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M789 Series, V1.2B
CLE266/November 2004**

Notice:

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.

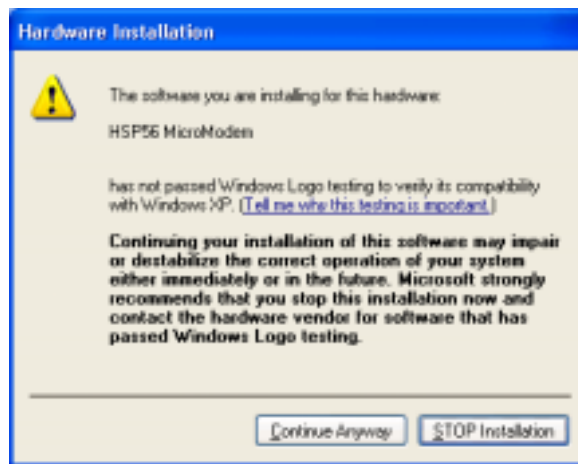


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Chapter 1

Introduction

This motherboard has a **VIA C3 CPU onboard** with front-side bus speed up to **133MHz**.

This motherboard integrates the **VIA CLE266 Northbridge** and **8235 Southbridge** chipsets that support **DDR 266MHz, Ultra DMA 33/66/100/133** function and remarkably high system performance under all types of system operations

It supports built-in **USB 2.0** providing higher bandwidth. It implements **Universal Serial Bus Specification Revision 2.0** and is compliant with **UHCI 1.1** and **EHCI 0.95**. The motherboard supports the built-in **AC'97 Codec**, two 32-bit **PCI** slots, one **CNR** (Communications and Networking Riser) slot, and an onboard **10BaseT/100BaseTX Network** interface (optional). This motherboard integrates a **128-bit 3D/2D graphics engine** and a high-performance 3D accelerator.

In addition, this motherboard has 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 six USB2.0 ports— four back-panel ports and onboard USB header USB1 providing two extra ports by connecting the Extended USB Module to the motherboard.

This motherboard has all the features you need to develop a powerful multimedia workstation. The board is **FLEX ATX** size and has a power connector for an **ATX** power supply.

Key Features

The key features of this motherboard include:

CPU Type

- ◆ Supports the **VIA C3 CPU onboard**
- ◆ Supports **133 MHz** Front-Side Bus

Chipset

There are **VIA CLE266 Northbridge** and **8235 Southbridge** in this chipset in accordance with an innovative and scalable architecture with proven reliability and performance. A few of the chipset's advanced features are:

- ◆ High bandwidth 266MB/sec 8-bit-Link Host Controller supports 66MHz V-Link Host interface with total bandwidth of 266MB/sec
- ◆ Advanced high-performance DDR/SDR DRAM Controller supports DRAM interface synchronous with host CPU (133/100 MHz) for most flexible configuration
- ◆ Integrated Graphics/Video Accelerator supports the 128-bit 3D/2D graphics engine, high quality DVD video playback, and Motion Compensation MPEG-2/1 Video Decoder

Memory Support

- ◆ Two DIMM sockets for DDR memory modules
- ◆ Supports 200/266MHz DDR memory bus
- ◆ Maximum installed memory is 2GB

Expansion Slots

- ◆ One CNR slot
- ◆ 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 33/66/100/133 modes

Power Supply and Power Management

- ◆ ATX power supply connector
- ◆ Meets ACPI 1.0B and PCI Bus Power Management 1.1 compliant

VGA

- ◆ Integrated Graphics/Video Accelerator supports optimized Shared Memory Architecture (SMA)
- ◆ Separate 128-bit data paths between north bridge and graphics core for pixel data flow and texture/command access
- ◆ Graphics engine clocks up to 133MHz decoupled from memory clock
- ◆ High quality DVD video playback

