AN19E/AN19C

MAINBOARD
MANUAL

Handling Precautions

Warning:

1. Static electricity may cause damage to the integrated circuits on the motherboard. Before handling any motherboard outside of its protective packaging, ensure that there is no static electric charge in your body.

2. There is a danger of explosion if the battery is incorrectly replaced. Replace only with the same or an equivalent type recommended by the manufacturer.

3. Discard used batteries according to the manufacturer's instructions.

4. Never run the processor without the heatsink properly and firmly attached. PERMANENT DAMAGE WILL RESULT!

Observe the following basic precautions when handling the motherboard or other computer components:

- Wear a static wrist strap which fits around your wrist and is connected to a natural earth ground.

- Touch a grounded or anti-static surface or a metal fixture such as a water pipe.

- Avoid contacting the components on add-on cards, motherboards, and modules with the *golden fingers* connectors plugged into the expansion slot. It is best to handle system components by their mounting brackets.

The above methods prevent static build-up and cause it to be discharged properly.

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Handling Precautions

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Overview

The new 1stMainboard® AN19E/AN19Cô is an ATX sized motherboard supporting the latest generation of AMD®processors at industry leading speeds. By utilizing DDR (Double Data Rate) transfer rate the 100/133 MHz system bus effectively reaches Front Side Bus speeds of 200/266/333 MHz. The board provides users with an ATA133 data transaction for hard drives and has 3 PC1600/PC2100/PC2700 DDR333 DIMMs for up to 3 GB.

The optional serial ATA feature replaces the standard parallel ATA physical storage interface and allows future enhancements to the computing platform. It completely software compatible with parallel ATA, requiring no mofication to your operating system.The board is equipped with 2 dual channeled enhanced PCI bus master IDE connectors, plus two optional IDE RAID ATA133 connectors for supporting more efficient data backup.

The board is based around the high performance VIA KT400ô as North Bridge and the VIA VT8235ô as South Bridge. Its AGP 8X functions supported AGP 3.0 interface and the most robust 3D games with software environments. The AGP slot allows 1.5 volt AGP card only and Maximum AGP interface bandwith 2.1 GB/s.

Package Checklist

If you discover any item below was damaged or lost, please contact your vendor.

☑ The mainboard ☑ This user manual

☑ FDD cable ☑ Drivers CD ☑ ATA-66/100 cable

☐ RAID ATA-100 cable (optional)

☐ USB cable (optional) ☐ I/O shield (optional)

☐ Game port cable (optional) ☐ SPD650 cable (optional)

☐ Serial ATA cable (optional) ☐ Bluetooth module (optional)
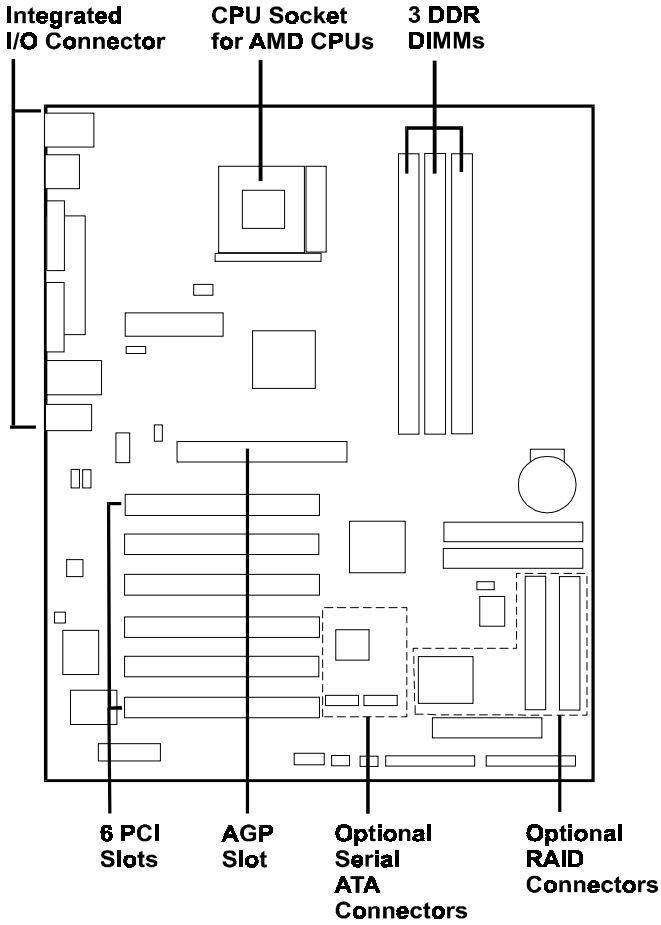
IMPORTANT: AMD CPU HEAT SINK INSTALLATION

Be ware finish heat sink install. Before you boot system, please check the heat sink is complete contact with die of CPU.

The poor contact will bring about over heat, it may damage your processor.

It is strongly recommended that at least a 250-watt ATX power pupply be used for this motherboard. Make sure that your ATX power supply can supply at least 20 amperes on teh +5-Volt lead and 10mA on the +5-Volt standby lead (+5VSB). Your system may become unstable / unreliable and may experience difficulty in powering up if your power supply is inadequate.

The AN19E/AN19C Mainboard

Integrated
I/O Connector

CPU Socket
for AMD CPUs

3 DDR
DIMMs

6 PCI
Slots

AGP
Slot

Optional
Serial
ATA
Connectors

Optional
RAID
Connectors

Main Features

■ Easy Installation

BIOS with support for Plug and Play, auto detection of IDE hard drives, LS-120 drives, IDE ZIP drives, Windows 98SE, Windows ME, Windows NT, Windows 2000, Windows XP, and OS/2.

■ Leading Edge Chipset

VIA KT400 is a single-chip North Bridge for AMD CPUs with 200/266/333 MHz Front Side Bus with AGP 8X and PCI plus advanced memory controller that supports PC1600/PC2100/PC2700 DDR SDRAM. VIA VT8235 is a Vlink client highly integrated controller that supports PC99-compliant system. The VT8235 supports ATA133 protocol.

■ Versatile Main Memory Support

Accepts up to 3 GB DRAM using three DDR333 DIMMs from 256 MB to 3 GB with support for lightenning-fast (PC1600/PC2100/PC2700) DDR SDRAM .

■ AMD Processors Support

The socket A compatible AMD Athlonô XP processor 1500+ to 2000+, 600MHz to 1.4GHz AMD Athlonô and AMD Duronô processor up to 1.3GHz.

■ Optional IDE RAID Level 0/1 Support

The optional Promise IDE RAID controller and two connectors offer ATA100 and Level 0, 1 for backing up huge amount data in a more efficient way.

■ Enhanced PCI Bus Master IDE Controller with UltraDMA/33/66/100/ 133 Support

Integrated Enhanced PCI Bus Master IDE controller features two dual-channel connectors that up to four Enhanced IDE devices, including CD-ROM and Tape Backup Drives, as well as Hard Disk Drives supporting the new UltraDMA/133 Mode 6 protocol, standard PIO Mode 3, PIO Mode 4, DMA Mode 2, DMA Mode 4, UltraDMA/100 Mode 5 devices are also supported.

