Manual

Motherboard AMD690VM-FM

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Version 1.0

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

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

Declaration of Conformity

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

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

Canadian Department of Communications

This class B digital apparatus meets all requirements of the Canadian Interference-causing Equipment Regulations.

Cet appareil numérique de la classe B respecte toutes les exigences du Réglement sur le matériel brouilieur du Canada.

About the Manual

The manual consists of the following:

Chapter 1

Introducing the Motherboard

Describes features of the motherboard.

Go to ⇨ page 1

Chapter 2

Installing the Motherboard

Describes installation of motherboard components.

Go to ⇨ page 7

Chapter 3

Using BIOS

Provides information on using the BIOS Setup Utility.

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Chapter 4

Using the Motherboard Software

Describes the motherboard software

Go to ⇨ page 45

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Chapter 1
Introducing the Motherboard

Introduction

Thank you for choosing the AMD690VM-FM motherboard. This motherboard is a high performance, enhanced function motherboard that supports Socket AM2 AMD Athlon 64 FX/Athlon 64 X2 Dual-Core/Athlon 64/Sempron CPUs for high-end business or personal desktop markets.

The motherboard incorporates the AMD 690V Northbridge (NB) and SB600 Southbridge (SB) chipsets. The Northbridge supports the HyperTransport (HT) interface speeds up to 2000 MT/s data rate. This motherboard supports four DDR2 Sockets with maximum memory size of 32 GB. One PCI Express x16 slot, intended for Graphics Interface, is fully compliant to the PCI Express Base Specification revision 1.1a.

The motherboard with SB600 Southbridge supports two PCI slots which are PCI 2.3 compliant. It integrates USB 2.0 interface, supporting up to ten functional ports. One onboard IDE connector supports two IDE devices in Ultra DMA 133/100/66/33 mode. The Southbridge integrates a Serial ATA host controller, supporting four SATA ports with maximum transfer rate up to 3.0 Gb/s each.

This motherboard is equipped with advanced full set of I/O ports in the rear panel, including COM1, VGA, SPDIFO1, four USB ports, one optional LAN port, one optional 1394a port and audio jacks for microphone, line-in and 8-ch line-out.

Feature

Processor

This motherboard uses an AM2 socket that carries the following features:

- Accommodates AMD Athlon 64 FX/Athlon 64 X2 Dual-Core/Athlon 64 Sempron processors
- Supports up to 2000 MT/s HyperTransport™ (HT) interface speeds

HyperTransport™ Technology is a point-to-point link between two devices, it enables integrated circuits to exchange information at much higher speeds than currently available interconnect technologies.

Chipset

The AMD 690V Northbridge (NB) and SB600 Southbridge (SB) chipsets are based on an innovative and scalable architecture with proven reliability and performance.

AMD 690V (NB)	• one x4 A-Link Express II interface (PCI Express 1.1 compliant) for connection to an ATI south bridge • Supports one PCI Express x16 for Graphics Interface, fully compliant to the PCI Express Base Specification revision 1.1a. • Full support for 3D primitive, Direct3D texture lighting, and OpenGL format for Indirect Vertices in Vertex Walker • Full DirectX 9.0 support (Vertex Shader version 2.0 and Pixel Shader version 2.0)
SB600 (SB)	• Compliant with PCI 2.3 specification at 33MHz • Supports Four Serial ATA devices, compliant with Serial ATA 1.0a specification which speeds up to 3.0 Gb/s • Integrated USB 2.0 Host Controller supporting up to ten USB 2.0 ports • Integrated IDE controller supports Ultra DMA 133/100/66/33 modes

Memory

- DDR2 800/667/533/400 DDR SDRAM with Dual Channel supported
- Accommodates four unbuffered DIMMs, up to 32 GB maximum memory size

1394a FireWire (optional)

- Compliant with single chip host controller for IEEE Std 1394-1995 and IEEE 1394a-2000
- Integrated 400 Mb/s 2-Port PHY
- 3.3V Power Supply with 5V Tolerant Inputs

Audio

- 7.1 + 2 Channel High Definition Audio Codec
- All DACs support 192K/96K/48K/44.1KHz DAC sample rate
- Meets Microsoft WHQL/WLP 3.0 audio requirements
- Direct Sound 3D™ compatible

Onboard LAN (Optional)

This motherboard may support either of the following LAN with following features:

- • Integrated Gigabit Ethernet Controller for PCI Express™ Applications
- • Integrated 10/100/1000 transceiver
- • Wake-On-LAN and remote wake-up suppoer

- • Integrated Fast Ethernet Controller for PCI Express™ Applications
- • Integrated 10/100 transceiver
- • Wake-On-LAN and remote wake-up suppoer

Expansion Options

The motherboard comes with the following expansion options:
- • One PCI Express x16 for Graphic Interface
- • One PCI Express x1 slot
- • Two 32-bit PCI v2.3 compliant slots
- • One 40-pin IDE connector supporting up to 2 IDE devices
- • One floppy disk drive
- • Four 7-pin SATA connectors

This motherboard supports UltraDMA bus mastering with transfer rates of 133/100/66/ 33 MB/s.

Integrated I/O

The motherboard has a full set of I/O ports and connectors:

- • One serial port
- • One VGA port
- • Four USB ports
- • One SPDIFO1 port
- • One LAN port (optional)
- • One 1394a port (optional)
- • Audio jacks for microphone, line-in and 8-ch High Definition Audio output

BIOS Firmware

This motherboard uses AWARD BIOS that enables users to configure many system features including the following:

- • Power management
- • Wake-up alarms
- • CPU parameters
- • CPU and memroy timing

The firmware can also be used to set parameters for different processor clock speeds.

Some hardware specifications and software items are subject to change with out prior notice.

Introducing the Motherboard
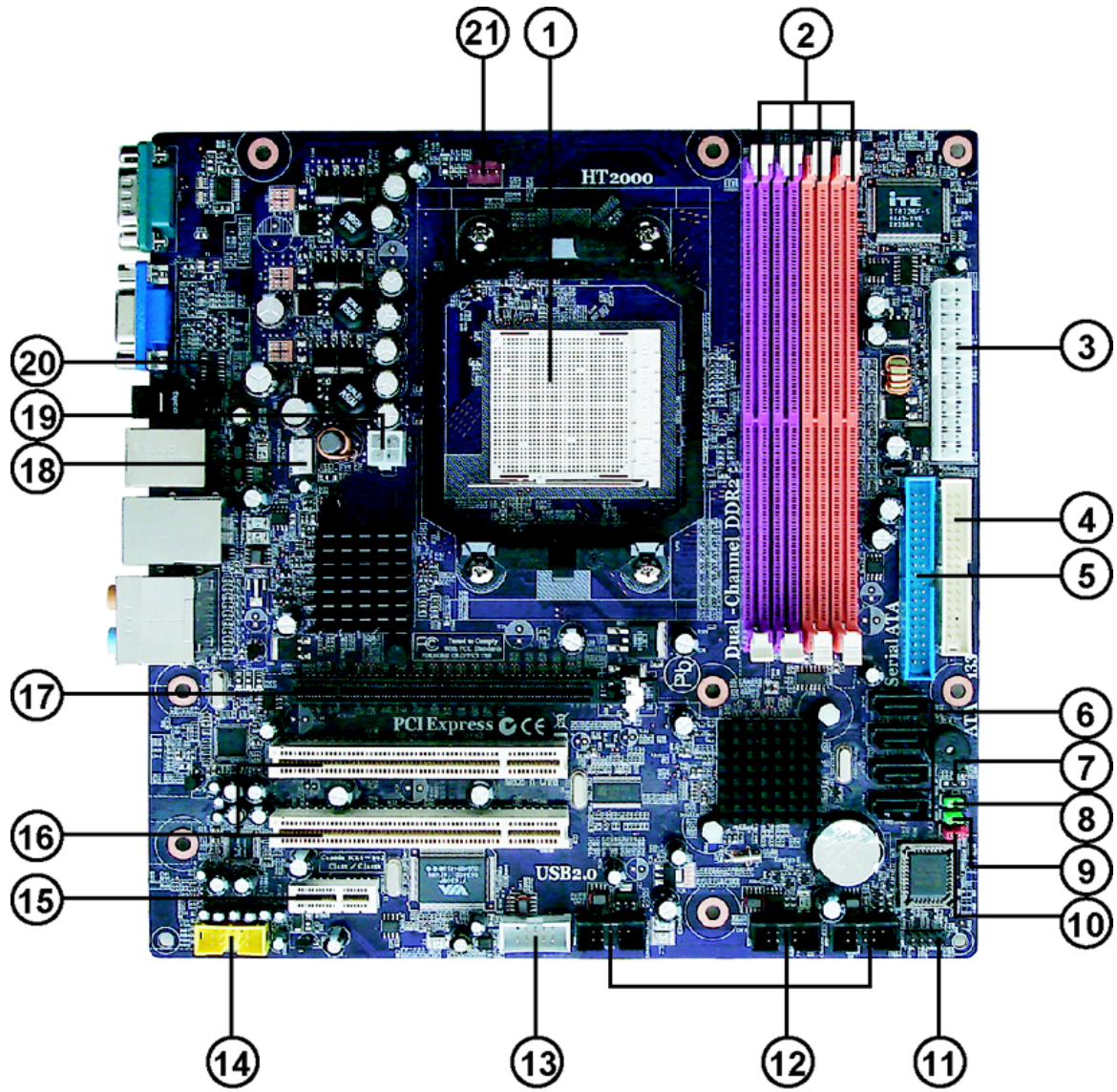
Motherboard Components

Table of Motherboard Components

LABEL	COMPONENTS
1.CPU Socket	Socket AM2 for AMD Athlon 64 FX /64 x2 Dual Core/ Althlon 64/Sempron processors
2.DIMM1~4	240-pin DDR2 SDRAM slots
3.ATX_POWER	Standard 24-pin ATX power connector
4.FDD	Floppy disk drive connector
5.IDE1	Primary IDE channel
6.SATA1~4	Serial ATA connectors
7.BIOS_WP*	BIOS write protect jumper
8.PWD_SKIP	Password Skip jumper
9.BIOS_R	BIOS Recovery jumper
10.CLR_CMOS	Clear CMOS jumper
11.PANEL1	Front panel switch/LED header
12.USB3~5	Front Panel USB connectors
13.1394A2	Onboard 1394a connector
14.AUDIO1	Front panel audio connector
15.PCIEX1	PCI Express x1slot
16.PCI1~2	32-bit add-on card slots
17.PCIEX16	PCI Express X16 slot for graphics interface
18.SYS_FAN	System cooling fan connector
19.ATX12V	Auxiliary 4-pin power connector
20.SPDIFO	SPDIF out connector
21.CPU_FAN	CPU cooling fan connector

"" stands for optional components.*

This concludes Chapter 1. The next chapter explains how to install the motherboard.

