XPC User Guide

For the : SG33

Shuttle XPC EMI Test Statement

Shuttle XPC have been through EMI tests according to the following series of regulations:

EN55022: 1998/A1: 2000/A2: 2003;AS/NZS CISPR22: 2004,EN55024: 1998/A1: 2001/A2: 2003;AS/NZS CISPR24:2002,FCC Rules CFR47 Part 15 Subpart B Class B,ANSI C63.4-2003,CNS13438(2006);CNS14336(2005). The items tested are illustrated as follows:

(A) Voltage: AC 100V/60HZ & AC 240V/50HZ

(B) Tested Product Information:

Product Name: XPC

Status: Sample

Model Name: SG33 Series

S/N: N/A

CPU:

Intel Core 2 Duo E6850 Conroe 3.00GHz FSB 1333 4M L2 Cache E0

VGA Port: D-Sub port 1 port

HDMI Port: 1 port

USB 2.0 Port: 6 ports

1394 Port: 1 port with 6 pins respectively,1 port with 4 pins.

Mic-In & Line-In & Earphone Ports: 1 port for each

Center/Bass-Out Port: 1 port

Surround-Out Port: 1 port

Surround-Back Port: 1 port

Front-Out Port: 1 port

SPDIF Out Port (Optical): 1 port

E-SATA Port: 2 port

LAN Port: 1 port(10Mbps/100Mbps/1000Mbps)

DIMM Memory (optional): DDR2 2GB *2

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

Monitor: D-Sub

Maximum Resolution: 2048 X 1536 V: 75Hz - Analog

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	333MHz	P4 3.00 GHz	Close

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

Remedy: N/A

EMI Interference:

Crystal : 14.318MHz(X5)/ 25MHz(X6)/ 32.768KHz(X1)/ 24.576MHz(X4)

Clock Generator: U48

(D) Supported Host Peripherals:

Component	Brand	Model No. / Spec.
HDD	WD	WD1600JS, 160GB
CD-ROM	Shuttle	CR40
Power	Shuttle	PC40N250EVF

(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.

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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

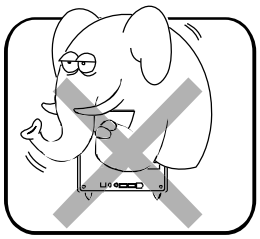
Read the following precautions before setting up a Shuttle XPC.

CAUTION

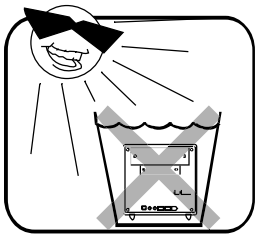
Incorrectly replacing the battery may damage this computer. Replace only with the same or equivalent as recommended by Shuttle. Dispose of used batteries according to the manufacturer's instructions.

Installation Notices

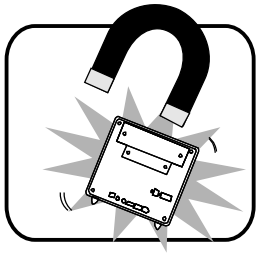
Do not place this device underneath heavy loads or in an unstable position.



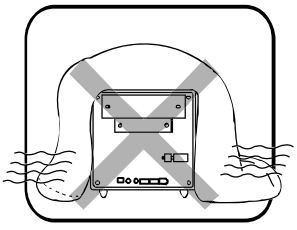
Do not expose this device to high levels of direct sunlight, high-humidity or wet conditions.



