User's Manual

VIA *P4M266A* mainboard
for Intel Socket 478 processor

Manual Revision 2.1
May 27, 2004

6000002P4MK21

DISCLAIMER OF WARRANTIES:

THERE ARE NO WARRANTIES WHICH EXTEND BEYOND THE DESCRIPTION ON THE FACE OF THE MANUFACTURER LIMITED WARRANTY. THE MANUFACTURER EXPRESSLY EXCLUDES ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, REGARDING ITS PRODUCTS; INCLUDING ANY IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR NONINFRINGEMENT. THIS DISCLAIMER OF WARRANTIES SHALL APPLY TO THE EXTENT ALLOWED UNDER LOCAL LAWS IN THE COUNTRY PURCHASED IN WHICH LOCAL LAWS DO NOT ALLOW OR LIMIT THE EXCLUSION OF THE IMPLIED WARRANTIES.

Table of Contents

Section 1
INTRODUCTION

Package Contents

Contents

A. Mainboard

B. User's manual

C. Floppy drive cable

D. HDD drive cable

E. CD (drivers and utilities)

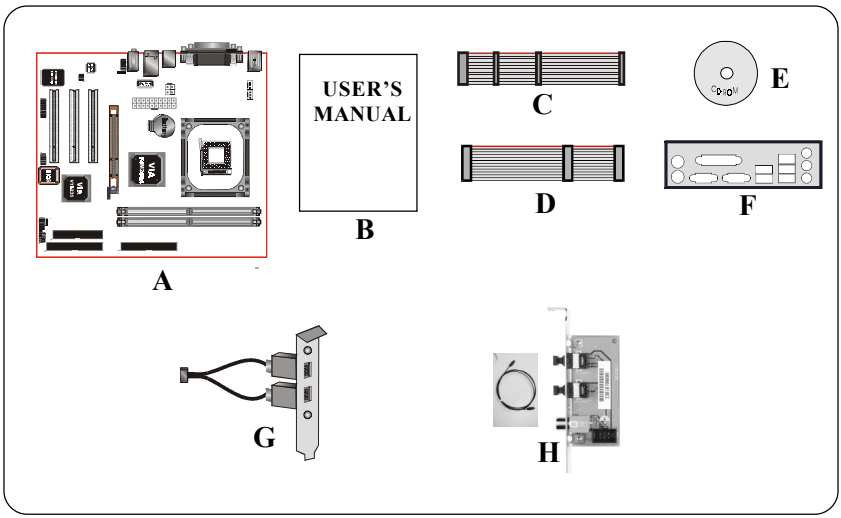
F. I/O Shield

Optional Items

G. Extra USB2.0 port cable

H. S/PDIF Module

If you need the optional item, please contact your dealer for assistance.



System Block Diagram

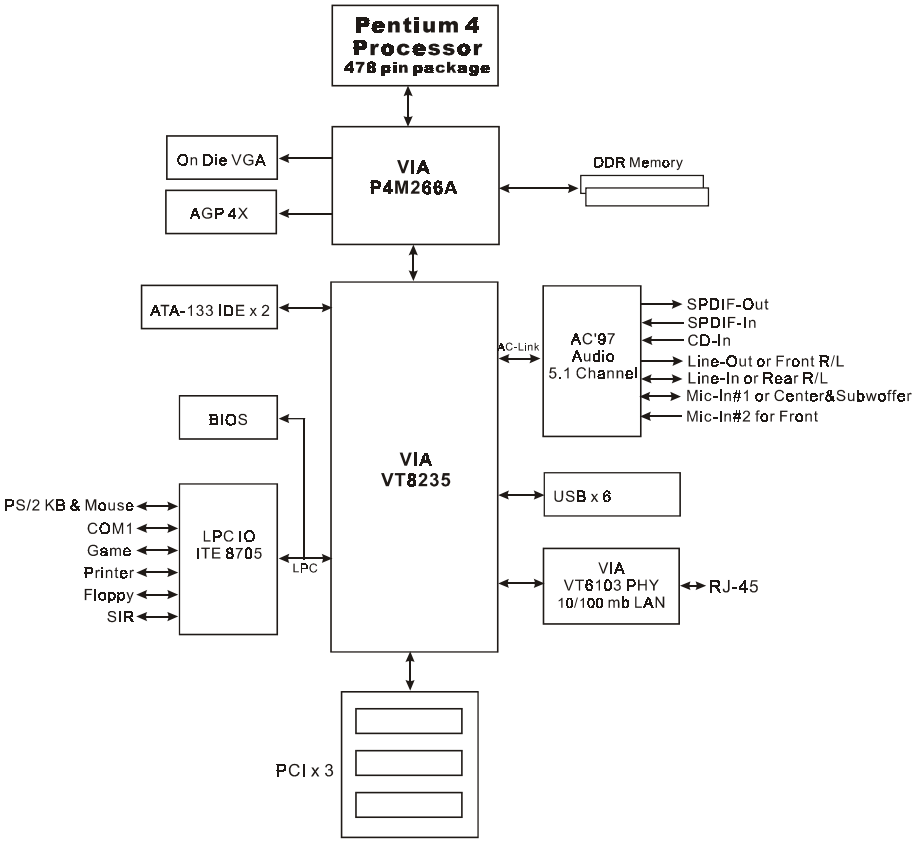


Figure 2: System Block Diagram

Section 2
FEATURES

Mainboard Features

Processor

- Socket 478 Intel® Pentium® 4 processor with 533MHz front side bus up to 3.0+GHz
- Socket 478 Intel® Celeron processor with 400MHz front side bus up to 2.4 GHz

Chipset

- VIA P4M266A AGPset : VIA P4M266A + VT8235
  - Built-in VIA ProSavage 8 Graphics core

Main Memory

- Two 184-pin DDR DIMM sockets for 64-bit, Unbuffered, Single/Double-side and Non-ECC DDR-200/266 DIMMs
- Supports up to 2GB memory size

BIOS

- Flash EEPROM with Award BIOS
  - ACPI v2.0 compliant
  - S3 (Suspend to DRAM) sleep-state support (Optional)
  - SMBIOS (System Management BIOS) v2.2 compliant
  - Supports Power failure recovery
  - Able to wake the computer from specific states by Power switch, RTC alarm, USB, PS2 KB&Mouse, Modem ring on COM#1…

Onboard PCI Devices

- LAN --> Embedded 10/100Mbps Fast Ethernet controller with onboard VIA 6103 PHY

- IDE--> Embedded IDE controller with 2 ordinary IDE ports up to 4 IDE devices, supports ATA-133 with up to 133MB/sec bandwidth

Legacy IO Controller

- ITE 8705 LPC IO controller for floppy, printer, serial, game and CIR/SIR interface

Audio

- Six channel audio with analog and digital output
  - AC'97 v2.3 compliant
  - In 2-CH mode, supports Line-In (Light blue), Line-Out (Lime) and Mic-In (Pink) at rear panel
  - In 6-CH mode, supports Rear speaker out (Light blue), Front speaker out (Lime) and Center&Subwoofer speaker out (Pink) at rear panel
  - Supports CD-In and S/PDIF-in/out interface
  - Supports Line-out and Mic-In for front panel

Peripheral Interfaces

☞ At Rear Panel

- PS/2 keyboard and mouse ports
- One Parallel (printer) port
- One Serial port
- One VGA port
- One RJ45 LAN connector
- Four USB2.0 ports
- Three Audio jacks

☞ Onboard connector and pin-header

- One floppy drive connector
- Two IDE connectors
- Two extra USB2.0 ports
- One CD-IN connector

- One S/PDIF in/out connector
- One IR connector
- One Front Panel Audio connector
- One Game port connector
- Two Fan connectors

Front Panel Controller

- Supports Reset & Soft-Off switches
- Supports HDD & Power LEDs
- Supports PC speaker

Expansion Slots

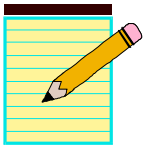
- One AGP slot supporting 1.5v 4X AGP cards
  - AGP v2.0 compliant
- Three PCI slots with Bus Master support
  - PCI v2.2 compliant

Other Features

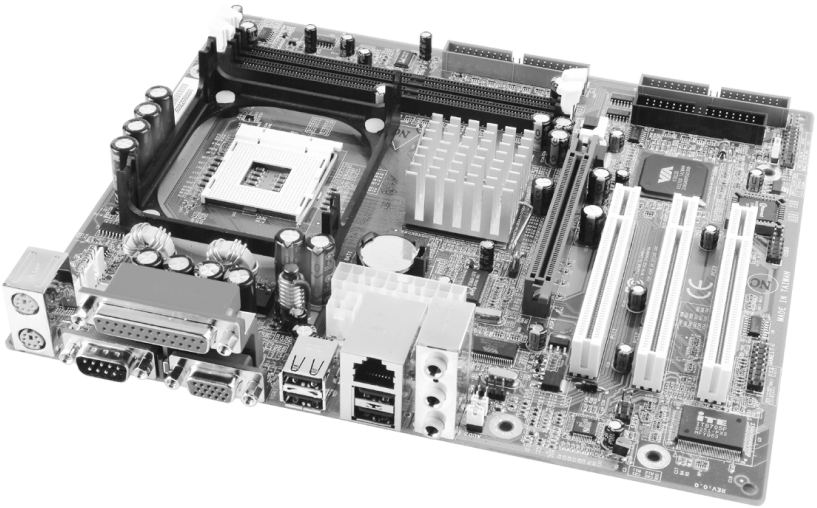
- Magic Health – a BIOS H/W monitoring utility for voltage, temperature and fan-speed sensing displayed during POST
- EZ Boot – A simple shortcut to select the boot device, e.g. hard drive, CD-ROM or floppy without entering CMOS setup
- Supports exclusive KBPO (Keyboard Power On) function
- Excellent Over clocking capabilities through
  - subtle frequency tuning on FSB
  - supports complete Asynchronous FSB/Memory for overclocking

