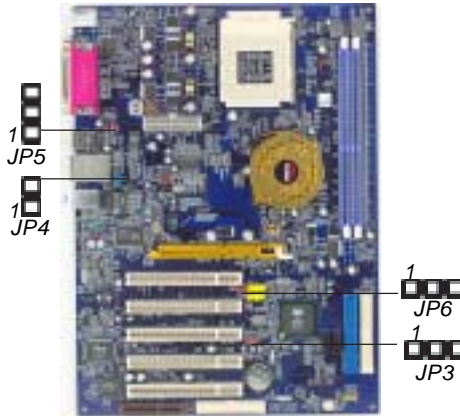


4. Install any remaining DIMM modules.



## 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 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.

<b>Function</b>	<b>Jumper Setting</b>
Clear CMOS	Short Pins 1-2
Normal	Short Pins 2-3

### JP4: LAN Selector

Use this jumper to select LAN.

<b>Function</b>	<b>Jumper Setting</b>
Enable	Short Pins 1-2
Disable	Open Pins 1-2

### JP5/JP6: USB Power Selector

Use these jumpers to select the voltage for USB ports:

JP5 USB1 Power Selector:

<b>Function</b>	<b>Jumper Setting</b>
VCC5V	Short Pins 1-2
SB5V	Short Pins 2-3

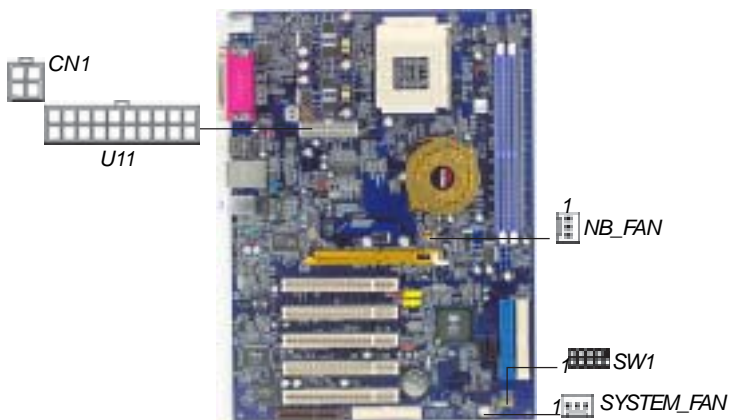
JP6 USB2 Power Selector:

<b>Function</b>	<b>Jumper Setting</b>
VCC5V	Short Pins 1-2
SB5V	Short Pins 2-3

### Install the Mainboard

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

Install the mainboard 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 **U11** connector on the mainboard. **CN1** 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 **SYSTEM\_FAN** fan power connector on the mainboard.

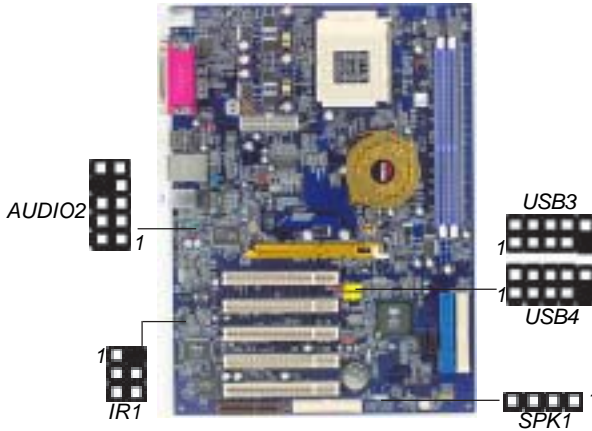
Connect the power cooling fan cable to **NB\_FAN** connector.

Connect the case switches and indicator LEDs to the **SW1** connector. Here is a list of the SW1 pin assignments.

<b>Pin</b>	<b>Signal</b>	<b>Pin</b>	<b>Signal</b>
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.

