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*Industrial Micro Computers*



**User Manual**  
**IMM-A21S / A21PS / A21P2S**  
**Mobile / Box Computer**

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# Warning!

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This equipment generates, uses and can radiate radio frequency energy and if not installed and used in accordance with the instructions manual may cause interference to radio communications. It has been tested and found to comply with the limits for a Class A computing device pursuant to FCC Rules, which are designed to provide reasonable protection against such interference when operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference in which case the user at his own expense will be required to take whatever measures may be required to correct the interference.

Electric Shock Hazard – Do not operate the machine with its back cover removed. There are dangerous high voltages inside.

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# Chapter 1: Getting Started

## 1.1 Features

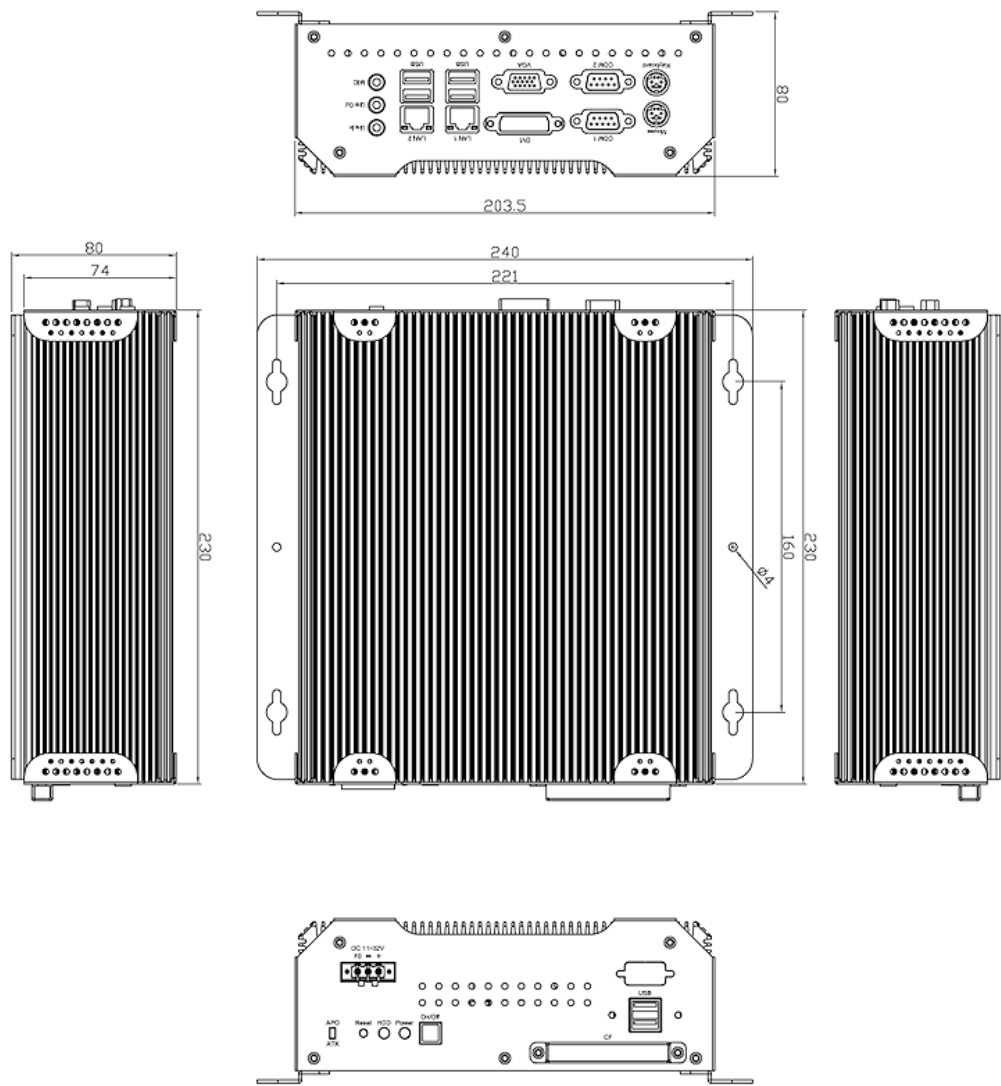
- Supports Intel® FCBGA8 45nm Atom™ N270 Processor 533 MHz
- Intel® 945GSE + ICH7-M Chipset
- Fanless design
- 1 x DDR2 SO-DIMM Socket, Support DDR2 533 up to 2GB
- 2 x 10/100 Ethernet LAN, 1 x VGA connector
- 3 x COM ports & 4 x USB ports
- 1 x 2.5" HDD space & 1 x CF External Slot
- Support 11~32V/DC Input, support AT/ATX mode

## 1.2 Specifications

Model No. Specs	IMM-A21PS	IMM-A21PS	IMM-A22P2S
CPU	Supports Intel® FCBGA8 45nm Atom™ N270 Processor 533 MHz		
Chipset	Intel® 945GSE + ICH7-M Chipset		
System Memory	1 x DDR2 SO-DIMM Socket, Support DDR2 533 up to 2GB		
Storage support	1 x 2.5" SATA HDD space and 1 x External CF Slot		
VGA	1x VGA port		
DVI	1 x 24pin DVI port		
Keyboard & Mouse	2 x PS/2 for Keyboard and Mouse Connectors		
Serial Port	2 x RS-232		
Ethernet	2 x Gigabit LAN		
USB Port	4 x USB port on the I/O side and 2 x USB on the front side		
Audio	1 x Line-in, 1 x Line-out, 1 x MIC in		
Expansion Slots	None	1 x PCI slot	2 x PCI slots
Power Input	DC 11~32V		
Watchdog Timer	Reset: 1 sec.~255 min. and 1 sec. or 1 min./step		
OS support	XP Pro, XP Embedded, Vista, 7		
Construction	Aluminum Molding & Heavy-duty steel chassis		
Color	Blue Heat sink and Black Chassis		
Mounting	Wall mount		
Dimensions (WxHxD)	203.5 x 230 x 80 mm	203.5 x 230 x 103.3 mm	203.5 x 230 x 125 mm
Net Weight	4.5kgs 4.5kgs		5kgs
Operating Temperature	0~50 °C		
Storage Temperature	-20~60 °C		
Relative Humidity	10%~95% (non-condensing)		
Certificate	Meet CE / FCC Class A		

# Chapter 1: Getting Started

## 1.3 Dimensions

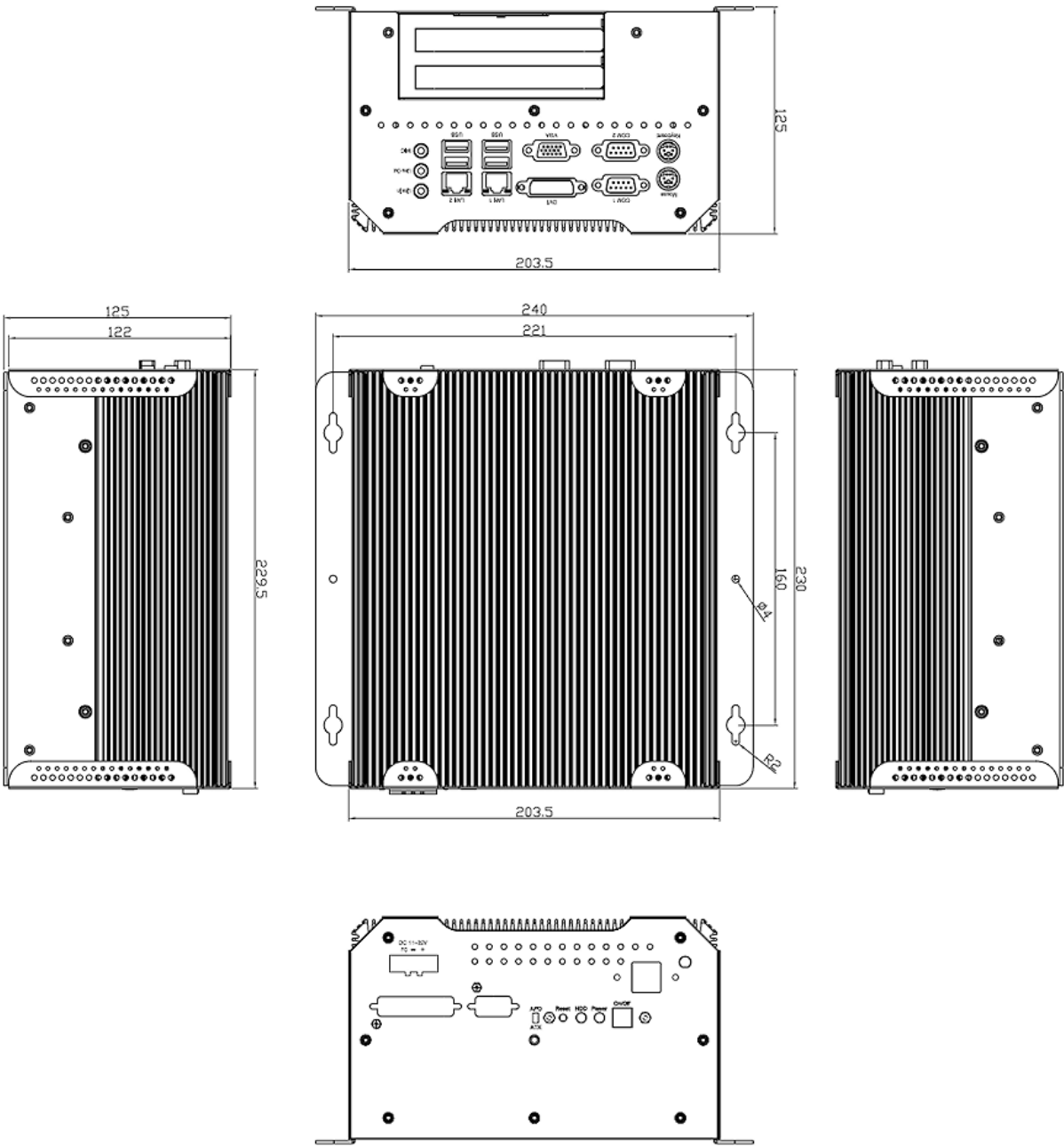


Dimensions of the IMM-A21S

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# Chapter 1: Getting Started



Dimensions of the IMM-A21P2S

# Chapter 1: Getting Started

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## 1.4 Brief Description of the IMM-A21S/A21PS/A21P2S

The IMM-A21S/A21PS/A21P2S is a power-optimized and delivers robust performance-per-watt for cost-effective embedded Box PC, powered by an Atom™ N270 processor, implemented in 45nm technology. The system supporting 6 USB 2.0 ports, 2x COM Ports, 1 x VGA, 1 x DVI, 1 x PCI slots (IMM-A21PS only) or 2x PCI slots (IMM-A21P2S only), 1 x SATA HDD, 1 x external CF slot etc. It is ideal for kiosks, POS systems, airport terminal controllers, digital entertainments, and running factory operations from small visual interface and maintenance applications to large control process applications. The IMM-A21(Px)S works very well along with any of our Display Monitor series. It absolutely can provide an easy way to perform control and field maintenance. It comes with a DC11~32V wide-ranging power input.



