



Declaration of Conformity

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

The following designated product:

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


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: _____

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 Athlon MP processors
- Supports 200MHz or 266MHz(Internal System Bus)

❑ Chipset

- AMD 762 + 768 chipset

❑ DRAM Memory

- Four 184-pin DDR DIMM sockets supports up to 3.5GB
- Supports PC1600/PC2100 Register DDR SDRAM module

❑ Expansion Slots

- One AGP Pro slot for both 2X/4XAGP at 3.3v or 1.5v (v2.0 compliant)
- Two 64-bit/66Hz PCI slots
- Three 32-bit PCI slots (Rev 2.2 compliant)

❑ Boot-Block Flash ROM

- Award System 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-100 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 and Multi Word Mode 5 up to 100MBps with bus mastering
- Bus Mastering software drivers for common multi-task operating systems

❑ Onboard Ultra I/O

- Three 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

❑ Double Stack Back-Panel I/O Connectors

- One PS/2 Mini-DIN keyboard and mouse port
- Two USB 1.1 ports
- Two 9-pin D-SUB male Serial port
- One 25-pin D-SUB female Printer port
- One Audio Line-in/out and Mic-in jacks
- One 15-pin D-SUB female Game/MIDI port

❑ On board IDE RAID Controller

- Promise PDC20276 IDE RAID controller
- Support extra two Ultra DMA-133 PORTS with RAID 0/1

❑ On board Audio Subsystem via AC-link

- Full-duplex operation for simultaneous recording and playback
- AC`97 CODEC provides 90dB+ SNR CD quality audio using wavetable data on the system memory
- Built-in FM-emulation music synthesizer

❑ Embedded System Monitor Hardware

- 8 external voltage inputs
- 3 temperature sensor with thermistor for CPU and system
- 3 Fan speed (CPU and System) monitoring

❑ Integrated USB 1.1/2.0 Controller

- UHCI compliant USB host controller with Root Hub
- Four USB ports (UHCI v1.1 compliant)
- On board NEC chip supports four USB 2.0 ports
- Optional USB adapter for additional 2 USB 1.1 and four USB 2.0 ports

1-2 Package Contents

This product comes with the following components:

- ❑ One mainboard
 - ❑ One 40-pin(80-conductor) UDMA-100/133 IDE connector ribbon cable (Figure 1-1)
 - * **Color coded connection for UDMA-100/133 cable**
Blue to mainboard, Gray to Master and Black to slave
 - ❑ One 34-pin floppy disk drive ribbon cable (Figure 1-2)
 - ❑ One User's Manual
 - ❑ One CD-ROM that includes
 - Audio driver and utility for Win9x/ME/2000/XP/NT
 - Promise IDE RAID driver for Win9x/ME/2000/XP/NT
 - USB2.0 Driver for Windows 2000/XP
 - AMD Drivers Pack for Win9x/ME/2000/XP/NT including Bus Master IDE drivers, AGP VxD and etc.
 - ❑ One **Value Pack 2002** software pack CD-ROM that includes 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 100/133 IDE cable

