

EBOX630-821

Fanless Embedded System

User's Manual

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Safety Precautions

Before getting started, read the following important cautions.

1. The EBOX630-821 does not come equipped with an operating system. An operating system must be loaded first before installing any software into the computer.
2. Be sure to ground yourself to prevent static charge when installing the internal components. Use a grounding wrist strap and place all electronic components in any static-shielded devices. Most electronic components are sensitive to static electrical charge.
3. Disconnect the power cord from the EBOX630-821 before making any installation. Be sure both the system and the external devices are turned OFF. Sudden surge of power could ruin sensitive components. Make sure the EBOX630-821 is properly grounded.
4. Make sure the voltage of the power source is correct before connecting the equipment to the power outlet.
5. Turn OFF the system power before cleaning. Clean the system using a cloth only. Do not spray any liquid cleaner directly onto the screen.
6. Do not leave this equipment in an uncontrolled environment where the storage temperature is below -20 ° or above 60 ° . It may damage the equipment.
7. Do not open the system's back cover. If opening the cover for maintenance is a must, only a trained technician is allowed to do so. Integrated circuits on computer boards are sensitive to static electricity. To avoid damaging chips from electrostatic discharge, observe the following precautions:
 - Before handling a board or integrated circuit, touch an unpainted portion of the system unit chassis for a few seconds. This will help to discharge any static electricity on your body.
 - When handling boards and components, wear a wrist-grounding strap, available from most electronic component stores.

Classification

1. Degree of protection against electric shock: not classified
2. Degree of protection against the ingress of water: IPX0
3. Equipment not suitable for use in the presence of a flammable anesthetic mixture with air or with oxygen or nitrous oxide.
4. Mode of operation: Continuous
5. Type of protection against electric shock: Class I equipment

General Cleaning Tips

You may need the following precautions before you begin to clean the computer. When you clean any single part or component for the computer, please read and understand the details below fully.

1. When you need to clean the device, please rub it with a piece of dry cloth.
2. Be cautious of the tiny removable components when you use a vacuum cleaner to absorb the dirt on the floor.
3. Turn the system off before you start to clean up the component or computer.
4. Never drop the components inside the computer or get circuit board damp or wet.
5. Be cautious of all kinds of cleaning solvents or chemicals when you use it for the sake of cleaning. Some individuals may be allergic to the ingredients.
6. Try not to put any food, drink or cigarette around the computer.

Cleaning Tools:

Although many companies have created products to help improve the process of cleaning your computer and peripherals users can also use household items to clean their computers and peripherals. Below is a listing of items you may need or want to use while cleaning your computer or computer peripherals.

Keep in mind that some components in your computer may only be able to be cleaned using a product designed for cleaning that component, if this is the case it will be mentioned in the cleaning.

- Cloth: A piece of cloth is the best tool to use when rubbing up a component. Although paper towels or tissues can be used on most hardware as well, we still recommend you to rub it with a piece of cloth.
- Water or rubbing alcohol: You may moisten a piece of cloth a bit with some water or rubbing alcohol and rub it on the computer. Unknown solvents may be harmful to the plastics parts.
- Vacuum cleaner: Absorb the dust, dirt, hair, cigarette

particles, and other particles out of a computer can be one of the best methods of cleaning a computer. Over time these items can restrict the airflow in a computer and cause circuitry to corrode.

- Cotton swabs: Cotton swabs moistened with rubbing alcohol or water are excellent tools for wiping hard to reach areas in your keyboard, mouse, and other locations.
- Foam swabs: Whenever possible it is better to use lint free swabs such as foam swabs.

Note:

We strongly recommended that you should shut down the system before you start to clean any single components.

Please follow the steps below.

1. Close all application programs
2. Close operating software
3. Turn off power switch
4. Remove all device
5. Pull out power cable

Scrap Computer Recycling

If the computer equipments need the maintenance or are beyond repair, we strongly recommended that you should inform us as soon as possible for the suitable solution. For the computers that are no longer useful or no longer work well, please contact us for recycling and we will make the proper arrangement.

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Chapter 1

Introduction

This chapter contains the general information and the detail specifications of the EBOX630-821. Chapter 1 includes the following sections:

- **General Description**
- **System Specification**
- **Dimensions**
- **I/O Outlets**
- **Utilities Supported**
- **Package List**

1.1 General Description

The EBOX630-821 is a fanless embedded system, and is equipped with low power consumption CPU, the ULV Intel® Celeron® M 600MHz/512K. The EBOX630-821 supports Windows® XP, Windows® XP embedded, and Linux. The EBOX630-821 is also designed with fanless solution and suitable for continuously running.

Reliable and Stable Design

The EBOX630-821 adopts the fanless cooling system and the anti-vibration hard-drive bay, which makes it especially suitable for vibration environments, best for industrial automation, digital signage, gaming application.

Embedded O.S. Supported

The EBOX630-821 not only supports Windows® XP, but also supports embedded OS, such as Windows® XP embedded and Linux. For storage device, the EBOX630-821 supports 2.5" HDD or Compact Flash.

1.2 Specifications

1.2.1 Main CPU Board

- **CPU:** ULV Intel Celeron M 600MHz/512K.
- **System Chipset:** Intel 910GML + ICH6M
- **BIOS:** Phoenix-Award BIOS, 4Mbit with RPL/PXE LAN Boot ROM, SmartView and Customer CMOS Backup.
- **System Memory:** 1 x 200-pin DDR2 SODIMM max. up to 1GB

1.2.2 I/O System

- **Standard I/O:**
 - 4 x serial ports with power;
3 x RS-232,
1 x RS-232/422/485 jumper selectable
 - 4 x USB Ports 2.0 compliant
(support maximum current 500mA for each port)
 - 2 x 10/100/1000 Base-T Ethernet LAN
 - 1 x PS/2 mouse and keyboard
 - 1 x Mic-in, 1 x Line-out
 - 1 x VGA out
 - 1 x DVI-D out (factory option)

■ **Ethernet:**

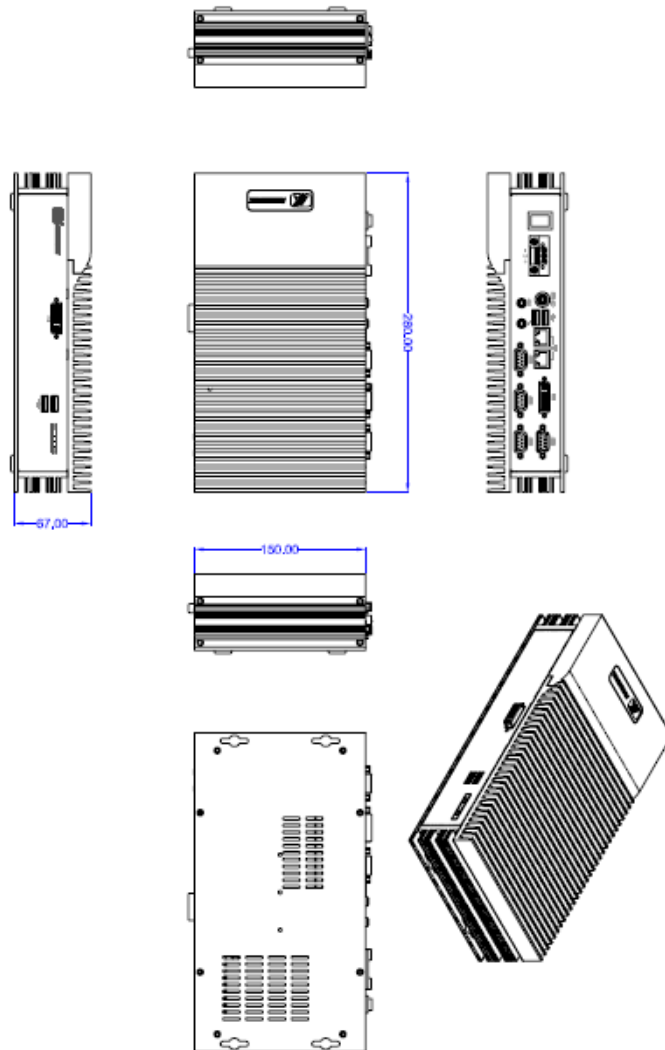
- Realtek RTL 8111B PCI-E Gigabit Ethernet