**Front and Rear View of the IMM-A21P2S**

## 1.5 Safety Precautions

Follow the messages below to avoid your systems from damage:

- Avoid your system from static electricity on all occasions.
- Prevent electric shock. Don't touch any components of this card when the card is power-on.
- Always disconnect power when the system is not in use.
- Disconnect power when you change any hardware devices. For instance, when you connect a jumper or install any cards, a surge of power may damage the electronic components or the whole system.



## Chapter 2: Hardware Installation

### 2.1 Installing PCI Add-on Cards

#### 2.1.1 Removing bottom cover

Use screwdriver to remove the bottom cover 27 screws. Keep them safely for later use.



#### 2.1.2 Support 1 x PCI slot (IMM-A21PS only) Support 2 x PCI slots (IMM-A21P2S only)

Shown in the picture are the one PCI expansion slots for add-on. The location of the 1 x PCI expansion slot card is found by the side of the rail.



#### 2.1.3 Insert the PCI Card

Now slide an add-on into the slot of the PCI as circled in the picture and making sure the golden part of the card is evenly aligned with the slot of the PCI. Then carefully push the card deep into the slot.



#### 2.1.4 Tightening PCI bracket

Now get the add-on secured by tightening the screw as circled in the picture.

\*\* Support Card size of PCI : 115 mm x 210mm



#### 2.1.5 Finish the installation

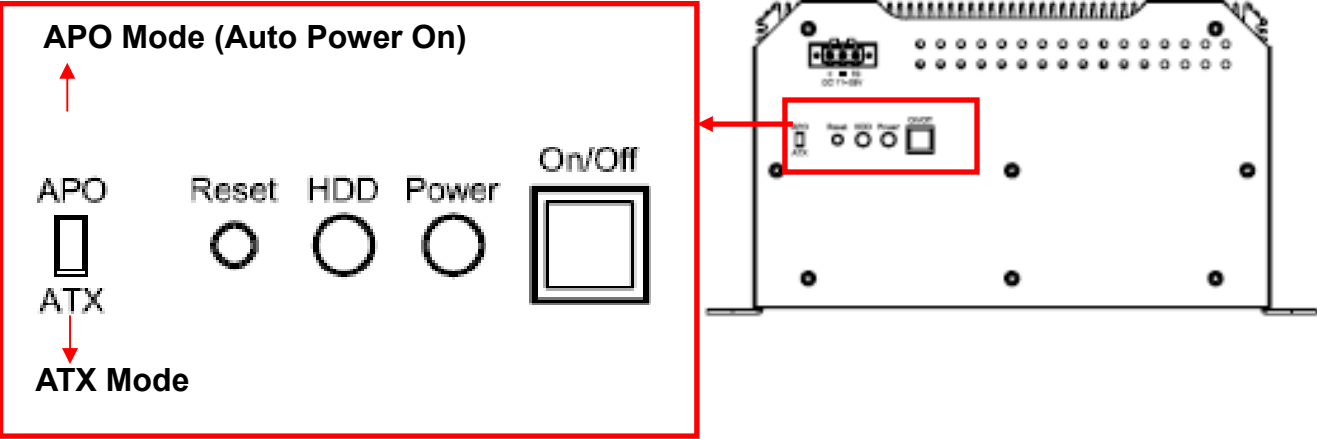
To finish the job, get the 27 screws tightened onto the chassis as shown in the picture.



# Chapter 2: Hardware Installation

## 2.2 APO/ATX Power Mode Selection

APO and ATX power modes can use on the Box PC series. Power mode flexibility allows you to select the most suitable power mode for your unique application requirements. (Default: APO)



## Chapter 3: BIOS Setup

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### 3.1 Managing and Updating your BIOS

#### 3.1.1 Creating a bootable floppy disk

1. Do either one of the following to create a bootable floppy disk.

##### DOS environment

- a. Insert a 1.44MB floppy disk into the drive.
- b. At the DOS prompt, type format **A:/S** then press <Enter>.

##### Windows® XP, Vista, 7 environment

- a. Insert a 1.44 MB floppy disk to the floppy disk drive.
- b. Click **Start** from the Windows® desktop, then select **My Computer**.
- c. Select the 3 1/2 Floppy Drive icon.
- d. Click **File** from the menu, then select **Format**  
A **Format 3 1/2 Floppy Disk** window appears.
- e. Select **Create an MS-DOS startup disk** from the format options field, then click **Start**.

##### Windows® 2000 environment

- a. Insert a formatted, high density 1.44 MB floppy disk into the drive.
- b. Insert the Windows® 2000 CD to the optical drive.
- c. Click **Start**, then select **Run**  
From the Open field, type:  
**D:\bootdisk\makeboot a:**  
assuming that D: is your optical drive.
- d. Press <Enter>, then follow screen instructions to continue.

2. Copy the original or the latest motherboard BIOS file to the bootable floppy disk.

## Chapter 3: BIOS Setup

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### 3.2 BIOS Setup Program

This motherboard supports a programmable firmware chip that you can update using the provided utility described in section “3.1 Managing and updating your BIOS.”

Use the BIOS Setup program when you are installing a motherboard, reconfiguring your system, or prompted to “Run Setup”. This section explains how to configure your system using this utility.

Even if you are not prompted to use the Setup program, you can change the configuration of your computer in the future. For example, you can enable the security password feature or change the power management settings. This requires you to reconfigure your system using the BIOS Setup program so that the computer can recognize these changes and record them in the CMOS RAM of the firmware hub.

The firmware hub on the motherboard stores the Setup utility. When you start up the computer, the system provides you with the opportunity to run this program.

Press <Del> during the Power-On-Self-Test (POST) to enter the Setup utility; otherwise, POST continues with its test routines.

If you wish to enter Setup after POST, restart the system by pressing <Ctrl+Alt+Delete>, or by pressing the reset button on the system chassis. You can also restart by turning the system off and then back on. Do this last option only if the first two failed.

The Setup program is designed to make it as easy to use as possible. Being a menu-driven program, it lets you scroll through the various sub-menus and make your selections from the available options using the navigation keys.



- The default BIOS settings for this motherboard apply for most conditions to ensure optimum performance. If the system becomes unstable after changing any BIOS settings, load the default settings to ensure system compatibility and stability. Select the **Load Default Settings** item under the Exit Menu. See section “3.7 Exit Menu.”
- The BIOS setup screens shown in this section are for reference purposes only, and may not exactly match what you see on your screen.

## Chapter 3: BIOS Setup

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### 3.2.1 Legend Box

The keys in the legend bar allows you to navigate through the various setup menus.

Key(s)	Function Description
F1	General help, only for Status Page Setup Menu and Option Page Setup Menu
Esc	Return to the main menu from a sub-menu or prompts you to quit the setup program
←, →	Move to the item in the left or right hand
↑, ↓	Move to previous or next item
Enter	Brings up a selection menu for the highlighted field
+ or PgUp	Moves the cursor to the first field
- or PgDn	Moves the cursor to the last field
F5	Loads the previous values
F6, F7	Loads the fail-safe / optimized defaults
F10	Saves changes and exits Setup

### 3.2.2 List Box

This box appears only in the opening screen. The box displays an initial list of configurable items in the menu you selected.

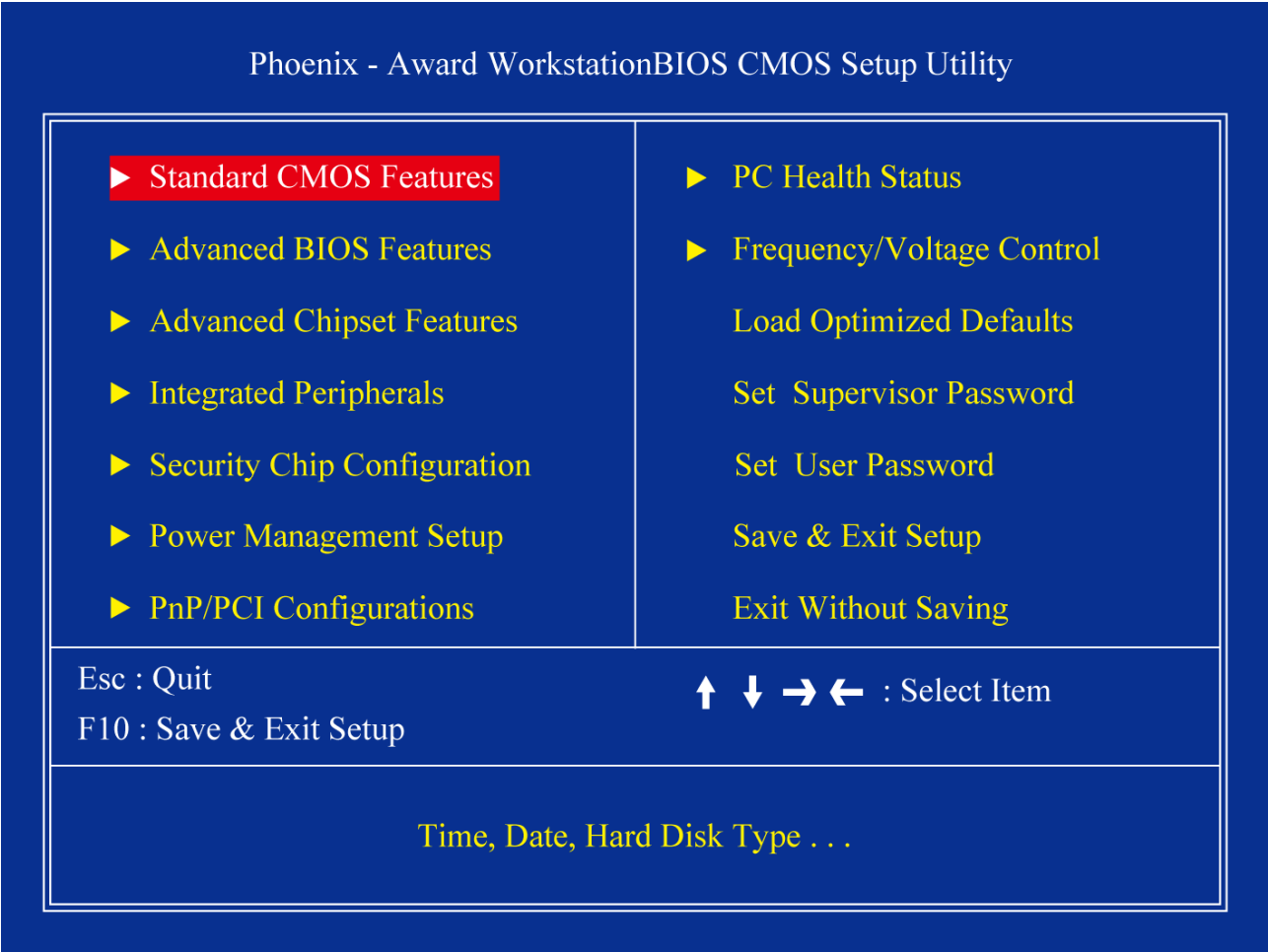
### 3.2.3 Sub-menu

Note that a right pointer symbol (►) appears to the left of certain fields. This pointer indicates that you can display a sub-menu from this field. A sub-menu contains additional options for a field parameter. To display a sub-menu, move the highlight to the field and press <Enter>. The sub-menu appears. Use the legend keys to enter values and move from field to field within a sub-menu as you would within a menu. Use the <Esc> key to return to the main menu. Take some time to familiarize yourself with the legend keys and their corresponding functions. Practice navigating through the various menus and submenus. If you accidentally make unwanted changes to any of the fields, press <F6> to load the fail-safe default values. While moving around through the Setup program, note that explanations appear in the Item Specific Help window located to the right of each menu. This window displays the help text for the currently highlighted field.

