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MS7188D Series, V5.2A
V8601T/September 2002

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) 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.

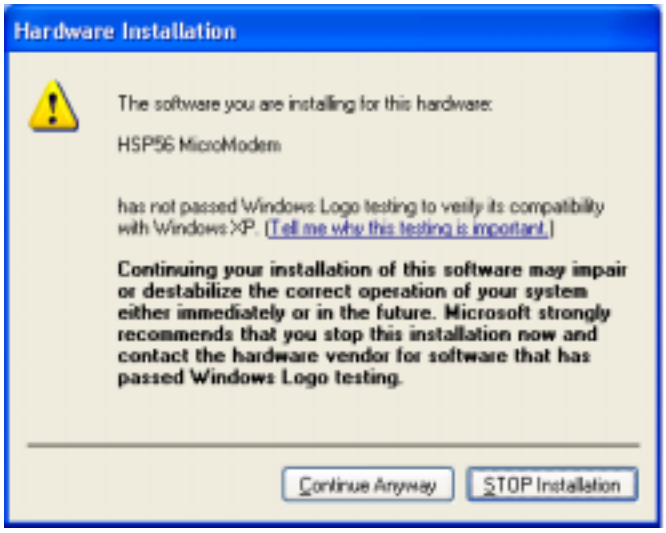


Table of Contents

Chapter 1

Introduction

This mainboard has a **Socket-370** processor socket for **Intel FCPGA Celeron, FCPGA Pentium III** or **Tualatin/Tualatin Celeron** processors. You can install any one of these processors on this mainboard.

This mainboard supports front-side bus speeds of **66MHz**, **100MHz** or **133MHz**.

This mainboard uses the **VIA 8601T** chipset to integrate a **3D Graphics Accelerator** and **Ultra DMA** 33/66/**100** function. The mainboard has a built-in **AC97 Codec**, and an **AMR** (Audio Modem Riser) slot to support Audio and Modem application. In addition, this mainboard has an extended set of **ATX I/O Ports** including PS/2 keyboard and mouse ports, two USB ports, a parallel port, a VGA port, a serial port, a game port and audio ports. An extra USB header gives you the option of connecting two more USB ports.

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

Key Features

The key features of this mainboard include:

Socket-370 Processor Support

- Supports **FCPGA Celeron**, **FCPGA Pentium III** and **Tualatin/Tualatin Celeron** CPUs
- Supports 66MHz, 100MHz or 133MHz Front-Side Bus

All processors are automatically configured using firmware and a synchronous/asynchronous Host/DRAM Clock Scheme.

Note : Do not support PPGA Celeron CPU. Do not try to install PPGA Celeron processor in Socket-370.

Memory Support

- Two DIMM slots for 168-pin SDRAM memory modules
- Support for 100/133 MHz memory bus
- Maximum installed memory is 2 x 512MB = 1GB

Expansion Slots

- One AMR slot for a special audio/modem riser card
- Three 32-bit PCI slots for PCI 2.2-compliant bus interface.
- One 8/16-bit ISA slot.

Onboard IDE channels

- Primary and Secondary PCI IDE channels
- Support for PIO modes, Bus Mastering and Ultra DMA 33/66/100 modes

Power Supply and Power Management

- ATX power supply connector
- ACPI and previous PMU support, suspend switch
- Supports Wake on LAN and Wake on Alarm

Built-in Graphics System

- Onboard **64-bit 2D/3D** graphic engine and Video Accelerator with advanced DVD video
- 2 to 8 MB frame buffer use system memory
- Supports high resolutions up to 1600x1200

AC97 Codec

- Compliant AC97 2.1 specification
- Supports 18-bit ADC (Analog Digital Converter) and DAC (Digital Analog Converter) as well as 18-bit stereo full-duplex codec

Onboard I/O Ports

- Provides PC99 Color Connectors for easy peripheral device connections
- Floppy disk drive connector with 1Mb/s transfer rate
- One serial ports with 16550-compatible fast UART
- One parallel port with ECP and EPP support
- Two USB ports, and optional two USB ports module
- Two PS/2 ports for keyboard and mouse
- One infrared port connector for optional module

Hardware Monitoring

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

Onboard Flash ROM

- Automatic board configuration support Plug and Play of peripheral devices and expansion cards

Bundled Software

- **PC-Cillin2000** provides automatic virus protection under Windows 98/ME/NT/2000/XP
- **MediaRing Talk** provides PC to PC or PC to Phone internet phone communication
- **3Deep** delivers the precise imagery and displays accurate color in your monitor
- **Recovery Genius 21st V5.0** provides the function to recover, reserve and transfer hard disk data.
- **CD Ghost** is the software stimulating a real CD-ROM to perform equivalent function.
- **Language Genius 21st** is the software to provides learning tools of language and singing.

- **PC DJ** is a dual-MP3 player that enables users to actually mix music right on their own personal computers.
- **Adobe Acrobat Reader V5.0** is the software to help users read .PDF files.

Dimensions

- Micro ATX form factor (24.4cm x 19cm)

Package Contents

Your mainboard package ships with the following items:

- The mainboard
- This User's Guide
- 1 UDMA/66 IDE cable
- 1 Floppy disk drive cable
- Support software on CD-ROM disk

Optional Accessories

You can purchase the following optional accessories for this mainboard.

- Extended USB module

Static Electricity Precautions

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

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

Pre-Installation Inspection

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

Chapter 2

Mainboard Installation

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

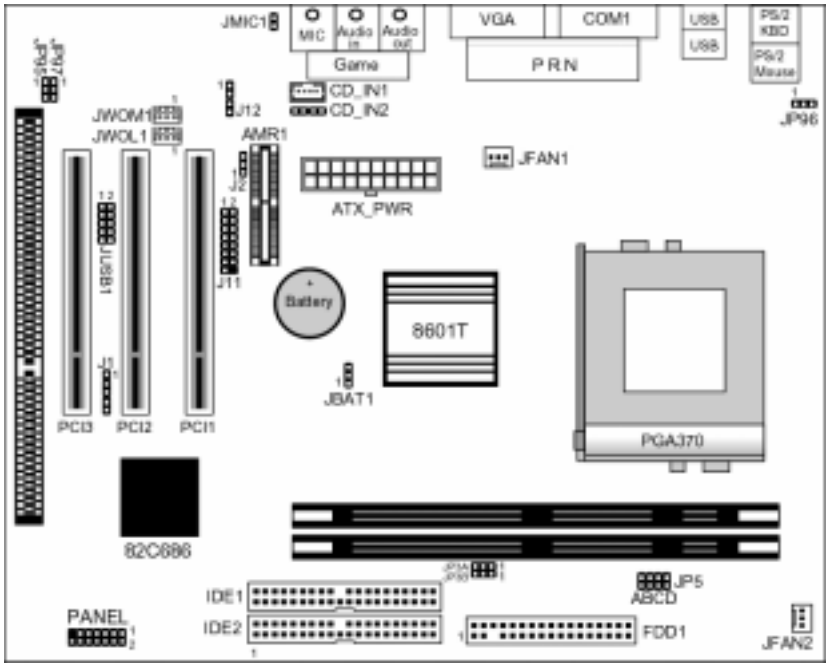
- Identify the mainboard components
- Install a CPU
- Install one or more system memory modules
- Make sure all jumpers and switches are set correctly
- Install this mainboard in a system chassis (case)
- Connect any extension brackets or cables to connecting headers on the mainboard
- Install other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

Note:

1. Before installing this mainboard, make sure the jumper BAT1 is set to Normal setting. See this chapter for information about locating jumper BAT1 and the setting options.
2. Never connect power to the system while installing; otherwise, it may damage the mainboard.

