Federal Communications Commission (FCC) Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- ❑ Reorient or relocate the receiving antenna.
- ❑ Increase the separation between the equipment and the receiver.
- ❑ Connect the equipment onto an outlet on a circuit different from that to which the receiver is connected.
- ❑ Consult the dealer or an experienced radio/TV technician for help.

Shielded interconnect cables and shielded AC power cable must be employed with this equipment to insure compliance with the pertinent RF emission limits governing this device. Changes or modifications not expressly approved by the system's manufacturer could void the user's authority to operate the equipment.

Declaration of Conformity

This device complies with part 15 of the FCC rules. Operation is subject to the following conditions:

- ❑ This device may not cause harmful interference, and
- ❑ This device must accept any interference received, including interference that may cause undesired operation.

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INTRODUCTION

Introduction

The CPV4-M/CPV4-MA motherboard features a Socket 370 for the powerful Intel PPGA/FC-PGA Celeron, FC-PGA Pentium III or VIA Cyrix III processor and the new VIA Apollo Pro 133A (VIA 694X/686A) chipset that includes an AGP BUS system. Three 168-pin DIMM/VCM connectors enable you to install up to 1.5 GB of memory. The full range of I/O ports includes two USB ports, as well as PS/2 ports for a PS/2 mouse and keyboard. The motherboard features an auxiliary USB connector for attaching three to four USB devices. An audio modem riser (AMR) card enables you to install a fax/modem. There are two PCI slots and one ISA expansion slot (optional). Additionally, the motherboard features such as AC'97 and a game port.

Using This Manual

This manual is designed to help you build a reliable Personal Computer based on the CPV4-M/CPV4-MA platform.

Introduction

This chapter includes an introduction, a checklist of the items that ship with this motherboard, and a summary of the principal features and components.

Installing Hardware

This chapter explains how to prepare your motherboard for use, how to install it in a computer case, and how to make the various connections to other computer components and peripheral items.

Using the Firmware

This chapter explains how to use the system setup utility that is stored in the motherboard's firmware.

Checklist

The CPV4-M/CPV4-MA motherboard ships with the following components:

- ❑ CPV4-M/CPV4-MA motherboard
- ❑ One floppy disk drive ribbon cable
- ❑ One IDE ribbon cable (Ultra DMA 66)
- ❑ One CD-ROM with support software driver
- ❑ One user's manual

If any item is missing, or any item appears damaged, contact your board vendor immediately.

CPV4-M/CPV4-MA Features and Benefits

The CPV4-M/CPV4-MA motherboard supports Intel's INTEL PPGA/ FC-PGA Celeron or FC-PGA Pentium III or VIA Cyrix III processor. The CPV4-M/CPV4-MA motherboard features an integrated audio system and an AMR (Audio Modem Riser) slot for the easy installation of a fax/modem.

Processor Information

Single S370 INTEL PPGA/ FC-PGA 66 MHz Celeron or FC-PGA Pentium III 100/133 MHz or Cyrix III 66/100/133 MHz processor

One onboard CPU fan header

VRM Rev. 8.4 components installed onboard

Chipset Information

VIA 82C694X base processor supporting 66/100/133 MHz frontside bus (FSB) frequencies

VIA 82C686A PCI Super I/O integrated peripheral controller chipset

VIA's chipset provides a full range of FSB support for the Intel 66/100/133 PPGA/FC-PGA or VIA Cyrix III 66/100/133 Socket 370 processor. This economical chipset provides VCM (Virtual Channel Memory) support, and enables synchronous and asynchronous fre-

quency operation between the processor and the memory over a wide frequency range. ECC and memory parity features are optional.

The I/O chipset is fully PC99, ACPI v1.0, and APM v1.2 compliant and features a hardware SoundBlaster/AC'97 audio function. The integrated RTC has extended 256 bytes of CMOS RAM. The USB controller provides support for four USB ports and is compatible with USB v1.1 and Intel's Universal HCI v1.1.

Main Memory

Three 168-pin DIMM/VCM sockets

Up to 1.5 GB memory with or without ECC

The system supports up to three SDRAM memory modules for a maximum memory of 1.5 GB. You can install high-performance PC 100 or PC 133 memory modules operating over a 66/100/133 MHz frontside memory bus. VCM (Virtual Channel Memory) is also supported. Synchronous and asynchronous FSB mode provides more flexibility for processor to memory operation.

AGP Graphics

AGP slot for 1/2/4 X mode AGP graphics adapter

Supports accelerated 3D graphics engines

The AGP graphics slot is fully AGP 2.0 compliant and enables the graphics controller to access the main memory at double the speed of previous platforms, providing enhanced 3D graphics and video performance.

Integrated Audio

Integrated hardware Sound Blaster AC '97 Audio/Direct Sound

Integrated Creative ES 1373 PCI Audio (CPV4-MA only)

Compatible with Sound Blaster and MS DirectSound, DirectSound 3D and DirectMusic specification

The integrated audio system supports industry standard specifications including 3D sound. The audio system includes three audio jacks (line-in, line-out, and microphone) and supports full-duplex operation under Windows 95/98.

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BIOS Information

Award Plug and Play flash BIOS

ACPI/Deep Green/Energy Star/PC97, PC98, and PC99 compliant

Blinking LED for sleep mode and other functions

Year 2000 compliant

The system BIOS supports automatic detection and configuration of the processor, hardware monitoring, and the Advanced Configuration and Power management Interface (ACPI) specification. The ACPI specification provides easy configuration and energy-efficient operation.

Disk Drive & System I/O

Two onboard dual-channel Ultra DMA 33/66 PCI Bus-Master IDE ports

One floppy drive connector supporting floppy disk drives up to 2.88 MB

Two 16550 compatible high speed serial ports

One ECP/EPP high speed parallel port

Four USB Rev 1.1 ports

One SIR (infrared) port

One PS/2 mouse port and one PS/2 keyboard port

One game port

One line in jack, one line out jack, one microphone jack

The motherboard is installed with a full suite of I/O ports including two PCI IDE channels that support bus mastering Ultra DMA 33/66.

Expansion Slots

Two 32-bit PCI expansion slots

One audio modem riser (AMR) slot

One legacy 8/16-bit ISA expansion slot (optional for CPV4-MA only)

Two 32-bit PCI slots let you add in a variety of extra features to the system. The AMR slot permits the easy installation of a third-party audio modem riser (AMR) card. The AMR card can be designed and specified to meet the telecommunications regulations for fax/modems in whatever territory you are using the motherboard. The ISA slot enables you to add older 8/16 – bit cards. One AMR slot is shared with one ISA

slot. This means that you can use either one of these slots but not both together at the same time.

Voltage and Power

PIN	Description	PIN	Description
1	3.3V	11	3.3V
2	3.3V	12	-12V
3	Ground	13	Ground
4	+5V	14	PS-ON
5	Ground	15	Ground
6	+5V	16	Ground
7	Ground	17	Ground
8	Power OK	18	-5V
9	5VSB	19	+5V
10	+12V	20	+5V
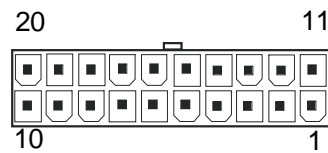
The system is assembled with an ATX power supply and supports all the power management benefits of the ATX system including a software powerdown, power saving modes, wake-up alarms for modem, network and a realtime clock.

Physical Dimensions

Micro ATX (9.6-inch x 8.0-inch)

Double row ATX connectors

The micro-ATX format lets you install the motherboard in a variety of small-footprint ATX cases as well as a full-size ATX case.

INSTALLING HARDWARE

Introduction

This chapter is a step-by-step guide that explains how to use your CPV4-M/CPV4-MA motherboard to build a powerful computer system. At a minimum, you will need the following components in order to build a fully functioning system.

- ❑ Computer case with ATX power supply
- ❑ Intel Socket 370 PPGA/ FC-PGA Celeron or FC-PGA Pentium III or VIA Cyrix III Processor
- ❑ One SDRAM memory module
- ❑ One graphics adapter
- ❑ One floppy disk drive
- ❑ One UDMA 33/66 IDE hard disk drive
- ❑ One CD-ROM drive
- ❑ One display monitor
- ❑ One PS/2 mouse
- ❑ One PS/2 keyboard
- ❑ One set of loudspeakers

Of course, you can use the system I/O ports and expansion slots to add many more features and components to your system than the essential items listed above.

Safety Measures

Computer components and electronic circuit boards can be damaged by discharges of static electricity. Working on computers that are still connected to a power supply can be extremely dangerous. Follow the simple guidelines below to avoid damage to your computer or yourself.

❑ Always disconnect the motherboard from the ATX power supply, and disconnect the computer from the power outlet whenever you are working inside the computer case.

❑ If possible, wear a grounded wrist strap when you are installing the motherboard or working inside the computer case. Alternatively, discharge any static electricity by touching the bare metal chassis of the computer case, or the bare metal body of any other grounded appliance.

❑ Hold electronic circuit boards by the edges only. Do not touch the components on the board unless it is necessary to do so. Don't flex or stress the circuit board.

❑ Leave all components inside the static-proof packaging that it ships with until you are ready to use the component for the installation.

CPV4-M/CPV4-MA Motherboard Guide
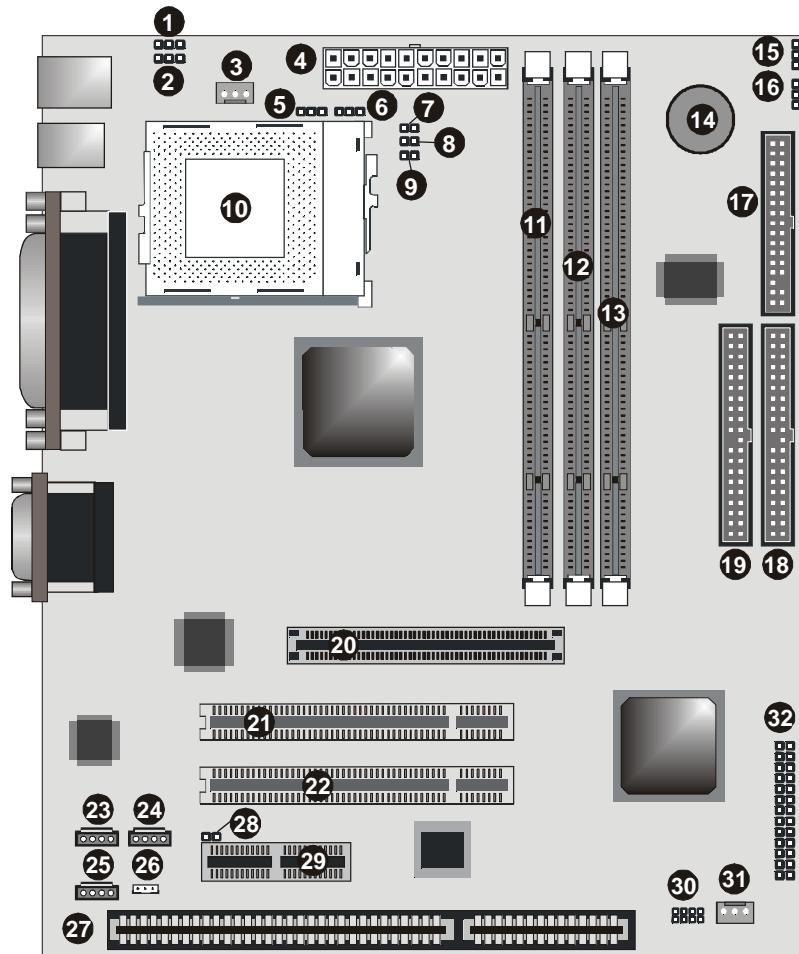
Note: *Because of optional items and design changes, your motherboard may not be identical to the one shown in the illustration.*

