



## *Declaration of Conformity*

According to 47 CFR, Parts 2 and 15 of the FCC Rules

The following designated product:

**EQUIPMENT: MAINBOARD**  
**MODEL NO.: 7VIA1**

is a Class B digital device that complies with 47 CFR Parts 2 and 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference.
2. This device must accept any interference received, including interference that may cause undesired operation.

This declaration is given to the manufacturer:

**CHAINTECH-EXCEL COMPUTER INC.**  
**4427 Enterprise St. Fremont, CA 94538, U.S.A.**

<http://www.chaintech-excel.com>

Chaintech President: Simon Ho

Signature: \_\_\_\_\_

A handwritten signature in black ink, appearing to be 'S. Ho', written over a horizontal line.

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## **Federal Communications Commission Statement**

This device complies with FCC Rules Part 15. Operation is subject to the following two conditions:

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

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. If this equipment is not installed and used in accordance with the manufacturer's instructions, it 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 receiver.
- ♦ Connect the equipment to 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.

The use of shielded cables for connection of the monitor to the graphics card is required to assure compliance with FCC regulations. Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

## **Canadian Department of Communications Statement**

This digital apparatus does not exceed the Class B limits for audio noise emissions from digital apparatuses set out in the Radio Interference Regulations of the Canadian Department of Communications.

## **Manufacturer's Disclaimer Statement**

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# Chapter 1

## Introduction

### 1-1 Product Specifications

#### ❑ Processor

- Supports AMD Socket A Duron/Athlon /XP processors
- Supports 200/266MHz system clock

#### ❑ Chipset

- VIA KT266A + VT8233A AGPset

#### ❑ DRAM Memory

- Two 184-pin DDR DIMM sockets support up to 2GB
- Supports PC1600/PC2100 DDR SDRAM

#### ❑ Expansion Slots

- One PCNR slot (v1.0 compliant) for low cost modem and audio solution.
- One Universal-AGP slot for both 2X/4XAGP at 3.3v or 1.5v (v2.0 compliant)
- Three 32-bit PCI slots (Rev 2.2 compliant)

#### ❑ Boot-Block Flash ROM

- Award BIOS, supports PnP, APM, DMI, ACPI & Multi-device booting features i.e. floppy, LS120, CD-ROM, HDD(IDE, SCSI), ZIP-ATAPI etc.

#### ❑ Embedded Ultra DMA-133 PCI IDE controller

- Supports two IDE ports up to 4 ATAPI devices
- Supports up to PIO Mode 4 up to 16.6MBps, Multi Mode 4 up to 66MBps, Multi Word Mode 5 up to 100MBps and Multi Word Mode 6 up to 133MBps with bus mastering
- Bus Mastering software drivers for common multi-task operating systems

#### ❑ Onboard Ultra I/O

- ITE 8705F chip with keyboard controller
- Two UARTs support two serial ports and IR function for HPSIR and ASKIR
- One parallel supports SPP/ECP/EPP
- One floppy disk drive connector supports up to 2.88MB

#### ❑ Embedded USB Controller

- UHCI compliant USB host controller with Root Hub
- Support up to four USB ports (UHCI v1.1 compliant)
- Optional USB adapter for additional 2 USB ports

**❑ Double Stack Back-Panel I/O Connectors**

- PS/2 Mini-DIN keyboard and mouse port
- Two USB ports
- Two 9-pin D-SUB male Serial port
- One 25-pin D-SUB female Printer port
- Audio Line-in/out and Mic-in jacks
- One 15-pin D-SUB female Game/MIDI port

**❑ Onboard PCI Audio Subsystem (option)**

- CMedia 8738 audio chip w/ legacy audio SB16/Pro compatible
- Full-duplex operation for simultaneous recording and playback
- 6 channel speaker audio support

**❑ Embedded Audio Subsystem (option)**

- AC"97 V2.1 compliant CODEC with integrated SRC

**❑ Embedded System Monitor Hardware**

- 8 external voltage inputs
- 1 temperature sensor with thermistor for CPU
- 2 Fan speed monitoring with ON/OFF control in suspend

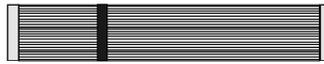
## 1-2 Package Contents

This product comes with the following components:

- ❑ One mainboard
- ❑ One 40-pin(80-conductor) UDMA-133 IDE connector ribbon cable (Figure 1-1)  
\* **Color coded connection:** Blue to mainboard, Gray to Master and Black to slave
- ❑ One 34-pin floppy disk drive ribbon cable (Figure 1-2)
- ❑ Optional 6 Channel Audio Adapter card with cable
- ❑ One User's Manual
- ❑ One CD-ROM that includes
  - Award Flash Utility
  - Award DMI Utility for DOS
  - Audio and VGA drivers and utilities
  - VIA Service Pack for Windows OS including Bus Master IDE drivers, AGP VxD and etc.
  - Optional **Value Pack 2002** software pack including Norton AntiVirus, Adobe ActiveShare, Acrobat Reader, Acrobat eBook Reader, Imagemore and AutoSave.
- 🔗 See the Readme.txt file in the CD-ROM's root directory for installation instructions of all driver and software utilities.

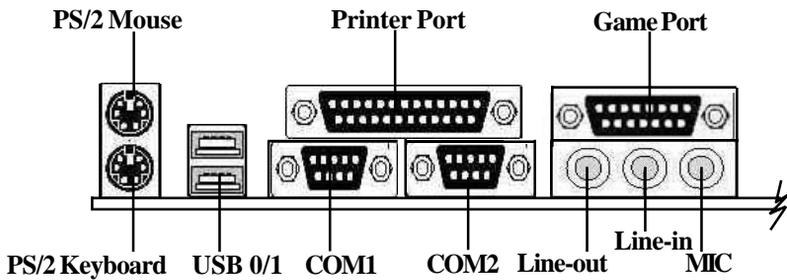
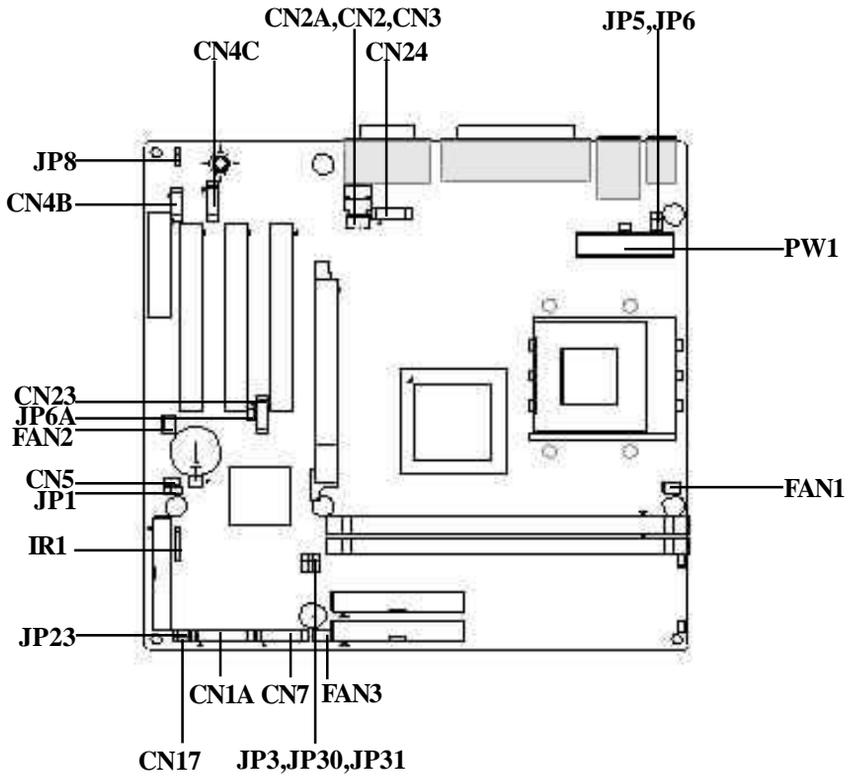