1.2.3 System Specification

- **Disk Drive: Support 1 x 2.5" PATA HDD**
- **Power Supply: 60W AC-DC Adapter**
- **Power Input: 100~240VAC, 50/60Hz, Max. 4A**
- **Dimension: 280mm(W) x 67mm(H) x 150mm (D)**
- **Operation Temperature: 0 -50 ; Relative Humidity: 10%-95%**

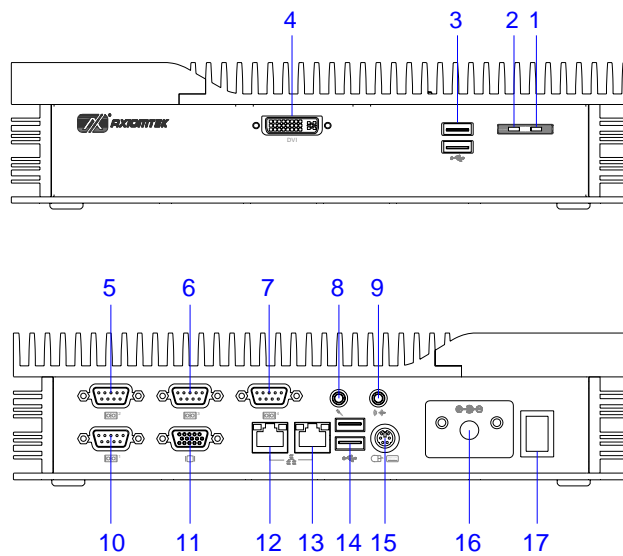
1.3 Dimensions

The following diagrams show the dimensions and outlines of EBOX630-821.



1.4 I/O Outlets

The following figure shows the I/O locations of the EBOX630-821.



- | | |
|---------------------------|-------------|
| 1: Power LED | 10: COM1 |
| 2: HDD LED | 11: VGA |
| 3: USB | 12: LAN 1 |
| 4: DVI-D (factory option) | 13: LAN 2 |
| 5: COM2 | 14: USB |
| 6: COM3 | 15: PS2 |
| 7: COM4 | 16: DC Jack |
| 8: Mic-In | 17: Switch |
| 9: Line-Out | |

1.5 Package List

When you receive the EBOX630-821 there are following items in the package. If you can not find it, please contact AXIOMTEK distributors.

1. EBOX630-821 Unit x 1
2. Power Cord x 1
3. Power Adaptor x 1
4. CD x 1 (For Driver and User Manual)
5. Quick Manual x 1
6. PS2 Cable x 1
7. M3-12.5 Screws x 4
8. M3-6 Screws x 4

Chapter 2 Hardware Installation

The EBOX630-821 provides lots of flexible ways for you to select different configuration such as HDD, CF card and more. The chapter will show you how to install the hardware. It includes:

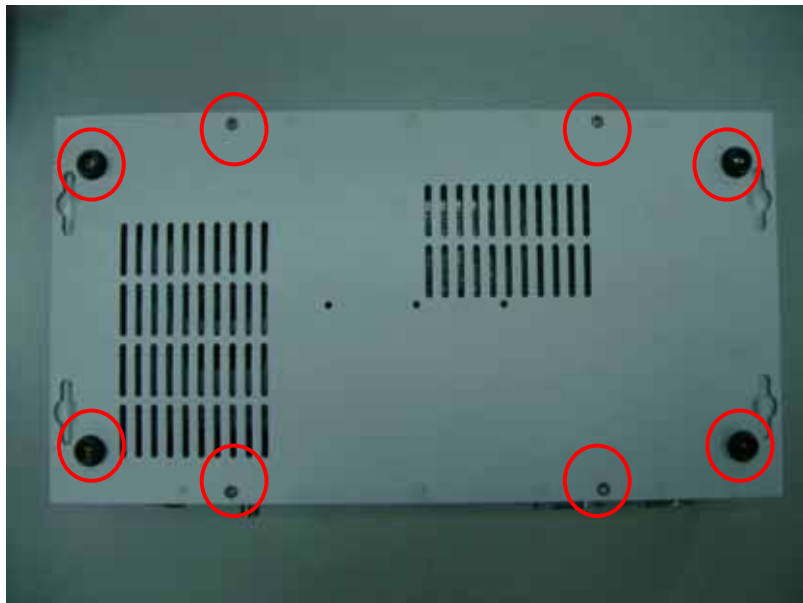
2.1 HDD Installation

The EBOX630-821 offers a convenient drive bay module for users to install HDD. The EBOX630-821 offers one 2.5" HDD drive for users to install. Please follow the steps:

Step 1) Turn-off the EBOX630-821

Step 2) Un-plug the AC power-cord

Step 3) Release the 8 screws which are marked on the following picture.



Step 4) Remove the Back Cover



Step 5) Prepare HDD Assembly Parts

- HDD Bracket x 1
- 2.5inch HDD (IDE I/F)
- Screws x 4



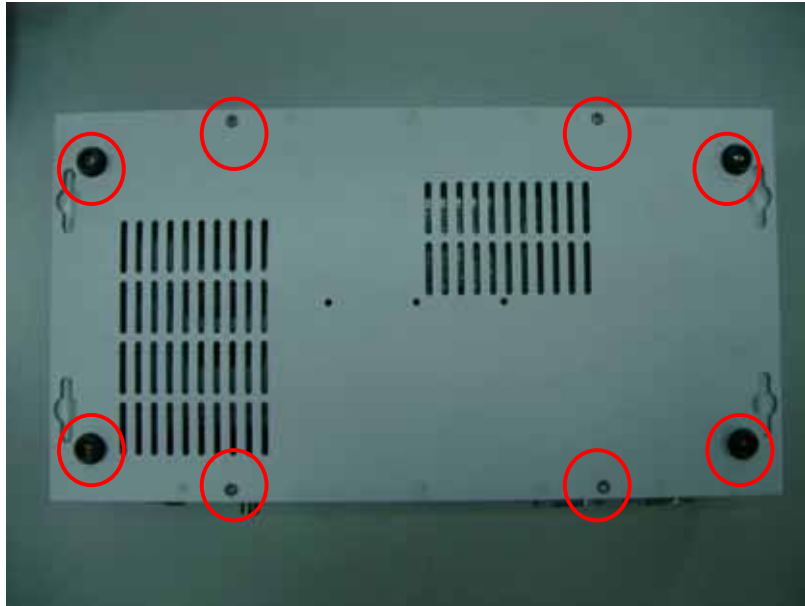
Step 6) Assembly the HDD with HDD bracket

Step 7) Assembly the HDD assembly into eBOX630

Step 8) Plug-in the IDE & Power Cable to HDD



Step 9) Assembly back the Back Cover.

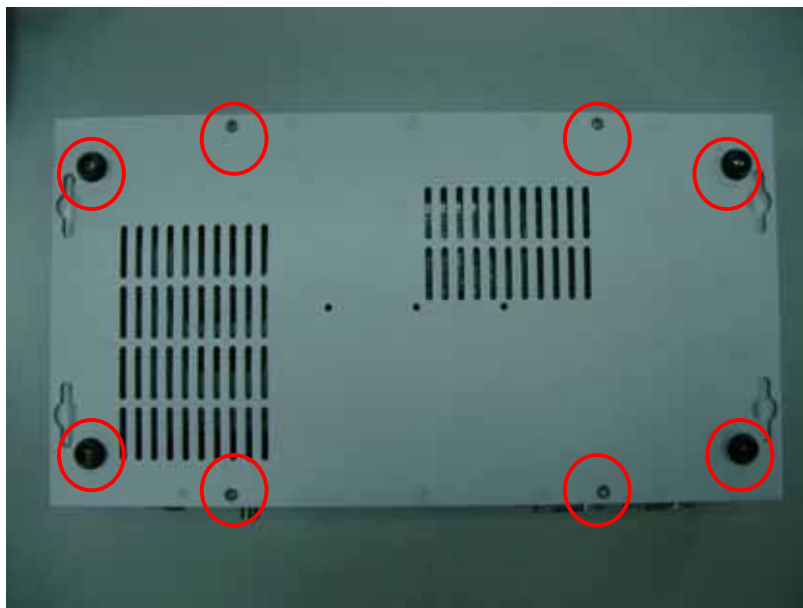


2.2 Install Memory Module

Step 1) Turn-off the EBOX630-821

Step 2) Un-plug the AC power-cord

Step 3) Release the 8 screws which are marked on the following picture.