Form Factor

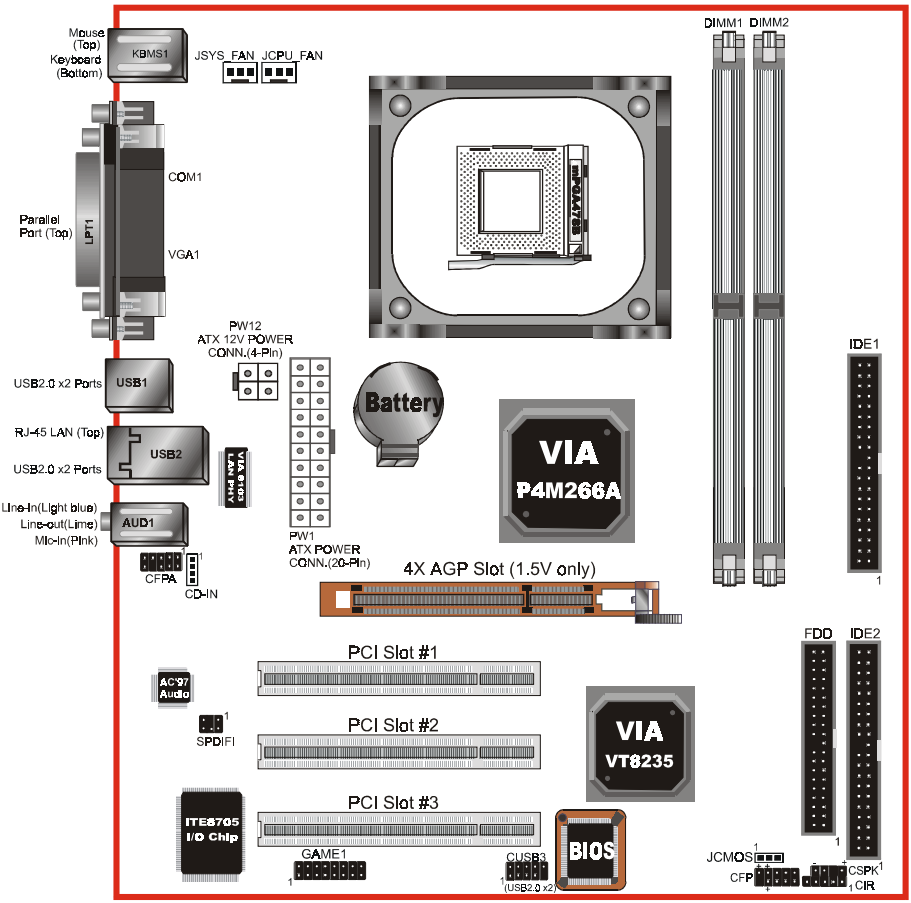
- 210mm x 245 mm Micro ATX size



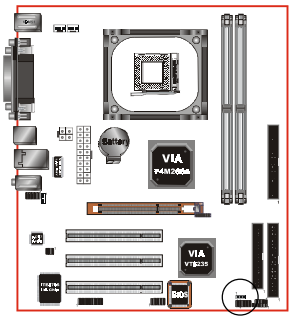
Section 3
INSTALLATION



Mainboard Layout



3-1 Jumper Settings



JCMOS: Clear CMOS data Jumper

If the CMOS data becomes corrupted or you forgot the supervisor or user password, clear the CMOS data to reconfigure the system back to the default values stored in the ROM BIOS.

Settings:
1-2: Normal (Default)
2-3: Clear CMOS

To CMOS Clear data, please follow the steps below.

1. Turn off the system.
2. Change the jumper from "1-2" to "2-3" position for a few seconds.
3. Replace the jumper on to the "1-2" position.
4. Turn on the system and hold down the <Del> key to enter BIOS setup.

3-2 System Memory Configuration

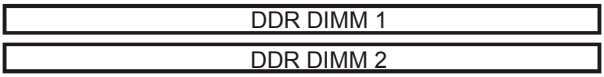
Memory Layout

The mainboard accommodates two PC1600/PC2100 184-pin DIMMs (Dual In-line Memory Modules):

- Supports up to 2.0GB of 200/266MHz DDR SDRAM
- Supports unbuffered and non-ECC DIMMs
- Supports configurations defined in the JEDEC DDR DIMM specification

Figure 1 and Table 1 show two possible memory configurations.

<Figure 1>



<Table 1>

Total Memory	DDR DIMM 1	DDR DIMM 2
= 1GB Maximum	DDR SDRAM* 64MB, 128MB, 256MB, 512MB, 1GB* X 1	None
= 2GB Maximum	DDR SDRAM* 64MB, 128MB, 256MB, 512MB, 1GB* X 1	DDR SDRAM* 64MB, 128MB, 256MB, 512MB, 1GB* X 1

NOTES:

- Using non-compliant memory with higher bus speeds (overclocking) may severely compromise the integrity of the system.

3-3 Connectors

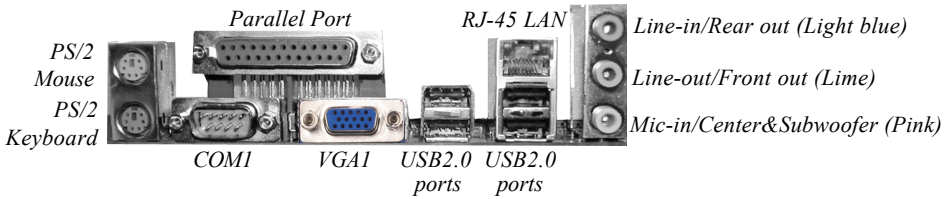
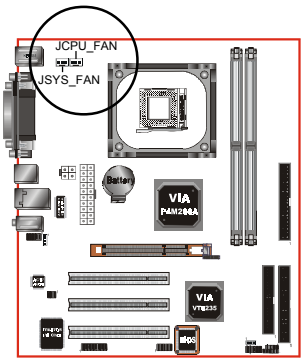


Figure 2 - I/O Ports

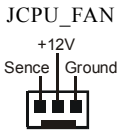


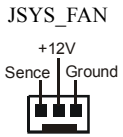
JCPU_FAN / JSYS_FAN:

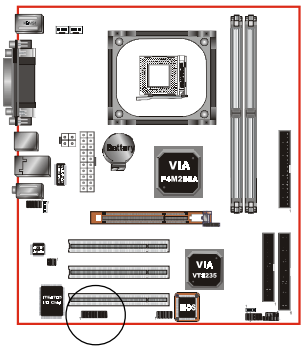
CPU/Chassis Fan Power Connectors

JCPU_FAN: The CPU must be kept cool by using a heatsink with fan assembly.

JSYS_FAN: The chassis fan will provide adequate airflow throughout the chassis to prevent overheating the CPU.

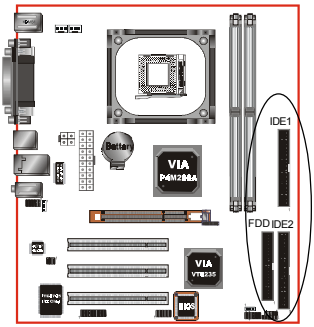


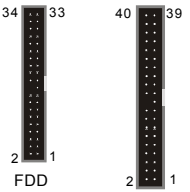




GAME1: Game/MIDI connector

This port works well with any application that is compatible with the standard PC joystick.





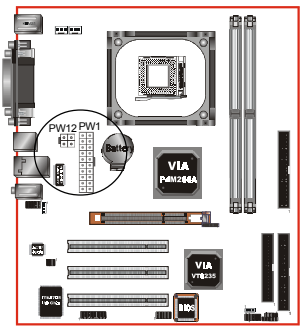
FDD: Floppy Controller Connector

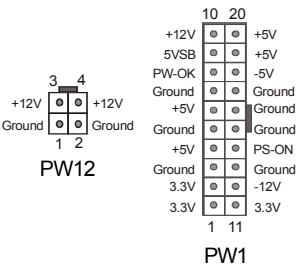
This mainboard is equipped with a floppy disk drive connector for connecting up to 2 floppy disk drives.

IDE1/IDE2: Ultra DMA-66/100/133 Primary/Secondary IDE Connector

This mainboard is equipped with 2 IDE disk connectors for connecting up to 4 ATA-133 IDE drives. It supports PIO and DMA mode operations for maximum data transfer rate of 133MB/sec per channel.