**Figure 1-1** UDMA-133 IDE cable



**Figure 1-2** Standard Floppy cable

## 1-3 Mainboard Layout



## 1-4 Connector and Jumper Reference Chart

<b>Jumper &amp; Connector No.</b>	<b>Function</b>	<b>Page</b>
JP1	Clear CMOS Data	8
JP3	External Clock Frequency	8
JP5	PS/2 Keyboard Power-on Function	8
JP6/JP6A	Power On By USB 0/1 and 2/3	8
JP8	On board Audio	8
JP30	ROM SIP	8
JP31	166MHz CPU Clock	9
CN1A	Over Ride Power Button Connector	7
	Power Indicator LED Connector	7
	System Reset Switch Connector	7
	Speaker Connector	7
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	IDE Activity LED Connector	7
CN2/CN2A	CD-ROM Audio-in Connector	9
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CN4B	AC3 Surround/Center + Bass Connector	9
CN4C	Optional S/PDIF-in/out Connector	9
CN5	WOL (Wake-on-LAN) Connector	9
CN17	Blue LED Connector	9
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CN24	Front Panel Audio Connector	10
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FAN1/FAN2/FAN3	CPU/System/Case Cooling Fan Connectors	10
PT1	PS/2 Mouse and Keyboard Ports	10
PW1	ATX Power supply Connector	6

## Chapter 2

# Hardware Setup

If your mainboard has already been installed in your computer you may still need to refer to this chapter if you plan to upgrade your system's hardware.



**This mainboard is electrostatic sensitive. Do not touch without wearing proper safety gudget and make sure to disconnect the power cable from the power source before performing any work on your mainboard. Not doing so may result in electrical shock!**

### 2-1 Installing a CPU Processor in Socket A

The Socket A, designed for AMD Athlon/Duron processors, has been incorporated as a standard mainboard specification. To insert your CPU into Socket A please do the following:

1. Locate a cut edge on the top surface of the CPU close to one if it's corners. The same corner will also be cut off, leaving a noticeable notch in the CPU's corner. These markings indicate Pin 1 of the CPU.
2. Pull up the lever of Socket 462 so that it is perpendicular with the surface of the mainboard. Gently insert the CPU with Pin 1 at the same corner of Socket 462 that contains the end of the lever. Allow the weight of the CPU to push itself into place. Do not apply extra pressure as doing so may result in damaging your CPU. Snap the lever back into place.



**Installing an AMD approved heat sink with cooling fan is necessary for proper heat dissipation from your CPU. Failing to install these items may result in overheating and possible burn-out of your CPU.**

### 2-2 CPU Jumper Configuration

#### Frequency Configuration

If you install a CPU on this mainboard, you must set the "External Clock Frequency JP3 and JP31" according to your processor (See Section 2-3).

**\* CPU Speed = Frequency ratio x System (External Clock) Frequency**



You do not need to make voltage settings because this board will automatically sets your CPU voltage.

## 2-3 Connector and Jumper Settings

Connectors are used to link the system board with other parts of the system, including the power supply, the keyboard, and the various controllers on the front panel of the system case.



**The power supply connector is the last connection to be made while installing a mainboard. Before connecting the power supply, please make sure it is not connected to the power source.**

### ATX Power Supply Connector (PW1)



The power cord leading from the system's power supply to the external power source must be the very last part connected when assembling a system. The ATX power supply provides a single 20-pin connector interface which incorporates standard +/-5V, +/-12V, optional 3.3V and Soft-power signals. The Soft-power signal, a 5V trickle supply is continuously supplied when AC power is available. When the system is in the Soft-Off mode, this trickle supply maintains the system in it's minimum power state.

### Software Power-Off Control

This mainboard can be powered down using the Windows 9x Software Power-Off function. To power down your computer, click the START button on the Windows 9x task bar. Select "Shut Down The Computer" and the system turns off. The message "It is now safe to turn off your computer" will not be shown when using this function.

### Power-On By Modem

While in Soft-off state, if an external modem ring-up signal occurs, the system wakes up and can be remotely accessed. You may enable this function in BIOS's Power Management Setup menu. (See section 3-5)

### Blinking LED in Suspend Mode

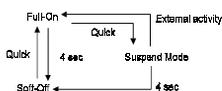
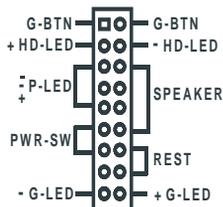
While in Suspend mode, the LED light on the front panel of your computer will flash. Suspend mode is entered by pressing the Override Power Button, pushing the Green button on your ATX case, or enabling the Power Management and Suspend Mode options in BIOS's Power Management menu. (See section 3-5)

### Poly-fuse Over Current Protection

The poly-fuse protects the system from dangerous voltages the system might be exposed to via the keyboard or USB connectors. In case of such exposure, the poly-fuse will immediately be disconnected from the circuit, just like a normal fuse. After being disconnected for a certain period of time, the poly-fuse will return to its normal state, after which the keyboard or USB can function properly again. Unlike conventional fuses, the poly-fuse does not have to be replaced, relieving the user wasted time and inconvenience.

## Front Panel Connector Set (CN1A) A through F

### A. Over-ride Power Button Connector



**Over-ride Power Button**

The power button on the ATX chassis can be used as a normal power switch as well as a device to activate Advanced Power Management Suspend mode. This mode is used for saving electricity when the computer is not in use for long periods of time. The Soft-OFF by PWR-BTTN function in BIOS's Power Management Setup menu must be set to "Delay 4 Sec." to activate this function.

When the Soft-OFF by PWR-BTTN function is enabled, pushing the power button rapidly will switch the system to Suspend mode. Any occurrence of external activities such as pressing a key on the keyboard or moving the mouse will bring the system back to Full-On. Pushing the button while in Full-On mode for more than 4 seconds will switch the system completely off. See Over-ride Power Button Operation diagram.