AC'97 Codec

- ◆ Compliant with AC'97 2.1 specification
- ◆ 16-bit stereo full-duplex CODEC with fixed 48KHz sampling rate
- ◆ 3 analog line-level stereo inputs with 5-bit volume control: LINE-IN, CD-IN, AUX-IN
- ◆ 1 analog line-level mono input: PHONE-IN
- ◆ 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 motherboard has a full set of I/O ports and connectors:

- ◆ Two PS/2 ports for mouse and keyboard
- ◆ One serial port
- ◆ One VGA port
- ◆ One parallel port
- ◆ Six USB2.0 ports (four back-panel ports, onboard USB header providing two extra ports)
- ◆ Audio jacks for microphone, line-in and line-out

Built-in Ethernet LAN (optional)

- ◆ **10Base-T/100Base-TX 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

BIOS Firmware

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

- ◆ Hard drives, diskette drives, and peripherals
- ◆ Power management
- ◆ CPU parameters and memory timing
- ◆ Hardware monitoring parameters

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

Dimensions

- ◆ FLEX ATX form factor (23cm x 19cm)

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

Package Contents

Attention: This motherboard series includes two different models. They are M789CLU (CPU onboard, LAN, USB2.0) and M789CU (CPU onboard, USB2.0).

Please contact your local supplier for your purchase model.

Each model will support different specification, list as below:

Model	Specification
M789CLU	Onboard CPU, LAN PHY chip (U3) and LAN (RJ45) connector
M789CU	---

Your motherboard package ships with the following items:

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

Optional Accessories

You can purchase the following optional accessories for this motherboard.

- 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 motherboard. Take the following precautions while unpacking this motherboard and installing it in a system.

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.
4. If you suspect this motherboard has been damaged, do not connect power to the system. Contact your motherboard vendor about those damages.

Chapter 2

Motherboard Installation

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

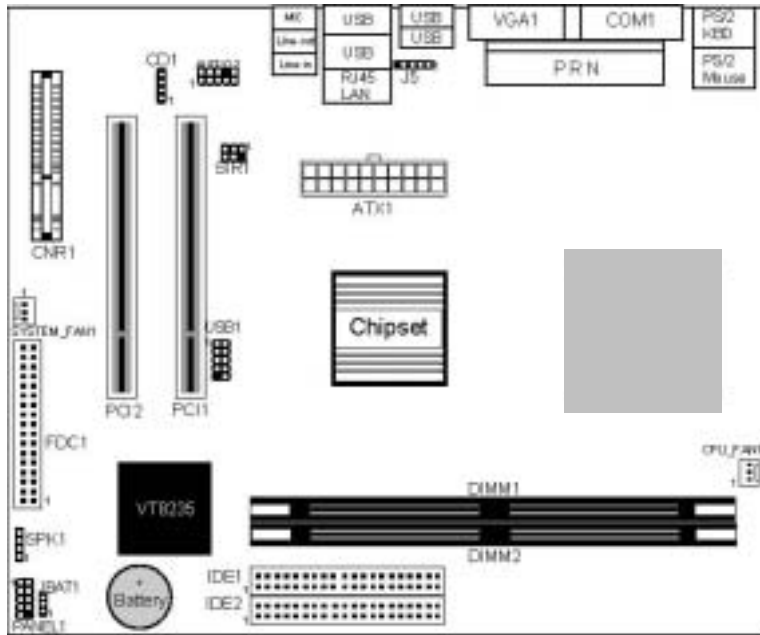
- ❑ Identify the motherboard components
- ❑ Install one or more system memory modules
- ❑ Make sure all jumpers and switches are set correctly
- ❑ Install this motherboard in a system chassis (case)
- ❑ Connect any extension brackets or cables to connecting headers on the motherboard
- ❑ Install other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

Note:

1. Before installing this motherboard, make sure jumper JBAT1 is under Normal setting. See this chapter for information about locating JBAT1 and the setting options.
2. Never connect power to the system during installation; otherwise, it may damage the motherboard.

