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
No. 22, Alley 38, Lane 91, Sec. 1, Nei Hu Road, Taipei, Taiwan 114
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**

Essen, 04.03.2004

RWTÜV

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

ISO14001 CERTIFICATE

Certificate No.: 061-04-E1-0065-R1-L

We hereby certify that

ECS MANUFACTURING (SHANZHEN) 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:

ECS MANUFACTURING (SHANZHEN) CO., LTD. located at No. 20 & 26 (except 1F, 2F), Free Trade Zone, Shatuojiao, Shenzhen City, Guangdong Province, P. R. China. is engaged in manufacturing of Mother Board and Peripheral Card, and interrelated managerial activities.

Date of issue: **28th Sept. 2004**

Date of expiry: **27th Sept. 2007**

Signed by:

SHENZHEN SOUTHERN CERTIFICATION CO., LTD.

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Static Electricity Precautions

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

Pre-Installation Inspection

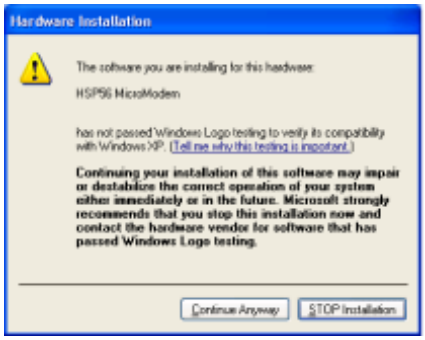
1. Inspect this motherboard whether there are any damages to components and connectors on the board.
2. If you suspect this motherboard has been damaged, do not connect power to the system. Contact your mainboard vendor about those damages.

A31G Series, V1.0
October 2005

Table of Contents

Notice:

1. Owing to Microsoft's certifying schedule is various to every supplier, we might have some drivers not certified yet by Microsoft. Therefore, it might happen under Windows XP that a dialogue box (shown as below) pops 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 olution is done, the updated USB drive will be released to our website: www.pcchips.com for your downloading.

Chapter 1 Introduction

This motherboard has a Socket-754 supporting the newest and advanced AMD Athlon 64/Sempron with HyperTransport Technology processors and Front-Side Bus (FSB) speeds up to 800 MHz.

It integrates the SiS761GX Northbridge and SiS965L Southbridge that supports 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 supports AC' 97 Audio Codec and provides Ultra DMA 133/100/66 function. It has one PCI Express x16, one AGPro, one CNR and two 32-bit PCI slots. There is a full set of I/O ports including two PS/2 ports for mouse and keyboard, one serial port, one parallel port, one LAN port(optional), one VGA port, three audio jacks for Line-in, Line-out and Microphone, four back-panel USB2.0 ports and onboard USB headers providing extra ports by connecting the Extended USB Module to the motherboard.

This motherboard is a Micro ATX size motherboard and has power connectors for an ATX power supply.

Key Features

The key features of this motherboard include:

Socket-754 Processor Support

- Supports AMD Athlon 64/Sempron processors
- Supports Front-Side Bus 800 MHz

Note: **HyperTransport Technology** is a point-to-point link between two devices, it enables integrated circuits to exchange information at much higher speeds than currently available interconnect technologies.

Chipset

There are SiS761GX Northbridge and SiS965L Southbridge in this chipset in accordance with an innovative and scalable architecture with proven reliability and performance.

- High Performance Host Interface:
  -Supports AMD Athlon 64, Athlon 64FX, Sempron CPUs
  –HyperTransport compliant bus driver with auto compensation capability
- Integrated Host-to-PCI Express Bridge:
  –1 GB/s performance in 133MHz x 4 mode
  –Distributed arbitration strategy with enhanced mode of contiguous DMA data streaming
- High Performance & High Quality 3D Graphics Accelerator:
  –Built-in 32-bit floating point format VLIM triangle setup engine