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Key to Motherboard Components

No.	Name	Function
1	JP11	USB power on function select
2	JP10	Keyboard power on function select
3	FAN1	Power supply for 12V CPU cooling fan
4	POWER	Socket for the ATX power supply cable
5	JP3	Select system bus frequency
6	JP4	
7	JP8	Intel / VIA Cyrix III processor selection
8	JP7	
9	JP9	
10	CPU	Socket-370 for PPGA/ FC-PGA Celeron, FC-PGA Pentium-III and Cyrix III
11	DIMM3	Three slots for SDRAM memory modules
12	DIMM2	
13	DIMM1	
14	BATTERY	CMOS memory / Realtime clock battery
15	JP6	Clear Password jumper
16	JP5	Clear CMOS jumper
17	FLOPPY	Floppy disk controller connector
18	SECONDARY	Secondary IDE channel connector
19	PRIMARY	Primary IDE channel connector
20	AGP	One AGP slot for AGP graphics adapter
21	PCI1	Two 32-bit PCI expansion slots
22	PCI2	
23	CD IN	Audio-in connector for CD-ROM/DVD drive
24	TAD	Audio-in connector for voice modem card
25	AUX IN	Audio-in connector for AUX IN
26	WOL	Wake on LAN connector
27	ISA	One 8/16-bit ISA expansion slots
28	JP1	Connector for Selecting AMR card as master/slave device
29	AMR	AMR slot for Audio Modem Riser card

30	USB3/4	Connector for USB port 3/4
31	FAN2	Power supply for 12V chassis cooling fan
32	PANEL	Connectors for case switches and indicators

Input/Output Ports

Like most ATX motherboards, this board is installed with a two-tier row of I/O ports. Refer to the illustration below:
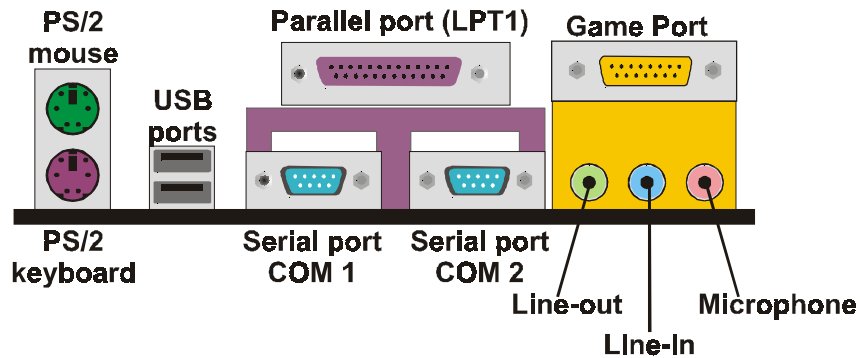
Note: The game port is only available in the CPV4-MA model.

I/O Port Color Coding

The industry has adopted a standard color code to identify many of the I/O ports used in today's systems.

Connector	Color
PS/2 compatible mouse	Green
PS/2 compatible keyboard	Purple
USB	Black
Parallel	Burgundy
Serial	Teal or Turquoise
MIDI/Game	Gold
Audio line out	Lime

| Audio line in | Light blue |
| Microphone | Pink |

Pre-Installation Procedure

Before you install your motherboard into a computer case, it's convenient to install the processor, install the memory modules, and set all the jumpers to the correct settings.

Install the Processor

Choosing a Processor

This motherboard has a Socket-370 that can only be installed with an Intel INTEL PPGA (Plastic Pin Grid Array) /FC-PGA Celeron or an FC-PGA Pentium III or VIA Cyrix III processor. Take care that you don't purchase a SEPP (Single Edge Processor Package) Celeron or a Slot 1 Pentium III. Also, don't try to install a Socket 7 processor that is similar in design and appearance to the INTEL PPGA/ FC-PGACeleron/FC-PGA Pentium III.

PPGA/ FC-PGA Celeron, FC-PGA Pentium III and Cyrix III processors have shipped with clock speeds operating over a 66/100/133 MHz front-side bus. All current INTEL PPGA/ FC-PGA Celeron, FC-PGA Pentium III and VIA Cyrix III processors are supported by this motherboard. Use the fastest processor you can afford—the faster the clock speed of the processor, the better the performance of your system.

Make sure that your processor includes a heat sink/cooling fan assembly. Today's high-speed processors must be cooled in order to ensure reliable operation.

We strongly recommend that you don't try to run your processor faster than its rated speed. Overclocking can introduce reliability errors and the excess heat generated can damage components.

Installation Procedure

1. On the motherboard, identify the CPU Socket-370 and the cooling fan power-supply connector FAN1.

Fan1

Socket 370
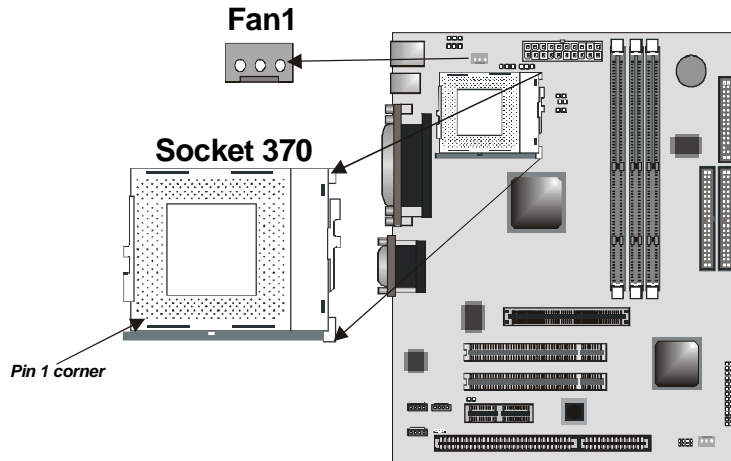
Pin 1 corner

2. Identify the pin-1 corner of the Socket-370. The pin-1 corner is on the same side as the locking lever, as shown in the illustration below.

3. Identify the pin-1 corner of the processor (the pin-1 corner on the processor has a beveled edge).

Upright locking lever

PPGA Celeron/FC-PGA Pentium III (without heatsink and cooling fan)
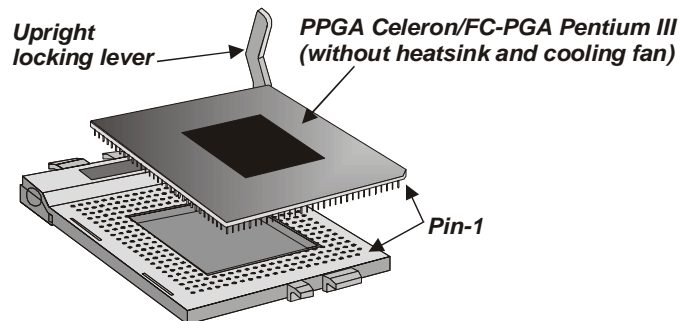
Pin-1

4. Pull the locking lever of the Socket-370 away from the socket to unlatch it, and then swing the lever into the upright position.

5. Align the pin-1 corners and drop the processor into the Socket-370. The processor should drop into place without any force. If it doesn't seat properly, check that you have the pin-1 corners in the correct position.

6. Swing the locking lever down to lock the processor in place and latch the lever under the catch on the side of the socket.

7. Plug the cable from the heat sink/cooling fan assembly into the processor cooling fan power supply FAN1.

8. Configuration of the processor is carried out using the system setup utility as described in chapter three. Configure the processor the first time you turn on the assembled computer.

Install Memory Modules

This motherboard has three DIMM (Dual In-line Memory Modules) or VCM (Virtual Channel Memory) slots for the installation of memory modules. The memory modules require 3.3V SDRAM memory chips.
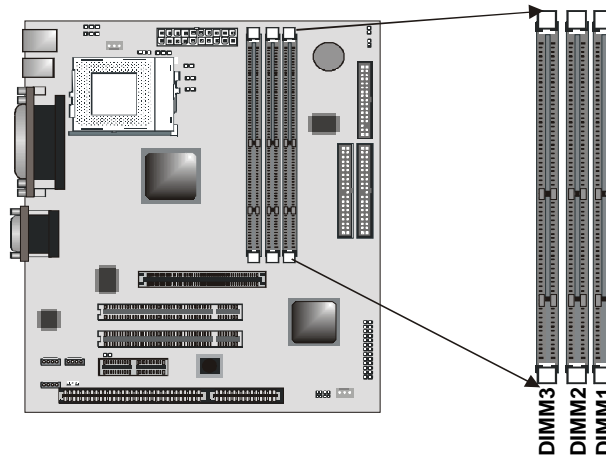
We recommend that you install PC 100/133 modules or faster for optimum performance.

You can install one to three modules. If you install just one module, it makes no difference if you install it in DIMM1, DIMM2, or DIMM3. Each

memory module accommodates a maximum of 512 MB; maximum memory is 1.5 GB.

Follow these instructions to install memory modules:

1. On the motherboard, locate the two DIMM/VCM slots.

2. Pull the locking latches of the slot outwards.

3. Align the memory module correctly. The edge connector of the memory module has notches that match obstructions in the slot. You must match the notches with the obstructions in order to install the module.
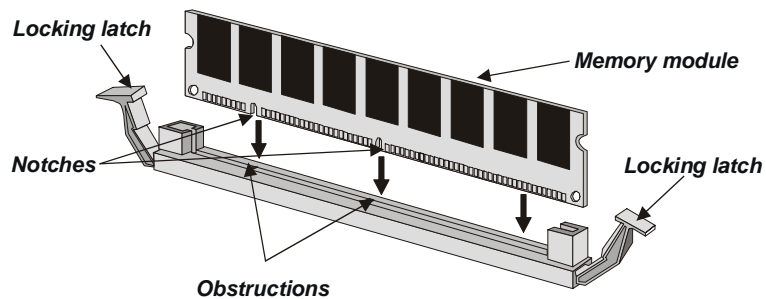
4. Press the edge connector of the memory module into the slot. Press down quite firmly so that the locking latches of the DIMM/VCM slot are levered upwards to secure the memory module in place.