### B. Power Indicator LED Connector

The power indicator LED shows the system's power status. It is important to pay attention to the correct cables and pin orientation (i.e., not to reverse the order of these two connectors.)

### C. Green Button Switch/LED Connector

Some ATX cases provide a Green button switch which is used to put the system in Suspend mode. In Suspend mode, the power supply to the system is reduced to a trickle, the CPU clock is stopped, and the CPU core is in its minimum power state. The system is woken up whenever the keyboard or mouse is touched. The system resumes in different ways as defined by Power Management Setup screen in BIOS.

### D. System Reset Switch Connector

This connector should be connected to the reset switch on the front panel of the system case. The reset switch allows you to restart the system without turning the power off.

### E. Speaker Connector

This 4-pin connector connects to the case-mounted speaker

### F. IDE Activity LED Connector

The IDE activity LED lights up whenever the system reads/writes to the IDE devices.

### Clear CMOS Data (JP1)

Pin	Definition
1~2	Normal (default)
2~3	Clear CMOS Data

To clear the contents of the CMOS, please follow the steps below.

1. Disconnect the system power supply from the power source.
2. Set the jumper cap at location 2~3 for 5 seconds, then set it back to the default position.
3. Connect the system's power and then start the system.
4. Enter BIOS's CMOS Setup Utility and choose Load Setup Defaults. Type Y and press enter.
5. Set the system configuration in the Standard CMOS Setup menu.

### External Clock Frequency (JP3)

Pin	Definition
1~2	133MHz
2~3	100NHz

This jumper allows user to configure the CPU clock speed The default setting was set to jumper cup 1-2pin. Please note that the 166MHz CPU Clock (JP31) must be set to pin 1-2 to enabel this function.

### Power On By Keyboard (JP5)

Pin	Definition
1~2	Disable (default)
2~3	Enable

This board is able to be turned on by the PS/2 keyboard (hot key). To use this function, select a hot key of your choice at the PS2KB Wakeup option under Wake Up Events in the BIOS's Power On Management screen. You must also set this jumper's cap to pins 2-3 to use this function.

### Power On By USB 0/1 and 2/3 (JP6/JP6A)

Pin	Definition
1~2	Disable (default)
2~3	Enable

This board is able to be turned on by a USB keyboard hot key or a USB mouse click. To use this function, select a hot key of your choice at the USB Resume From S3 option under Wake Up Events in the BIOS's Power On Management screen. You must also set this jumper's cap to pins 2-3 to use this function.

### On board Audio (JP8)

Pin	Definition
1~2	Enable
2~3	Disable

This function allows you to enable or disable the on board audio. You must set the jumper cap to pins 1-2 to enable or set pins 2-3 to disable this function.

### ROM SIP (JP30)

Pin	Definition
1~2	Hardware
2~3	Boot ROM

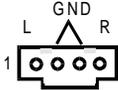
The ROM Serial Initialization Packet (SIP) function is for advanced user to use the Boot ROM to boot up the system. For normal booting operation you must set the jumper cap to pins 1-2 Hardware(default).

### 166MHz CPU Clock (JP31)

Pin	Definition
1-2	JP3 Enable
2-3	166MHz

This jumper allows user to configure the CPU clock speed at 166MHz. by setting the jumper cup to pin 2-3. The External Clock Frequency (JP3) will automatically disable. To enable JP3 function, set the jumper cup to pin 1-2.

### CD-ROM Audio-in Connector (CN2/CN2A)



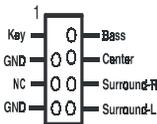
Use the audio cable enclosed with your CD-ROM disk drive to connect the CD-ROM to your mainboard. This will enable your CD-ROM's audio function.

### Auxiliary Audio-in Connector (CN3)



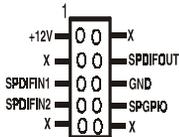
This connector is for use with a secondary CD-ROM, DVD-ROM or CDR/CDRW disk drive.

### AC3 Surround/Center + Bass Connector (CN4B)



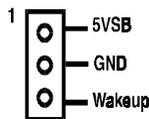
This connector is for Surround and Center+Bass speaker output ext. Plug in the optional AC3 Surround/Center+Bass jack extension into this connector. The black colored jack is for surround speaker output and the orange colored jack is for center+bass speaker output.

### Optional S/PDIF-in/out Connector (CN4C)



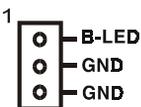
The S/PDIF-in/out connector supports the digital audio. This connector must be connected to the cable from an external device (i.e.2-channel decoded AC-3 from DVD decoders).

### WOL (Wake-on-LAN) Connector (CN5)



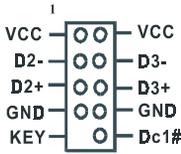
Enable the Wake Up On LAN selection in BIOS's Power Management Menu to use this function. This header is used to connect an add-in NIC (Network Interface Card) which gives WOL capability to the mainboard.

### Blue LED Connector(CN17)



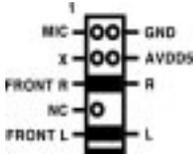
This feature work entirely the same as the power indicator LED, both shows the system's power status. The only difference is that this one is blue while the other is red LED.

## USB 0/1 Ports and USB 2/3 Connector (USB1/CN23)



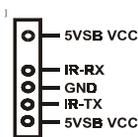
If you want to use a USB Keyboard, you must enable the USB keyboard support function in BIOS's Integrated Peripherals menu (See Section 3-4). This board contains a USB Host controller and includes a root hub with two USB 0/1 ports a connector for optional USB Adaptor (USB 2/3).

## Front Panel Audio Connector (CN24)



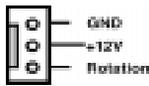
This connector give you the option of a front panel audio jack cable ext. to be plug into a special custom designed system case. Simply remove the two jumper caps at pin 5-6 and 9-10 then plug it into the (optional) cable ext. connector. Pin 5-6 and 9-10 are shorted (default) to enabled the back panel audio function.

## IR Connector (IR1)



Select a UART Mode in BIOS's Integrated Peripherals menu the UART port to support IR function. (See section 3-4)

## CPU/System/Case Cooling Fan Connectors (FAN1/FAN2/FAN3)



FAN1/FAN2

The board's management extension hardware is able to detect the CPU and system fan speed in rpm (revolutions per minute). The wiring and plug may vary depending on the manufacturer. On standard fans, the red is positive (+12V), the black is ground, and the yellow wire is the rotation signal.



FAN3 (Case Fan) is an independent power line that is not control by system health monitor and power management.

## PS/2 Mouse and Keyboard Ports (PT1)

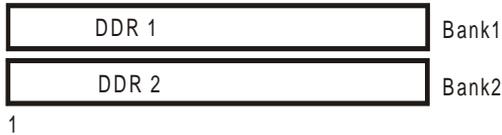
Pin	Definition
1	Data
2	No Connect
3	Ground
4	+5V (fused)
5	Clock
6	No Connect

If a PS/2 mouse is used, BIOS will automatically detect and assign IRQ12 to the PS/2 mouse.