Mainboard Components

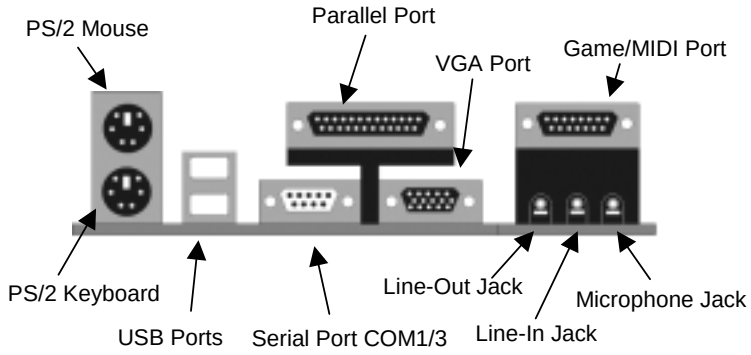
This diagram helps you identify major components on this mainboard.



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

I/O Ports

This illustration shown below is a side view of the built-in I/O ports on this mainboard.



Install A CPU

This mainboard has a Socket 370 supporting FCPGA Celeron, FCPGA Pentium III and Tualatin/Tualatin Celeron processors. **Do not support PPGA Celeron processor.**

To ensure reliability, ensure that your processor has a heatsink/cooling fan assembly.

Do not try to install a Socket 7 processor in the Socket-370. A Socket 7 processor such as the Pentium-MMX, or the AMD K5/K6 does not fit in the Socket 370. **Do not try to install PPGA Celeron processor in Socket-370.**

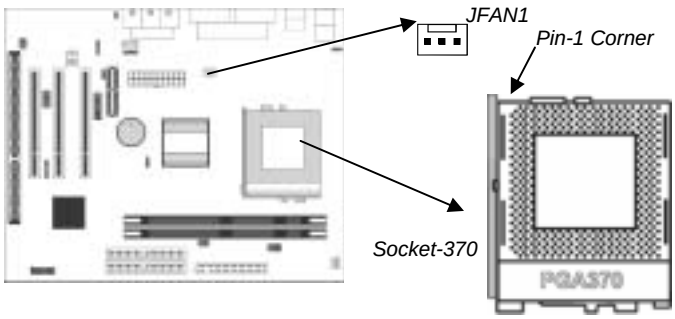
The following list notes the processors that are currently supported by this mainboard.

FCPGA Celeron: 300~966 MHz, FSB: 66 MHz
FCPGA Pentium III: 500~1130MHz, FSB: 100MHz, 133MHz
Tualatin/Tualatin Celeron : up to 1.3GHz, FSB: 133MHz

Installing a Socket-370 Processor

Install a processor into the ZIF (Zero Insertion Force) Socket-370 on the mainboard.

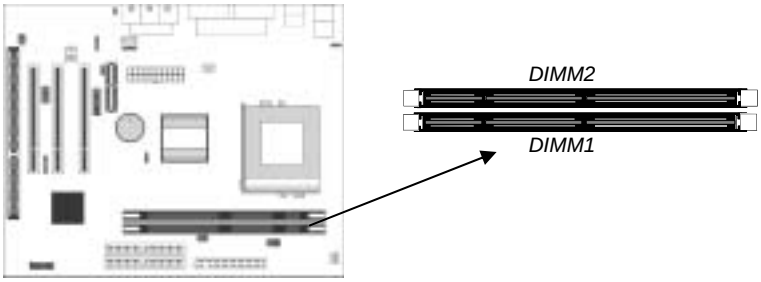
1. Locate the Socket-370 and JFAN1. Pull the locking lever out slightly from the socket and raise it to the upright position.



2. Identify the Pin-1 corner of the processor by its beveled edge.
3. Identify the Pin-1 corner on the Socket-370. The Pin-1 corner is at the top of the locking lever when it is locked.
4. Insert the processor into the socket matching the Pin-1 corner. The processor should drop into place freely without force.
5. Push locking lever down and hook it under the catch on the side of socket. This secures the CPU in the socket.
6. All processors should be installed together with a heatsink /cooling fan, connecting the cable from the fan to the CPU fan power connector JFAN1.

Install Memory

This mainboard has two DIMM sockets for system memory modules. You must install at least one memory module in order to work out this mainboard.



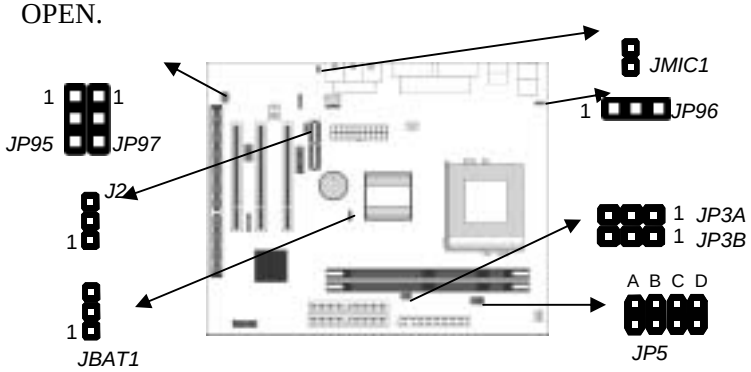
For this mainboard, you must use 168-pin, 3.3V unbuffered PC100 or PC133 SDRAM memory modules. You can install any size memory module from 32 MB to 512 MB, so the maximum memory size is 2 x 512 MB = 1 GB.

Edge connectors on the memory modules have cut outs coinciding with spacers in the DIMM sockets that memory modules can only be installed in the correct orientation.

To install a module, push the retaining latches at either end of the socket outwards. Position the memory module correctly and insert it into the DIMM socket. Press the module down into the socket so that the retaining latches rotate up and secure the module in place by fitting into notches on the edge of the module.