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

English

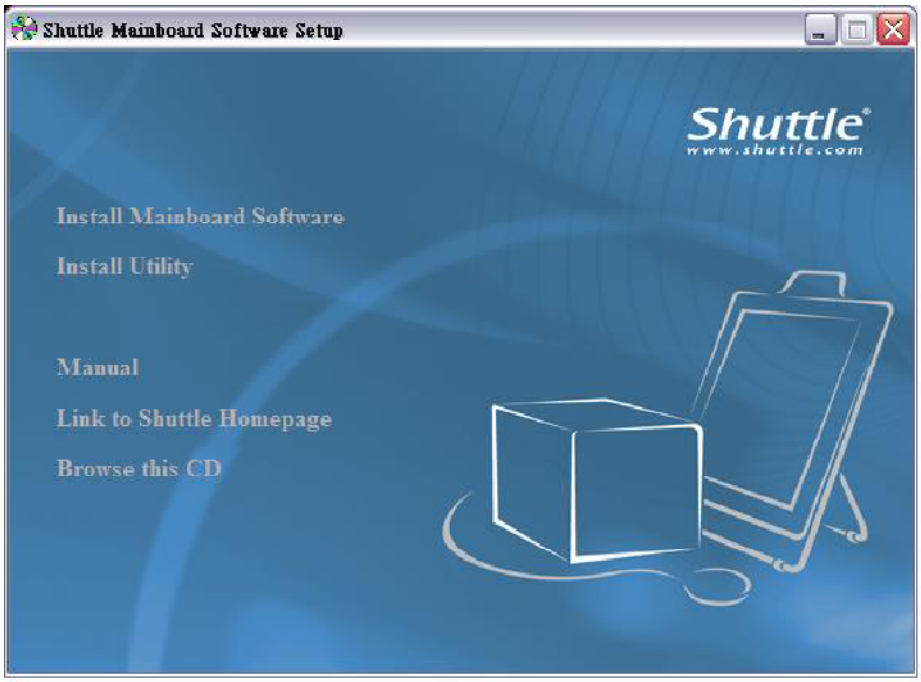
■ 1.1 Mainboard Driver CD

> Note : The CD contents attached in SG33 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-
  Install Intel Chipset Driver, Intel VGA Driver,
  Intel High Definition Audio Driver, Marvell Giga LAN Driver,
  Finger print recognition Driver, Finger print recognition Utility,
  Bluetooth Driver, Wireless LAN Driver.
- ☞ Install Utility - XPC Tools.
- ☞ Manual - SG33 manual in PDF format.
- ☞ Link to Shuttle Homepage - Link to shuttle website homepage.
- ☞ Browse this CD - Allows you to see contents of 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 VGA Driver
- ☞ Install Intel High Definition Audio Driver
- ☞ Install Marvell Giga LAN Driver
- ☞ Install Finger print recognition Driver
- ☞ Install Finger print recognition Utility
- ☞ Install Bluetooth Driver
- ☞ Install Wireless LAN Driver

BIOS Settings

The SG33 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 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 trains 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.

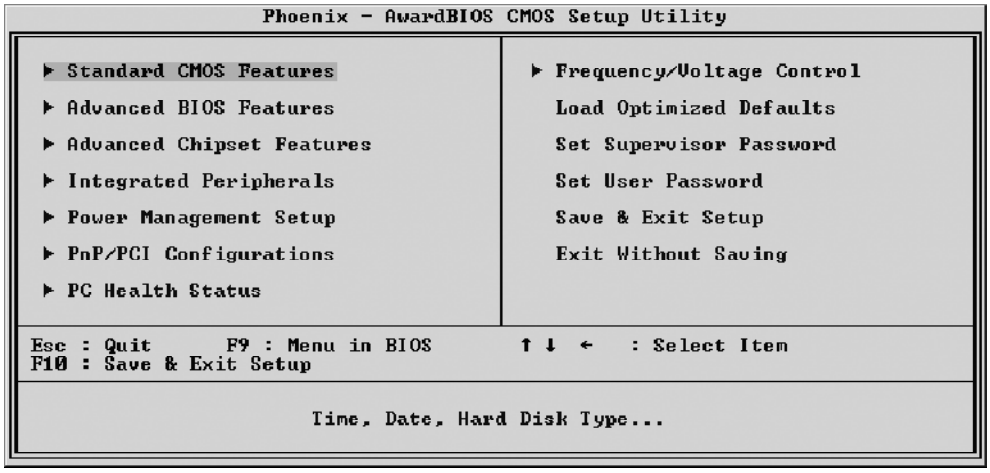
Note 2. If you do not press the keys in time and system does not boot, the screen will prompt an error message, and you will be given the following options:

"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 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

