# XPC User Guide

### For the :   SK21G

# Statement of Shuttle Mainboard via the EMI Test

Shuttle mainboards have been via the EMI test in terms of 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: SK21G
>
> S/N: N/A
>
> CPU:
>
>> External Frequency: 200 MHz
>>
>> AMD Athlon™ 64 : 3000+, 3200+,3700+
>>
>> AMD Sempron: 2500+, 2800+,3000+,3100+, 3300+,3400+
>
> Serial Port: one port with 9 pins
>
> Clear CMOS button: one port
>
> Keyboard Port: one port with 6 pins
>
> Mouse Port: one port with 6 pins
>
> USB 2.0 Port: six ports with 4 pins respectively
>
> 1394 Port: one port with 4 pins respectively, one port with 6 pins respectively
>
> LAN Port: one port with 8 pins (10Mbps/100Mbps)
>
> Line-in Ports: two port
>
> Mic-In & Earphone Ports: one port for each
>
> Center/Bass-Out Port: one port
>
> Surround-Back Port: one port
>
> Front-Out Port: one port
>
> DIMM Memory (optional): DDR400 *2
>
> Power Cable: Detachable and Shielded (with a GND pin)
>
> Monitor: CRT
>
> Maximum Resolution: 1920 X 1440 V:60Hz

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 | 200MHz | AMD Athlon™ 64 | 3700+ | Close |
| 2 | 200MHz | AMD Athlon™ 64 | 3700+ | Open |
| 3 | 200MHz | AMD Sempron | 3400+ | Close |
| 4 | 200MHz | AMD Sempron | 3400+ | Open |

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

    Remedy: N/A

    EMI Interference:

    Crystal : 32.768 KHz(X1)/ 25 MHz(X2)/ 24.576 MHz(X2)/ 14.318 MHz(X1)

(D) Supported Host Peripherals:

| Host Peripheral | Product Name | Model Name |
|---|---|---|
| # 1 | Case | SK21G |
| # 2 | Power Supply | PC30I2003 |
| # 3 | Serial ATA Seagate | ST3120U26AS |
| # 4 | Card Reader | PC22 |
| # 5 | DVD Dual Player | DVR-A09XLA |
| # 6 | DDR Kingstone | KVR400X64C25/256*2 |

(E) Notices for Assembling Computers:

1. Cases should be made of iron or other metal that has good electric conductivity.

2. Cylinders in a case should be made of metal, and as having a mainboard mounted in a case, make sure screws are all utilized and fastened on a mainboard.

3. An I/O shielding should be contacted with I/O metallic parts of a mainboard.

4. Cables should appropriately be arranged and fixed in a case. Follow instructions:

    Ø Leave IDE cables not crossed upon CPU and SDRAM;

    Ø Leave power cables minimum in length, and not crossed upon a mainboard;

    Ø Leave CPU fan cables minimum in length, and not near CPU;

    Ø Leave cables on panels and other spare cables tied in a computer case.

5. Make sure an EMI shielding attached to a case has properly been installed.

6. Make sure a 5.25" or 3.5" FDD and screws are fastened to an EMI shielding.

7. Make sure a case is closely in contact with EMI connected points.

8. Make sure there is no cleft in a case which is not deformed.

9. Make sure a PCI or AGP door is bound to a case.

10. Make sure cables of other devices (fans or some others) are fixed in a case.

# Shuttle®

# XPC Installation Guide

## Copyright

## Disclaimer

## Trademarks

## General Notice

## 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.**
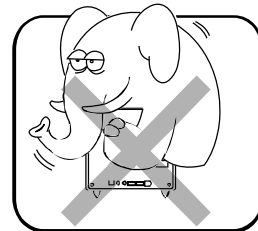


**Do not expose this device to high levels of direct sunlight, high-humidity or wet conditions.**
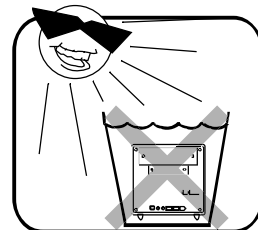


**Do not use or expose this device around magnetic fields as magnetic interference may affect the performance of the device.**
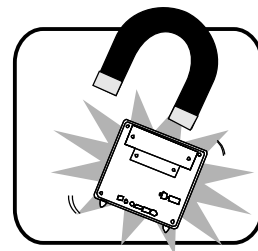


**Do not block the air vents to this device or impede the airflow in any way.**
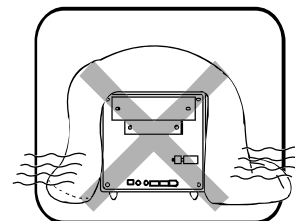
# TABLE OF CONTENTS

# 1   Function Introduction

## ■  1.1  XPC Introduction

The Shuttle XPC is the original high-performance Small Form Factor (SFF) computer. Since the first model was introduced in 2001, the XPC has become the world's best-selling SFF computer brand.