When use two IDE drives, one must be set to Master mode and the other one to Slave mode. Refer to your disk drive user's manual for information about selecting the proper drive switch settings.





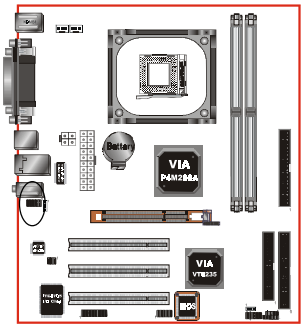
PW1: 20-pin ATX Power Connector

PW12: 4-pin ATX12V Power Connector

The mainboard is equipped with a standard 20-pin ATX main power connector and a 4-pin +12V power connector for connecting an ATX12V power supply. The plugs of the power cables are designed to fit in only one orientation. Find the proper orientation then insert the plugs into the connectors until they fit in place.

Caution:
The PW1 and PW12 Power Connector must be used simultaneously or else this system will not boot-up.

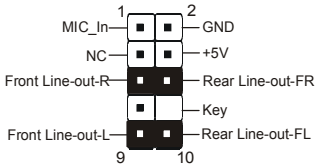
The board requires a minimum of 250 Watt power supply to operate. Your system configuration (amount of memory, add-in cards, peripherals, etc.) may exceed this minimum power requirement. To ensure that adequate power is provided, use a 300 Watt or greater power supply.



CFPA: Front Panel Audio Connector

When the jumpers are removed this connector can be used for front panel audio.

The front panel line-out phone jack should have a “normal close” switch . Without a phone- plug inserted, the rear panel audio is enabled. With phone plug inserted, the rear panel audio will be disabled.

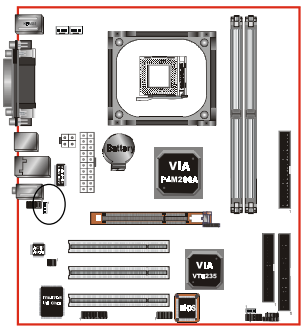


Settings

Pins (5-6) & (9-10) Short (default): Only the onboard rear panel audio jack can be used.

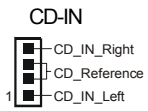
Pins (5-6) & (9-10) Open: Only front panel audio jack can be used.

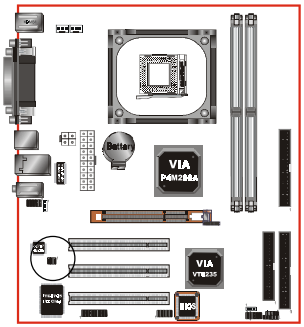
In 2-Channel audio mode, Mic-In is shared for both front panel and rear panel. In 6-Channel audio mode, the Mic-In is dedicated for front panel use, and rear panel Mic-In function will switch to Center and Subwoofer support.



CD-IN: CD Audio_IN Connector

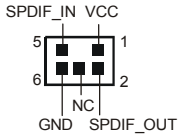
The CD-IN connector is for receiving audio form a CD-ROM drive, TV tuner or MPEG card.

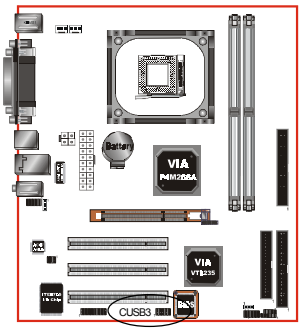




S/PDIF: Sony/Philips Digital InterFace connector

This connector links digital audio between the mainboard and your audio devices, such as CD player, sampler or DAT recorder. It allows the digital transmission of audio data in S/PDIF format.



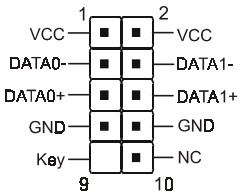


CUSB3: Two USB 2.0 ports

This mainboard includes 2 additional onboard USB ports, identified by two 10-pin connector.

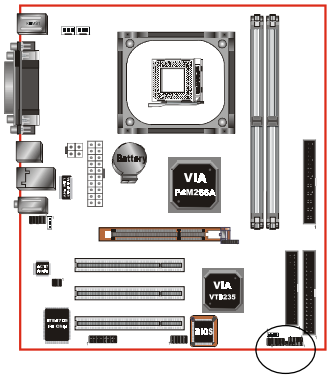
If you wish to use the additional USB ports, install the card-edge bracket to the system chassis then insert its cables to this 10-pin connector.

USB2.0 allows data transfer speed up to 480Mbps.

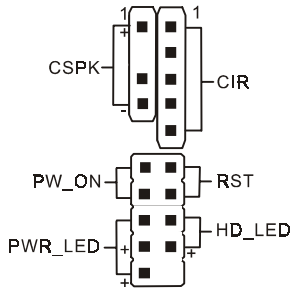


CAUTION!

Please make sure the USB cable has the same pin assignment. A different pin assignment may cause damage to the system.
If you need the USB cable, please contact our retailer.



CFP / CIR / CSPK



CFP: Front Panel Connector

- **HD_LED**
  This LED will light up whenever the hard drive is being accessed.
- **PWR_LED**
  This connects to the power button of the system chassis
- **RST**
  This switch allows you to reboot without having to power off the system thus prolonging the life of the power supply or system.
- **PW_ON**
  This is connected to the power button on the case. Using the Soft-Off by Pwr-BTTN feature, you can choose either Instant Off (turn off system immediately) or 4 sec delay (push the button for 4 seconds to turn off the system). When the system is in 4 sec delay mode, suspend mode is enabled by pushing the button momentarily.

CIR: IR connector

Connect your IrDA cable to this IR connector.

1. VCC	4. GND
2. NC	5. IRTX
3. IRRX	

CSPK: Speaker

Connect to the system's speaker for beeping

1. VCC	3. GND
2. NC	4. Speaker

3-4 External Modem Ring-in Power ON and Keyboard Power ON Functions (KBPO)

Modem-Ring Power ON Function

The I/O chipset provides the two serial ports with the External Modem Ring-in Power ON function. Once you connect an external modem to COM1 or COM2, the mainboard enables you to turn on the system through remote and host dial-up control.

Keyboard Power ON Function

The mainboard features a keyboard power on function that enables you to turn on the power supply using a keypress. Follow these instructions to enable the Keyboard Power ON function .

Step : Use the Keyboard Power ON function (KBPO) to turn on the system by using a key press, password, or hot key combination etc. as set in the BIOS Power Management Setup menu (refer to the BIOS Power Management Setup for details). The BIOS default setting is keyboard Hot key (<Ctrl> + <F1>). To power off the system, use the Soft-OFF function under Windows XP/ME/2000/98. (refer to Windows online help).

NOTES:

- Intel ATX version 2.0 specification recommends a power supply that supplies >=2.0 A in 5.0 VSB. However, this mainboard supports a 5.0 VSB standby power supply > = 2A .
- We recommend you use the power supply with 2.0 A in 5.0 VSB, which supports PCI 2.3 specification for remote power-on and wake-up functions.

Section 4
BIOS SETUP

Main Menu

The ROM BIOS provides a built-in Setup program which allows user to modify the basic system configuration and hardware parameters. The modified data is stored in a battery-backed CMOS, so that data will be retained even when the power is turned off. In general, the information saved in the CMOS RAM will stay unchanged unless there is a configuration change in the system, such as hard drive replacement or a device is added.

It is possible for the CMOS battery to fail causing CMOS data loss. If this happens you will need install a new CMOS battery and reconfigure your BIOS settings.

> The BIOS setup screen and description are for reference only, and may not exactly match what you see on your screen. The contents of BIOS are subject to change without notice. Please visit our website for updates.

To enter the Setup Program :

Power on the computer and press the <Del> key during the POST (Power On Self Test). The BIOS CMOS SETUP UTILITY opens.

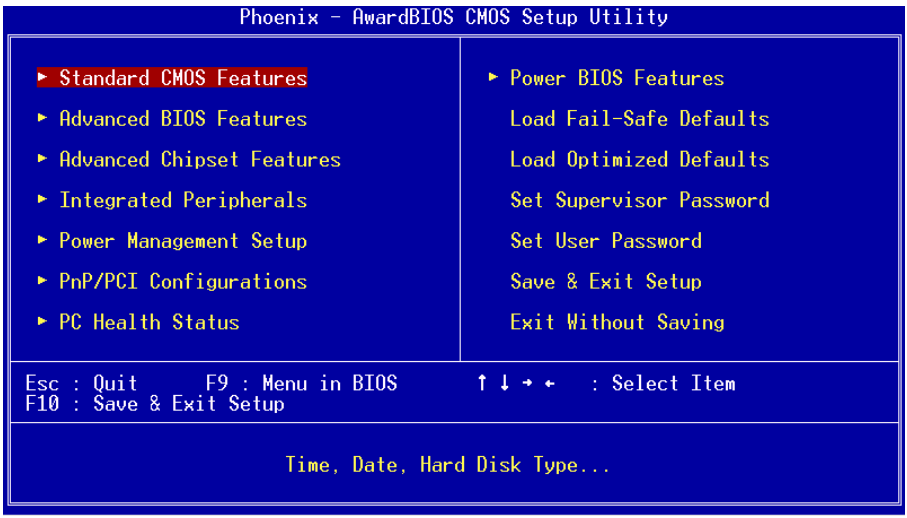


Figure 1: CMOS Setup Utility

The main menu displays all the major selection items. Select the item you need to reconfigure. The selection is made by moving the cursor (press any direction (arrow key) to the item and pressing the 'Enter' key. An on-line help message is displayed at the bottom of the screen as the cursor is moved to various items which provides a better understanding of each function. When a selection is made, the menu of the selected item will appear so that the user can modify associated configuration parameters.