Motherboard Components

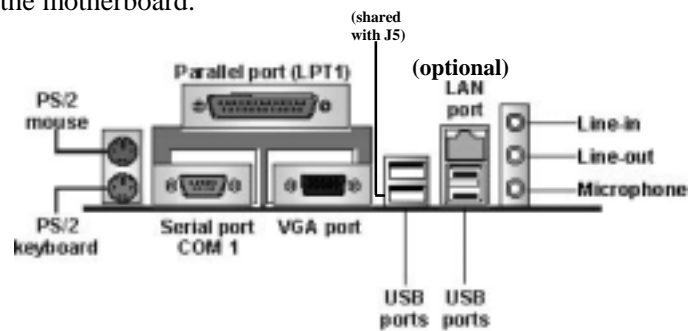
Use the diagram below to identify the major components on the motherboard.



Note: Any jumpers on your motherboard not appearing in this illustration are for testing only.

I/O Ports

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



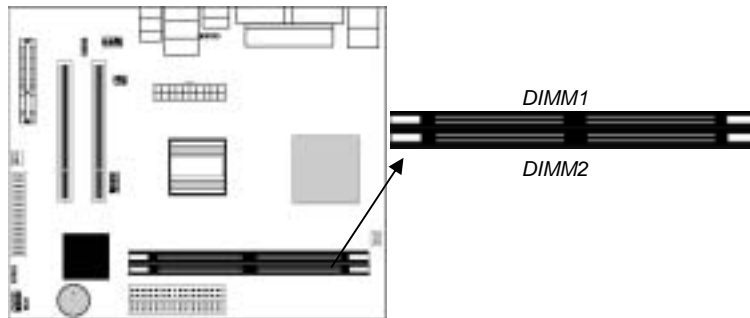
PS/2 Mouse	Use the upper PS/2 port to connect a PS/2 pointing device.
PS/2 Keyboard	Use the lower PS/2 port to connect a PS/2 keyboard.
LPT1	Use LPT1 to connect printers or other parallel communications devices.
COM1	Use the COM port to connect serial devices such as mice or fax/modems. COM1 is identified by the system as COM1.
VGA	Use the VGA port to connect VGA devices.
LAN Port (optional)	Connect an RJ-45 jack to the LAN port to connect your computer to the Network.
USB Ports	Use the USB ports to connect USB devices. <i>Note: The lower USB port located beside the VGA port is shared with the J5 connector.</i>
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 Memory Modules

This motherboard accommodates two 184-pin 2.5V unbuffered Double Data Rate SDRAM (DDR SDRAM) DIMM sockets, and supports up to 2.0 GB of 100/133 MHz SDRAM or 200/266MHz DDR.

DDR SDRAM provides 1.6 GB/s and 2.1 GB/s data transfer rate, depending on whether the bus is 100 MHz or 133 MHz.

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 200 MHz or 266 MHz memory bus.



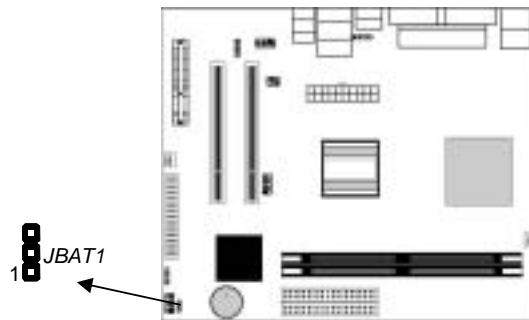
Installation Procedure

These modules can be installed with up to 2 GB system memory. Refer to the following to install the memory modules.

1. Push the latches on each side of the DIMM socket down.
2. Align the memory module with the socket. The DIMM sockets are keyed with notches and the DIMMs are keyed with cutouts so that they can only be installed correctly.
3. Check that the cutouts on the DIMM module edge connector match the notches in the DIMM socket.
4. 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.
5. Install any remaining DIMM modules.