## 2-4 Main Memory Configuration

The DDR SDRAM memory system consists two banks and can supports the memory size up to **1GB** on each bank . If you only use one bank it does not matter which one you use and if you use two or more banks, it does not matter which bank you install first.



### *DDR SDRAM Specifications*

FSB Frequency	Internal System Bus Freq.
100 MHz	200 MHz
133 MHz	266 MHz

DIMM type: 2.5V, unbuffered 64/128/256/512-bit DDR SDRAM  
 Module size: Single/double-sided 64/128/256/512MB/1GB  
 Parity: Either parity or non-parity

## Chapter 3

# Phoenix-AwardBIOS Setup Program

Phoenix-AwardBIOS ROM has a built-in setup program that allows users to modify the basic system configuration. This information is stored in CMOS RAM so that it can retain the setup information, even when the power is turned off.

When you turn on or reboot the system, press the Delete key to enter the Phoenix-AwardBIOS setup program. The primary screen as shown in Figure 3-1 is a list of the menus and functions available in the setup program. Select the desired item and press enter to make changes. Operating commands are located at the bottom of this and all other BIOS screens. When a field is highlighted, on-line help information is displayed on the right side of the screen.

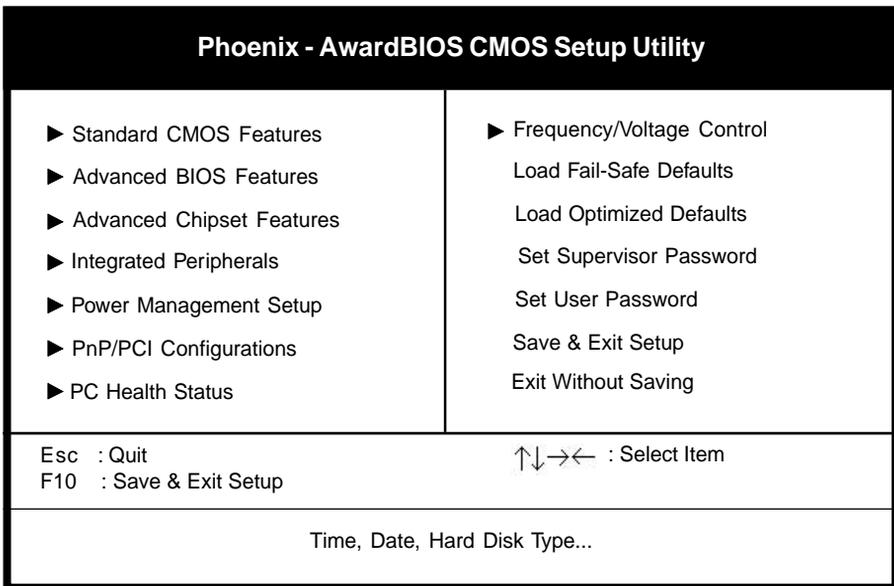


Figure 3-1 Setup Program Initial Screen

### 3-1 Standard CMOS Setup

The Standard CMOS Setup allows users to configure system components such as hard disk drive, floppy disk drive and video display as well as date, time and boot-up error signaling. This configuration menu should be changed when installing a mainboard for the first time, changing hardware in your system such as the HDD, FDD, video display, or when the CMOS data has been lost or contaminated. Choose the Standard CMOS Setup option from the CMOS Setup Utility menu (Figure 3-1) to display the following screen.

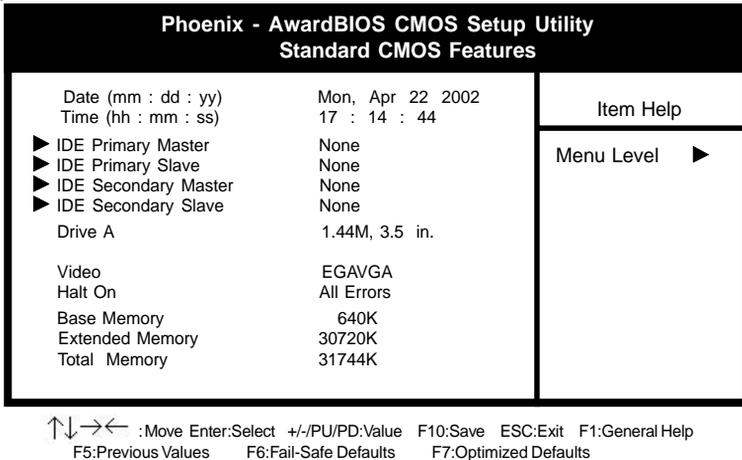


Figure 3-2 Standard CMOS Features Screen

#### Date/Time

Set the date and time. Do not skip this function as all of your timed events such as power management, saving files, etc. are based on this timer.

#### Hard Disk Setup (Primary/Secondary; Master/Slave)

This category identifies up to four IDE hard disk drives that have been installed in the computer. This section does not show information on other IDE devices such as CD-ROM drives or other hard drive types such as SCSI drives.

#### Floppy Disk Drives

Choose the memory capacity and disk size that corresponds with that of your floppy disk drive(s).

#### Video

Select the type of video adapter present in your system. You can ignore this setting if you are using a VGA monitor since VGA BIOS automatically configures this setting.

#### Halt On

When the system is powered on, BIOS performs a series of diagnostic tests called POST (Power On Self Test). This function stops the computer if BIOS detects a hardware error. You can tell BIOS to halt on all errors, no errors, or not to halt on specific errors.

### 3-2 Advanced BIOS Features

By choosing the Advanced BIOS Features option from the CMOS Setup Utility menu (Figure 3-1), the screen below is displayed. This sample screen contains the manufacturer's default values for the mainboard.