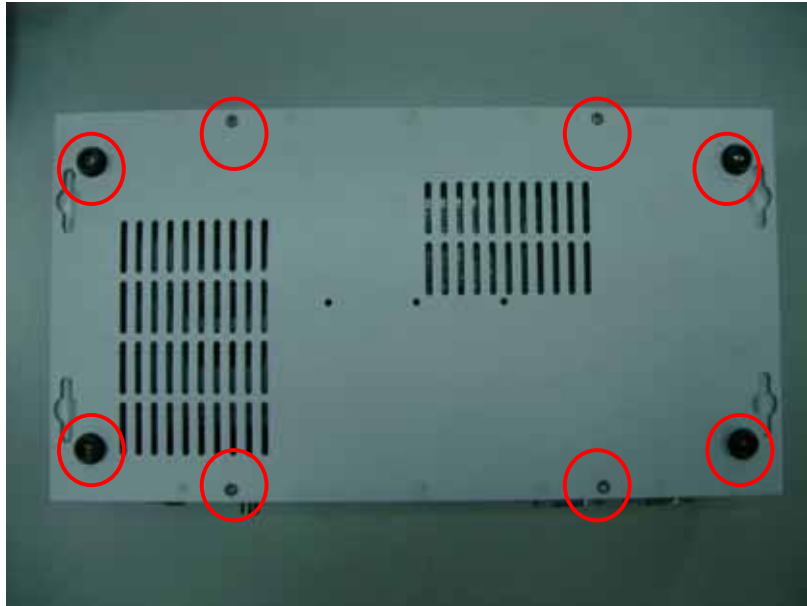
Step 4) Remove the Back Cover



Step 5) Install the Memory Module.



Step 6) Install the Back Cover.



Chapter 3

BIOS Setting

The Phoenix-Award BIOS provides users with a built-in Setup program to modify basic system configuration. All configured parameters are stored in a battery-backed-up RAM (CMOS RAM) to save the Setup information whenever the power is turned off.

3.1 Entering Setup

There are two ways to enter the Setup program. You may either turn ON the computer and press immediately, or press the and/or <Ctrl>, <Alt>, and <Esc> keys simultaneously when the following message appears at the bottom of the screen during POST (Power on Self Test).

TO ENTER SETUP PRESS DEL KEY

If the message disappears before you respond and you still want to enter Setup, please restart the system to try it again. Turning the system power OFF and ON, pressing the "RESET" button on the system case or simultaneously pressing <Ctrl>, <Alt>, and keys can restart the system. If you do not press keys at the right time and the system doesn't boot, an error message will pop out to prompt you the following information:

PRESS <F1> TO CONTINUE, <CTRL-ALT-ESC> OR TO ENTER SETUP

3.2 Control Keys

Up arrow	Move cursor to the previous item
Down arrow	Move cursor to the next item
Left arrow	Move cursor to the item on the left hand
Right arrow	Move to the item in the right hand
Esc key	Main Menu -- Quit and delete changes into CMOS Status Page Setup Menu and Option Page Setup Menu -- Exit current page and return to Main Menu
PgUp/“+” key	Increase the numeric value or make changes
PgDn/“-“ key	Decrease the numeric value or make changes
F1 key	General help, only for Status Page Setup Menu and Option Page Setup Menu
(Shift) F2 key	Change color from total 16 colors. F2 to select color forward, (Shift) F2 to select color backward
F3 key	Reserved
F4 key	Reserved
F5 key	Restore the previous CMOS value from CMOS, only for Option Page Setup Menu
F6 key	Load the default CMOS value from BIOS default table, only for Option Page Setup Menu
F7 key	Load the Setup default, only for Option Page Setup Menu
F8 key	Reserved
F9 key	Reserved
F10 key	Save all the CMOS changes, only for Main Menu

3.3 Getting Help

Main Menu

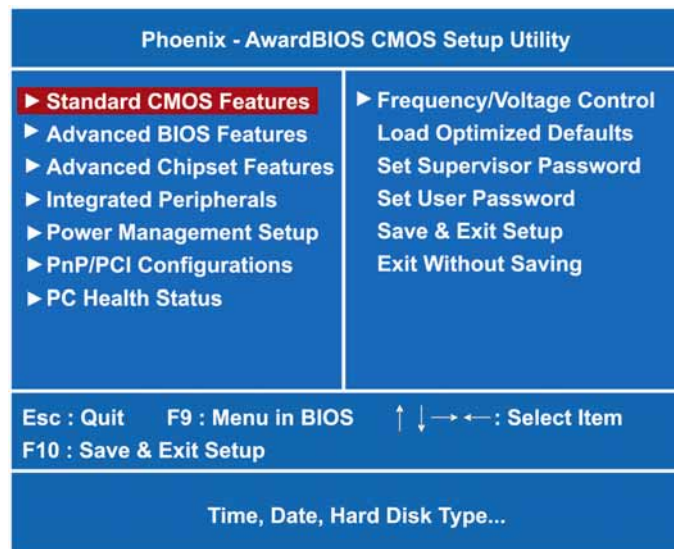
The online description of the highlighted setup function is displayed at the bottom of the screen.


Status Page Setup Menu/Option Page Setup Menu

Press <F1> to pop out a small Help window that provides the description of using appropriate keys and possible selections for highlighted items. Press <F1> or <Esc> to exit the Help Window.

3.4 The Main Menu

Once you enter the Award BIOS CMOS Setup Utility, the Main Menu appears on the screen. In the Main Menu, there are several Setup functions and a couple of Exit options for your selection. Use arrow keys to select the Setup Page you intend to configure then press <Enter> to accept or enter its sub-menu.

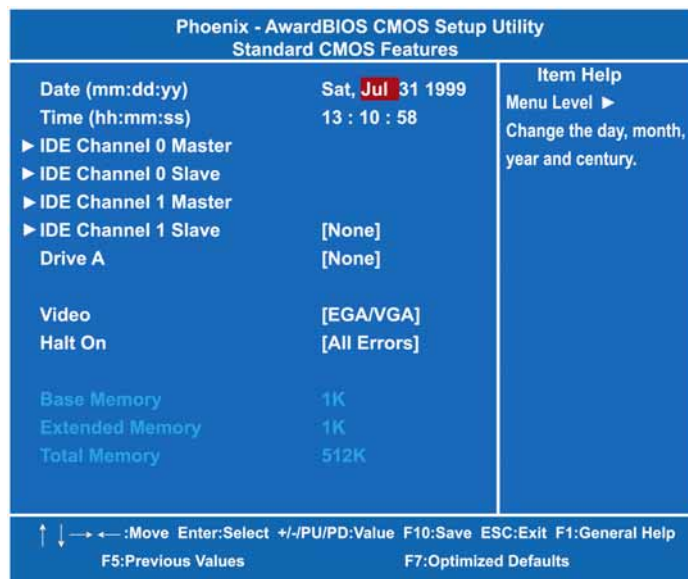


 **NOTE:** If your computer can not boot after making and saving system changes with Setup, the Award BIOS will reset your system to the CMOS default settings via its built-in override feature.

It is strongly recommended that you should avoid changing the chipset's defaults. Both Award and your system manufacturer have carefully set up these defaults that provide the best performance and reliability.

