XPC User Guide

For the : SD37P2

Shuttle Mainboard EMI Test Statement

Shuttle mainboards have been through EMI tests according to the following series of regulations: EN55022/CISPR22/AS/NZS3548 Class B, EN55024 (1998/AS/NZS), EN4252.1 (1994), EN61000, ANSI C63.4 (1992), CFR47 Part 15 Subpart B, and CNS13438 (1997). The items tested are illustrated as follows:

(A) Voltage: AC 110V/60HZ & AC 230V/50HZ

(B) Tested Product Information:

Product Name: PC Mainboard

Status: Sample

Model Name: SD37P2

S/N: N/A

CPU:

External Frequency: 133 MHz

Intel Celeron D, LGA 775 Processor: 3.33 GHz

External Frequency: 200 MHz

Intel Pentium 4, LGA 775 Processor: 3.8 GHz

External Frequency: 266 MHz

Intel Pentium D, LGA 775 Processor: 3.46/ 3.73 GHz

USB 2.0 Port: eight ports with 4 pins respectively

1394 Port: one ports with 4 pins and one ports with 6 pins respectively

LAN Port: one port with 8 pins (10Mbps/100Mbps/1000Mbps)

Line-Out Ports: four ports

Front-Out Port: one port

Mic-In Ports: one port

Line-In Ports: one port

SPDIF-Out (Coaxial) Port: one port

SPDIF-Out (Optical) Port: one port

SPDIF-In (Optical) Port: one port

Clear CMOS button: one port

DIMM Memory (optional): DDR2 533/667 2GBx4

Power Cable: Detachable and Shielded (with a GND pin)

External Serial-ATA II Port: one port with 7 pins

All CPUs have completely been tested, and values offered by the worst EMI combination of CPU external frequency are listed as follows:

Test Mode	External Frequency	CPU	CPU Open/Close
1	133MHz	Celeron 3.3 GHz	Close
2	133MHz	Celeron 3.3 GHz	Open

3	200MHz	P4 3.8 GHz	Close
4	200MHz	P4 3.8 GHz	Open
5	266MHz	P4 3.73 GHz	Close
6	266MHz	P4 3.73 GHz	Open

(C) Remedy for the Tested Product & Its EMI Interference:

Remedy: N/A

EMI Interference:

Crystal : 14.318MHz(X2)/ 25MHz(X3)/ 32.768KHz(X1)/ 24MHz(X7)

Clock Generator : U6

(D) Supported Host Peripherals:

Component	Brand	Model No. / Spec.
HDD x 2	Hitachi	HDS728080PLA380/82.3GB
FDD	Panasonic	SU-256A888PC, 1.44MB
CD-ROM	BTC	DRW1108IM, DVD-Dual
Memory x 4	Kingstone	KVR533D2E
Power	Shuttle	PC43I3503, 350W

(E) Notices for Assembling Computers:

1. An I/O shielding should be contacted with I/O metallic parts of a mainboard.
2. Cables should appropriately be arranged and fixed in a case. Follow instructions:
   - Leave IDE cables not crossed upon CPU and SDRAM;
   - Leave power cables minimum in length, and not crossed upon a mainboard;
   - Leave CPU fan cables minimum in length, and not near CPU;
   - Leave cables on panels and other spare cables tied in a computer case.
3. Make sure an EMI shielding attached to a case has been properly installed.
4. Make sure a 5.25" drive and screws are fastened to the case (EMI shielding).
5. Make sure the case is in contact with EMI connection points.
6. Make sure there is no cleft in the case.
7. Make sure a PCI door is bound to a case.
8. Make sure cables of other devices (fans or some others) are fixed in a case.

Shuttle®

XPC Installation Guide

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This device complies with Part 15 of the FCC Rules, Operation is subject to the following two conditions:

1. This device may not cause harmful interference.
2. This device must accept any interference received, including interference that may cause undesired operation.

Trademarks

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General Notice

Other brand and product names used herein are for identification purposes only and may be trademarks of their respective owners.

Safety Information

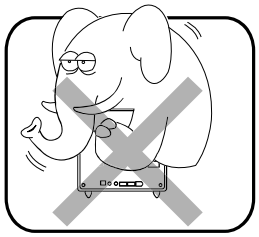
Read the following precautions before setting up a Shuttle XPC.

CAUTION

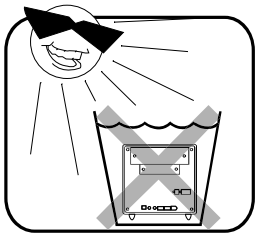
Incorrectly replacing the battery may damage this computer. Replace only with the same or equivalent as recommended by Shuttle. Dispose of used batteries according to the manufacturer's instructions.

Installation Notices

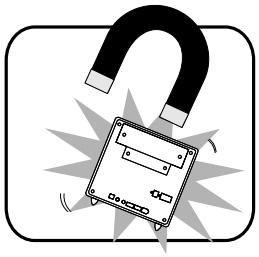
Do not place this device underneath heavy loads or in an unstable position.



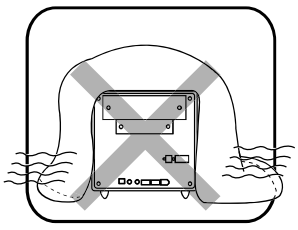
Do not expose this device to high levels of direct sunlight, high-humidity or wet conditions.



Do not use or expose this device around magnetic fields as magnetic interference may affect the performance of the device.



Do not block the air vents to this device or impede the airflow in any way.



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1 Driver and Software Installation

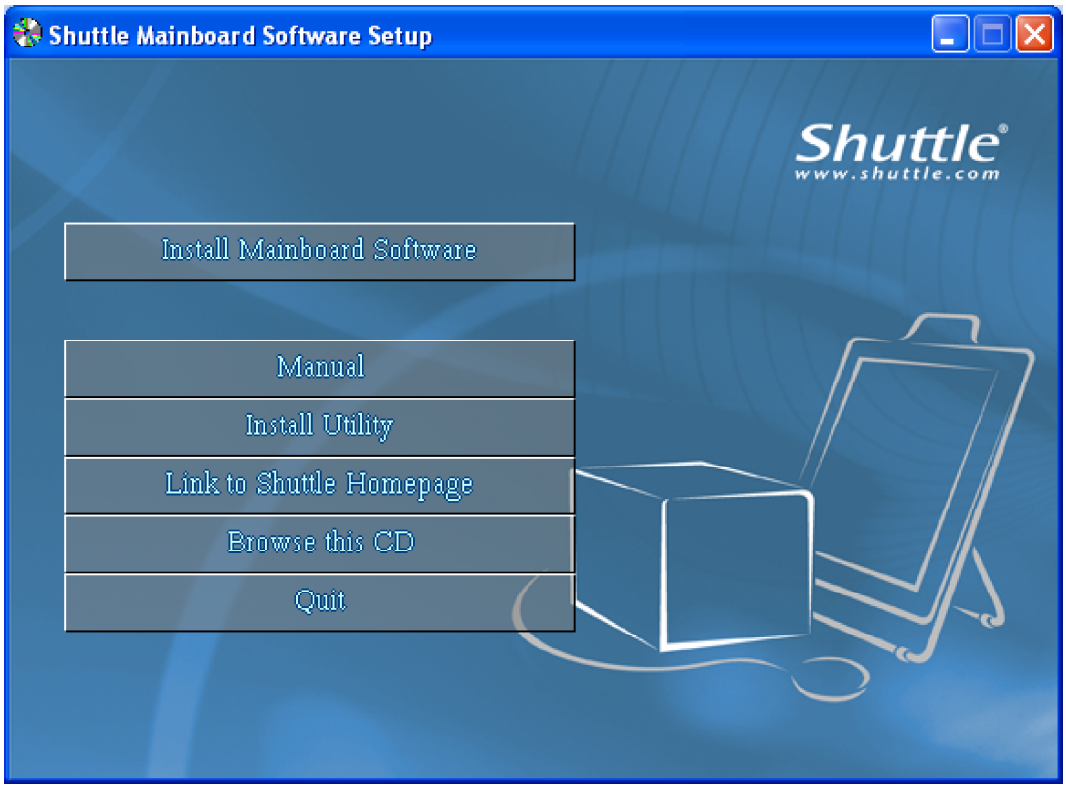
■ 1.1 Mainboard Driver CD

Note : The CD contents attached in SD37P2 mainboard are subject to change without notice.