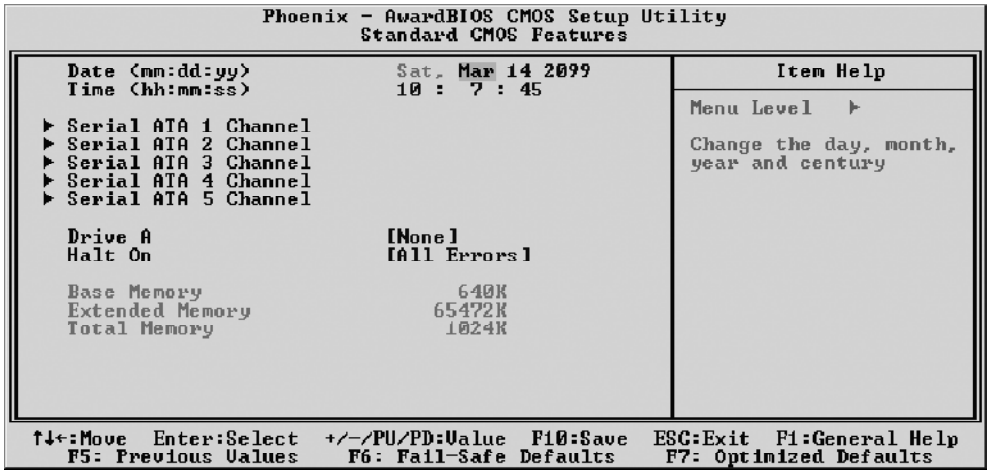
Save CMOS value changes in CMOS and exit from setup.

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.

Serial ATA 1,2,3,4,5 Channel

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, 1.44M, 3.5 in, or 2.88M, 3.5 in.

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.

SATA 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

Serial ATA 1,2,3,4,5 Channel

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

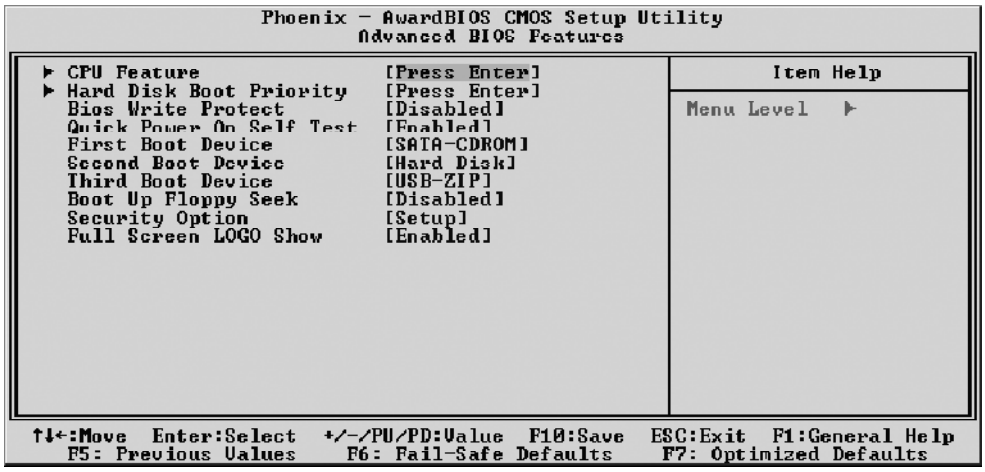
Number of sector per track.

- 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.

PPM Mode

Native mode is for fully support ACPI OS (ex.WIMXP, VISTA...), SMM mode is for legacy OS (ex. Win2K...).

- The Choice: SMM Mode or Native Mode.

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.

Note : CPU support, item appear.

Execute Disable Bit

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

- The Choice: Enabled or Disabled.

Note : CPU support, item appear.

Virtualization Technology

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

- The Choice: Enabled or Disabled.

Note : CPU support, item appear.

Core Multi-Processing

This item allows you to enable/disable the Core Multi-Processing.

- The choice: Disabled or Enabled.

Hard Disk Boot Priority

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

Bios Write Protect

This item allows you to enable/disable the Bios Write Protect. Choose [Enabled] to avoid virus destroy BIOS. If you want to flash BIOS, you must set it [Disabled].