<i>Pin</i>	<i>Signal</i>	<i>Pin</i>	<i>Signal</i>
1	SPKR	2	NC
3	GND	4	+5V

### **AUDIO2: Front Panel Audio Connector**

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

<i>Pin</i>	<i>Signal</i>	<i>Pin</i>	<i>Signal</i>
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

## USB3/USB4: 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 connectors USB3/USB4 to connect the front-mounted ports to the mainboard.

<i>Pin</i>	<i>Signal</i>	<i>Pin</i>	<i>Signal</i>
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 USB3/4 connector on the mainboard.
2. Plug the bracket cable onto the USB3/4 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.

## IR1: Infrared Port

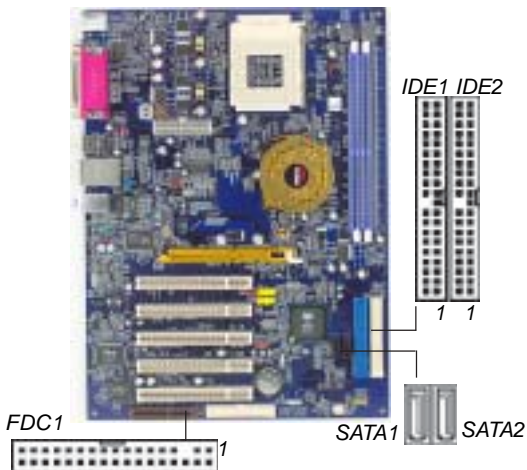
The infrared port allows the wireless exchange of information between your computer and similarly equipped devices such as printers, laptops, Personal Digital Assistants (PDAs), and other computers.

<i>Pin</i>	<i>Signal</i>	<i>Pin</i>	<i>Signal</i>
1	NC	2	KEY
3	+5V	4	GND
5	IRTX	6	IRRX

1. Locate the infrared port **IR1** 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 any other devices in the system following the 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 Devices

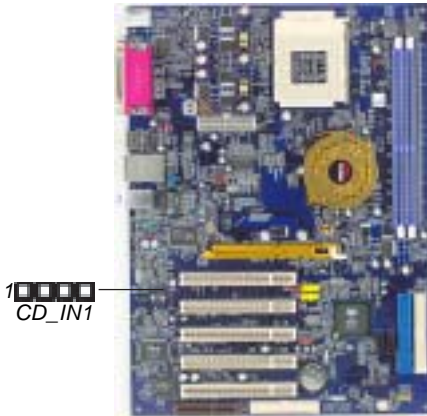
The **Serial ATA (Advanced Technology Attachment)** is the standard interface for the IDE hard drives, which is designed to overcome the design limitations while enabling the storage interface to scale with the growing media rate demands of PC platforms. It provides you a faster transfer rate of **150 Mbytes/second**. 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 mainboard.

On the mainboard, 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.

## **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.



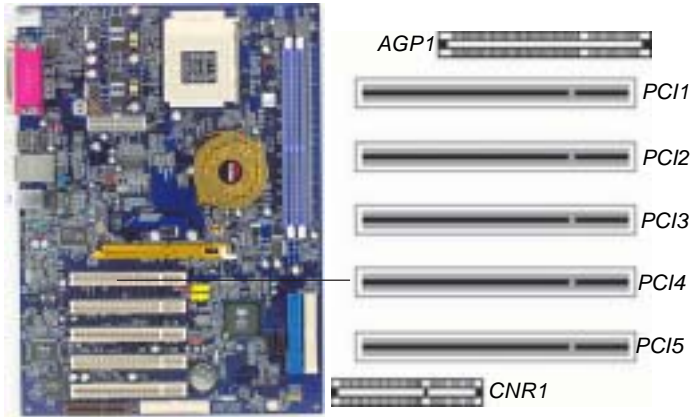
When you first start up your system, the BIOS should automatically detect your CD-ROM/DVD drive. If it doesn't, enter the Setup Utility and configure the CD-ROM/DVD drive that you have installed. On the mainboard, locate the 4-pin connector **CD\_IN1**.

<b>Pin</b>	<b>Signal</b>
1	CD IN L
2	GND
3	GND
4	CD IN R



## Expansion Slots

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



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

1. Locate the AGP, CNR or PCI slots on the mainboard.
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.



Secure the metal bracket of the card to the system chassis with a screw.