# Chapter 3: BIOS Setup

## 3.3 BIOS Menu Screen

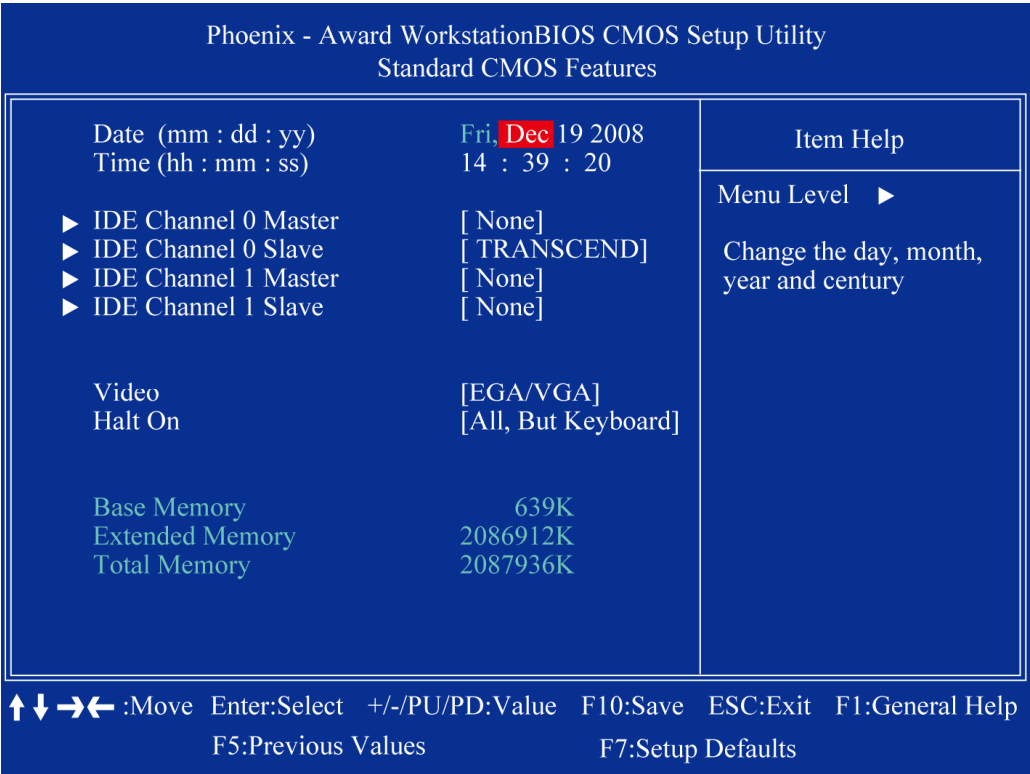
When you enter the BIOS, the following screen appears. The BIOS menu screen displays the items that allow you to make changes to the system configuration. To access the menu items, press the up/down/right/left arrow key on the keyboard until the desired item is highlighted, then press [Enter] to open the specific menu.



# Chapter 3: BIOS Setup

## 3.3.1 Standard CMOS Features

The Standard CMOS Features screen gives you an overview of the basic system.



### Date [Day, xx/xx/xxxx]

The date format is <week>, <month>, <day>, <year>.

### Time [xx:xx:xx]

The time format is <hour> <minute> <second>, based on the 24-hour clock.

### IDE Channel 0/1 Master / Slave

- **IDE HDD Auto-Detection**  
[Press Enter] to select this option for automatic device detection.
- **IDE Device Setup**
  - [Auto]: Automatically detects IDE devices during POST
  - [None]: Select this when no IDE device is used. The system will skip the auto-detection setup to make system start up faster.
  - [Manual]: User can manually input the correct settings.
    - Access Mode: The options are CHS/LBA/Large/Auto
    - Capacity: Capacity of currently installed hard disk
    - Cylinder: Number of cylinders
    - Head: Number of heads
    - Precomp: Write precomp
    - Landing Zone: Landing zone
    - Sector: Number of sectors

## Chapter 3: BIOS Setup

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### Video

This category detects the type of adapter used for the primary monitor that must match your video display card and monitor.

- EGA / VGA: Enhanced Graphics Adapter/Video Graphics Array. For EGA, VGA, SVGA, or PGA monitor adapters.
- CGA 40: Color Graphics Adapter, power up in 40 column mode.
- CGA 80: Color Graphics Adapter, power up in 80 column mode.
- MONO: Monochrome adapter, includes high resolution monochrome monitors

### Halt On

Sets the system to halt on errors according to the system functions specified in each option.

Configuration options: [All Errors] [No Errors] [All, But Keyboard]

### Memory

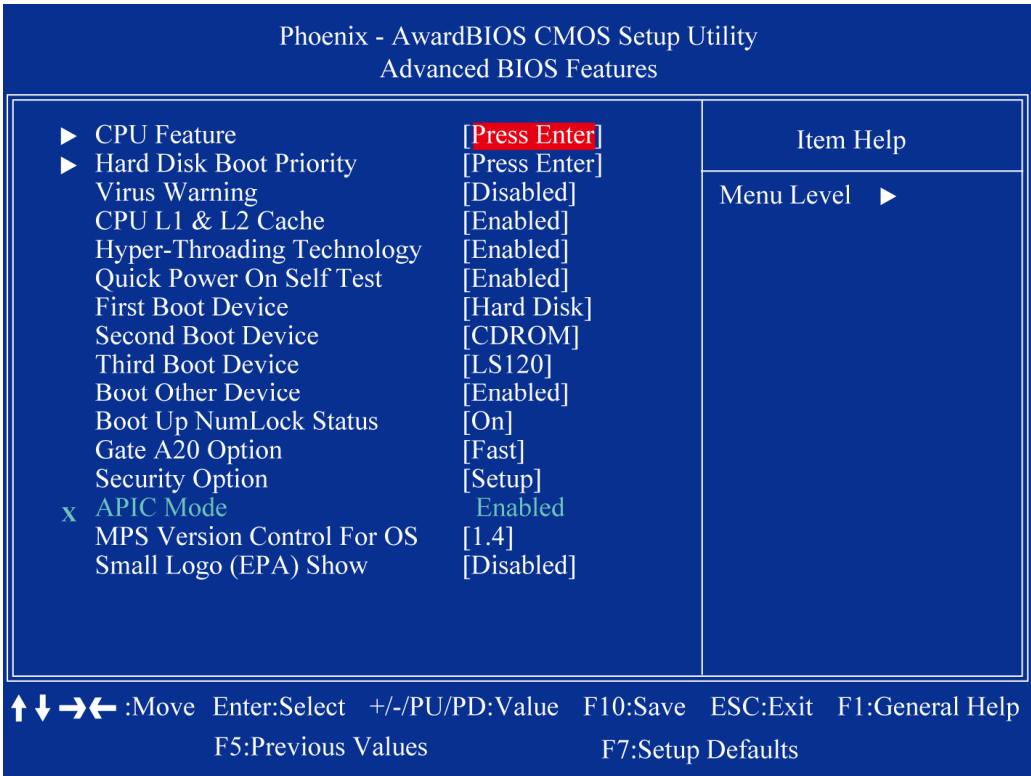
This category displays base memory, extended memory, and total memory detected during POST (Power On Self Test).



# Chapter 3: BIOS Setup

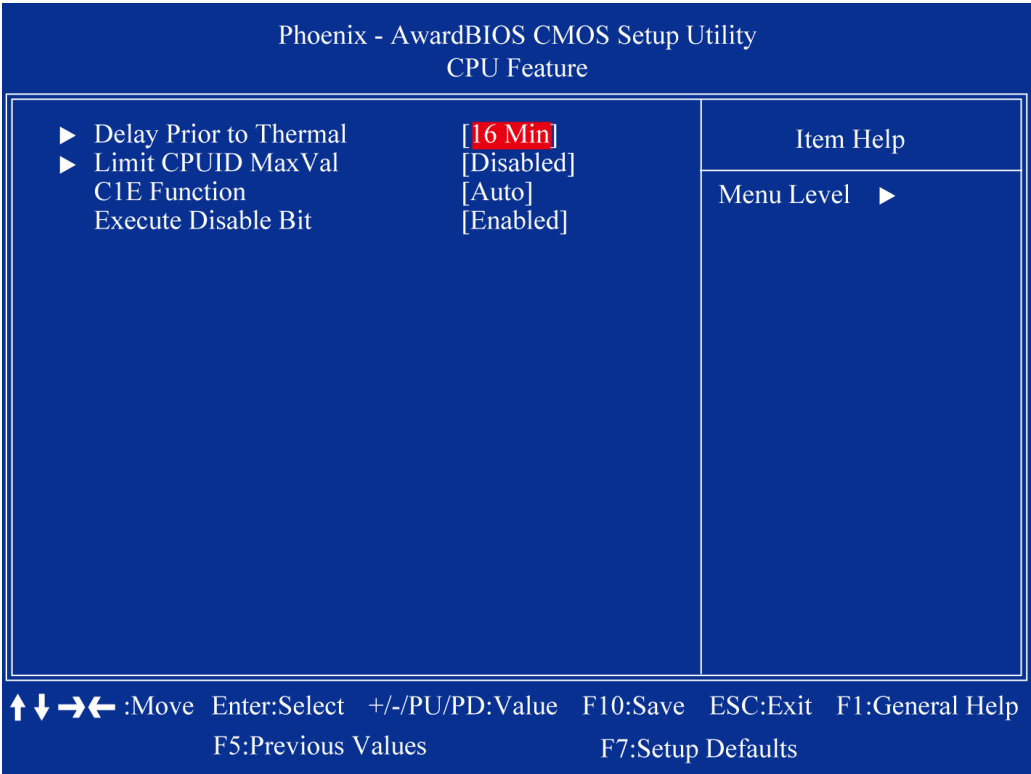
## 3.3.2 Advanced BIOS Features

The “Advanced BIOS Features” screen appears when choosing the “Advanced BIOS Features” item from the “Initial Setup Screen” menu. It allows the user to configure the IMM-A21[Px]S according to his particular requirements. Below are some major items that are provided in the Advanced BIOS Features screen. A quick booting function is provided for your convenience. Simply enable the Quick Booting item to save yourself valuable time.