The Mainboard Driver CD contains all the motherboard driver necessary to optimize the performance of this XPC in a Windows(R) OS. Install these drivers after installing Microsoft(R) Windows(R).

Navigation Bar Description :

- ☞ **Install Mainboard Software -** Intel Chipset Driver, Intel High Definition Audio Driver, Broadcom Giga LAN Driver, Broadcom BACS, Intel Matrix stroage Driver, Intel USB 2.0 Driver, DirectX9 Utility.
- ☞ **Install Utility** - Install Acrobat Reader, WinFlash Utility, XPC Tools.
- ☞ **Manual** - SD37P2 user's guide and RAID manual in PDF format.
- ☞ **Link to Shuttle Homepage** - Link to shuttle website homepage.
- ☞ **Browse this CD** - Allows you to see contents of this CD.
- ☞ **Quit** - Close this CD.

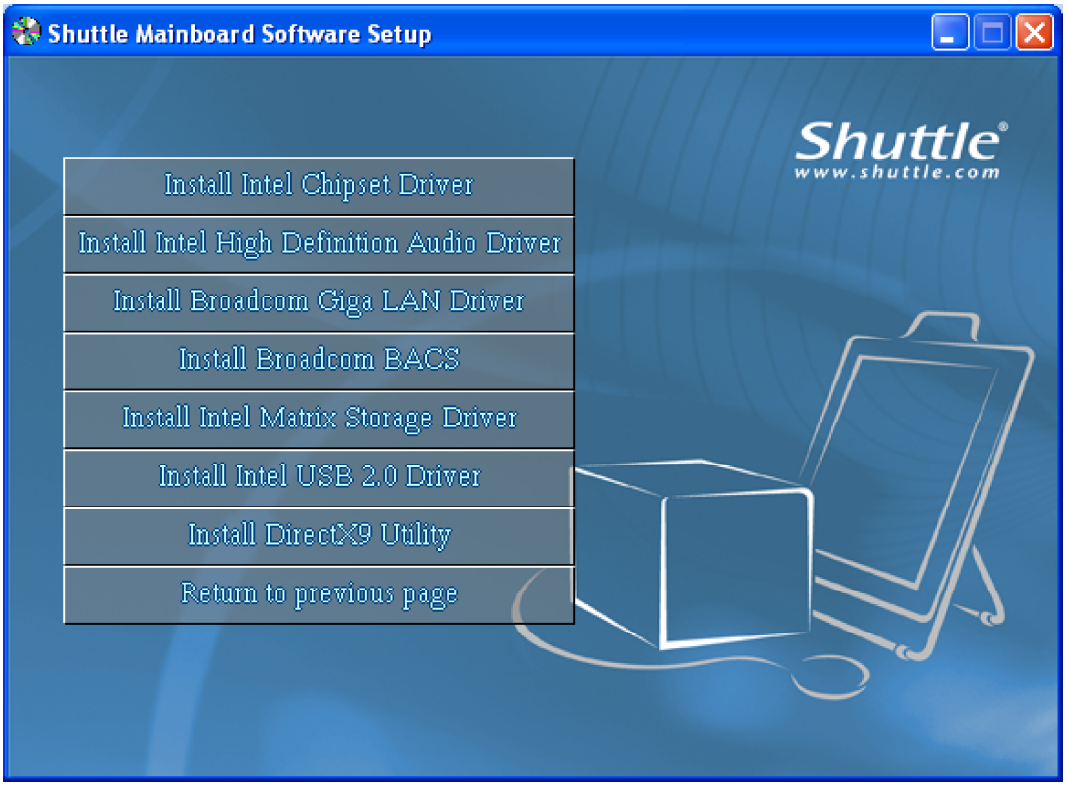


■ 1.1.1 Install Mainboard Software

Insert the attached CD into your CD-ROM drive. The CD AutoRun screen should appear. If the AutoRun screen does not appear, double click on Autorun icon in **My Computer** to bring up **Shuttle Mainb-oard Software Setup** screen.

Click the "**Install Main-board Software**" bar. Individually install the following drivers.

- **Install Intel Chipset Driver**
- **Install Intel High Definition Audio Driver**
- **Install Broadcom Giga LAN Driver**
- **Install Broadcom BACS**
- **Install Intel Matrix stroage Driver**
- **Install Intel USB 2.0 Driver**
- **Install DirectX9 Utility**



Appendix

BIOS Settings

The SD37P2 BIOS ROM has a built-in Setup program that allows users to modify basic system configuration. This information is stored in battery-backed RAM so that it retains Setup information even if the system power is turned off.

The system BIOS manages and executes a variety of hardware related functions including:

System date and time

Hardware execution sequence

Power management functions

Allocation of system resources

Enter the BIOS

To enter the BIOS (Basic Input / Output System) utility, follow these steps:

Step1. Power on the computer. The system will perform its POST (Power-On Self Test) routine checks.

Step2. Press the <Del> key immediately, or at the following message: Press DEL to enter SETUP, or simultaneously press <Ctrl>,<Alt>, <Esc> keys

Note 1. If you miss the train of words mentioned in step2 (the message disappears before you can respond) and you still wish to enter BIOS Setup, restart the system and try again by turning the computer OFF and ON again or by pressing the <RESET> switch located at the computer's front-panel. You may also reboot by simultaneously pressing the <Ctrl>,<Alt>, <Del> keys simultaneously.

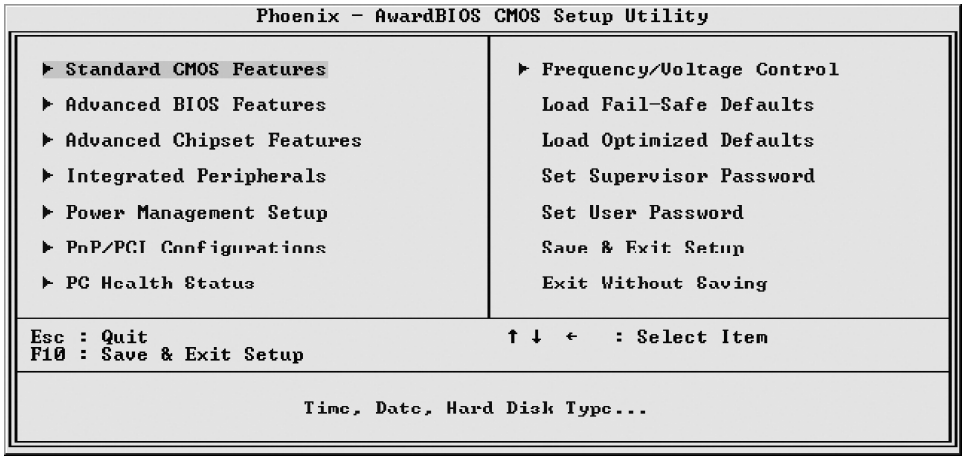
Note 2. If you do not press the keys in time and system does not boot, the screen will prompt an error message, and you will be given the following options:

"Press F1 to Continue, DEL to Enter Setup"

Step3. When you enter the BIOS program, the CMOS Setup Utility will display the Main Menu, as shown in the next section.