### **8x AGP Slot**

You can install a graphics adapter that supports the 8x AGP specification and has a 8x 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 mainboard, 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.

<i>AMBIOS SIMPLE SETUP UTILITY - VERSION 1.21.12 (C) 2000 American Megatrends, Inc. All Rights Reserved</i>	
<i>Standard CMOS Setup Advanced Setup Power Management Setup PCI/Plug and Play Setup Load Optimal Settings Load Best Performance Settings</i>	<i>Features Setup CPU PnP Setup Hardware Monitor Load Optimal Defaults Change Password Exit</i>
<i>ESC: Quit    ↑↓← : Select Item    &lt;Shift&gt;F2: Change Color    F5: Old Values F6: Optimal Values    F7: Best Performance Values    F10: Save&amp;Exit</i>	
<i>Standards CMOS setup for changing time, date, hard disk type, etc.</i>	

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

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 Yes or No by hitting the **Y** or **N** keys.

If you have already changed 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 displays a table of items defining basic information about your system.

AMIBIOS SETUP – Standard CMOS Setup											
(C) 2000 American Megatrends, Inc. All Rights Reserved											
Date (mm/dd/yy) : Wed Oct 08, 2003											
Time (hh/mm/ss) : 11:19:55											
						LBA	Blk	PIO	32Bit		
	Type	Size	Cyln	Head	WPcom	Sec	Mode	Mode	Mode	Mode	
Pri	Master:Auto									On	
Pri	Slave: Auto									On	
Sec	Master:Auto									On	
Sec	Slave:Auto									On	
Floppy Drive A:	1.44 MB	31/2									
Floppy Drive B:	Not Installed										
Month :	Jan – Dec							ESC : Exit			
Day :	01 – 31							↑↓ : Select Item			
Year :	1901 – 2099							PU/PD/+/- : Modify			
								(Shift)F2 : Color			
								F3 : Detect All HDD			

### Date & Time

These items set up system date and time.

### IDE 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/B

These items set up 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. Handle this page with caution. Any changes can affect the operation of your computer.

<i>AMIBIOS SETUP – Advanced Setup</i>	
<i>(C) 2000 American Megatrends, Inc. All Rights Reserved</i>	
<i>Quick Boot</i>	<i>Enabled</i>
<i>1<sup>st</sup> Boot Device</i>	<i>IDE-0</i>
<i>2<sup>nd</sup> Boot Device</i>	<i>Floppy</i>
<i>3<sup>rd</sup> Boot Device</i>	<i>CD/DVD-0</i>
<i>Try Other Boot Devices</i>	<i>Yes</i>
<i>S.M.A.R.T. for Hard Disks</i>	<i>Disabled</i>
<i>BootUp Num-Lock</i>	<i>On</i>
<i>Floppy Drive Swap</i>	<i>Disabled</i>
<i>Floppy Drive Seek</i>	<i>Disabled</i>
<i>Password Check</i>	<i>Setup</i>
<i>Boot To OS/2</i>	<i>No</i>
<i>L2 Cache</i>	<i>Enabled</i>
<i>System BIOS Cacheable</i>	<i>Enabled</i>
<i>Graphic Win Size</i>	<i>64MB</i>
<i>DRAM CAS# Latency</i>	<i>2.5T</i>
<i>Auto detect DIMM/PCI Clk</i>	<i>Enabled</i>
<i>Spread Spectrum</i>	<i>Disabled</i>
<i>ESC:Quit                    ↵/↔:Select Item</i> <i>F1:Help                    P/+/=:Modify</i> <i>F5:Old Values            (Shift)F2:Color</i> <i>F6:Load BIOS Defaults</i> <i>F7:Load Setup Defaults</i>	

### **Quick Boot**

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

### **1<sup>st</sup> Boot Device/2<sup>nd</sup> Boot Device/3<sup>rd</sup> 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.