Jumper Settings

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



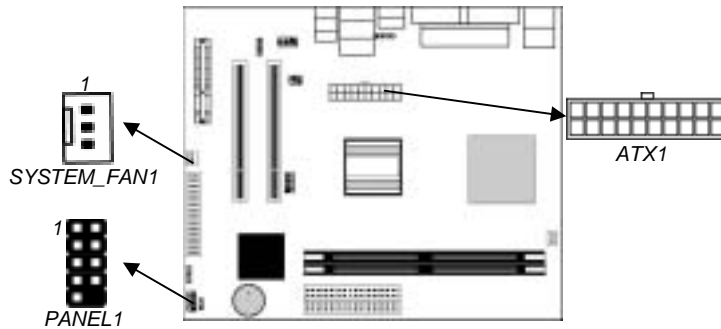
Jumper JBAT1: Clear CMOS Memory

This jumper can clear the CMOS memory. You may need to clear the CMOS memory if the settings in the Setup Utility are incorrect that your motherboard can't operate. To clear the CMOS memory, disconnect all the power cables, and then move the jumper cap into the CLEAR setting for a few seconds.

Function	Jumper Setting
Normal Operation	Short Pins 1-2
Clear CMOS Memory	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. Ensure your case has an I/O cover plate matching the ports on this motherboard. Install the motherboard in a case. Follow the instructions from the case manufacturer to use the hardware and internal mounting points on the chassis.



Connect the power connector from the power supply to the **ATX1** connector on the motherboard.

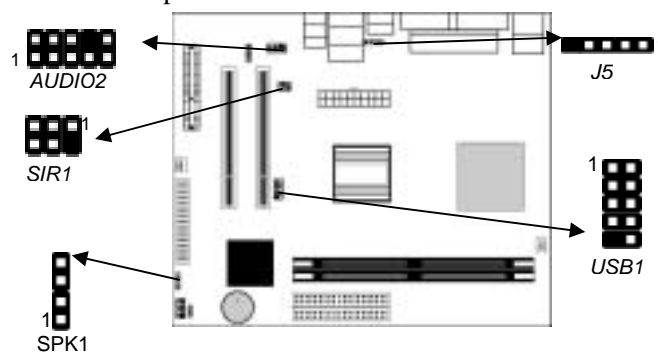
If there is a cooling fan installed in the system chassis, connect the cable from the cooling fan to the **SYSTEM_FAN1** fan power connector on the motherboard.

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 Optional Devices

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



SPK1: Speaker Connector

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

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

AUDIO2: Front Panel Audio Header

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

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

USB1: Front panel USB Connector

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 connector USB3 to connect the front-mounted ports to the motherboard.

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

1. Locate the USB1 header on the motherboard.
2. Plug the bracket cable onto the USB1 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.

J5: 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 J5 is shared with one of the USB ports of the I/O back panel. The USB port is located beside the serial port connectors. See "I/O Ports" for more information.*

! *Please check the pin assignment of the cable and the USB header on the motherboard. 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 misuse of the purchased product.*

SIR1: Infrared Port

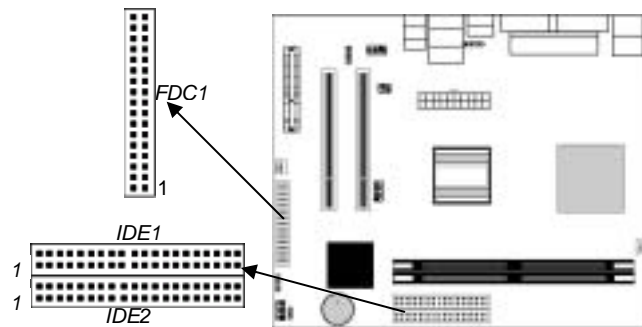
The infrared port allows the wireless exchange of information between your computer and similarly equipped devices such as printers, laptops, Personal Digital Assistants (PDAs), and other computers.