4-1 Standard CMOS Setup

Choose "STANDARD CMOS FEATURES" in the CMOS SETUP UTILITY Menu (Figure 2). Standard CMOS Features Setup allows the user to configure system settings such as the current date and time, type of hard disk drive installed, floppy drive type, and display type. Memory size is auto-detected by the BIOS and displayed for your reference. When a field is highlighted (use direction keys to move the cursor and the <Enter> key to select), the entries in the field can be changed by pressing the <PgDn> or the <PgUp> key.

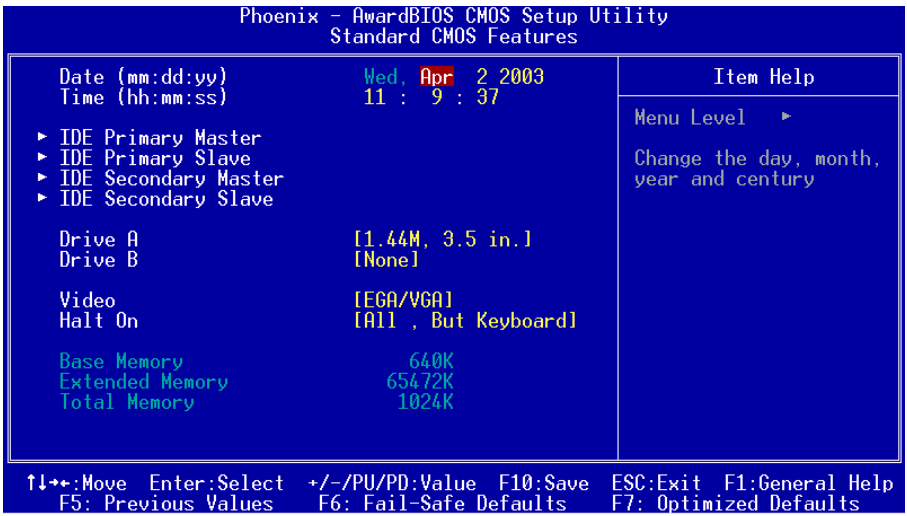


Figure 2: Standard CMOS Setup

Notes:
- If the hard disk Primary Master/Slave and Secondary Master/Slave are set to Auto, the hard disk size and model will be auto-detected.
- The "Halt On:" field is used to determine when the BIOS will halt the system if an error occurs.

4-2 Advanced BIOS Features

Selecting the "ADVANCED BIOS FEATURES" option in the CMOS SETUP UTILITY menu allows users to change system related parameters in the displayed menu. This menu shows all of the manufacturer's default values for the board.

Pressing the [F1] key displays a help message for the selected item.

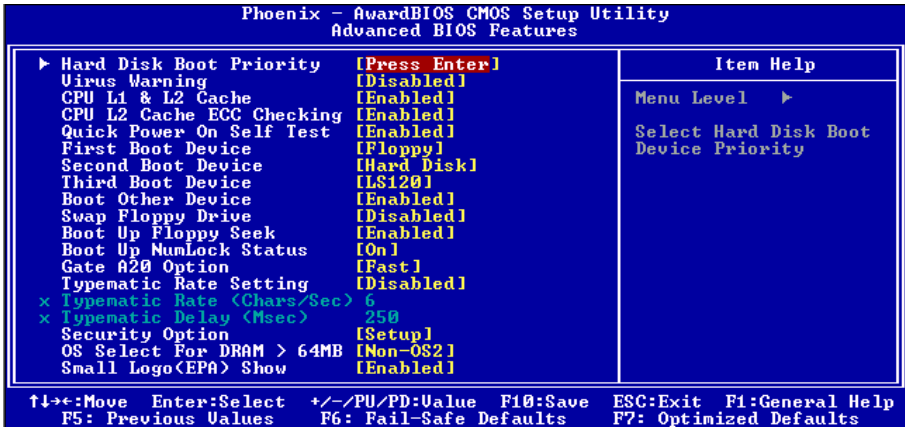


Figure 3: BIOS Features Setup

Hard Disk Boot Priority

This item allows you to select the hard disk boot priority.

Virus Warning

During and after system boot up, any attempt to write to the boot sector or partition table of the hard disk drive halts the system and an error message appears.
You should then run an anti-virus program to locate the virus. Keep in mind that this feature protects only the boot sector, not the entire hard drive.

Enabled: Activates automatically when the system boots up causing a warning message to appear when anything attempts to access the boot sector.

Disabled: No warning message appears when anything attempts to access the boot sector.

Note: Many disk diagnostic programs that access the boot sector table can trigger the virus warning message. If you plan to run such a program, we recommend that you first disable the virus warning.

CPU L1 & L2 Cache

This controls the status of the processor's internal and external (L2) cache area.
Options: Enabled, Disabled.

CPU L2 Cache ECC Checking

This item allows you to enable/disable CPU L2 Cache ECC checking.
Options: Enabled, Disabled.

Quick Power On Self Test

This category speeds up the Power On Self Test (POST). The default is Enabled.
Enabled: This setting will shorten or skip of the items checked during POST.
Disabled: Normal POST.

First /Second/Third/Other Boot Device

The BIOS attempts to load the operating system from the devices in the sequence selected in these items.
Options: Floppy, LS120, HDD-0, SCSI, CDROM, HDD-1, HDD-2, HDD-3, ZIP100, USB-FDD, USB-ZIP, USB-CDROM, USB-HDD, LAN, Disabled.

Boot Other Device

When enabled, the system searches 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.
Options: Enabled, Disabled.

Swap Floppy Drive

This will swap your physical drive letters A & B if you are using two floppy disks.
Options: Enabled, Disabled.

Boot Up Floppy Seek

If this item is enabled, it checks the size of the floppy disk drives at start-up time. You don't need to enable this item unless you have a legacy diskette drive with 360K capacity.
Options: Enabled, Disabled.

Boot Up NumLock Status

This controls the state of the NumLock key when the system boots. The default is On.
On: The keypad acts as a 10-key pad.
Off: The keypad acts like cursor keys.

Typematic Rate Setting

This determines the keystrokes repeat rate. The default is Disabled.

Enabled: Allows typematic rate and typematic delay programming.

Disabled: The typematic rate and typematic delay will be controlled by the keyboard controller in your system.

Typematic Rate (Chars/Sec)

This is the number of characters that will be repeated by a keyboard press.
The default is 6.
Options: 6 ~ 30 characters per second.

Typematic Delay (msec)

This setting controls the time between the first and the second character displayed by typematic auto-repeat. The default is 250.
Options: 250/500/750/1000 msec.

Security Option

This category allows you to limit access to the System and Setup, or just to Setup. The default is Setup.

System: The system will not boot and the access to Setup will be denied if the correct password is not entered at the prompt.

Setup: The system will boot; but the access to Setup will be denied if the incorrect password is not entered at the prompt.

OS Select For DRAM > 64 MB

Some operating systems require special handling. Use this option only if your system has greater than 64 MB of memory. The default is Non-OS2.

OS2: Select this if you are running the OS/2 operating system with greater than 64 MB of RAM.

Non-OS2: Select this for all other operating systems and configurations.

Small Logo (EPA) Show

If the BIOS contains an internal bitmap picture, this option sets the bitmap display at the top right corner of the screen.
Options: Enabled, Disabled.

4-3 Advanced Chipset Features

Choose the "ADVANCED CHIPSET FEATURES" option in the CMOS SETUP UTILITY menu to display following menu.

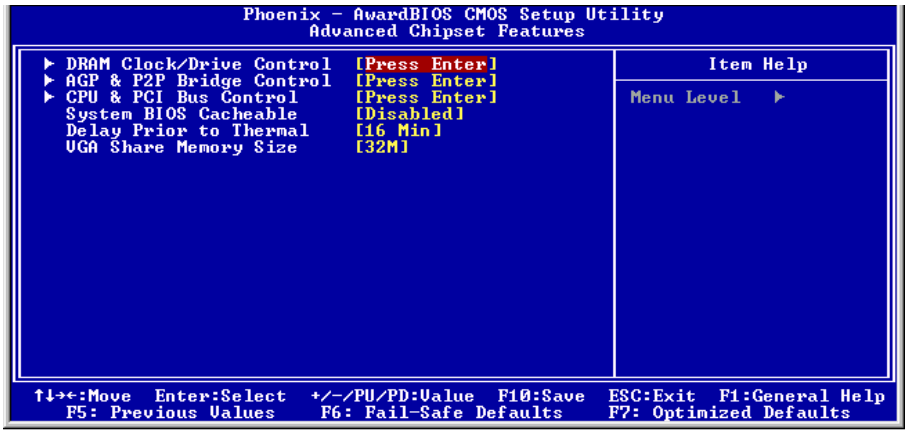


Figure 4: Chipset Features Setup

System BIOS Cacheable

This item allows the system to be cached in memory for faster execution.
Options: Disabled, Enabled.