- The choice: Enabled, or Disabled.

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, SATA-CDROM, ZIP100, USB-FDD, USB-ZIP, USB-CDROM, Legacy LAN, Disabled or Floppy.

Boot Up Floppy Seek

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

- The choice: Enabled or Disabled.

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.

Full Screen LOGO Show

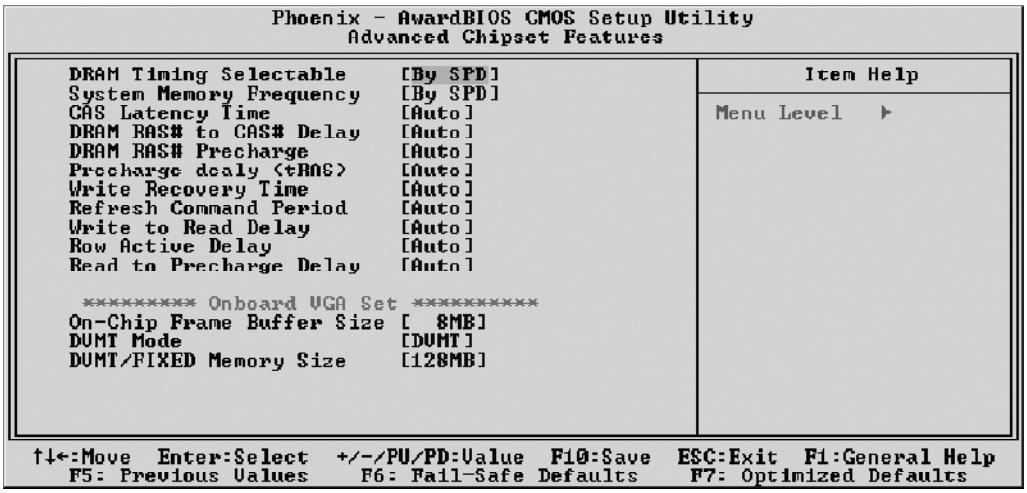
This item allows you to enable/disable the Full Screen LOGO Show.

- The choice: Enabled or Disabled.

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.



DRAM Timing Selectable

This item allows you to select the value in this field, depending on whether the board using which kind of DDR DRAM.

- The Choice: By SPD or Manual.

System Memory Frequency

This item allows you to set System Memory Frequency.

- The choice: By SPD, 667MHz or 800MHz.

CAS Latency Time

When synchronous DRAM is installed, the number of clock cycles of CAS latency depends on the DRAM timing. Don't change this field from the default value specified by the system designer.

- The Choice: Auto,3 ~ 6.

DRAM RAS# to CAS# Delay

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

This field is applied only when synchronous DRAM is installed in the system.

➢ The Choice: Auto, 3 ~ 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 be-incompleted, and the DRAM may fail to retain data. Fast gives faster performance; and Slow gives more stable performance. This field is applied only when synchronous DRAM is installed in the system.

➢ The Choice: Auto, 3 ~ 6.

Precharge dealy (tRAS)

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

➢ The Choice: Auto, 9 ~ 18.

Write Recovery Time

This item allows you to set the Write Recovery Time.

➢ The Choice: Auto, 3 ~ 15.

Refresh Command Period

This item allows you to set the Refresh Command Period.

➢ The Choice: Auto, 20 ~ 42.

Write to Read Delay

This item allows you to set the Write to Read Delay.

➢ The Choice: Auto, 4 ~ 15.

Row Active Delay

This item allows you to set the Row Active Delay.

➢ The Choice: Auto, 3 ~ 15.

Read to Precharge Delay

This item allows you to set the Read to Precharge Delay.

- The Choice: Auto, 4~15.

** Onboard VGA Set **

On-Chip Frame Buffer Size

This item allows you to set the onboard VGA share memory size.

- The Choice: 1MB or 8MB.

Note: When use On-chip VGA, On-Chip Frame Buffer Size item appear.

DVMT Mode

This item allows you to set the DVMT Version.

- The Choice: DVMT or FIXED.

Note: When use On-chip VGA, DVMT Mode item appear.