–Built-in 2 pixel rendering pipelines and 4 texture units
- Complete TV-OUT/Digital Flat Panel Solution:
  –Built-in dual display controllers to support independent dual displays
- PCI 2.3 Specification Compliance
- Integrated Multithreaded I/O Link Mastering
- Multithread I/O Link Mastering with Read/Write Concurrent and Read/ Read Pipeline Transaction

Memory Support

- Two 184-pin 2.5V DIMM sockets for DDR SDRAM memory modules
- Supports DDR400/333/266 memory bus
- Maximum installed memory is 2GB

Expansion Slots

- One AGPro slot
- One PCI Express x16 slot
- Two 32-bit PCI slots for PCI 2.2-compliant bus interface
- One 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 Codec

- AC '97 2.3 COMPATIBLE
- FEATURES6 DAC Channels for 5.1 Surround
- 90 dB Dynamic Range
- 20-Bit PCM DACs
- S/PDIF OutputIntegrated Stereo Headphone Amplifiers
- Phone, Aux, and Line-In
- High Quality CD Input
- Selectable MIC Input
- Mono Output
- External Amplifier Power-Down Control

Onboard I/O Ports

- Two PS/2 ports for mouse and keyboard

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

Fast Ethernet LAN (optional)

- Supports 10/100Mbps operation and half/full duplex operation
- IEEE 802.3/802.3u compliant
- Supports IEEE 802.3u clause 28 auto negotiation
- Supports operation under Link Down Power Saving mode
- Supports Base Line Winder (BLW) compensation
- Adaptive Equalization

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 200 mm

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

Package Contents

Your motherboard package ships with the following items:

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

Optional Accessories

You can purchase the following optional accessories for this motherboard.

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

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

Chapter 2 Motherboard Installation

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

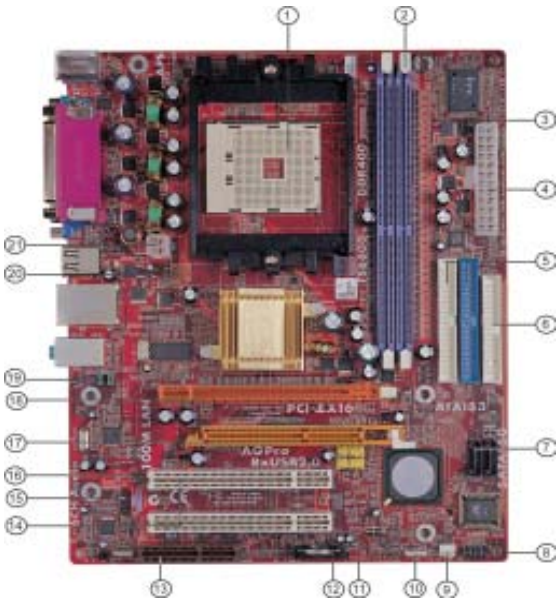
- Identify the motherboard components
- Install a CPU
- Install one or more system memory modules
- Make sure all jumpers and switches are set correctly
- Install this motherboard in a system chassis (case)
- Connect any extension brackets or cables to headers/connectors on the motherboard
- Install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

Note:

1 Before installing this motherboard, make sure jumper CLR_CMOS1 is under Normal setting. See this chapter for information about locating CLR_CMOS1 and the setting options.