Delay Prior to Thermal

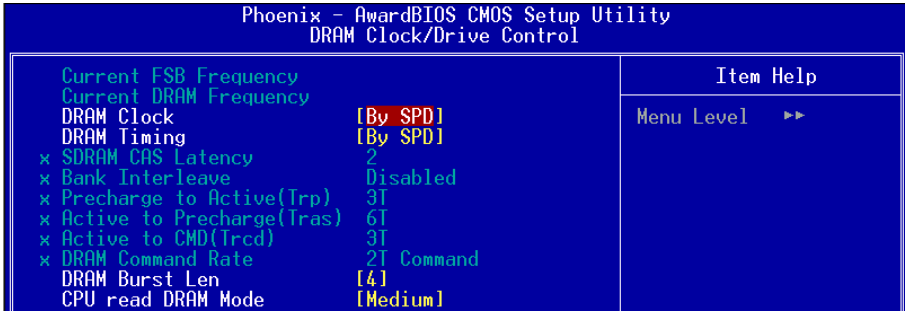
Set this item to enable the CPU Thermal function to engage after the specified time.
The default is 16 minutes.
Options: 4, 8, 16, 32 minutes.

VGA Share Memory Size

This item allows you to select the VGA share memory size for video.
Options: 8M, 16M, 32M, Disabled.

▸ *DRAM Clock / Drive Control*

Scroll to DRAM Clock/Drive Control and press <Enter>. The following screen appears:



Current FSB Frequency

Display the current CPU front side bus frequency information.

Current DRAM Frequency

Display the current DRAM frequency information.

DRAM Clock

This item allows you to select DRAM clock.

Options: By SPD, 100MHz, 133MHz.

DRAM Timing

For setting DRAM Timing select By SPD to follow SDRAM Serial Presence Detect Specification.

Options: Manual, Auto by SPD.

DRAM CAS Latency

Enables you to select the CAS latency time. The value is set at the factory depending on the DRAM installed. Do not change the values in this field unless you change specifications of the installed DRAM and DRAM clock from DRAM Timing Selectable. The default is set by SPD (see 'DRAM Timing').

Options: 2, 2.5.

Bank Interleave

The item allows you to set how many banks of SDRAM support in your mainboard. Default is by SPD.

Options: 2 Bank, 4 Bank, Disabled.

Precharge to Active (Trp)

This item refers to the number of cycles required to return data to its original location to close the bank or the number of cycles required to page memory before the next bank activate command can be issued. The default is by DRAM SPD.
Options: 3T, 2T.

Active to Precharge (Tras)

This item sets the minimum RAS pulse width. The default is by DRAM SPD.
Options: 5T, 6T.

Active to CMD (Trcd)

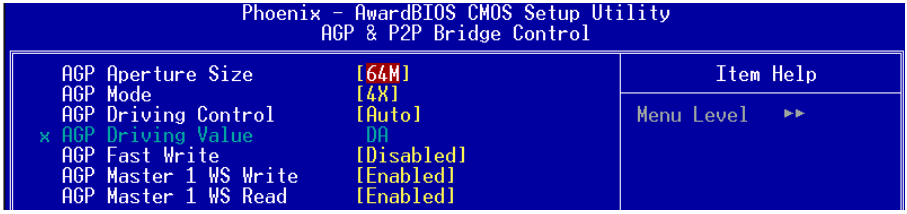
This item sets the timing parameters for the system memory such as the CAS (Column Address Strobe) and RAS (Row Address Strobe). The default is by DRAM SPD.
Options: 3T, 2T.

DRAM Command Rate

Setup the timing at each cycle.
Options: 1T Command, 2T Command.

▸ *AGP & P2P Bridge Control*

Scroll to AGP & P2P Bridge Control and press <Enter>. The following screen appears:



AGP Aperture Size (MB)

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.

Options: 4M, 8M, 16M, 32M, 64M, 128M, 256M.

AGP Mode

Chipset AGP Mode support.

Options: 1X, 2X, 4X.

AGP Driving Control

This item allows you to adjust the AGP driving force. Choose Manual to key in a AGP Driving Value in the next selection. This field is recommended to set in **Auto** for avoiding any error in your system.

Options: Auto, Manual.

AGP Fast Write

Selecting Enabled allows to use Fast Write Protocol for 4X AGP card.

Options: Enabled, Disabled.

AGP Master 1 WS Write

When Enabled, Writes to the AGP (Accelerated Graphics Port) are executed with one wait states.

Options: Enabled, Disabled.

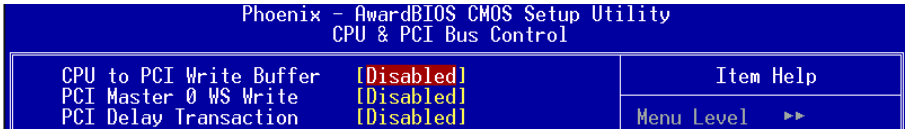
AGP Master 1 WS Read

When Enabled, Reads to the AGP (Accelerated Graphics Port) are executed with one wait states.

Options: Enabled, Disabled.

CPU & PCI Bus Control

Scroll to CPU & PCI Bus Control and press <Enter>. The following screen appears:



CPU to PCI Write Buffer

When enabled, up to four words of data can be written to the PCI bus without interruting 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.
Options: Enabled, Disabled.

PCI Master 0 WS Write

When Enabled, Writes to the PCI bus are commanded with zero wait states.
Options: Enabled, 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 2.3.
Options: Enabled, Disabled.

4-4 Integrated Peripherals

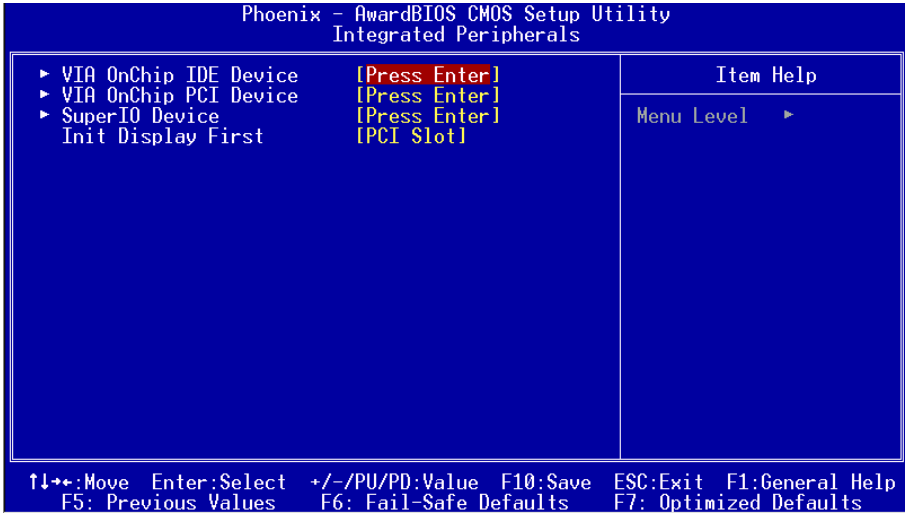


Figure 5: Integrated Peripherals

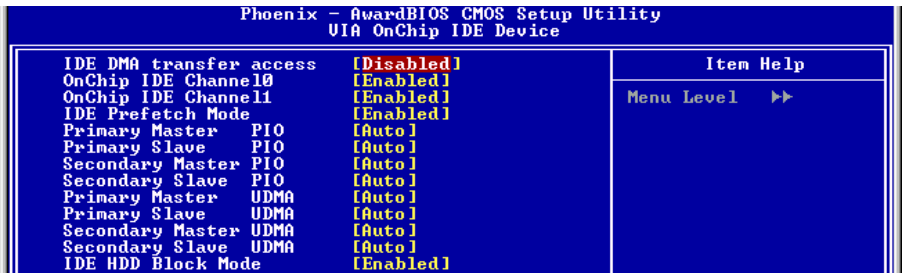
Init Display First

If two video cards are used (1 AGP and 1 PCI) this specifies which one will be the primary display adapter. The default is PCI Slot.

Options: PCI Slot, AGP.

▸ *VIA OnChip IDE Device*

Scroll to VIA Onchip IDE Device and press <Enter>. The following screen appears:



IDE DMA transfer access

Automatic data transfer between system memory and IDE device with minimum CPU intervention. This improves data throughput and frees CPU to perform other tasks.

Options: Enabled, Disabled.

OnChip IDE Channel0/1

The integrated peripheral controller contains an IDE interface with support for two IDE channels. Select "Enabled" to activate each channel separately.