5. Repeat the process with any other memory modules that you want to install.

Set the Jumpers

This motherboard has jumpers that need to be set correctly. Jumpers are sets of two, three, or more pins. You can use a jumper cap to connect two adjacent pins. When a jumper cap connects two pins, we say that the pins are SHORT. If you remove a jumper cap from two pins, we say that the pins are OPEN. The illustrations below show the different positions of a jumper cap on a typical 3-pin jumper. By changing the jumper cap, you change the circuits of the motherboard and enable or disable certain features or properties of the board.
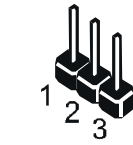
**3-pin jumper
(no jumper cap)**   **3-pin jumper
(pins 1-2 SHORT)**   **3-pin jumper
(pins 2-3 SHORT)**
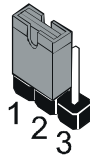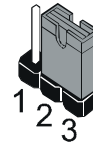
Jumper Location

The illustration below shows the location of the jumpers on the mainboard:
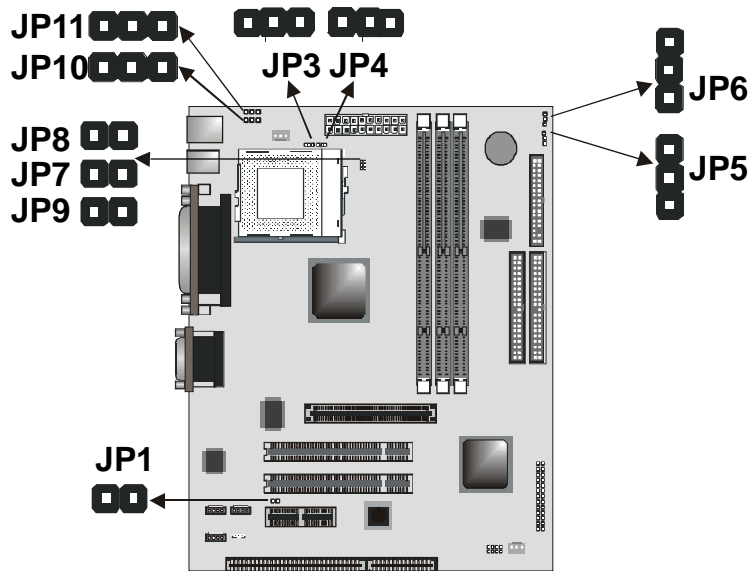
JP1: Select AMR Card As Master/Slave Device

Use these 3-pin jumpers to select AMR card as master/slave device. When Creative PCI Audio Chip is on board, you don't put the mini-jumper on JP1. That means set " Off " for selecting AMR card as master device. When the motherboard is not mounted Creative PCI Audio Chip, set " On " for selecting AC'97 Codec as master device and AMR card as slave device.

CPV4-M

Function	Jumper Cap
Select AMR card as master	Open pins 1-2
Select AMR card as slave	Short pins 1-2

ON

JP1

2   1
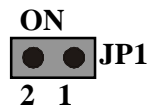
CPV4-MA

Function	Jumper Cap
Select AMR card as master	Open pins 1-2
Select AMR card as slave	Short pins 1-2

OPEN

● ● **JP1**

2 1
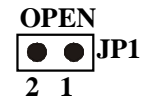
Note: The default setting is shaded gray.

JP3 and JP4: Select System Bus Frequency

Use these 3-pin jumpers to set the system bus frequency for the processor. In the default setting, the system automatically selects the correct frequency for the installed processor. In the "Force 66/100 MHz" settings, the system will use either 66 or 100 MHz no matter what the installed processor frequency is.

Function	Jumper Cap
Force 66 MHz	Short JP3 Pins 1-2
	Short JP4 Pins 1-2
Force 100 MHz	Short JP3 Pins 2-3
	Short JP4 Pins 1-2
Auto Select Frequency	Short JP3 Pins 2-3
	Short JP4 Pins 2-3
Reserved	The others

JP3 ● ● ●

1   2   3

JP4 ● ● ●

1   2   3
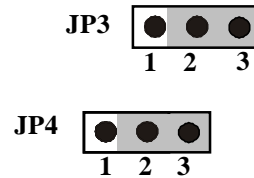
Note: The default setting is shaded gray.

Warning! Setting the processor to a speed higher than its normal speed is called overclocking and is not recommended.

JP5: Clear CMOS memory jumper

Use this 3-pin jumper to clear all the current data stored in the CMOS memory. The setup utility is stored in CMOS, so you might need to clear this memory if incorrect setup data is stopping your system from starting. To clear the CMOS, first shut down the motherboard. Adjust JP5 to the pins 1-2 setting and power on the motherboard. Press Key F1 to enter the setup utility. Before saving the changes of setup utility you modify, return the jumper to the pins 2-3 setting.

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Function	Jumper Cap
Clear CMOS	Short pins 1-2
Normal operation	Short pins 2-3

JP5 **1** **2** 3
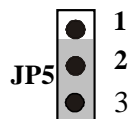
Note: The default setting is shaded gray.

JP6: Clear Password Jumper

Use this 3-pin jumper to clear the password stored in the CMOS memory. The setup utility can be protected by a password. This jumper allows you to clear the password protection from the setup utility, in case you forgot the initial password. To clear the CMOS password protection, first shut down the motherboard. Adjust JP6 to the pins 1-2 setting and power on the motherboard. Press Key F1 to enter the setup utility and reset your password. Before saving the changes of setup utility you modify, return the jumper to the pins 2-3 setting.

Function	Jumper Cap
Clear Password	Short pins 1-2
Normal operation	Short pins 2-3

JP6 **1** **2** 3
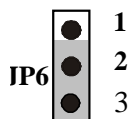
Note: The default setting is shaded gray.

JP7,JP8,JP9: Intel / VIA Cyrix III processor selection

Use these 3-pin jumpers to select which brand processor is installed.

Function	JP7	JP8	JP9
Select Intel Processor	Open pins 1-2	Short pins 1-2	Short pins 1-2
Select VIA Cyrix III Processor	Short pins 1-2	Open pins 1-2	Open pins 1-2
Reserved	The others		

1 2
JP8
JP7
JP9

JP10: Select Keyboard Power On Function

Use this 3-pin jumper to enable or disable the Keyboard Power On function. If enabled, pressing any keyboard key powers on the system.

Function	Jumper Cap
Keyboard power on enabled	Short pins 1-2
Keyboard power on disabled	Short pins 2-3

JP10

3   2   1
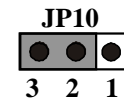
Note: The default setting is shaded gray.

JP11: Select USB Power On Function

Use this 3-pin jumper to enable or disable the USB Power On function. If enabled, any USB activity powers on the system.

Function	Jumper Cap
USB power on enabled	Short pins 1-2
USB power on disabled	Short pins 2-3

JP11

3   2   1
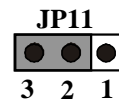
Note: The default setting is shaded gray.

Install the Motherboard in a Computer Case

After you have prepared the motherboard by installing a processor, one or more memory modules, and have set the jumpers correctly, install the board into a computer case and begin connecting essential peripheral items to the connectors on the motherboard.

Choosing a Computer Case

This is a micro-ATX motherboard. It must be installed in a case that uses an ATX power supply. Some small-footprint cases are specially designed for micro-ATX motherboards. Make sure that the computer case has a two-tier I/O template on the rear side that matches the two-tier I/O port array on this board.

This board can support two floppy disk drives and four IDE devices, so you might want to choose a case that allows you to install a full complement of six devices. Make sure that the case power supply unit has enough capacity to power all the drives that you plan to install.

Follow the instructions given with the computer case to install the board onto the mounting brackets inside the case. The motherboard has several holes drilled through it, and you should be able to drive a screw through some of these holes into the mounting brackets in the case. Don't overtighten the screws as this can stress the motherboard.

Connecting the Case Components

Most computer cases include a power supply unit, power and reset switches and indicators, and frequently a chassis-cooling fan. Some cases also have a case open detect alarm.

This motherboard has PS/2 and USB ports installed on the rear edge I/O port array. However, some computer cases have a special module that mounts USB ports on the front side of the case.

If you have this kind of case, you can use the auxiliary USB connector USB3/4 to connect the front-mounted ports to the motherboard. You can use both the front and rear-mounted USB ports at the same time.

Note: Make sure that the power supply unit in the case is not connected to a power outlet while you are carrying out the installation procedure.

Follow the instructions below to connect the case components:

1. On the motherboard, locate the power connector POWER, the switches and indicators connector PANEL, the chassis cooling fan power connector FAN2, and the auxiliary USB connector USB3/4.

POWER

PANEL
FAN2

USB3/4
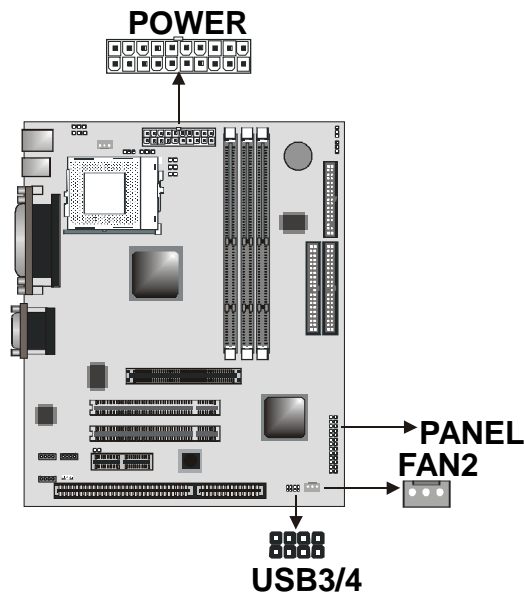
2. Plug the main power supply cable from the case power-supply unit into the POWER ATX connector on the motherboard.

3. If your computer case has a chassis-cooling fan, plug the power cable of the cooling fan into the cooling fan power connector FAN2.

4. If your computer has a module with USB ports, connect the cable from the module to the auxiliary USB port connector USB3/4. You can use both the front and rear-mounted USB ports at the same time.

5. Locate the PANEL switches and indicators connector on the motherboard. Begin connecting the case switches and indicators to the appropriate pins on the PANEL connector.

Connect your computer case's front panel LEDs and buttons to the PANEL connector. Use the illustration and tables below to make the correct connections.