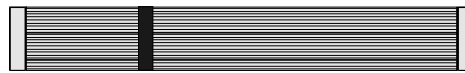
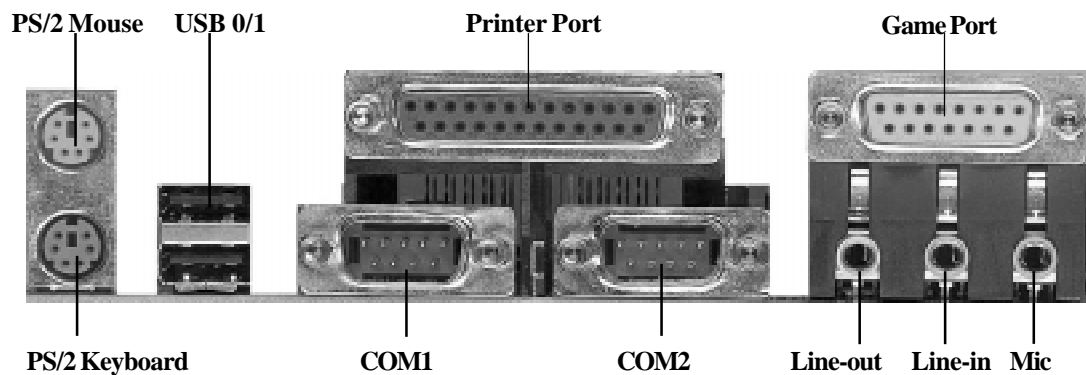
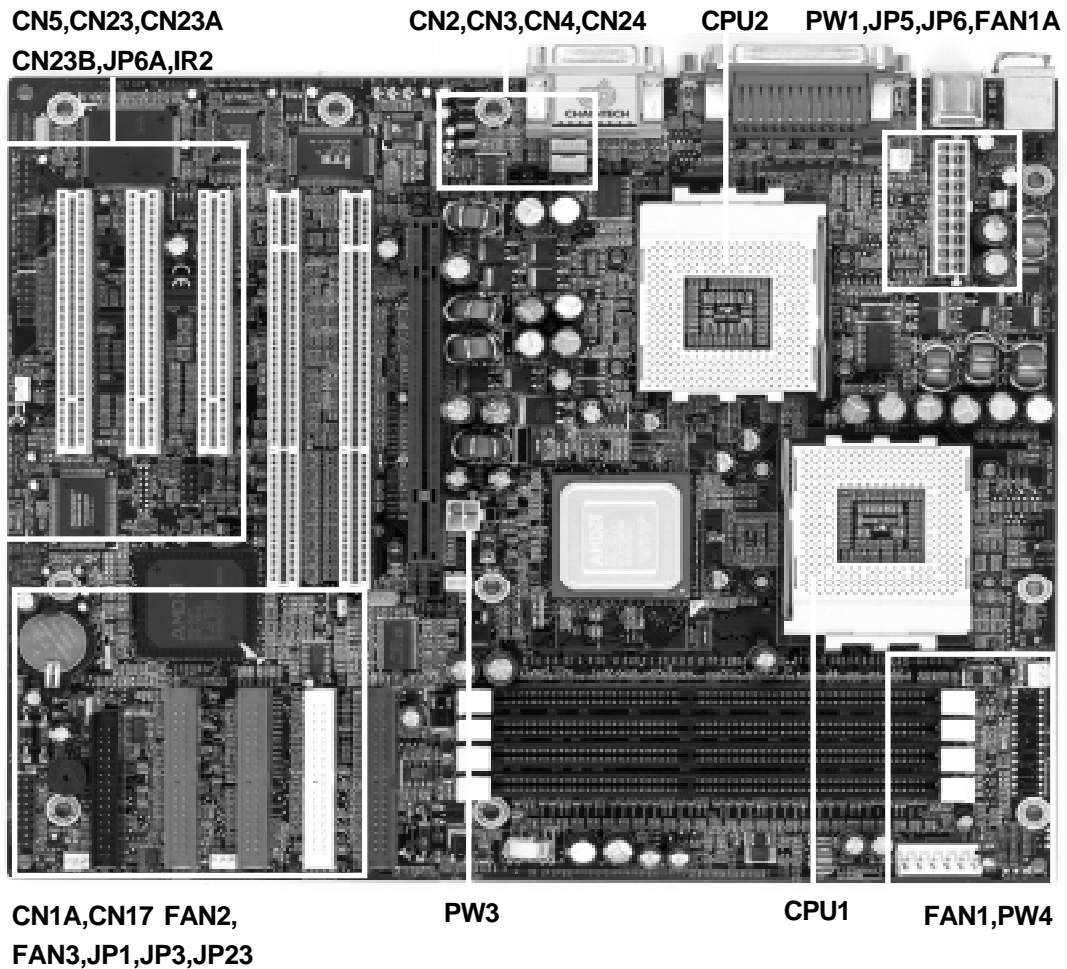


Figure 1-2 Standard Floppy cable

1-3 Mainboard Layout



1-4 Connector and Jumper Reference Chart

Jumper & Connector No.	Function	Page
JP1	Clear CMOS Data Jumper	7
JP3	External Clock Frequency	7
JP5	PS/2 Keyboard Power On Function	7
JP6/JP6A	Power On By USB 0/1 and 2/3	7
CN1A	Over ride Power Button Connector	6
	Power Indicator LED Connector	6
	Green Button Switch/LED Connector	6
	System Reset Switch Connector	6
	Speaker Connector	7
	IDE Activity LED Connector	7
CN2	CD-ROM Audio in Connector	7
CN3	Auxiliary Audio-in Connector	7
CN4	Audio Mono-in/out Connector(option)	7
CN5	WOL (Wake-on-LAN) Connector	8
CN17	Blue LED Connector	8
USB1/CN23	USB 0/1 Ports and USB 2/3 Connector	8
CN23A/CN23B	USB(2.0) 0/1 and 2/3 Connectors	8
CN24	Front Panel Audio Connector	8
IR2	IR/CIR Connector	8
FAN1/FAN1A FAN2/FAN3	CPUs/System/Case Cooling Fan Connector	8
PT1	PS/2 Mouse and Keyboard Ports	8
PW1/PW3/PW4	12V ATX/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 MP 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" 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.



When using two CPUs, use only AMD MP CPUs and must be of the same frequency.