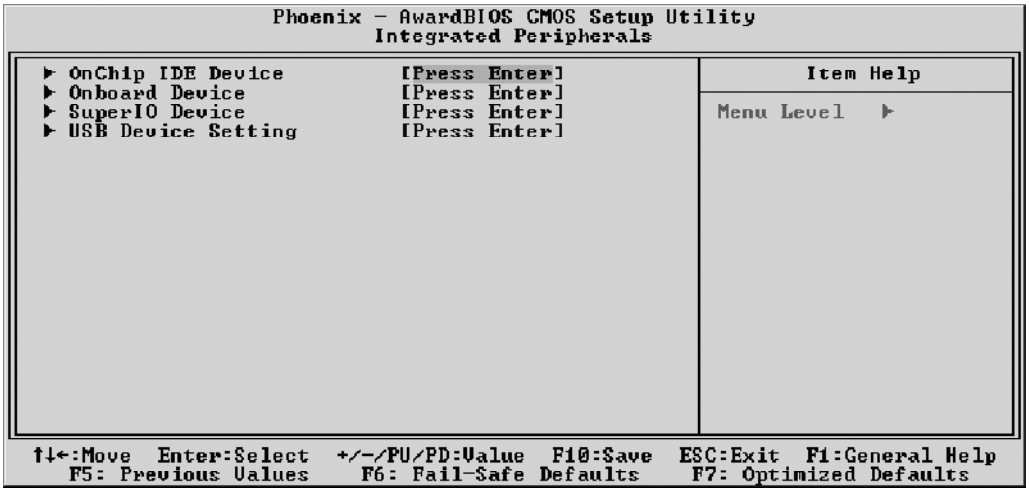
DVMT/FIXED Memory Size

This item allows you to set the DVMT/FIXED Memory Size.

- The Choice: 128MB, 256MB or MAX.

Note: When use On-chip VGA, DVMT/FIXED Memory Size item appear.

Integrated Peripherals



OnChip IDE Device

Option are in its sub-menu.

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

SATA Mode

This BIOS feature controls the SATA controller's operating mode. Two are three available modes - IDE or AHCI.

➢ The Choice: IDE or AHCI.

LEGACY Mode Support

This item allows you to enable/disable the LEGACY Mode Support.

➢ The Choice: Enable or Disabled.

Onboard Device

Option are in its sub-menu.

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

High Definition Audio

This item allows you to enable/disable the High Definition Audio.

➢ The Choice: Enable or Disabled.

Onboard Lan Boot ROM

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

➢ The Choice: Enable 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.

Onboard Parallel Port

This item allows you to determine onboard parallel port controller I/O address and interrupt request (IRQ).

- The choice: 378/IRQ7, 278/IRQ5, 3BC/IRQ7, or Disabled.

Parallel Port Mode

Select an operating mode for the onboard parallel (printer) port. Select Normal, Compatible, or SPP unless you are certain your hardware and software both support one of the other available modes.

- The choice: SPP, EPP, ECP, or ECP+EPP.

ECP Mode Use DMA

When the onboard parallel is set to ECP mode, the parallel port can use DMA3 or DMA1.

- The choice: 1 or 3.

USB Device Setting

Option are in its sub-menu.

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

USB 2.0 Controller

Enable or Disable Universal Host Controller Interfacefor Universal Serial Bus.

- The choice: Enabled or Disabled.

USB Operation Mode

Auto decide USB device operation mode.

High speed: If USB device was high speed device, then it operated on high speed mode.If USB device was full/low speed device, then it operated on full/low speed mode.

Full/Low Speed: All of USB device operated on full/low speed mode.

➢ The choice: High speed or Full/Low Speed.

USB Storage Function

This item allows you to enable/disable the Legacy support of USB Mass Storage.

➢ The choice: Enabled or Disabled.