■ AGP and PCI Expansion Slots

One AGP Bus and six PCI Bus expansion slots provided the room to install a full range of add-on cards.

■ Compact Onboard Audio Subsystem

Built-in AC97 digital audio by Realtek ALC650 (5.1 channel) that complaint with AC97 2.2 specification. It provides 5.1-channel which is slot selectable DAC (Digital Analog Converter) output for multi-channel applications. It also supports digital SPDIF functions.

■ Super Multi Input/Output (I/O) Support

Integrated Plug and Play multi-I/O chipset features two high-speed UART 16550 compatible serial ports, one EPP/ECP capable parallel port, one game port, and one FDD connector.

■ Convenient Rear Panel USB Connection Support

Four USB 2.0 ports integrated in the rear I/O panel and two extra USB 2.0 ports for either front or rear panel connection allow convenient and high-speed Plug and Play connections to the growing number of USB 2.0 compliant peripheral devices on the market.

■ Onboard Accelerated Graphics Port (AGP)

The motherboard is installed one 32-bit **1.5V** AGP 8X bus with a dedicated 66MHz/133MHz path from the graphics card to the system memory offering much greater bandwidth than the 32-bit PCI bus does. AGP enabled 3D graphics cards can directly access main memory across this fast path instead of using local memory.

■ LAN Support (optional)

Onboard optional LAN controller with one optional jack integrated with other rear panel I/O connectors provides users with a convenient connection with network environment. The integrated 10/100MB fast Ethernet controller in chipset with external VIA VT6103ô physical Layer by RJ-45 connector.

Chapter 1
Overview

■ IDE RAID Support (optional)
The optional feature allows this board to back up huge amount data in an economic way. The chip on this board is a PCI-to-IDE UDMA/ATA133 RAID controller and designed for mainboard use. It offers features that of level 0, 1, 0+1 and supports the most popular operating systems, such as Windows 95/98/ME/NT 4.0/2000/XP and Linux.

■ Serial ATA Support (optional)
The optional feature offers up to Serial ATA device for replacing the parallel ATA interface and providing greater throughput. It supports current operating systems, software, and all ATA and ATAPI devices including high capacity removable devices, optical devices, tape storage devices, and zip drives.

Installation

The mainboard has several user-adjustable jumpers on the board that allow you to configure your system to suit your requirements. This chapter contains information on the various jumper settings on your mainboard.

To set up your computer, you must complete the following steps:

- ?
- ? ■ Step 1 - **Set system jumpers**
- ? ■ Step 2 - **Install memory modules**
- ? ■ Step 3 - **Install the Central Processing Unit (CPU)**
- ? ■ Step 4 - **Install expansion cards**
- ? ■ Step 5 - **Connect ribbon cables, cabinet wires, and power**
- ?   **supply**
- ? ■ Step 6 - **Set up BIOS software**
- ? ■ Step 7 - **Install supporting software tools**

WARNING: Excessive torque may damage the mainboard. When using an electric screwdriver on the mainboard, make sure that the torque is set to the allowable range of 5.0 ~ 8.0kg/cm.

Mainboard components contain very delicate Integrated Circuit (IC) chips. To prevent static electricity from harming any of the sensitive components, you should follow the following precautions whenever working on the computer:

1. Unplug the computer when working on the inside.
2. Hold components by the edges and try not to touch the IC chips, leads, or circuitry.
3. Wear an anti-static wrist strap which fits around the wrist.
4. Place components on a grounded anti-static pad or on the bag that came with the component whenever the components are separated from the system.

Mainboard Layout

Easy Installation Procedure

The following must be completed before powering on your new system:

CPU Installation

Jumper Settings

System Memory Configuration

Device Connectors

External Modem Ring-in Power ON and Keyboard Power ON

Functions (KBPO)

STR Function

CPU Overheating Protection

CPU Installation

CPU Insertion: (use AMD Athlon^{TM} as reference)

Step 1

Open the socket by raising the actuation lever.

Step 2

Insert the processor.
Ensure proper pin 1 orientation by aligning the FC-PGA corner marking with the socket corner closest to the actuation arm tip. The pin field is keyed to prevent mis-oriented insertion. Do not force processor into socket. If it does not go in easily, check for mis-orientation and debris.

Make sure the processor is fully inserted into the socket on all sides.

Step 3

Close the socket by lowering and locking the actuation lever.

Thermal compound and qualified heatsink recommended by AMD are a must to avoid CPU overheat damage. For more information about installing your CPU, please refer to the AMD website article socket A AMD processor and Heatsink Installation Guide" **http://www.amd.com/products/cpg/athlon/pdf/23986.pdf.**

Jumper Settings

JBAT

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

JCK1

| CPU Host Clock Select |
| --- |
| 1-2: BIOS Setting (Default) |
| 2-3: 133MHz |

System Memory Configuration

Memory Layout

The mainboard accommodates three PC1600/2100/2700 184-pin DIMMs (Dual In-line Memory Modules):

- Supports up to 3.0GB of 200/266/333MHz DDR SDRAM

- Supports up to 1GB per DIMM with maximum memory size up to 3GB (refer to Table 1)

- Supports DDR 200/266/333 unregistered 184-pin non-ECC DDR SDRAM DIMMs

- Supports configurations defined in the JEDEC DDR DIMM specification

NOTE: Use DDR SDRAM (Double-Data-Rate Synchronous DRAM) modules only.

The figure and table below show several possible memory configurations.

DDR DIMM 1	Bank 0/1	DDR
DDR DIMM 2	Bank 2/3	Synchronous DRAM
DDR DIMM 3	Bank 4/5	
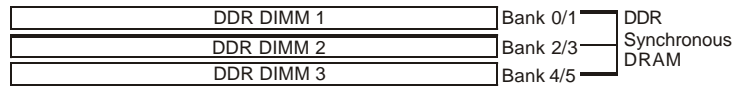
Total Memory	DDR DIMM 1 (Bank 0/1)	DDR DIMM 2 (Bank 2/3)	DDR DIMM 3 (Bank 4/5)
= 1GB Maximum	DDR SDRAM* 64MB, 128MB, 256MB, 512MB, 1GB* X 1	None	None
= 2GB Maximum	DDR SDRAM* 64MB, 128MB, 256MB, 512MB, 1GB* X 1	DDR SDRAM* 64MB, 128MB, 256MB, 512MB, 1GB* X 1	None
= 3GB Maximum	DDR SDRAM* 64MB, 128MB, 256MB, 512MB, 1GB* X 1	DDR SDRAM* 64MB, 128MB, 256MB, 512MB, 1GB* X 1	DDR SDRAM* 64MB, 128MB, 256MB, 512MB, 1GB* X 1

* DDR SDRAM supports 64, 128, 256, 512MB and 1GB DIMM
modules using 512Mb technology.

NOTES:
- DO NOT MIX the unbuffered and registered DDR SDRAM
on DIMM1, DIMM2 and DIMM 3 socket.
- Using non-compliant memory with higher bus speeds
(overclocking) may severely compromise the integrity of the
system.