2 Never connect power to the system during installation; otherwise, it may damage the motherboard.

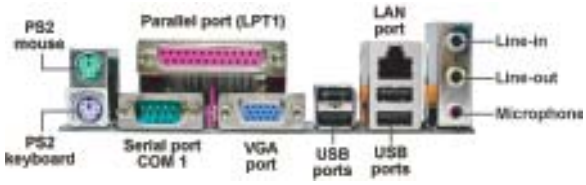
Motherboard Components



ITEM	LABEL	COMPONENTS
1	CPU Socket	Socket-754 for Athlon 64/ Sempron CPUs
2	DDR1/2	184-pin DDR SDRAM sockets
3	IR1	Infrared header
4	PWR1	Standard 24-Pin ATX Power connector
5	IDE1/2	Primary/Secondary IDE connector
6	FDD1	Floppy Disk Drive connector
7	SATA1/2	Serial ATA connectors
8	PANEL1	Front Panel Switch/LED header
9	SYS FAN1	System Fan connector
10	SPK1	Speaker header
11	CLR_CMOS1	Clear CMOS jumper
12	F_USB1/2	Front Panel USB headers
13	CNR1	CNR slot
14	PCI 1-2	32-bit PCI slots
15	CD_IN1	Analog Audio Input header
16	SPDIFO1	SPDIF Out header
17	AGPPRO1	AGPro slot
18	PCI-E1	PCI-Express x16 slot
19	F_AUDIO1	Front Panel Audio header
20	CPU_FAN1	CPU Fan connector(3PIN)
21	PWR2	Standard 4-Pin ATX Power connector

I/O Ports

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



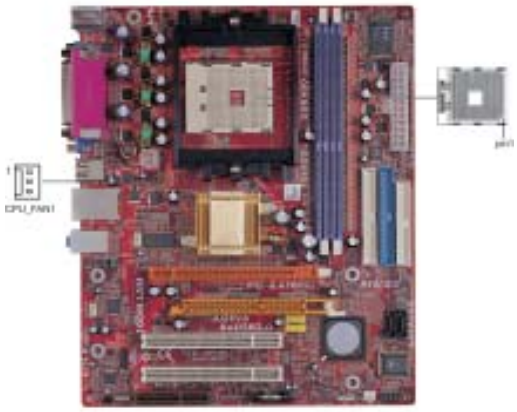
PS/2 Mouse	Use the upper PS/2 port to connect a PS/2 pointing device.
PS/2 Keyboard	Use the lower PS/2 port to connect a PS/2 keyboard.
Parallel Port (LPT1)	Use the Parallel port to connect printers or other parallel communications devices.
Serial Port (COM1)	Use the COM port to connect serial devices such as mice or fax/modems. COM1 is identified by the system as COM1.
VGA Port	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 socket 754 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:



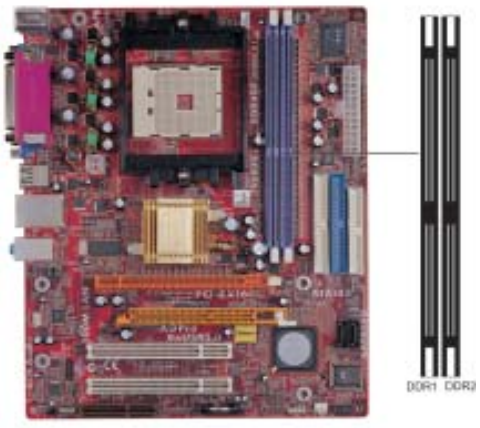
1 Unhook the locking lever of the CPU socket. Pull the locking lever away from the socket and raising it to the upright position.
2 Match the pin1 corner marked as the beveled edge on the CPU with the pin1 corner on the socket. Insert the CPU into the socket. Do not use force.
3 Push the locking lever 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 on the motherboard.

Installing Memory Modules

This motherboard accommodates two 184-pin 2.5V DIMM sockets (Dual Inline Memory Module) for unbuffered DDR400/333/266 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 166 MHz or 200 MHz memory bus.

DDR SDRAM provides 2.1 GB/s, 2.7 GB/s or 3.2GB/s data transfer rate when the bus is 133 MHz, 166 MHz or 200 MHz, respectively.



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.

JP1: 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
Clear CMOS	Short Pins 1-2
Normal	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.

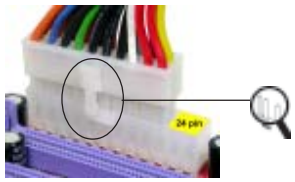
Connect the power connector from the power supply to the **PWR1** connector on the motherboard. **PWR2** is a +12V connecotr for CPU Vcore power.