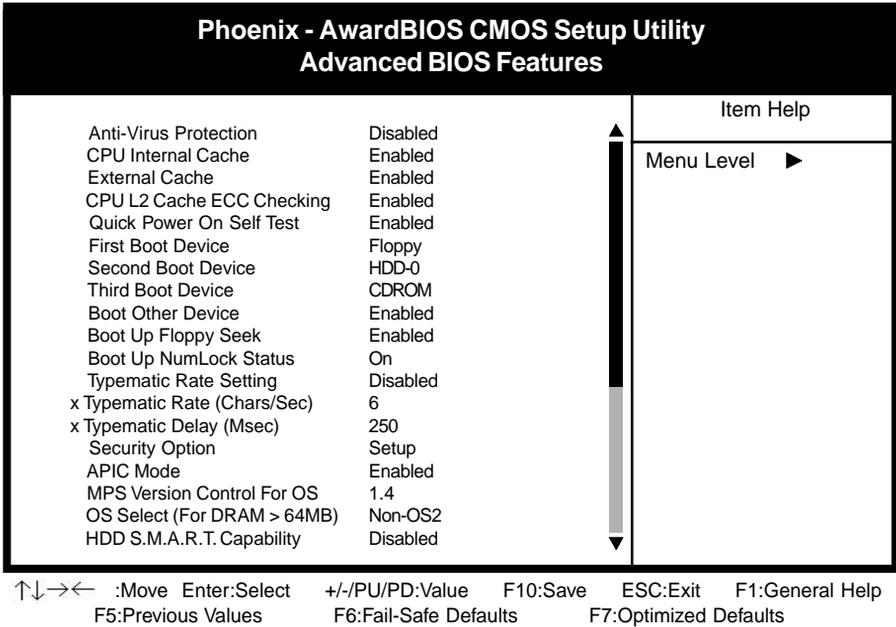


Figure 3-3 Advanced BIOS Features Screen

#### A. Anti-Virus Protection

Anti-Virus Protection is a code incorporated in the mainboard's BIOS firmware. During the boot-up sequence, BIOS loads before loading of the partition table or boot sector. Anti-Virus Protection loads with BIOS and is able to detect boot-up viruses before they have a chance to infect the hard drive. Anti-Virus Protection employs rule-based logic that doesn't look for specific viruses but rather detects patterns found in every virus, eliminating the need to perform periodical version updates after new viruses have been found.

## **B. Cache Control**

### **CPU Internal Cache/External Cache**

Cache memory is much faster than conventional DRAM system memory. These fields allow you to enable or disable the CPUs Level 1 built-in cache and Level 2 external cache. Both settings are left enabled to significantly increase the performance of your computer.

## **C. Boot Up Features**

After turning on the system, BIOS will perform a series of device initialization and diagnostic tests discussed below.

### **Quick Power On Self Test (POST)**

Enable this function to reduce the amount of time required to run the POST (Power On Self Test). BIOS saves time by skipping some items during POST. It is recommended that you disable this setting. Discovering a problem during boot up is better than losing data during your work.

### **First/Second/Third/Boot Other Device**

This option sets the sequence of drives BIOS attempts to boot from after POST completes. BIOS will search these drives for an operating system.

### **Boot up Floppy Seek**

During POST, BIOS will determine if the installed floppy disk drive has 40 or 80 tracks. A 360K drive has 40 tracks and 720K, 1.2M and 1.44M drives have 80 tracks. All modern floppy disk drives have 80 tracks.

### **Boot Up NumLock Status**

This function defines the keyboard's number pad as number keys or arrow keys.

## **D. Keyboard Interface**

### **Typematic Rate Setting**

When enabled, you can set the following two typematic control items. When disabled, keystrokes are determined arbitrarily by the keyboard controller in your system.

### **Typematic Rate (Chars/Sec)**

The typematic rate sets the rate at which characters on the screen repeat when a key is pressed and held down.

### **Typematic Delay (Msec)**

The typematic delay sets how long after you press a key that a character begins repeating.

### ***E. Security Option***

The Supervisor and/or User Password functions shown in Figure 3-1 must be set to take advantage of this function. See Section 3-11 for password setting information. When the Security Option is set to System, a password must be entered to boot the system or enter the BIOS setup program. When the Security Option is set to Setup, a password is required to enter the BIOS setup program.

### ***F. OS Select (For DRAM >64MB)***

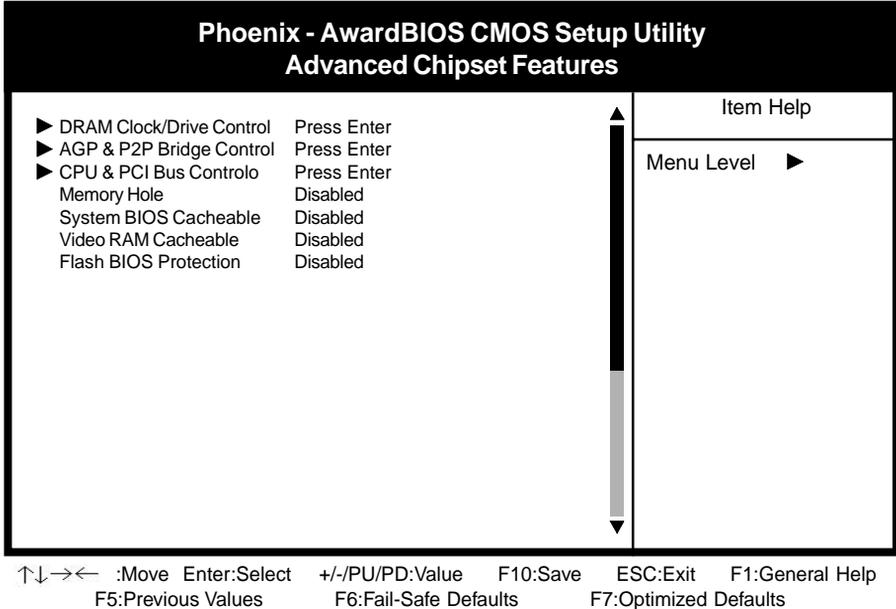
If your system's DRAM is larger than 64MB and you are running OS/2, select OS/2 as the item value. Otherwise, set the item value to Non-OS/2 for all other operating systems.

### ***G. HDD S.M.A.R.T. Capability***

S.M.A.R.T. or Self-Monitoring, Analysis, and Reporting Technology enables a drive's internal status to be monitored through diagnostic commands. Both your hard drive must support this capability and this function must be enabled in order to take advantage of this function. See your hard drive literature for more information.

### 3-3 Advanced Chipset Features

By choosing the Advanced Chipset Features option from the CMOS Setup Utility menu (Figure 3-1), the screen below is displayed. This sample screen contains the manufacturer's default values for the mainboard.



**Figure 3-4 Chipset Features Setup Screen**



All of the above settings have been determined by the mainboard manufacturer and should not be changed unless you are absolutely sure of what you are doing. Explanation of the DRAM timing and chipset features setup is lengthy, highly technical and beyond the scope of this manual. Below are some abbreviated descriptions of the functions in this setup menu.

#### A. DRAM Clock/Drive Control

##### DRAM Timing

The function allows you to enable or disable the DRAM timing by SPD. When set to Manual, you can select the DRAM CAS Latency, SDRAM Cycle Length and Bank Interleave configuration.

## **B. AGP & P2P Bridge Control**

### **AGP Aperture Size**

This function determines the amount of system memory that is given to the AGP card. Options range from 4MB to 128MB. This is a dynamic memory allotment in that the AGP card will only use the amount of memory that it needs. The remaining memory not in use will be available for the system to use. For example, if 16MB is allotted to the AGP card and the card only needs 8MB, the remaining 8MB will be available for system use.

### **AGP Mode**

Enable this setting to utilize the 4X mode (twice as fast as 2X) offered by advanced AGP cards. Your VGA card must support 4X mode in order to take advantage of the faster speed.

## **C. CPU & PCI Bus Control**

### **PCI1/PCI2 Master 0 WS Write**

When Enabled, writes to the PCI bus are executed with zero wait states.