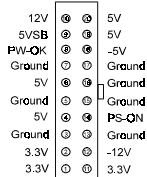
2-3 Connector and Jumper Settings

Connectors are used to link the system board with other parts of the system, including the power supply, the keyboard, and the various controllers 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/ATX12V Power Supply Connector (PW1/PW3/PW4)



PW1

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.

Pin	Signal	Wire
1	COM	BLK
2	COM	BLK
3	+12VDC	YEL
4	+12VDC	YEL

PW3

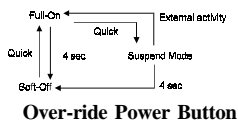
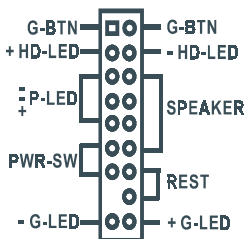
Pin	Signal	Wire
1	COM	BLK
2	COM	BLK
3	COM	BLK
4	+3.3VD	ORG
5	+3.3VD	ORG
6	+5VDC	RED

PW4

The ATX12V power supply has a new +12 V (4-pin) and +5 V/3.3 V(6-pin) auxiliary power connector. To enable the delivery of more +12 VDC and +5/3.3V VDC current to the motherboard.

Front Panel Connector Set (CN1A) A through F

A. Over-ride Power Button Connector



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-BTN 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-BTN 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-override 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 it's 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	100MHz
2~3	133MHz(default)

This jumper allows user to configure the CPU external clock speed. Set the jumper cap to pins 1-2 for 100MHz FSB, set the jumper cap to pins 2-3 for 133MHz FSB.

PS/2 Keyboard Power On Function (JP5)

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

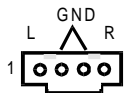
This board is able to be turned on by the PS/2 keyboard (hot key). To use this function, select a hot key of your choice at the PS2KB Wakeup option under Wake Up Events in the BIOS's Power On Management screen. You must also set this jumper's cap to pins 2-3 to use this function.

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.

CD-ROM Audio-in Connector (CN2)



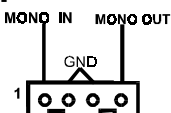
Use the audio cable enclosed with your CD-ROM disk drive to connect the CD-ROM to your mainboard. This will enable your CD-ROM's audio function.

Auxiliary Audio-in Connector (CN3)



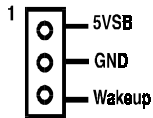
This connector is for use with a secondary CD-ROM, DVD-ROM or CDR/CDRW disk drive.

Optional Audio Mono-in/out Connector (CN4)



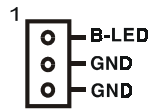
This connector is used for Add on Card e.g. modem with Mono In/Out connector

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



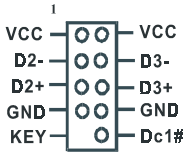
Enable the Wake Up On LAN selection in BIOS's Power Management Menu to use this function. This header is used to connect an add-in NIC (Network Interface Card) which gives WOL capability to the mainboard.

Blue LED Connector(CN17)



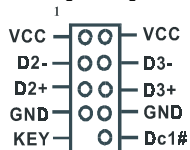
This feature work entirely the same as the power indicator LED, both shows the system's power status. The only difference is that this one is blue while the other is red LED.

USB 0/1 Ports and USB 2/3 Connectors (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 1.1 Host controller and includes a root hub with two USB 0/1 ports a connector for optional USB Adaptor (USB 3/4).

USB(2.0) 0/1 and 2/3 Connectors (CN23A/CN23B)



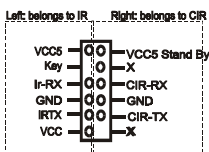
This board contains a USB 2.0 Host controller and includes a root hub with two USB 2.0 connector for optional USB 2.0 Adaptor.

Front Panel Audio Connector (CN24)



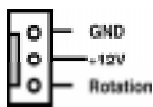
This connector give you the option of a front panel audio jack cable ext. to be plug into a special custom designed system case. Simply remove the two jumper caps at pin 5-6 and 9-10 then plug it into the (optional) cable ext. connector. Pin 5-6 and 9-10 are shorted (default) to enabled the back panel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

IR/CIR Connector (IR1)



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

CPUs/System/Case Cooling Fan Connectors (FAN1/FAN1A/FAN2/FAN3)



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.

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 four 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.

DIMM 1	Bank 1
DIMM 2	Bank 2
DIMM 3	Bank 3
DIMM 4	Bank 4

DDR SDRAM Specifications

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

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



Use only 2.5V, registered DDR memory modules. Using unbuffered memory modules may or may not works and is highly discouraged. Use them at your own risk.