The Main Menu

Once you enter the AwardBIOS(tm) CMOS Setup Utility, the Main Menu will appear on the screen. The Main Menu allows you to select from several setup functions and two exit choices. Use the arrow keys to select among the items and press <Enter> to accept and enter the sub-menu.



Note that a brief description of each highlighted selection appears at the bottom of the screen.

Setup Items

The main menu includes the following main setup categories. Recall that some systems may not include all entries.

Standard CMOS Features

Use this menu for basic system configuration.

Advanced BIOS Features

Use this menu to set the Advanced Features available on your system.

Advanced Chipset Features

Use this menu to change the values in the chipset registers and optimize your system's performance.

Integrated Peripherals

Use this menu to specify your settings for integrated peripherals.

Power Management Setup

Use this menu to specify your power management settings.

PnP / PCI Configurations

This entry appears if your system supports PnP / PCI.

PC Health Status

This entry displays the current system temperature, Voltage, and FAN settings.

Frequency/Voltage Control

Use this menu to specify your settings for frequency/voltage control.

Load Fail-Safe Defaults

Use this menu to load the BIOS default values for the minimal/stable performance of your system to operate.

Load Optimized Defaults

Use this menu to load the BIOS default values that are factory-set for optimal system operation. While Award has designed the custom BIOS to maximize performance, the factory has the right to change these defaults to meet users' needs.

Set Supervisor / User Password

Use this menu to change, set, or disable password protection. This allows you to limit access to the system and Setup, or only to Setup.

Save & Exit Setup

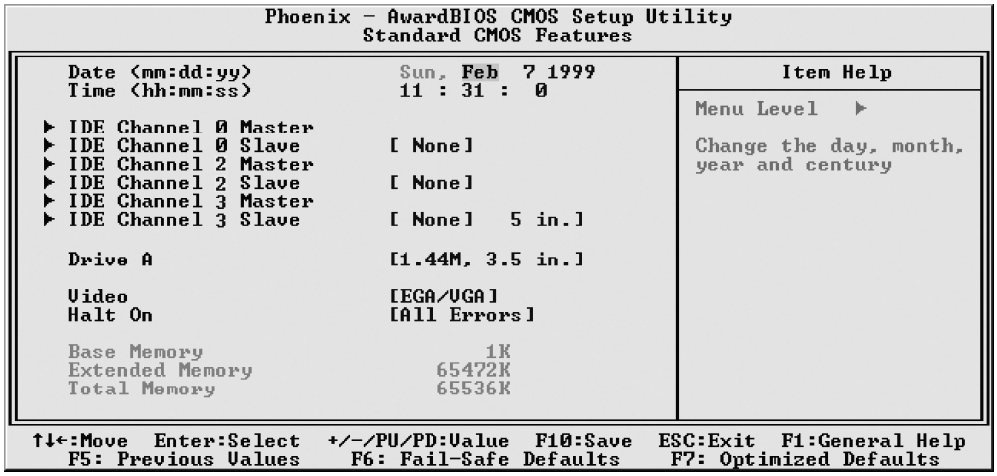
Save CMOS value changes in CMOS and exit from setup.

Exit Without Saving

Abandon all CMOS value changes and exit from setup.

Standard CMOS Features

The items in the Standard CMOS Setup Menu are divided into several categories. Each category includes none, one or more than one setup items. Use the arrow keys to highlight the item and then use the <PgUp> or <PgDn> keys to select the value you want in each item.



Date

<Month> <DD> <YYYY>

Set the system date. Note that the 'Day' automatically changes when you set the date.

Time

<HH : MM : SS>

The time is converted based on the 24-hour military-time clock.

For example, 5 p.m. is 17:00:00.

IDE Channel 0/2/3 Master/Slave

Options are in its sub-menu.

Press <Enter> to enter the sub-menu of detailed options.

Drive A

Select the type of floppy disk drive installed in your system.

- The choice: None, 360K, 5.25 in, 1.2M, 5.25 in, 720K, 3.5 in, 1.44M, 3.5 in, or 2.88M, 3.5 in.

Video

Select the default video device.

- The choice: EGA/VGA, CGA 40, CGA 80, or MONO.

Halt On

Select the situation in which you want the BIOS to stop the POST process and notify you.

- The choice: All Errors, No Errors, All, But Keyboard, or All, But Diskette, All, But Disk/Key.

Base Memory

Displays the amount of conventional memory detected during boot up.

- The choice: N/A.

Extended Memory

Displays the amount of extended memory detected during boot up.

- The choice: N/A.

Total Memory

Displays the total memory available in the system.

- The choice: N/A.

****

IDE Adapters

The IDE adapters control the hard disk drive. Use a separate sub-menu to configure each hard disk drive.

IDE HDD Auto-Detection

Press <Enter> to auto-detect HDD on this channel. If detection is successful, it fills the remaining fields on this menu.

- Press Enter

IDE Channel 0/2/3 Master/Slave

Selecting 'manual' lets you set the remaining fields on this screen and select the type of fixed disk. "User Type" will let you select the number of cylinders, heads, etc., Note: PRECOMP=65535 means NONE !

- The choice: None, Auto, or Manual.

Access Mode

Choose the access mode for this hard disk.

- The choice: CHS, LBA, Large, or Auto.

Capacity

Disk drive capacity (Approximated). Note that this size is usually slightly greater than the size of a formatted disk given by a disk checking program.

- Auto-Display your disk drive size.

The following options are selectable only if the 'IDE Primary Master' item is set to 'Manual', and Access mode set to CHS.

Cylinder

Set the number of cylinders for this hard disk.

- Min = 0, Max = 65535

Head

Set the number of read/write heads.

- Min = 0, Max = 255

Precomp

Warning: Setting a value of 65535 means no hard disk.

- Min = 0, Max = 65535

Landing zone

Set the Landing zone size.

- Min = 0, Max = 65535

Sector

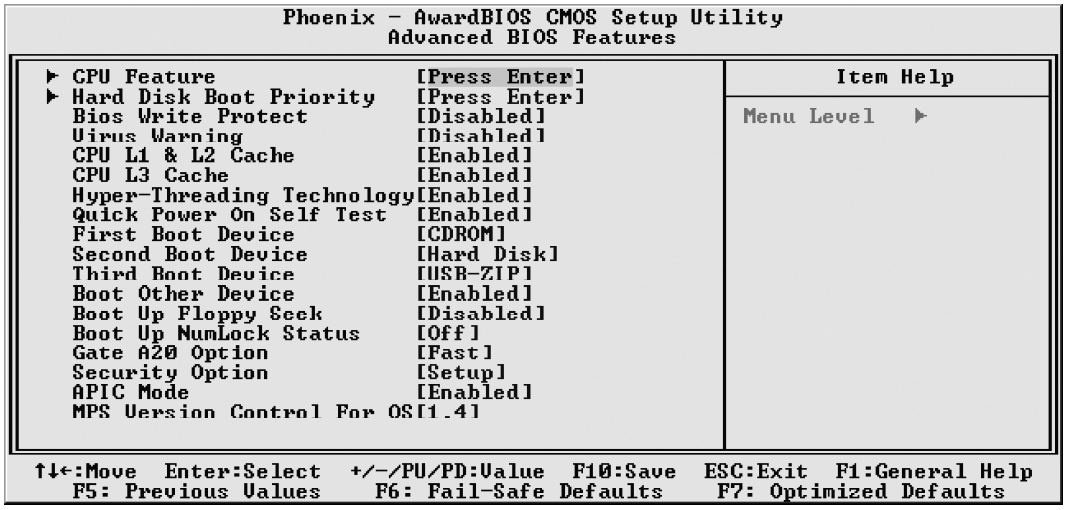
Number of sector per track.