Introducing the Motherboard

Memo

Chapter 2
Installing the Motherboard

Safety Precautions

- Follow these safety precautions when installing the motherboard
- Wear a grounding strap attached to a grounded device to avoid damage from static electricity
- Discharge static electricity by touching the metal case of a safely grounded object before working on the motherboard
- Leave components in the static-proof bags they came in
- Hold all circuit boards by the edges. Do not bend circuit boards

Choosing a Computer Case

There are many types of computer cases on the market. The motherboard complies with the specifications for the Micro-ATX system case. First, some features on the motherboard are implemented by cabling connectors on the motherboard to indicators and switches on the system case. Make sure that your case supports all the features required. Secondly, this motherboard supports one or two floppy diskette drives and two enhanced IDE drives. Make sure that your case has sufficient power and space for all drives that you intend to install.

Most cases have a choice of I/O templates in the rear panel. Make sure that the I/O template in the case matches the I/O ports installed on the rear edge of the motherboard.

This motherboard carries a Micro-ATX form factor of 244 x 244 mm. Choose a case that accommodates this form factor.

Installing the Motherboard in a Case

Refer to the following illustration and instructions for installing the motherboard in a case. Most system cases have mounting brackets installed in the case, which correspond the holes in the motherboard. Place the motherboard over the mounting brackets and secure the motherboard onto the mounting brackets with screws. Ensure that your case has an I/O template that supports the I/O ports and expansion slots on your motherboard.
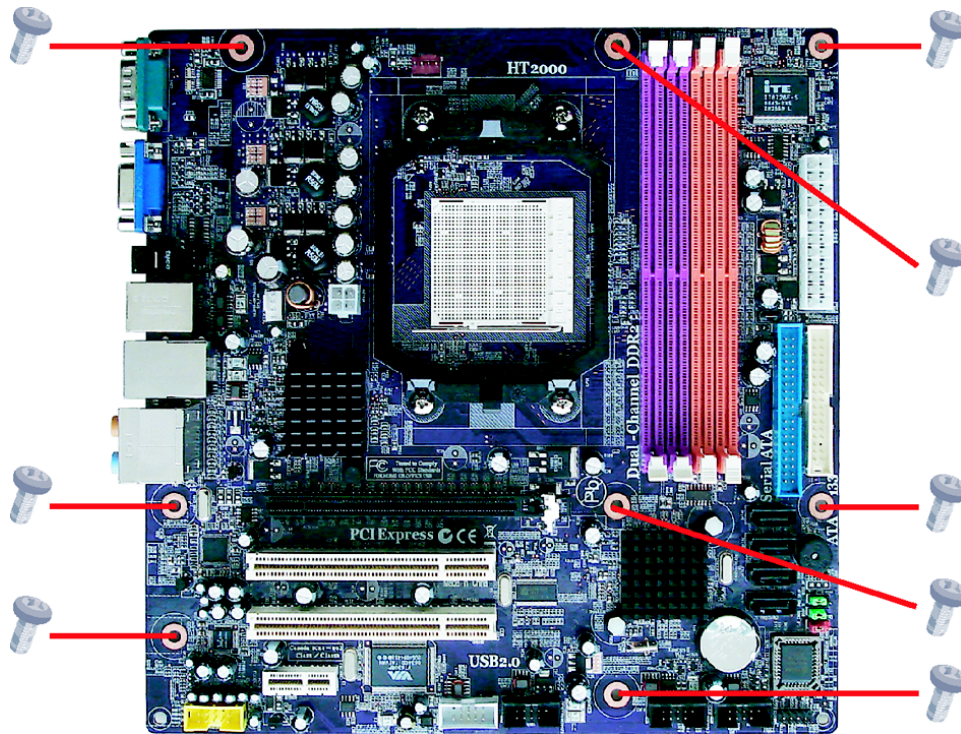
Do not over-tighten the screws as this can stress the motherboard.

Checking Jumper Settings

This section explains how to set jumpers for correct configuration of the motherboard.

Setting Jumpers

Use the motherboard jumpers to set system configuration options. Jumpers with more than one pin are numbered. When setting the jumpers, ensure that the jumper caps are placed on the correct pins.

The illustrations show a 2-pin jumper. When the jumper cap is placed on both pins, the jumper is SHORT. If you remove the jumper cap, or place the jumper cap on just one pin, the jumper is OPEN.
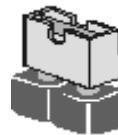
SHORT   **OPEN**

This illustration shows a 3-pin jumper. Pins 1 and 2 are SHORT
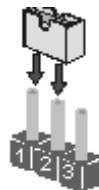
Checking Jumper Settings

The following illustration shows the location of the motherboard jumpers. Pin 1 is labeled.
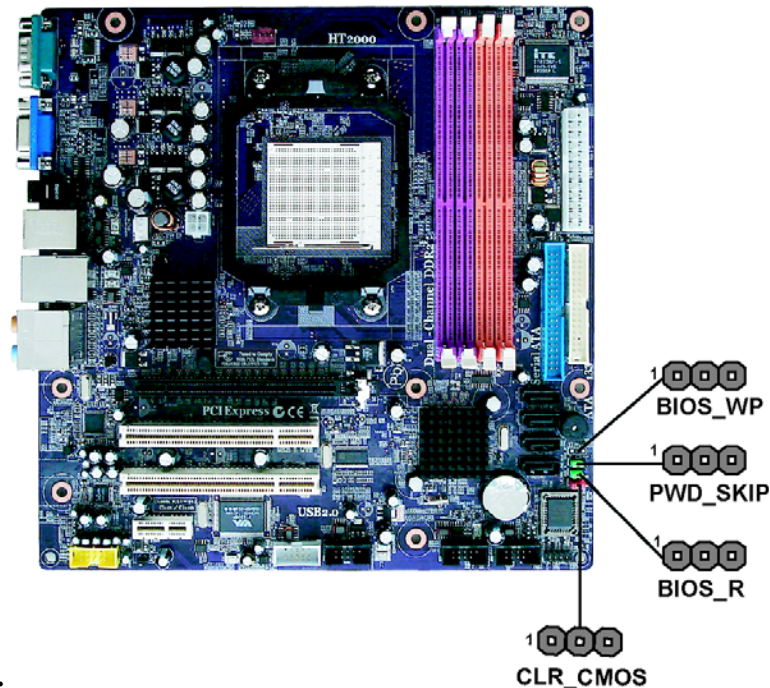
Jumper Settings

Jumper	Type	Description	Setting (default)	
CLR_CMOS	3-pin	CLEAR CMOS	1-2: NORMAL 2-3: CLEAR Before clearing the CMOS, make sure to turn off the system.	1 ▭ CLR_CMOS
BIOS_WP (optional)	3-pin	BIOS Write protect	1-2: Normal 2-3: Enable	1 ▭ BIOS_WP
BIOS_R	3-pin	BIOS Recovery	1-2: Normal 2-3: Recovery Mode	1 ▭ BIOS_R
PWD_SKIP	3-pin	Password Skip	1-2: Normal 2-3: Clear_Password	1 ▭ PWD_SKIP

To avoid the system instability after clearing CMOS, we recommend users to enter the main BIOS setting page to "Load Optimized Defaults" and then "Save & Exit Setup".

Installing the Motherboard

Connecting Case Components

After you have installed the motherboard into a case, you can begin connecting the motherboard components. Refer to the following:

1   Connect the CPU cooling fan cable to **CPU_FAN**.
2   Connect the system cooling fan connector to **SYS_FAN**.
3   Connect the case switches and indicator LEDs to the **PANEL1**.
4   Connect the standard power supply connector to **ATX_POWER**.
5   Connect the auxiliary case power supply connector to **ATX12V**.
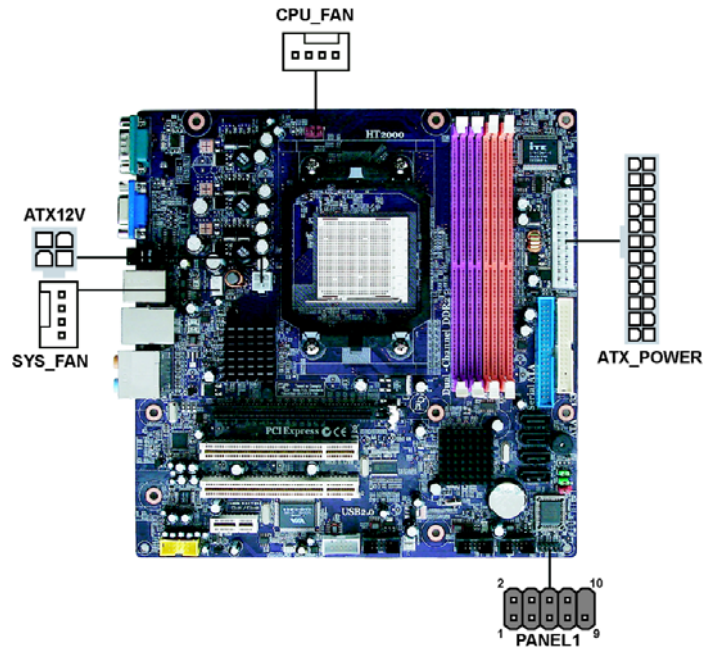
Connecting 20/24-pin power cable

Users please note that the 20-pin and 24-pin power cables can both be connected to the ATX_POWER connector. With the 20-pin power cable, just align the 20-pin power cable with the pin 1 of the ATX_POWER connector. However, using 20-pin power cable may cause the system to become unbootable or unstable because of insufficient electricity. A minimum power of 300W is recommended for a fully-configured system.
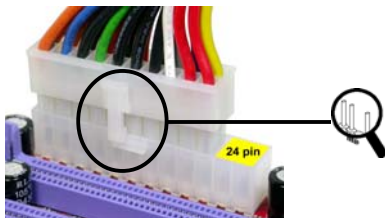
With ATX v1.x power supply, users please note that when installing 20-pin power cable, the latche of power cable clings to the left side of the ATX_POWER connector latch, just as the picture shows.
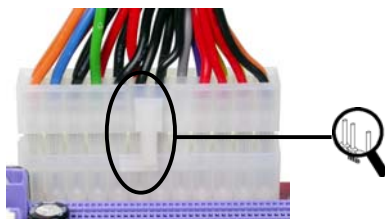
20-pin power cable

With ATX v2.x power supply, users please note that when installing 24-pin power cable, the latches of power cable clings to the right side of the ATX_POWER connector latch.