Infrared Connector

PIN	Description
2	N.C.
4	IR TX
6	Ground
8	IR RX
10	N.C.
12	+5V
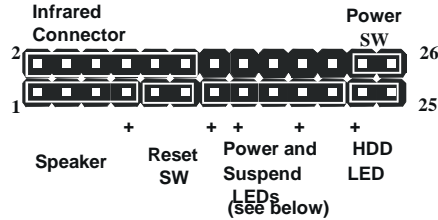
Note: *If you short pins 1-3 on PANEL, the onboard buzzer is enabled and the speaker is disabled.*

Connecting Power and Suspend LEDs

Item	LED	# of pin	Color	Connect to pin
1	Power LED Suspend LED (Note 1)	3-pin 3-pin	Mono. Mono.	13, 15, 17 19, 21
2	Power/Suspend LED (Note 1)	3-pin	Dual Color	15, 17, 19
3	Power LED Suspend LED (Note 1)	3-pin 3-pin	Mono. Mono.	15, 17 19, 21
4	Power/Suspend LED (Note 1)	3-pin	Mono.	15, 17, 19
5	Power/Suspend LED (Note 2)	3-pin	Mono.	19, 21

Note: 1 *Item1~4: Power LED State is "Always High"*

Suspend LED State is "Pulse"

Floppy Disk Drive

The motherboard has a floppy disk drive interface (FLOPPY) that will support one or two floppy disk drives. The floppy disk drive (FDD) ribbon cable has connectors for two 3.5-inch wide disk drives.

Note: *The pin-1 side of the FDD ribbon cable is marked with a red stripe*

1. Install the FDD into a suitable drive bay in your computer case.
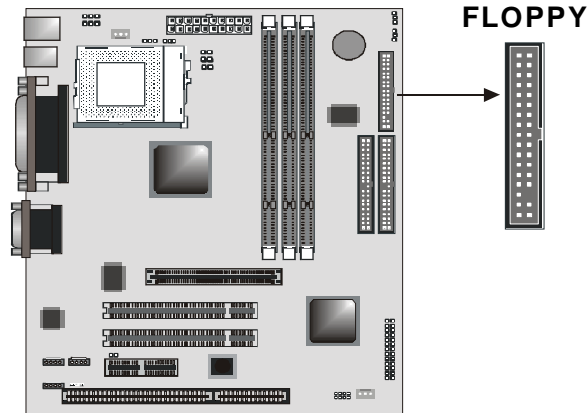
FLOPPY

2. Locate the FDD connector on the motherboard. The connector is named FLOPPY. Plug one end of the FDD ribbon cable into FLOPPY. Plug one of the other connectors into the data connector on the rear edge of the FDD module.

3. Plug a free power supply cable from the case power-supply unit into the power connector on the rear edge of the floppy disk drive.

4. When you start up your assembled computer, the floppy disk drive will be identified as drive A. If you have installed two drives on the cable, they will be identified as drives A and B.

5. Run the setup utility to configure the floppy disk drives. See the following chapter for more information.

IDE Devices

The motherboard has two IDE channel connectors; the Primary IDE channel (PRIMARY), and the Secondary IDE channel (SECONDARY). Each IDE channel can support two devices. IDE devices include hard disk drives, CD-ROM drives, and removable media drives such as ZIP drives and LS-120 drives.

Typically, most people install one IDE hard disk drive and one IDE CD-ROM drive so this motherboard ships with one IDE cable. You can easily obtain a second IDE cable if you want to install more than two IDE devices.

Note: The pin-1 side of the IDE ribbon cable is marked with a red stripe.

Master & Slave

When you install two devices on a single IDE channel, you must configure one of the devices as a MASTER device and one of the devices as a SLAVE device. These configurations have no effect on performance and are just a naming convention so that your computer system can distinguish between the two devices on the same channel.

All IDE devices have documentation that tells you how to set the device as MASTER or SLAVE. Normally you do this by changing a jumper on the rear edge of the device. If you are installing two devices on the IDE ribbon cable, configure one device as MASTER and one device as SLAVE before you begin.

Installing the Device

1. Install the IDE device(s) into a suitable drive bay in your computer case.

2. Locate the Primary IDE channel connector on the motherboard. The connector is named PRIMARY. Plug one end of the IDE cable into PRIMARY. Plug one of the other connectors into the data connector on the rear edge of the IDE device. If you are installing two devices, plug the other connector into the data connector on the rear edge of the second device.
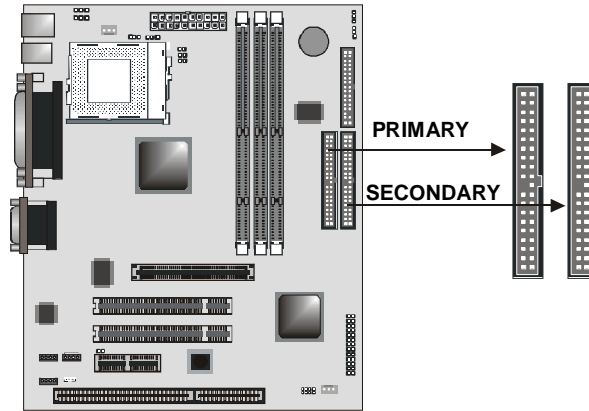
3. Plug a free power supply cable from the case power supply unit into the power connector on the rear edge of the IDE device(s).

4. When you start up your assembled computer, an IDE hard disk drive on the primary IDE channel is identified as drive C. A second IDE drive on the primary IDE channel is identified as drive D.

5. Run the setup utility to configure the installed IDE devices. The setup utility can automatically configure most IDE devices; see the following chapter for more information.

6. If you have installed a CD-ROM (or DVD) drive, you need to connect the audio output of the drive to the sound system integrated on the motherboard. This procedure is explained in the following section Audio Connections.

7. When using an IDE UDMA 66 cable, plug the system connector into the PRIMARY/SECONDARY onboard connector. Plug the Master connector of the cable into the IDE UDMA 66 Master device, and plug the Slave connector of the cable into the IDE UDMA 66 device used as a Slave device.

Audio Connections

You can connect the audio output from your CD-ROM (or DVD) drive into the CD-IN connector on the motherboard. Refer to the following illustration:
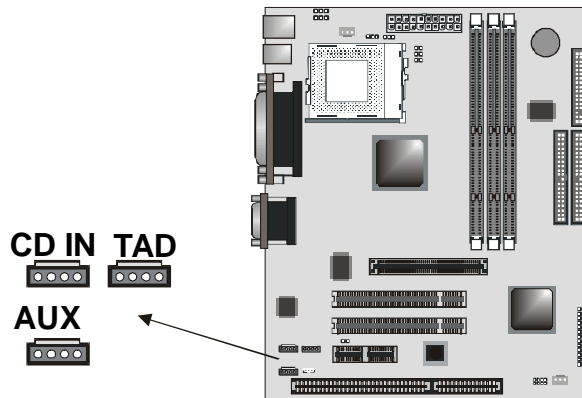
Use either CD or AUX IN to connect the audio output from a CD-ROM or DVD drive. Use TAD to connect the voice output from a voice modem card.

Installing Expansion Cards

This motherboard has one AMR slot and two 32-bit PCI slots, and one 8/16-bit ISA Slot.

The AMR slot and the ISA slot are side by side shared. This means that you can use either of these slots, but you cannot use them both at the same time.

❑ The AMR (Audio Modem Riser) slot supports an Audio Modem Riser Card. The AMR slot is designed to overcome the problem that different territories have different regulatory requirements for a fax/modem. You can use the AMR slot to easily install an Audio Modem Riser card that is approved for use in your location.

❑ The PCI slots support current add-in cards that have a 32-bit PCI (Peripheral Components Interconnect) edge connector.

❏   The ISA slot supports legacy add-in cards that have a 8/16-bit ISA edge connector.

Note: *To ensure your system's stability, please verify that the PCI add-in cards you are using support ACPI Power Management functions. If they do not support ACPI, do not enter S3 or S4 suspend mode.*

Follow these instructions to install an add-in card or Audio Modem Riser card:

1. Select which slot you plan to use according to the kind of add-in card you are going to install.

PCI1
PCI2
AMR
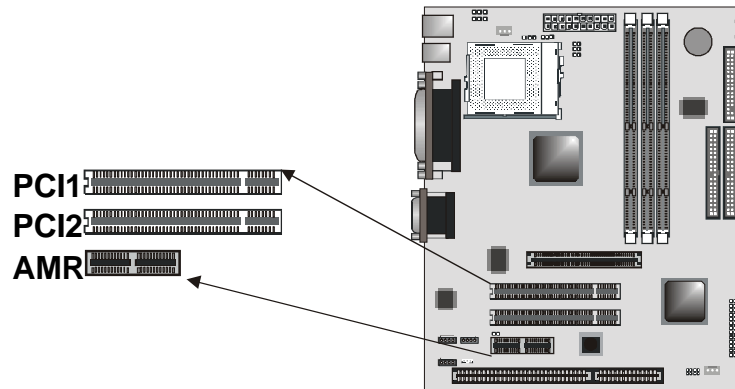
2. In the computer case, remove the blanking plate from the opening in the case adjacent to the slot you are going to use.

3. Hold the edge connector of the add-in card directly over the slot that you are going to use. The metal bracket on one edge of the add-in card fits into the opening from which you removed the blanking plate.

4. Carefully press the card down so that the edge connector installs into the expansion slot. You might need to rock the card slightly to make sure that the edge connector is seated properly into the slot.

5. Drive a screw through the metal bracket on the edge of the card to secure it in place. The opening in the case has a screw available on the top of the opening.

Add-in Card Options

This motherboard has a Wake On LAN feature. If you have installed a network (LAN) adapter expansion card, you can connect the card to the Wake On LAN connector WOL. If your system is in a software power down or a power-saving mode, incoming traffic to the network adapter can resume the system. You might have to enable this feature using the system setup utility. See the following chapter for more information.

WOL
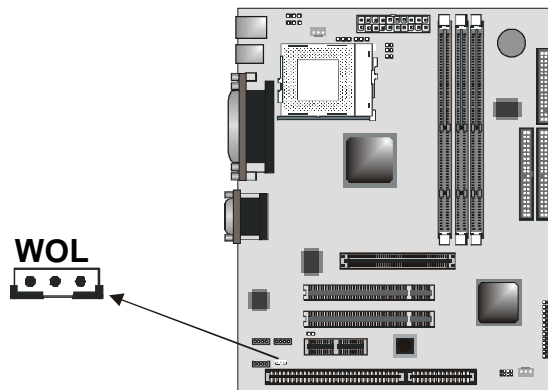
USING THE FIRMWARE

Introduction

The computer employs the latest Award BIOS CMOS chip with support for Windows Plug and Play. This CMOS chip contains the ROM Setup instructions for configuring the mainboard's BIOS. The BIOS (Basic Input and Output System) Setup program is a menu driven utility that enables you to make changes to the system configuration and tailor your system to suit your individual work needs. It is a ROM-based configuration utility that displays the system's configuration status and provides you with a tool to set system parameters. These parameters are stored in non-volatile battery-backed-up CMOS RAM that saves this information even when the power is turned off. When the system is turned back on, the system is configured with the values found in CMOS.