DIMM Module Installation

DIMMs have 184 pins and one notch that matches with the DDR
DIMM socket. DIMM modules are installed by placing the chip
firmly into the socket and pressing straight down until the white
clips close and the module fits tightly into the DIMM socket.

**To remove the DIMM module press down the white clips
and the module is released from the socket.**

**FAN1 / FAN2 / FAN3:
CPU/Chassis/Power Fan Power Connectors**

FAN1:
CPU Fan

GND
+12V
Rotation

FAN2:
Chassis Fan

GND
+12V
Rotation

FAN3:
PW Fan

— GND
— +12V
— NC
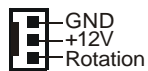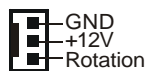
WOL1: WOL (Wake On LAN) Connector
Reserved for an NIC (Network Interface Card) to wake the system
from power saving mode.

PME
GND
+5V Standby
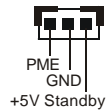
IDE1/2:   Ultra DMA-66/100/133 Primary/Secondary IDE
Connector (Blue)

IDE3/4:   Ultra DMA-66/100/133 & RAID Primary/Secondary IDE
Connector (Red) (Optional)
Supported by the HPT372 chipset

FDD1:   Floppy Controller Connector (Black)

PW1:   ATX Power Connector
(20-pin power connector)

GAME1: Game Port Connector

CD1: CD Audio_IN Connector

CD_IN_Right
CD_Reference
1   CD_IN_Left
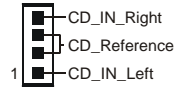
AUX1: Auxiliary Line_IN Connector

AUX_IN_Right
GND
1   AUX_IN_Left
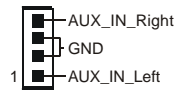
AUD2: Front Panel Audio Connector

When headphones are plugged into the front panel headphone jack, the rear panel audio output connectors are disabled.

If the front panel interface board is not connected to the front panel audio header, short pins 5 - 6 and 9 -10 on the front panel audio header.

If these pins are not shorted, the rear panel audio connectors are inoperative.

Settings
Pins (5-6) & (9-10) Short (default): Only the Onboard Rear Audio Speaker can be used.
Pins (5-6) & (9-10) Open: Only Front Panel Audio Speaker can be used.

MIC_In   GND
          5V
Speaker_Out_R   Speaker_Out_R1
Speaker_Out_L   Speaker_Out_L1
9   10
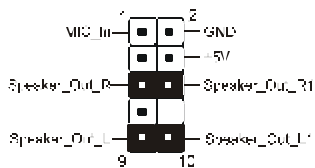
SPDIF1: Sony/Philips Digital InterFace

This connector is the digital link between the mainboard and your audio devices, such as CD player, sampler or DAT recorder. It allows the digital transmission of audio data in SPDIF format.

```
         6   5
GND ———■ ■——SPDIF_IN
 NC ——— ■ ■
SPDIF_OUT——■ ■——VCC
         2   1
```
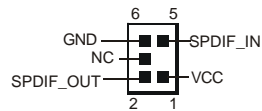
SATA1 / SATA2: (Optional)
1.5Gbps serial ATA Connectors

SATA1 and SATA2 enable you to connect two serial ATA devices that conform to the Serial ATA specification.

Serial ATA supports all ATA and ATAPI devices, including high capacity removable devices, optical devices, tape storage devices, and zip devices.

USB3: USB port header for two USB2.0 ports. The USB3 is used to connect bluetooth module for wireless connection.

```
       1     6
VCC —— ■ ■
          ■——GND
-Data —— ■ ■
+Data —— ■ ■—— +Data
          ■ ■—— -Data
GND ┌—— ■ ■—— VCC
       5     10
```

2-9
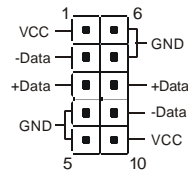
USB port header pin descriptions.

PIN#	Wire color	Signal Name	Comment
1	Red	Vcc	Cable Power
2	White	-Data	Data
3	Green	+Data	Data
4	Black	Ground	Cable Ground
5	Black	Ground	Case Ground
6	Black	Ground	Case Ground
7	Black	Ground	Cable Ground
8	Green	+Data	Data
9	White	-Data	Data
10	Red	Vcc	Cable Power

LED1: 80 Port Debug LED (Optional)

80 Port Debug 7-segment LED display.

CAUTION !

Please make sure the USB cable has the same pin assignment. The different pin assignment may be caused damage of system.

◆ **Power On/Off**

This is connected to the power button on the case. Using the Soft-Off by Pwr-BTTN feature, you can choose either Instant Off (turns system off immediately), or 4 sec delay (push the button for 4 seconds before the system turns off). When the system is in 4 sec delay mode, suspend mode is enabled by pushing the button momentarily.

◆ **Turbo LED indicator**

◆ **IDE LED indicator**

LED on when onboard PCI IDE Hard disks are being accessed.

◆ **IR Connector**

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

◆ **Power LED**

Power LED connector
1. Power LED(+)   4. NC
2. N/C   5. GND
3. GND

External Modem Ring Power ON and Keyboard Power ON Functions (KBPO)

Modem Ring Power ON Function

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

Keyboard Power ON Function

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

Step : Use the Keyboard Power ON function (KBPO) to turn on the system by using password, or hot key combination as set in the BIOS IRQ/Event Activity Detect submenu of Power Management Setup menu. The BIOS default setting is keyboard <Ctrl> + <F1>. To power off the system, use the soft-OFF function under Windows 2000/98/95 (refer to Windows online help).

NOTES:

- Intel ATX version 2.0 specification recommends you use a power supply that supplies >=1.0 A in 5 VSB. However, this mainboard supports a 5 VSB standby power supply > = 0.1A (100mA).

  We recommend you use the power supply with 1.0 A in 5 VSB, which supports PCI 2.2 specification for remote power-on and wake-up functions.

STR (Suspend To RAM) Function

This mainboard supports the STR (Suspend To RAM) power management scheme by maintaining the appropriate power states in the DDR SDRAM interface signals. The power source to the DDR SDRAM must be kept active during STR (ACPI S3). Advanced Configuration Power Interface (ACPI) provides many Energy Saving Features for operating systems that support Instant ON and QuickStart™ function.

1. Use the STR functionality to save system power, you are recommended to confirm the following requirements:
    a. Install ACPI qualified add-on cards (such as AGP, LAN, and modem cards).
    b. In BIOS under Power Management Setup (refer to Section 4), select "ACPI Suspend Type: S3(STR)" and "USB Resume from S3: Enabled" (if you have a USB mouse or keyboard device).
    c. Install Windows® XP/2000/ME/98SE.
    d. Restart the system.
    e. Open the Control Panel Power Management application, and click the Advanced tab. In the Power buttons section, select "Stand By" from the drop-down lists.

2. To enable the STR function, click the START button and choose Shut Down. In the Shut Down Windows dialog box, select the Stand By option to enter STR mode.

The following lists the differences between STR power saving mode and Green (or Suspend) mode:

a. STR is the most advanced Power Management mode.

b. STR cuts all the power supplied to peripherals except to memory - max. power saving.

c. STR saves and keeps all on-screen data including any executed applications to DDR SDRAM.

d. In STR mode, you must push the power button (connected to the onboard J3 pin), click your USB mouse buttons, or press your USB keyboard keys to wake up your system to the last display.