### **PCIDelay 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.

## **D. System BIOS Cacheable**

Enabling this function allows caching of the system BIOS ROM at F0000h-FFFFFh, resulting in better system performance. However, if any program writes to this memory area, a system error may result. Caching the system BIOS results in better performance than shadowing the system BIOS.

## **E Video RAM Cacheable**

Enabling this function will allow caching of the video RAM, resulting in better system performance. However, if any programs write to this memory area, a system error may occur.

## **F. Flash BIOS Protection**

The mainboard manufacturer developed BIOS protection technology that protects the System BIOS from accidental corruption by unauthorized users or computer viruses. When enabled, the BIOS data cannot be changed when attempting to update BIOS with the FLASH utility. When disabled, the BIOS data can be updated by using the FLASH utility.



### **VIA OnChip LAN**

This feature allows you to enable the on-board LAN function

### **Onboard CMedia Audio**

This feature allows user to select 6 channels function, if they installed an optional 6ch Expansion kit on this mainboard.

## **C. Super IO Device**

### **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 an add-in FDC or the system has no floppy drive, select Disabled in this field.

### **UART Mode Select**

This function allows you to select an operating mode for the second serial port. (Normal RS-232C serial port/HPSIR 1.0 specification/ASKIR 0.57-MB/sec infrared port)

### **Onboard Parallel Port**

Select a logical LPT port address and corresponding interrupt for the physical parallel port.

### **Parallel Port Mode**

Select an operating mode for the onboard parallel (printer) port. Select SPP unless you are certain your hardware and software support one of the other available modes.

## **D. Init Display First**

This function allows user to choose between AGP or VGA slot to initialize the display first .

## **E. OnChip USB**

Enable the on-board Universal Serial Bus (USB) controller if you want to connect a USB keyboard to your system. Note that if this setting is disabled, you can still temporarily use a USB keyboard during bootup so that you can enter BIOS and enable this setting. If you pass the bootup stage without enabling this function, your PS/2 keyboard will no longer work.

## **F. USB Keyboard Support**

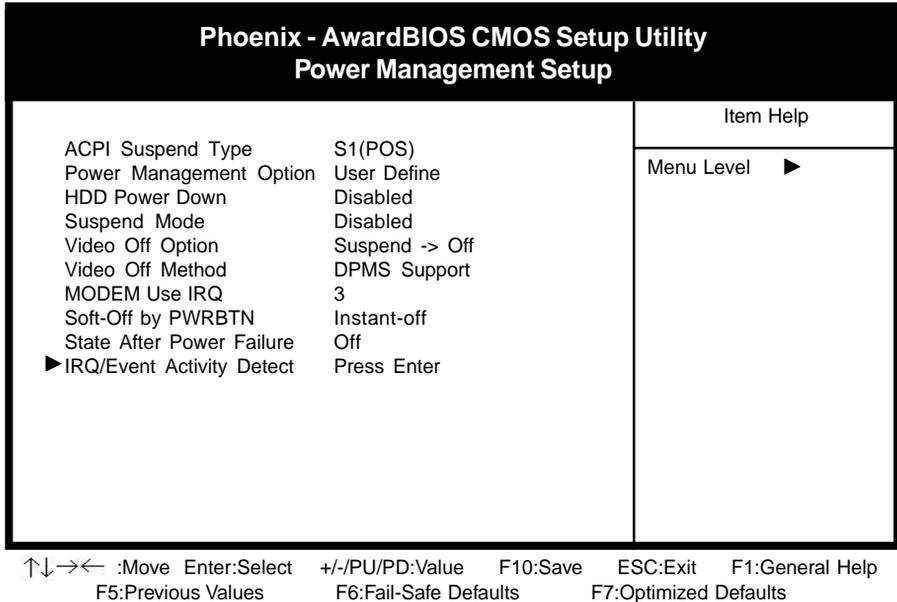
Select Enabled if your system has a USB keyboard installed on the system board. If your system has no USB keyboard, select Disabled in this field.

## **G. 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, select Enabled to auto-detect the optimal number of block read/writes per sector the drive can support.

### 3-5 Power Management Setup

This section provides information on the Green PC power management functions. By choosing the Power Management Setup option from the CMOS Setup Utility menu (Figure 3-1), the screen below is displayed. This sample screen contains the manufacturer's default values for the mainboard



**Figure 3-6 Power Management Setup Screen**

#### A. ACPI Suspend Type

This feature allows user to select a suspend type for the operating system to turn off peripherals devices, such as CD-ROM players, when they are not in use.

#### B. Power Management

Power management allows the computer to save electricity when it is not in use by entering increasingly deep power saving modes as shown by the diagram below.

### **C. Video Off Option**

This setting allow you to selects the power-saving modes during which the monitor goes blank.

### **D. Video Off Method**

This function serves as both a screen saver and power saver for monitors. See the next function, Video Off After, for setting the video timer.

**Blank** - BIOS will only blank the monitor's screen. The electricity saved in this mode is negligible and this function is only used as a screen saver to prevent screen damage while the screen is on but not in use.

**V/H SYNC+Blank** - The system turns off the vertical and horizontal synchronization ports, writes blanks to the VGA buffer and the monitor's electron gun turns off. This function requires a monitor with Green features in order to take advantage of the power saving function. If you enable this function and do not have a Green monitor, the result will be the same as if you had selected Blank. This function serves as both a screen saver and a power saver.

**DPMS Supported** - Select this option if your video card supports the Display Power Management Signaling (DPMS) standard (i.e., you have a monitor that supports Green features). Use software supplied by your video subsystem to set video power management options.

### **E. Modem Use IRQ**

If your computer has an modem, use this function to tell BIOS which IRQ is being occupied by the modem card. When the system is in Green mode, the modem requires an IRQ assignment to wake up the system and perform tasks. This assignment is compliant with the APM 1.2 specification and is to be used in coordination with APM 1.2 compliant operating systems.

### **F. Soft-Off by PWR-BTN**

When set to Delay 4 Sec., this function allows the power button to put the system in Suspend, a power saving mode. See Section 2-3 for operation instructions of the override power button operation which puts the system in Suspend mode. When set to Instant-Off the Soft-Off by PWR-BTN function is disabled and the computer turns completely off when the power button is pressed.

## **G. IRQ/Event Activity Detect**

### **PS2KB Wakeup**

When enabled, the system is able to be turned on by a PS2 keyboard hot key.

### **USB Resume from S3**

When enabled, the system is able to resume form S3 mode by a USB keyboard hot key or mouse click.

### **Power On PCI Card**

When enabled, a PCI interface that receives a signal will wake up the system from soft off and green mode.

### **Power On By Modem/LAN**

When enabled, a modem/LAN that receives a signal will wake up the system from soft off and green mode. You should connect the modem to the COM port and turn on the resume event in green mode.