DDR

Double Data Rate transfers allows for data to be fetched on both the rising and falling edges of the clock thus doubling the effective transfer rate of the clock. For example a 133MHz DDR clock would achieve a peak transfer rate equal to that of a 266MHz clock. The effective transfer rate is equal to the clock frequency multiplied by the bus width, doubled.

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.

Phoenix - AwardBIOS CMOS Setup Utility	
<ul style="list-style-type: none">▶ Standard CMOS Features▶ Advanced BIOS Features▶ Advanced Chipset Features▶ Integrated Peripherals▶ Power Management Setup▶ PnP/PCI Configurations▶ PC Health Status	<ul style="list-style-type: none">▶ Frequency/Voltage SetupLoad Fail-Safe DefaultsLoad Optimized DefaultsSet Supervisor PasswordSet User PasswordSave & Exit SetupExit Without Saving
Esc : Quit F10 : Save & Exit Setup	↑↓→← : Select Item
Time, Date, Hard Disk Type...	

Figure 3-1 Setup Program Initial Screen

3-1 Standard CMOS Features

The Standard CMOS Features 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. When a field is highlighted, on-line help information is displayed on the left bottom edge of the screen.

Phoenix - AwardBIOS CMOS Setup Utility		
Standard CMOS Features		
Date (mm : dd : yy)	Fri, Apr 12 2002	Item Help
Time (hh : mm : ss)	17 : 14 : 44	
▶ IDE Primary Master	None	Menu Level ▶
▶ IDE Primary Slave	None	
▶ IDE Secondary Master	None	
▶ IDE Secondary Slave	None	
Drive A	[1.44M, 3.5 in.]	
Drive B	[None]	
Video	[EGA/VGA]	
Halt On	[All Errors]	
Base Memory	640K	
Extended Memory	130048K	
Total Memory	131072K	

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

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

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 Standard CMOS Features menu (Figure 3-1), the screen below is displayed. This sample screen is for reference use only.

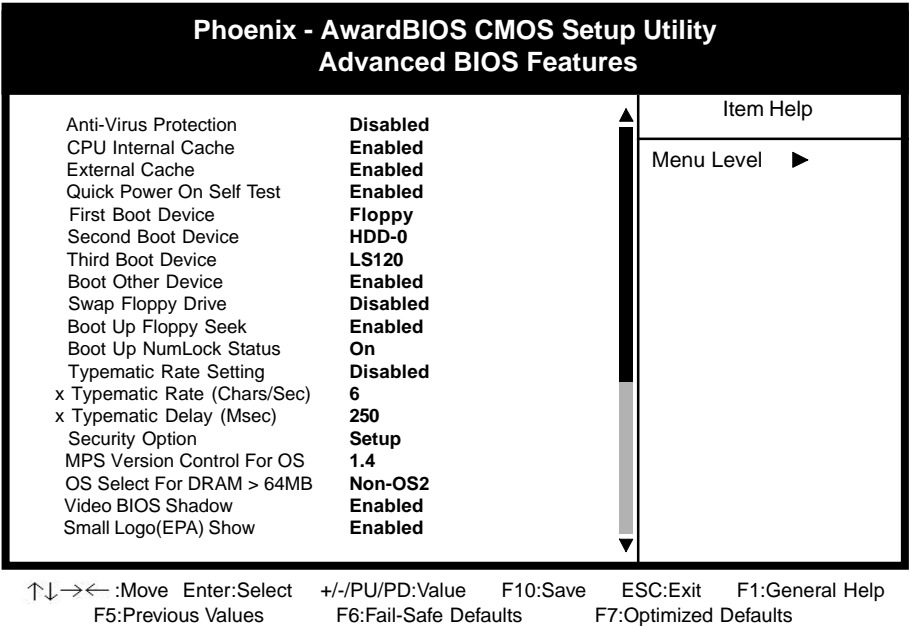


Figure 3-3 Advanced BIOS Features Screen

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. CPU Internal and 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 initializations 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 bootup 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.

Swap Floppy Drive

Enabling this function will swap the floppy drive assignment so that drive A will function as drive B, and drive B will function as drive A. Note that the boot sequence assignment mentioned directly above does not include booting from floppy drive B. This function is useful if floppy drives B and A are of a different format and you want to boot from floppy drive B.

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 numberpad 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. MPS Version Control for OS

The BIOS supports versions 1.1 and 1.4 of the Intel multiprocessor specification compatible. Select the version supported by the operating system running on this computer.

G. 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.

3-3 Advance Chipset Features

By choosing the Advanced Chipset Features option from the Standard CMOS Features menu(Figure 3-1), the screen below is displayed. This sample screen is for reference use only.