CPU Overheating Protection

This board has CPU Overheating Protection when the temperature of CPU is overheating. This board supports automatically shutdown (to remove power) circuit when the CPU has reached the temperature of approximately $110^{O}C$. Meanwhile the speaker will sustaind beep and the system will not be to power on. This protection is designed by hardware, you don't need to do the BIOS setup.

To power on your system normally, we recommend you to confirm the following steps:

Step1: Unplug in the ATX power core (or turn off
        ATX power supply switch).

Step2: Please wait the beep to stop then plug in the
        ATX power core again (or turn on ATX power
        switch) to turn on your system.

Note: The CPU Overheating Protection will function only
when CPU has thermal diode design.

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Chapter 3

BIOS Setup

The mainboard comes with the chip that Award BIOS that contains the ROM Setup information of your system. (This chip serves as an interface between the processor and the rest of the mainboard components.) This section explains the information contained in the Setup program and tells you how to modify the settings according to your system configuration.

CMOS Setup Utility
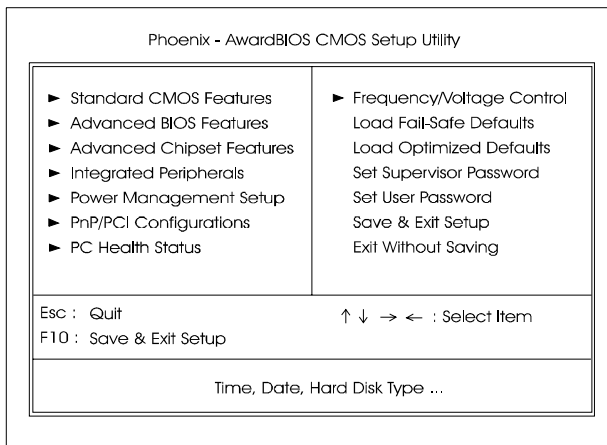
The Setup utility program allows updates to the mainboard configuration settings. The BIOS setup values will be saved in the CMOS. It is executed when the user changes system configuration; user changes system backup battery; or the system detects a configuration error and asks the user to run the Setup program. Use the arrow keys to select and press **Enter** to run the selected program.

3 - 1

Standard CMOS Setup

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

 Date  (mm:dd:yy)        Wed,  Sep.  18  2002    ┌──── Item Help ────
 Time  (hh:mm:ss)        10 :  3 :  57           │
                                                 │ Menu Level  ►
 ► IDE Primary Master                            │
 ► IDE Primary Slave                             │ Change the day, month,
 ► IDE Secondary Master                          │ year and century
 ► IDE Secondary Slave                           │
                                                 │
 Drive A                 [1.44M,  3.5 in.]       │
 Drive B                 [None]                   │
 Floppy 3 Mode Support   [Disabled]              │
                                                 │
 Video                   [EGA/VGA]               │
 Halt On                 [All Errors]            │
                                                 │
 Base Memory                    640K             │
 Extended Memory             48128K              │
 Total Memory                49152K              │

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

The Standard CMOS Setup screen is displayed above. Each item may have one or more option settings. The system BIOS automatically detects memory size, thus no changes are necessary. Use the arrow keys to highlight the item and then use **PgUp** or **PgDn** keys to select the value you want in each item.

Date

To set the date, highlight the *Date* field and then press **Page Up/Page Down** or **+/-** keys to set the current date. Follow the month, day and year format.

Time

To set the time, highlight the *Time* field and then press **Page Up/Page Down** or **+/-** keys to set the current time. Follow the hour, minute, and second format.

Hard Disks

This field records the specifications for all non-SCSI hard drives installed in the system. The onboard PCI IDE connectors provide Primary and Secondary channels for connecting up to four IDE hard disks or other IDE devices. Each channel can support up to two hard disks, the first of which is the *Master* and the second is the *Slave*.

Hard Disk Configurations

Capacity:	The hard disk size. The unit is Bytes.
Cylinder:	The cylinder number of the hard disk.
Head:	The read/write head number of hard disk.
Precomp:	The cylinder number at which the disk drive changes the write current.
Landing Zone:	The cylinder number that the disk drive heads (read/write) are seated when the disk drive is parked.
Sector:	The sector number of each track defined on the hard disk.

Drive A / Drive B

This field records the types of floppy drives installed in the system. To enter the configuration value for a particular drive, highlight its corresponding field and then select the drive type using the **left-** or **right-arrow** key.

Floppy 3 Mode Support

This is a Japanese standard floppy type drive. The standard stores 1.2MB in a 3.5 inch diskette.
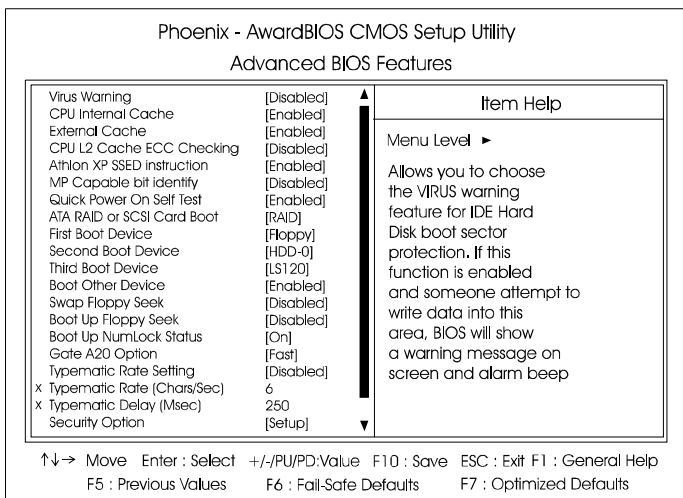
Video

Set this field to the type of video display card installed in the system.

Halt On

This field determines which types of errors will cause the system to halt.