Using easy-to-use pull down menus, you can configure such items as:

- ❑ Hard drives, diskette drives, and peripherals
- ❑ Video display type and display options
- ❑ Password protection from unauthorized use
- ❑ Power Management Features

The settings made in the Setup program intimately affect how the computer performs. It is important, therefore, first to try to understand all the Setup's options, and second, to make settings appropriate for the way you use the computer. This chapter endeavors to guide you through the Setup program by providing clear explanations for all Setup options.

A standard configuration has already been set in the Setup Program, so you will very likely have little to worry about for now. However, we recommend that you read this chapter just in case you need to make any changes in the future.

This program should be executed under the following conditions:

- ❑ When changing the system configuration
- ❑ When a configuration error is detected by the system and you are prompted to make changes to the Setup program
- ❑ When resetting the system clock
- ❑ When setting the CPU clock speed so that it automatically runs either fast or slow
- ❑ When redefining the communication ports to prevent any conflicts
- ❑ When making changes to the Power Management configuration
- ❑ When you changing the password or making other changes to the security setup

Note: *The above items by no means constitute an all-inclusive list, but are merely representative*

Normally, CMOS setup is needed when the system hardware is not consistent with the information contained in the CMOS RAM, whenever the CMOS RAM has lost power, or the system features need to be changed.

Entering Setup

When the system is powered on, the BIOS will enter the Power-On Self Test (POST) routines. These routines perform various diagnostic checks; if an error is encountered, the error will be reported in one of two different ways:

1. If the error occurs before the display device is initialized, a series of beeps will be transmitted.

2. If the error occurs after the display device is initialized, the screen will display the error message.

After the POST routines are completed, the following message appears:

"Press DEL to enter SETUP"

Note: *The following BIOS screens and descriptions are for reference only. They may not reflect the BIOS on your system, as the BIOS setup program is constantly being updated.*

To access the Award BIOS Setup program, press the <DEL> key to display the "CMOS Setup Utility" screen:

CMOS Setup Utility – Copyright (C) 1984 – 2000 Award Software

►Standard CMOS Features	►Frequency/Voltage Control
►Advanced BIOS Features	Load Fail-Safe Defaults
►Advanced Chipset Features	Load Optimized Defaults
►Integrated Peripherals	Set Supervisor Password
►Power Management Setup	Set User Password
►PnP/PCI Configurations	Save & Exit Setup
►PC Health Status	Exit Without Saving

Esc : Quit F9 : Menu in BIOS	↑ ↓ → ← : Select Item
F10 : Save & Exit Setup	

Time, Date, Hard Disk Type . . .

This screen provides access to the utility's various functions.

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Listed below are explanations of screen function keys:

Key	Function
Esc	**Escape key:** Exits the current menu
↑↓→←	**Cursor keys:** Scrolls through the items on a menu
+/–/PU/PD	**Plus, minus, Page Up and Page Down keys:** Modify the selected field's values
F10	**F10 key:** Saves the current configuration and exits setup
F1	**F1 key:** Displays a screen that explains all key functions.
F5	**F5 key:** Loads previously saved values to CMOS.
F6	**F6 key:** Loads a minimum configuration for troubleshooting.
F7	**F7 key:** Loads an optimum set of values for peak performance.

Using BIOS

Using BIOS is easy. When you select a menu from the Standard CMOS Setup screen and press enter, the menu opens enabling you to make changes. For example, selecting "Standard CMOS Features" from the CMOS Setup Utility screen and pressing <Enter> displays the following menu:

CMOS Setup Utility – Copyright (C) 1984 – 2000 Award Software
Standard CMOS Features

		Item Help
Date (mm:dd:yy)	Tue, Feb 15 20000	
Time (hh:mm:ss)	12 : 8 : 59	
► IDE Primary Master	Press Enter 8488 MB	Menu Level ►
► IDE Primary Slave	Press Enter None	Change the day, month, year and century.
► IDE Secondary Master	Press Enter None	
► IDE Secondary Slave	Press Enter None	
Drive A	1.44M, 3.5 in.	
Drive B	None	
Video	EGA/VGA	
Halt On	All,But Keyboard	
Base Memory	640K	
Extended Memory	63488	
Total Memory	64512K	

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

Selecting some fields and pressing the enter key displays a list of options for that field. In the Standard CMOS Features screen, selecting "Drive A" and pressing <Enter> displays this screen:

```
┌──────────────────────────────────────────────────┐
│ Drive A                                            │
├──────────────────────────────────────────────────┤
│ None               . . . . .    [  ]               │
│ 360K  , 5.25 in.   . . . . .    [  ]               │
│ 1.2M  , 5.25 in.   . . . . .    [  ]               │
│ 720K  , 3.5 in.    . . . . .    [  ]               │
│ 1.44M , 3.5 in.    . . . . .    [  ]               │
│ 2.88M , 3.5 in.    . . . . .    [  ]               │
│                                                    │
│                                                    │
├──────────────────────────────────────────────────┤
│ ↑↓ : Move    Enter : Accept    ESC: Abort          │
└──────────────────────────────────────────────────┘
```

Select the value you want with the cursor keys. Press <Enter> to select, or <ESC> to discard changes and return to the previous menu. Alternatively, you can select a field and press the minus, plus, Page Up or Page Down keys to scroll through the options for that field.

You will also see an arrow ▶ next to some fields. Selecting these fields and pressing <Enter> will display a submenu and enable you to make changes to the field.

Some menus have a list of fields that run off the visible page. These menus have a scroll bar on the right to scroll up and down the list:

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Standard CMOS Features

Selecting "Standard CMOS Features "on the main program screen displays the following menu:

CMOS Setup Utility – Copyright (C) 1984 – 2000 Award Software
Standard CMOS Features

		Item Help
Date (mm:dd:yy)	Tue, Feb 15 20000	
Time (hh:mm:ss)	12 : 8 : 59	
IDE Primary Master	Press Enter 8488 MB	Menu Level ▶
IDE Primary Slave	Press Enter None	Change the day, month, year and century.
IDE Secondary Master	Press Enter None	
IDE Secondary Slave	Press Enter None	
Drive A	1.44M, 3.5 in.	
Drive B	None	
Video	EGA/VGA	
Halt On	All,But Keyboard	
Base Memory	640K	
Extended Memory	63488	
Total Memory	64512K	

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

The Standard CMOS Feature menu is used to configure the following features:

Date

Set the month, day, and year

Time

Set the hour, minute, and second. The clock uses a 24-hour clock format. For PM numbers, add 12 to the hour. For example, enter 4:30 p.m. as 16:30.

IDE Hard Disks

There are four hard disks listed—IDE Primary Master, IDE Primary Slave, IDE Secondary Master and IDE Secondary Slave. For Each IDE channel, the first device is the "Master" and the second device is "Slave."

Selecting any of the hard disk fields and pressing <Enter> displays a screen that enables you to make changes to the IDE device parameters:

▶IDE Primary Master

This field is used to configure the IDE Hard Disk installed in the system. Move the cursor to highlight the IDE Primary Master field:

```
▶ IDE Primary Master      Press Enter 8448 MB
```

Pressing the <Enter> key at this point will reveal the IDE Primary Master submenu:

CMOS Setup Utility – Copyright (C) 1984 – 2000 Award Software
IDE Primary Master

IDE HDD Auto-Detection	Press Enter	Item Help
IDE Primary Master	Auto	
Access Mode	Auto	Menu Level ▶▶
Capacity	8448 MB	To auto-detect the HDD's size, head . . . on this channel
Cylinder	16368	
Head	16	
Precomp	0	
Landing Zone	16367	
Sector	63	

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

Note: Before attempting to configure a hard disk drive, make sure you have the configuration information supplied by the manufacturer of your hard drive. Incorrect settings can result in your system not recognizing the installed hard disk.

IDE HDD Auto-Detection

If your system has an IDE hard drive, you can use this utility to detect its parameters and enter them into the Standard CMOS Setup automatically.

If the auto-detected parameters displayed do not match the ones that should be used for your hard drive, do not accept them. Press the <N> key to reject the values and enter the correct ones manually in the Standard CMOS Setup screen.

Note: If you are setting up a new hard disk drive that supports LBA mode, more than one line will appear in the parameter box. Choose the line that lists LBA *for an LBA drive.*

Do not choose "Large" or "Normal" if the hard disk drive is already fully formatted when you installed it. Select the mode that was used to format it.

▶▶**IDE Primary Master**

Select this field and press <Enter> to change the type of device designated as the IDE primary master. The following options are available for this field:

❑ Auto   (default value)

❑ None

❑ Manual

Select *Auto* to automatically configure an IDE type drive. This option only works with standard IDE drives. If your drive is an IDE type, it will be automatically recognized and properly configured. If automatic detection is successful, the correct values will be filled in for the remaining fields on this submenu.

If no drive is installed or if you are removing a drive and not replacing it, select *None*.

To configure a drive that is not an IDE type drive, select *Manual*. Manually enter the number of cylinders, heads and sectors per track for your drive. Refer to your drive's documentation or look on the drive if you need to obtain this information.

Access Mode

LBA (Logical Block Access) Mode Control. When enabled, this option uses 28-bit addressing of the hard drive without regard for cylinders, heads, and sectors. Note that Logical Block Access may decrease the access speed of the hard disk. However, LBA Mode is necessary to use drives with greater than 528 MB in storage capacity. In order to make changes to this field, the IDE Primary Master field must be set to Manual.

Configuration options are:

- ❑ Normal
- ❑ LBA
- ❑ Large
- ❑ Auto

Set the Access Mode to "Normal" for IDE hard disk drives smaller than 528 MB. Set the Access Mode to "LBA" for IDE hard disk drives larger than 528 MB which support Logical Block Addressing mode. Set the Access Mode to "Large" for IDE hard disk drives larger than 528 MB that do not support LBA mode. The Large type of drive is very uncommon and can only be used under MS-DOS. Currently most IDE hard disk drives over 528 MB support LBA mode. Set Access Mode to AUTO to enable auto detection of your IDE hard disk drive during bootup.

Capacity

This field shows the maximum formatted capacity of the hard disk drive. This is a display only field.

Cylinder

This field configures the drive's number of cylinders. Refer to your drive's documentation or look on the drive to determine the correct value to enter for this field. If the system has successfully detected the drive automatically, there is no need to adjust this field. In order to make changes to this field, the IDE Primary Master field must be set to Manual.

Head

This field configures the drive's number of read/write heads. Refer to your drive's documentation or look on the drive to determine the correct value to enter for this field. If the system has successfully detected the drive automatically, there is no need to adjust this field. In order to make changes to this field, the IDE Primary Master field must be set to *Manual*.

Precomp

Enables you to set the write precompensation. Refer to your drive's documentation or look on the drive to determine the correct value to enter for this field. If the system has successfully detected the drive automatically, there is no need to adjust this field. In order to make changes to this field, the IDE Primary Master field must be set to *Manual*.