# Chapter 3: BIOS Setup

## 3.3.2.1 CPU Feature



### Delay Prior to Thermal

The Delay Prior To Thermal BIOS feature controls the activation of the Thermal Monitor's automatic mode. It allows you to determine when the Pentium 4's Thermal Monitor should be activated in automatic mode after the system boots. For example, with the default value of 16 Minutes, the BIOS activates the Thermal Monitor in automatic mode 16 minutes after the system starts booting up.

### Limit CPUID MaxVal

Set Limit CPUID MaxVal1 to 3. This should be disabled for WinXP, Vista and 7

### C1E Function

CPU C1E function select

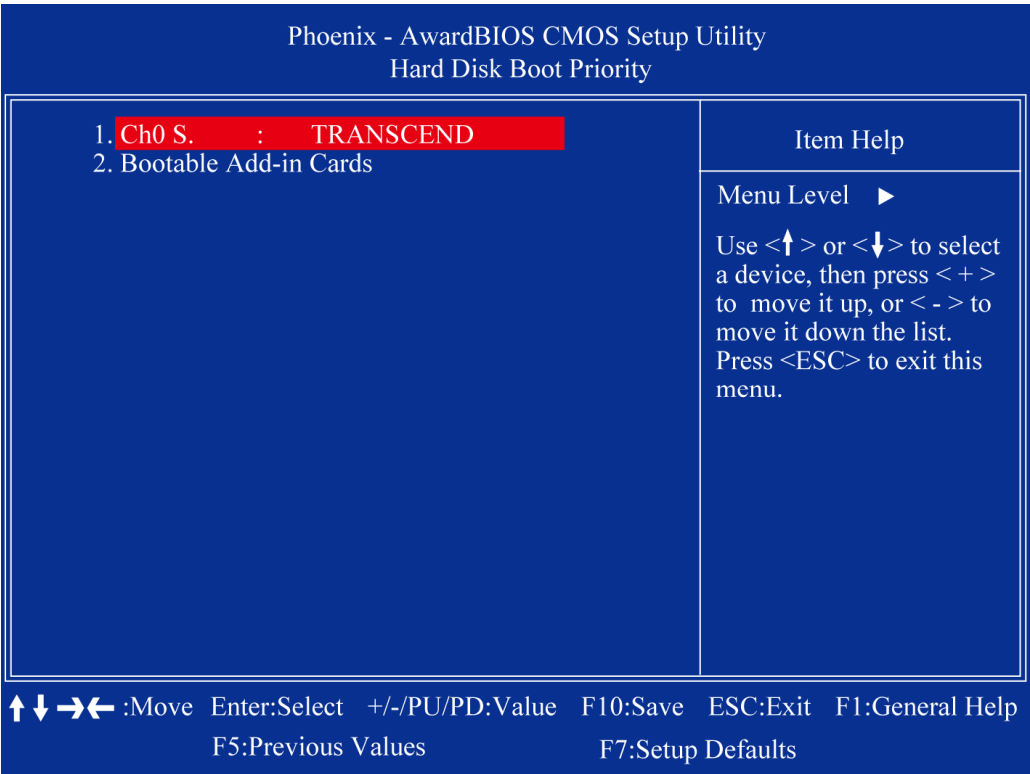
### Execute Disable Bit

When disabled, forces the XD feature flag to always return 0

# Chapter 3: BIOS Setup

## 3.3.2.2 Hard Disk Boot Priority

Set hard disk boot device priority.



### CH0 S.

Primary SATA channel with Master Device. It will show the device model type when SATA HDD or CD-ROM connected.

### Bootable Add-in Cards

"Bootable add-in cards" is an item on the HDD boot priority list.

## 3.3.2.3 Virus Warning

Enables or disables the virus warning.

- **Enable**  
Activates automatically when the system boots up causing a warning message to appear when anything attempts to access the boot sector or hard disk partition table.
- **Disable**  
No warning message will appear when anything attempts to access the boot sector or hard disk partition table.

## Chapter 3: BIOS Setup

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### CPU L1 & L2 Cache

Enabling this feature speeds up memory access.

- **Enable** Enable cache
- **Disable** Disable cache

### Hyper Threading Technology

System will detect automatically and show up when you installed the Intel® Pentium® 4 processor with HT Technology. Set to “Enabled” for faster system performance.

### Quick Power On Self Test

This allows the system to skip certain tests to speed up the boot-up procedure.

- **Enable** Enable quick POST
- **Disable** Normal POST

### First / Second / Third Boot Device

The BIOS tries to load the OS from the devices in the sequence set here. The options are:

- **LS120** LS120 Device
- **HDD** Hard Disk Device
- **CDROM** CDROM Device
- **ZIP100** ZIP-100 Device
- **USB-FDD** USB Floppy Device
- **USB-ZIP** USB ZIP Device
- **USB-CDROM** USB CDROM Device
- **USB-HDD** USB Hard Disk Device
- **Legacy LAN** Network Device
- **Disabled** Disabled any boot device

### Boot Other Device

Use this to boot another device. The options are “Enabled” and “Disabled”.

### Boot Up NumLock Status

Sets the boot up NumLock status. The options are “On” and “Off”.

- **On** EnableNumLock
- **Off** Disable NumLock

### Gate A20 Option

- **Normal** A pin in the keyboard controller controls Gate A20
- **Fast** Lets chipset control Gate A20 (Default)

# Chapter 3: BIOS Setup

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## Security Option

This category determines whether the password is required when the system boots up or only when entering setup. The options are:

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



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To disable security, select PASSWORD SETTING at Main Menu and then you will be asked to enter password. Do not type anything and just press <Enter>, it will disable security. Once the security is disabled, the system will boot and you can enter Setup freely.

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## APIC Mode

This setting allows you to enable the APIC mode. The choices are “Disabled” or “Enabled.”

## MPS Version Control for OS

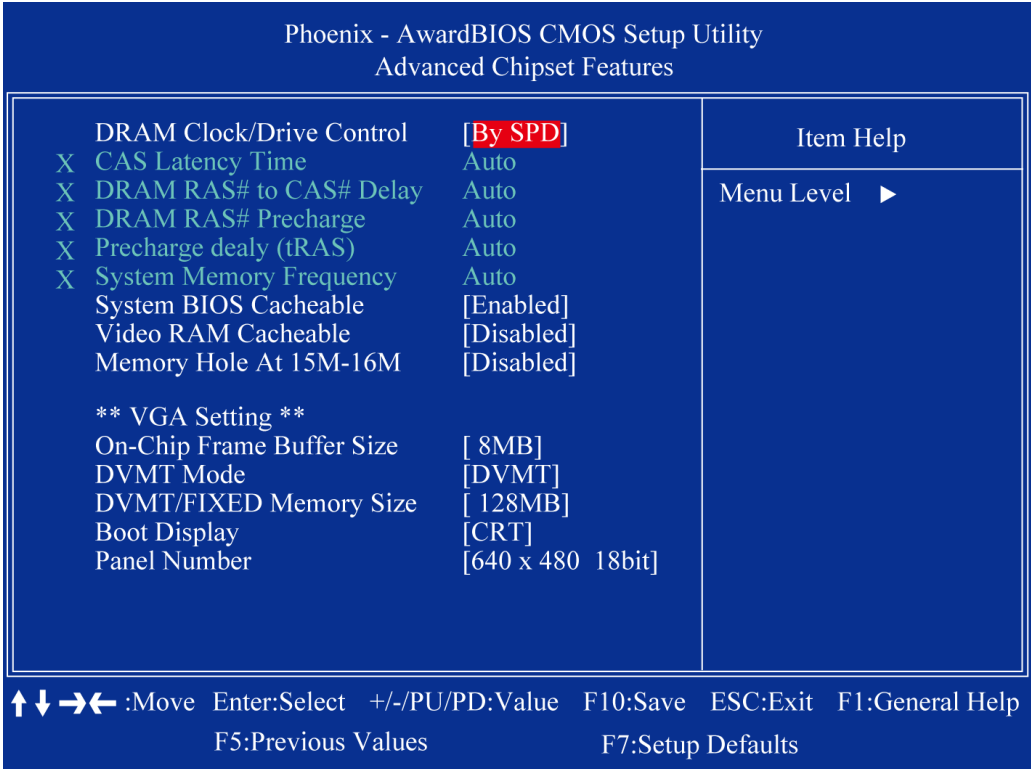
This option is only valid for multiprocessor motherboards as it specifies the version of the Multiprocessor Specification (MPS) that the motherboard will use. The MPS is a specification by which PC manufacturers design and build Intel architecture systems with two or more processors. MPS 1.1 was the original specification. MPS version 1.4 adds extended configuration tables for improved support of multiple PCI bus configurations and greater expandability in the future. In addition, MPS 1.4 introduces support for a secondary PCI bus without requiring a PCI bridge.

## Small Logo (EPA) Show

This item allows you to enable/disable the small EPA logo that is shown during POST.

# Chapter 3: BIOS Setup

## 3.3.3 Advanced Chipset Features



### DRAM Clock/Drive Control

When select to “BySPD”, the DRAM timing parameters are set according to DRAM SPD (Serial Presence Detect). When disabled, one can manually set the DRAM timing parameters through the sub items below. Set to “BySPD” if not sure.

### CAS Latency Time

Controls the latency between the SDRAM Read command and the time data actually becomes available.

### DRAM RAS# to CAS# Delay

Controls the latency between the DDR SDRAM active command and the read/write command.

### DRAM RAS# Precharge

Controls the idle clocks after issuing a precharge command to the DDRSDRAM.

### Precharge delay (tRAS)

Precharge Delay This setting controls the precharge delay , which determines the timing delay for DRAM precharge.