Options: Enabled, Disabled.

Note: If you do not use the onboard IDE connector, then you will need to set the Onboard Primary PCI IDE and Onboard Secondary PCI IDE to "Disabled".

IDE Prefetch Mode

Selecting "Enabled" reduces latency between each drive read/write cycle, but may cause instability in IDE subsystems that cannot support such fast performance. If you are getting disk drive errors, try setting this value to Disabled. This field does not appear when the Internal PCI/IDE field, above, is Disabled.

Options: Enabled, Disabled.

Primary/Secondary Master/Slave PIO

The four IDE PIO (Programmed Input/Output) fields let you set a PIO mode (0-4) for each of the four IDE devices that the onboard IDE interface supports. Modes 0 to 4 provide successively increased performance. In Auto mode, the system automatically determines the best mode for each device.

Options: Auto, Mode 0 ~ 4.

Primary/Secondary Master/Slave UDMA

Select the mode of operation for the IDE drive. Ultra DMA-33/66/100/133 implementation is possible only if your IDE hard drive supports it and the operating environment includes a DMA driver. If your hard drive and your system software both support Ultra DMA-33/66/100/133, select Auto to enable UDMA mode by BIOS.

Options: Auto, Disabled.

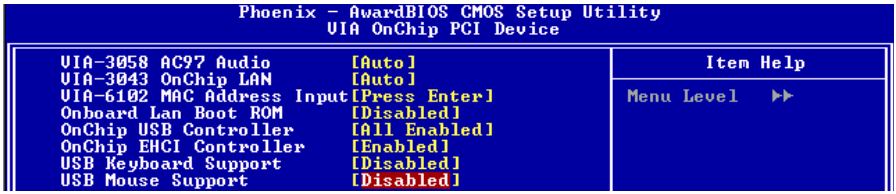
IDE HDD Block Mode

Block mode is also called block transfer, multiple commands, or multiple sector read/write. If your IDE hard drive supports block mode (most new drives do), select Enabled for automatic detection of the optimal number of block read/writes per sector the drive can support.

Options: Enabled, Disabled.

VIA Onchip PCI Device

Scroll to VIA Onchip PCI Device and press <Enter>. The following screen appears:



VIA-3058 AC97 Audio

This item allows you to disable the chipset on-chip support for AC97 Audio.

Options: Auto, Disabled.

VIA-3043 Onchip LAN (Optional)

Enables the onboard LAN feature.

Options: Auto, Disabled.

VIA-6102 MAC Address (Optional)

Allows you to input the VIA-6102 MAC address.

Onboard Lan Boot ROM (Optional)

Enable/disable the onboard LAN Boot ROM.

Options: Enabled, Disabled.

Onchip USB Controller

Enables the USB controller.

Options: All Enabled, All Disabled, 1&2 USB Port, 2&3 USB Port, 1&3 USB Port, 1 USB Port, 2 USB Port, 3 USB Port.

Onchip EHCI Controller

Enables the EHCI (USB2.0) controller.

Options: Enabled, Disabled.

USB Keyboard Support

Enable/disable support for USB keyboard.

Options: Enabled, Disabled.

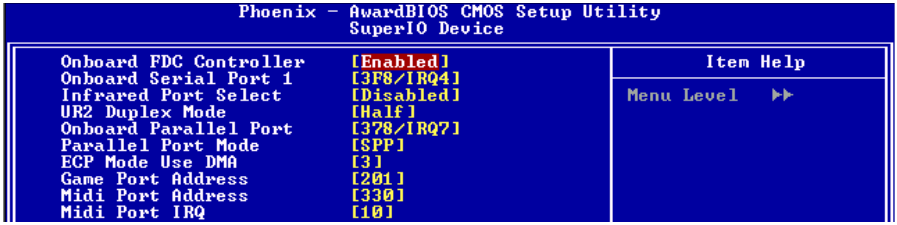
USB Mouse Support

Enable/disable support for USB mouse.

Options: Enabled, Disabled.

▸ *Super IO Chip Setup*

Scroll to Super IO Chip Setup and press <Enter>. The following screen appears:



Onboard FDC Controller

Select Enabled if your system has a floppy disk controller (FDC) installed on the system board and you wish to use it. If you install add-in FDC or the system has no floppy drive, select Disabled in this field.

Options: Enabled, Disabled.

Onboard Serial Port 1

Select an address and corresponding interrupt for the first serial port.

Options: 3F8/IRQ4, 2E8/IRQ3, 3E8/IRQ4, 2F8/IRQ3, Disabled, Auto.

Infrared Port Select

Select an address for Infrared port.

Options: 3F8/IRQ4, 2E8/IRQ3, 3E8/IRQ4, 2F8/IRQ3, Disabled, Auto.

UR2 Duplex Mode

This item allows you to select IR half/full duplex function.

Options: Half, Full.

Onboard Parallel Port

This field allows the user to configure the LPT port.

Options: 378/IRQ7, 278/IRQ5, 3BC/IRQ7, Disabled.

Parallel Port Mode

This field allows the user to select the parallel port mode.

Options: SPP, EPP, ECP, ECP+EPP.

ECP Mode USE DMA

This field allows the user to select DMA1 or DMA3 for the ECP mode.

Options: DMA1, DMA3.

Game Port Address
Select an address for the Game port.
Options: 201, 209, Disabled.

Midi Port Address
Select an address for the Midi port.
Options: 300, 330, Disabled.

Midi Port IRQ
Select an interrupt for the Midi port.
Options: 5, 10.

4-5 Power Management Setup

Choose the "POWER MANAGEMENT SETUP" in the CMOS SETUP UTILITY to display the following screen. This menu allows the user to modify the power management parameters and IRQ signals. In general, these parameters should not be changed unless it's absolutely necessary.

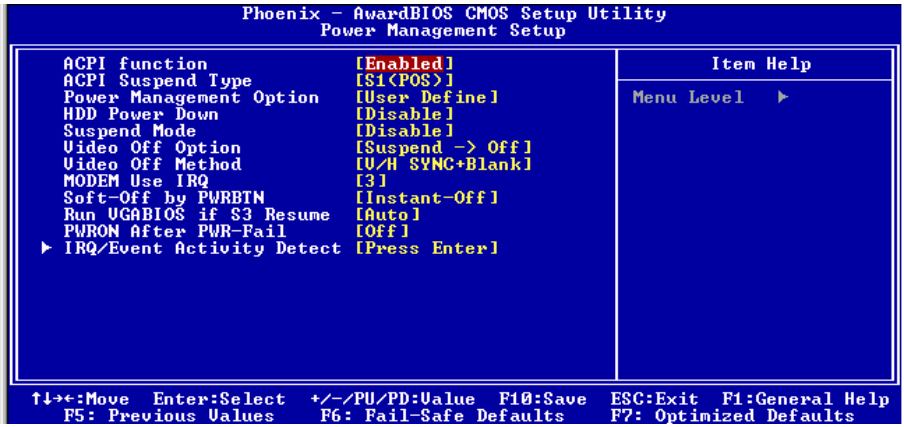


Figure 6: Power Management

ACPI Function

This option allows you to select ACPI Function.
Options: Enabled, Disabled.

ACPI Suspend Type (Optional)

This item allows you to select S1(Power-On-Suspend) or S3(Suspend-To-RAM) function. When set to "S3(STR)" or "S1&S3" the following two fields become available.
Options: S1(POS), S3(STR), S1&S3.

Power Management Option

Use this to select your Power Management selection.

Max. saving: Maximum power savings. Inactivity period is 1 minute in each mode.
Min. saving: Minimum power savings. Inactivity period is 1 hour in each mode.
User define: Allows user to define PM Timers parameters to control power saving mode.

HDD Power Down

Powers down the hard disk drive after a preset period of system inactivity.
Options: Disabled, 1 ~ 15 Min.

Suspend Mode

Automatically, shuts off all devices except the CPU after a preset period of system inactivity.
Options: Disabled, 1 , 2, 4 ,6, 8, 10, 20, 30, 40 min and 1 hour .

Video Off Option

When enabled, this feature allows the VGA adapter to operate in a power saving mode.
Always On: Monitor will remain on during power saving modes.
Suspend->Off: Monitor blanked when the systems enters the suspend mode.

Video Off Method

This option allows you to select how the video will be disabled by the power management. The default is V/H Sync + Blank

V/H Sync + Blank:	System turns off vertical and horizontal synchronization ports and writes blanks to the video buffer.
DPMS Support:	Select this option if your monitor supports the Display Power Management Signaling (DPMS) standard of the Video Electronics Standards Association (VESA). Use the software supplied for your video subsystem to select video power management values.
Blank Screen:	System only writes blanks to the video buffer.

MODEM Use IRQ

Name the interrupt request (IRQ) line assigned to the modem (if any) on your system. Activity of the selected IRQ always awakens the system. Default is IRQ 3.
Options: N/A, 3, 4, 5, 7, 9, 10, 11

Soft-Off by PWRBTN

Pressing the power button for more than 4 seconds forces the system to enter the Soft-Off state when the system has “hung.” The default is Instant-off.
Options: Delay 4 Sec, Instant-Off.