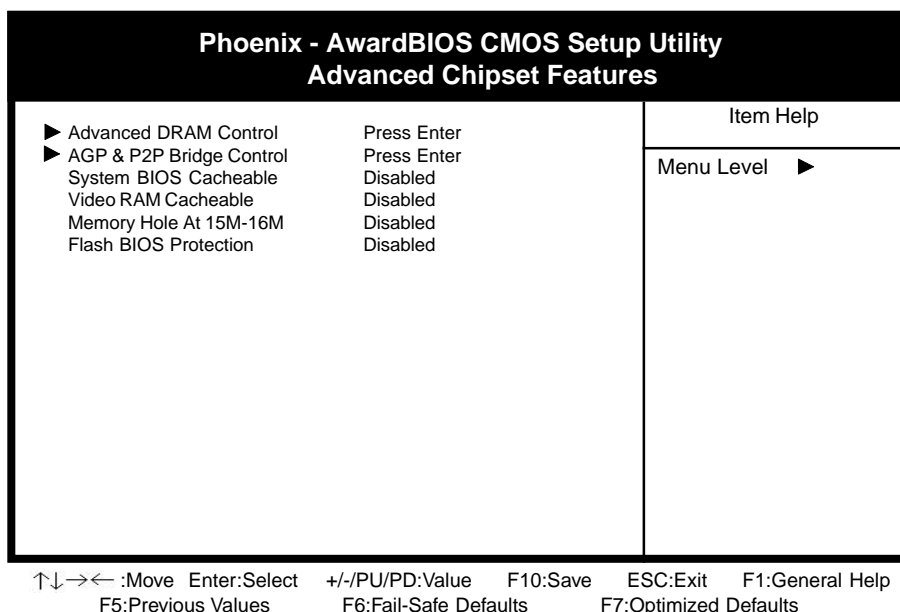


Figure 3-4 Advanced Chipset Features Screen

⚠ 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 abbreviated descriptions of the functions in this setup menu. You can look on the world wide web for helpful chipset and RAM configuration information including Phoenix's web site at <http://www.phoenix.com>.

A. Advance DRAM Control

When DRAM is installed, the number of the clock cycles of CAS latency depends on the DDR SDRAM timing. Do not reset this setting from the default value specified by the system designer.

B. AGP & P2P Bridge Control

AGP Aperture Size

Select the size of Accelerated Graphics Port (AGP) aperture. The aperture is a portion of the PCI memory address range dedicated for graphics memory address space. Host cycles that hit the aperture range are forwarded to the AGP without any translation.

AGP Data Transfer 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. Flash BIOS Protection

When enabled, the BIOS data cannot be changed when attempting to update BIOS with the the FLASH utility. When disabled, the BIOS data can be updated by using the FLASH utility.

3-4 Integrated Peripherals

This section provides information on setting peripheral devices. By choosing the Integrated Peripherals option from the Standard CMOS Features menu (Figure 3-1), the screen below is displayed. This sample screen is for reference use only.

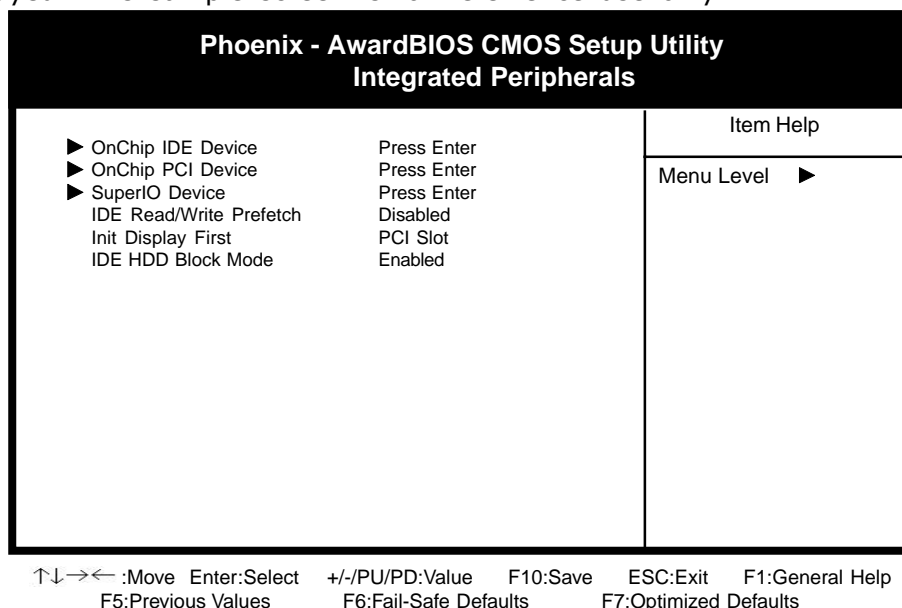


Figure 3-5 Integrated Peripherals Screen

A. OnChip IDE Device

IDE Primary/Secondary Master/Slave PIO

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

B. OnChip PCI Device

USB Host Controller

Enable the on-board Universal Serial Bus (USB) controller if you want to connect a USB keyboard to your system.