Setting Jumper Switches

Jumpers are sets of pins connected together with caps. Jumper caps change the way of mainboard's operation by changing the electronic circuits on the mainboard. If a jumper cap connects two pins, we say those pins are SHORT; if the cap is removed, they are OPEN.



Jumper JBAT1: Clear CMOS Memory

This jumper is to clear the contents of CMOS memory. You may need to clear the CMOS memory if the settings in the Setup Utility are incorrect that prevents your mainboard from operating. To clear the CMOS memory, disconnect all the power cables from the mainboard and then move the jumper cap into the CLEAR setting for a few seconds.

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

Jumper J2: Codec Selector

This jumper is to select the onboard audio codec or Audio Modem Riser (AMR) slot.

Function	Jumper Setting
Primary codec onboard	Short Pins 1-2
Primary Codec on AMR slot	Short Pins 2-3

Jumper JP3: CPU Frequency Selectors

This jumper consists of two sets of 3-pin jumpers JP3-A and JP3-B. This jumper is to select the frequency of the installed CPU.

Frequency	66 MHz	100 MHz	105 MHz	133 MHz
JP3-A	2-3	2-3	1-2	1-2
JP3-B	2-3	1-2	2-3	1-2

Jumper JP5: CPU Multiplier Selectors

This jumper consists of four sets of 2-pin jumpers JP5-D, JP5-C, JP5-B and JP5-A. This jumper is to select the multiplier of the installed CPU.

CPU Multiplier Selector: **JP5**							
Multiplier	2.5	3.0	3.5		4.0	4.5	5.0
Multiplier	9.5	8.5	9.0	10.5		11.5	12.0
JP5-D	Short	Short	Short	Short	Short	Short	Short
JP5-C	Open	Short	Open	Short	Short	Open	Short
JP5-B	Short	Open	Open	Short	Short	Short	Open
JP5-A	Short	Short	Short	Open	Short	Open	Open
CPU Multiplier Selector: **JP5**							
Multiplier	5.5	6.0	6.5	7.0	7.5	8.0	10.0
Multiplier	13.0	14.0	15.0	16.0			
JP5-D	Short	Open	Open	Open	Open	Open	Open
JP5-C	Open	Short	Open	Short	Open	Short	Open
JP5-B	Open	Short	Short	Open	Open	Short	Short
JP5-A	Open	Short	Short	Short	Short	Open	Open
CPU Multiplier Selector: **JP5**							
Multiplier	11.0						
Multiplier							
JP5-D	Open						
JP5-C	Short						
JP5-B	Open						
JP5-A	Open						

Note: *The CPU speed is equal to the CPU Frequency x the CPU Multiplier.*

Jumper JP95: BIOS Protect

This jumper is to make the BIOS read-only.

Function	Jumper Setting
Enable(read-only)	Short Pins 1-2
Disable	Short Pins 2-3

Jumper JP96: Keyboard Power On

This jumper enables any keyboard activity to power up a system previously in a standby or sleep state.

Function	Jumper Setting
+5V	Short Pins 1-2
+5V SB	Short Pins 2-3

Jumper JP97: Flash ROM Voltage

This jumper enables to select voltage of flash ROM.

Function	Jumper Setting
+5V	Short Pins 1-2
+3.3V	Short Pins 2-3

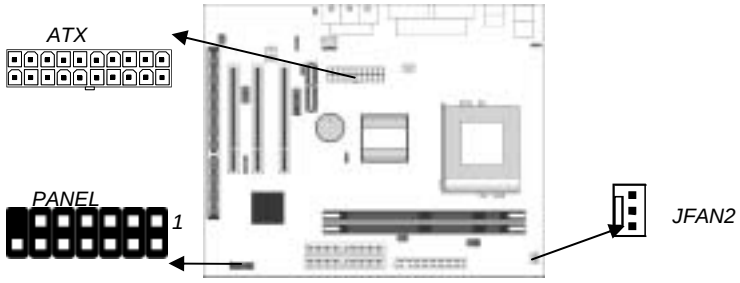
Jumper JMIC1: Microphone-Out Selector

This jumper selects the Microphone-Out to the back-oriented Microphone jack or the front-oriented Microphone header.

Function	Jumper Setting
Back-oriented MIC jack	Short Pins 1-2
Front-oriented MIC header	Open Pins 1-2

Install the Mainboard

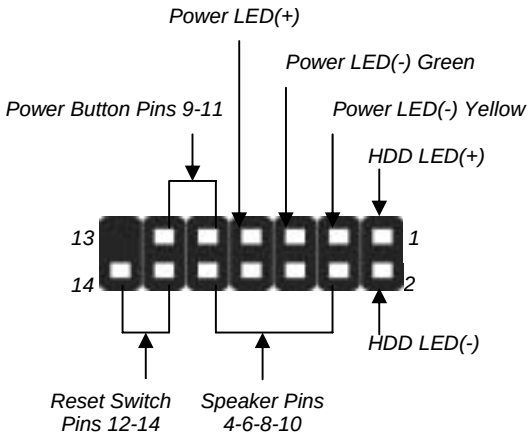
Install the mainboard in a system chassis (case). The board is an ATX size mainboard with a twin-tier of I/O ports. Make sure your case has an I/O cover plate that matches the ports on this mainboard.
Install the mainboard in a case. Follow these instructions of the case manufacturer to use the hardware and internal mounting points on the chassis.



Connect the power connector from the power supply to the **ATX** connector on the mainboard.
If there is a cooling fan installed in the system chassis, connect the cable from the cooling fan to the **JFAN2** fan power connector on the mainboard.

Connect case switches and indicator LEDs respectively to the **PANEL** switch and LED connector header.

This illustration below gives you a guide of the header's pin assignment.



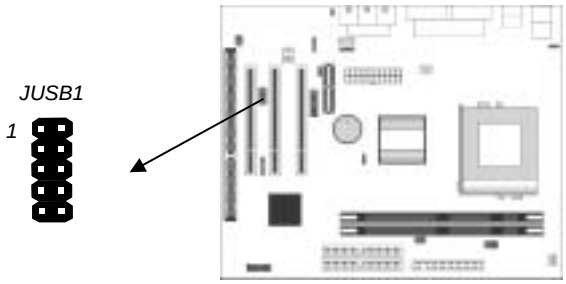
System State	Dual Color POWER LED State
S0	Steady Green
S1	Green Blinking
S3	Steady Yellow
S4/S5	Off

Optional Extension Brackets

You also have a USB module extension bracket for this mainboard. Install it by following these steps below.

Extended USB Module

This module bracket has two USB ports for more USB devices (USB port 3-4).