Run VGABIOS if S3 Resume (Optional)

This determines whether or not to enable the system to run the VGA BIOS when resuming from S3(STR) or S1&S3.

Options: Auto, Yes, No.

PWRON After PWR-Fail

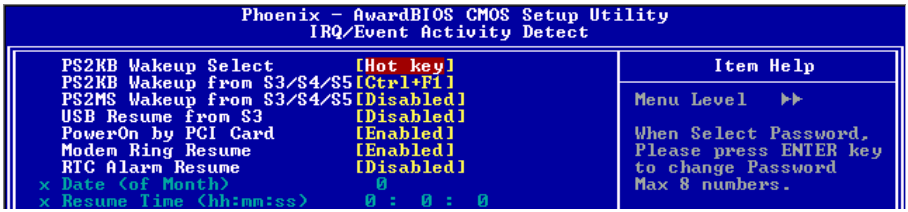
This item enables your computer to automatically restart or return to its last operating status after power returns from a power failure.

Off: The system stays off after a power failure.

Former-Sts: The system returns to the state it was in just prior to the power failure.

▸ *IRQ/Event Activity Detect*

Scroll to IRQ/Event Activity Detect and press <Enter>. The following screen appears:



PS2KB Wakeup Select

This item allows you to select Hot Key or Password to wake-up the system by PS2 Keyboard. When select Password, please press ENTER key to change password max 8 numbers.

Options: Hot key, Password.

PS2KB Wakeup form S3/S4/S5 (Optional)

This item allows you to set a Hot Key to wake-up the system by PS2 Keyboard from S3/S4/S5 mode.

Options: Disabled, Ctrl+F1, Ctrl+F2, Ctrl+F3, Ctrl+F4, Ctrl+F5, Ctrl+F6, Ctrl+F7, Ctrl+F8, Ctrl+F9, Ctrl+F10, Ctrl+F11, Ctrl+F12, Power, Wake, Any key.

Note: Power and Wake are Windows98 Keyboard button.

PS2MS Wakeup form S3/S4/S5 (Optional)

This item allows you to wake-up the system by PS2 Mouse from S3/S4/S5 mode.

Options: Enabled, Disabled.

USB Resume from S3 (Optional)

This item allows you to wake-up the system by USB device when you save the computer power at S3.

Options: Enabled, Disabled.

PowerOn by PCI Card

An input signal form PME on the PCI card awakens the system from a soft off state.

Options: Enabled, Disabled.

Modem Ring Resume

When set to *Enabled*, any event occurring to the Modem Ring will awaken a system which has been powered down.

Options: Enabled, Disabled.

RTC Alarm Resume

When set to *Enable rtc alarm resume,* you could set the date (of month) and timer (hh:mm:ss), any event occurring at will awaken a system which has been powered down.

4-6 PNP/PCI Configuration

This page lets the user to modify the PCI/ISA IRQ signals when various PCI cards are inserted.

WARNING: Conflicting IRQ's may cause the system to not find certain devices.

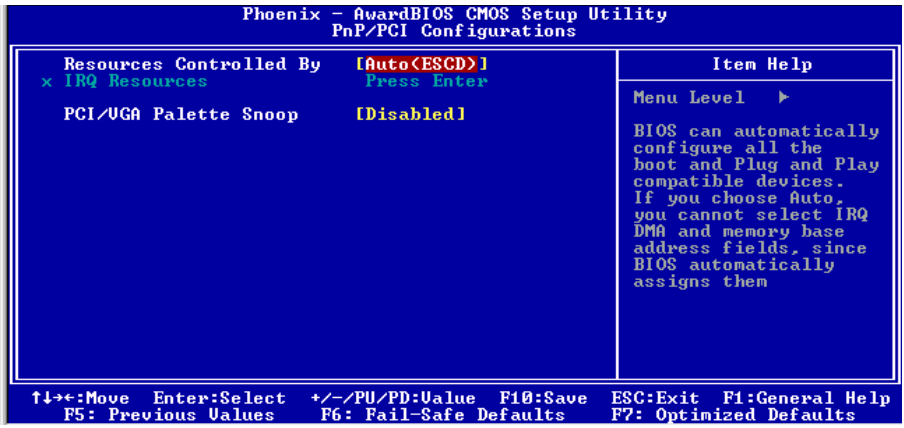


Figure 7: PNP/PCI Configuration Setup

Resources Controlled By

Determines what controls system PNP/PCI resources. The default is Auto (ESCD).

Manual: PNP Card's resources are controlled manually. The "IRQ Resources" field becomes available and you can set which IRQ-X and DMA-X are assigned to PCI and onboard devices.

Auto: BIOS assigns the interrupt resource automatically.

PCI/VGA Palette Snoop

This item is designed to overcome problems that may be caused by some nonstandard VGA cards. This board includes a built-in VGA system that does not require palette snooping therefore you must leave this item disabled.

Options: Enabled, Disabled.

Interrupt requests are shared as shown below:

	INT A	INT B	INT C	INT D
PCI 1	V			
PCI 2		V		
PCI 3			V	
AGP Slot	V			
AC97			V	
Onboard USB1	V			
Onboard USB2		V		
Onboard USB3			V	
USB2.0				V
Onboard LAN (Optional)	V			

IMPORTANT!
When using PCI cards on shared IRQ slots, make sure its drivers support "Shared IRQ", or that the cards do not need IRQ assignments. IRQ conflicts between the two PCI groups will make the system unstable or cards inoperable.

4-7 PC Health Status

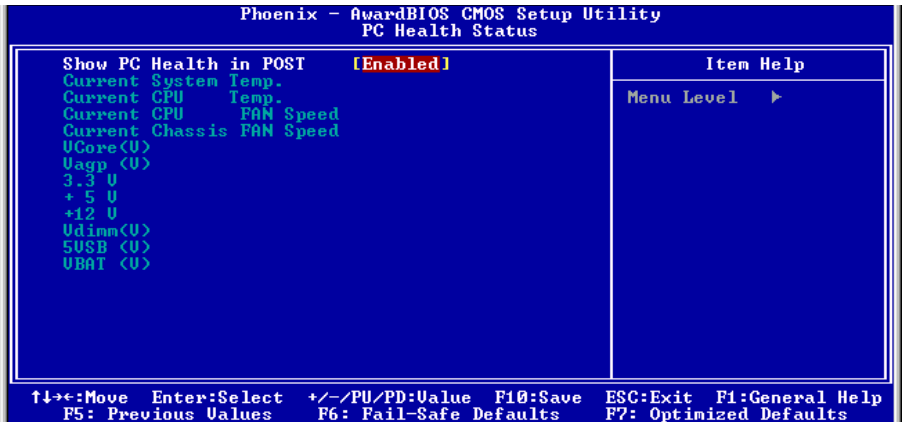


Figure 8: PC Health Status

Show PC Health in POST

When this function is enabled the PC Health information is displayed during the POST (Power On Self Test).

Options: Disabled, Enabled.

Current System/CPU Temperature

Displays the current system/CPU temperature.

Current CPU/Chassis FAN Speed

Displays the current speed of the CPU and chassis fan speed in RPMs.

Vcore (V)

The voltage level of the CPU(Vcore).

Vagp (V)

The voltage level of power supplied to AGP card.

3.3V, 5V, 12V, 5VSB

The voltage level of the switching power supply.

Vdimm (V)

The voltage level of the DRAM

VBAT (V)

The voltage level of the battery.

4-8 Power BIOS Features

This page lets you adjust various parameters to obtain improved performance for overclocking.

> **Warning**:
> Overclocking requires expert knowledge and risks permanent damage to system components. We recommend you leave these parameters at their default values for proper operation.

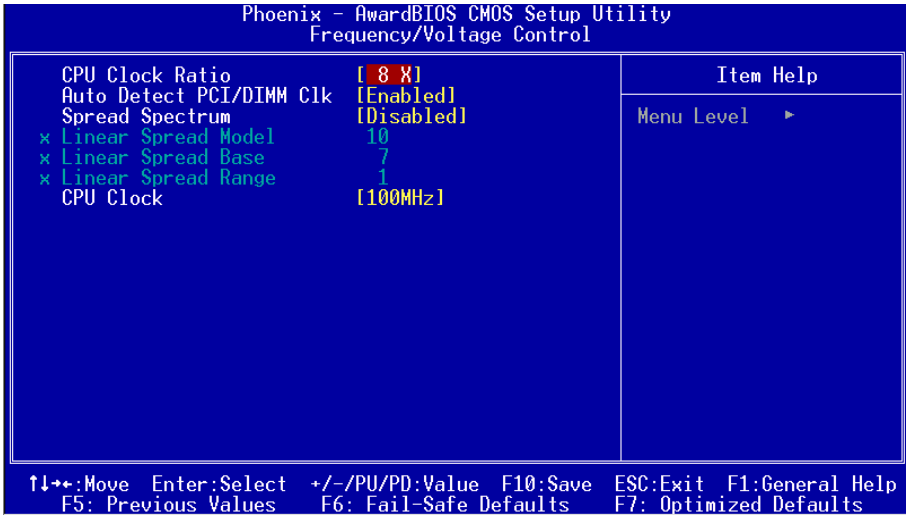


Figure 9: Frequency/Voltage Control

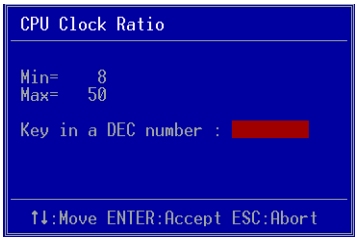
CPU Clock Ratio

Use this item to select a multiplier for the system front side bus (FSB) frequency. The value of the multiplier must be set so that:

Multiplier x Front side Bus Frequency = CPU Clock Speed

For example, if you have a processor that is rated to run at 800 MHz and the system is running a front side bus frequency of 100 MHz, you should select a multiplier of 8 so that:

8 (Multiplier) x 100 MHz (front side bus) = 800 MHz (CPU clock)



Key in the DEC (decimal) number for the CPU Clock Ratio.