Advanced BIOS Features

```
           Phoenix - AwardBIOS CMOS Setup Utility
                   Advanced BIOS Features

  Virus Warning                 [Disabled]  ▲          Item Help
  CPU Internal Cache            [Enabled]
  External Cache                [Enabled]      Menu Level  ►
  CPU L2 Cache ECC Checking     [Disabled]
  Athlon XP SSED instruction    [Enabled]      Allows you to choose
  MP Capable bit identify       [Disabled]     the VIRUS warning
  Quick Power On Self Test      [Enabled]      feature for IDE Hard
  ATA RAID or SCSI Card Boot    [RAID]         Disk boot sector
  First Boot Device             [Floppy]       protection. If this
  Second Boot Device            [HDD-0]        function is enabled
  Third Boot Device             [LS120]        and someone attempt to
  Boot Other Device             [Enabled]      write data into this
  Swap Floppy Seek              [Disabled]     area, BIOS will show
  Boot Up Floppy Seek           [Disabled]     a warning message on
  Boot Up NumLock Status        [On]           screen and alarm beep
  Gate A20 Option               [Fast]
  Typematic Rate Setting        [Disabled]
x Typematic Rate (Chars/Sec)    6
x Typematic Delay (Msec)        250
  Security Option               [Setup]    ▼

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

Virus Warning

During and after system boot up, any attempt to write to the boot sector or partition table of the hard disk drive halts the system and an error message appears.

You should then run an anti-virus program to locate the virus. Keep in mind that this feature protects only the boot sector, not the entire hard drive. The default is Disabled.

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

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

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

CPU Internal Cache

This controls the status of the processor's internal cache area. The default is Enabled.

Options: Enabled, Disabled.

External Cache

This controls the status of the external (L2) cache area. The default is Enabled.

Options: Enabled, Disabled.

CPU L2 Cache ECC Checking

This item allows you to enable/disable CPU L2 Cache ECC checking.

Options: Enabled, Disabled.

Athlon 4 SSED instruction

This item allows you to disable Athlon 4 new SSED instruction. The default is Enabled.

Options: Enabled, Disabled.

MP Capable bit identify

This item allows you to identify Athlon MP Processor, if this function is Enabled. The default is Disabled.

Options: Enabled, Disabled.

Quick Power On Self Test

This category speeds up the Power On Self Test (POST). The default is Enabled.

Enabled: This setting will shorten or skip of the items checked during POST.

Disabled: Normal POST.

ATA RAID & SCSI Card Boot

Setup the boot up priority either form onboard ATA RAID connector or SCSI Card, if you select SCSI as the first boot at the option below item. The default is RAID, SCSI.

Options: RAID, SCSI.

First /Second/Third/Other Boot Device

The BIOS attempts to load the operating system from the devices in the sequence selected in these items.

Options: Floppy, LS120, HDD-0, SCSI, CDROM, HDD-1, HDD-2, HDD-3, ZIP100, USB-FDD, USB-ZIP, USB-CDROM, USB-HDD, LAN, Disabled.

Boot Other Device

When enabled, the system searches all other possible locations for an operating system if it fails to find one in the devices specified under the first, second, and third boot devices. The default is Enabled.

Options: Enabled, Disabled.

Swap Floppy Drive

This will swap your physical drive letters A & B if you are using two floppy disks. The default is Disabled.

Enabled: Floppy A & B will be swapped under the O/S.

Disabled: Floppy A & B will be not swapped.

Boot Up Floppy Seek

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

Options: Enabled, Disabled.

Boot Up NumLock Status

This controls the state of the NumLock key when the system boots. The default is On.

On: The keypad acts as a 10-key pad.

Off: The keypad acts like cursor keys.

Gate A20 Option

This refers to the way the system addresses memory above 1 MB (extended memory). The default is Normal.

Normal: The A20 signal is controlled by the keyboard controller or chipset hardware.

Fast: The A20 signal is controlled by Port 92 or chipset specific method.

Typematic Rate Setting

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

Enabled: Allows typematic rate and typematic delay programming.

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

Typematic Rate (Chars/Sec)

This is the number of characters that will be repeated by a keyboard press. The default is 6.

Options: 6 ~ 30 characters per second.

Typematic Delay (msec)

This setting controls the time between the first and the second character displayed by typematic auto-repeat. The default is 250.

Options: 250/500/750/1000 msec.

Security Option

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

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

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

APIC Mode

This item allows you to enable APIC (Advanced Programmable Interrupt Controller) functionality. APIC is an Intel chip that provides symmetric multiprocessing (SMP) for its Pentium systems. The default is Disabled.

Options: Enabled, Disabled.

**Chapter 3
BIOS Setup**

MPS Version Control For OS

Specifies the Multiprocessor Specification (MPS). Version 1.4 supports multiple PCI bus configurations by incorporating extended bus definitions. Enable this for Windows NT or Linux. For older operating systems, select Version 1.1. The default is 1.4.

Options: 1.1, 1.4.

OS Select For DRAM > 64 MB

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

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

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

Video BIOS Shadow

This option allows video BIOS to be copied into RAM. Video Shadowing will increase the video performance of your system.
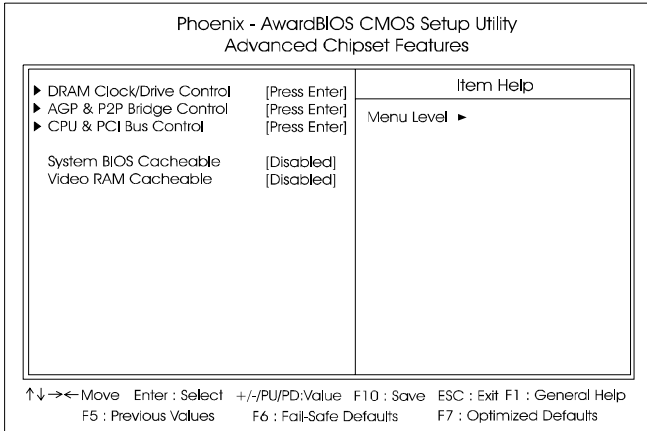
Options: Enabled, Disabled.

Full Screen LOGO Show

This option allows you determine Full Screen LOGO display when POST.

Options: Enabled, Disabled.

Advanced Chipset Features

```
           Phoenix - AwardBIOS CMOS Setup Utility
                  Advanced Chipset Features

  ▶ DRAM Clock/Drive Control   [Press Enter]        Item Help
  ▶ AGP & P2P Bridge Control   [Press Enter]
  ▶ CPU & PCI Bus Control      [Press Enter]   Menu Level  ▶

    System BIOS Cacheable      [Disabled]
    Video RAM Cacheable        [Disabled]




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

System BIOS Cacheable
This item allows the system to be cached in memory for faster execution.
The default is Enabled. Options: Disabled, Enabled.

Video RAM Cacheable
This option allows the CPU to cache read/writes of the video RAM. The
default is Enabled. Options: Disabled, Enabled.

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

System Performance
This item will help you to configure your system performance quickly and
easily.
Options: Normal, Fast, Turbo, Ultra.

*Note: If you select the higher performance, compatibility problem
could be occurred.*

DRAM Timing

For setting DRAM Timing, By SPD is follow SDRAM Serial Presence Detect
Specification.

Options: Manual, Auto by SPD.

DRAM CAS Latency

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

Options: 1.5, 2, 2.5, 3.

Bank   Interleave

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

Options: 2 Bank, 4 Bank, Disabled.

Precharge to Active (Trp)

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

Options: 3T, 2T.

Active to Precharge (Tras)

This item specifies the number of clock cycles needed after a bank active
command before a precharge can occur (sets the minimum RAS pulse width.).
The default is by DRAM SPD.

Options: 6T, 5T.

DCLKI/DCLKO Timing

Options: 0ns, 0.5ns, 1ns, 1.5ns, Auto.

Active to CMD (Trcd)

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

Options: 3T, 2T, 4T, 5T.

DRAM Burst Length

Options: 4, 8.

DRAM Queue Depth

Options: 4 level, 2 level, 3 level.

DRAM Command Rate

Setup the timing at each cycle.

Options: 1T Command, 2T Command, Auto.

Write Recovery Time

Options: 2T , 3T.

DRAM tWTR

TWTR Timing Control

Options: 1T , 3T.