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

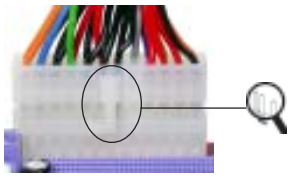
Connect the case switches and indicator LEDs to the **PANEL1** header.

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 20/24-pin power cable



Users please note that when installing 20-pin power cable, from the aspect as the picture shows, the latch of power cable falls on the left side of the PWR1 connector latch.



Users please note that when installing 24-pin power cable, the latches of power cable and the PWR1 connector match perfectly.

Note: Users please note that the 20-pin and 24-pin power cables can both be connected to the PWR1 connector. While connceting the 20-pin power cable, just align the 20-pin power cable with the pin 1 of the PWR1 connector. However, using 20-pin power cable may cause the system the unbootable or unstable problem because of insufficient electricity. The minimum recommended power is 300W for a fully-configured system.

Connecting Optional Devices

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

SPK1: Speaker Header

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

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

F_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_MIC1	2	AUD_GND
3	AUD_MIC2	4	AUD_VCC
5	AUD_FPOUT_R	6	AUD_RET_R
7	HP_ON	8	KEY
9	AUD_FPOUT_L	10	AUD_RET_L

F_USB1/F_USB2: 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 F_USB1/F_USB2 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 F_USB1/F_USB2 header on the motherboard.
2. Plug the bracket cable onto the F_USB1/F_USB2 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.

IR1: Infrared Port 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	+5V	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.

SPDIFO1: SPDIF Out Header

S/PDIF (Sony/Philips Digital Interface) is a standard audio transfer file format and allows the transfer of digital audio signals from one device to another without having to be converted first to an analog format. Via a specific audio cable, you can connect the SPDIFO1 header (S/PDIF output) on the motherboard to the S/PDIF digital input on the external speakers or AC Decode devices.

Pin	Signal	Pin	Signal
1	SPDIF OUT	2	+5V
3	KEY	4	GND

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 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 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 platforms. 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 connector 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

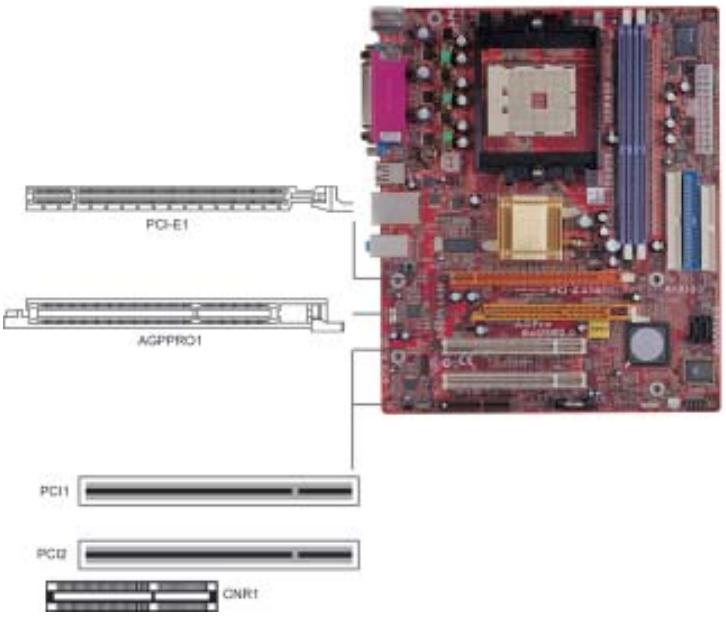
If you have installed a CD-ROM drive or DVD-ROM drive, you can connect the drive audio cable to the onboard sound system.

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 **CD_IN1**.

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

Expansion Slots

This motherboard has one AGPro, one CNR, one PCI-Express x16 and two 32-bit PCI slots.



Follow the steps below to install an AGPro/CNR/PCI Express x16/ PCI expansion card.

1. Locate the AGPro, CNR or PCI Express x16/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.
4. Secure the metal bracket of the card to the system chassis with a screw.