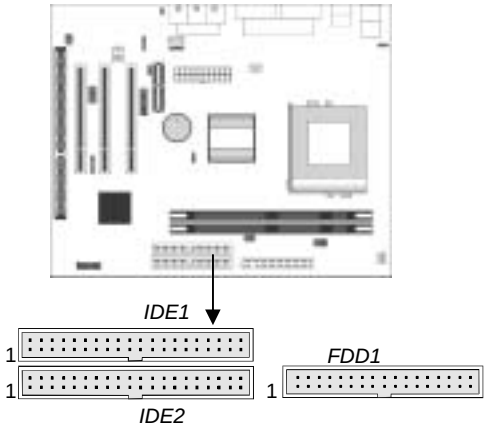


Pin	Signal	Pin	Signal
1	VCC	2	GND
3	UV-	4	NC
5	UV+	6	UV+
7	GND	8	UV-
9	GND	10	VCC

1. Locate the USB1 header on the mainboard.
2. Plug the bracket cable onto the header.
3. In the system chassis, remove a slot cover from one of the expansion slots, install the extension bracket into that emptied slot, and then screw this bracket firmly to that slot.

Install Other Devices

Follow these steps below to install and connect other devices in the system.



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 enclosed cable to connect the drives to the floppy disk drive header **FDD1**.

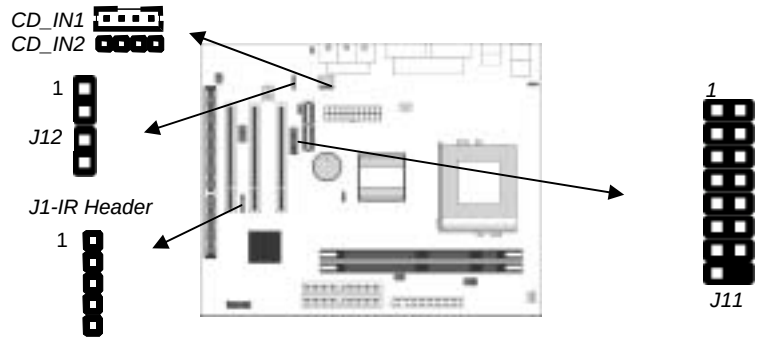
IDE Devices

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 one single cable, you must configure one of the drives as Master and the other 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 enclosed cable 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 another 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.



On the mainboard, locate the two 4-pin connectors CD_IN1 and CD_IN2. There are two kinds of connectors for different brands of CD-ROM drive have different audio cable connectors. Connect the cable to the appropriate connector.

CD_IN1

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

CD_IN2

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

Front Audio Panel

If the front audio panel has a microphone-in jack and/or a speaker-out jack, connect the cables from the microphone-in and speaker-out jacks to the **J11** header on the mainboard. Then set the jumper JMIC1 to *open* setting.

Pin	Signal	Pin	Signal
1	LINE OUT(R)	2	LINE OUT(L)
3	GND(A)	4	GND(A)
5	GND	6	GND
7	+12V	8	NC
9	MIC	10	GND(A)
11	FRONT LINE OUT(R)	12	NC
13	FRONT LINE OUT(L)	14	NC
15	GND(A)	16	NC

Modem In

The Modem In **J12** header on the mainboard helps the input/output of modem audio signals through a microphone jack and/or a speaker-out jack.

Pin	Signal	Pin	Signal
1	MONO-OUT	2	GND
3	GND	4	PHONE-IN

Infrared Port

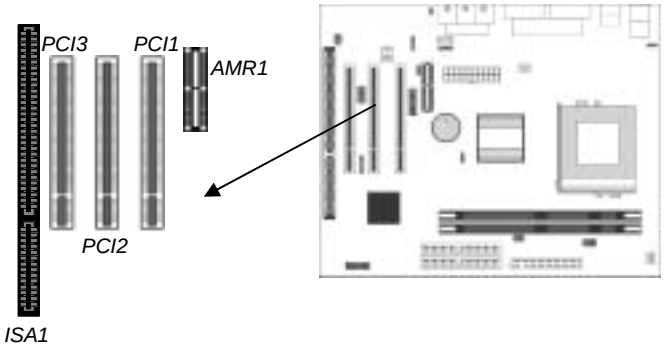
You can connect an infrared port to the mainboard. You can purchase this optional item from the third-party vendors.

1. Locate the infrared port IR header **J1** on the mainboard.
2. If you add an infrared port, connect the ribbon cable from the port to the header, and then secure the port to an appropriate place in your system chassis.

Pin	Signal
1	VCC
2	NC(CUT)
3	IRRX
4	GND
5	IRTX

Expansion Slots

This mainboard has three 32-bit PCI expansion slots, one AMR slot and one 8/16-bit ISA slot.



Follow these steps below to install a PCI/AMR/ISA expansion card.

1. Locate the AMR, PCI or ISA slots on the mainboard.
2. Remove the slot cover from the system chassis.
3. Insert the edge connector of expansion card into the slot and press it firmly down into until fully inserted.
4. Secure the expansion card bracket to the system chassis with that slot cover's screw.

AMR Slot

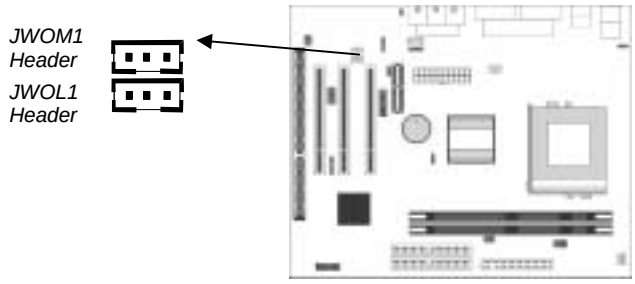
The AMR (Audio Modem Riser) slot is an industry standard slot that allows the installation of a special audio/modem riser card. Different territories have different regulations regarding the specifications of a modem card. You can purchase an approved AMR card in your area and install it directly into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

Wake On Modem (JWOM1)

You can configure your system to be powered down by software and resumed by alarms. If you have installed a fax/modem card, connect the fax/modem to the Wake On Modem header **JWOM1**. You can use the setup utility to program your computer to resume from a power saving mode whenever there is an incoming call to the fax/modem.

Wake On LAN (JWOL1)

If you have installed a LAN adapter expansion card, connect the card to the Wake On LAN connector **JWOL1**. This allows incoming traffic to resume the system from a software power down. You need to enable this feature in the system setup utility.