### System Memory Frequency

Allow to choose different frequency of memory module.

## Chapter 3: BIOS Setup

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### **System BIOS Cacheable**

Selecting "Enabled" allows caching of the system BIOS ROM at F0000h- F FFFFh, resulting in better system performance. However, if any program writes data to this memory area, a system error may occur.

### **Video BIOS Cacheable**

Selecting Enabled allows caching of the video BIOS ROM at F0000h-FFFFFh, resulting in better video performance. However, if any program writes to this memory area, a system error may result.

### **Memory Hole At 15M-16M**

Enabling this feature reserves 15 MB to 16 MB memory address space for ISA expansion cards that specifically require this setting. This makes memory from 15 MB and up unavailable to the system. Expansion cards can only access memory up to 16 MB. The default setting is "Disabled".

### **On-Chip Frame Buffer Size**

The On-Chip Frame Buffer Size can be set as 1MB or 8MB. This memory is shared with the system memory.

### **DVMT Mode**

Use this field to select the memory to allocate for video memory. The choices are "Fixed", "DVMT" and "BOTH".

### **DVMT/FIXED Memory Size**

Specify the size of DVMT/system memory to allocate for video memory.

### **Boot Display**

### **Panel Number**

# Chapter 3: BIOS Setup

## 3.3.4 Integrated Peripherals

Phoenix - AwardBIOS CMOS Setup Utility

Integrated Peripherals

▶ OnChip IDE Device	[Press Enter]	Item Help Menu Level ▶
▶ Onboard Device	[Press Enter]	
▶ Super IO Device	[Press Enter]	
Onboard Lan1 Boot ROM	[Disabled]	
Onboard Lan2 Boot ROM	[Disabled]	
Watch Dog Timer Select	[Disabled]	
Onboard Serial Port 3	[3E8]	
Serial Port 3 Use IRQ	[IRQ10]	
Onboard Serial Port 4	[2E8]	
Serial Port 4 Use IRQ	[IRQ11]	
▶ USB Device Setting	[Press Enter]	

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

### 3.3.4.1 OnChip IDE Device

Phoenix - AwardBIOS CMOS Setup Utility

OnChip IDE Device

IDE HDD Block Mode	[Enabled]	Item Help Menu Level ▶  If your IDE hard drive supports block mode select Enabled for automatic detection of the optimal number of block read/writes per sector the drive can support
IDE DMA transfer access	[Enabled]	
On-Chip Primary PCI IDE	[Enabled]	
IDE Primary Master PIO	[Auto]	
IDE Primary Slave PIO	[Auto]	
IDE Primary Master UDMA	[Auto]	
IDE Primary Slave UDMA	[Auto]	
On-Chip Secondary PCI IDE	[Enabled]	
IDE Secondary Master PIO	[Auto]	
IDE Secondary Slave PIO	[Auto]	
IDE Secondary Master UDMA	[Auto]	
IDE Secondary Slave UDMA	[Auto]	
*** On-Chip Serial ATA Setting ***		
On-Chip Serial ATA	[Auto]	

X SATA PORT Speed Settings Disabled  
X PATA IDE Mode Secondary  
SATA Port P0, P2 is Primary

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



## Chapter 3: BIOS Setup

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### **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

### **IDE DMA transfer access**

To Enable/Disable the IDE DMA transfer access

### **OnChip Primary PCI IDE**

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

### **IDE Primary/Secondary Master/ Slave PIO**

The four IDE PIO fields allow you to 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.

### **IDE Primary/Secondary Master/ Slave UDMA**

Ultra DMA/33 implementation is possible only if your IDE hard drive supports it and the operating environment includes a DMA driver (Windows 95 OS R2 or a third-party IDE bus master driver). If you hard drive and your system software both support Ultra DMA/33, select Auto to enable BIOS support

### **On-Chip Secondary PCI IDE**

Enable the secondary IDE channel

### **On-Chip SATA Controller**

To select Serial ATA mode. The choices are "Native IDE" / "RAID" / "AHCI" / "Legacy IDE".

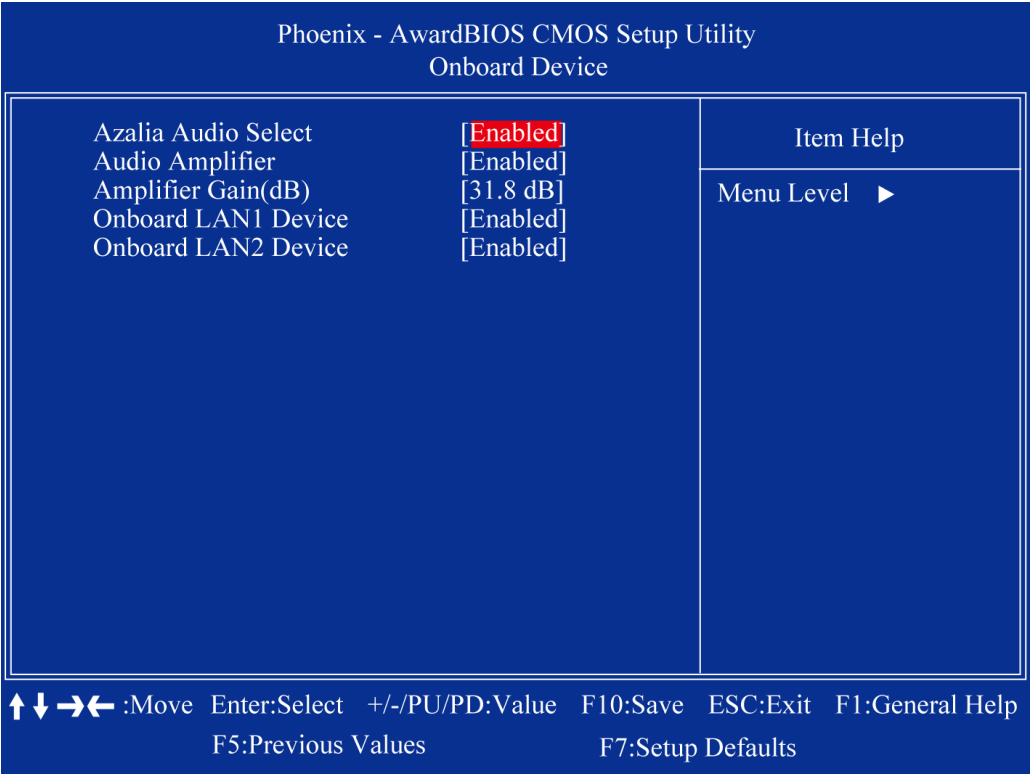
### **SATA Port Speed Settings**

### **PATA IDE Mode**

### **SATA Port**

# Chapter 3: BIOS Setup

## 3.3.4.2 Onboard Device



### Azalia Audio Select

Select [Disabled] if you do not want to use Azalia audio.  
Configuration options: [Auto] [Disabled]

### Audio Amplifier

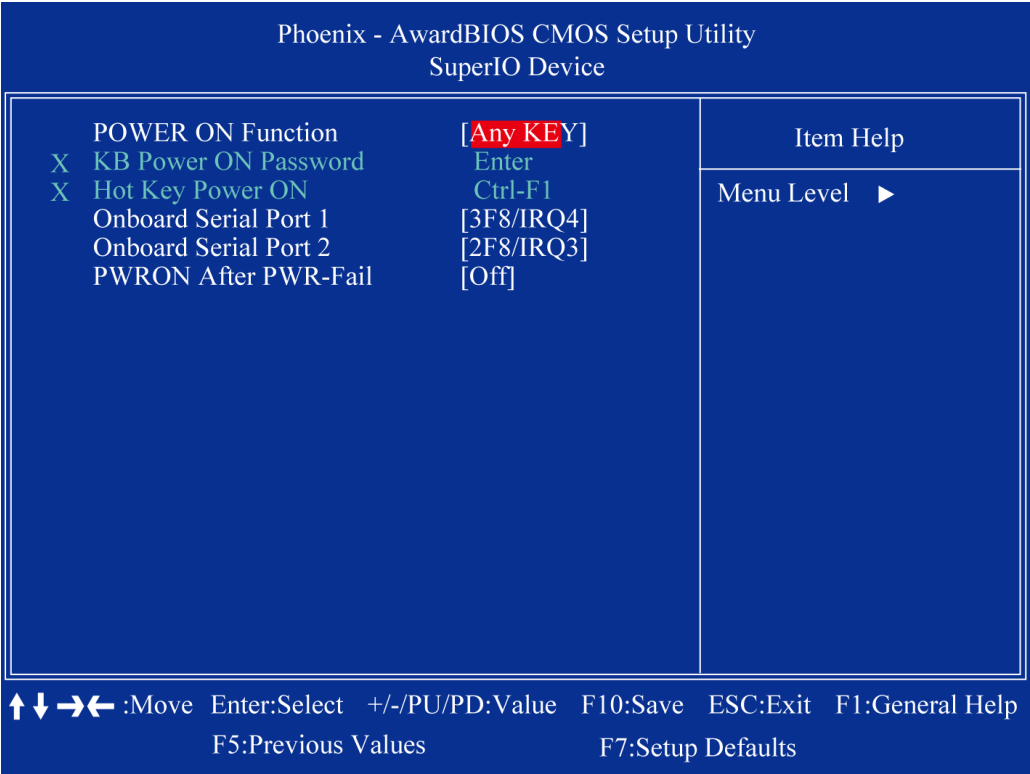
### Amplifier Gain(dB)

### Onboard LAN1 Device

### Onboard LAN2 Device

# Chapter 3: BIOS Setup

## 3.3.4.3 SuperIO Device



### POWER ON Function

#### KB Power ON Password

The system will ask for a password, after entering the correct password the keyboard can then be used.

#### Hot Key Power ON

Awaken the system by pressing the hot key button. The choices are “Ctrl-F1”, “Ctrl-F2”, “Ctrl-F3” to “Ctrl-F8”.