### **Power On By Alarm**

When enabled, this setting allows the system to turn back on at a designated time of the month. User must designate date of month and time of day. This function is only available when using an ATX power supply and the Software Power-Off function to turn off the computer. See the Software Power-Off feature in Section 2-3 of this manual for instructions.

### 3-6 PNP/PCI Configuration

This section provides IRQ and DMA setting information. By choosing the PNP/PCI Configuration option from the CMOS Setup Utility menu (Figure 3-1), the screen below is displayed. This sample screen contains the manufacturer's default values for the mainboard.

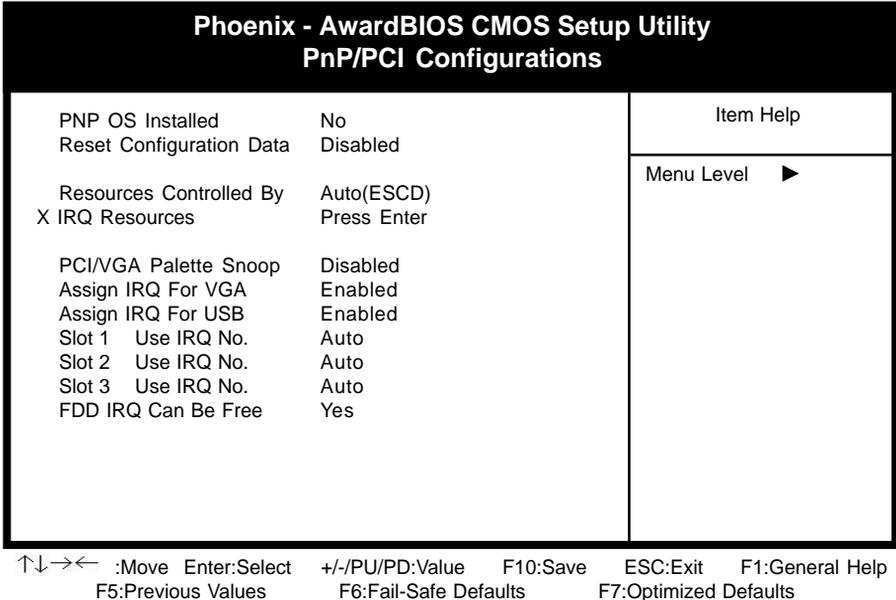


Figure 3-7 PnP/PCI Configurations Screen

#### A. PNP OS Installed

If you want to install a PNP compatible OS(such as Windows 95) set to Yes.

#### B. Resources Controlled By

When set to Manual the system BIOS will not refer to the ESCD for IRQ & DMA information. Instead, it will refer to the items in the setup menu for assigning IRQ & DMA. When set to Auto the system BIOS will refer to the ESCD for all legacy information.



ESCD (Extended System Configuration Data) provides a detailed format of the configuration data structures stored in flash memory. Each data structure defines the resources used by a device or a card in the system. This includes legacy and PCI/ISA PnP devices.

#### C. FDD IRQ Can Be Free

This function allows user to choose if the FDD IRQ is able to be freed up. The default setting is Yes and this does not allow the IRQ to be free.

### 3-7 PC Health Status

By choosing the PC Health Status option from the CMOS Setup Utility menu (Figure 3-1), the screen below is displayed. This field shows you the current system temperature/external voltages input and the current CPU FAN and System FAN operating speed.

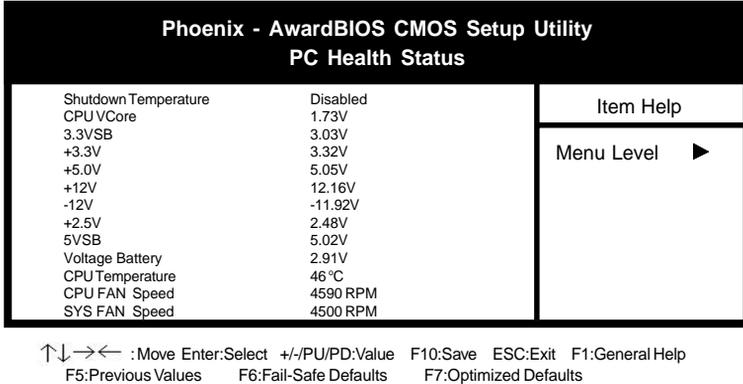


Figure 3-8 PC Health Status Screen

### 3-8 Frequency/Voltage Control

By choosing the **Frequency/Voltage Control** option from the CMOS Setup Utility menu (Figure 3-1), the screen below is displayed. This sample screen contains the manufacturer's default values for the mainboard.

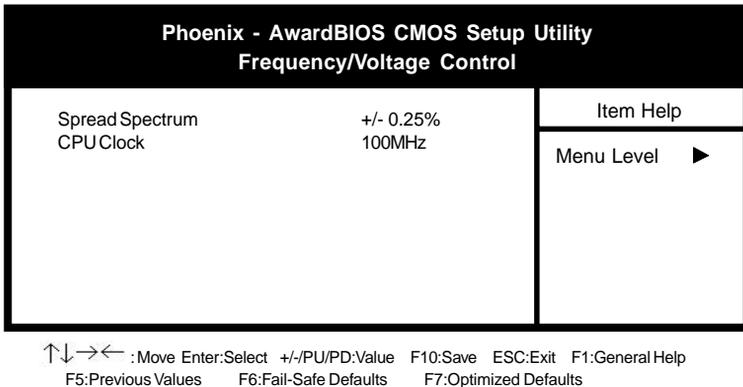


Figure 3-9 Frequency/Voltage Control Screen

#### A. CPU Clock

This feature allows the system memory to run at CPU clock speed. The default setting is at 100MHz.

### 3-9 Load Fail-Safe Defaults

Load Fail-Safe Defaults loads the default BIOS values directly from the CMOS Setup Utility menu (Figure3-1). If the stored record created by the setup program becomes corrupted and therefore unusable, these defaults will be loaded automatically when you turn on the computer.

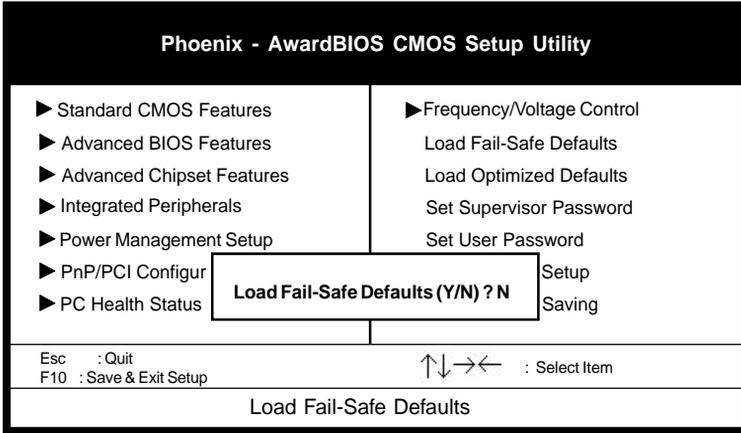


Figure 3-10 Load Fail-Safe Defaults Screen

### 3-10 Load Optimized Defaults

Load Optimized Defaults loads the default system values directly from the CMOS Setup Utility menu (Figure3-1). If the stored record created by the setup program becomes corrupted and therefore unusable, these defaults will be loaded automatically when you turn on the computer.