Pin	Signal
1	5VSB
2	GND
3	-RING

Chapter 3

BIOS Setup Utility

Introduction

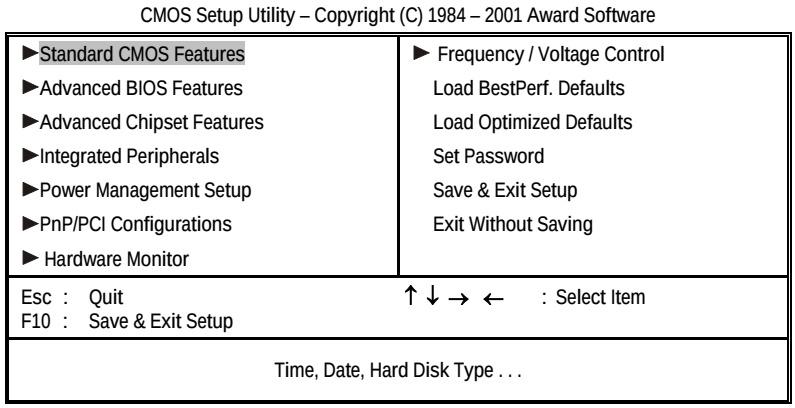
The BIOS Setup Utility records settings and information of your computer, such as date and time, the type of hardware installed, and various configuration settings. Your computer applies those information to initialize all the components when booting up and basic functions of coordination between system 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.



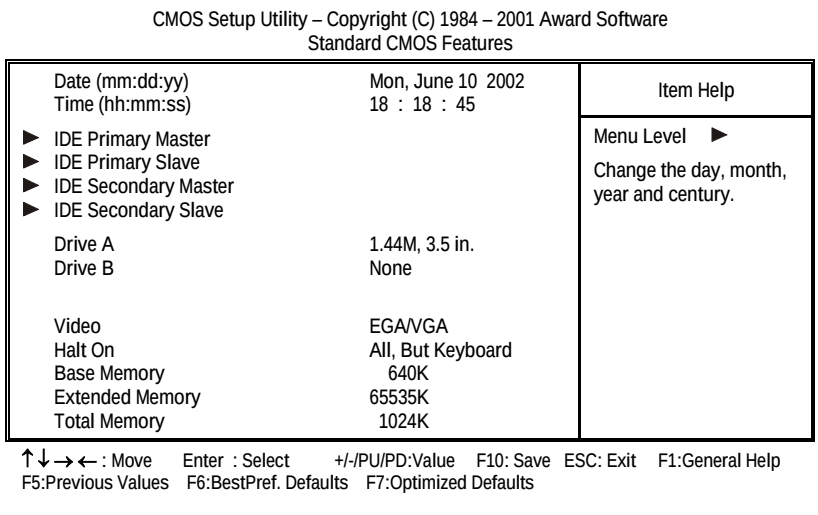
You can use cursor arrow keys to highlight anyone of options on the main menu page. Press **Enter** to select the highlighted option. Press the **Escape** key to leave the setup utility. Hold down the **Shift** key and press **F2** to cycle through the Setup Utility's optional color schemes.

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 that require 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 Features Page

This page helps you set up basic information such as the date and time, the IDE devices, and the diskette drives.

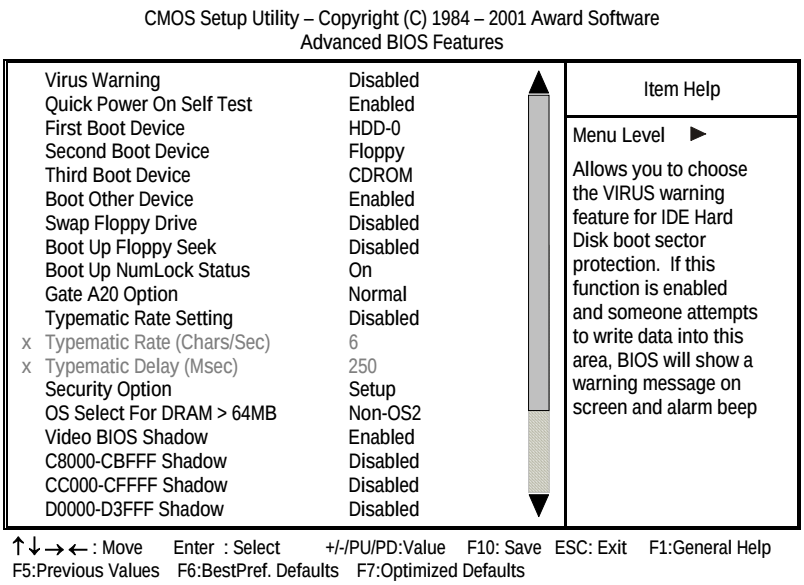


Date & Time	Use these items to set the system date and time
IDE Devices	Your computer has two IDE channels (Primary and Secondary) and each channel can be installed with one or two devices (Master and Slave). Use these items to configure each device on the IDE channel. Press **Enter** to display the IDE sub-menu. Press **Esc** to close the IDE device sub-menu and return to the Standard CMOS Features page.
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.
Video	This item defines the video mode of the system. This mainboard has a built-in VGA graphics system; you must leave this item at the default value.

Halt On	This item defines the operation of the system POST (Power On Self Test) routine. You can use this item to select which types of errors in the POST are sufficient to halt the system.
Base/Extended/ Total Memory	These items are automatically detected by the system at start up time. These are display-only fields. You can't make changes to these fields.

Advanced BIOS Features Page

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



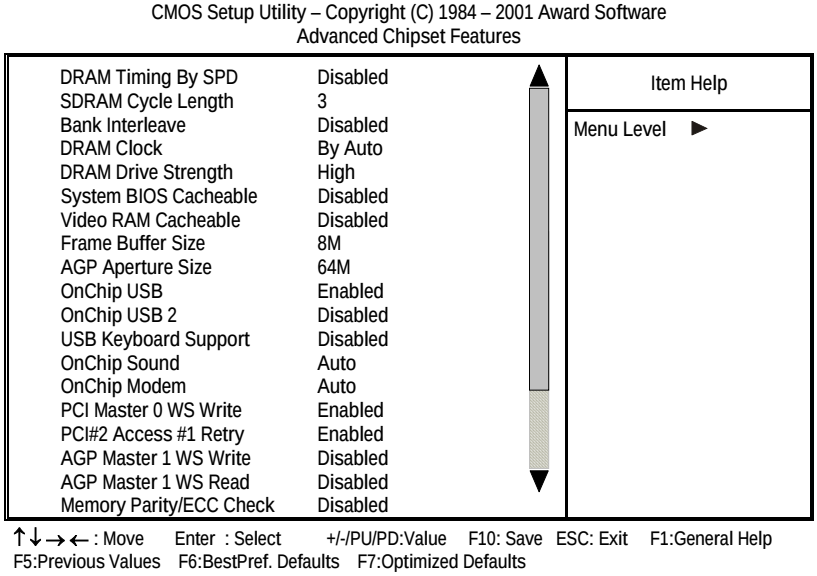
Virus Warning	This mainboard has built-in virus protection in the firmware. Use this item to enable or disable the built-in virus protection.