24-pin power cable

Installing the Motherboard

CPU_FAN/SYS_FAN: FAN Power Connectors

Pin	Signal Name	Function
1	GND	System Ground
2	+12V	Power +12V
3	Sense	Sensor
4	PWM	CPU FAN control

Users please note that the fan connector supports the CPU cooling fan of 1.1A~2.2A (26.4W max.) at +12V.

ATX12V: ATX 12V Power Connector

Pin	Signal Name
1	Ground
2	Ground
3	+12V
4	+12V

ATX_POWER: ATX 24-pin Power Connector

Pin	Signal Name	Pin	Signal Name
1	+3.3V	13	+3.3V
2	+3.3V	14	-12V
3	Ground	15	GND
4	+5V	16	PS_ON
5	Ground	17	GND
6	+5V	18	GND
7	Ground	19	GND
8	PWRGD	20	-5V
9	+5VSB	21	+5V
10	+12V	22	+5V
11	+12V	23	+5V
12	+3.3V	24	GND

Installing the Motherboard

Front Panel Header

The front panel header (PANEL1) provides a standard set of switch and LED connectors commonly found on ATX or micro-ATX cases. Refer to the table below for information:

```
 2          10
 ┌──────────┐
 │ ▪▪  ▪▪  │
 │ ▪▪  ▪▪ ▫ │
 └──────────┘
 1          9
   PANEL1
```
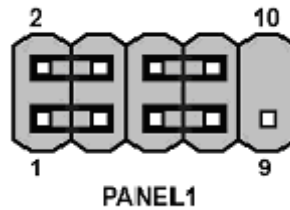
Pin	Signal	Function	Pin	Signal	Function
1	HD_LED_P	Hard disk LED(+)	2	FP PWR/SLP	*MSG LED(+)
3	HD_LED_N	Hard disk LED(-)	4	FP PWR/SLP	*MSG LED(-)
5	RST_SW_N	Reset Switch(-)	6	PWR_SW_P	Power Switch(+)
7	RST_SW_P	Reset Switch(+)	8	PWR_SW_N	Power Switch(-)
9	RSVD	Reserved	10	Key	No pin

MSG LED (dual color or single color)

Hard Drive Activity LED

Connecting pins 1 and 3 to a front panel mounted LED provides visual indication that data is being read from or written to the hard drive. For the LED to function properly, an IDE drive should be connected to the onboard IDE interface. The LED will also show activity for devices connected to the SATA (hard drives activity LED) connector.

Power/Sleep/Message waiting LED

Connecting pins 2 and 4 to a single or dual-color, front panel mounted LED provides power on/off, sleep, and message waiting indication.

Reset Switch

Supporting the reset function requires connecting pin 5 and 7 to a momentary-contact switch that is normally open. When the switch is closed, the board resets and runs POST.

Power Switch

Supporting the power on/off function requires connecting pins 6 and 8 to a momentary-contact switch that is normally open. The switch should maintain contact for at least 50 ms to signal the power supply to switch on or off. The time requirement is due to internal de-bounce circuitry. After receiving a power on/off signal, at least two seconds elapses before the power supply recognizes another on/off signal.

Installing the Motherboard

Installing Hardware

Installing the Processor

Caution: When installing a CPU heatsink and cooling fan make sure that you DO NOT scratch the motherboard or any of the surface-mount resistors with the clip of the cooling fan. If the clip of the cooling fan scrapes across the motherboard, you may cause serious damage to the motherboard or its components.

On most motherboards, there are small surface-mount resistors near the processor socket, which may be damaged if the cooling fan is carelessly installed.

Avoid using cooling fans with sharp edges on the fan casing and the clips. Also, install the cooling fan in a well-lit work area so that you can clearly see the motherboard and processor socket.

Before installing the Processor

This motherboard automatically determines the CPU clock frequency and system bus frequency for the processor. You may be able to change these settings by changing the settings in the system Setup Utility. We strongly recommend that you do not over-clock processors or other components to run faster than their rated speed.

Warning: Over-clocking components can adversely affect the reliability of the system and introduce errors into your system. Over-clocking can permanently damage the motherboard by generating excess heat in components that are run beyond the rated limits.

This motherboard has a Socket AM2 processor socket. When choosing a processor, consider the performance requirements of the system. Performance is based on the processor design, the clock speed and system bus frequency of the processor, and the quantity of internal cache memory and external cache memory.

CPU Installation Procedure

The following illustration shows CPU installation components.

1 Install your CPU. Pull up the lever away from the socket and lift up to 90-degree angle.
2 Locate the CPU cut edge (the corner with the pin hold noticeably missing). Align and insert the CPU correctly.
3 Press the lever down and apply thermal grease on top of the CPU.
4 Put the CPU Fan down on the retention module and snap the four retention legs of the cooling fan into place.
5 Flip the levers over to lock the heat sink in place and connect the CPU cooling Fan power cable to the CPUFAN connector. This completes the installation.
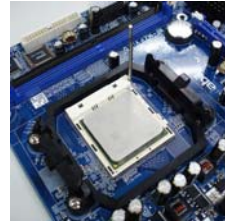
To achieve better airflow rates and heat dissipation, we suggest that you use a high quality fan with 4800 rpm at least. CPU fan and heatsink installation procedures may vary with the type of CPU fan/heatsink supplied. The form and size of fan/heatsink may also vary.

Installing Memory Modules

This motherboard accommodates four memory modules. It can support four 240-pin un-buffered DIMM, DDR2 800/667/533/400. The maximum memory capacity is 32 GB.

DDR2 SDRAM memory module table

Memory module	Memory Bus
DDR2 400	*200 MHz*
DDR2 533	*266 MHz*
DDR2 667	*333 MHz*
DDR2 800	*400 MHz*

You must install at least one module in any of the four slots. Each module can be installed with 8 GB of memory.

Do not remove any memory module from its antistatic packaging until you are ready to install it on the motherboard. Handle the modules only by their edges. Do not touch the components or metal parts. Always wear a grounding strap when you handle the modules.

Installation Procedure

Refer to the following to install the memory modules.

1   This motherboard supports unbuffered DDR2 SDRAM .
2   Push the latches on each side of the DIMM slot down.
3   Align the memory module with the slot. The DIMM slots are keyed with notches and the DIMMs are keyed with cutouts so that they can only be installed correctly.
4   Check that the cutouts on the DIMM module edge connector match the notches in the DIMM slot.
5   Install the DIMM module into the slot and press it firmly down until it seats correctly. The slot latches are levered upwards and latch on to the edges of the DIMM.
6   Install any remaining DIMM modules.
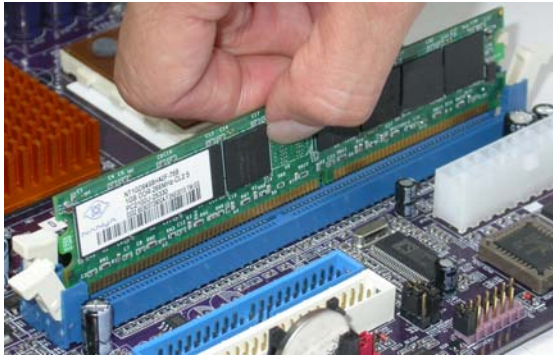
Installing a Hard Disk Drive/CD-ROM/SATA Hard Drive

This section describes how to install IDE devices such as a hard disk drive and a CD-ROM drive.

About IDE Devices

Your motherboard has one IDE1 channel interface. An IDE ribbon cable supporting two IDE devices is bundled with the motherboard.

You must orient the cable connector so that the pin1 (color) edge of the cable correspoinds to the pin 1 of the I/O port connector.

IDE1: IDE Connector

This motherboard supports four high data transfer SATA ports with each runs up to 3.0 Gb/s. To get better system performance, we recommend users connect the CD-ROM to the IDE channel, and set up the hard drives on the SATA ports.

IDE devices enclose jumpers or switches used to set the IDE device as MASTER or SLAVE. Refer to the IDE device user's manual. Installing two IDE devices on one cable, ensure that one device is set to MASTER and the other device is set to SLAVE. The documentation of your IDE device explains how to do this.

About SATA Connectors

Your motherboard features four SATA connectors supporting a total of four drives. SATA refers to Serial ATA (Advanced Technology Attachment) is the standard interface for the IDE hard drives which are currently used in most PCs. These connectors are well designed and will only fit in one orientation. Locate the SATA connectors on the motherboard and follow the illustration below to install the SATA hard drives.

Installing Serial ATA Hard Drives

To install the Serial ATA (SATA) hard drives, use the SATA cable that supports the Serial ATA protocol. This SATA cable comes with an SATA power cable. You can connect either end of the SATA cable to the SATA hard drive or the connector on the motherboard.

SATA cable (optional)   **SATA power cable** (optional)

Installing the Motherboard

Refer to the illustration below for proper installation:

  1   Attach either cable end to the connector on the motherboard.
  2   Attach the other cable end to the SATA hard drive.
  3   Attach the SATA power cable to the SATA hard drive and connect the other end to the power supply.

This motherboard does not support the "Hot-Plug" function.

Installing a Floppy Diskette Drive

The motherboard has a floppy diskette drive (FDD) interface and ships with a diskette drive ribbon cable that supports one or two floppy diskette drives. You can install a 5.25-inch drive and a 3.5-inch drive with various capacities. The floppy diskette drive cable has one type of connector for a 5.25-inch drive and another type of connector for a 3.5-inch drive.

You must orient the cable connector so that the pin 1 (color) edge of the cable corresponds to the pin 1 of the I/O port connector.