Landing Zone

Enables you to set the Landing Zone (A safe non-data area on a hard disk used for parking the read/write head). Refer to your drive's documentation or look on the drive to determine the correct value to enter for this field. If the system has successfully detected the drive automatically, there is no need to adjust this field. In order to make changes to this field, the IDE Primary Master field must be set to *Manual*.

Sector

This field configures the drive's number of sectors per track. Refer to your drive's documentation or look on the drive to determine the correct value to enter for this field. If the system has successfully detected the drive automatically, there is no need to adjust this field. In order to make changes to this field, the IDE Primary Master field must be set to *Manual*.

▶▶IDE Primary Slave/Secondary Master/Secondary Slave

The number value in these fields indicate the size of your computer's Primary Slave, Secondary Master, or Secondary Slave Hard Drive. The arrow head icon ▶ indicates that these fields contain submenus. The submenu is used to configure an IDE Hard Disk installed in the system.

To configure a hard disk drive, move the cursor to highlight one of the fields and press the <Enter> key. The submenu corresponding to the IDE device will appear. The fields and options on these submenus are the same as the *IDE Primary Master* submenu described above.

After using the legend keys to make changes to this submenu, press the <Esc> key to exit back to the Main menu.

Drive A and Drive B

Enables you to set the type of floppy disk drive installed. Options for this field are:

❑ None (Not Installed)
❑ 360K, 5.25 in.
❑ 1.2M, 5.25in.
❑ 720K, 3.5in.
❑ 1.44M, 3.5in.   (default)
❑ 2.88M, 3.5in.

The "Not Installed" option could be used as an option for diskless workstations.

Video

Set this field to the type of graphics card installed in your system. If you are using a VGA or higher resolution card, choose the "EGA/VGA" option. The options are:

❑ EGA/VGA (default)
❑ MONO
❑ CGA 40
❑ CGA 80

Halt On

This setting determines which type of errors will cause the system to halt during bootup. The options are:

❑ All Errors
❑ No Errors
❑ All, But Keyboard (default)
❑ All, But Diskette
❑ All, But Disk/Key

Base Memory

This field displays the amount of conventional memory detected by the system during bootup. You do not need to make changes to this field. This is a display only field.

Extended Memory

This field displays the amount of extended memory detected by the system during boot-up. You do not need to make changes to this field. This is a display only field.

Total Memory

This field displays the total amount of memory (Base and Extended) detected by the system during boot-up. You do not need to make changes to this field. This is a display only field.

Advanced BIOS Features Setup

Selecting "Advanced BIOS Features" on the main program screen displays this menu:

```
        CMOS Setup Utility – Copyright (C) 1984 – 2000 Award Software
                         Advanced BIOS Features
┌────────────────────────────────────────────┬──────────────────────┐
│  Virus Warning                Disabled   ▲  │      Item Help       │
│  CPU Internal Cache           Enabled       │                      │
│  External Cache               Enabled       │ Menu Level  ▶        │
│  CPU L2 Cache ECC Checking    Enabled       │                      │
│  Processor Number Feature     Disabled      │ Allows you to choose │
│  Quick Power On Self Test     Disabled      │ the VIRUS warning    │
│  First Boot Device            Floppy        │ feature for IDE Hard │
│  Second Boot Device           CDROM         │ Disk boot sector     │
│  Third Boot Device            HDD0          │ protection.  If this │
│  Boot Other Device            Disabled      │ function is enabled  │
│  Swap Floppy Drive            Disabled      │ and someone attempts │
│  Boot Up Floppy Seek          Enabled       │ to write data into this│
│  Boot Up NumLock Status       On            │ area, BIOS will show a│
│  Gate A20 Option              Fast          │ warning message on   │
│  Typematic Rate Setting       Disabled      │ screen and alarm beep│
│x Typematic Rate (Chars/Sec)   6             │                      │
│x Typematic Delay (Msec)       250           │                      │
│  Security Option              Setup         │                      │
│  OS Select For DRAM > 64MB    Non-OS2    ▼  │                      │
└────────────────────────────────────────────┴──────────────────────┘
 ↑↓→←: Move   Enter : Select   +/-/PU/PD:Value:  F10: Save  ESC: Exit  F1:General Help
    F5:Previous Values          F6:Fail-Safe Defaults      F7:Optimized Defaults
```

The following explains the options for each feature:

Virus Warning

When enabled, any attempt to write to the boot sector or partition table will halt the system and cause a warning message to appear. If this happens, you can use an anti-virus utility on a virus free, bootable floppy disk to reboot and clean your system. The Anti-Virus Protection's default setting is "Disabled."

CPU Internal Cache

This setting enables the CPU internal cache. All the processors that can be installed in this mainboard use internal (level 1) cache memory to improve performance. Leave this item at the default value "Enabled" for better performance.

External Cache

This setting enables the Level 2 cache. The default setting is "Enabled."

Most processors that can be installed in this system use external (L2) cache memory to improve performance. The exceptions are older SEPP Celeron CPUs running at 266 or 300 MHz. Enable this item for all but these two processors.

CPU L2 Cache ECC Checking

Set to "Enabled" only if the CPU L2 cache has ECC (Error Checking and Correction). The default setting is "Disabled."

Processor Number Feature

Some new processors are installed with a unique processor number. This number may be used for verification in Internet transactions and e-commerce. If you prefer not to use or distribute the unique processor number, set this item to "Disabled" to suppress the processor number.

Quick Power On Self Test

This will skip some diagnostic checks during the Power On Self Test (POST) to speed up the booting process. The default setting is "Enabled."

First/Second/Third Boot Device

The BIOS will load the operating system from the disk drives in the sequence selected in these three fields. Options for each field are:

- ❑ Floppy (first boot device default)
- ❑ LS/ZIP
- ❑ HDD-0 (third boot device default)
- ❑ SCSI
- ❑ CDROM (second boot device default)
- ❑ HDD-1
- ❑ HDD-2
- ❑ HDD-3

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). The default setting is "Disabled."

Swap Floppy Drive

This setting enables you to swap the A and B floppy disk drives. Floppy drive A is usually connected to the end of the FDD cable. If you set this option to "Enabled," the drive at the end of the cable will be swapped to B. The default setting is "Disabled."

Boot Up Floppy Seek

If set to "Enabled," BIOS will check for bootup disks in the floppy disk drives during bootup. The default setting is "Disabled."

Boot Up Numlock Status

If set to "Off," the cursor controls will function on the numeric keypad. The default setting is "On."

Gate A20 Option

This option accesses memory above 1 MB using the fast gate A20 line when set to "Fast" (default). The other option is "Normal."

Typematic Rate Setting

If set to "Enabled," enables you to set the Typematic Rate and Typematic Delay. The default setting is "Disabled."

- ❑ **Typematic Rate (Chars/Sec):** This setting controls the speed at which the system registers repeated keystrokes. The choices range from 6 to 30 Chars/Sec. The default setting is "6" Chars/Sec.

- ❑ **Typematic Delay (Msec):** This setting controls the time between the display of the first and second characters. There are four delay choices: 250ms, 500ms, 750ms and 1000ms. The default setting is "250" ms.

Security Option

This setting controls the password feature. The options are "Setup" and "System". Selecting "Setup" will protect the configuration settings from being tampered with. Select "System" if you want to use the password feature every time the system boots up. The default setting is "Setup". You can create your password by using the "SUPERVISOR/USER PASSWORD" utility in the main program screen.

OS Select For DRAM > 64MB

Set to "OS2" if the system memory size is greater than 64 MB and the operating system is OS/2. The default setting is "Non-OS2."

Video BIOS Shadow

Enable this item to copy Video BIOS to Shadow RAM to improve video performance. The default setting is "Enabled."

C8000-CBFFF ~ DC000-DFFFF Shadow

These categories determine whether option ROMs will be copied to RAM. An example of such option ROM would be support of on-board SCSI. The default value for each item is "Disabled."

After you have made your selection(s) in the BIOS FEATURES SETUP, press the <ESC> key to go back to the main program screen.

Advanced Chipset Features Setup

Selecting "Advanced Chipset Features" on the main program screen displays this menu:

		Item Help
Bank 0/1 DRAM Timing	SDRAM 10ns	
Bank 2/3 DRAM Timing	SDRAM 10ns	
Bank 4/5 DRAM Timing	SDRAM 10ns	Menu Level ▶
SDRAM Cycle Length	Auto	
DRAM Clock	Auto	
Memory Hole	Disabled	
P2C/C2P Concurrency	Enabled	
Fast R-W Turn Around	Disabled	
System BIOS Cacheable	Disabled	
Video RAM Cacheable	Disabled	
AGP Aperture Size	64M	
AGP-4X Mode	Enabled	
OnChip USB	Enabled	
USB Keyboard Support	Disabled	
OnChip Sound	Auto	
OnChip Game Port	Enabled	
OnChip Modem	Auto	
CPU to PCI Write Buffer	Enabled	
PCI Dynamic Bursting	Enabled	

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

This screen controls the settings for the board's chipset. All entries related to the DRAM timing on the screen are automatically configured. Do not make any changes unless you are familiar with the chipset.

Bank 0/1 2/3 4/5 DRAM Timing

The DRAM timing is controlled by the DRAM Timing Registers. The timings programmed into this register are dependent on the system design. Slower rates may be required in certain system designs to support loose layouts or slower memory. Options are:

- ❑ SDRAM 10ns (default)
- ❑ SDRAM 8ns
- ❑ Normal

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SDRAM Cycle Length

This item sets the timing and wait states for SDRAM memory. We recommend that you leave this item at the default value.

- ❑ 3
- ❑ 2
- ❑ Auto (default)

DRAM Clock

This item sets the DRAM Clock. We recommend that you leave this item at the default value.

- ❑ Host CLK
- ❑ HCLK-33M
- ❑ HCLK+33M
- ❑ Auto (default)

Memory Hole

If Set to "Enabled," when the system memory size is equal to or greater than 16M bytes, the physical memory address from 15M to 16M will be passed to PCI or ISA and there will be a 1 MB hole in your system memory. This option is designed for some OS with special add-in cards which need 15-16 MB memory space. The default setting is "Disable."

P2C/C2P Concurrency

When disabled, the CPU bus is occupied during the entire PCI operation period. The default setting is "Enabled."

Fast R-W Turn Around

When this is enabled, the chipset will insert one extra clock to the turn-around of back-to-back DRAM cycles. Options are:

- ❑ Enabled
- ❑ Disabled (default)

System BIOS Cacheable

When set to "Enabled," the System BIOS will be cached for faster execution. The default setting is "Disabled."

Video RAM Cacheable

When set to "Enabled," the graphics card's local memory will be cached for faster execution. The default setting is "Disabled."

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AGP Aperture Size

This item defines the size of the aperture if you use an AGP graphics adapter. It refers to a section of the PCI memory address range used for graphics memory. We recommend that you leave this item at the default value. The default setting is "64 MB."