- Min = 0, Max = 255

****

Advanced BIOS Features

This section allows you to configure your system for basic operation. You have the opportunity to select the system's default speed, boot-up sequence, keyboard operation, shadowing, and security.



CPU Feature

Options are in its sub-menu.

Press <Enter> to enter the sub-menu of detailed options.

Delay Prior to Thermal

This item is select Delay Prior to Thermal.

➢ The Choice: 4Min, 8Min, 16Min or 32 Min.

Thermal Management

This item is select Thermal Management . Thermal Monitor 1 (On die throtting). Thermal Monitor 2 Ratio & VID transition).

➢ The Choice: Thermal Monitor 1 or Thermal Monitor 2.

TM2 Bus Ratio

Represents the frequency (bus ratio of the throttled performance statethat will be initiated when the on-diesensor gose from not hot to hot.

➢ The Choice: Min = 0 Max = 255.

Note: CPU support TM2, item appear.

TM2 Bus VID

Represents the voltageof the throttled performance statethat will be initiated when the on diesensor gose from not hot to hot.

- The Choice: 0.8375V ~ 1.6000V.

Note: CPU support TM2, item appear.

Limit CPUID MaxVal

Set Limit CPUID MaxVal to 3,Should Be "Disabled" for WinXp.

- The Choice: Disabled or Enabled.

Note: Some older O.S.'s (Win98,WinMe..) cannot handle a CPUID MaxVal greater than 3. Please choose "Enabled" if you use one of those O.S. If your O.S. is WinXP or Win2000, we suggest you "Disabled" the item.

C1E Function

When disabled, processor can't transitions to a lower core frequency and voltage.

- The Choice: Auto or Disabled.

Execute Disable Bit

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

- The Choice: Enabled or Disabled.

Virtualization Technology

When enabled, a VMM can utilize the additional hardwarecapabilities provided by Vanderpool Technology.

- The Choice: Enabled or Disabled.

Hard Disk Boot Priority

This item allows you to select Hard Disk Book Device Priority.

Bios Write Protect

This item allows you to enable or disable the Bios Write Protect.
If you want to flash BIOS, you must set it [Disabled].

- The choice: Enabled or Disabled.

Virus Warning

Allows you to choose the VIRUS Warning feature for IDE Hard Disk boot sector protection. If this function is enables and someone attempts to write data into this area, BIOS will show a warning message on screen, and an alarm beep.

Enabled 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.

Disabled No warning message will appear when anything attempts to access the boot sector or hard disk partition table.

➢ The choice: Enabled or Disabled.

CPU L1&L2&L3 Cache

All processors that can be installed in this mainboard use internal level1 (L1) , external 2(L2) and (L3) cache memory to imporve performance.

Leave this item at the default value for better performance.

➢ The choice: Enabled or Disabled.

Note : CPU support, L3 item appear.

Hyper-Threading Technology

The latest Intel application defines a high-speed calculating ability to optimize your system by two CUPs supported(one virtual, one physical) in a multi-task environment. "Enabled" for Windows XP and Linux 2.4.x(OS optimized for Hyper Threading Technology and "Disable" for other OS (OS not optimized for Hyper Threading Technology)

➢ The choice: Enabled, or Disabled.

Note : CPU support, Hyper-Threading item appear.

Quick Power On Self Test

This item speeds up Power-On Self Test (POST) after you power on the computer. If it is set to enabled, BIOS will shorten or skip some check items during POST.

➢ The choice: Enabled, or Disabled.

First/Second/Third Boot Device

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

➢ The Choice: LS120, Hard Disk, CDROM, ZIP100, USB-FDD, USB-ZIP,USB-CDROM, LAN, Disabled or Floppy.

Boot Other Device

If BIOS can't load O.S. from First/Second/Third boot device you select above, BIOS will search other devices and attempt to load O.S..

➢ The choice: Enabled or Disabled.

Boot Up Floppy Seek

Enabled tests floppy drives to determine whether they have 40 or 80 tracks

- The choice: Enabled or Disabled.

Boot Up NumLock Status

Selects power on state for NumLock.

- The choice: Off or On.

Gate A20 Option

This entry allows you to select how the Gate A20 is handled. The gate A20 is a device used for above 1MByte of address memory. Initially, the gate A20 was handled via a pin on the keyboard. Today, while a keyboard still provides this support, it is more common and much faster in setting to fast for the system chipset to provide support for gate A20.

- The choice: Normal or Fast.

Security Option

Select whether the password is required every time the system boots or only when you enter setup.

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

Setup The system will boot, but access to Setup will be denied if the correct password is not entered promptly.

- The choice: System or Setup.

Note : To disabled security, select PASSWORD SETTING at Main Menu, and then you will be asked to enter password. Don't 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.

APIC Mode

Via the routing, I/O APIC support a total of 24 interrupts. We recommend to choose [Enabled] for Windows XP and Windows 2000.

- The choice: Enabled or Disabled.

MPS Version Control For OS

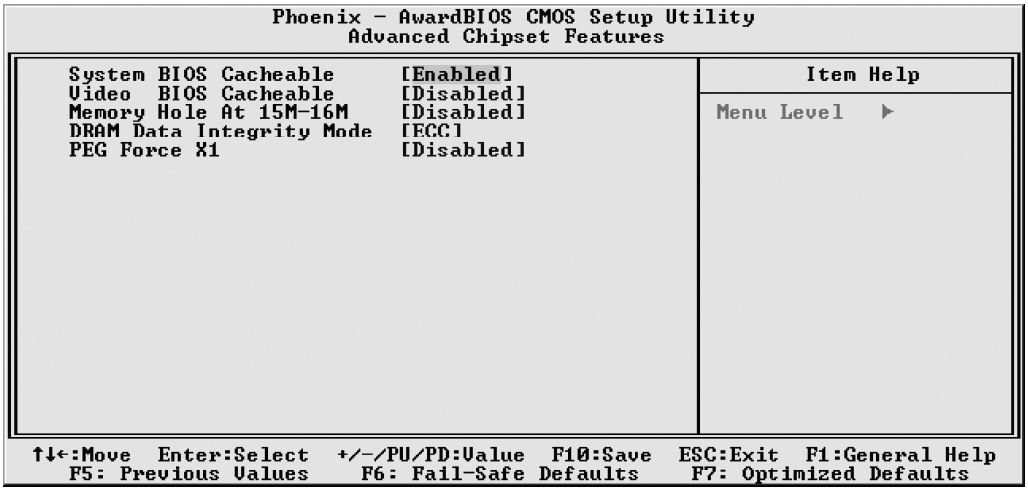
Selects the operating system multiprocessor support version.

- The choice: 1.1 or 1.4

Advanced Chipset Features

This section allows you to configure the system based on the specific features of the installed chipset. This chipset manages bus speeds and access to system memory resources, such as DRAM and the external cache. It also coordinates communications between the conventional ISA bus and the PCI bus. It states that these items should never need to be altered.

The default settings have been chosen because they provide the best operating conditions for your system. If you discovered that data was being lost while using your system, you might consider making any changes.