FDD: Floppy Disk Connector

This connector supports the provided floppy drive ribbon cable. After connecting the single end to the onboard floppy connector, connect the remaining plugs on the other end to the floppy drives correspondingly.
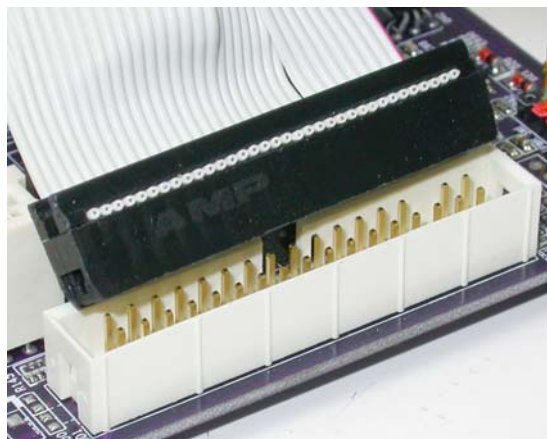
Installing Add-on Cards

The slots on this motherboard are designed to hold expansion cards and connect them to the system bus. Expansion slots are a means of adding or enhancing the motherboard's features and capabilities. With these efficient facilities, you can increase the motherboard's capabilities by adding hardware that performs tasks that are not part of the basic system.
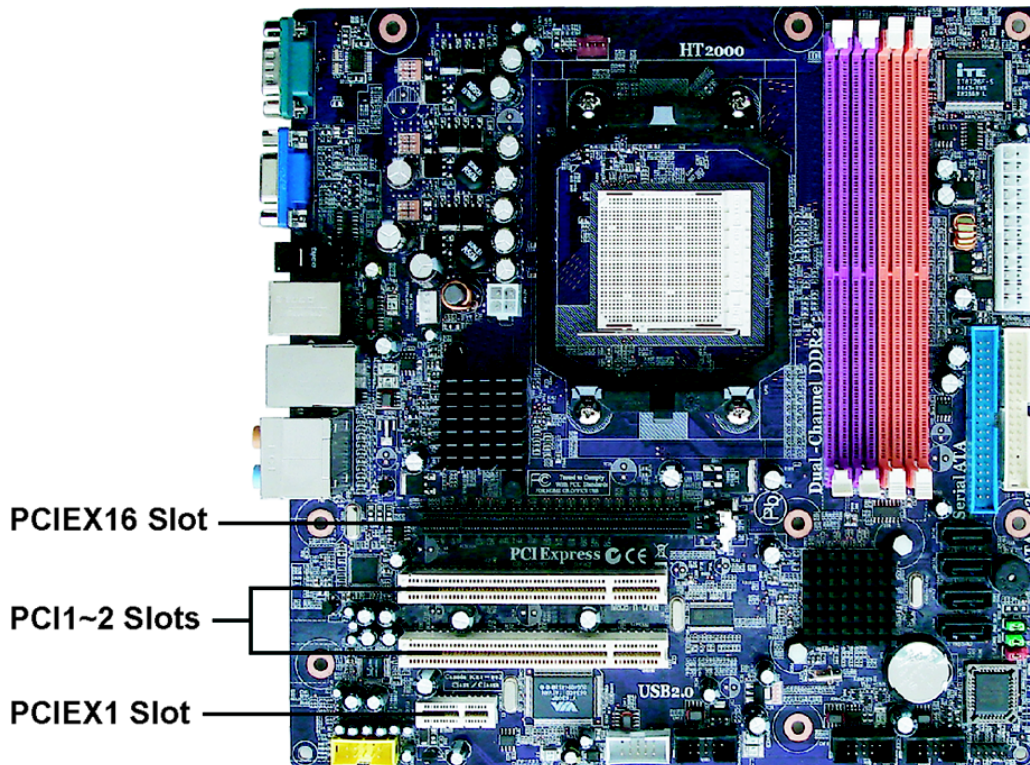
PCIEX16 Slot	The PCI Express x16 slot is used to install an external PCI Express graphics card that is fully compliant to the PCI Express Base Specification revision 1.1a.
PCIEX1 Slot	The PCI Express x1 slot is fully compliant to the PCI Express Base Specification revision 1.1a.
PCI 1~2 Slots	This motherboard is equipped with two standard PCI slots. PCI stands for Peripheral Component Interconnect and is a bus standard for expansion cards, which for the most part, is a supplement of the older ISA bus standard. The PCI slots on this board are PCI v2.3 compliant.

Before installing an add-on card, check the documentation for the card carefully. If the card is not Plug and Play, you may have to manually configure the card before installation.

Installing the Motherboard

Follow these instructions to install an add-on card:

1   Remove a blanking plate from the system case corresponding to the slot you are going to use.

2   Install the edge connector of the add-on card into the expansion slot. Ensure that the edge connector is correctly seated in the slot.

3   Secure the metal bracket of the card to the system case with a screw.
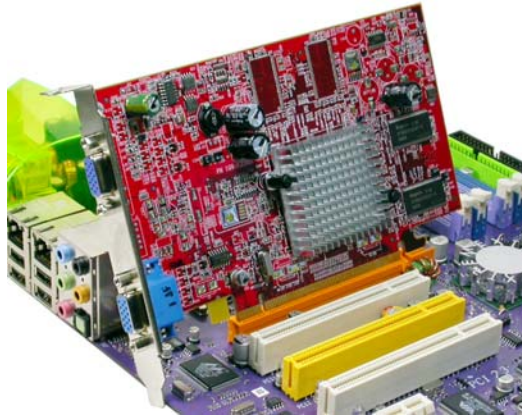
For some add-on cards, for example graphics adapters and network adapters, you have to install drivers and software before you can begin using the add-on card.

Connecting Optional Devices

Refer to the following for information on connecting the motherboard's optional devices:
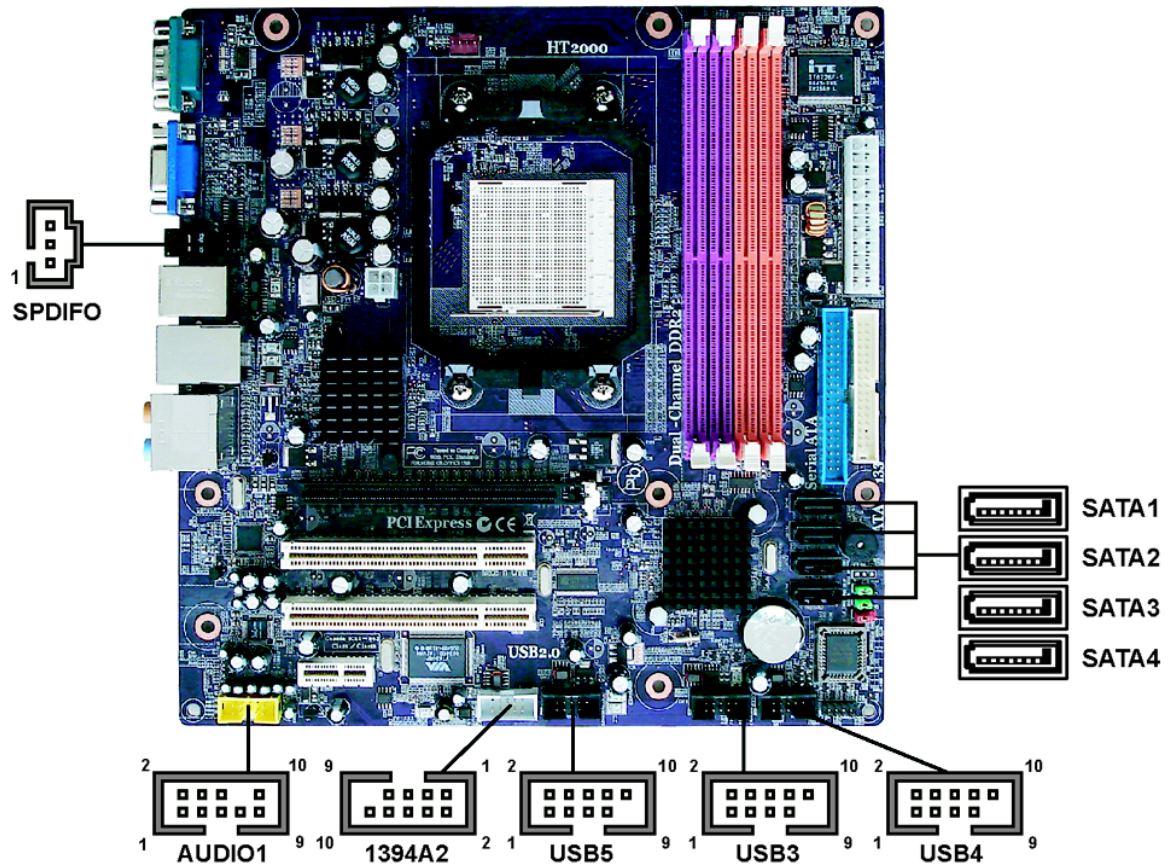
SATA1~4: Serial ATA connectors

These connectors are used to support the new Serial ATA devices for the highest date transfer rates (3.0 Gb/s), simpler disk drive cabling and easier PC assembly. It eliminates limitations of the current Parallel ATA interface. But maintains register compatibility and software compatibility with Parallel ATA.

Pin	Signal Name	Pin	Signal Name
1	Ground	2	TX+
3	TX-	4	Ground
5	RX-	6	RX+
7	Ground	-	-

AUDIO1: Front Panel Audio header

This header allows the user to install auxiliary front-oriented microphone and line-out ports for easier access.

Pin	Signal Name	Function
1	PORT-F_L	Front microphone
2	AUGND	Audio ground
3	PORT-F_R	Front microphone
4	N/A	Discriminate between AC'97 or HD daughter card
5	PORT-E_R	Right line out/in
6	FRONT-IO-SENSE	Signal Sense
7	FRONT-IO-SENSE	Signal Sense
8	Key	Cut away
9	PORT-E_L	Left line out/in
10	FRONT-IO-SENSE	Signal Sense

1394A2: Onboard IEEE 1394a connector (optional)

Connect this connector to any device with IEEE 1394a interface.

Pin	Signal Name	Pin	Signal Name
1	TPA+	2	TPA-
3	GND	4	GND
5	TPB+	6	TPB-
7	Cable-Power	8	Cable-Power
9	Key Pin	10	GND

USB3~5: Front Panel USB connectors

The motherboard has four USB ports installed on the rear edge I/O port array. Additionally, some computer cases have USB ports at the front of the case. If you have this kind of case, use auxiliary USB connector to connect the front-mounted ports to the motherboard.

Pin	Signal Name	Function
1	USBPWR0	Front Panel USB Power
2	USBPWR1	Front Panel USB Power
3	USB_FP_P0-	USB Port 0 Negative Signal
4	USB_FP_P1-	USB Port 1 Negative Signal
5	USB_FP_P0+	USB Port 0 Positive Signal
6	USB_FP_P1+	USB Port 1 Positive Signal
7	GND	Ground
8	GND	Ground
9	Key	No pin
10	GND	Ground

Please make sure that the USB cable has the same pin assignment as indicated above. A different pin assignment may cause damage or system hang-up.