3.5 Standard CMOS Setup Menu

The Standard CMOS Setup Menu displays basic information about your system. Use arrow keys to highlight each item, and use <PgUp> or <PgDn> key to select the value you want in each item.



Date

The date format is <day>, <date> <month> <year>. Press <F3> to show the calendar.

day	It is determined by the BIOS and read only, from Sunday to Saturday.
date	It can be keyed with the numerical/ function key, from 1 to 31.
month	It is from January to December.
year	It shows the current year of BIOS.

Time

This item shows current time of your system with the format <hour> <minute> <second>. The time is calculated based on the 24-hour military-time clock. For example, 1 p.m. is 13:00:00.

IDE Channel 0 Master/IDE Channel 0 Slave/IDE Channel 1 Master/IDE Channel 1 Slave

These items identify the types of each IDE channel installed in the computer. There are 45 predefined types (Type 1 to Type 45) and 2 user's definable types (Type User) for Enhanced IDE BIOS. Press <PgUp>/<+> or <PgDn>/<-> to select a numbered hard disk type, or directly type the number and press <Enter>. Please be noted your drive's specifications must match the drive table. The hard disk will not work properly if you enter improper information. If your hard disk drive type does not match or is not listed, you can use Type User to manually define your own drive type. If selecting Type User, you will be asked to enter related information in the following items. Directly key in the information and press <Enter>. This information should be provided in the documentation from your hard disk vendor or the system manufacturer.

If the HDD interface controller supports ESDI, select "Type 1".
 If the HDD interface controller supports SCSI, select "None".
 If the HDD interface controller supports CD-ROM, select "None".

CYLS.	number of cylinders	LANDZONE	landing zone
HEADS	number of heads	SECTORS	number of sectors
PRECOMP	write precom	MODE	HDD access mode

If there is no hard disk drive installed, select NONE and press <Enter>.

Dive A

The item identifies the type of floppy disk installed in the computer as drive A.

6. None	7. No floppy drive installed
8. 360K, 3.5 in	9. 3.5 inch PC-type standard drive; 360Kb Mini ITXcity
10. 1.2M, 3.5 in	11. 3.5 inch AT-type high-density drive; 1.2MB Mini ITXcity

5 i n			
12. 720K, 3 . 5 i n	13.	3.5 inch double-sided drive; 720Kb Mini ITXcity	
14. 1.44M, 3 . 5 i n	15.	3.5 inch double-sided drive; 1.44MB Mini ITXcity	
16. 2.88M, 3 . 5 i n	17.	3.5 inch double-sided drive; 2.88MB Mini ITXcity	

Halt On

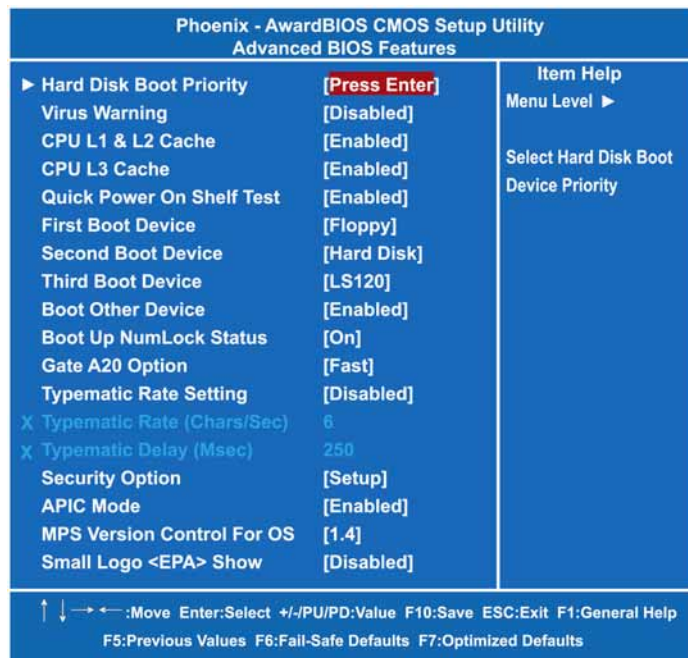
This item determines whether the system will halt or not, if an error is detected while powering up.

No errors	The system booting will halt on any errors detected. (default)
All errors	Whenever BIOS detects a non-fatal error, the system will stop and you will be prompted.
All, But Keyboard	The system booting will not stop for a keyboard error; it will stop for other errors.
All, But Diskette	The system booting will not stop for a disk error; it will stop for other errors.
All, But Disk/Key	The system booting will not stop for a keyboard or disk error; it will stop for other errors.

Press <Esc> to return to the Main Menu page.

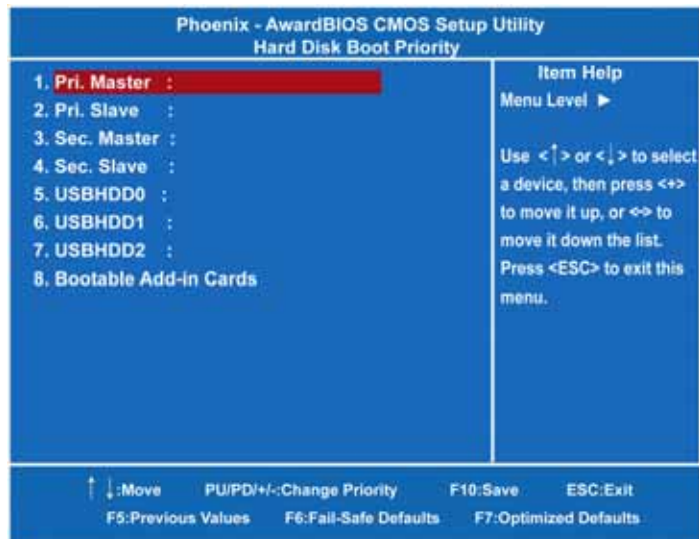
3.6 Advanced BIOS Features

This section allows you to configure and improve your system, to set up some system features according to your preference.



Hard Disk Boot Priority

Scroll to this item and press <Enter> to view the sub menu to decide the disk boot priority.



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

Virus Warning

This option flashes on the screen. During and after the system boot up, any attempt to write to the boot sector or partition table of the hard disk drive will halt the system with the following message. You can run an anti-virus program to locate the problem. The default setting is "Disabled".

! WARNING !
*Disk boot sector is to be modified
Type "Y" to accept write or "N" to abort write
Award Software, Inc.*

Enabled	It automatically activates while the system boots up and a warning message appears for an attempt to access the boot sector or hard disk partition table.
Disabled	No warning message will appear for attempts to access the boot sector or hard disk partition table.



NOTE: This function is only available with DOS and other operating systems that do not trap INT13.

CPU L1 & L2 Cache

These two options speed up memory access. However, it depends on the CPU/chipset design. The default setting is "Enabled". CPUs without built-in internal cache will not provide the "CPU Internal Cache" item on the menu.

Enabled	Enable cache
Disabled	Disable cache

CPU L3 Cache

Use this item to enable L3 cache only for the CPUs with such a function.

Quick Power On Self Test

This option speeds up Power on Self Test (POST) after you turn on the system power. If set as Enabled, BIOS will shorten or skip some check items during POST. The default setting is "Enabled".

Enabled	Enable Quick POST
Disabled	Normal POST

First/Second/Third Boot Device

These items let you select the 1st, 2nd, and 3rd devices that the system will search for during its boot-up sequence. The wide range of selection includes Floppy, LS120, ZIP100, HDD0~3, SCSI, and CDROM.

Boot Other Device

This item allows users to enable or disable the boot device not listed in the First/Second/Third boot devices option above. The default setting is "Enabled".

Boot Up NumLock Status

Set the the Num Lock status when the system is powered on. The default value is "On".

Gate A20 Option

The default value is "Fast".

Normal	The A20 signal is controlled by keyboard controller or chipset hardware.
Fast	Default: Fast. The A20 signal is controlled by Port 92 or chipset specific method.