PCI-E1 (PCI-Express x16) Slot

You can install external PCI Express graphics cards in the PCI-E1 (PCI-Express x16) slot.

PCI1-2 Slots

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

CNR Slot

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

AGPPRO1 (AGPro) Slot

The AGPro slot is used to install AGP graphics card that emulates the AGP function. In order to get better performance and compatibility on our special design AGPro slot, we recommend you should use one of the AGP graphics cards that have been tested by our company. Please refer to the following "VGA Card Support List for AGPro Slot" on Page 19.

VGA Card Support List for AGPro Slot:

Vender	AGP 4X/8X	Chipset	Manufacture
ATI	4X	Radeon 8500	ATI RADEON 8500 DDR
		Radeon 9000PRO	GIGABYET GV-R9000PRO
	8X	Radeon 9200	ECS R9200LE- 64M
		Radeon 9200	ECS R9200LE- 128M
		Radeon 9200	COLORFUL Radeon 9200 CF 64M
		Radeon 9250	ECS R9250-128T
		Radeon 9500	Power Color Radeon9500
NVIDIA	4X	RIVA TNT2 Model 64	WINFAST S325 TNT M64
		GeForce 256	Creative CT6940
		GeForce 256 DDR	ASUS V6800 DDR
		GeForce 2 GTS	GIGABYTE GV-GF2010D
		GeForce 2 GTS	ELSA GLADIAC GTS DDR PRO/64M
		GeForce 2 MX	ASUS AGP-V7100
		GeForce 2 MX	ELSA GLADIAC MX
		GeForce 2 MX	Triplex Mohock
		GeForce 2 Ultra	WINFAST GeForce 2 Ultra
		GeForce 2 MX200	Triplex-MX2200
		GeForce 2 MX400	ELSA GLADIAC 511
		GeForce 3	ELSA GLADIAC 920
		GeForce 3	ASUS V8200
		GeForce 3 Ti500	ASUS V8200
		GeForce 4 Ti4200	WINFAST A250TD/64M
		GeForce 4 Ti4400	ELSA GLADIAC 725DVI
		GeForce 4 Ti4600	ELSA GLADIAC 925ViVo
	8X	GeForce 4 Ti4200	ASUS V9280TD
		GeForce 4 Ti4200	MSI Geforce4 Titanium4200
		GeForce FX5600	ELSA GLADIAC FX 732
		GeForce FX5800	MSI FX5800TD
		GeForce FX5900	WINFAST A350TDH
		GeForce FX5900Ultra	MSI FX5900U-VTD256
SIS	8X	Xabre 200	ECS AG200E4-D32
		Xabre 200	ECS AG200T8_D64
		Xabre 400	ECS AG400T8_D64
		Xabre 400	ECS-MM AG400T8_D64

Note: Please visit our website for the updated AGP graphics card support list : Http://www.pcchips.com/support/FAQ

Memo

Chapter 3 BIOS Setup Utility

Introduction

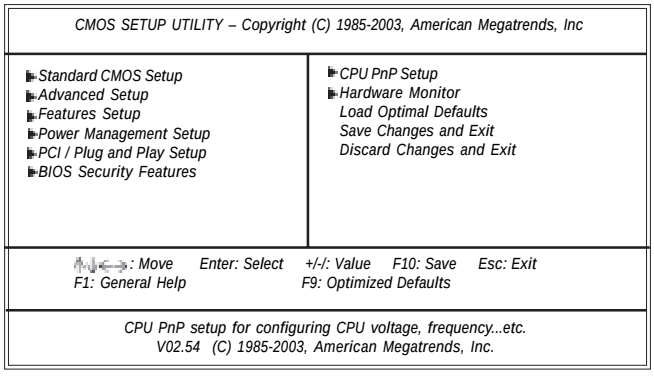
The BIOS Setup Utility records settings and information of your computer, such as date and time, the type of hardware installed, and various configuration settings. Your computer applies the information to initialize all the components when booting up and basic functions of coordination between system 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. If you manually clear CMOS, you need to press the **F1** key that enters the Main menu page of the Setup Utility.