SPDIFO: SPDIF out connector

This is an optional connector that provides an S/PDIF (Sony/Philips Digital Interface) output to digital multimedia device through optical fiber or coxial connector.

Pin	Signal Name	Function
1	GND	Ground
2	SPDIFO	SPDIF digital output
3	VCC	+5V power

Connecting I/O Devices

The backplane of the motherboard has the following I/O ports:
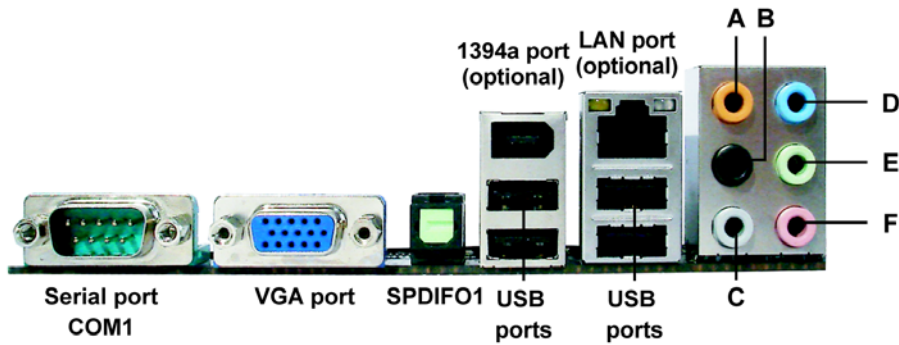
VGA port	Connect your monitor to the VGA port.
Serial Port (COM1)	Use the COM port to connect serial devices such as mice or fax/modems.
SPDIFO1 port	This jack connects to external digital audio output devices.
1394a port (optional)	Use the 1394a port to connect any Firewire device.
LAN port (optional)	Connect an RJ-45 jack to the LAN port to connect your computer to the Network.
USB ports	Use the USB ports to connect USB devices.
Audio ports	Use the audio jacks to connect audio devices. The D port is for stereo line-in signal, while the F port is for microphone in signal. This motherboard supports 8-channel audio devices that correspond to the A, B, C, and E port respectively. In addition, all of the 3 ports, B, C, and E provide users with both right & left channels individually. Users please refer to the following note for specific port function definition.

A: Center & Woofer	D: Line-in
B: Back Surround	E: Front Out
C: Side Surround	F: Mic_in Rear

The above port definition can be changed to audio input or audio output by changing the driver utility setting.

This concludes Chapter 2. The next chapter covers the BIOS.

Chapter 3
Using BIOS

About the Setup Utility

The computer uses the latest Award BIOS with support for Windows Plug and Play. The CMOS chip on the motherboard contains the ROM setup instructions for configuring the motherboard BIOS.

The BIOS (Basic Input and Output System) Setup Utility displays the system's configuration status and provides you with options to set system parameters. The parameters are stored in battery-backed-up CMOS RAM that saves this information when the power is turned off. When the system is turned back on, the system is configured with the values you stored in CMOS.

The BIOS Setup Utility enables you to configure:
- Hard drives, diskette drives and peripherals
- Video display type and display options
- Password protection from unauthorized use
- Power Management features

The settings made in the Setup Utility affect how the computer performs. Before using the Setup Utility, ensure that you understand the Setup Utility options.

This chapter provides explanations for Setup Utility options.

The Standard Configuration

A standard configuration has already been set in the Setup Utility. However, we recommend that you read this chapter in case you need to make any changes in the future.

This Setup Utility should be used:
- when changing the system configuration
- when a configuration error is detected and you are prompted to make changes to the Setup Utility
- when trying to resolve IRQ conflicts
- when making changes to the Power Management configuration
- when changing the password or making other changes to the Security Setup

Entering the Setup Utility

When you power on the system, BIOS enters the Power-On Self Test (POST) routines. POST is a series of built-in diagnostics performed by the BIOS. After the POST routines are completed, the following message appears:

Press DEL to enter SETUP

Pressing the delete key accesses the BIOS Setup Utility:

Phoenix-AwardBIOS CMOS Setup Utility:

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

Esc: Quit   ↑↓ → ← : Select Item
F10: Save & Exit Setup

Time, Date, Hard Disk Type...

BIOS Navigation Keys

The BIOS navigation keys are listed below:

KEY	FUNCTION
←↑↓→	Move
Enter	Select
+/-/PU/PD	Value
ESC	Exits the current menu
F1	General Help
F2	Item Help
F5	Previous Values
F7	Optimized Defaults
F10	Save

Using BIOS

Updating the BIOS

You can download and install updated BIOS for this motherboard from the manufacturer's Web site. New BIOS provides support for new peripherals, improvements in performance, or fixes for known bugs. Install new BIOS as follows:

1　If your motherboard has a BIOS protection jumper, change the setting to allow BIOS flashing.
2　If your motherboard has an item called Firmware Write Protect in Advanced BIOS features, disable it. (Firmware Write Protect prevents BIOS from being overwritten.
3　Create a bootable system disk. (Refer to Windows online help for information on creating a bootable system disk.)
4　Download the Flash Utility and new BIOS file from the manufacturer's Web site. Copy these files to the system diskette you created in Step 3.
5　Turn off your computer and insert the system diskette in your computer's diskette drive. (You might need to run the Setup Utility and change the boot priority items on the Advanced BIOS Features Setup page, to force your computer to boot from the floppy diskette drive first.)
6　At the A:\ prompt, type the Flash Utility program name and press <Enter>.
7　Type the filename of the new BIOS in the "File Name to Program" text box. Follow the onscreen directions to update the motherboard BIOS.
8　When the installation is complete, remove the floppy diskette from the diskette drive and restart your computer. If your motherboard has a Flash BIOS jumper, reset the jumper to protect the newly installed BIOS from being overwritten.

Using BIOS

When you start the Setup Utility, the main menu appears. The main menu of the Setup Utility displays a list of the options that are available. A highlight indicates which option is currently selected. Use the cursor arrow keys to move the highlight to other options. When an option is highlighted, execute the option by pressing <Enter>.

Some options lead to pop-up dialog boxes that prompt you to verify that you wish to execute that option. Other options lead to dialog boxes that prompt you for information.

Some options (marked with a triangle ▶) lead to submenus that enable you to change the values for the option. Use the cursor arrow keys to scroll through the items in the submenu.

In this manual, default values are enclosed in parenthesis. Submenu items are denoted by a triangle ▶.

Standard CMOS Features

This option displays basic information about your system.

```
              Phoenix-AwardBIOS CMOS Setup Utility
                    Standard CMOS Features

    Date (mm:dd:yy)       Mon, Dec 18 2006        Item Help
    Time (hh:mm:ss)       14 : 57 : 56
                                             Menu Level      ▶
  ▶ IDE Channel 0 Master  [HDS728080PLAT20]
  ▶ IDE Channel 0 Slave   [None]             Change the day, month,
  ▶ IDE Channel 2 Master  [None]             year and century
  ▶ IDE Channel 2 Slave   [None]
  ▶ IDE Channel 3 Master  [None]
  ▶ IDE Channel 3 Slave   [None]

    Drive A               [None]
    Halt On               [No Errors]

    Base Memory              640K
    Extended Memory       457728K
    Total Memory          458752K
```

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

Date and Time

The Date and Time items show the current date and time on the computer. If you are running a Windows OS, these items are automatically updated whenever you make changes to the Windows Date and Time Properties utility.

▶ IDE Devices (None)

Your computer has two IDE channels (Primary and Secondary) and each channel can be installed with one or two devices (Master and Slave). Use these items to configure each device on the IDE channel.

Press <Enter> to display the IDE submenu:

```
              Phoenix-AwardBIOS CMOS Setup Utility
                    IDE Channel 0 Slave

                                                Item Help
    IDE HDD Auto-Detection   [Press Enter]
  x Auto Acoustic Management  Disabled        Menu Level     ▶▶

    IDE Channel 0 Slave      [Auto]           To auto-detect the
    Access Mode              [Auto]           HDD's size, head... on
                                              this channel
    Capacity                 82 GB

    Cylinder                 39420
    Head                     16
    Precomp                  0
    Landing Zone             39419
    Sector                   255
```

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

IDE HDD Auto-Detection

Press <Enter> while this item is highlighted to prompt the Setup Utility to automatically detect and configure an IDE device on the IDE channel.

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

- **Auto Acoustic Management**:This item is used to reduce drive noise.

IDE Channel 0/2/3 Master/Slave (Auto)

Leave this item at Auto to enable the system to automatically detect and configure IDE devices on the channel. If it fails to find a device, change the value to Manual and then manually configure the drive by entering the characteristics of the drive in the items described below.

Refer to your drive's documentation or look on the drive casing if you need to obtain this information. If no device is installed, change the value to None.

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

Access Mode (Auto)

This item defines ways that can be used to access IDE hard disks such as LBA (Large Block Addressing). Leave this value at Auto and the system will automatically decide the fastest way to access the hard disk drive. If you choose IDE Channel 2/3 Master, the item only have Large and Auto.

Press <Esc> to return to the Standard CMOS Features page.

Drive A (None)

This item defines the characteristics of any diskette drive attached to the system. You can connect one or two diskette drives.

Halt On (No Errors)

This item defines the operation of the system POST (Power On Self Test) routine. You can use this item to select which types of errors in the POST are sufficient to halt the system.

Base Memory, Extended Memory, and Total Memory

These items are automatically detected by the system at start up time. These are display-only fields. You cannot make changes to these fields.

Press <Esc> to return to the main menu setting page.

Advanced BIOS Features

This option defines advanced information about your system.

Phoenix-Award WorkstationBIOS CMOS Setup Utility
Advanced BIOS Features

		Item Help
▶ Removable Device Priority	[Press Enter]	
▶ Hard Disk Boot Priority	[Press Enter]	Menu Level ▶
Quick Power On Self Test	[Enabled]	
First Boot Device	[CDROM]	Select Removable
Second Boot Device	[Removable]	Boot Device Priority
Third Boot Device	[Hard Disk]	
Boot Other Device	[Enabled]	
Boot Up Floppy Seek	[Disabled]	
Security Option	[Setup]	
HDD Security Freeze Lock	[Enabled]	
Full Screen LOGO Show	[Enabled]	

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

▶ **Removable Device Priority (Press Enter)**

Scroll to this item and press <Enter> to view the following screen:

Phoenix-Award WorkstationBIOS CMOS Setup Utility
Removable Device Priority

	Item Help
1. Floppy Disks	Menu Level ▶▶
	Use < ↑ > or < ↓ > to select a device, then press <+> to move it up, or <-> to move it down the list. Press <ESC> to exit this menu.