System BIOS Cacheable

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

- The Choice: Enabled or Disabled.

Video BIOS Cacheable

Selecting Enabled allows caching of the video BIOS, resulting in better system performance. However, if any program is written to this memory area, a system error may result.

- The Choice: Enabled or Disabled.

Memory Hole At 15M-16M

You can reserve this area of system memory for ISA adapter ROM. When this area is reserved, it can't be cached. The user information of peripher

als that need to use this area of system memory usually discusses their memory requirements.

- The Choice: Enabled or Disabled.

DRAM Data Integrity Mode

This item allows you to set DRAM Data Integrity Mode.

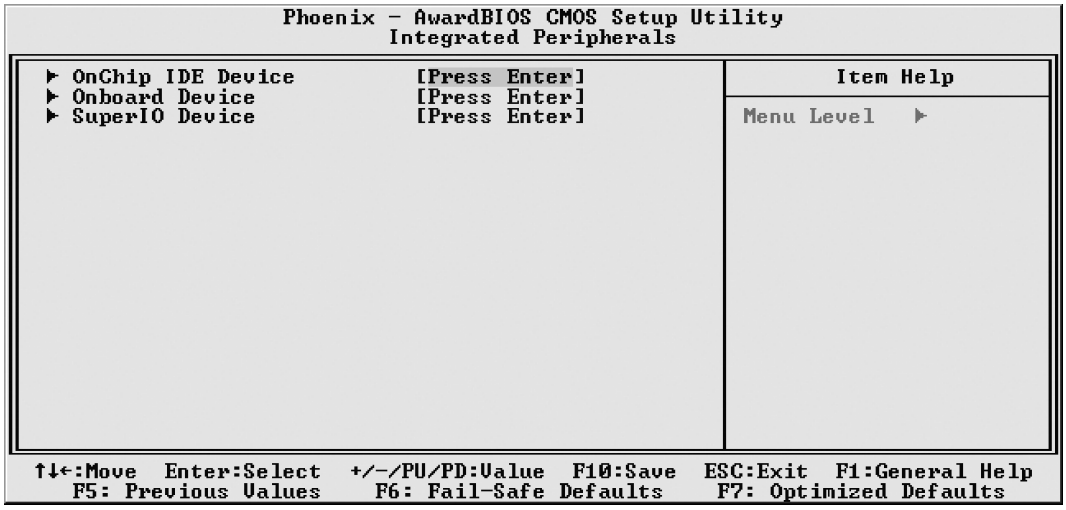
- The choice: ECC or Non-ECC .

PEG Force X1

This item allows you to force PEG link X1.

- The Choice: Enabled, or Disabled.

Integrated Peripherals



On-Chip IDE Device

Option are in its sub-menu.

Press <Enter> to enter the sub-menu of detailed options.

IDE HDD Block Mode

If your IDE hard disk drive supports block mode (most new drives do), select Enabled to automatic detect the optimal number of block read and writes per sector that the drive can support and improves the speed of access to IDE devices.

- The choice: Enabled, or Disabled.

On-Chip Primary PCI IDE

Use these items to enable or disable the PCI IDE channels that are integrated on the mainboard.

- The choice: Enabled or Disabled.

IDE Primary Master/Slave PIO

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

- The choice: Auto, Mode 0, Mode 1, Mode 2, Mode 3, or Mode 4.

IDE Primary Master/Slave UDMA

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

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

- The Choice: Auto or Disabled.

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

SATA Mode

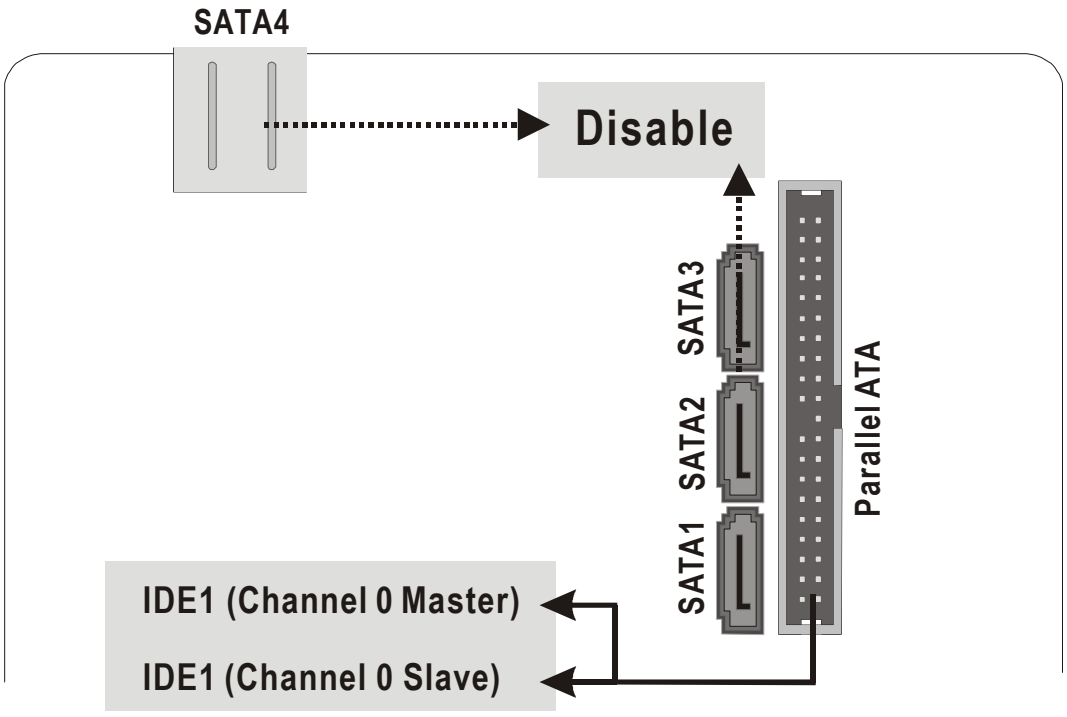
This item allows you to set the SATA Mode.

- The choice: IDE, RAID or AHCI.

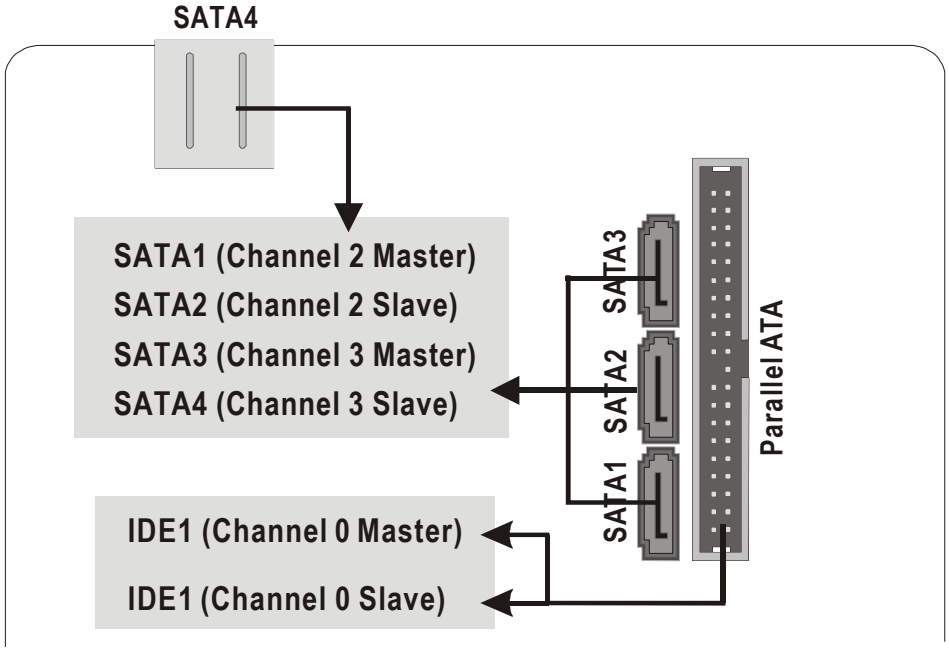
On-Chip Serial ATA

- The Choice: Disabled, Enhanced Mode or SATA Only.