USB Keyboard Support

If your current operating system doesn't support USB drivers (i.e., DOS) this function must be enabled for USB keyboard operation in these operating systems.

On-chip AC97

This feature allows user to enable or disable AC'97 audio function. Select "Auto" to enable this function.

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.

UART Mode Select

This function allows you to select an operating mode for the second serial port. (Standard RS-232C serial port/IrDA/ASKIR infrared port)

Onboard Parallel Port

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

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 Standard CMOS Features menu (Figure 3-1), the screen below is displayed. This sample screen is for reference use only.

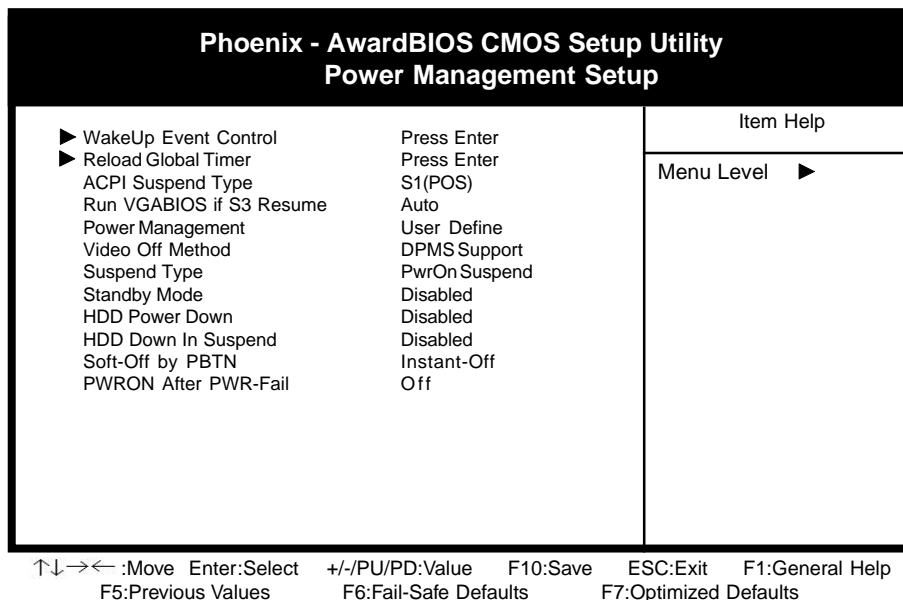


Figure 3-6 Power Management Setup Screen

A. WakeUp Event Control

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.

USB Power On from S3

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

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.

B. Reload Global Timer Events

When Enabled, an event occurring on each listed device restarts the global timer for Standby mode.

C. Power Management

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

D. 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.

E. 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.

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 your video subsystem to set video power management options.

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 an electricity saver.

F. Standby Mode

This field allows you to disable or select the timeout period (period of system inactivity) after which the system enters Standby mode. This period should be longer than the period selected for Doze mode.

G. HDD Power Down

This field allows you to disable or select the timeout period of drive inactivity, the hard disk drive powers down while all other devices remain active.

H. 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.

3-6 PNP/PCI Configuration

This section provides IRQ and DMA setting information. By choosing the PNP/PCI Configuration option from the Standard CMOS Features menu (Figure 3-1), the screen below is displayed. This sample screen is for reference use only.