▶ *AGP & P2P Bridge Control*

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

AGP Aperture Size (MB)

This item defines the size of the aperture if you use an AGP graphics adapter. It refers to a section of the PCI memory address range used for graphics memory. The default is 128 MB.

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

AGP Mode

Chipset AGP Mode support.

Options: 1X, 2X, 4X.

Chapter 3
BIOS Setup

AGP Driving Control

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

Options: Auto, Manual.

AGP Fast Write

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

Options: Enabled, Disabled.

AGP Master 1 WS Write

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

Options: Enabled, Disabled.

AGP Master 1 WS Read

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

Options: Enabled, Disabled.

DBI Output for AGP Trans.

Enables DBI output for AGP transactions.

Options: Enabled, Disabled.

▸ *CPU & PCI Bus Control*

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

PCI1/2 Master 0 WS Write

When Enabled, Writes to the PCI bus are commanded with zero wait states.

Options: Enabled, Disabled.

PCI1/2 Post Write

Enables CPU to PCI bus POST write.

Options: Enabled, Disabled.

VLink 8X Support

Enables VLink 8X support.

Options: Enabled, Disabled.

PCI Delay Transaction

The chipset has an embedded 32-bit posted write buffer to support delay transactions cycles. Select Enabled to support compliance with PCI specifica
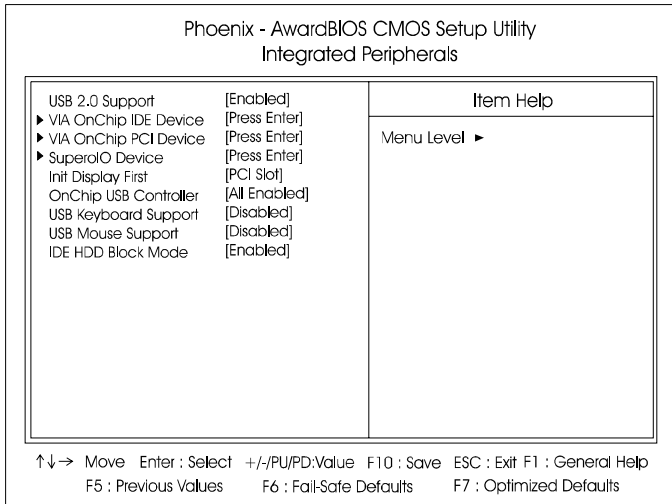
VLink 8X Support

Enables VLink 8X support.

Options: Enabled, Disabled.

PCI Delay Transaction

The chipset has an embedded 32-bit posted write buffer to support delay transactions cycles. Select Enabled to support compliance with PCI specification version 2.2.

Options: Enabled, Disabled.

Integrated Peripherals

```
                 Phoenix - AwardBIOS CMOS Setup Utility
                          Integrated Peripherals

    USB 2.0 Support          [Enabled]              Item Help
  ▶ VIA OnChip IDE Device    [Press Enter]
  ▶ VIA OnChip PCI Device    [Press Enter]     Menu Level  ▶
  ▶ SuperoIO Device          [Press Enter]
    Init Display First       [PCI Slot]
    OnChip USB Controller    [All Enabled]
    USB Keyboard Support     [Disabled]
    USB Mouse Support        [Disabled]
    IDE HDD Block Mode       [Enabled]




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

Notes:

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

- The Onboard PCI IDE cable should be equal to or less than 18 inches (45 cm.).

USB 2.0 Support

Enables the USB 2.0 support.

Options: Disabled, Enabled.

Init Display First

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

Options: PCI Slot, AGP.

Onchip USB Controller

Enables the USB controller.

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

USB Keyboard Support

Your system contains a Universal Serial Bus (USB) controller and you have a USB keyboard Device. The default is Disabled.

Options: Enabled, Disabled.

USB Mouse Support

Your system contains a Universal Serial Bus (USB) controller and you have a USB Mouse Device. The default is Disabled.

Options: Enabled, Disabled.

IDE HDD Block Mode

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

Options: Enabled, Disabled.

▶ *VIA OnChip IDE Device*

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

OnChip IDE Channel0/1

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

Options: Enabled, Disabled.

Chapter 3
BIOS Setup

IDE Prefetch Mode

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

Options: Enabled, Disabled.

Primary/Secondary Master/Slave PIO

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

Primary/Secondary Master/Slave UDMA

This allows you to select the mode of operation for the Ultra DMA-33/66/ 100/133 implementation is possible only if your IDE hard drive supports it and the operating environment includes a DMA driver (Windows 95 OSR2 or a third-party IDE bus master driver). If your hard drive and your system software both support Ultra DMA-33/66/100/133, select Auto to enable UDMA mode by BIOS or you can select mode by manual.

Options: Auto, Disabled.

CDROM UDMA Support

This allows you to select the mode of operation for the CDROM implementation is possible only if your CDROM drive supports it and the operating

▸ *VIA Onchip PCI Device*

VIA AC97 Audio

This item allows you to enable or disable the chipset family to support AC97 Audio. The system default is Enabled.

Options: Auto, Disabled.

AC97 Speaker At POST

This item allows you to decide to enable or disable AC97 Speaker At POST function. The default is Disabled.

Options: Enabled, Disabled.

Game Port Address

Select an address for the Game port.

Options: 201 (default), 209, Disabled.

Midi Port Address

Select an address for the Midi port.

Options: 290, 300, 330, Disabled (default).

Midi Port IRQ

Select an interrupt for the Midi port.

Options: 5, 10 (default).

VIA Onchip LAN (Optional)

Enables the onboard LAN feature. The default is Enabled.

Options: Enabled, Disabled.

Onboard Lan Boot ROM (Optional)

Enables and disables the onboard LAN Boot ROM. The default is Disabled.

Options: Enabled, Disabled.

High Point IDE RAID

Enables the onboard PCI device High Point IDE RAID.

Options: Auto (default), Enabled, Disabled.

Sil 3112 Serial ATA

Enables the onboard Sil 3112 serial ATA feature.

Options: Enabled, Disabled.

Serial ATA Mode

This item allows to select Serial ATA mode.

Options: IDE, RAID.

▶ *Super IO Chip Setup*

Onboard FDC Controller

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

Onboard Serial Port 1/2

Select an address and corresponding interrupt for the first and second serial ports. Options: 3F8/IRQ4, 2E8/IRQ3, 3E8/IRQ4, 2F8/IRQ3, Disabled, Auto.

UART Mode Select

This filed allows the users to configure what IR mode the 2nd serial port should use. The default is Normal.
Options: Normal, IrDA and ASKIR.

RxD, TxD Active

This field configures the receive and transmit signals generated from the IR port. The default is Hi Lo (when UART Mode Select is not set to Normal).
Options: Hi Hi, Hi Lo, Lo Hi, and Lo Lo.

IR Transmission delay

This item allows you to enabled/disable IR transmission delay.
Options: Enabled, Disabled.

UR2 Duplex Mode

This item allows you to select IR half/full duplex function.
Options: Half, Full.

Use IR Pins

This item allows you to select IR transmission routes, one is RxD2, TxD2 (COM Port) and the other is IR-Rx2Tx2.
Options: IR-Rx2Tx2, RxD2, TxD2.

Onboard Parallel Port

This field allows the user to configure the LPT port.

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

Parallel Port Mode

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

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

EPP Mode Select

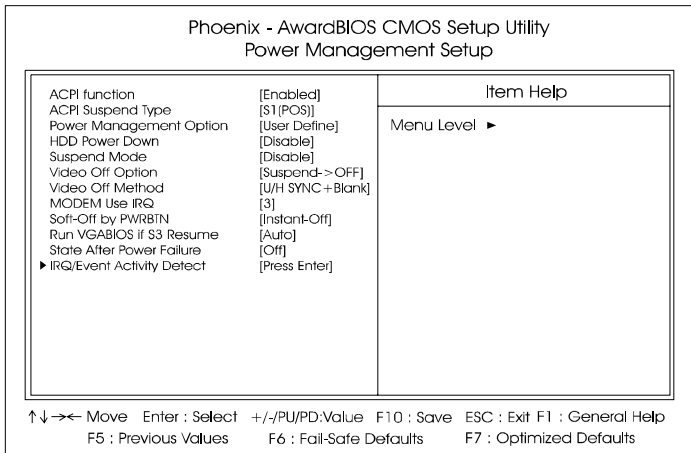This item allows you to determine the IR transfer mode of onboard I/O chip.

Options: EPP1.9, EPP1.7.

ECP Mode USE DMA

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

Options: DMA1, DMA3.

Chapter 3
BIOS Setup

Power Management Setup