#### Onboard Serial Port 1/2

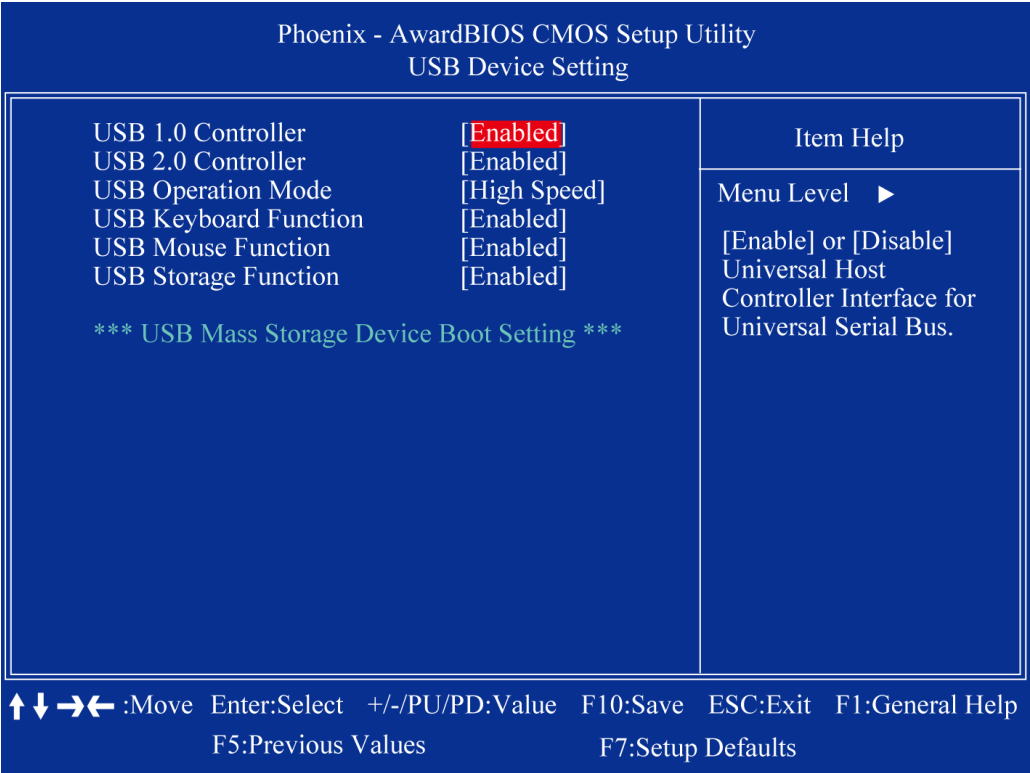
The settings are “3F8/IRQ4”, “2F8/IRQ3”, “3E8/IRQ4”, “2E8/IRQ3”, and “Disabled” for the on-board serial connector.

#### PWRON After PWR-Fail

This item allows you to select if you want to power on the system after power failure. The choice: Off, On, Former-Sts.

# Chapter 3: BIOS Setup

## 3.3.4.4 USB Device Setting



### USB Controller

This should be enabled if your system has an USB installed on the system board and you want to use it. Even when so equipped, if you add a higher performance controller, you will need to disable this feature

### USB 2.0 Controller

Enable the USB 2.0 controller

### USB Keyboard Support

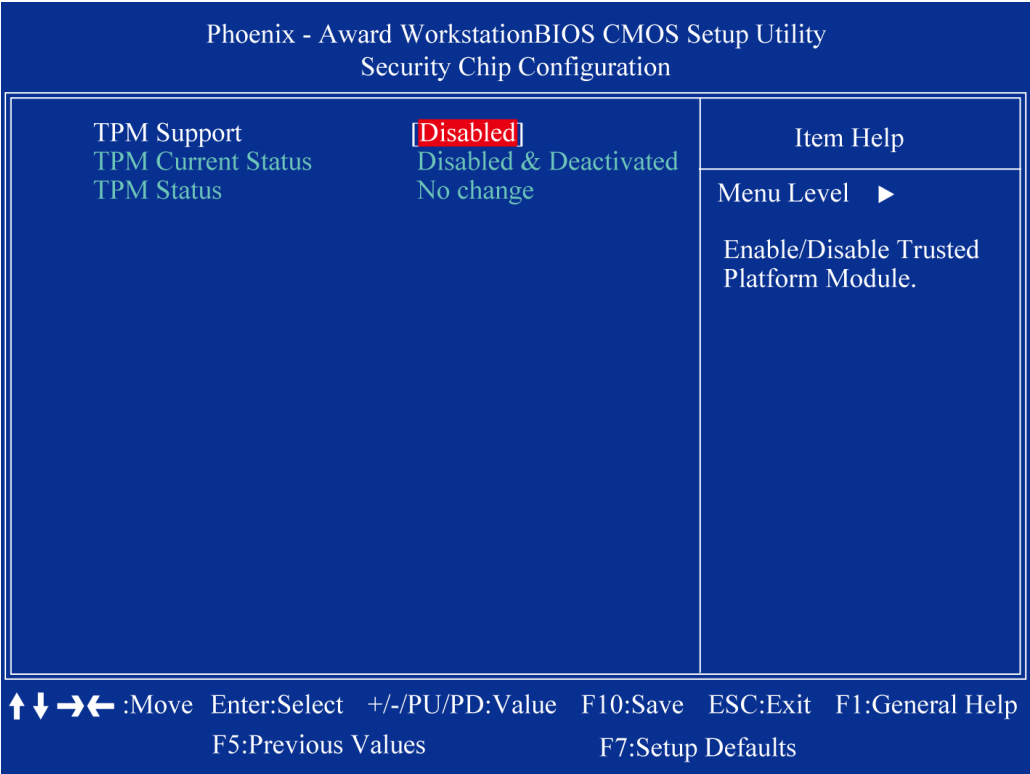
Select Enabled if your system contains a Universal Serial Bus (USB) controller and you have an USB keyboard.

### USB Mouse Support

Select an address and corresponding interrupt for the first and second serial ports

# Chapter 3: BIOS Setup

## 3.3.5 Security Chip Configuration



### TPM Support

The choices are “Enabled” and “Disabled”.

### TPM Current Status

This item shows you the current TPM status.

### TPM Status

The choices are “No Change” / “Clear” / “Enable & Activate” / “Deactivate & Disable”.

# Chapter 3: BIOS Setup

## 3.3.6 Power Management Setup

The power management setup controls the single board computer's “green” features to save power.



### ACPI Function

The choices are “Enabled” and “Disabled”.

### ACPI Suspend Type

This item allows you to set ACPI suspend type to S1/POS(Power On Suspend) or S3/STR(Suspend To RAM).

### Run VGABIOS if S3 Resume

Select “Auto” to run VGA BIOS if S3 resume automatically. The “Yes” enables running VGA BIOS if S3 resume. The “No” disables this function.

### Power Management

There are three selections for Power Management, and each of them has fixed mode settings.

- **Min. Power Saving** Minimum power management, HDD Power Down = 15 Min
- **Max. Power Saving** Maximum power management, HDD Power Down =1 Min
- **User Defined** Allows you to set each mode individually. When not disabled, each of the ranges are from 1 min. to 1 hr. except for HDD Power Down which ranges from 1 min. to 15 min. and disable.

### Video Off Method

Use this to select the method to turn off the video. The choices are “Blank Screen”, “V/H SYNC+ Blank”, and “DPMS”.

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### **Video Off In Suspend**

When the system is in suspend mode, the video will turn off. The choices are "No" and "Yes".

### **Suspend Mode**

Selects the suspend type. The options are "PWRON Suspend" and "Stop Grant".

### **Soft-Off by PWR-BTTN**

If you choose "Instant-Off", then pushing the ATX soft power switch button once will switch the system to "system off" power mode. You can choose "Delay 4 sec". If you do, then pushing the button for more than 4 seconds will turn off the system, whereas pushing the button momentarily (for less than 4 seconds) will switch the system to "suspend" mode.

### **Wake-up by PCI Card**

The choices are "Enabled" and "Disabled".

### **Power On by Ring**

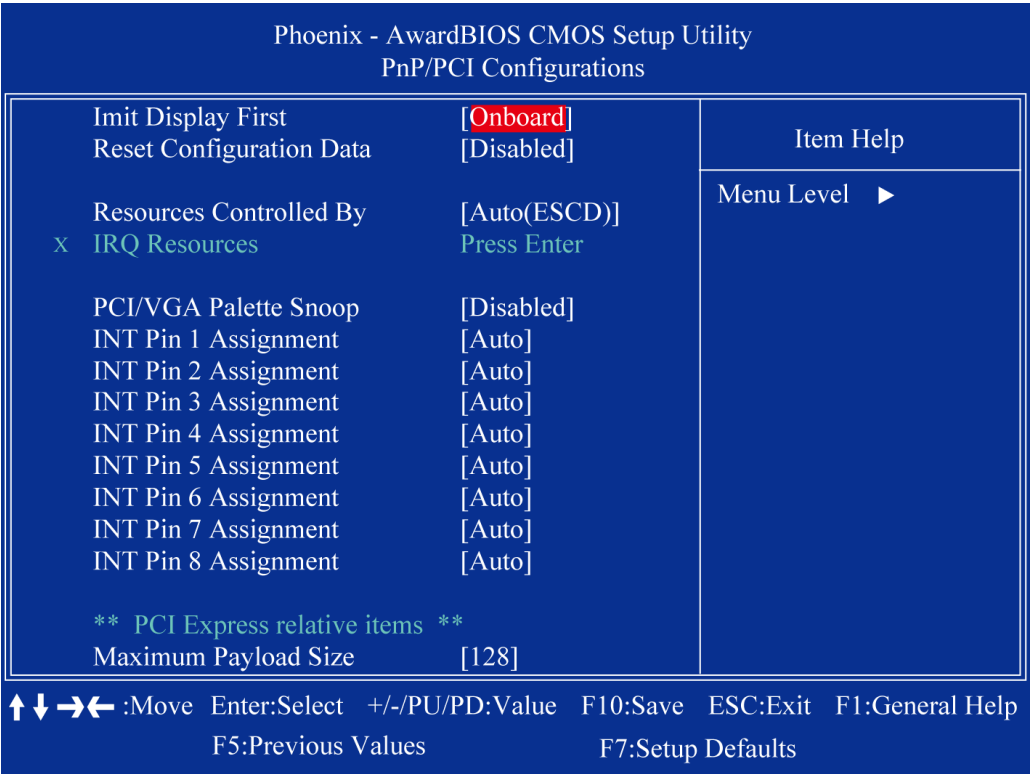
### **USB KB Wake-up From S3**

### **Resume by Alarm**

When *Enabled*, you can set the date and time at which the RTC (real-time clock) alarm awakens the system from Suspend mode.

# Chapter 3: BIOS Setup

## 3.3.7 PnP/PCI Configurations



### Imit Display First

### Reset Configuration Data

The default is “Disabled”. Select Enabled to reset Extended System Configuration Data (ESCD) if you have installed a new add-on card, and system configuration is in such a state that the OS cannot boot.

### Resources Controlled By

The commands here are “Auto(ESCD)” or “Manual”. Choosing “Manual” requires you to choose resources from the following sub-menu. “Auto(ESCD)” automatically configures all of the boot and Plug and Play devices, but you must be using Windows 95 or above.

### PCI/VGA Palette Snoop

This is set to “Disabled” by default.