*** USB Mass Storage Device Boot Setting ***

UFDDA USB Floppy

UFDDB USB Floppy

No Device

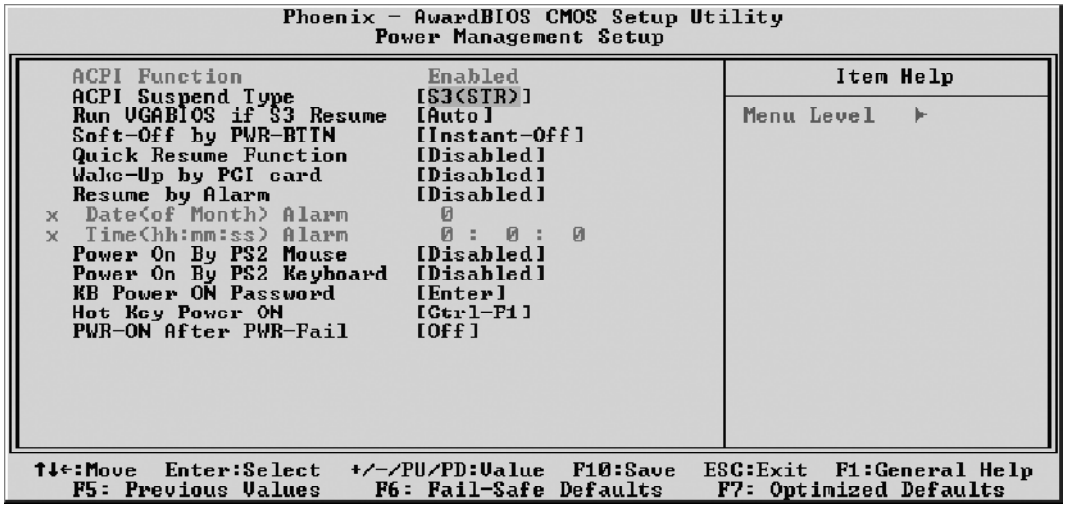
Auto: According to contents of USB MSD decide boot up type.

FDD Mode: The USB MSD always boot up as floppy disk.

HDD Mode: The USB MSD always boot up as hard disk.

➢ The choice: Auto mode, FDD mode or HDD mode.

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 Function

This item allows you to enable/disable the Advanced Configuration and Power Management (ACPI).

- Always "Enabled".

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 S1&S3

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

- The choice: Auto, Yes or No.

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.

Quick Resume Function

This item allows you to enable/disable the Quick Resume Function.

- The choice: Enable or Disabled.

Wake-Up by PCI card

This item allows you to set the Wake-Up by PCI card.

- The choice: Enabled or Disabled.

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.

Power On By PS2 Mouse

This item allows you to set the the Mouse Power On function.

Only supports 4/5.

- The choice: Disabled or Enabled.

Power On By PS2 Keyboard

This item allows you to set the Keyboard Power On function.

Only supports 4/5.

- The choice: Disabled, password,Any KEY or Hot KEY.

KB Power ON Password

This item allows you to set the KB Power On Password.

- Press" Enter" to set Password.

Hot Key Power ON

This item allows you to set the Hot Key Power On.

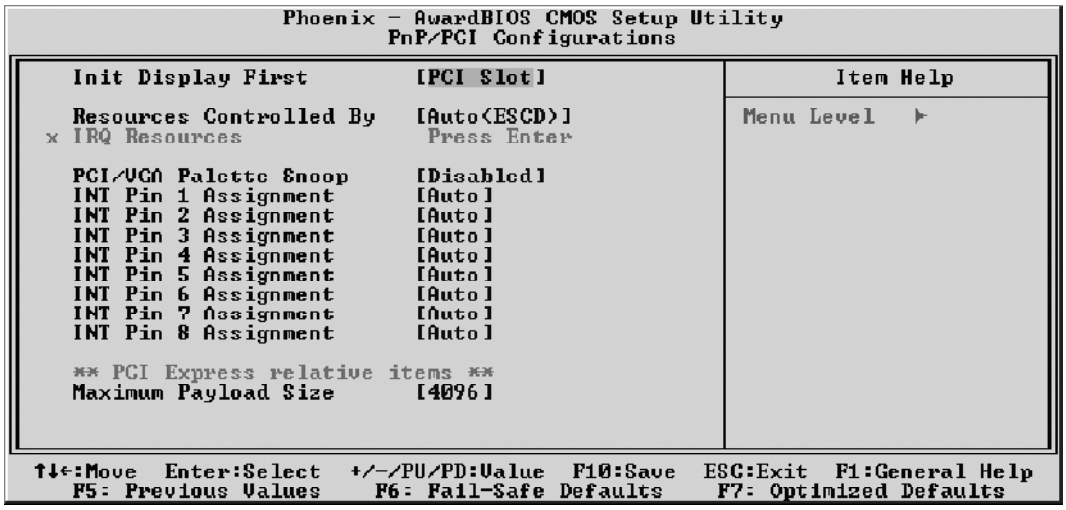
- The choice: Ctrl-F1～Ctrl-F12.