```
                  Phoenix - AwardBIOS CMOS Setup Utility
                        Power Management Setup

   ACPI function                [Enabled]          Item Help
   ACPI Suspend Type            [S1(POS)]
   Power Management Option      [User Define]    Menu Level  ►
   HDD Power Down               [Disable]
   Suspend Mode                 [Disable]
   Video Off Option             [Suspend->OFF]
   Video Off Method             [U/H SYNC+Blank]
   MODEM Use IRQ                [3]
   Soft-Off by PWRBTN           [Instant-Off]
   Run VGABIOS if S3 Resume     [Auto]
   State After Power Failure    [Off]
 ► IRQ/Event Activity Detect    [Press Enter]



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

ACPI Function

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

ACPI Suspend Type

This item allows you to select S1(POS) or S3(STR) function.
Options: S1(POS), S3(STR), S1&S3.

Power Management Option

Use this to select your Power Management selection. The default is User define.

Max. saving: Maximum power savings. Inactivity period is 1 minute in each mode.

Min. saving: Minimum power savings. Inactivity period is 1 hour in each mode.

User define: Allows user to define PM Timers parameters to control power saving mode.

HDD Power Down
When enabled and after the set time of system inactivity, the hard disk drive will be powered down while all other devices remain active.
Options: Enabled, 1Min ~ 15Min.

Suspend Mode
enabled and after the set time of system inactivity, all devices except the CPU will be shut off.
Options: Enabled, 1 , 2, 4 ,6, 8, 10, 20, 30, 40Min and 1Hour .

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

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

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

MODEM Use IRQ

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

Soft-Off by PWRBTN

Pressing the power button for more than 4 seconds forces the system to enter the Soft-Off state when the system has *hung*.

The default is Instant-off.

Options: Delay 4 Sec, Instant-Off.

Run VGABIOS if S3 Resume

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

Options: Auto, Yes, No.

State After Power Failure

The system will stay of or power on after a power interrupt. The default is Off.

Off: System always stay off after a power interrupt.

On: System always power on after a power interrupt.

Auto: Stay off or power on depend on system safe shutdown or power fail.

▶ *IRQ/Event Activity Detect*

PS2KB Wakeup Select

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

Options: Hot key, Password.

PS2KB Wakeup form S3-S5

This item allows you to set a Hot Key to wake-up the system by PS2 Keyboard.

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

Note: Power and Wake are Windows98 Keyboard button.

PS2MS Wakeup form S3-S5

This item allows you to wake-up the system by PS2 Mouse.

Options: Enabled, Disabled.

USB Resume from S3

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

Options: Enabled, Disabled.

VGA

When set to On (default), any event occurring at a VGA port will awaken a system which has been powered down.

LPT & COM

When set to *On* (default), any event occurring at a COM(serial)/LPT (printer) port will awaken a system which has been powered down.

HDD & FDD

When set to *On* (default), any event occurring at a hard or floppy drive port will awaken a system which has been powered down.

PCI Master

When set to *On* (default), any event occurring to the DMA controller will awaken a system which has been powered down.

PowerOn by PCI Card

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

Wake Up On LAN/Ring

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

RTC Alarm Resume

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

▶ *IRQs Activity Monitoring*

Primary INTR

When set to *On* (default), any event occurring at will awaken a system which has been powered down.

IRQs 3-15

Allows you to set system to monitor IRQs 3-15 for activity to awaken system form a power managerment mode.

PnP/PCI Configurations

```
              Phoenix - AwardBIOS CMOS Setup Utility
                       PnP/PCI Configurations

   PNS OS Installed           [No]              Item Help
   Reset Configuration Date   [Disabled]
                                             Menu Level  ►
   Resource Controlled By     [Auto(ESCD)]
 x IRQ Resource                Press Enter    Select Yes if you are
                                              using a Plug and Play
   PCI/VGA Palette Snoop       [Disabled]     capable operating
   Assign IRQ For VGA          [Enabled]      system Select No if
   Assign IRQ For USB          [Enabled]      you need the BIOS to
   PCI Latency Timer(CLK)      [ 32 ]         configure non-boot
   INT Pin 1 Assignment        [Auto]         device
   INT Pin 2 Assignment        [Auto]
   INT Pin 3 Assignment        [Auto]
   INT Pin 4 Assignment        [Auto]

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

PNP OS Installed

Do you have a PNP OS installed on your system. The default is No.
Options: Yes, No.

Reset Configuration Data

This setting allows you to clear ESCD data. The default is Disabled

Disabled: Normal Setting.

Enabled: If you have plugged in some Legacy cards to the system and they were recorded into ESCD (Extended System Configuration Data), you can set this field to Enabled in order to clear ESCD.

Resources Controlled By

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

Manual: PNP Card's resources are controlled manually. The *IRQ Resources*

field becomes available and you can set which IRQ-X and DMA-X are assigned to PCI/ISA PNP or Legacy ISA Cards.

Auto: If your ISA card and PCI cards are all PNP cards, BIOS assigns the interrupt resource automatically.

PCI/VGA Palette Snoop

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

Assign IRQ For VGA

This item allows BIOS to assign whether IRQ is with VGA or not. If you have not connect the VGA device. Can release the IRQ for other device. The default is Enabled.
Options: Enabled, Disabled.

Assign IRQ For USB

This item allows BIOS to assign whether IRQ is with USB or not. If you
have not connect the USB device. Can release the IRQ for other device.
The default is Enabled.

Options: Enabled, Disabled.

PCI Latency Timer (CLK)

The latency timer defines the minimum amount of time, in PCI clock cycles,
that the bus master can retain the ownership of the bus.

Options: 0-255.

INT Pin1 to Pin4 Assignment

These settings allow the user to specify what IRQ will be assigned to PCI
devices in the chosen slot. The defaults are Auto.

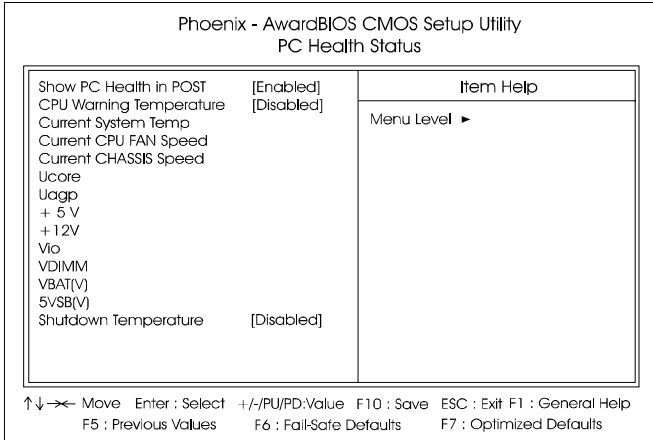Options: Auto,3,4,5,7,9,10,11,12,14 & 15.

Interrupt requests are shared as shown below:

	INT A	INT B	INT C	INT D
PCI 1	v			
PCI 2		v		
PCI 3			v	
PCI 4				v
PCI 5			v	
PCI 6				v
AGP Slot	v			
AC97/MC97			v	
Onboard USB1	v			
Onboard USB2		v		
Onboard USB3			v	
USB2.0				v
Onboard LAN (Optional)	v			
Serial ATA (Optional)			v	
RAID (Optional)		v		

IMPORTANT!

If using PCI cards on shared slots, make sure that the drivers support
Shared IRQ or that the cards donot need IRQ assignments. Conflicts will
arise between the two PCI groups that will make the system unstable or
cards inoperable.

PC Health Status