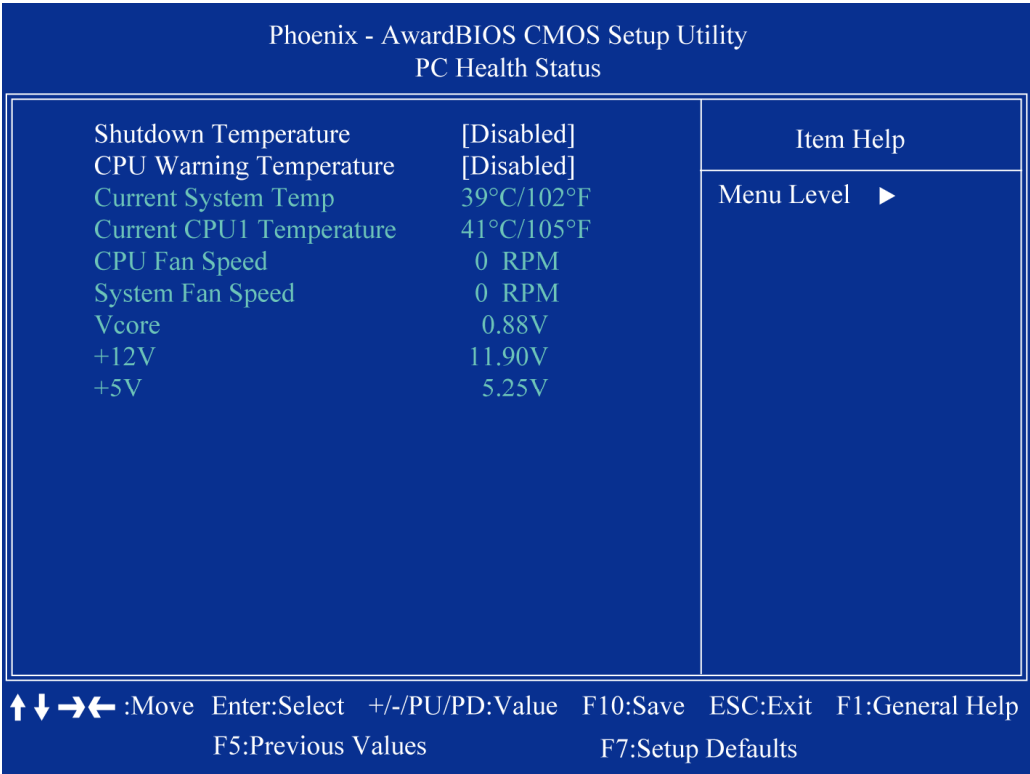
### Maximum Payload Size

This allows you to set the maximum TLP payload size for PCI Express devices. The options are [128 bytes], [256 bytes], [512 bytes], [1024 bytes], [2048 bytes], and [4096 bytes].



# Chapter 3: BIOS Setup

## 3.3.8 PC Health Status



### Shutdown Temperature

### CPU Warning Temperature

### Current SYSTEM Temperature

This item shows you the current system temperature.

### Current CPU1 Temperature

This item shows you the current CPU temperature.

### CPU Fan Speed

This item shows you the current CPU fan speed.

### System Fan Speed

This item shows you the current system fan speed.

### Vcore

This item shows you the current Vcore voltage value.

### +12V

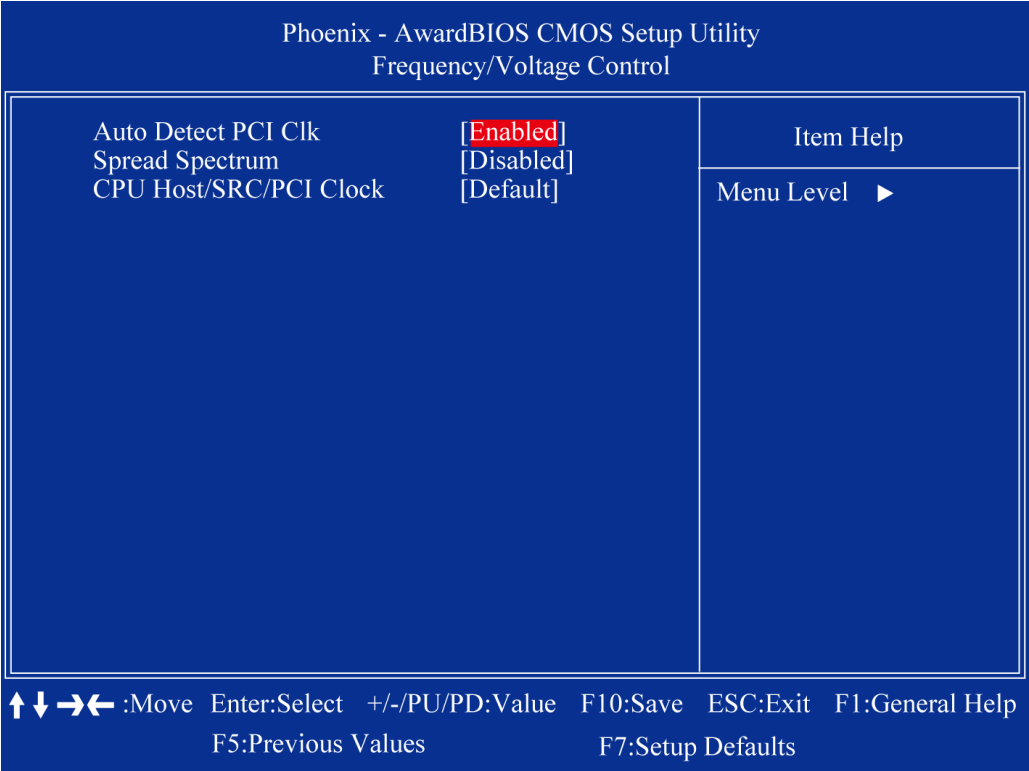
This item shows you the current +12V voltage value.

### +5V

This item shows you the current +5V voltage value.

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## 3.3.9 Frequency/Voltage Control



### Auto Detect PCI Clk

This allows you to enable or disable auto detect PCI clock. The choices are “Enabled” and “Disabled”.

### Spread Spectrum

This setting allows you to reduce EMI by modulating the signals the CPU generates so that the spikes are reduced to flatter curves. This is achieved by varying the frequency slightly so that the signal does not use any particular frequency for more than a moment. The choices are “Disabled” and “Enabled”.

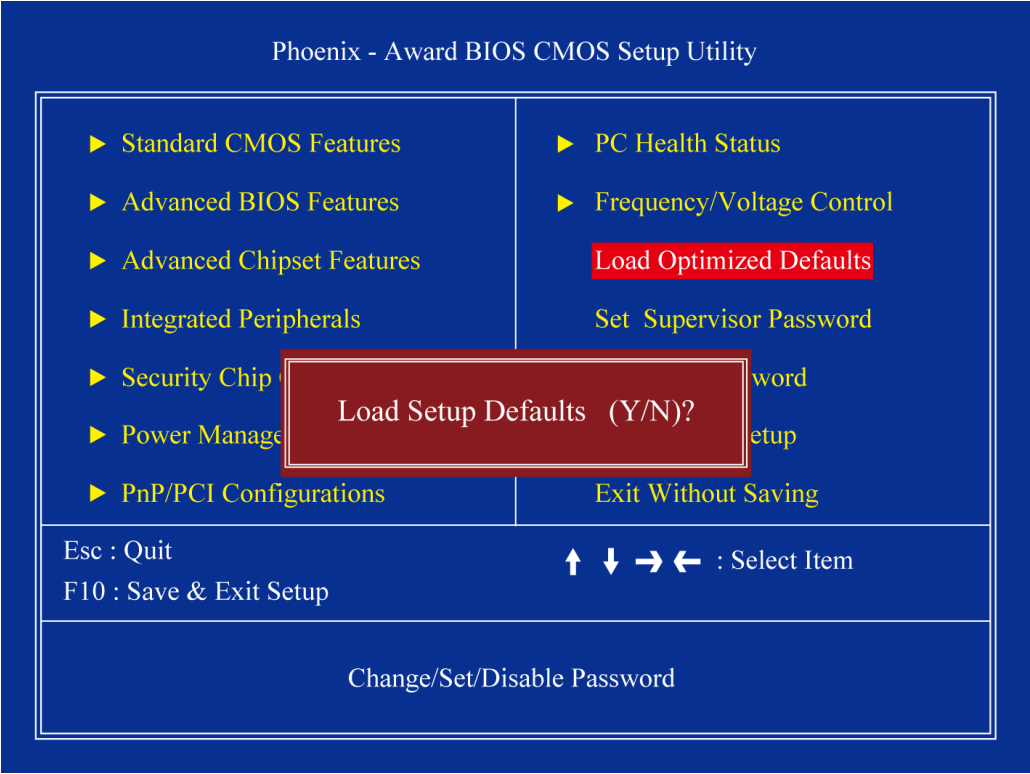
### CPU/Host/SRC/PCI Clock

The choice: 100

# Chapter 3: BIOS Setup

## 3.3.10 Load Optimized Defaults

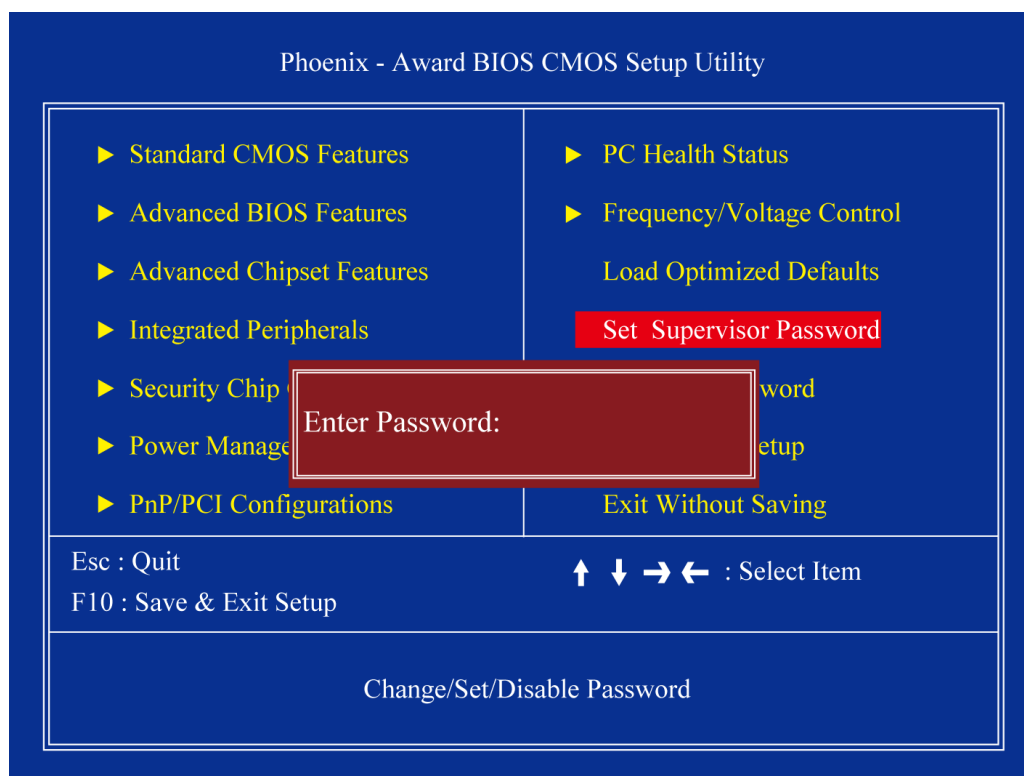
Use this menu to load the BIOS default values for the minimal/stable performance for your system to operate. Press <Y> to load the BIOS default values for the most stable, minimal-performance system operations.