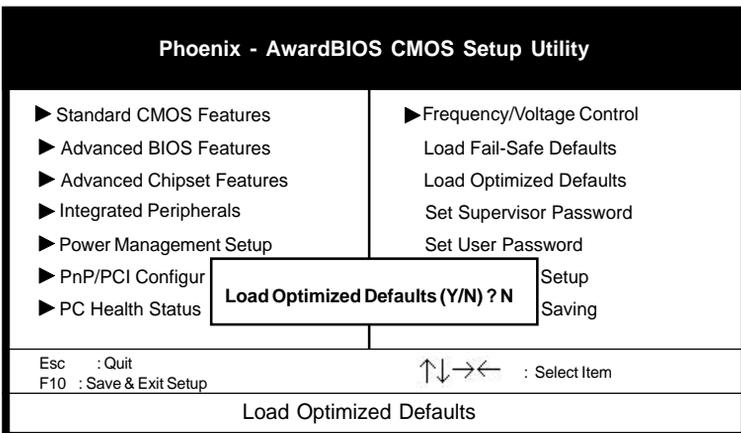


Figure 3-11 Load Optimized Defaults Screen

### **3-11 Supervisor Password & User Password Setting**

There are four different variables that control password settings. The first two are located under the Security Option function in BIOS Features Setup Menu (Figure 3-1). When the Security Option function is set to Setup, a password is required to enter BIOS and change BIOS settings. When the Security Option function is set to System, a password is required to enter both BIOS and the computer's operating system (for example Windows 98) found on the boot drive.

The third and fourth variables are user password and supervisor password selected in BIOS (Figure 3-1). The main purpose of separating user and supervisor is to allow only the supervisor to have control over the settings in BIOS. The user, on the other hand, is only allowed to access the computer's operating system and change the user password in BIOS. Note that when there is no supervisor password set, the user password controls access to all BIOS settings.

### **3-12 Save and Exit Setup**

If you select this and type Y (for yes) followed by the [Enter] key, the values entered in the setup utilities will be recorded in the CMOS memory of the BIOS chip.

### **3-13 Exit Without Saving**

Selecting this option and pressing Y followed by the [Enter] key lets you exit the Setup program without recording any new values or changing old ones.

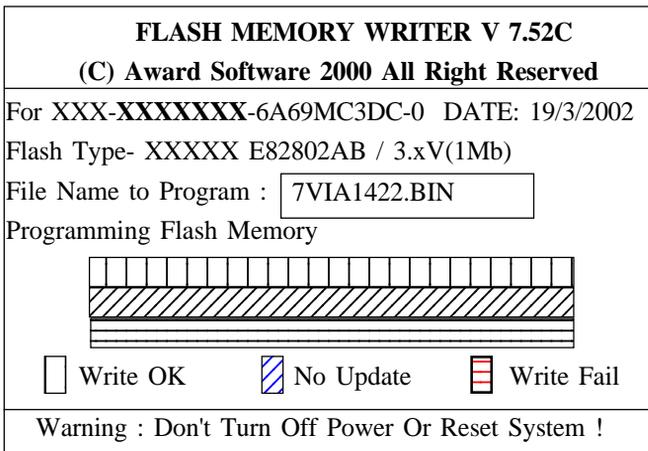
# Appendix I

## Embedded Flash Utility

This mainboard is equipped with an Erasable Flash ROM and an Embedded Flash Utility which allows the user to update the BIOS to a newer version. Embedded Flash Utility eases BIOS upgrade and eliminate the compatibility issue between different Flash ROM type and version of Flash utility.

### Update Your System BIOS

1. Start computer, upon post, press ALT+F2 Keys to enter AWDFLASH setup.
2. Insert the floppy disk with the latest BIOS file into the floppy drive A(or B) and then press Enter to start programming.



Sample of Programing Flash Memory Screen

3. When finished, the system will automatically restart.

### Note:

- ✎ Flash BIOS Protection must be set to Disabled in the Advance Chipset Feature from the CMOS Setup Utility menu. See Chapter 3.
- ✎ Don't turn off or restart your system during programming process.
- ✎ Make sure that your floppy diskette have only one BIN file to avoid confusion.

# CMedia 8738 Audio Subsystem

The CMedia 8738 offers a new generation PCI audio solution: it utilizes the state-of-the-art CRL® 3D Audio technology (HRTF 3D positional audio), and supports Microsoft® Direct Sound®3D and Aureal®'s A3D® interfaces. Better yet, it supports two/four/six speakers and DLS based (Down Loadable Sound) wave table music synthesizer which supports the Direct Music®.

### Feature

- Advanced 64-voice wavetable synthesizer
- Programmable independent sample rate from 4KHz to 48KHz for record and playback
- Full-duplex operation for simultaneous recording and playback
- Supports MS DLS (Downloadable sample) level-1 technology with limitless variety of instrument samples using PC RAM
- Supports HRTF 3D positional audio with MSDS, DS3D, DirectMusic, Aureal A3D and Creative EAX (Environment Audio Extensions), C3DX APIs
- 4 or 6 (optional) channel speaker audio support for Home Theater environment
- Supports Fiber Optic module for Internet music, PC, and MD connections
- Supports MIDI and dual game ports
- Embedded 32OHM .5w earphone amplifier

### Multi Speakers System

The CMedia 8738 Audio subsystem provides 3 wave channels (front/rear/center+bass), known as the multi speakers system (4 or 6 channel option). When games or application programs via DirectSoundR 3D or A3DR interface locate the sound sources to the listener's back, the two rear speakers will work to enhance the rear audio positional effect, so as to complement the insufficiency of using only two front speakers to emulate the audio effect. The following is the hardware installation and the software setups:

## Installation

1. Connect the front pair speakers to the Line-out jack of the audio adapter, and then connect rear pair speakers to Line-in/Rear jack of the audio adapter. The original Line-in can be moved to Aux-in.
2. Install the audio driver and Audio Rack application software.
3. There is a multi speakers option in the volume control of the mixer, and when you enable this option, it means the rear speakers are connected to Line-in/Rear jack. When Line-in/Rear jack is connected to other external Line-in sources, please **DO NOT** enable this option in order to avoid hardware conflicts. Regarding rear speaker option, you can turn **ON** or turn **OFF** the output of the back speakers, and adjust the volume, to have the rear/front speakers have the same volume.



Multi Speaker selector Button

**Note:** You can test your multi-channel system by clicking the Multi-Channel Audio Demo at C:\WINDOWS\Start Menu\Programs\PCI Audio Application\Multi-Channel Audio Demo(as shown in figure below).