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

Press <Esc> to return to the Advanced BIOS Features screen.

Using BIOS

▶ Hard Disk Boot Priority (Press Enter)

Scroll to this item and press <Enter> to view the following screen:

```
                    Phoenix-AwardBIOS CMOS Setup Utility
                            Hard Disk Boot Priority
┌─────────────────────────────────────────┬──────────────────────────┐
│  1. Ch0 M.   : HDS728080PLAT20           │       Item Help          │
│  2. Bootable Add-in Cards                ├──────────────────────────┤
│                                          │  Menu Level    ▶ ▶       │
│                                          │                          │
│                                          │  Use < ↑ > or < ↓ >      │
│                                          │  to select a device, then│
│                                          │  press <+> to move it    │
│                                          │  up, or <-> to move it   │
│                                          │  down the list.  Press   │
│                                          │  <ESC> to exit this      │
│                                          │  menu.                   │
│                                          │                          │
│                                          │                          │
└─────────────────────────────────────────┴──────────────────────────┘
   ↑↓→ ←: Move        PU/PD+/-/:Change Priority  F10:Save ESC:Exit
              F5:Previous Values      F7:Optimized Defaults
```
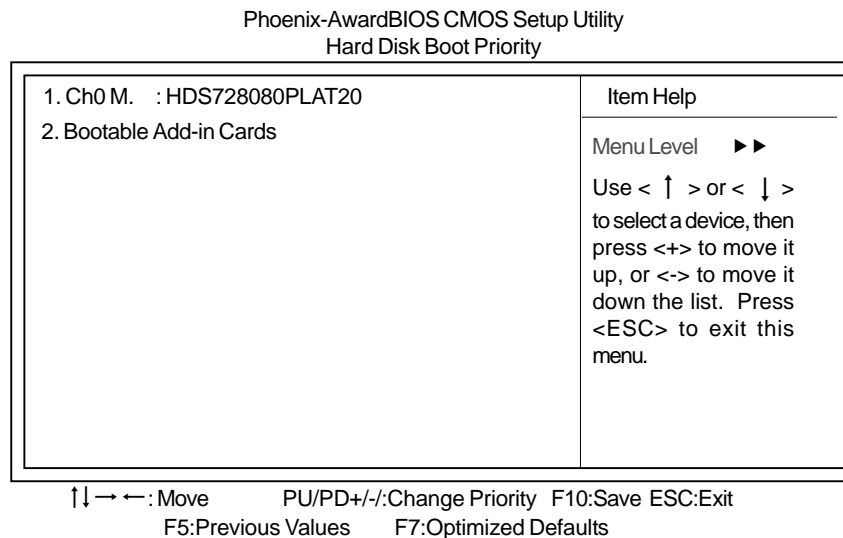
Bootable Add-in Cards

This screen enables users to set the sequence of the bootable devices in system.

Press <Esc> to return to the Advanced BIOS Features screen.

Quick Power On Self Test (Enabled)

Enable this item to shorten the power on testing (POST) and have your system start up faster. You might like to enable this item after you are confident that your system hardware is operating smoothly.

First/Second/Third Boot Device (CDROM/Removable/Hard Disk)

Use these three items to select the priority and order of the devices that your system searches for an operating system at start-up time.

Boot Other Device (Enabled)

When enabled, the system searches all other possible locations for an operating system if it fails to find one in the devices specified under the First, Second, and Third boot devices.

Boot Up Floppy Seek (Disabled)

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

Security Option (Setup)

If you have installed password protection, this item defines if the password is required at system start up, or if it is only required when a user tries to enter the Setup Utility.

HDD Security Freeze Lock (Enabled)

If this item is enabled, it prevents any external application from locking hard drive except from BIOS.

Using BIOS

Full Screen LOGO Show (Enabled)

Enables or disables the display of the Full Screen Logo during boot-up.

Press <Esc> to return to the main menu setting page.

Advanced Chipset Features

These items define critical timing parameters of the motherboard. You should leave the items on this page at their default values unless you are very familiar with the technical specifications of your system hardware. If you change the values incorrectly, you may introduce fatal errors or recurring instability into your system.

```
              Phoenix-Award WorkstationBIOS CMOS Setup Utility
                          Advanced Chipset Features
┌───────────────────────────────────────────┬───────────────────────┐
│  ▶ LDT & PCI Bus Control    [Press Enter]  │      Item Help        │
│     DRAM Frame Buffer Size   [  64MB]      │                       │
│                                            │   Menu Level    ▶     │
│                                            │                       │
│                                            │                       │
│                                            │                       │
│                                            │                       │
│                                            │                       │
│                                            │                       │
│                                            │                       │
│                                            │                       │
│                                            │                       │
└───────────────────────────────────────────┴───────────────────────┘
   ↑↓→←: Move  Enter: Select  +/-/PU/PD:Value  F10:Save  ESC:Exit  F1: General Help
            F5:Previous Values       F7:Optimized Defaults
```

▶ **LDT & PCI Bus Control (Press Enter)**

Scroll to this item and press <Enter> to view the following screen:

```
              Phoenix-Award WorkstationBIOS CMOS Setup Utility
                          LDI & PCI Bus Control
┌───────────────────────────────────────────┬───────────────────────┐
│  LDT Configuration             [Enabled]   │      Item Help        │
│  Upstream LDT Bus Width        [16 bit]    │                       │
│  Downstream LDT Bus Width      [16 bit]    │   Menu Level    ▶▶    │
│  LDT Bus Frequency             [Auto]      │                       │
│  PCIE Reset Delay              [Disabled]  │                       │
│                                            │                       │
│                                            │                       │
│                                            │                       │
│                                            │                       │
│                                            │                       │
│                                            │                       │
└───────────────────────────────────────────┴───────────────────────┘
   ↑↓→← : Move  Enter: Select  +/-/PU/PD:Value  F10:Save  ESC:Exit  F1: General Help
            F5:Previous Values       F7:Optimized Defaults
```

LDT Configuration (Enabled)

This item enables or disables the LDT configuration.

Upstream LDT Bus Width (16 bit)

This item allows users to manually adjust the upstream LDT bus width to be 8 bit or 16 bit.

Downstream LDT Bus Width (16 bit)

This item allows users to manually adjust the downstream LDT bus width to be 8 bit or 16 bit.

LDT Bus Frequency (Auto)

This item allows users to manually adjust the LDT Bus Frequency.

PCIE Reset Delay (Disabled)

This item enables or disables the PCIE reset delay.

Press <Esc> to return to the Advanced Chipset Features page.

UMA Frame Buffer Size (64MB)

This item allows users to manually adjust the UMA frame buffer size, from 16MB to 128MB.

Press <Esc> to return to the main BIOS setting page.

Using BIOS

Integrated Peripherals

These options display items that define the operation of peripheral components on the system's input/output ports.
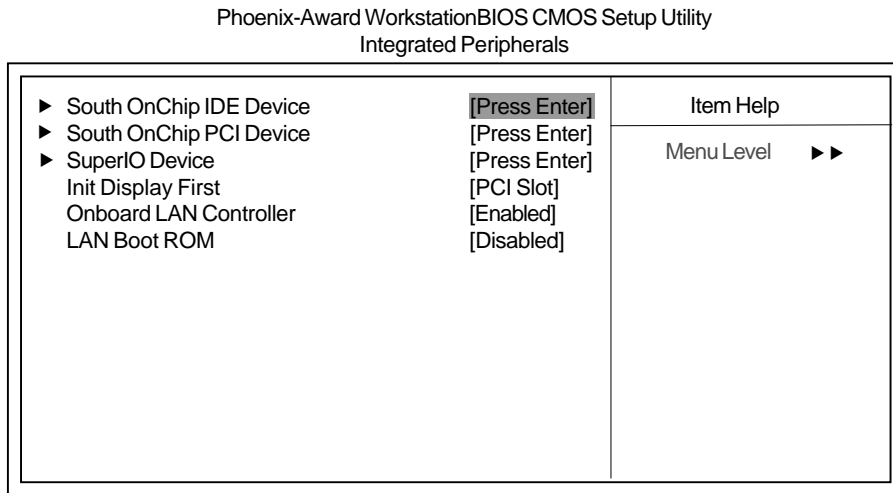
```
              Phoenix-Award WorkstationBIOS CMOS Setup Utility
                          Integrated Peripherals
┌─────────────────────────────────────────────┬───────────────────────┐
│  ▶ South OnChip IDE Device    [Press Enter]  │      Item Help        │
│  ▶ South OnChip PCI Device    [Press Enter]  │                       │
│  ▶ SuperIO Device             [Press Enter]  │   Menu Level    ▶ ▶   │
│    Init Display First         [PCI Slot]     │                       │
│    Onboard LAN Controller     [Enabled]      │                       │
│    LAN Boot ROM               [Disabled]     │                       │
│                                              │                       │
│                                              │                       │
│                                              │                       │
│                                              │                       │
│                                              │                       │
│                                              │                       │
│                                              │                       │
└─────────────────────────────────────────────┴───────────────────────┘
```

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

▶ South OnChip IDE Device (Press Enter)