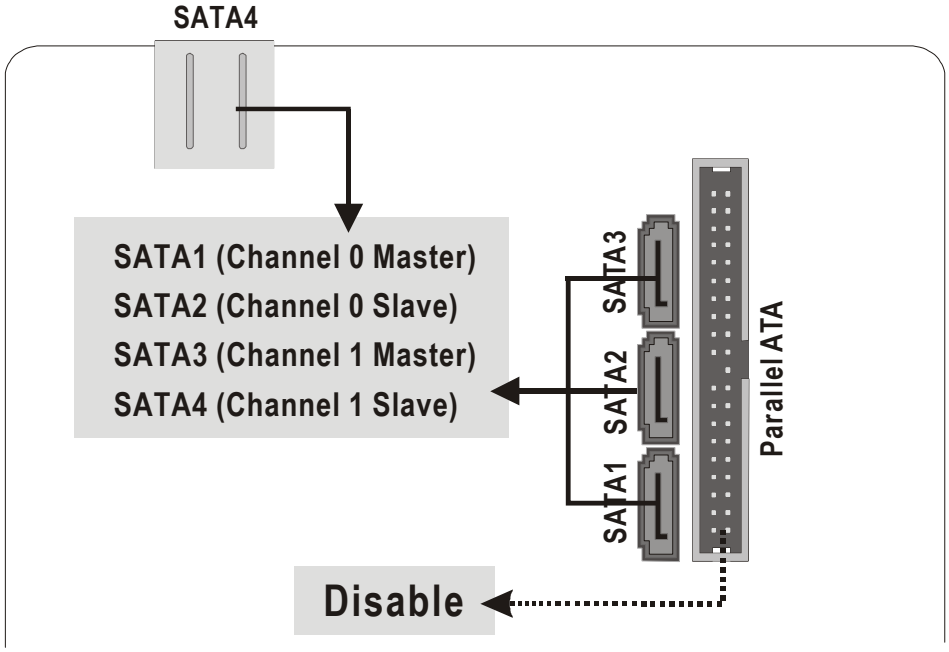
Disabled : Disabled SATA Controller.



Enhanced Mode: Enables both SATA and PATA. Max. 2 ATA drives are supported. Some current operationg systems (WinXP,Windows NET Server,Windows2000) support Enhanced mode.



SATA-Only :SATA operates in legacy mode.



SATA PORT Speed Settings

This item allows you to set the SATA PORT Speed.

- The choice: Disabled, Force GEN I, or Force GEN II.

Onboard Device

Option are in its sub-menu.

Press <Enter> to enter the sub-menu of detailed options.

USB Controller

Select Enabled if your system contains a Universal Serial Bus (USB) port on this mainboard.

- The choice: Enabled or Disabled.

USB 2.0 Controller

Select Enabled if your system contains a Universal Serial Bus (USB) 2.0 controller and you have USB peripherals.

- The choice: Enabled or Disabled.

High Definition Audio

Use these items to enable or disable the High Definition Audio.

- The choice: Enabled or Disabled.

Onboard Lan Boot ROM

Decide whether to invoke the boot ROM of the onboard LAN chip.

- The Choice: Enabled or Disabled.

SuperIO Device

Option are in its sub-menu.

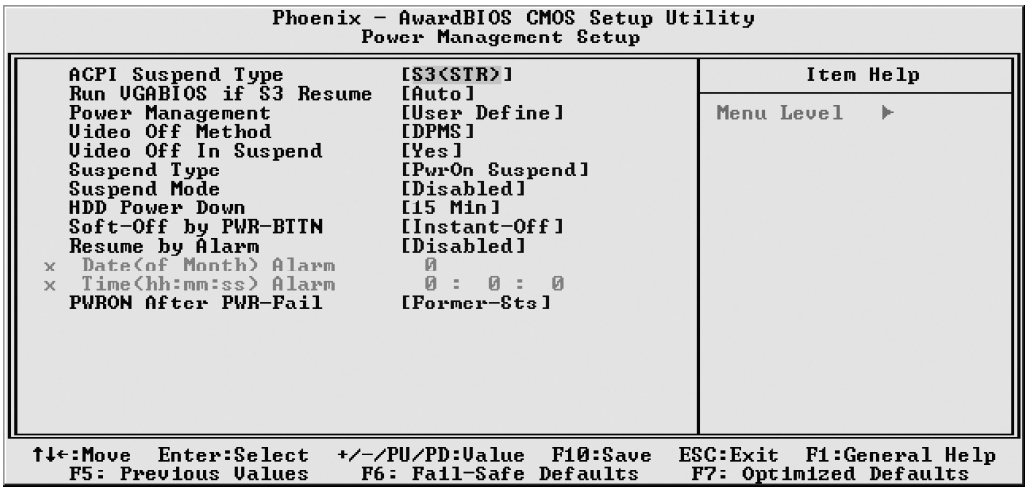
Press <Enter> to enter the sub-menu of detailed options.

Onboard FDC Controller

This item specifices onboard floppy disk drive controller. This setting allows you to connect your floppy disk drives to the onboard floppy connector.

- The choice: Enabled or Disabled.

Power Management Setup



The Power Management Setup allows you to configure your system to most effectively save energy while operating in a manner consistent with your computer usage.

ACPI Suspend Type

This item allows you to select sleep state when suspend.

- The choice: S1(POS) or S3(STR).

Run VGABIOS if S3 Resume(Auto)

This item allows the system to initialize the VGA BIOS from S3(Suspend to RAM) sleep state.

- The choice: Auto, Yes or No.

Power Management

This item allows you to decide the timing to enter suspend mode.

- The choice: User Define, Min Saving, Max Saving.

Video Off Method

This determines the manner in which the monitor is blanked.

V/H SYNC + Blank	This selection will cause the system to turn off the vertical and horizontal synchronization ports and write blanks to the video buffer.
Blank Screen	This option only writes blanks to the video buffer.
DPMS	Initial display power management signaling.

- The choice: V/H SYNC + Blank, Blank Screen, or DPMS.

Video Off In Suspend

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

- The choice: Yes or No.

Suspend Type

This item allows you to select the Suspend Type.

- The choice: Stop Grant or PwrOn suspend.

Suspend Mode

When this item enabled and after the set up time of system inactivity, all devices except the CPU will be shut off.

- The choice: Disabled, 1Min, 2Min, 4Min, 8Min, 12Min, 20Min, 30Min, 40Min, or 1Hour.

HDD Power Down

When this item enabled and after the set up time of system inactivity, the hard disk drive will be powered down while all other devices remain active.

- The choice: Disabled or 1 Min ~ 15 Min.

Soft-Off by PWR-BTTN

Under ACPI you can create a software power down. In a software power down, the system can be resumed by Wake UP Alarms. This item lets you install a software power down that is controlled by the power button on your system. If the item is set to Instant-Off, then the power button causes a software power down. If the item is set to Delay4 Sec. then you have to hold the power button down for 4 seconds to cause a software power down.

- The choice: Instant-Off or Delay 4 Sec.