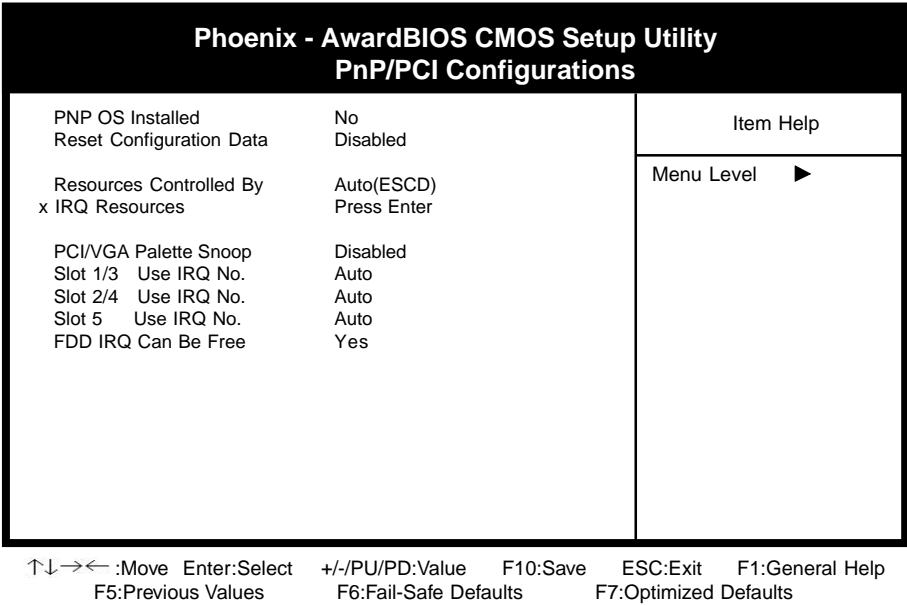



Figure 3-7 PnP/PCI Configurations Screen

A. 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.

B. PCI/VGA Palette Snoop

Some non-standard VGA cards or MPEG video cards may not show colors properly. Setting this function to Enabled can correct this problem.

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.

Phoenix - AwardBIOS CMOS Setup Utility			
PC Health Status			
Shutdown Temperature	Disabled	Item Help	
CPU 1 Vcore	1.75V	Menu Level ▶	
CPU 2 Vcore	1.72V		
+3.3V	3.32V		
+5.0V	5.05V		
+12V	12.16V		
-12V	-11.98V		
-5V	-5.05V		
5VSB	4.89V		
Voltage Battery	2.98V		
CPU 1 Temperature	49 °C		
CPU 2 Temperature	46 °C		
SYS Temperature	37 °C		
CPU FAN1 Speed	4590 RPM		
CPU FAN2 Speed	4500 RPM		
SYS FAN Speed	3800 RPM		
↑↓→← : Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help			
F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults			

Figure 3-8 PC Health Status Screen

A. Shutdown Temperature

The system will shutdown when the temperature setting is reached, to prevent the system from overheating (supports Windows 98 or above with ACPI function only).

3-8 Frequency/Voltage Control

By choosing the **Frequency/Voltage Control** 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.

Phoenix - AwardBIOS CMOS Setup Utility		
Frequency/Voltage Control		
CPU Clock	100	Item Help
		Menu Level ▶
↑↓→← : Move Enter: Select +/-/PU/PD: Value F10: Save ESC: Exit F1: General Help		
F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults		

Figure 3-9 SeePU Setup Screen

A. CPU Clock

This field allows you to select a subtle speed of the CPU Front Side Bus for overclocking possibility.

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.

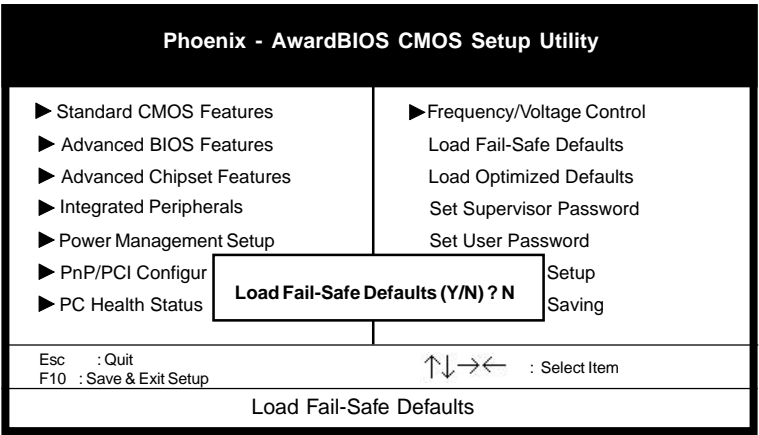


Figure 3-10 Load Fail-Safe Defaults Screen

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.

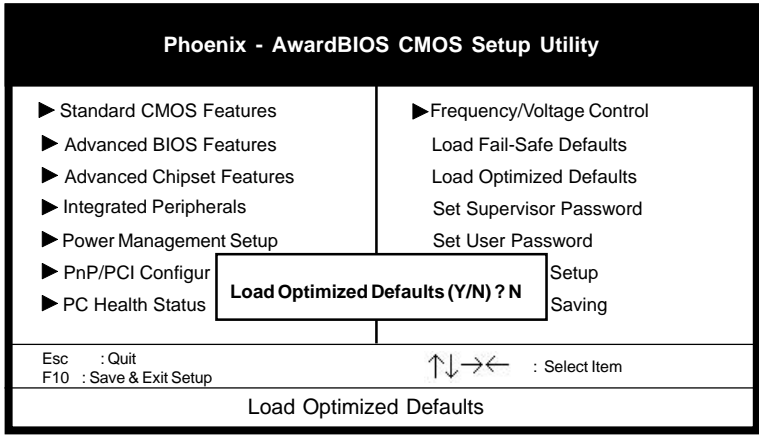


Figure 3-11 Load Optimized Defaults Screen

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. This is shown in Figures 3-12 and 3-13 below.