Scroll to this item and press <Enter> to view the following screen:

```
              Phoenix-Award WorkstationBIOS CMOS Setup Utility
                          South OnChip IDE Device
┌─────────────────────────────────────────────┬───────────────────────┐
│    IDE DMA transfer access       [Enabled]   │      Item Help        │
│    Onchip IDE Channel0           [Enabled]   │                       │
│    Primary Master      PIO       [Auto]      │   Menu Level    ▶ ▶   │
│    Primary Slave       PIO       [Auto]      │                       │
│    Primary Master      UDMA      [Auto]      │                       │
│    Primary Slave       UDMA      [Auto]      │                       │
│    ATI SATA Controller           [Enabled]   │                       │
│    ATI SATA Type                 [Native IDE]│                       │
│                                              │                       │
│                                              │                       │
│                                              │                       │
│                                              │                       │
│                                              │                       │
└─────────────────────────────────────────────┴───────────────────────┘
```
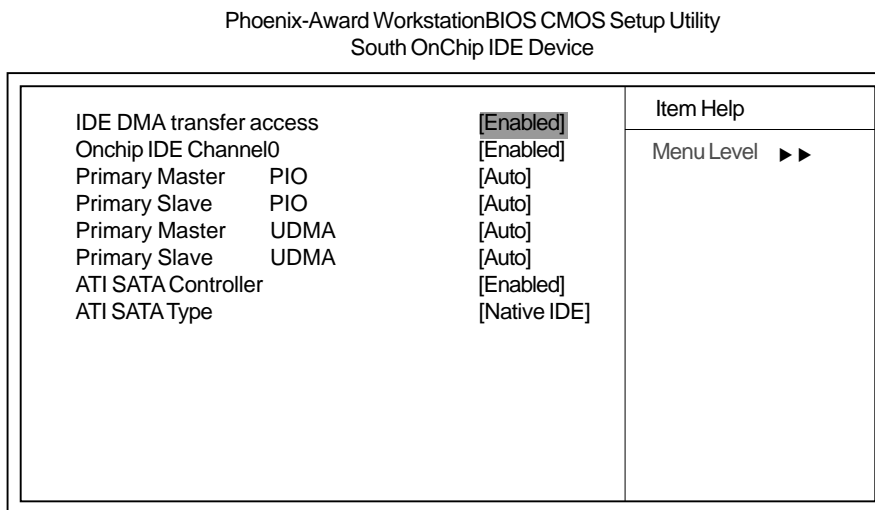
↑↓ → ←: Move Enter: Select +/-/PU/PD:Value F10:Save ESC:Exit F1: General Help
F5:Previous Values   F7:Optimized Defaults

IDE DMA transfer access (Enabled)

This item allows you to enable the transfer access of the IDE DMA then burst onto the PCI bus and nonburstable transactions do not.

OnChip IDE Channel0 (Enabled)

Use this item to enable or disable the PCI IDE channels that are integrated on the motherboard.

Primary Master/Slave PIO (Auto)

Each IDE channel supports a master device and a slave device. These four items let you assign the kind of PIO (Programmed Input/Output) was used by the IDE devices. Choose Auto to let the system auto detect which PIO mode is best, or select a PIO mode from 0-4.

Primary Master/Slave UDMA (Auto)

Each IDE channel supports a master device and a slave device. This motherboard supports UltraDMA technology, which provides faster access to IDE devices.

If you install a device that supports UltraDMA, change the appropriate item on this list to Auto. You may have to install the UltraDMA driver supplied with this motherboard in order to use an UltraDMA device.

ATI SATA Controller (Enabled)

This item allows you to control Serial ATA controller.

ATI SATA Type (Native IDE)

This item allows you to manually specify the onboard Serial ATA Type.

Press <Esc> to return to the Integrated Peripherals page.

▶ South OnChip PCI Device (Press Enter)

Scroll to this item and press <Enter> to view the following screen:

```
                  Phoenix-Award WorkstationBIOS CMOS Setup Utility
                              South OnChip PCI Device
┌─────────────────────────────────────────────┬──────────────────────┐
│                                              │       Item Help      │
│   ATI Azalia Audio         [Auto]            ├──────────────────────┤
│   USB 2.0 Controller       [Enabled]         │  Menu Level    ▶ ▶   │
│   USB Controller           [Enabled]         │                      │
│   USB Legacy Support       [Enabled]         │                      │
│   USB Mouse Support        [Enabled]         │                      │
│   USB Storage Support      [Enabled]         │                      │
│   Onboard 1394 Device      [Enabled]         │                      │
│                                              │                      │
│                                              │                      │
│                                              │                      │
│                                              │                      │
│                                              │                      │
└─────────────────────────────────────────────┴──────────────────────┘
   ↑↓ → ← : Move  Enter: Select  +/-/PU/PD:Value  F10:Save ESC:Exit  F1: General Help
              F5:Previous Values       F7:Optimized Defaults
```
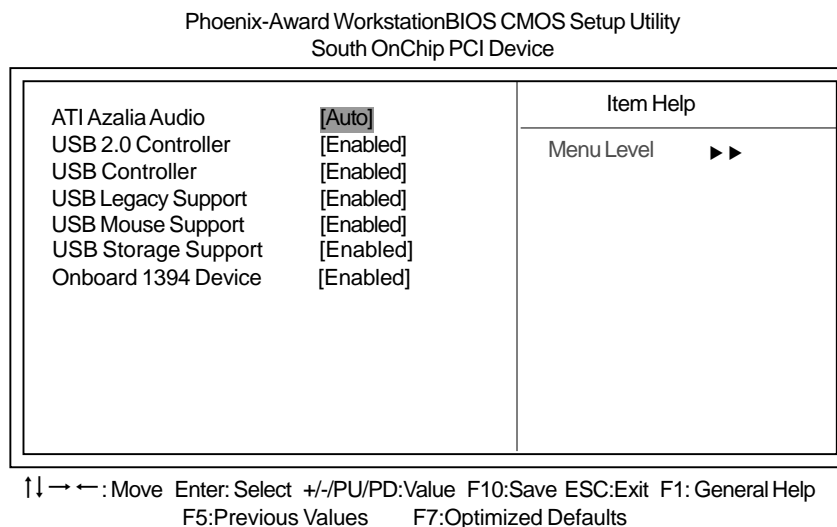
ATI Azalia Audio (Auto)

This option allows you to control the onboard Azalia audio. Disable this item if you are going to install a PCI audio add-on card.

USB 2.0 Controller (Enabled)

Enable this item if your system supports USB 2.0.

USB Controller (Enabled)

This item enables the USB controller. Leave this at the default "Enabled" if you want to connect USB devices to your computer.

USB Legacy Support (Enabled)

Use this item to enable or disable support for legacy USB devices. Setting to Auto allows the system to detect the presence of USB devices at startup. If detected, the USB controller legacy mode is enabled. If no USB device is detected, the legacy USB support is disabled.

Using BIOS

USB Mouse Support (Enabled)

Enable this item if you plan to use a mouse connected through the USB port in a legacy operating system (such as DOS) that does not support Plug and Play.

USB Storage Support (Enabled)

Use this item to enable or disable the USB Storage function.

Onboard 1394 Device (Enabled)

This option allows you to enable or disable the onboard 1394 function.

Press <Esc> to return to the Integrated Peripherals page.

▶ SuperIO Device (Press Enter)

Scroll to this item and press <Enter> to view the following screen:

Phoenix-Award WorkstationBIOS CMOS Setup Utility
SuperIO Device

		Item Help
Onboard FDC Controller	[Disabled]	
Onboard Serial Port 1	[3F8/IRQ4]	Menu Level ▶ ▶

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

Onboard FDC Controller (Disabled)

This option enables the onboard floppy disk drive controller.

Onboard Serial Port 1 (3F8/IRQ4)

This option is used to assign the I/O address and interrupt request (IRQ) for onboard serial port 1/2 (COM1/2).

Press <Esc> to return to the Integrated Peripherals page.

Init Display First (PCI Slot)

Use this item to specify whether your graphics adapter is installed in one of the PCI slots or is integrated on the motherboard. If a PCI graphics card is installed, the onboard VGA will be disabled.

Onboard LAN Controller(Enabled)

Use this item to enable or disable the Onboard LAN.

LAN Boot ROM (Disabled)

Use this item to enable or disable the booting from the onboard LAN or a network add-in card with a remote boot ROM installed.

Using BIOS

When too many expasion cards occupy the memory size of shadow ram, or the RAID Mode enabled, the function of LAN Boot ROM may not function normally.

Press <Esc> to return to the main BIOS setting page.

Power Management Setup

This option lets you control system power management. The system has various power-saving modes including powering down the hard disk, turning off the video, suspending to RAM, and software power down that allows the system to be automatically resumed by certain events.

Phoenix-Award WorkstationBIOS CMOS Setup Utility
Power Management Setup

		Item Help
ACPI Suspend Type	[S3(STR)]	
MODEM Use IRQ	[3]	Menu Level ▶
Soft-Off by PWRBTN	[Instant-Off]	
ACPI XSDT Table	[Disabled]	
▶ Resume Event Control	[Press Enter]	

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

ACPI Suspend Type (S3(STR)

Use this item to define how your system suspends. In the default, S3 (STR), the suspend mode is a suspend to RAM, i.e., the system shuts down with the exception of a refresh current to the system memory.

MODEM Use IRQ (3)

If you want an incoming call on a modem to automatically resume the system from a power-saving mode, use this item to specify the interrupt request line (IRQ) that is used by the modem. You might have to connect the fax/modem to the motherboard Wake On Modem connector for this feature to work.

Soft-Off by PWRBTN (Instant Off)

Under ACPI (Advanced Configuration and Power management Interface) you can create a software power down. In a software power down, the system can be resumed by Wake Up Alarms. This item lets you install a software power down that is controlled by the power button on your system. If the item is set to Instant-Off, then the power button causes a software power down. If the item is set to Delay 4 Sec. then you have to hold the power button down for four seconds to cause a software power down.

ACPI XSDT Table (Disabled)

This table is for 64 Bits OS using. Do not use for Win2K or WinXp 32 Bits Mode.