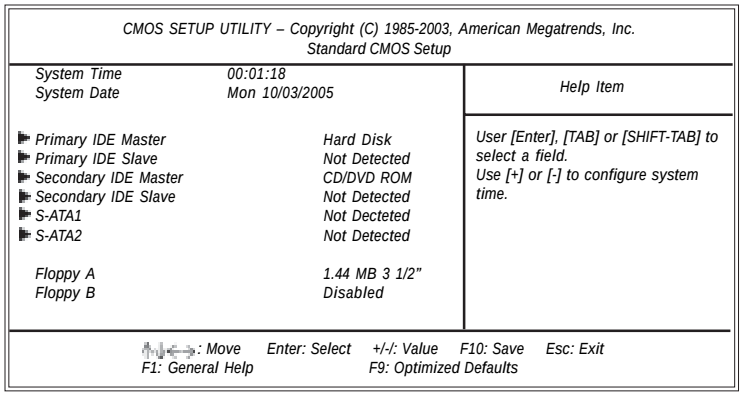
You can use cursor arrow keys to highlight anyone of options on the main menu page. Press **Enter** to select the highlighted option. Press the **Escape** key to leave the setup utility. Press +/-/ to modify the selected field's values.

Some options on the main menu page lead to tables of items with installed values that you can use cursor arrow keys to highlight one item, and press **PgUp** and **PgDn** keys to cycle through alternative values of that item. The other options on the main menu page lead to dialog boxes requiring your answer OK or Cancel by selecting the **[OK]** or **[Cancel]** key.

If you have already changed the setup utility, press **F10** to save those changes and exit the utility. Press **F1** to display a screen describing all key functions. Press **F9** to install the setup utility with a set of default values.

Standard CMOS Setup Page

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



Date & Time

These items set up system date and time.

Primary IDE Master/Primary IDE Slave/Secondary IDE Master/Secondary IDE Slave/SATA1/2

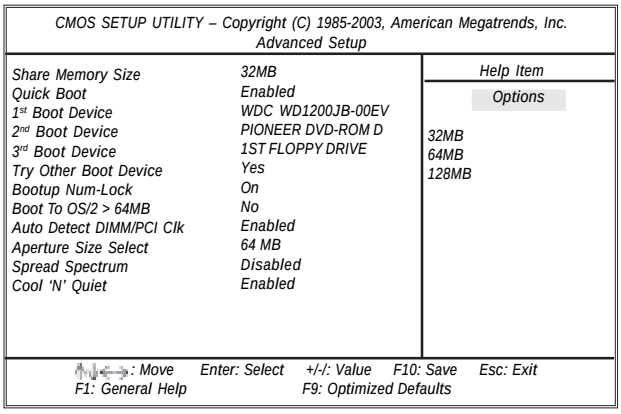
Use these items to configure devices connected to the Primary/Secondary IDE channels. To configure an IDE hard disk drive, choose *Auto*. If the *Auto* setting fails to find a hard disk drive, set it to *User*, and then fill in the hard disk characteristics (Size, Cyls, etc.) manually. If you have a 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*. In addition, this motherboard supports two SATA channels and each channel allows one SATA device to be installed. Use these items to configure each device on the IDE channel.

Floppy 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.



Share Memory Size

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

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.

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.

Auto detect DIMM/PCI Clk

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

Aperture Size Select

This item defines the size of aperture if you use a graphic adapter.

Spread Spectrum

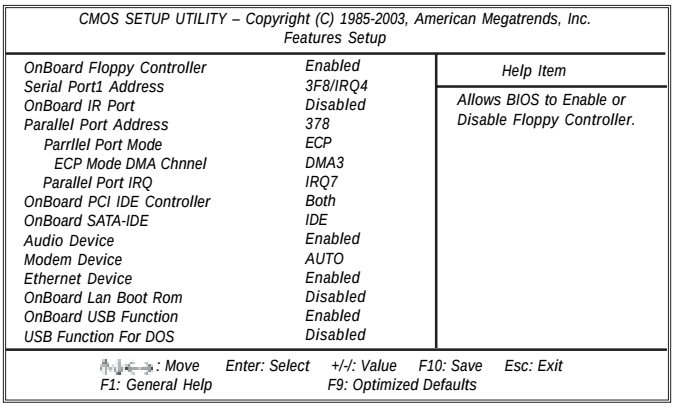
If you enable spread spertrum, it can significantly reduce the EMI (Electro-Magnetic interface) generated by the system.