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

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

Install Other Devices

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



Floppy Disk Drive

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

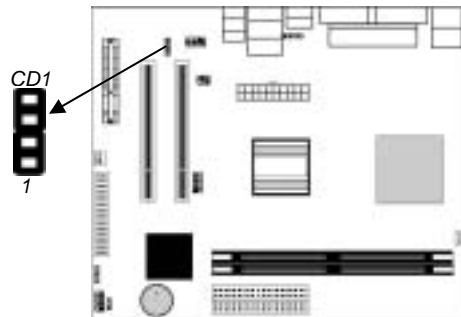
IDE Devices

IDE devices include hard disk drives, high-density diskette drives, and CD-ROM or DVD-ROM drives, among others. The motherboard ships with an IDE cable that can support one or two IDE devices. If you connect two devices to a single cable, you must configure one of the drives as Master and one of the drives as Slave. The documentation of the IDE device will tell you how to configure the device as a Master or Slave device. The Master device connects to the end of the cable. Install the device(s) and connect power from the system power supply. Use the cable provided to connect the device(s) to the Primary IDE channel connector **IDE1** on the motherboard.

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

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.

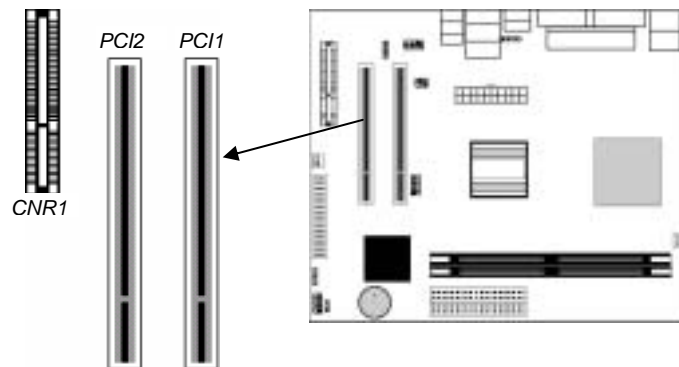


When you first start up your system, the BIOS should automatically detect your CD-ROM/DVD drive. If it doesn't, enter the Setup Utility and configure the CD-ROM/DVD drive that you have installed. On the motherboard, locate the 4-pin connector **CD1**.

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

Expansion Slots

This motherboard has one CNR and two 32-bit PCI slots.



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

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

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 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.

AMIBIOS SIMPLE SETUP UTILITY – VERSION 1.21.12
(C) 2000 American Megatrends, Inc. All Rights Reserved

Standard CMOS Setup	Features Setup
Advanced Setup	CPU PnP Setup
Power Management Setup	Hardware Monitor
PCI / Plug and Play Setup	Change Password
Load Optimal Settings	Exit
Load Best Performance Settings	
Esc : Quit ↑ ↓ ← →: Select Item (Shift)F2 : Change Color F5 : Old Values F6 : Optimal values F7 : Best performance values F10 : Save&Exit	
Standards CMOS setup for changing time, date, hard disk type, etc.	

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 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

Use this page to set 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.

AMIBIOS SETUP - STANDARD CMOS SETUP										
(C) 2000 American Megatrends, Inc. All Rights Reserved										
Date (mm/dd/yy) : Thu Jun 05, 2003										
Time (hh/mm/ss) : 17:42:18										
	Type	Size	Cyln	Head	WPcom	Sec	LBA Mode	Blk Mode	PIO Mode	32Bit Mode
Pri Master	: Auto									On
Pri Slave	: Auto									On
Sec Master	: Auto									On
Sec Slave	: Auto									On
Floppy Drive A : 1.44 MB 3 1/2										
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	Use these items to set the system date and time
Pri Master	Use these items to configure devices connected to the Primary and Secondary IDE channels. To configure an IDE hard disk drive, choose <i>Auto</i> . If the <i>Auto</i> setting fails to find a hard disk drive, set it to <i>User</i> , and then fill in the hard disk characteristics (Size, Cyls, etc.) manually. If you have a CD-ROM drive, select the setting <i>CDROM</i> . If you have an ATAPI device with removable media (e.g. a ZIP drive or an LS-120) select <i>Floptical</i> .
Pri Slave	
Sec Master	
Sec Slave	
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

Use this page to set more advanced information about your system. Take some care with this page. Making changes can affect the operation of your computer.