PWR-ON 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.

Init Display First

This item allows you to decide to activate whether PCI slot or PCIEx slot first. Dual display function: Before using PCI VGA card to build dual display function with onboard VGA under OS, please select PCIEx Slot/ Onboard item first.

- The choice: PCI Slot, Onboard or PCIEx/HDMI.

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.

- 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.

IRQ3/4/5/7/9/10/11/12/14/15 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.

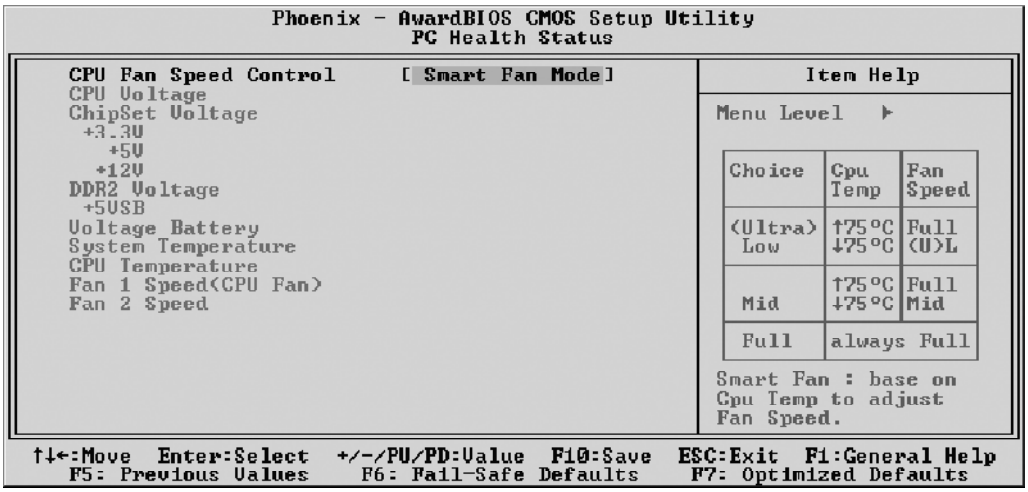
********** PCI Express relative items **********

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



CPU Fan Speed Control

Here you can set the CPU Fan Speed.

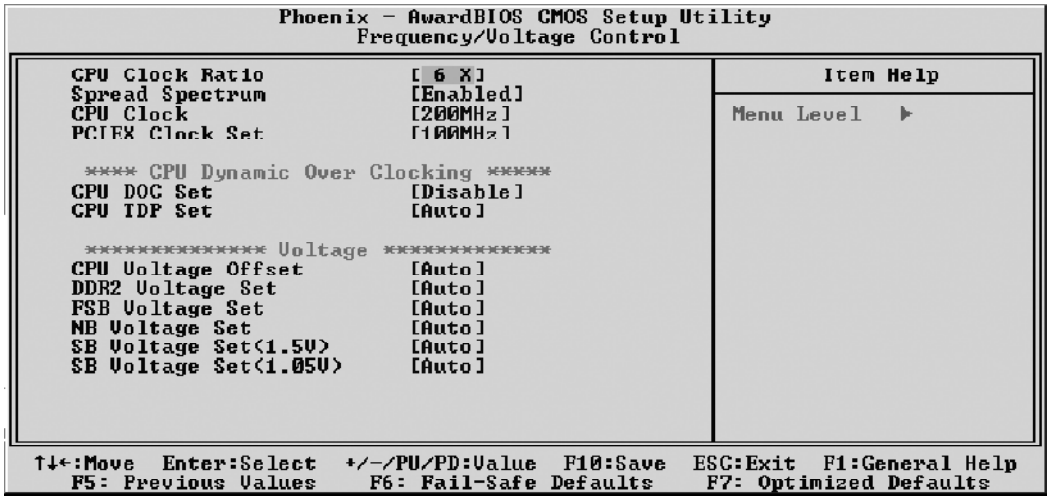
- The choice: Smart Fan Mode, Ultra-Low Speed, Low Speed, Mid Speed, or Full Speed.