Cool 'N' Quiet

It supports fan control to reduce fan noise when the CPU is running cool. This motherboard and BIOS requirements for a PowerNow! are identical. The same BIOS data structures are used.

Features Setup Page

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



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 COM1/2 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.

Parallel Port Address

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

Parallel Port Mode

Use this item to set the parallel port mode. You can select ECP (Extended Capabilities Port).

ECP Mode DMA Channel

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

Parallel Port IRQ

Use this item to assign IRQ to the parallel port.

OnBoard PCI IDE Controller

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

OnBoard SATA-IDE

Use this item to enable the onboard SATA-IDE channel.

Audio Device

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

Modem Device

This item enables or disables the onboard Modem.

Ethernet Device

This item enables or disables the onboard Ethernet LAN.

OnBoard Lan Boot Rom

Use this item to enable or disable the LAN Boot ROM function.

OnBoard USB Function

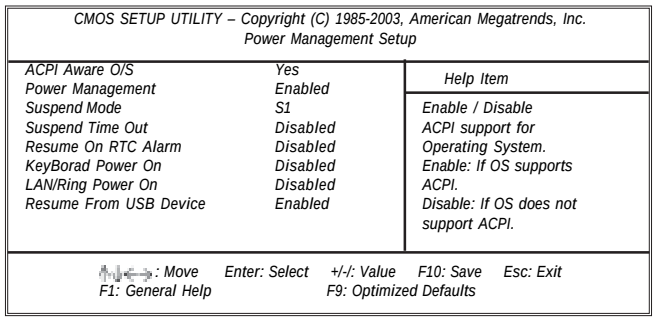
Enable this item if you plan to use the USB ports on this motherboard.

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.



ACPI Aware O/S

This item supports ACPI (Advanced Configuration 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 the items below to set the power management operation. Both APM and ACPI are supported.

Suspend Mode

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

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

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.

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.

LAN/Ring Power On

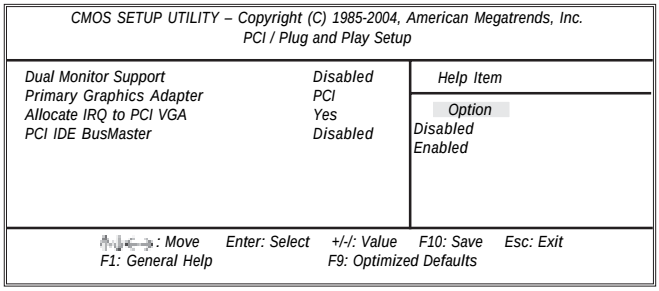
The system can be turned off with a software command. If you enable this item, the system can automatically resume if there is an incoming call on the Modem. You must use an ATX power supply in order to use this feature.

Resume From USB Device

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.



Dual Monitor Support

This item is a switch to turn on/off the Dual Monitor function. If it is enabled, please connect the system to two monitors for performing the Dual Monitor function; if disabled, this function will be turned off.

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.

Allocate IRQ to PCI VGA

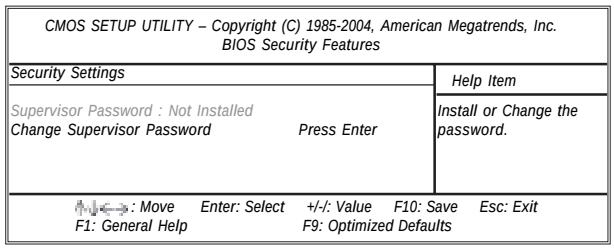
If this item is enabled, an IRQ will be assigned to the PCI VGA graphics system. You set this value to No to free up an IRQ.