Quick Power On Self Test	You can enable this item to shorten the power on testing (POST) and have your system start up a little faster. You might like to enable this item after you are confident that your system hardware is operating smoothly.
1st/2nd/3rd Boot Device	Use these three items to select the priority and order of the devices that your system searches for an operating system at start-up time.
Boot Other Device	If you enable this item, the system will search all other possible locations for an operating system if it fails to find one in the devices specified under the first, second, and third boot devices.
Swap Floppy Drive	If you have two floppy diskette drives in your system, this item allows you to swap the assigned drive letters so that drive A becomes drive B, and drive B becomes drive A.
Boot Up Floppy Seek	If this item is enabled, it checks the geometry of the floppy disk drives at start-up time. You don't need to enable this item unless you have an old diskette drive with 360K capacity.
Boot Up NumLock Status	This item defines if the keyboard Num Lock key is active when your system is started.
Gate A20 Option	This item defines how the system handles legacy software that was written for an earlier generation of processors. Leave this item at the default value.
Typematic Rate Setting	If this item is enabled, you can use the following two items to set the typematic rate and the typematic delay settings for your keyboard.
Typematic Rate (Chars/Sec)/ Delay (Msec)	If the item Typematic Rate Setting is enabled, you can use these items to define how many characters per second are generated by a held-down key and how many milliseconds must elapse before a held-down key begins generating repeat characters.
Security Option	If you have installed password protection, this item defines if the password is required at system start up, or if it is only required when a user tries to enter the Setup Utility.
OS Select For DRAM > 64 MB	This item is only required if you have installed more than 64 MB of memory and you are running the OS/2 operating system. Otherwise, leave this item at the default Non-OS2.

Video BIOS Shadow	When enabled this item copies the VGA BIOS into system DRAM.
C8000-CBFFF to D0000-D3FFF Shadow	When enabled, the ROM with the specified address is copied into system DRAM. It will also reduce the size of memory available to the system.

Advanced Chipset Features Page

This page sets up some parameters of the mainboard components including the memory, and the system logic.



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

SDRAM Cycle Length	This field enables you to set the CAS latency time in HCLKs of 2/2 or 3/3. The system board designer should have set the values in this field, depending on the DRAM installed. Do not change the values in this field unless you change specifications of the installed DRAM or the installed CPU.
Bank Interleave	This item allows you to enable or disable the Bank Interleave function with 2 banks or 4 banks.
DRAM Clock	Enables the user to select the DRAM Clock.
DRAM Drive Strength	This option determines the signal strength from the mainboard for the installed DRAM.
System BIOS Cacheable	When enabled, the System BIOS will be cached for faster execution.
Video RAM Cacheable	When enabled, the graphics card's local memory will be cached for faster execution. However, if any program writes to this memory area, a system error may result.
Frame Buffer Size	This option determines the frame buffer size shared from the main memory for use by the onboard VGA display.
AGP Aperture Size	This option determines the effective size of the AGP Graphic *Aperture*, where memory-mapped graphic data structures are located.
OnChip USB	This item allows you to enable the USB port, if you have installed a USB device on the system board.
OnChip USB 2	This item allows you to enable the USB 2 port, if you have installed more USB device on the system board.
USB Keyboard Support	Enables function when the USB keyboard is being used. Disabled (default) when an AT keyboard is used.
OnChip Sound	Disabling this function turns off the onboard audio chip.
OnChip Modem	This should be enabled if your system has a modem installed on the system board and you wish to use it.
PCI Master 0 WS Write	When enabled, writes to the PCI bus are executed with zero wait states.
PCI#2 Access #1 Retry	When enabled, the AGP Bus (PCI#1) access to PCI Bus (PCI#2) is executed with the error retry feature.

AGP Master 1 WS Write	This implements a single delay when writing to the AGP Bus. By default, two-wait states are used by the system, allowing for greater stability.
AGP Master 1 WS Read	This implements a single delay when reading to the AGP Bus. By default, two-wait states are used by the system, allowing for greater stability.
Memory Parity/ECC Check	Enable this item to allow BIOS to perform a parity check to the POST memory tests. Select Enabled only if the system DRAM supports parity checking.

Integrated Peripherals Page

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

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Integrated Peripherals

				Item Help
	On-Chip IDE Channel0		Enabled	
	On-Chip IDE Channel1		Enabled	Menu Level ►
	IDE Prefetch Mode		Enabled	
	Primary Master	PIO	Auto	
	Primary Slave	PIO	Auto	
	Secondary Master	PIO	Auto	
	Secondary Slave	PIO	Auto	
	Primary Master	UDMA	Auto	
	Primary Slave	UDMA	Auto	
	Secondary Master	UDMA	Auto	
	Secondary Slave	UDMA	Auto	
	Init Display First		PCI Slot	
	Onboard FDD Controller		Enabled	
	Onboard Serial Port 1		3F8/IRQ4	
	Onboard IR Port		Disabled	
x	UART 2 Mode		Standard	
x	IR Function Duplex		Half	
x	TX,RX inverting enable		No, Yes	
	Onboard Parallel Port		378/IRQ7	

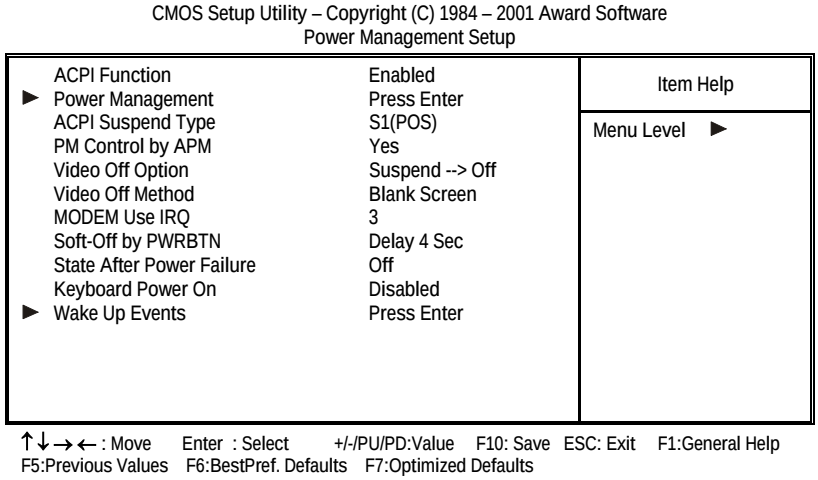
↑↓→←: Move Enter : Select +/-/PU/PD:Value F10: Save ESC: Exit F1:General Help
F5:Previous Values F6:BestPref. Defaults F7:Optimized Defaults

On-Chip IDE Channel 0,1	Use these items to enable or disable the PCI IDE channels that are integrated on the mainboard.
IDE Prefetch Mode	The onboard IDE drive interfaces support IDE prefetching, for faster drive access. If you install a primary and secondary add-in IDE interface, set this field to Disabled if the interface does not support prefetching.