Typematic Rate Setting

This item determines the typematic rate of the keyboard. The default value is "Disabled".

Enabled	Enable typematic rate and typematic delay programming.
Disabled	Disable typematic rate and typematic delay programming. The system BIOS will use default value of these 2 items, controlled by keyboard.

Typematic Rate (Chars/Sec)

This option refers to character numbers typed per second by the keyboard. The default value is "6".

6	6 characters per second
8	8 characters per second
10	10 characters per second
12	12 characters per second
15	15 characters per second
20	20 characters per second
24	24 characters per second
30	30 characters per second

Typematic Delay (Msec)

This option defines how many milliseconds must elapse before a held-down key begins generating repeat characters. The default value is "250".

250	250 msec
500	500 msec
750	750 msec
1000	1000 msec

Security Option

This item allows you to limit access to the system and Setup, or just to Setup. The default value is "Setup".

System	If a wrong password is entered at the prompt, the system will not boot, the access to Setup will be denied, either.
Setup	If a wrong password is entered at the prompt, the system will boot, but the access to Setup will be denied.



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

APIC Mode

Use this item to enable or disable APIC (Advanced Programmable Interrupt Controller) mode that provides symmetric multi-processing (SMP) for systems.

MPS Version Control For OS

This item specifies the version of the Multiprocessor Specification (MPS). Version 1.4 has extended configuration tables to improve support for multiple PCI bus configurations and provide future expandability.

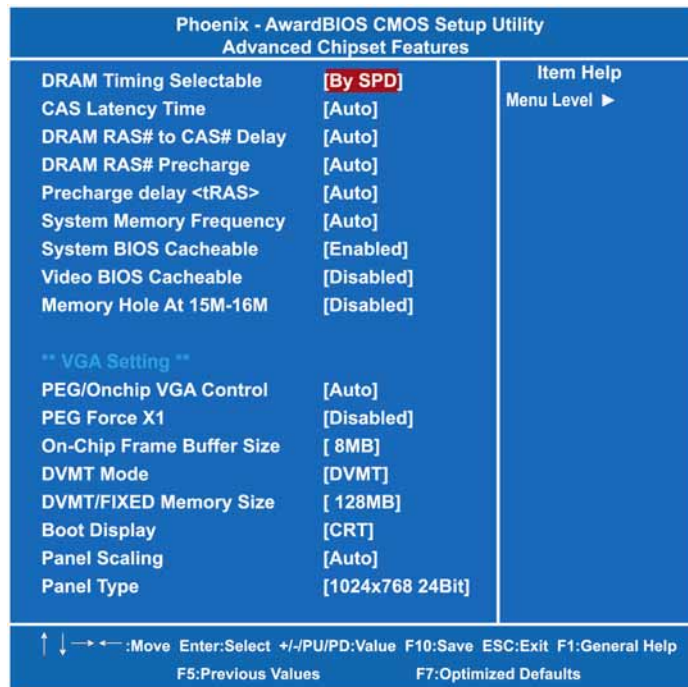
Small Logo(EPA) Show

If enabled, the EPA logo will appear during system booting up; if disabled, the EPA logo will not appear.

Press <Esc> to return to the Main Menu page.

3.7 Advanced Chipset Features

This section contains completely optimized chipset's features on the board that you are strongly recommended to leave all items on this page at their default values unless you are very familiar with the technical specifications of your system hardware.



DRAM Timing Selectable

Use this item to increase the timing of the memory. This is related to the cooling of memory.

CAS Latency Time

You can select CAS latency time to HCLKs 2, 3, or Auto. The board designer should have set up these values in accordance with the

installed DRAM. Do not change these values unless you have to change the specifications of the installed DRAM or CPU.

DRAM RAS# to CAS# Delay

When DRAM is refreshed, both rows and columns are addressed separately. This field lets you insert a timing delay between the CAS and RAS strobe signals, used when DRAM is written to, read from, or refreshed.

DRAM RAS# Precharge

The precharge time is the number of cycles it takes for the RAS to accumulate its charge before DRAM refresh. If insufficient time is allowed, refresh may be incomplete and the DRAM may fail to retain data.

Precharge Delay <tRAS>

The precharge time is the number of cycles it takes for DRAM to accumulate its charge before refresh.

System Memory Frequency

This item helps you set main memory frequency. When using an external graphics card, it can be adjusted to enable the best performance for your system.

System BIOS Cacheable

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

Video BIOS Cacheable

This item allows you to change the Video BIOS location from ROM to RAM. Video Shadow will increase the video speed.

Memory Hole At 15M-16M

You can reserve this area of system memory for ISA adapter ROM. When this area is reserved, it cannot be cached. The user information of peripherals that need to use this area of system memory usually discusses their memory requirements.

***** VGA Setting *****

PEG/Onchip VGA Control

Use this item to choose the primary display card.

PEG Force X1

Use this item to select PCI Express X1 forcedly.

On-Chip Frame Buffer Size

Use this item to set the VGA frame buffer size.

DVMT Mode

DVMT (Dynamic Video Memory Technology) helps you select the video mode.

DVMT/Fixed Memory Size

DVMT (Dynamic Video Memory Technology) allows you to select a maximum size of dynamic amount usage of the video memory. The system would configure the video memory dependent on your application.

Boot Display

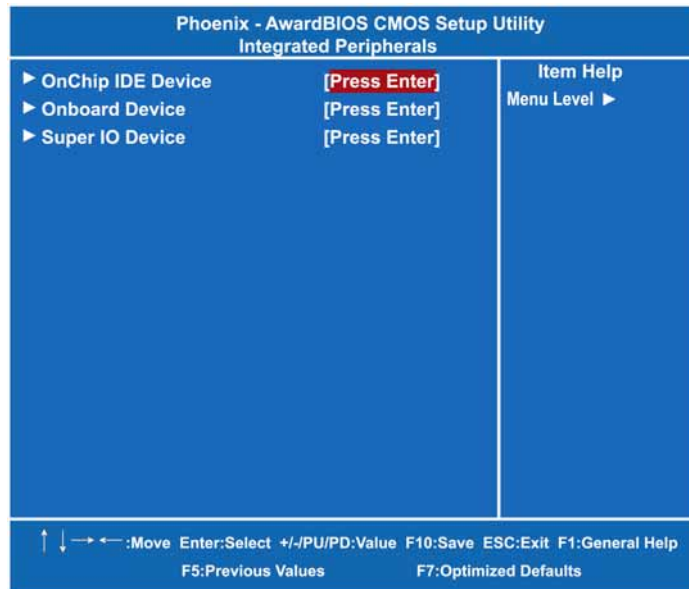
This item is for Intel define ADD card only.

Press <Esc> to return to the Main Menu page.

3.8 Integrated Peripherals

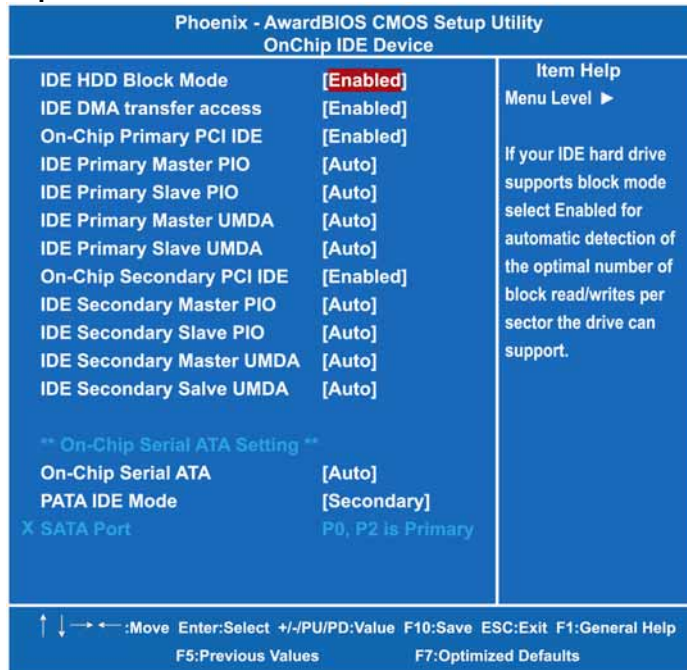
This section allows you to configure your SuperIO Device, IDE

Function and Onboard Device.