Using BIOS

▶ **Resume Event Control (Press Enter)**

Scroll to this item and press <Enter> to view the following screen:

```
              Phoenix-Award WorkstationBIOS CMOS Setup Utility
                           Resume Event Control

     ┌─────────────────────────────────────────────┬──────────────────────┐
     │   Resume By Ring            [Disabled]       │   Item Help          │
     │   Resume By PCI PME         [Enabled]        │                      │
     │   Resume By PCI-E PME       [Enabled]        │                      │
     │   Resume By USB (S3)        [Enabled]        │   Menu Level    ▶ ▶  │
     │   PWRON After PWR-Fail      [Former-Sts]     │                      │
     │   RTC Alarm Resume          [Disabled]       │                      │
     │ x Date (of Month)              0             │                      │
     │ x Resume Time (hh:mm:ss)     0:  0:  0       │                      │
     │                                              │                      │
     │                                              │                      │
     │                                              │                      │
     │                                              │                      │
     │                                              │                      │
     └─────────────────────────────────────────────┴──────────────────────┘

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

Resume by Ring (Disabled)

This item specifies whether the system will be awakened from power saving modes when activity or input signal of WOL/WOM/Ring device is detected.

Resume by PCI PME (Enabled)

This item specifies whether the system will be awakened from power saving modes when activity or input signal of the specified hardware peripheral or component is detected.

Resume by PCI-E PME (Enabled)

This system can be turned off with a software command. If you enable this item, the system can automatically resume if there is an incoming call on the PCI Express card. You must use an ATX power supply inorder to use this feature. Use this item to do wake-up action if inserting the PCI Express card.

Resume by USB (S3) (Enabled)

This option allows the activity of the USB devices to wake up the system from S3 sleep state.

PWRON After PWR-Fail (Former-Sts)

This item enables your computer to automatically restart or return to its operating status.

RTC Alarm Resume (Disabled)

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

- **Date of Month**: Use this item to define the date of month when using the RTC alarm to resume the system.
- **Resume Time (hh:mm:ss)**: Use this item to define the time when using the RTC alarm to resume the system.

Press <Esc> to return to the Power Management Setup screen.

Using BIOS

PNP/PCI Configurations

These options configure how PnP (Plug and Play) and PCI expansion cards operate in your system. Both the the ISA and PCI buses on the motherboard use system IRQs (Interrup ReQuests) and DMAs (Direct Memory Access). You must set up the IRQ and DMA assignments correctly through the PnP/PCI Configurations Setup utility for the motherboard to work properly. Selecting PnP/PCI Configurations on the main program screen displays this menu:

```
              Phoenix-Award WorkstationBIOS CMOS Setup Utility
                          PnP/PCI Configurations

   ┌──────────────────────────────────────────┬──────────────────────┐
   │  PNP OS Installed          [Yes]          │      Item Help       │
   │                                           ├──────────────────────┤
   │  Resources Controlled By   [Auto(ESCD)]   │  Menu Level    ▶ ▶   │
   │ X IRQ Resources            Press Enter    │                      │
   │                                           │  Selesct Yes if you are │
   │  PCI/VGA Palette Snoop     [Disabled]     │  using a Play and Play │
   │                                           │  capable operating   │
   │                                           │  system Select No if │
   │                                           │  you need the BIOS to │
   │                                           │  configure non-boot  │
   │                                           │  devices.            │
   │                                           │                      │
   │                                           │                      │
   └──────────────────────────────────────────┴──────────────────────┘

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

PNP OS Installed (Yes)

If all your operating systems support Plug & Play (PnP), select Yes so that they can take over the manegement of device resource. If you are using a non-PnP-aware OS or not all of the operating systems you are using support PnP, select No to let the BIOS handle it instead.

Resouces Controlled By (Auto(ESCD)

You should leave this item at the default Auto (ESCD). Under this setting, the system dynamically allocates resources to Plug and Play devices as they are required.

If you cannot get a legacy ISA (Industry Standard Architecture) expansion card to work properly, you might be able to solve the problem by changing this item to Manual, and then opening up the IRQ Resources submenu.

- **IRQ Resources [Press Enter]:**In the IRQ Resources submenu, if you assign an IRQ to Legacy ISA, then that Interrupt Request Line is reserved for a legacy ISA expansion card. Press <Esc> to close the IRQ Resources submenu.

PCI/VGA Palette Snoop (Disabled)

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

PC Health Status

On motherboards that support hardware monitoring, this item lets you monitor the parameters for critical voltages, temperatures and fan speeds.

```
              Phoenix-Award WorkstationBIOS CMOS Setup Utility
                          PC Health Status
┌──────────────────────────────────────────┬─────────────────────────┐
│                                           │       Item Help         │
│  ▶  Smart Fan Function      [Press Enter] ├─────────────────────────┤
│     Shutdown Temperature    [Disabled]    │   Menu Level      ▶     │
│     Warning Temperature     [Disabled]    │                         │
│     CPU Vcore                    1.34V     │                         │
│     VDIMM                        1.77V     │                         │
│     CPU Tcontrol                 48°C      │                         │
│     System Temperature          37°C      │                         │
│     CPU Fan Speed            3013 RPM      │                         │
│     System Fan Speed            0 RPM      │                         │
│                                           │                         │
│                                           │                         │
│                                           │                         │
└──────────────────────────────────────────┴─────────────────────────┘
   ↑↓→← : Move  Enter: Select  +/-/PU/PD:Value  F10:Save  ESC:Exit  F1: General Help
             F5:Previous Values        F7:Optimized Defaults
```

   ▸ **Smart Fan Function [Press Enter]**

Scroll to this item and press <Enter> to view the following screen:

```
              Phoenix-Award WorkstationBIOS CMOS Setup Utility
                         Smart Fan Function
┌──────────────────────────────────────────┬─────────────────────────┐
│     Smart Fan Function      [Disabled]    │       Item Help         │
│   X FAN1 START PWM VALUE        1         ├─────────────────────────┤
│   X FAN1 START Temp °C          0         │   Menu Level     ▶▶     │
│   X FAN1 Slope Select PWM/°C    0         │                         │
│                                           │                         │
│                                           │                         │
│                                           │                         │
│                                           │                         │
│                                           │                         │
│                                           │                         │
│                                           │                         │
│                                           │                         │
│                                           │                         │
└──────────────────────────────────────────┴─────────────────────────┘
   ↑↓→← : Move  Enter: Select  +/-/PU/PD:Value  F10:Save  ESC:Exit  F1: General Help
             F5:Previous Values        F7:Optimized Defaults
```

Smart Fan Control (Enabled)

This item enables or disables the Smart fan function, when it is set at certaintemperature, the PWM value will reach the certain value accordingly, and we can adjust the CPU fan speed by PWM.

Press <Esc> to return to the PC Health Status page.

Shutdown Temperature (Disabled)

Enables you to set the maximum temperature the system can reach before powering down.

Warning Temperature (Disabled)

This item allows users to manually set the warning temperature of the system.
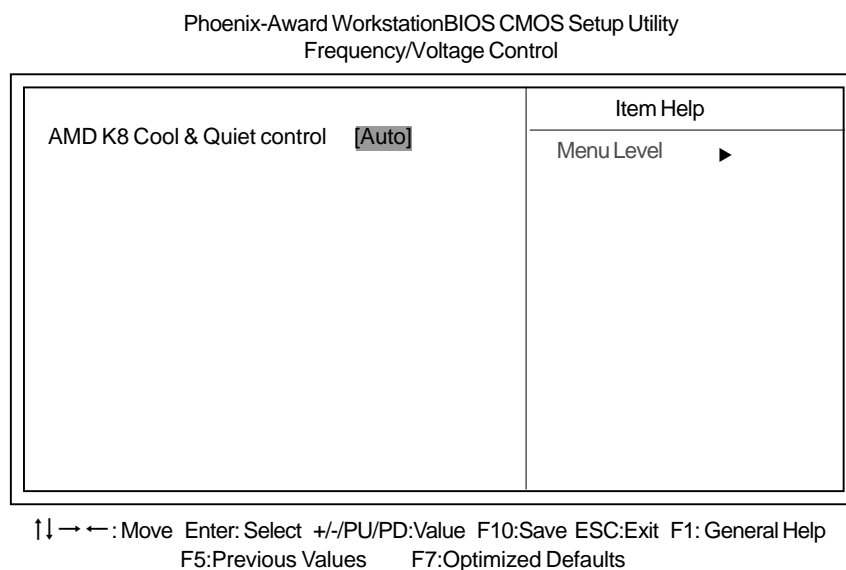
Using BIOS

System Component Characteristics

These fields provide you with information about the systems current operating status. You cannot make changes to these field.

- CPU Vcore
- VDIMM
- CPU Tcontrol
- System Temperature
- CPU/SYSTEM Fan Speed

Frequency/Voltage Control

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

```
                Phoenix-Award WorkstationBIOS CMOS Setup Utility
                            Frequency/Voltage Control

┌─────────────────────────────────────────────┬──────────────────────────┐
│                                              │        Item Help         │
│   AMD K8 Cool & Quiet control    [Auto]      │  Menu Level       ►      │
│                                              │                          │
│                                              │                          │
│                                              │                          │
│                                              │                          │
│                                              │                          │
│                                              │                          │
│                                              │                          │
│                                              │                          │
└─────────────────────────────────────────────┴──────────────────────────┘

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

AMD K8 Cool & Quiet control (Auto)

This item helps the system to lower the frequency when CPU idles. When the frequency decreases, the temperature will drop automatically as well.

Press <Esc> to return to the main menu setting page.

Using BIOS

Load Optimized Defaults

This option opens a dialog box that lets you install optimized defaults for all appropriate items in the Setup Utility. Press <Y> and then <Enter> to install the defaults. Press <N> and then <Enter> to not install the defaults. The optimized defaults place demands on the system that may be greater than the performance level of the components, such as the CPU and the memory. You can cause fatal errors or instability if you install the optimized defaults when your hardware does not support them. If you only want to install setup defaults for a specific option, select and display that option, and then press <F7>.

Set Supervisor/User Password

When this function is selected, the following message appears at the center of the screen to assist you in creating a password.

ENTER PASSWORD

Type the password, up to eight characters, and press <Enter>. The password typed now will clear any previously entered password from CMOS memory. You will be asked to confirm the password. Type the password again and press <Enter>. You may also press <Esc> to abort the selection.

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

PASSWORD DISABLED

If you have selected "**System**" in "Security Option" of "BIOS Features Setup" menu, you will be prompted for the password every time the system reboots or any time you try to enter BIOS Setup.

If you have selected "**Setup**" at "Security Option" from "BIOS Features Setup" menu, you will be prompted for the password only when you enter BIOS Setup.

Supervisor Password has higher priority than User Password. You can use Supervisor Password when booting the system or entering BIOS Setup to modify all settings. Also you can use User Password when booting the system or entering BIOS Setup but can not modify any setting if Supervisor Password is enabled.

Save & Exit Setup

Highlight this item and press <Enter> to save the changes that you have made in the Setup Utility and exit the Setup Utility. When the Save and Exit dialog box appears, press <Y> to save and exit, or press <N> to return to the main menu.

Exit Without Saving

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

> *If you have made settings that you do not want to save, use the "Exit Without Saving" item and press <Y> to discard any changes you have made.*

Discard Chages

Highlight this item and press <Enter> to discard any changes that you have made in the Setup Utility and exit the Setup Utility. When the Save and Exit dialog box appears, press <OK> to save and exit, or press <Cancel> to return to the main menu.

> *If you have made settings that you do not want to save, use the "Discard Chages" item and press <OK> to discard any changes you have made.*

This concludes Chapter 3. Refer to the next chapter for information on the software supplied with the motherboard.

Memo