Primary/ Secondary Master/ Slave PIO	Each channel supports a master device and a slave device. These four items let you assign which kind of PIO (Programmed Input/Output) is used by IDE devices. You can choose Auto, to let the system auto detect which PIO mode is best, or you can install a PIO mode from 0-4.
Primary/ Secondary Master/ Slave UDMA	Each channel supports a master device and a slave device. This motherboard supports UltraDMA and provides faster access to IDE devices. If you install a device that supports UltraDMA, change the appropriate item on this list to Auto. You may have to install the UltraDMA driver.
Init Display First	Use this item to define if your graphics adapter is installed in one of the PCI slots or select Onboard if you have a graphics system integrated on the mainboard.
Onboard FDD Controller	This option enables the onboard floppy disk drive controller.
Onboard Serial Port 1	This option is used to assign the I/O address for the onboard serial port.
Onboard IR Port	This option is used to assign the I/O address for the onboard IR port or disabled.
UART2 Mode	This field is available if the Onboard Serial Port 2 field is set to any option but “Disabled.” UART Mode enables you to select the infrared communication protocol—Standard (default), HPSIR or ASKIR. HPSIR is Hewlett Packard’s infrared communication protocol with a maximum baud rate up to 115.2 Kbps. ASKIR is Sharp’s infrared communication protocol with a maximum baud rate up to 57.6 Kbps.
IR Function Duplex	This field is available when UART 2 Mode is set to either ASKIR or HPSIR. This item determines the infrared (IR) function of the onboard infrared chip. Full-duplex means that you can transmit and send information simultaneously. Half duplex is the transmission of data in both directions, but only one direction at a time.
TX, RX inverting enable	Defines the voltage level for Infrared module RxD (receive) mode and TxD (transmit) mode. This setting has to match the requirements of the infrared module used in the system.
Onboard Parallel Port	This option is used to assign the I/O address for the onboard parallel port.

Power Management Setup Page

This page sets up some parameters for system power management operation.

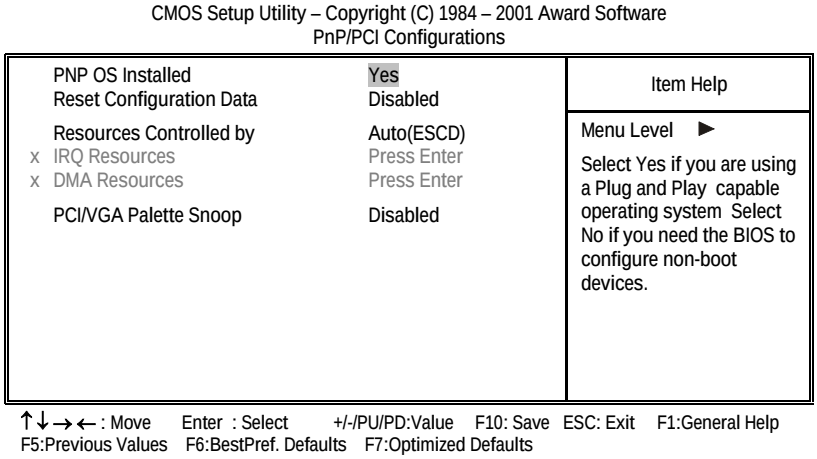


ACPI Function	Use this item to enable or disable the ACPI function.
Power Management	This item acts like a master switch for the power-saving modes and hard disk timeouts. If this item is set to Max Saving, power-saving modes occur after a short timeout. If this item is set to Min Saving, power-saving modes occur after a longer timeout. If the item is set to User Define, you can insert your own timeouts for the power-saving modes.
ACPI Suspend Type	This item defines how your system suspends. The suspend mode of S1(POS) is equivalent to a software power down. If you select the suspend mode of S3(STR), it is a suspend to RAM - the system shuts down with the exception of a refresh current to the system memory.

PM Control by APM	This field allows you to control the PC Monitor's power management features via Intel-Microsoft Advanced Power Management software. Once you have enabled the APM interface, some settings made in the BIOS Setup program may be overridden by APM.
Video Off Option	This option defines if the video is powered down when the system is put into suspend mode.
Video Off Method	This item defines how the video is powered down to save power.
MODEM Use IRQ	If you want an incoming call on a modem to automatically resume the system from a power-saving mode, use this item to specify the interrupt request line (IRQ) that is used by the modem. You might have to connect the fax/modem to the mainboard Wake On Modem connector for this feature to work.
Soft-Off by PWRBTN	Under ACPI (Advanced Configuration and Power management Interface) you can create a software power down. In a software power down, the system can be resumed by Wake Up Alarms. This item lets you install a software power down that is controlled by the normal power button on your system. If the item is set to Instant-Off, then the power button causes a software power down. If the item is set to "Delay 4 Sec." then you have to hold the power button down for four seconds to cause a software power down.
State After Power Failure	Use this item to set a system power state when power restores after sudden AC power loss.
Keyboard Power On	Use this item to enable or disable the keyboard power on function.
Wake Up Events	This item opens a submenu that enables you to set events resuming the system from a power saving mode. Select Wake Up Events and press **Enter** to display the following items: VGA, LPT & COM, HDD & FDD, PCI Master, PowerOn by PCI Card, Wake Up On LAN/Ring, RTC Alarm Resume, Primary INTR, and IRQs Activity Monitoring.

PnP/PCI Configurations Page

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

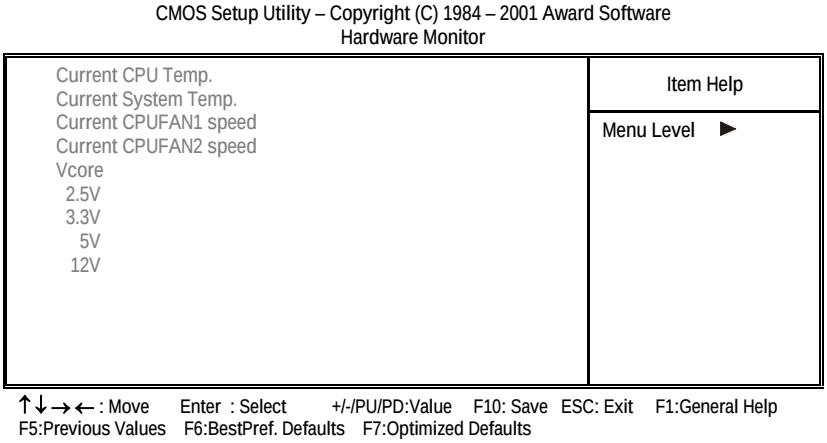


PNP OS Installed	Setting this option to "Yes" allows the PnP OS (instead of BIOS) to assign the system resources such as IRQ and I/O address to the ISA PnP device.
Reset Configuration Data	If you enable this item and restart the system, any PnP configuration data stored in the BIOS setup is cleared from memory. New updated data is created.