```
              Phoenix - AwardBIOS CMOS Setup Utility
                        PC Health Status

  Show PC Health in POST    [Enabled]   │        Item Help
  CPU Warning Temperature   [Disabled]  │
  Current System Temp                   │  Menu Level  ►
  Current CPU FAN Speed                 │
  Current CHASSIS Speed                 │
  Ucore                                 │
  Uagp                                  │
  + 5 V                                 │
  +12V                                  │
  Vio                                   │
  VDIMM                                 │
  VBAT(V)                               │
  5VSB(V)                               │
  Shutdown Temperature      [Disabled]  │

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

Show PC Health in POST

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

Options: Disabled, Enabled.

CPU Warning Temperature

Sets the temperature at which the computer will respond to an overheating CPU. The default is Disabled.

Options: Disabled, $50^{o}C/122^{o}F \sim 70^{o}C/158^{o}F$.

Current System Temperature

Displays the current system temperature.

Current CPU Temperature

Displays the current CPU temperature.

Current CPU/Chassis/Power FAN Speed

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

Vcore

The voltage level of the CPU(Vcore).

Vagp

The voltage level of Power supplied to AGP card.

VDIMM

The voltage level of the DRAM.

### + 5V, +12V, VBAT(V), 5VSB(V)

The voltage level of the switching power supply.

Shutdown Temperature

This is the temperature that the computer will turn off the power to combat the effects of an overheating system. (requires ACPI to be enabled in Power Management BIOS and ACPI compliant operating system.) The default is Disabled.

Options available are 60ºC/140ºF to 75ºC/167ºF in increments of 5ºC.

Frequency/Voltage Control
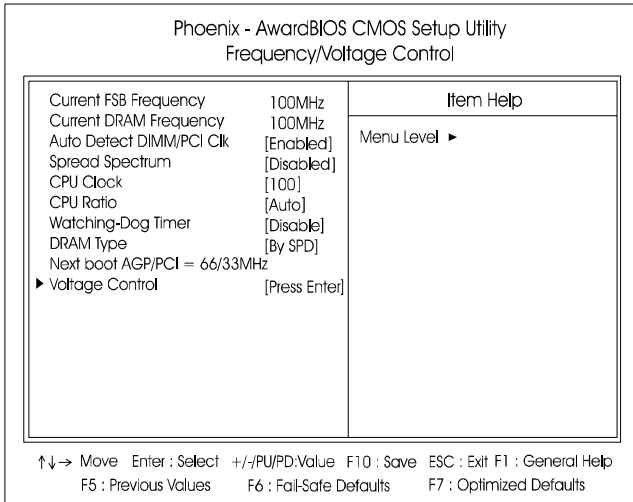
Current CPU Frequency

Diaplay the current CPU clock frequency information.

Current DRAM Frequency

Display the DRAM frequency information.

Auto Detect DIMM/PCI Clk

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

Spread Spectrum

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

Load Fail-Safe Defaults

This submenu is selected to diagnose the problem after the computer boots, if
the computer will not boot. These settings do not give optimal performance.

Load Optimized Defaults

This submenu is selected for default settings which provide the best system
performance.

Supervisor/User Password

To enable the Supervisor/User passwords, select the item from the Standard
CMOS Setup. You will be prompted to create your own password. Type your
password up to eight characters and press Enter. You will be asked to confirm
the password. Type the password again and press Enter. To disable password,
press Enter twice when you are prompted to enter a password. A message
appears, confirming the password is disabled.

Under the BIOS Feature Setup, if *Setup* is selected under the Security Option field and the Supervisor/User Password is enabled, you will be prompted password every time you try to enter the CMOS Setup Utility. If *System* is selected and the Supervisor/User Password is enabled, you will be requested to enter the Password every time when you reboot the system or enter the CMOS Setup utility.

Save and Exit Setup

After you have made changes under Setup, press Esc to return to the main menu. Move cursor to Save and Exit Setup or press F10 and then press Y to change the CMOS Setup. If you did not change anything, press Esc again or move cursor to Exit Without Saving and press Y to retain the Setup settings. The following message will appear at the center of the screen to allow you to save data to CMOS and exit the setup utility: **SAVE to CMOS and EXIT (Y/N)?**

Exit without Saving

If you select this feature, the following message will appear at the center of the screen to allow you to exit the setup utility without saving CMOS modifications: **Quit Without Saving (Y/N)?**

The Audio Driver Installing Procedures for AN19E/AN19C Users

-Under certain configurations, if auto installation does not work for audio driver.

Please install audio driver manually. The next a few steps shows you how to install the audio driver.

1). Right click **My Computer** and choose **Properties**.

2). Choose **Hardware**, and then **Device manager**.

3). Right click **? Caution Mark on PCI Multimedia Audio Device**, then select **Properties**.

4). Choose **Driver** and then **Update driver**.

5). Select **Display a list of the known drivers for those device so that I can choose a specific drive**r.

6). Choose **Browse** and **lst Utility\Audio\ALC650**.

7). Choose your operating system
    (for *Windows Me/2000/XP*, please choose **WDM**).
    (for *Windows 95/98/NT,* select **Win95/98 Gold/NT**, respectively)

8). Click on **Open**.

9). Click on **Next**.

10). Click on **OK** to start installation.