## Chapter 3: BIOS Setup

### 3.3.11 Set Supervisor Password

You can set the supervisor password to be able to enter/change the options of setup menus.



Follow these steps to change the password.

- Choose the “Set Supervisor Password” option from the “Initial Setup Screen” menu and press <Enter>. The screen displays the following message:
- Please Enter Your Password
- Press <Enter>.
- If the CMOS is good and this option has been used to change the default password, the user is asked for the password stored in the CMOS. The screen displays the following message:

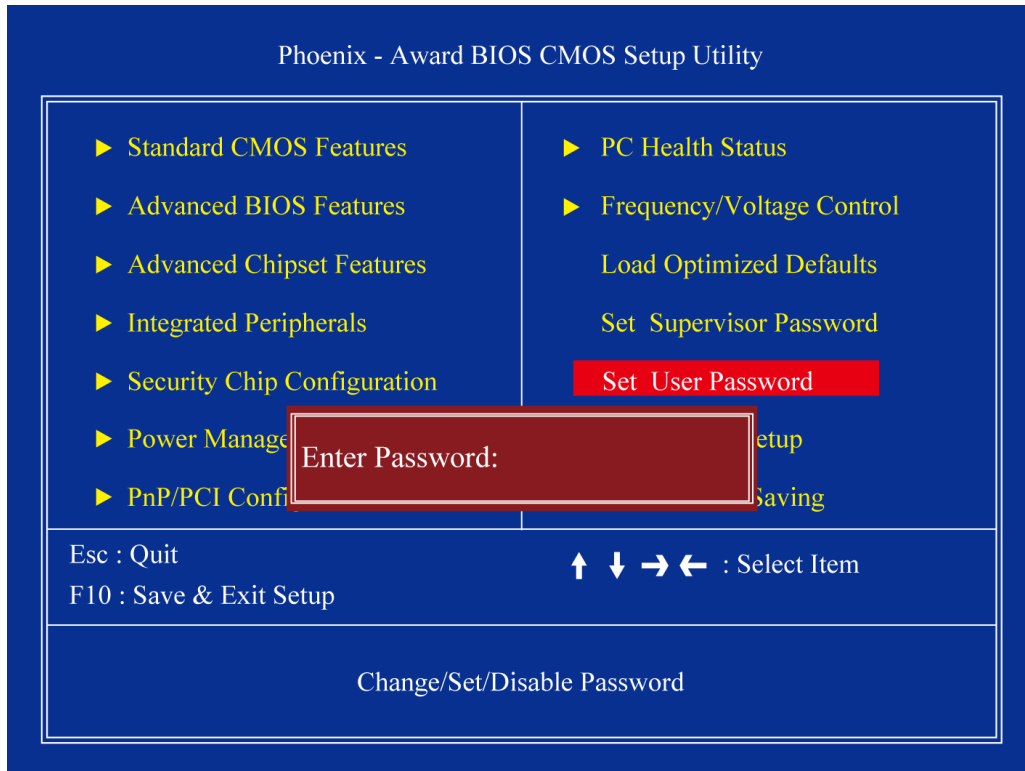
#### **Please Confirm Your Password**

- Type the current password and press <Enter>.
- After pressing <Enter> (ROM password) or the current password (user-defined), you can change the password stored in the CMOS. The password must be no longer than eight (8) characters. Remember, to enable the password setting feature, you must first select either “Setup” or “System” from the “Advanced BIOS Features” menu.

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### 3.3.12 Set User Password

You can set the user password to be able to enter/change the options of setup menus.



Follow these steps to change the password.

- Choose the “Set User Password” option from the “Initial Setup Screen” menu and press <Enter>. The screen displays the following message:
- Please Enter Your Password
- Press <Enter>.
- If the CMOS is good and this option has been used to change the default password, the user is asked for the password stored in the CMOS. The screen displays the following message:

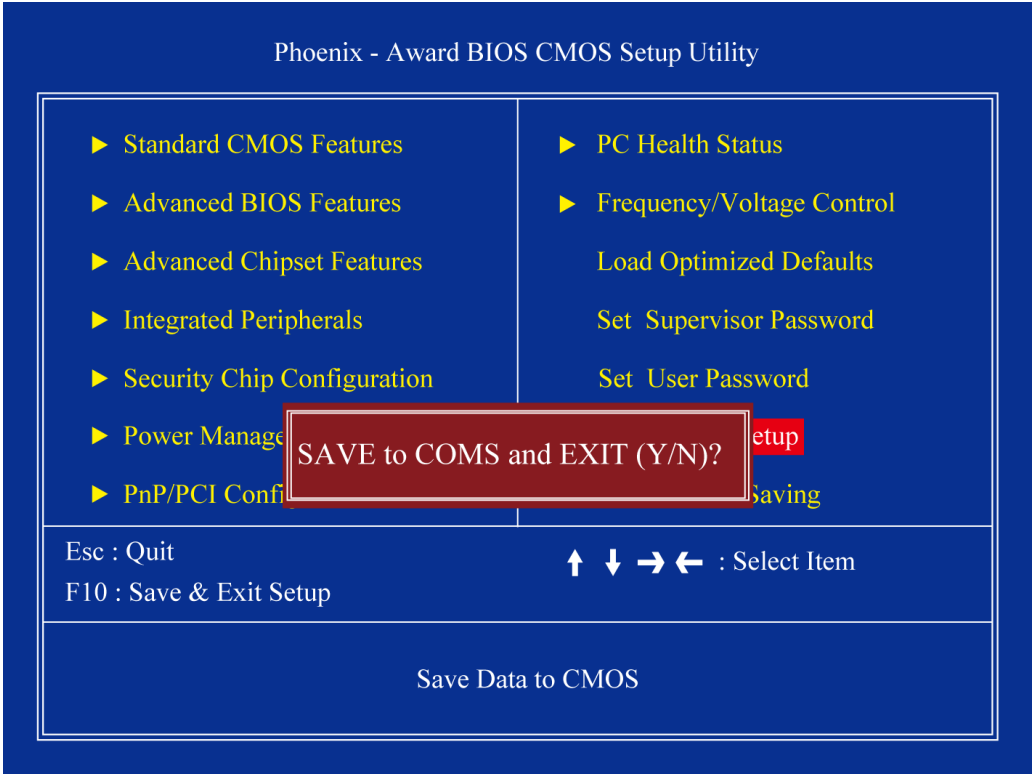
#### **Please Confirm Your Password**

- Type the current password and press <Enter>.
- After pressing <Enter> (ROM password) or the current password (user-defined), you can change the password stored in the CMOS. The password must be no longer than eight (8) characters. Remember, to enable the password setting feature, you must first select either “Setup” or “System” from the “Advanced BIOS Features” menu.

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## 3.3.13 Save & Exit Setup

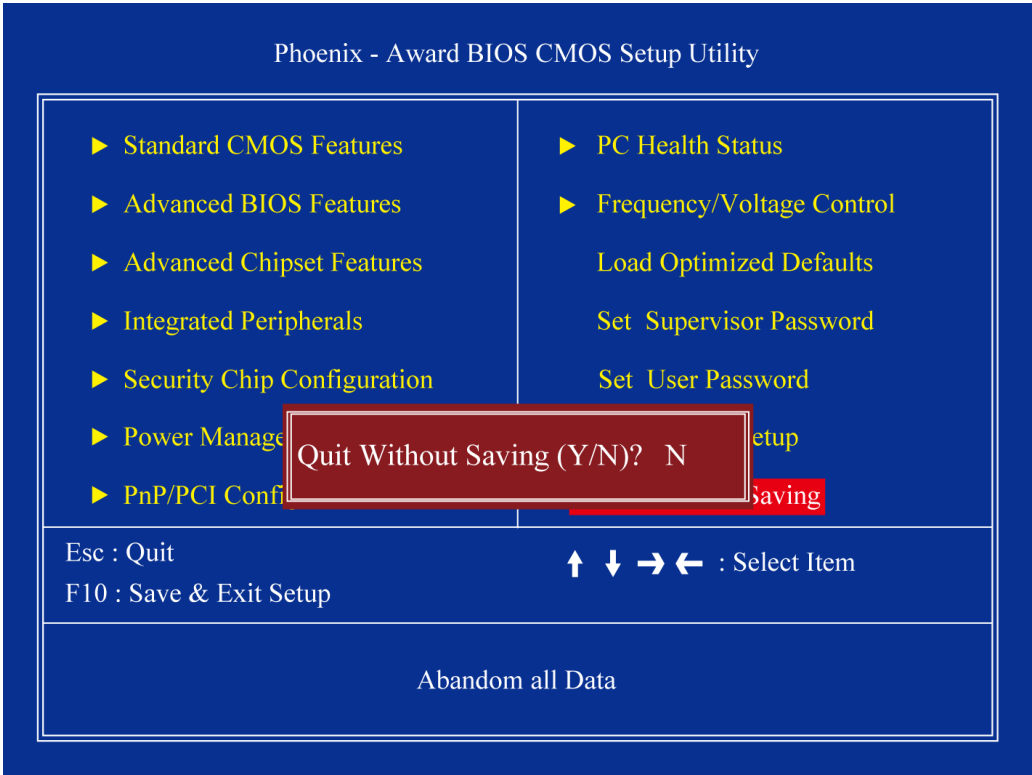
If you select this and press <Enter >, the values entered in the set up utilities will be recorded in the CMOS memory of the chipset. The processor will check this every time you turn your system on and compare this to what it finds as it checks the system. This record is required for the system to operate.



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## 3.3.14 Exit Without Saving

Selecting this option and pressing <Enter> lets you exit the setup program without recording any new values or changing old ones.



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