Resources Controlled By	You should leave this item at the default Auto (ESCD). Under this setting, the system dynamically allocates resources to plug and play devices as they are required. If you cannot get a legacy ISA (Industry Standard Architecture) expansion card to work properly, you might be able to solve the problem by changing this item to Manual, and then opening up the *IRQ Resources* and *Memory Resources* sub-menus. In the *IRQ Resources* sub-menu, if you change any of the IRQ assignations to Legacy ISA, then that Interrupt Request Line is reserved for a legacy ISA expansion card. Press **Esc** to close the IRQ Resources sub-menu.
PCI/VGA Palette Snoop	This item is designed to overcome some problems that can be caused by some non-standard VGA cards. This board includes a built-in VGA system that does not require palette snooping so you must leave this item disabled.

Hardware Monitor Page

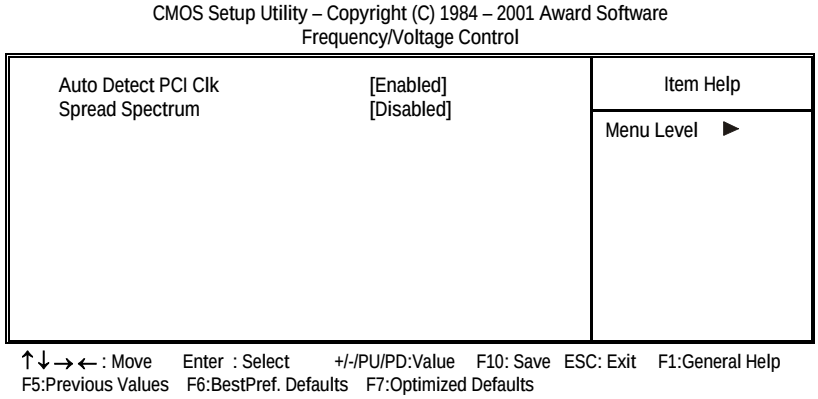
This page sets up some parameters for the hardware monitoring function of this mainboard.



System Component Characteristics	These fields provide you with information about the systems current operating status. You cannot make changes to these fields. The following information is displayed: CPU Temperature System Temperature CPU FAN (in RPMs) System FAN (in RPMs) Vcore (CPU Core voltage) 2.5V (onboard 2.5 volt) 3.3V (onboard 3.3 volt) 5V (power supply's 5 volt) 12V (power supply's 12 volt).

Frequency/Voltage Control

This item enables you to set the clock speed and system bus for your system. The clock speed and system bus are determined by the kind of processor you have installed in your system.



Auto Detect DIMM/PCI Clk	When this item is enabled, BIOS will disable the clock signal of free DIMM and PCI slots.
Spread Spectrum	If you enable spread spectrum, it can significantly reduce the EMI(Electro-Magnetic Interference) generated by the system.

Load BestPerf. Defaults

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 defaults are quite demanding and your system might not function properly if you are using slower memory chips or other low-performance components.
Note: It is highly recommended that users enter this option to load optimal values for accessing the best performance.

Load Optimized Defaults

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.

Set Password

If you highlight this item and press **Enter**, a dialog box appears which lets you enter a password. You can enter no more than eight 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.

Save & Exit Setup

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.

Exit Without Saving

Highlight this item and press **Enter** to discard any changes that you have made in the Setup Utility and exit the setup program. When the Exit Without Saving dialog box appears, press **Y** to discard changes and exit, or press **N** to return to the setup main menu.

Chapter 4

Using the Mainboard Software

About the Software CD-ROM

The support software CD-ROM that is included in the mainboard package contains all the drivers and utility programs needed to properly run the bundled products. Below you can find a brief description of each software program, and the location for your mainboard version. More information on some programs is available in a README file, located in the same directory as the software.

Note: Never try to install software from a folder that is not specified for use with your mainboard.

Before installing any software, always inspect the folder for files named README.TXT, INSTALL.TXT, or something similar. These files may contain important information that is not included in this manual

Utility Software Reference

All the utility software available on the CD-ROM is Windows compliant. It is provided only for the convenience of customers. The following software is furnished under license and may only be used or copied in accordance with the terms of the license.

Note: The software in these folders is subject to change at anytime without prior notice. Please refer to the support CD for available software.

Award Flash Memory Utility

This utility enables you to erase the system BIOS stored on a Flash Memory chip on the mainboard, and lets you copy an updated version of the BIOS to the chip. Proceed with caution when using this program. If you erase the current BIOS and fail to write a new BIOS, or write a new BIOS that is incorrect, your system will malfunction. Refer to Chapter 3, Using BIOS for more information.

PC-CILLIN

The PC-CILLIN software program provides anti-virus protection for your system. This program is available for Windows 2000/ME/98SE and Windows NT. Be sure to check the readme.txt and install the appropriate anti-virus software for your operating system.
We strongly recommend users to install this free anti-virus software to help protect your system against viruses.

Note: Update your virus software regularly to protect against new viruses.

WinFlash Utility

The Award WinFlash utility is a Windows version of the DOS Award BIOS flash writer utility. The utility enables you to flash the system BIOS stored on a Flash Memory chip on the mainboard while in a Windows environment. This utility is currently available for WINXP\ME\2000\98SE. To install the WinFlash utility, run WINFLASH.EXE from the following directory:
\UTILITY\WINFLASH\AWARD

MediaRing Talk – Telephony Software

To install the MediaRing Talk voice modem software for the built-in modem, run MRTALK-SETUP72.EXE from the following directory:
\UTILITY\MEDIARING TALK

Super Voice – Fax/Modem Software

To install the Super Voice voice, fax, data communication application for use with the built-in fax/modem, run PICSHELL.EXE from the following directory:
\UTILITY\SUPER VOICE

CD Ghost

The CD Ghost software enables you to create a virtual cabinet of CD-ROM drives on your system to help you categorize and organize your CD collection. A user-friendly interface assists you in quickly creating images of both CDs and DVDs onto your system. To install the software, run SETUP.EXE from the following directory:
\UTILITY\CDGHOST\ENG\CDGHOST

Recovery Genius

The Recovery Genius software program is an innovative windows application system that protects your Hard Disk Drive from virus intrusion, accidental deletions, and system corruption. To install the Recovery Genius software program run SETUP.EXE from the following directory
\UTILITY\RECOVERY GENIUS\ENG\RECOVERYGENIUS

Language Genius

The Language Genius is a software-based product that helps you to learn new languages. To install the Language Genius software program run SETUP.EXE from the following directory
\UTILITY\LANGUAGE GENIUS\ENG\LANGUAGEGENIUS

PageABC

The PageABC application software enables you to create your own home page. To install the PageABC, run SETUP.EXE from the following directory:
\UTILITY\PageABC

This concludes Chapter 4.