PCI IDE BusMaster

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

BIOS Security Features Setup Page

This page helps you install or change a password.



Supervisor Password

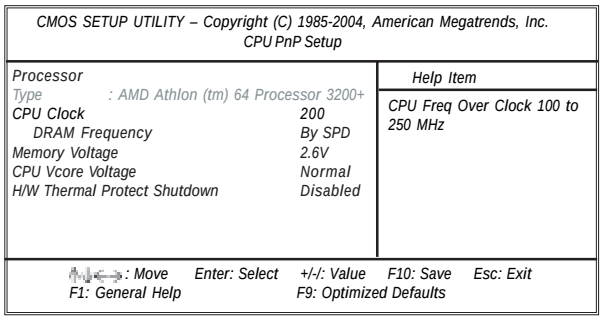
This item indicates whether a supervisor password has been set. If the password has been installed, *Installed* displays. If not, *Not Installed* displays.

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.

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.



Processor Type

This item shows the type of the Processor installed in your system.

CPU Clock

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

DRAM Frequency

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

Memory Voltage

This item determines the DDR voltage adjustment.

CPU Vcore Voltage

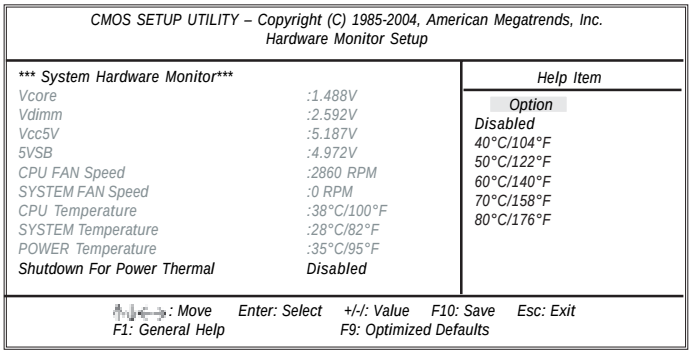
This item enables users to adjust the CPU voltage.

H/W Thermal Protect Shutdown

This item provides the function of CPU temperature pro

Hardware Monitor Page

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



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.

Shutdown For Power Thermal

When the CPU temperature exceeds your setup range, the system will be automatically shutdown.

Load Optimal Defaults

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

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

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 98SE/ME/2000/XP, it will automatically install all the drivers and utilities for your motherboard.

Installing Support Software

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

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

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

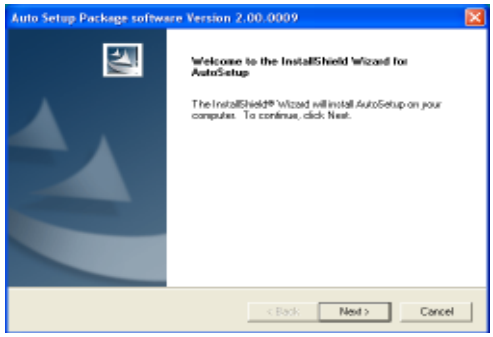
The **Application** button brings up a software menu. It shows the bundled software that this mainboard supports.

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

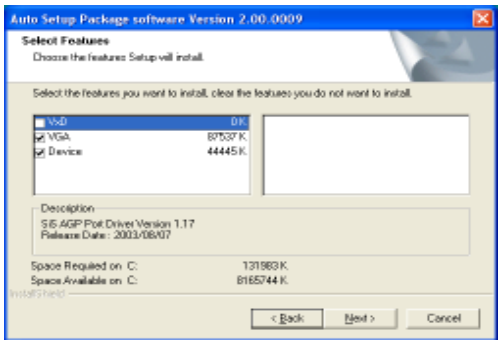
Auto-Installing under Windows 98SE/ME2000/XP

If you are under Windows 98SE/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.

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.

Memo