### **DRAM Timing By SPD**

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

### **Auto detect DIMM/PCI Clock**

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 parameters for system power management operation.

<i>AMBIOS SETUP – Power Management Setup</i>		
<i>(C) 2000 American Megatrends, Inc. All Rights Reserved</i>		
<i>ACPI Aware O/S</i>	<i>Yes</i>	
<i>ACPI Standby State</i>	<i>S1</i>	
<i>Power Management</i>	<i>Enabled</i>	
<i>Suspend Time Out</i>	<i>Disabled</i>	
<i>Resume On RTC Alarm</i>	<i>Disabled</i>	
<i>RTC Alarm Date</i>	<i>15</i>	
<i>RTC Alarm Hour</i>	<i>12</i>	<i>ESC:Quit</i>
<i>RTC Alarm Minute</i>	<i>30</i>	<i>↑↓←→:Select Item</i>
<i>RTC Alarm Second</i>	<i>30</i>	<i>F1:Help</i>
<i>LAN/Ring Power On</i>	<i>Disabled</i>	<i>PU/PD/+/-:Modify</i>
<i>Keyboard Power On</i>	<i>Disabled</i>	<i>F5:Old Values (Shift)F2:Color</i>
<i>USB Device Power On</i>	<i>Disabled</i>	<i>F6:Load BIOS Defaults</i>
		<i>F7:Load Setup Defaults</i>

### **ACPI Aware O/S**

This item supports ACPI (Advanced Configuration and Power management Interface). Use this item to enable or disable the ACPI feature.



### **ACPI Standby State**

This item selects the status S1(Stop Clock) or S3(Suspend to RAM) when the system enters the power-saving Suspend mode.

### **Power Management**

Use this item to enable or disable a power management scheme. If you enable power management, you can use the items below to set the power management operation. 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**

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.

### **USB Device Power On**

If you enable this item, the system can automatically resume by using the USB device.

## **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.

<i>AMBIOS SETUP - PCI / PLUG AND PLAY SETUP</i>	
<i>(C) 2000 American Megatrends, Inc. All Rights Reserved</i>	
<i>Primary Graphics Adapter</i>	<i>AGP</i>
<i>Allocate IRQ to PCI VGA</i>	<i>Yes</i>
<i>PCI IDE BusMaster</i>	<i>Disabled</i>
<i>ESC:Quit           ↑↓←→:Select Item</i>	
<i>F1:Help            PU/PD/+/-:Modify</i>	
<i>F5:Old Values     (Shift)F2:Color</i>	
<i>F6:Load BIOS Defaults</i>	
<i>F7:Load Setup Defaults</i>	

### **Primary Graphics Adapter**

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

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## 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 up some parameters for peripheral devices connected to the system.

<i>AMIBIOS SETUP - Features Setup</i>		
<i>(C) 2000 American Megatrends, Inc. All Rights Reserved</i>		
<i>OnBoard FDC</i>	<i>Enabled</i>	
<i>OnBoard Serial PortA</i>	<i>3F8h/COM1</i>	
<i>OnBoard IR Port</i>	<i>Disabled</i>	
<i>OnBoard Parallel Port</i>	<i>378h</i>	
<i>Parallel Port Mode</i>	<i>EPP+ECP</i>	
<i>Parallel Port IRQ</i>	<i>7</i>	
<i>Parallel Port DMA</i>	<i>3</i>	
<i>OnBoard PCI IDE</i>	<i>Both</i>	
<i>OnBoard PCI SATA</i>	<i>Enabled</i>	
<i>Audio Device</i>	<i>Enabled</i>	
<i>Modem Device</i>	<i>Auto</i>	
<i>Ethernet Device</i>	<i>Enabled</i>	<i>ESC:Quit</i> <i>↔:Select Item</i>
<i>IEEE1394 Device</i>	<i>Enabled</i>	<i>F1:Help</i> <i>PU/PD/+/-:Modify</i>
<i>OnBoard USB Function</i>	<i>Enabled</i>	<i>F5:Old Values (Shift)F2:Color</i>
<i>USB Function for DOS</i>	<i>Disabled</i>	<i>F6:Load BIOS Defaults</i>
<i>ThumbDrive for DOS</i>	<i>Disabled</i>	<i>F7:Load Setup Defaults</i>

### **OnBoard FDC**

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

### **OnBoard Serial PortA**

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 infrared port, and to assign a port address.