AMIBIOS SETUP – ADVANCED SETUP		
(C) 2000 American Megatrends, Inc. All Rights Reserved		
Quick Boot	Enabled	
1 st Boot Device	IDE-0	
2 nd Boot Device	Floppy	
3 rd Boot Device	CD/DVD-0	
Try Other Boot Devices	Yes	
S.M.A.R.T. for Hard Disks	Disabled	
BootUp Num-Lock	On	
Floppy Drive Swap	Disabled	
Floppy Drive Seek	Disabled	
Password Check	Setup	
Boot To OS/2>64MB	No	
L2 Cache	Enabled	
System BIOS Cacheable	Enabled	ESC : Quit ↑↓←→ : Select Item
SDRAM Timing by SPD	Enables	F1 : Help PU/PD/+/- : Modify
SDRAM CAS# Latency	2.5	F5 : Old Values (Shift)F2 : Color
SDRAM Bank Interleave	Disabled	F6 : Load BIOS Defaults
AGP Aperture Size	64MB	F7 : Load Setup Defaults
Auto detect DIMM/PCI Clk	Enabled	
Clock Gen Spread Spectrum	Disabled	

Quick Boot	If you enable this item, the system starts up more quickly by elimination of some of the power on test routines.
1 st Boot Device 2 nd Boot Device 3 rd 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 (<i>Setup</i>) or required both at start-up and to enter the Setup Utility (<i>Always</i>).
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 cache memory.
System BIOS Cacheable	If you enable this item, a segment of the system BIOS will be cached to main memory for faster execution.
DRAM Timing by SPD	This item enables or disables the SDRAM timing defined by the Serial Presence Detect electrical.
DRAM 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.
DRAM 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.

AGP Aperture Size	This option determines the effective size of the AGP Graphic <i>Aperture</i> , where memory-mapped graphic data structures are located.
Auto Detect DIMM/PCI Clk	When this item is enabled, BIOS will disable the clock signal of free DIMM/PCI slots.
Clock Gen Spread Spectrum	This item enables the clock to generate spread spectrum.

Power Management Setup Page

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

AMIBIOS SETUP – POWER MANAGEMENT SETUP (C) 2000 American Megatrends, Inc. All Rights Reserved		
ACPI Aware O/S	Yes	
Power Management	Enabled	
Suspend Time Out	Disabled	
LAN/Ring Power On	Disabled	
Keyboard Power On	Disabled	
Wake-Up Key	Any Key	
Wake-Up Password	N/A	
PowerOn by RTC Alarm	Disabled	ESC : Quit ↑↓←→ : Select Item
RTC Alarm Date	15	F1 : Help PU/PD/+/- : Modify
RTC Alarm Hour	12	F5 : Old Values (Shift)F2 : Color
RTC Alarm Minute	30	F6 : Load BIOS Defaults
RTC Alarm Second	30	F7 : Load Setup Defaults

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	This item enables or disables a power management scheme. If you enable power management, there are some options for you to decide the power management operation. Both APM and ACPI are supported.

Suspend Time Out	This item sets up the timeout (minutes) for the Suspend mode. The computer will be a power-saving Suspend mode if the system has been inactive after the setup time
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 any 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.
PowerOn by 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.

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.