AGP 4X Mode

This item allows you to enable or disable the caching of display data for the video memory of the processor. Enabling can greatly improve the display speed. If your graphics display card does not support this feature, you need to disable this item. The default setting is "Enabled."

OnChip USB

This should be enabled if your system has a USB installed on the system board and you wish to use it. Options are "Disabled" (default) and "Enabled."

USB Keyboard Support

Enable this item if you plan to use a keyboard connected through the USB port in a legacy operating system (such as DOS) that does not support Plug and Play. The default setting is "Disabled."

OnChip Sound

When set to "Disabled," the OnChip audio chip is turned off. Options are "Disabled" and "Auto" (default).

OnChip Game Port

Enable this item if you are using a game device connected to the game port. The default setting is "Enabled."

OnChip Modem

This should be enabled if your system has a modem installed on the system board and you wish to use it. Options are "Disabled" and "Auto" (default).

CPU to PCI Write Buffer

When enabled, up to four words of data can be written to the PCI bus without interrupting the CPU. When disabled, a write buffer is not used and the CPU read cycle will not be completed until the PCI bus signals that it is ready to receive the data. The default setting is "Enabled."

PCI Dynamic Bursting

When set to "Enabled," every write transaction goes to the write buffer. "Burstable" transactions then burst on the PCI bus and "non-burstable" transaction do not. The options are "Enabled," and "Disabled."

PCI Master 0 WS Write

When set to "Enabled," writes to the PCI bus are executed with zero wait states. The options are "Enabled," and "Disabled."

PCI Delay Transaction

The chipset has an embedded 32-bit posted write buffer to support delay transactions cycles. Select "Enabled" to support compliance with PCI specification version 2.1. The options are "Enabled," and "Disabled."

PCI#2 Access #1 Retry

When set to "Enabled," the AGP Bus (PCI#2) access to PCI Bus (PCI#1) 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. The options are "Enabled," and "Disabled.

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. The options are "Enabled," and "Disabled."

Memory Parity/ECC Check

Enable this item to allow BIOS to perform a parity/ECC check to the POST memory tests. Select "Enabled" only if the system DRAM supports parity/ECC checking.

After you have made your selections in the Advanced Chipset Features menu, press the <ESC> key to go back to the main program screen.

Integrated Peripherals

Selecting "Integrated Peripherals" on the main program screen displays this menu:

CMOS Setup Utility – Copyright (C) 1984 – 2000 Award Software
Integrated Peripherals

			Item Help
OnChip IDE Channel 0	Enabled		
OnChip 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		
IDE HDD Block Mode	Enabled		
Onboard FDD Controller	Enabled		
Onboard Serial Port 1	Auto		
Onboard Serial Port 2	Auto		
UART 2 Mode	Standard		
x IR Function Duplex	Half		
x TX,RX inverting enable	No, Yes		

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

On Chip IDE Channel 0/1

These options enable or disable the primary (0) or secondary (1) on-board IDE controller. The default setting is "Enabled."

IDE Prefetch Mode

The onboard IDE drive interfaces supports IDE prefetching, for faster drive accesses. If you install a primary and/or secondary add-in IDE interface, set this field to "Disabled" if the interface does not support prefetching. The default setting is "Enabled."

Primary/Secondary Master/Slave PIO

When set to "Auto" the BIOS will automatically set the mode to match the transfer rate of hard disk. If the system won't boot up when set to "Auto" set it manually to a lower mode, e.g., from Mode 3 to Mode 2. All IDE drives should work with PIO mode 0. There are six options, "Auto" and "Mode 0" through "Mode 4."

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Primary/Secondary Master/Slave UDMA

When set to "Auto" the BIOS will automatically load the Ultra DMA 33 driver to match the transfer rate of IDE hard disk drives that support Ultra DMA 33 mode. The options are "Auto" (default) and "Disabled."

Init Display First

This item sets whether the PCI Slot or AGP is activated first. The options are "PCI Slot" and "AGP."

IDE HDD Block Mode

Enable this field if your IDE hard drive supports block mode. Block mode enables BIOS to automatically detect the optimal number of block read and writes per sector that the drive can support. The default setting is "Enabled."

Onboard FDD Controller

This option enables the onboard floppy disk drive controller. The default setting is "Enabled."

Onboard Serial Port 1/Serial Port 2

These options are used to assign the I/O addresses for the two onboard serial ports. They can be assigned as follows:

❑ 3F8/ IRQ4
❑ 2F8/ IRQ3
❑ 3E8/ IRQ4
❑ 2E8/ IRQ3
❑ Auto (default)
❑ Disabled (disables the onboard serial port)

UART 2 Mode

This field is available if the Onboard Serial Port 2 field is set to any option but "Disabled." UART Mode Select 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 115.2K bps. ASKIR is Sharp's infrared communication protocol with a maximum baud rate up to 57.6K bps.

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The UART mode setting depends on which type of infrared module is used in the system. When set to "ASKIR" or "HPSIR," the UART 2 is used to support the infrared module connected on the mainboard. If this option is not set to "Standard," a device connected to the COM2 port will no longer work.

IR Function Duplex

This field is available when UART 2 Mode is set to either ASKIR or HPSIR. This item enables you to determine the infrared (IR) function of the onboard infrared chip. The options are "Full" and "Half (default).

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. The options are:

- ❑ No, No
- ❑ No, Yes (default)
- ❑ Yes, No
- ❑ Yes, Yes

Onboard Parallel Port

This option is used to assign the I/O address for the onboard parallel port. The options are:

- ❑ 378/IRQ7" (default)
- ❑ 278/IRQ5
- ❑ 3BC/IRQ7
- ❑ Disabled (disables the onboard parallel port).

Parallel Port Mode

Enables you to set the data transfer protocol for your parallel port. There are four options:

- ❑ SPP (Standard Parallel Port)
- ❑ EPP (Enhanced Parallel Port) (default)
- ❑ ECP (Extended Capabilities Port)
- ❑ ECP+EPP

SPP allows data output only. Extended Capabilities Port (ECP) and Enhanced Parallel Port (EPP) are bi-directional modes, allowing both data input and output. ECP and EPP modes are only supported with EPP and ECP aware peripherals.

ECP Mode Use DMA

When the onboard parallel port is set to ECP mode, the parallel port has the option to use DMA "3"(default) or DMA "1."

Parallel Port EPP Type

Sets the EPP specification. There are two options—"EPP1.9" (default) and "EPP1.7."

If you make any changes to the onboard FDD controller, serial ports or parallel ports in this setup, save the changes and turn off the system. After powering up the system, ensure that the changes have taken effect.

Power Management Setup

The "Power Management Setup" controls the mainboard's "Green" features. Selecting "Power Management Setup" on the main program screen displays this menu:

CMOS Setup Utility – Copyright (C) 1984 – 2000 Award Software
Power Management Setup

IPCA Function	Enabled	Item Help
▶ Power Management	Press Enter	
IPCA Suspend Type	S1(POS)	Menu Level ▶
PM Control by APM	Yes	
Video Off Option	Suspend --> Off	
Video Off Method	V/H SYNC+Blank	
Modem Use IRQ	3	
Soft-Off by PWRBTN	Instant-Off	
PWRON After Power Failure	Last State	
▶ Wake Up Events	Press Enter	

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

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IPCA Function

When set to "Enabled," turns on the ACPI Function. The default setting is "Disabled."

Note: ACPI (Advanced Configuration and Power Interface) is a power management specification that makes hardware status information available to the operating system. ACPI enables a PC to turn its peripherals on and off for improved power management. It also allows the PC to be turned on and off by external devices, so that mouse or keyboard activity wake up the computer.

▶**Power Management Setup**

This item enables you to choose the type of Power Management you want. Selecting Power Management and pressing <Enter> displays the following screen:

CMOS Setup Utility – Copyright (C) 1984 – 2000 Award Software
Power Management

Power Management	User Define	Item Help
HDD Power Down	Disable	
Doze Mode	Disable	Menu Level ▶▶
Suspend Mode	Disable	

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

This menu enables you to set the following items:

▶▶**Power Management**

This field lets you set the level of power savings that you want. There are three options.

❑ **User Define:** Allows you to customize all power saving timer features

❑ **Max Saving:** Recommended setting for general use, Max Saving enables the highest power saving values.

❑ **Min Saving:** Sets power saving at minimum values for maximum performance.

▶▶**HDD Power Down**

The IDE hard drive will spin down if it is not accessed within a specified length of time. Options are from "1 Min" to "15 Min" and "Disable."

▶▶**Doze Mode**

The system speed will change from turbo to slow if no Power Management events occur for a specified length of time. Full power function will return when a Power Management event is detected. Options are from "1 Min" to "1 Hour" and "Disable".

▶▶**Suspend Mode**

The CPU clock will be stopped and the video signal will be suspended if no Power Management events occur for a specified length of time. Full power function will return when a Power Management event is detected. Options are from "1 Min" to "1 Hour" and "Disable".

IPCA Suspend Type

Use this item to define how your system suspends. In the default, S1(POS), the suspend mode is equivalent to a software power down. If you select S3 (STR), the suspend mode is a suspend to RAM – the system shuts down with the exception of a refresh current to the system memory.

Video Off Option

This setting controls the video power saving parameters. There are three options:

❑ Always On
❑ Suspend –> Off
❑ All Modes –> Off

Video Off Method

This setting controls the video off method in power saving mode. The default setting is "V/H SYNC+Blank" which disables V/H SYNC signals and blanks the screen. Other options are "DPMS" and "Blank Screen." The "DPMS" option allows the BIOS to control the video card if it has the DPMS (Display Power Management System) feature. The "Blank Screen" option is used when you do not have a "Green" monitor.

MODEM Use IRQ

This determines which IRQ the MODEM can use. Options are:

- ❏ NA
- ❏ 3
- ❏ 4
- ❏ 5
- ❏ 7
- ❏ 9
- ❏ 10
- ❏ 11

Soft-Off by PWRBTN

When set to "Instant-Off" (default), pressing the power button will turn off the system power. When set to "Delay 4 Sec." you have to press the power button and hold it for more than 4 seconds to turn off the system power. Otherwise, the system just goes into suspend mode. The options are "Instant-Off" and "Delay 4 Sec."

Note: During the booting process, the power button is ignored.

PWRON After Power Failure

This item enables your computer to automatically restart or return to its last operating status after power returns from a power failure. Options are:

- ❏ Last State (default)
- ❏ On
- ❏ OFF

▶Wake Up Events

This item opens a submenu that enables you to set events that will resume the system from a power saving mode. Select Wake Up Events and press <Enter> to display the following menu:

CMOS Setup Utility – Copyright (C) 1984 – 2000 Award Software
Wake Up Events

USB Resume from S3/S4/S5	Disabled	**Item Help**
VGA	OFF	
LPT & COM	LPT/COM	**Menu Level** ▶▶
HDD & FDD	ON	
PCI Master	OFF	
Wake Up On LAN	Disabled	
Modem Ring Resume	Disabled	
RTC Alarm Resume	Disabled	
x Date (of Month)	0	
x Resume Time (hh:mm:ss)	0 0 6	
▶ IRQs Activity Monitoring	Press Enter	

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

▶▶USB Resume from S3/S4/S5

When set to "Enabled," the system power will resume the system from a power saving mode if there is any USB port activity. Default is "Disabled."