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

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

Warning:
It is strongly recommended to disable 'Smart Fan' if you use an alternative fan to the default.

Frequency/Voltage Control



CPU Clock Ratio

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

- The Choice: 6X ~ 50X.

Spread Spectrum

This item allows you to enable/disable the Spread Spectrum.

- The choice: Disabled or Enabled.

CPU Clock

This item allows the user to adjust CPU Host Clock.

Min: 200 Max: 600

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

PCIEX Clock Set

This item allows you to set PCIEX Clock Set.

- The choice: 100MHz ~ 200MHz.

**** CPU Dynamic Over Clocking *****

CPU DOC Set

This item allows you to set CPU DOC Set.

- The choice: Disabled, 3%, 5%, 7%, 10%, 15% or 20%.

CPU TDP Set

This item allows you to set CPU TDP Set.

- The choice: 65W, 90W or Auto.

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

CPU Voltage Offset

This item allows you to set the CPU Voltage Offset.

- The choice: +10mV ~ +500mV or Auto.

DDR2 Voltage Set

This item allows you to set the DDR2 Voltage.

- The choice: 1.825V ~ 2.5V or Auto.

FSB Voltage Set

This item allows you to set the FSB Voltage.

- The choice: 1.25V, 1.3V, 1.35V or Auto.

NB Voltage Set

This item allows you to set the NB Voltage.

- The choice: 1.3V, 1.35V, 1.4V or Auto.

SB Voltage Set(1.5V)

This item allows you to set the SB Voltage(1.5V).

- The choice: 1.55V, 1.6V, 1.65V or Auto.

SB Voltage Set(1.05V)

This item allows you to set the SB Voltage(1.05V).

- The choice: 1.1V, 1.15V, 1.2V or Auto.

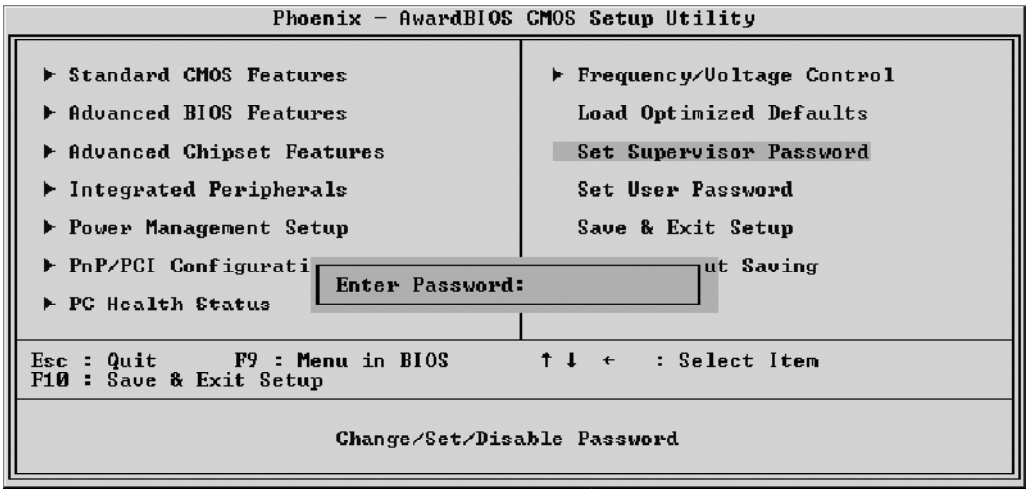
Load Optimized Defaults

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.