AMIBIOS SETUP – PCI / PLUG AND PLAY SETUP (C) 2000 American Megatrends, Inc. All Rights Reserved	
Plug and Play Aware O/S	Yes
Share Memory Size	32MB
Primary Graphics Adapter	PCI
Allocate IRQ to PCI VGA	Yes
PCI IDE BusMaster	Disabled
ESC : Quit ↑↓←→ : Select Item F1 : Help PU/PD/+/- : Modify F5 : Old Values (Shift)F2 : Color F6 : Load BIOS Defaults F7 : Load Setup Defaults	

Plug and Play Aware O/S	Enable this item if you are using an O/S that supports Plug and Play such as Windows 95 or 98.
Share Memory Size	This item lets you allocate a portion of the main memory for the onboard VGA display application with 16/32/64MB 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 recommend 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 (C) 2000 American Megatrends, Inc. All Rights Reserved		
OnBoard FDC	Auto	
OnBoard Serial PortA	3F8h/COM1	
OnBoard IR Port	Disabled	
OnBoard Parallel Port	378h	
Parallel Port Mode	ECP	
Parallel Port IRQ	7	
Parallel Port DMA	3	
OnBoard IDE	Both	ESC : Quit ↑↓←→ : Select Item
Onboard LAN	Enabled	
Audio Device	Enabled	
Modem Device	Auto	F1 : Help PU/PD/+/- : Modify
USB Controller	Enabled	F5 : Old Values (Shift)F2 : Color
USB Function for DOS	Disabled	F6 : Load BIOS Defaults
ThumbDrive Support For DOS	Disabled	F7 : Load Setup Defaults

OnBoard FDC	This item enables or disables the onboard floppy disk drive interface.
-------------	--

OnBoard Serial PortA	These items enable or disable the onboard COM1 serial port, and assign a port address.
----------------------	--

OnBoard IR Port	This item enables or disables the Infrared port, and assigns a port address. If you select a specific address, the resources are assigned to the IR port, and you can use the five items below to determine the operation of the IR port
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	This item decides 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	This item assigns either IRQ 5 or 7 to the parallel port.
Parallel Port DMA	This item assigns a DMA channel to the parallel port. The options are 0, 1 and 3.
OnBoard IDE	This item enables or disables either or both of the onboard Primary and Secondary IDE channels.
Onboard LAN	This item enables or disables the onboard Ethernet LAN.
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.
USB Controller	Enable this item to select the USB ports or disable.
USB Function for DOS	Enable this item if you plan to use the USB ports on this motherboard in a DOS environment.
ThumbDrive Support 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 motherboard 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.

AMBIOS SETUP – CPU PnP SETUP	
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SDRAM Frequency	Auto
ESC : Quit ↑↓←→ : Select Item F1 : Help PU/PD/+/- : Modify F5 : Old Values (Shift) F2 : Color F6 : Load Optimal values F7 : Load Best performance values	

SDRAM Frequency This item adjusts the SDRAM frequency installed in your system.

Hardware Monitor Page

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

AMIBIOS SETUP – HARDWARE MONITOR (C) 2000 American Megatrends, Inc. All Rights Reserved		
*** System Hardware ***		
CPU Vcore	1.632 V	
Vcc2.5V	2.496 V	
+3.3V	3.392 V	
+5 V	4.945 V	
+12V	12.032V	
VBAT	3.472 V	
CPU Fan1	1308 RPM	ESC : Quit ↑↓←→ : Select Item
SYSTEM Fan1	0 RPM	F1 : Help PU/PD/+/- : Modify
CPU Temperature	32°C/91°F	F5 : Old Values (Shift)F2 : Color
SYSTEM Temperature	39°C/102°F	F6 : Load BIOS Defaults
		F7 : Load Setup Defaults

FANS & Voltage Measurements	These items indicate cooling fan speeds in RPM and the various system voltage measurements.
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System / CPU Temperature	These items display CPU and system temperature measurement.
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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 motherboard package.

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

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

If your operating system is Windows 2000/XP, it will automatically install all the drivers and utilities for your motherboard; if Windows NT or manual installation, please follow the instructions described as the Installing under Windows NT or Manual Installation section.

Installing Support Software

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



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

The **Browse CD** button is a standard Windows command that you can check the contents of the disc with the Windows 98 file browsing interface.

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

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

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

Auto-Installing under Windows 2000/XP

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

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



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



3. The support software will automatically install.

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

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 motherboard 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 Information

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.