Auto Detect PCI/DIMM Clk

When enabled the mainboard automatically disables the clock source for a PCI/ DIMM slot which does not have a module in it, reducing EMI (ElectroMagnetic Interference).

Options: Enabled, Disabled.

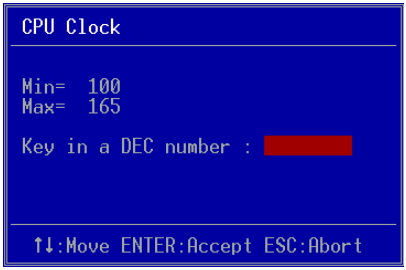
Spread Spectrum

If you enable spread spectrum, it can significantly reduce the EMI (ElectroMagnetic Interference) generated by the system.

Options: Disabled, Enabeld.

CPU Clock

Enables you to set the CPU front side bus speed at increments of 1MHz step. The default is 100 MHz. Press <Enter> to display the following screen:



Key in the DEC (decimalism) number for the CPU clock.

Note: Overclocking failure will cause no display on monitor. At this instant, press "*Insert*" key to revert back to the initial or default setting to boot up your system.

4-9 Defaults Menu

Selecting “Defaults” from the main menu shows you two options which are described below

Load Fail-Safe Defaults

When you press <Enter> on this item you get a confirmation dialog box:

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

Pressing ‘Y’ loads the BIOS default values for the most stable, minimal-performance system operations.

Load Optimized Defaults

When you press <Enter> on this item you get a confirmation dialog box:

Load Optimized Defaults (Y/N) ? N

Pressing ‘Y’ loads the default values that are factory settings for optimal performance system operations.

4-10 Supervisor/User Password Setting

You can set either supervisor or user password, or both. The differences between are:

supervisor password: full rights to enter and change the options of the setup menus.

user password: only enter but do not have the right to change the options of the setup menus.

When you select this function, the following message will appear at the center of the screen to assist you in creating a password.

ENTER PASSWORD:

Type the password, up to eight characters in length, and press <Enter>. The password typed now will clear any previously entered password from CMOS memory. You will be asked to confirm the password. Type the password again and press <Enter>. You may also press <Esc> to abort the selection and not enter a password.

To disable a password, just press <Enter> when you are prompted to enter the password. A message will confirm the password will be disabled. Once the password is disabled, the system will boot and you can enter Setup freely.

PASSWORD DISABLED.

When a password has been enabled, you will be prompted to enter it every time you try to enter Setup. This prevents an unauthorized person from changing any part of your system configuration.

Additionally, when a password is enabled, you can also require the BIOS to request a password every time your system is rebooted. This would prevent unauthorized use of your computer.

You can determine when the password is required within the BIOS Features Setup Menu and its Security option. If the Security option is set to “System”, the password will be required both at boot and at entry to Setup. If set to “Setup”, prompting only occurs when trying to enter Setup.

4-11 Exiting BIOS

Save & Exit Setup

Pressing <Enter> on this item asks for confirmation:

Save to CMOS and EXIT (Y/N)? Y

Pressing "Y" stores the selections made in the menus in CMOS – a special section of memory that stays on after you turn your system off. The next time you boot your computer, the BIOS configures your system according to the Setup selections stored in CMOS. After saving the values the system is restarted again.

Exit Without Saving

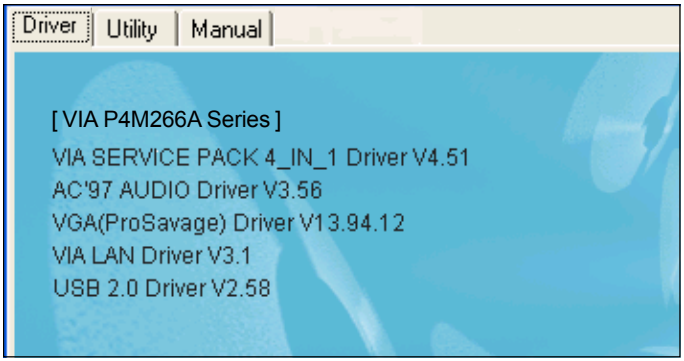
Pressing <Enter> on this item asks for confirmation:

Quit without saving (Y/N)? Y

This allows you to exit Setup without storing in CMOS any change. The previous selections remain in effect. This exits the Setup utility and restarts your computer.

Section 5
DRIVER INSTALLATION

Easy Driver Installation



Insert the bundled CD-disk, the main menu screen will appear. The main menu displays buttons that link you to the supported drivers, utilities and software.

Step 1 : Click **"VIA SERIES PACK 4IN1 DRIVER"** to install chipset driver.

Step 2 : Click **"AC'97 AUDIO DRIVER"** to install audio driver.

Step 3 : Click **"VGA (ProSavage) DRIVER"** to install onboard graphics driver.

Step 4 : Click **"USB V2.0 DRIVER "** to install USB V2.0 driver.

Step 5 : Click **"VIA 6103 LAN DRIVER"** to install LAN driver.

Note: Main menu varies depends on model you purchased.

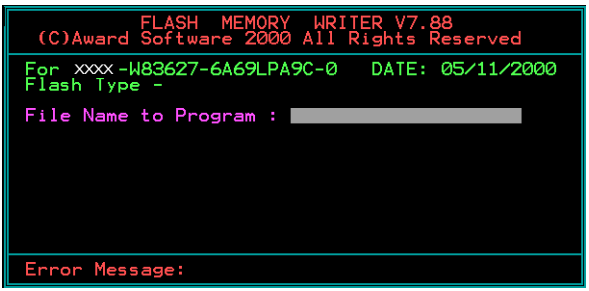
Appendix A

A-1 Update Your System BIOS

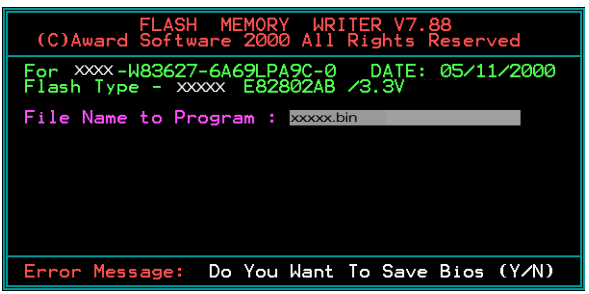
Download the xxxxx.EXE file corresponding to your model from our website to an empty directory on your hard disk or floppy. Run the downloaded xxxxx.EXE file and it will self extract. Copy these extracted files to a bootable floppy disk.

Note: The floppy disk should contain NO device drivers or other programs.

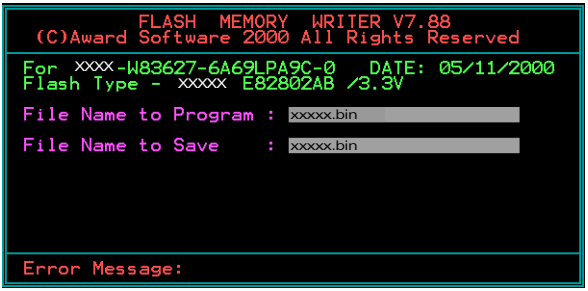
1. Type "A:\AWDFLASH and press <Enter> Key.
2. You will see the following setup screen.
3. Please key in the xxxxx.bin BIOS file name.



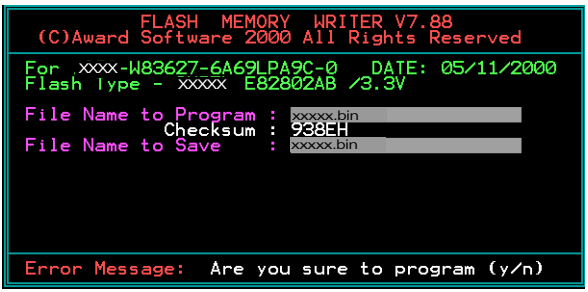
4. If you want to save the previous BIOS data to the diskette, please key in [Y], otherwise please key in [N].



5. Key in File Name to save previous BIOS to file.



6. To confirm and proceed, please key in [Y] to start the programming.



7. The BIOS update is finished.