OnChip IDE Device

Scroll to this item and press <Enter> to view the sub menu OnChip IDE Device.



- **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**
Automatic data transfer between system memory and IDE device with minimum CPU intervention. This improves data throughput and frees CPU to perform other tasks.
- **On-Chip Primary/Secondary PCI IDE**
The integrated peripheral controller contains an IDE interface with support for two IDE channels. Select Enabled to activate each channel separately. The default value is "Enabled".



NOTE: Choosing Disabled for these options will

automatically remove the IDE Primary Master/ Slave PIO and/or IDE Secondary Master/Slave PIO items on the menu.

- **IDE 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 to 4 provide successively increased performance. In Auto mode, the system automatically determines the best mode for each device.
- **IDE Primary/Secondary Master/Slave UDMA**
Select the mode of operation for the IDE drive. 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. If your hard drive and system software both support Ultra DMA-33/66/100/133, select Auto to enable UDMA mode by BIOS.

***** On-Chip Serial ATA Setting *****

On-Chip Serial ATA

Use this item to enable or disable the built-in on-chip serial ATA.

PATA IDE Mode

Use this item to set the PATA IDE mode. When set to Primary, P1 and P3 are Secondary; on the other hand, when set to Secondary, P0 and P2 are Primary.

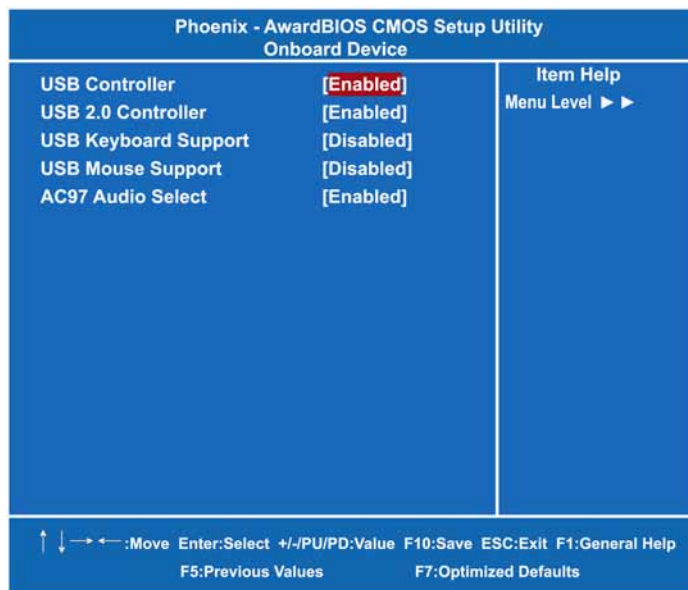
SATA Port

If the "PATA IDE Mode" is Primary, it will show " P1, P3 is Secondary" which means SATA 2 and SATA 4 are Secondary. If the "PATA IDE Mode " is Secondary, it will show " P0, P2 is Primary " which means SATA 1 and SATA 3 are Primary.

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

Onboard Device

Scroll to this item and press <Enter> to view the sub menu Onboard Device.

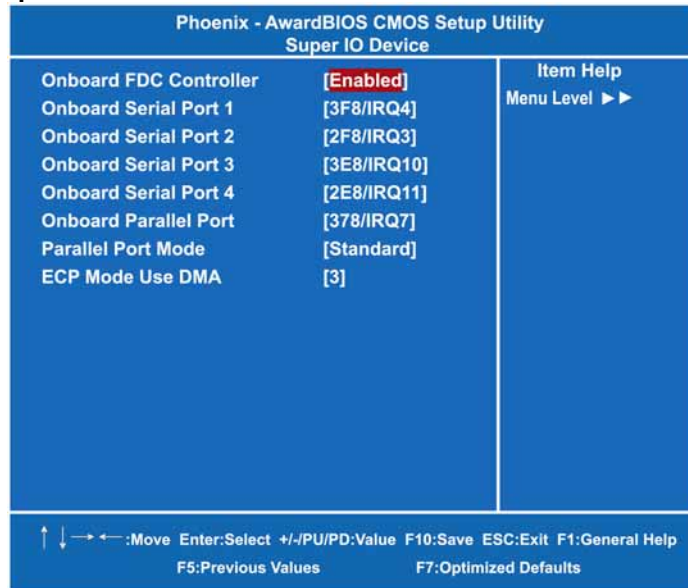


- **USB Controller**
Enable this item if you are using the USB in the system. You should disable this item if a higher-level controller is added.
- **USB 2.0 Controller**
Enable this item if you are using the EHCI (USB2.0) controller in the system.
- **USB Keyboard Support**
Enable this item if the system has a Universal Serial Bus (USB) controller, and you have a USB keyboard.
- **USB Mouse Support**
Enable this item to boot the hard drive by a USB mouse.
- **AC'97 Audio Select**
Use this item to enable or disable the onboard AC'97 Audio function.

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

Super IO Device

Scroll to this item and press <Enter> to view the sub menu Super IO Device.



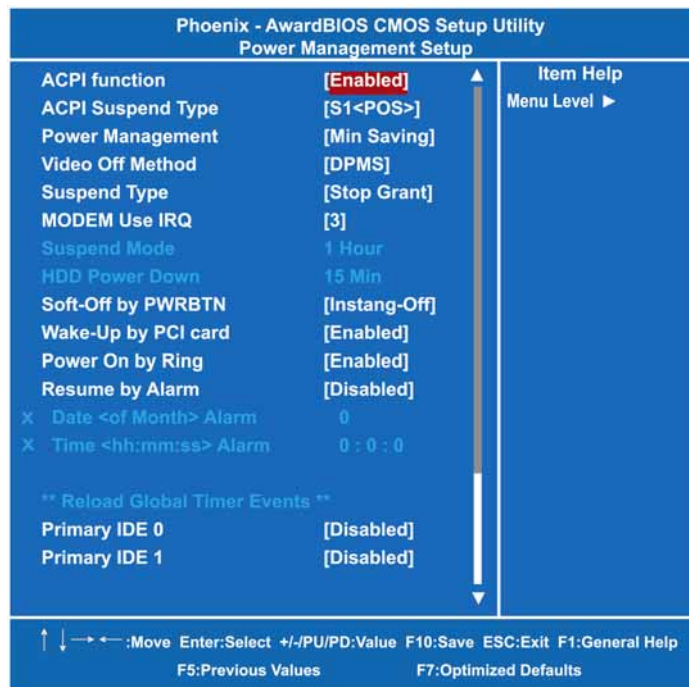
- **Onboard FDC Controller**
Select Enabled, if your system has a floppy disk controller (FDC) installed on the system board and you want to use it. If you install and-in FDC or the system has no floppy drive, select Disabled in this field. Options: Enabled and Disabled.
- **Onboard Serial Port 1/2/3/4**
Select an address and corresponding interrupt for the serial port. Options: 3F8/IRQ4, 2F8/IRQ3, 3E8/IRQ10, 2E8/IRQ11, 338/IRQ5, 238/IRQ7, Auto and Disabled.
- **Onboard Paralel Port**
This item allows you to determine the I/O address for onboard parallel port. Options: 378/IRQ7, 278/IRQ5, 3BC/IRQ7 and Disabled.
- **Parallel Port Mode**
Select an operating mode for the onboard parallel (printer) port. Select Normal unless your hardware and software require another mode in this field.

- **ECP Mode Use DMA**
Select a DMA channel for the parallel port while using the ECP mode.