Resume by Alarm

When this item enabled, your can set the date (day of the month) and time to turn on your system.

- The choice: Disabled or Enabled.

Date(of Month) Alarm

This item selects the alarm Date (day of the month).

- Key in a DEC number: Min = 0, Max = 31.

Time(hh : mm : ss) Alarm

This item selects the alarm Time.

[hh] ➢ Key in a DEC number: Min = 0, Max = 23.

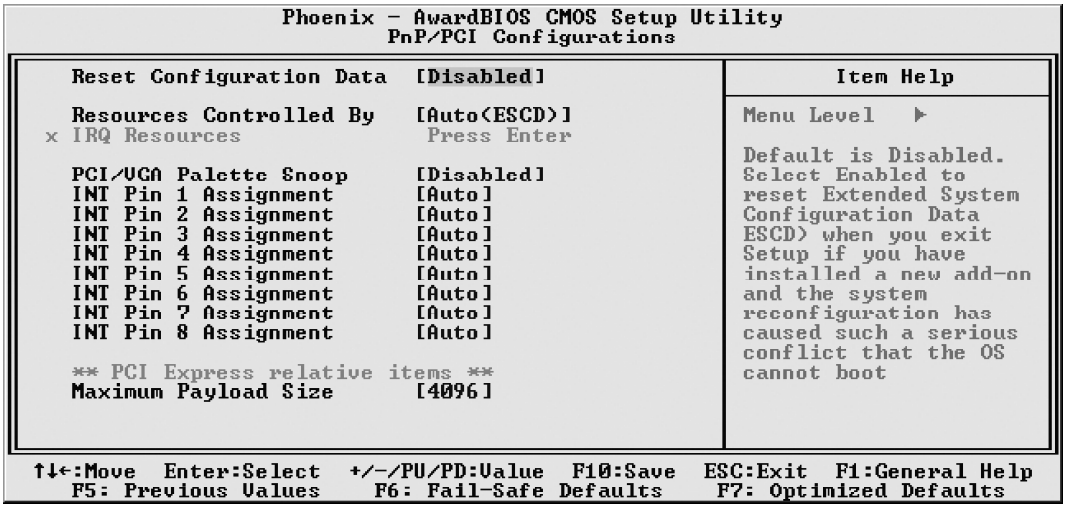
[mm/ss] ➢ Key in a DEC number: Min = 0, Max = 59.

Pwron After PWR-Fail

This item defines if the system will be rebooted after the power fails.

- The choice: Off, On, Former-Sts.

PnP/PCI Configurations



This section describes the configuration of PCI bus system. PCI or Personal Computer Interconnection is a system which allows I/O devices to operate at the speed CPU itself keeps when CPU communicating with its own special components.

This section covers some very technical items, and it is strongly recommended that only experienced users should make any changes to the default settings.

Reset Configuration Data

Normally, you leave this field Disabled. Select Enabled to reset Extended System Configuration Data (ESCD) when you exit from Setup if you have installed a new device or software and the system reconfiguration has caused such a serious conflict that the operating system can not boot.

- The choice: Enabled or Disabled .

Resource controlled By

The Award Plug-and-Play BIOS has the capacity to automatically configure all of the boot and Plug-and-Play compatible devices. However, this capability means absolutely nothing unless you are using a Plug-and-Play operating system such as Windows 95.

If you set this field to "manual" , choose specific resources by going into each of the sub-menu that follows this field (a sub-menu is proceeded by a ">").

- The choice: Auto(ESCD) or Manual.

IRQ Resources

When resources are controlled manually, assign each system interrupt a type, depending on the type of device using the interrupt.

IRQ3/4/5/7/10/11/12/14/15 assigned

This item allows you to determine the IRQ assigned to the ISA bus and is not available to any PCI slot. Legacy ISA for devices is compliant with the original PC AT bus specification; PCI/ISA PnP for devices is compliant with the Plug-and-Play standard whether designed for PCI or ISA bus architecture.

- The choice: PCI Device or Reserved.

PCI/VGA Palette Snoop

It determines whether the MPEG ISA/VESA VGA Cards can work with PCI/VGA or not. If you have MPEG ISA/VESA VGA Cards and PCI/VGA Card worked, Enable this field. Otherwise, please Disable it.

- The choice: Enabled or Disabled.

INT Pin1～8 Assignment

Names the interrupt request(IRQ) line assigned to a device connected to the PCI interface on your system.

- The choice: Auto, 3, 4, 5, 7, 9, 10, 11, 12, 14, 15.

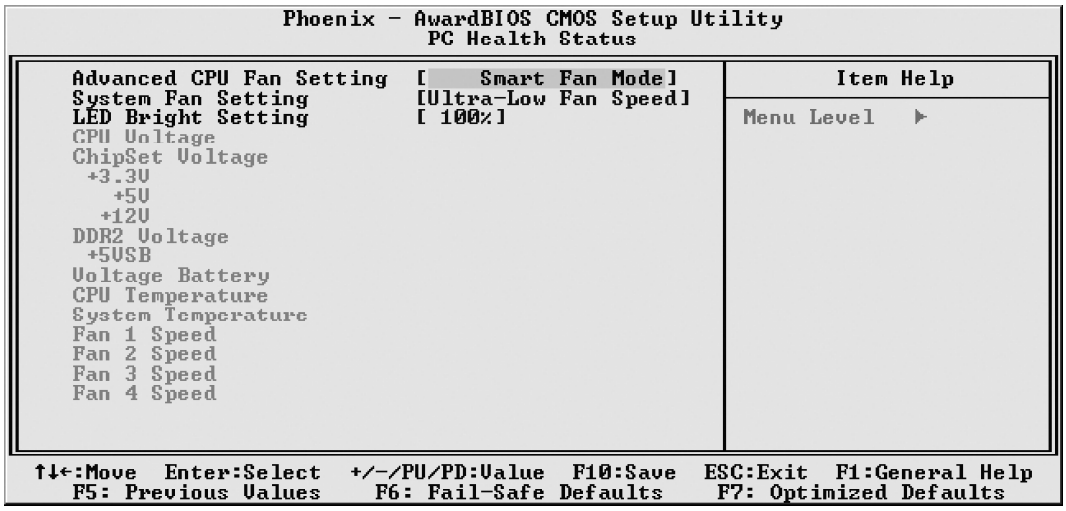
********** **PCI Express relative items** **********

Maximum Payload Size

Set maximum TLP payload size for the PCI Express devices.
The unit is byte.

- The choice: 4096, 2048, 1024, 512, 256 or 128.

PC Health Status



Advanced CPU Fan Setting

Here you can set the CPU Fan Speed.

- The choice: Smart Fan Mode, Ultra-Low Fan Speed, Low Fan Speed, Mid Fan Speed, Full Fan Speed or Extreme PC Mode.

Note : Before manually modifying the CPU fan setting, please make sure fan connectors are plug ged into the correct fan connector on the mainboard.

System Fan Setting

Here you can set the System Fan Speed.

- The choice: Ultra-Low Fan Speed, Low Fan Speed, Mid Fan Speed, or Full Fan Speed.