▶▶VGA

When set to "On," the system power will resume the system from a power saving mode if there is any VGA activity. Default is "Off."

▶▶LPT & COM

When this item is enabled, the system will restart the power-saving timeout counters when any activity is detected on the LPT or COM ports. The following options are available:

- ❑ None
- ❑ LPT
- ❑ COM
- ❑ LPT/COM (default)

▶▶HDD & FDD

When this item is set to "On," the system will restart the power-saving timeout counters when any activity is detected on any of the drives or devices on the primary or secondary IDE channels, or FDD.

▶▶PCI Master

When set to "On," the system power will be turned on if there is any PCI card activity. Default is "Disabled."

▶▶Wake Up On LAN

When set to "Enabled," the system power will be turned on or resumed from a power saving mode if the LAN port receives an incoming signal. Default setting is "Disabled."

▶▶Modem Ring Resume

When set to "Enabled," the system power will be turned on or resumed from a power saving mode if the FAX/Modem receives an incoming telephone call. Default setting is "Disabled."

▶▶RTC Alarm Resume

When set to "Enabled," the following two fields become available and you can set the date (day of the month), hour, minute and second to turn on your system. When set to set "0" (zero) for the day of the month, the alarm will power on your system every day at the specified time.

❑ **Date (of Month):** When Resume by Alarm is enabled, you can set the date you wish the computer to turn on.

❑ **Time (hh:mm:ss):** When Resume by Alarm is enabled, you can set the time you wish the computer to turn on.

▶▶IRQs Activity Monitoring

This item opens a submenu that enables you to set IRQs that will re-sume the system from a power saving mode. Select IRQs Activity Monitoring and press <Enter> to display the following menu:

CMOS Setup Utility – Copyright (C) 1984 – 2000 Award Software
IRQs Activity Monitoring

Primary INTR	ON	Item Help
IRQ 3 (COM2)	Enabled	
IRQ 4 (COM1)	Enabled	Menu Level ▶▶▶
IRQ 5 (LPT2)	Enabled	
IRQ 6 (Floppy Disk)	Enabled	
IRQ 7 (LPT1)	Enabled	
IRQ 8 (RTC Alarm)	Disabled	
IRQ 9 (IRQ2 Redir)	Disabled	
IRQ 10 (Reserved)	Disabled	
IRQ 11 (Reserved)	Disabled	
IRQ 12 (PS/2 Mouse)	Enabled	
IRQ 13 (Coprocessor)	Enabled	
IRQ 14 (Hard Disk)	Enabled	
IRQ 15 (Reserved)	Disabled	

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

Set Primary INTR to "ON" to allow you to enable or disable IRQ 3 through IRQ 15 activity monitoring. Set it to "OFF" to disable IRQ ac-tivity monitoring.

Set any IRQ to "Enabled" to allow activity at the IRQ to wake up the system from a power saving mode.

Press the <ESC> key to go back to the main program screen, after you have made your selections in the POWER MANAGEMENT SETUP.

PnP/PCI Configuration

Both the ISA and PCI buses on the Mainboard use system IRQs (Interrupt ReQuests) and DMAs (Direct Memory Access). You must set up the IRQ and DMA assignments correctly through the PnP/PCI Configurations Setup utility; otherwise, the mainboard will not work properly. Selecting "PnP/PCI Configurations" on the main program screen displays this menu:

CMOS Setup Utility – Copyright (C) 1984 – 2000 Award Software
PnP/PCI Configurations

		Item Help
PNP OS Installed	Yes	
Reset Configuration Data	Disabled	
		Menu Level ▶
Resources Controlled by	Auto(ESCD)	
x IRQ Resources	Press Enter	Select Yes if you are using a Plug and Play capable operating system. Select No if you need the BIOS to configure non-boot devices.
x DMA Resources	Press Enter	
PCI/VGA Palette Snoop	Disabled	
Assign IRQ For VGA	Enabled	
Assign IRQ For USB	Enabled	

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

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. The default setting is "No."

Reset Configuration Data

The system BIOS supports the Plug and Play feature so the resources assigned to each peripheral have to be recorded to prevent them from conflicting. The location to store the assigned resources is called ESCD (Extended System Configuration Data) which is located in the system flash EEPROM.

If this option is set to "Disabled," the ESCD will update automatically when the new configuration varies from the last one. If set to "Enabled," the ESCD will be cleared and updated and then this option will automatically be set to "Disabled."

Resources Controlled By

The default setting is "Manual" which allows you to control IRQs and DMAs individually. The other option is "Auto (ESCD)" which will detect the system resources and automatically assign the relative IRQs and DMAs for each peripheral.

IRQ Resources

This field becomes available if the Resources Controlled By field is set to "Manual." Pressing <Enter> displays a list of IRQs and their current assignments. If there is a legacy ISA device which uses an IRQ, set the corresponding IRQ to "Legacy ISA"; otherwise, you should set the field to "PCI/ISA PnP."

DMA Resources

This field becomes available if the Resources Controlled By field is set to "Manual." Pressing <Enter> displays a list of DMAs and their current assignments. If there is a legacy ISA device which uses an DMA, set the corresponding IRQ to "Legacy ISA"; otherwise, you should set the field to "PCI/ISA PnP."

PCI/VGA Palette Snoop (optional)

If there are two VGA cards in your system (one PCI and one ISA) and this option is set to "Disable," data read and written by the CPU is only directed to the PCI VGA card's palette registers. If set to "Enabled," data read and written by CPU will be directed to both the palette registers of the PCI VGA and ISA VGA cards. This option must be set to "Enabled" if any ISA VGA card installed in your system requires VGA palette snooping to fix color problems.

Assign IRQ for VGA/USB

Names the interrupt request (IRQ) line assigned to the USB/VGA (if any) on your system. Activity of the selected IRQ always awakens the system.

After you have made your selections in the PnP/PCI Configurations Setup, press the <ESC> key to go back to the main program screen.

PC Health Status

This menu provides you with information about your computer's current operating status, including voltages, temperature, and fan speeds. Selecting PC Health Status from the main menu displays the following screen:

CMOS Setup Utility – Copyright (C) 1984 – 2000 Award Software
PC Health Status

Current CPU Temp.	26ºC/78ºF	**Item Help**
Current System Temp.	26ºC/78ºF	
Current CPU Speed	0 RPM	**Menu Level** ▶
Current Chassis Speed|	0 RPM	
Vcore	1.98 V	
2.5V	2.51 V	
3.3V	3.31 V	
5V	7.98 V	
12V	12.78 V	

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

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 in degrees Fahrenheit and Celsius
❑ System temperature in degrees Fahrenheit and Celsius
❑ CPU fan speed (in RPMs)
❑ Case fan speed (in RPMs)
❑ Vcore (CPU core voltage)
❑ 2.5V NB core voltage
❑ Vcc3 (onboard 3.3 volt)
❑ Power supply's ± 5 volt
❑ Power supply's ±12 volt

After you have made your selections in the PC Health Status setup, press the <ESC> key to go back to the main program screen.

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Frequency Control

This menu enables you to set operating characteristics of the CPU such as the internal core speed. Selecting Frequency Control from the main menu displays the following screen:

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Frequency Control

Auto Detect DIMM/PCI Clk	Enabled	**Item Help**
Spread Spectrum	Enabled	
CPU Ratio	Auto	**Menu Level** ▶
CPU Frequency	Auto	

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

Auto Detect DIMM/PCI Clk

When set to "Enabled," the system will automatically turn off the PCI and DIMM clock when not in use to reduce electromagnetic interference.

Spread Spectrum

When set to "Enabled," the system clock frequency will automatically modulated to help reduce electromagnetic interference. Default is "Enabled".

CPU Ratio

Enables you to set the CPU core to bus clock ratio (CPU Ratio). Options are Auto (default), and from "X 2" to "X 8" in increments of 0.5.

CPU Frequency

Enables you to set the CPU Bus clock (CPU Frequency) manually. Options are:

- ❏ Auto (default)
- ❏ 66 MHz
- ❏ 100 MHz
- ❏ 133 MHz

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Load Fail-Safe Defaults

Use this option if you have changed your system and it does not operate correctly or does not power up. When you select "Load Fail-Safe Defaults" from the main menu, you see the following screen:

> **Load Fail-Safe Defaults (Y/N)? N**

Press <Y> on the keyboard to load the fail-safe defaults. Press <N> to return to the main menu without loading the fail-safe defaults.

Load Optimized Defaults

Use this option if you want to load the optimal settings for your system. These settings were configured at the factory. When you select "Load Optimized Defaults" from the main menu, you see the following screen:

> **Load Optimized Defaults (Y/N)? N**

The defaults loaded only affect the BIOS Features Setup, Chipset Features Setup, Power Management Setup, PnP/PCI configuration setup and Integrated Peripherals Setup. There is no effect on the Standard CMOS Setup.

Press the <Y> key and then press the <Enter> key if you want to load the Setup defaults. Press <N> if you don't want to proceed.

Set Supervisor/User Password

The "Set Supervisor/User Password" utility sets the password. The mainboard is shipped with the password disabled. If you want to change the password, you must first enter the current password, then at the prompt enter your new password. The password is case sensitive. You can use up to eight alphanumeric characters. Selecting "Set Supervisor Password" or "Set User Password" from the main menu displays the following screen:

> **Enter Password:**

Press <Enter> after entering the password. You will be prompted to confirm the password:

> **Confirm Password:**

Confirm the new password by retyping it and pressing <Enter> again.

To disable the password, press the <Enter> key instead of entering a new password when the "Enter Password" dialog box appears. A message appears confirming that the password has been disabled:

> **PASSWORD DISABLED !!!**
> **Press any key to continue** . . .

If you have set supervisor and user passwords, only the supervisor password allows you to enter the BIOS Setup Program.

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Save & Exit Setup

Selecting this option and pressing the <Enter> key will prompt you to save the new setting information in the CMOS memory and continue with the booting process

```
SAVE to CMOS and EXIT (Y/N)? Y
```

Press the <Y> key and then press the <Enter> key if you want to save the new settings. Press <N> if you don't want to proceed.

Exit Without Saving

Selecting this option and pressing the <Enter> key will prompt you to exit the Setup Utility without recording any new values or changing old ones.

```
Quit Without Saving  (Y/N)? N
```

Press the <Y> key and then press the <Enter> key if you want to quit without saving the new settings. Press <N> if you don't want to proceed.