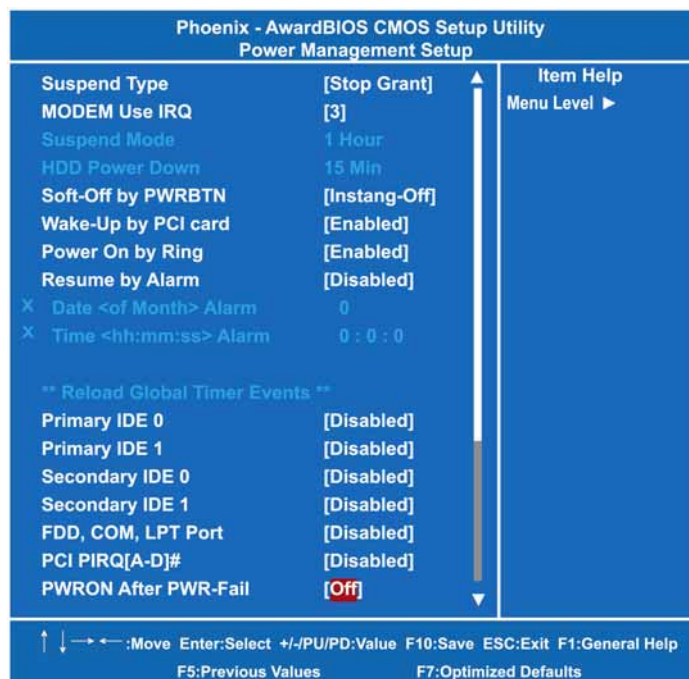
Press <Esc> to return to the Integrated Peripherals page, and press it again to the Main Menu.

3.9 Power Management Setup

The Power Management Setup allows you to save energy of your system effectively. It will shut down the hard disk and turn OFF video display after a period of inactivity.



-- (1) --



-- (2) --

ACPI Function

This item allows you to enable/disable the Advanced Configuration and Power Management (ACPI). The function is always "Enabled".

ACPI Suspend Type

This item specifies the power saving modes for ACPI function. If your operating system supports ACPI, such as Windows 98SE, Windows ME and Windows 2000, you can choose to enter the Standby mode in S1 (POS) or S3 (STR) fashion through the setting of this field. Options are:

[S1 (POS)] The S1 sleep mode is a low power state. In this state, no system context is lost (CPU or chipset) and hardware maintains all system contexts.

[S3 (STR)] The S3 sleep mode is a lower power state where the information of system configuration and open applications/files is saved to main memory that remains powered while most other hardware components turn off to

save energy. The information stored in memory will be used to restore the system when a "wake up" event occurs.

Power Management

This option allows you to select the type of power Management.
Options: APM, ACPI.

Video Off Method

This setting determines the manner in which the monitor is blanked.

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

Suspend Type

If this item is set to the default Stop Grant, the CPU will go into Idle Mode during power saving mode.

Modem Use IRQ

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

Suspend Mode

After a selected period of system inactivity (1 minute to 1 hour), all devices except the CPU shut off. The default value is "Disabled".

Disabled	The System will never enter the SUSPEND mode.
1/2/4/6/8/10/20/30/40 Min/1 Hr	It defines continuous idle time before the system entering the SUSPEND mode. If any item defined in (J) is enabled and active, the SUSPEND timer will be reloaded.

HDD Power Down

If HDD activity is not detected for a specified length of time in this field, the hard disk drive will be powered down while other devices remain active.

Soft-Off by PWR-BTTN

This option only works with systems using an ATX power supply. It also allows users to define which type of soft power OFF sequence the system will follow. The default value is *"Instant-Off"*.

Instant-Off	This option follows the conventional manner of system performance when turning the power to OFF. Instant-Off is a software power OFF sequence requiring the power supply button is switched to OFF.
Delay 4 Sec.	Upon the system's turning OFF through the power switch, this option will delay the complete system power OFF sequence approximately 4 seconds. Within this delay period, the system will temporarily enter into the Suspend Mode enabling you to restart the system at once.

- **Wake-Up by PCI card**

If enable this item, the system can automatically resume when the PCI Modem or PCI LAN card receives an incoming call.

- **Power On by Ring**

This option allows the system to resume or wake up upon detecting any ring signals coming from an installed modem. The default value is *"Enabled"*.

Resume by Alarm

If enable this item, the system can automatically resume after a fixed time in accordance with the system's RTC (realtime clock).

**** Reload Global Timer Events ****

Global Timer (power management) events can prevent the system from entering a power saving mode or can awaken the system from such a mode.

Primary/Secondary IDE 0/1

Use this item to configure the IDE devices monitored by the system.

FDD, COM, LPT Port

Use this item to configure the FDD, COM and LPT ports monitored by the system.

PCI PIRQ[A-D]#

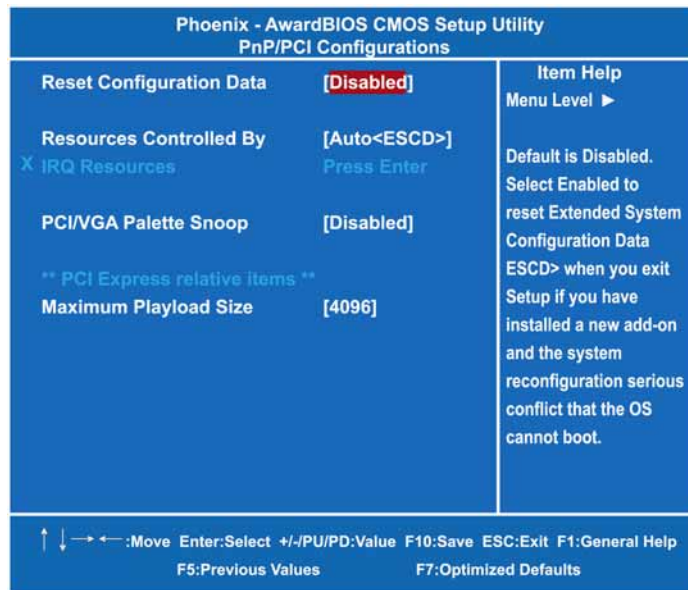
This item can be used to detect PCI device activities; if no activity, the system will enter the sleep mode.

- **PWRON After PWR-Fail**
This item enables your computer to automatically restart or return to its operating status.

Press <Esc> to return to the Main Menu page.

3.10 PnP/PCI Configuration Setup

This section describes the configuration of PCI (Personal Computer Interconnect) bus system, which allows I/O devices to operate at speeds close to the CPU speed while communicating with other important components. This section covers very technical items that only experienced users could change default settings.



Reset Configuration Data

Normally, you leave this item Disabled. Select Enabled to reset Extended System Configuration Data (ESCD) when you exit Setup or if installing a new add-on cause the system reconfiguration a

serious conflict that the operating system can not boot. Options:
Enabled, Disabled.

Resources Controlled By

The Award Plug and Play BIOS can automatically configure all boot and Plug and Play-compatible devices. If you select Auto, all interrupt request (IRQ), DMA assignment, and Used DMA fields disappear, as the BIOS automatically assigns them. The default value is *"Manual"*.

IRQ Resources

When resources are controlled manually, assign each system interrupt to one of the following types in accordance with the type of devices using the interrupt:

1. Legacy ISA Devices compliant with the original PC AT bus specification, requiring a specific interrupt (such as IRQ4 for serial port 1).
2. PCI/ISA PnP Devices compliant with the Plug and Play standard, whether designed for PCI or ISA bus architecture.

The default value is *"PCI/ISA PnP"*.

PCI/VGA Palette Snoop

Some non-standard VGA display cards may not show colors properly. This item allows you to set whether MPEG ISA/VESA VGA Cards can work with PCI/VGA or not. When enabled, a PCI/VGA can work with a MPEG ISA/VESA VGA card; when disabled, a PCI/VGA cannot work with a MPEG ISA/VESA Card.