### **Onboard Parallel Port**

This item enables or disables the onboard LPT1 parallel port, and assigns 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 IRQ to the parallel port.

### **Parallel Port DMA**

Use this item to assign a DMA channel to the parallel port.

### **OnBoard PCI IDE**

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

### **OnBoard PCI SATA**

Use this item to enable or disable the onboard PCI SATA channel.

### **Audio Device**

This item enables or disables the AC'97 audio chip.

**Modem Device**

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

**Ethernet Device**

This item enables or disables the onboard Ethernet LAN.

**IEEE1394 Device**

This item enables or disables the onboard IEEE1394.

**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 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.

<i>AMIBIOS SETUP - CPU PnP SETUP</i>		
<i>(C) 2000 American Megatrends, Inc. All Rights Reserved</i>		
<i>CPU Type</i>	<i>AMD K7</i>	
<i>CPU Frequency</i>	<i>100 MHz</i>	
<i>CPU Over-clocking Freq.</i>	<i>100 MHz</i>	
<i>CPU/DRAM Frequency Ratio</i>	<i>[1:1]</i>	
<i>DRAM Frequency</i>	<i>100 MHz</i>	
<i>CPU Ratio</i>	<i>Locked</i>	
		<i>ESC:Quit</i> <i>↑↓←→:Select Item</i> <i>F1:Help</i> <i>PU/PD/+/:Modify</i> <i>F5:Old Values</i> <i>(Shift)F2:Color</i> <i>F6:Load BIOS Defaults</i> <i>F7:Load Setup Defaults</i>

### **CPU Type/Frequency**

These items show type and frequency of the CPU installed in your system.

### **CPU Over-clocking Freq.**

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.

### **CPU/DRAM Frequency Ratio**

This item adjusts the CPU/DRAM frequency installed in your system.

### **DRAM Frequency**

This item shows the DRAM frequency installed in your system.

### **CPU Ratio**

This item shows the CPU ratio installed in your system.

## Hardware Monitor Page

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

<i>AMIBIOS SETUP - Hardware Monitor</i>		
<i>(C) 2000 American Megatrends, Inc. All Rights Reserved</i>		
<b>*** System Hardware ***</b>		
<i>CPU Vcore</i>	<i>4.080V</i>	
<i>Vcc 2.5V</i>	<i>4.080V</i>	
<i>+3.3V</i>	<i>4.080V</i>	
<i>+5V</i>	<i>6.854V</i>	
<i>+12V</i>	<i>16.320V</i>	
<i>SB+3.3V</i>	<i>3.472V</i>	
<i>SB+5V</i>	<i>5.053V</i>	
<i>NB Fan Speed</i>	<i>0 RPM</i>	
<i>SYSTEM Fan Speed</i>	<i>0 RPM</i>	
<i>CPU Fan Speed</i>	<i>0 RPM</i>	
<i>Vcore Temperature</i>	<i>-1°C/-33°F</i>	
<i>SYSTEM Temperature</i>	<i>-1°C/-33°F</i>	
<i>CPU Temperature</i>	<i>-1°C/-33°F</i>	
		<i>ESC:Quit      ↵↔:Select Item</i>
		<i>F1:Help      PU/PD/+/-:Modify</i>
		<i>F5:Old Values    (Shift)F2:Color</i>
		<i>F6:Load BIOS Defaults</i>
		<i>F7:Load Setup Defaults</i>

### **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 that you can enter a Supervisor password. You can enter no more than six letters or numbers. Press Enter after you have typed in the password. There will be the second dialog box asking you to retype the password for confirmation. Press Enter after you have retyped it correctly. Then, the password is required for the access to the Setup Utility or for it at start-up, depending on the setting of the Password Check item in Advanced Setup.

## 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.