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 (See Figure 3-13 below). Note that when there is no supervisor password set, the user password controls access to all BIOS settings (See Figure 3-12 below).

A. Set Either Supervisor Password or User Password

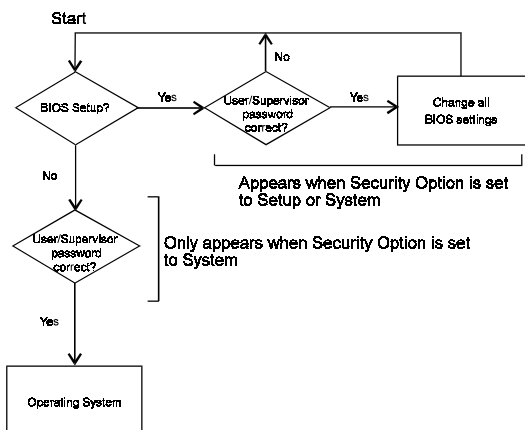


Figure 3-12 Set Either Supervisor or User Password

B. Set Both Supervisor Password and User Password

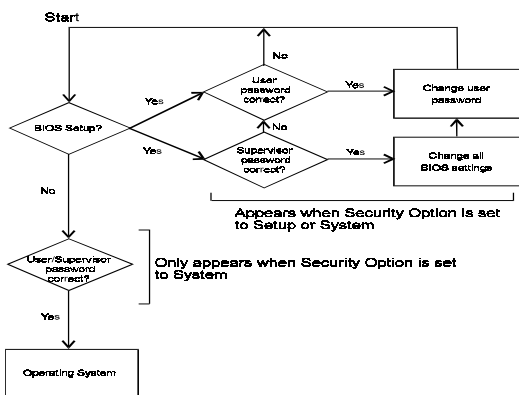


Figure 3-13 Set Both Supervisor and User Password

3-11 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.

3-12 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.

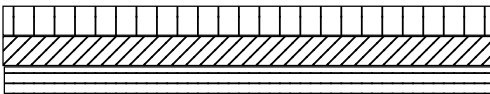
Appendix I

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.

FLASH MEMORY WRITER V 7.52C	
(C) Award Software 2000 All Right Reserved	
For XXX-XXXXXXX-6A69MC3DC-0 DATE: 03/5/2002	
Flash Type- XXXXX E82802AB / 3.xV(1Mb)	
File Name to Program :	<input type="text" value="7KKD0412.BIN"/>
Programming Flash Memory	
	
<input type="checkbox"/> Write OK	<input type="checkbox"/> No Update <input type="checkbox"/> Write Fail
Warning : Don't Turn Off Power Or Reset System !	

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 aviod confussion.

Appendix II

Promise IDE RAID

Promise ATA RAID uses advanced data handling techniques that takes advantage of the fact that multiple drives are performing the work of a single drive. This includes tagged command queuing/scatter-gather/elevator seek which basically re-orders requests for data depending on their location on the hard drives. This provides more efficient use of the read/write heads, particularly in retrieving data.

❑ IDE RAID

In a standard PC, each hard drive is seen as an independent disk designated by letters like C,D,E, etc... In a RAID system, multiple hard drives are placed into one or more "arrays" of disks. Each array is seen as an independent disk, though that array may include upwards of two, three, four, or more drives. This is why RAID stands for Redundant Array of Independent Disks. In an ATA RAID array, of course, the drives are low-cost ATA.

❑ Supported RAID Levels

Using RAID arrays inside a PC offers much greater flexibility, depending on application usage. Different RAID levels perform different functions

Striping

RAID 0 (known as "striping") links each drive in the array as one huge drive. Storage capacity is determined by the smallest drive in the array. That capacity is then applied to format all other drives in the array. If using a 40 GB, 60 GB, and 45 GB drive in a RAID 0 array, your system will see one huge drive of 120 GB (40 GB x 3) versus 145 GB. RAID 0 offers double or more performance under sustained data transfers when one drive per ATA port is used. In such a configuration, unlike SCSI, ATA drives are always available to the system. SCSI requires more management of the SCSI bus.

Mirroring

RAID 1 (known as "mirroring") makes and maintains an identical image of data from one drive to a second drive or from multiple drives to a second set of multiple drives. Should one drive fail, the working drive or drive set continues operating. To the system, such an array is still seen as a single drive letter. While RAID 1 is the least efficient use of hard drives to provide data protection (since the user does not see any of the additional storage capacity of the mirrored drives), low-cost ATA makes it acceptable. If performing 1-to-1 mirroring with two 40 GB drives, the system only sees one 40 GB drive. ATA RAID 1 represents a significantly lower cost than SCSI RAID 1.