** PCI Express relative items **

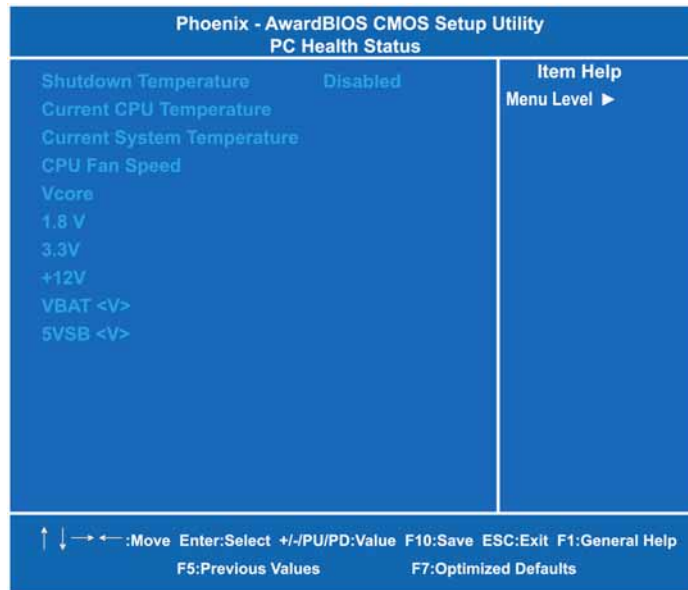
Maximum Payload Size

When using DDR SDRAM and Buffer size selection, another consideration in designing a payload memory is the size of the buffer for data storage. Maximum Payload Size defines the maximum TLP (Transaction Layer Packet) data payload size for the device.

Press <Esc> to return to the Main Menu page.

3.11 PC Health Status

This section supports hardware monitoring that lets you monitor those parameters for critical voltages, temperatures and fan speed of the board.



Shutdown Temperature

It helps you set the maximum temperature they system can reach before powering down.

Current CPU Temperature

The current system CPU temperature will be automatically detected by the system.

Current SYSTEM Temperature

Show you the current system temperature.

Current CPU FAN Speed

These optional and read-only items show current speeds in RPM (Revolution Per Minute) for the CPU fan and chassis fan as monitored by the hardware monitoring IC.

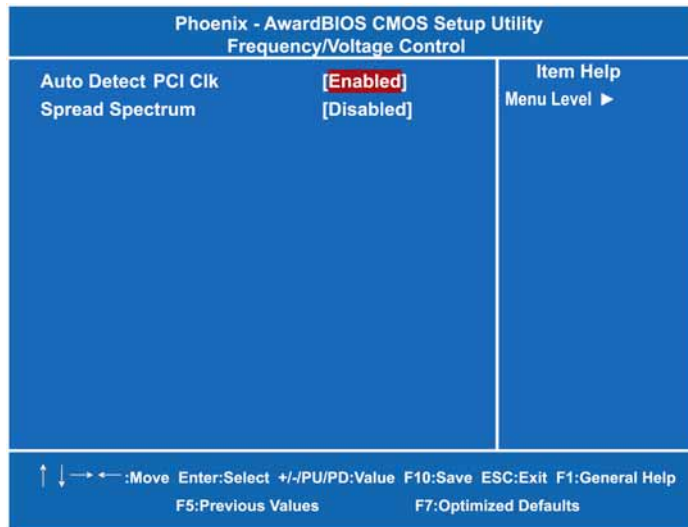
Vcore 1.8V/3.3V/+12V/VBAT(V)/5VSB(V)

Show you the voltage of 1.8V/3.3V/+12V/VBAT/5VSB.

Press <Esc> to return to the Main Menu page.

3.12 Frequency/Voltage Control

This section is to control the CPU frequency and Supply Voltage, DIMM OverVoltage and AGP voltage.



Auto Detect PCI Clk

The enabled item can automatically disable the clock source for a PCI slot without a module, to reduce EMI (ElectroMagnetic Interference).

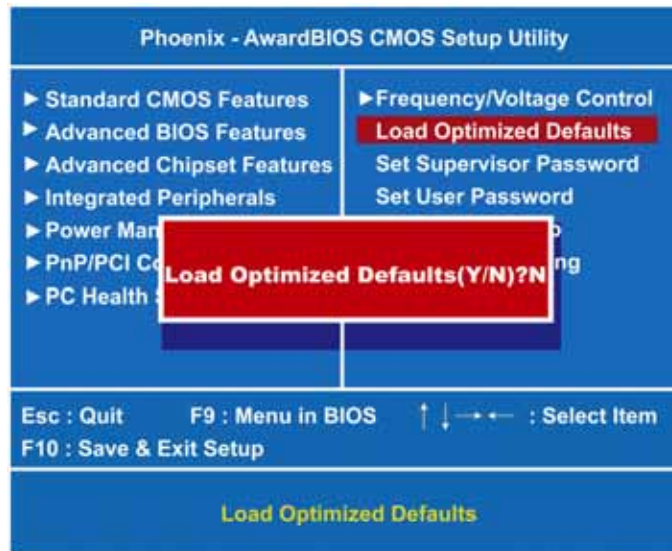
Spread Spectrum

If spread spectrum is enabled, EMI (ElectroMagnetic Interference) generated by the system can be significantly reduced.

Press <Esc> to return to the Main Menu page.

3.13 Load Optimized Defaults

This option allows you to load your system configuration with default values. These default settings are optimized to enable high performance features.



To load CMOS SRAM with SETUP default values, please enter “Y”. If not, please enter “N”.

3.14 Set Supervisor/User Password

You can set a supervisor or user password, or both of them. The differences between them are:

1. **Supervisor password:** You can enter and change the options on the setup menu.
2. **User password:** You can just enter, but have no right to change the options on the setup menu.

When you select this function, the following message will appear at the center of the screen to assist you in creating a password.

ENTER PASSWORD

Type a maximum eight-character password, and press <Enter>. This typed password will clear previously entered password from the CMOS memory. You will be asked to confirm this password. Type this password again and press <Enter>. You may also press <Esc> to abort this selection and not enter a password.

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

PASSWORD DISABLED

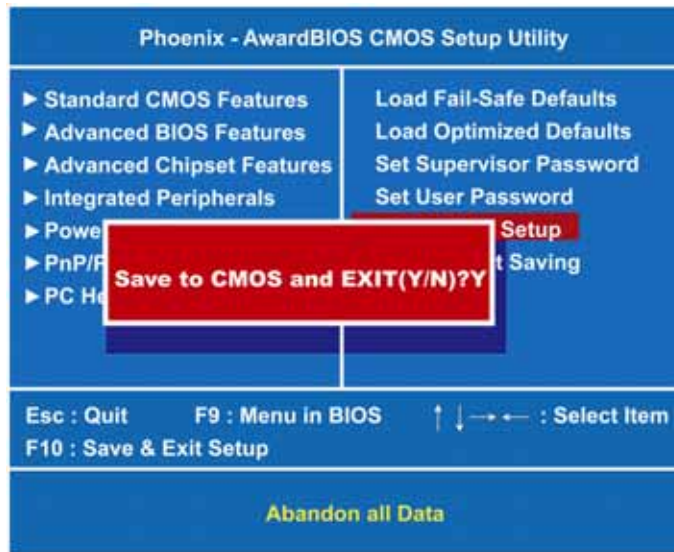
When a password is enabled, you have to type it every time you enter the Setup. It prevents any unauthorized persons from changing your system configuration.

Additionally, when a password is enabled, you can also require the BIOS to request a password every time the system reboots. This would prevent unauthorized use of your computer.

You decide when the password is required for the BIOS Features Setup Menu and its Security option. If the Security option is set to "System", the password is required during booting up and entry into the Setup; if it is set as "Setup", a prompt will only appear before entering the Setup.

3.15 Save & Exit Setup

This section allows you to determine whether or not to accept your modifications. Type "Y" to quit the setup utility and save all changes into the CMOS memory. Type "N" to bring you back to the Setup utility.



3.16 Exit Without Saving

Select this option to exit the Setup utility without saving changes you have made in this session. Type "Y", and it will quit the Setup utility without saving your modifications. Type "N" to return to the Setup utility.