LED Bright Setting

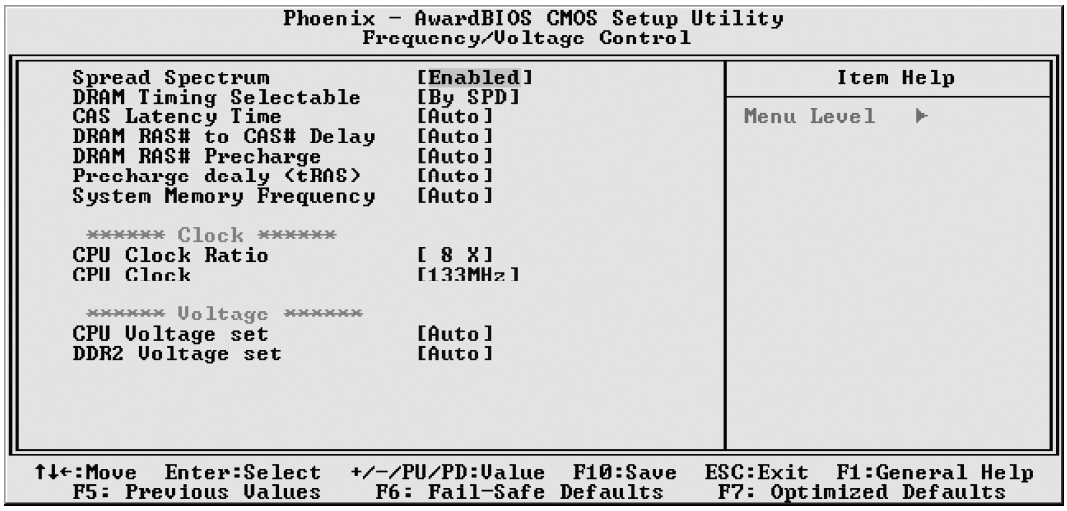
Here you can set the LED Bright.

- The choice: 0%, 25%, 37.5%, 50%, 62.5%, 75%, 87.5% or 100%.

CPU Voltage
ChipSet Voltage
+3.3V
+5V
+12V
DDR2 Voltage
+5VSB
Voltage Battery
CPU Temperature
System Temperature
Fan 1 Speed
Fan 2 Speed
Fan 3 Speed
Fan 4 Speed

Warning : It is Strongly reco-mmended to disable 'Smart Fan' if you use an alternative fan to the default.

Frequency/Voltage Control



Spread Spectrum

This item allows you to enable or disable the spread spectrum modulation.

- The choice: Disabled or Enabled.

DRAM Timing Selectable

The value in this field depends on performance parameters of the installed memory chips(DRAM). It is recommended that you don't change the value from the factory setting unless you install new memory that has a different performance rating than the original DRAMs.

- The Choice: Manual or By SPD

CAS Latency Time

When synchronous DRAM is installed, the number of CAS latency clock cycles depends on the DRAM timing. It is recommended don't change this field from the default value specified.

- The Choice: Auto, 3, 4, 5 or 6.

DRAM RAS # to CAS # Delay

This field lets you insert a timing delay between the CAS and RAS strobe signals when DRAM is written to, read from, or refreshed. Faster performance is gained at high speed, more stable performance, at low speed. This field is applied only when synchronous DRAM

is installed in the system.

- The Choice: Auto, 2, 3, 4, 5 or 6.

DRAM RAS # Precharge

If an insufficient number of cycles is allowed for the RAS to accumulate its charge before DRAM refresh, the refresh may not complete, and the DRAM may fail to retain data. High gives faster performance; and Slow gives more stable performance. This field is applicable only when synchronous DRAM is installed in the system.

- The Choice: Auto, 2, 3, 4, 5 or 6.

Precharge delay (tRAS)

This item allows you to set Precharge delay (tRAS).

- The Choice: 4 ~ 15 or Auto.

System Memory Frequency

This item allows you to set System Memory Frequency.

- The Choice: 533MHz, 667MHz or Auto.

****** Clock ******

CPU Clock Ratio

This item allows the user to adjust CPU Clock Ratio.
If CPU is unlocked, item appear.

- The Choice: 8X ~ 50X.

CPU Clock

This item allows the user to adjust CPU Host Clock.
Min: 133 Max: 355

- Key in a DEC number: (Between Min and Max.)

****** Voltage ******

CPU Voltage set

This item allows you to set CPU Voltage.

- The choice: +25mv ~ 800mV or Auto.

DDR2 Voltage set

This item allows you to set DDR2 Voltage.

- The choice: Auto, 1.9V, 2.0V or 2.1V.

Load Fail-Safe Defaults

When you press <Enter> on this item, you will get a confirmation dialog box with a message similar to:

Load Fail-Safe Defaults (Y/N) ? N

Pressing 'Y' loads the BIOS default values for the most stable, minimal performance system operations.

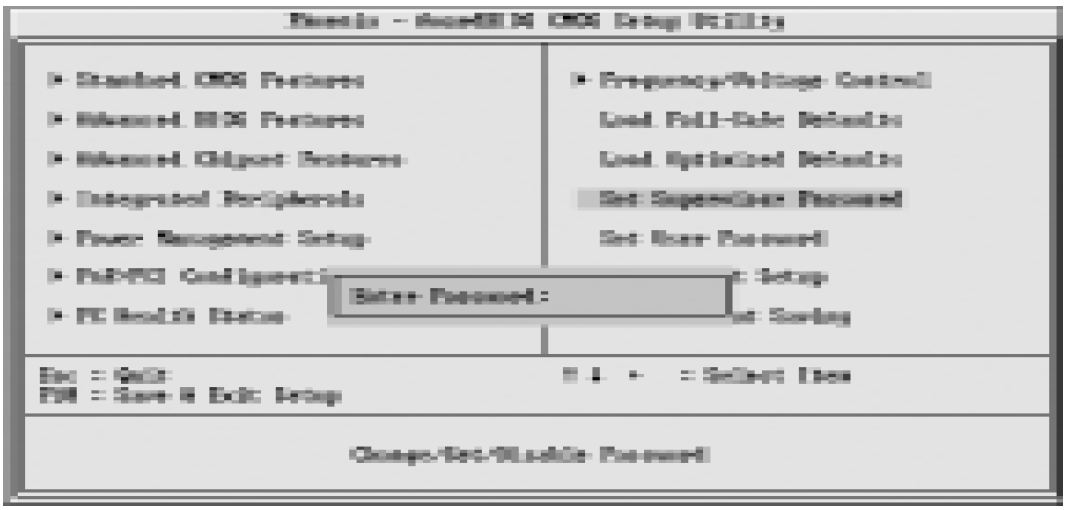
Load Optimized Defaults

When you press <Enter> on this item, you will get a confirmation dialog box with a message similar to:

Load Optimized Defaults (Y/N) ? N

Pressing 'Y' loads the default values that are factory-set for optimal performance system operation.

Set Supervisor/User Password



Steps to set supervisor/user password are described as follows:

New Password Setting:

1. While pressing <Enter> to set a password, a dialog box appears to ask you enter a password.
2. Key in a new password. The password can not exceed eight characters.
3. System will request you to confirm the new password again.
4. When completed, new code takes effect.

No Password Setting:

5. If you want to delete the password, just press the <Enter> key instead of typinga new password. Follow the procedure as ablve.

If You Forget Password:

6. If you forget your password, you must turn off the system and clear CMOS. Please refer to the tech notes at the end of section two for more information.

Save & Exit Setup

Pressing <Enter> on this item asks for confirmation:

SAVE to CMOS and EXIT (Y/N)? Y

Pressing "Y" stores the selections made in the menus of CMOS - a special section of memory that stays on after you turn your system off. The next time you boot your computer, the BIOS configures your system according to the Setup selections stored in CMOS. After saving the values the system is restarted again.

Exit Without Saving

Pressing <Enter> on this item asks for confirmation:

Quit Without Saving (Y/N)? N

This allows you to exit from Setup without storing in CMOS any change. The previous selections remain in effect. This exits from the Setup utility and restarts your computer.