Each Shuttle XPC is sold as a "barebone" computer ~ chassis, power supply and motherboard. The user must add his own processor, memory, drives and, as applicable, expansion cards. The XPC has been designed to be easily assembled and configured directly by the end user. Consumers can choose to buy preconfigured, ready-to-run XPC's as well ~ a list of Shuttle-authorized value-added resellers can be found at www. shuttle.com.

The Shuttle XPC owes its popularity to its unique combination of small-size, high-performance and near universal component compatibility. However, unlike ordinary desktop computers, Shuttle XPC's have been engineered as complete systems.

The XPC concept can be summarized as:

Use of high-performance, industry-standard components; Minimum size possible, while preserving component compatibility and system expansion; Focus on quality ~ a commitment to quality construction, materials and industrial design.

To meet the above requirements, Shuttle has created and patented dozens of new technologies, including the Integrated Cooling Engine (ICE), which extend and enhance the personal computing experience while reducing heat, noise and space requirements.

Thank you for choosing the Shuttle XPC!

## ■ 1.2 Model Specifications

**Form Factor**

Shuttle Small Form Factor

**Processor**

AMD Athlon 64 with 200MHz FSB clock on 754 - pin SMT Socket.

**Chipset**

VIA K8M800+VT8237R+

**Memory**

(2) 184 pins 333/400 DDR SDRAM DIMM

Supports Unbuffered/non-ECC DDR-SDRAM up to 2GB

**Audio**

VT1617A (6-CHANNEL)

**Ethernet**

VT6103

10/100 Mb/s LAN operation

**IEEE 1394a**

VIA VT6307, 1394 OHCI v1.0 compliant, Up to 400Mb/s data transfer rate

**Serial ATA**

VT8237R+ integrated SATA, Dual Channel UDMA 150MB/s S-ATA

Support RAID 0, 1

**Onboard headers & connectors**

| | | |
|---|---|---|
| (2) Fan connectors | (1) Line_in header | (1) AGP slot |
| (1) mini CD_in header | (1) Power & reset header | (1) PCI slot |
| (1) 2x5 pin USB 2.0 headers | (1) Front Panel connector | (2) Power connector |
| (1) Printer port header | (1) IDE connector | (2) SATA connectors |
| (1) Floppy connector | (1) SPDIF-Out connector | (1) CD-IN header |
| (1) Clear CMOS header | | |

**PSU**

Output:200 Watt, Input: 100/240V AC, Active PFC, FCC, CE , BSMI, UL, TUV, CCC, C-Tick, certificated

**Chassis**

G, Dimension: 300 (L) x 200 (W) x 185 (H)
Bay: (1) 3.5" bay (1) 3.5" bays ( internal) (1) 5.25" bay

## ■ 1.3 XPC Exterior Dissection

**Note : Shuttle offers a variety of different XPC models loaded with  various options. The illustration below will help familarize you with the included features in your new XPC.**

## ■ 1.3.1 XPC Front

1.  5.25" Bay

2.  3.5" Bay

3.  HDD LED

4.  Reset

5.  Power LED

6.  Power

7.  Line-in

8.  Mic

9.  Headphone

10.  USB ports

11.  FireWire® 400 mini port
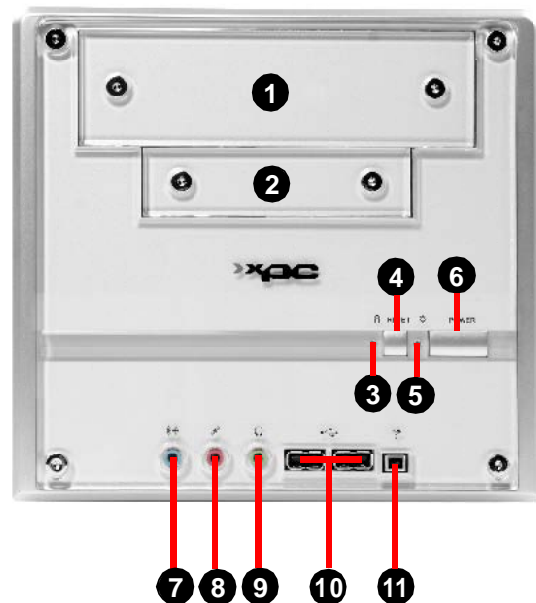
## ■ 1.3.2 XPC Back



1. AC Power socket

2. [icon] COM port

3. [icon] VGA port

4. **1394** [icon] FireWire® 400 port

5. [icon] USB Ports

6. [icon] LAN port

7. [icon] PS/2 Mouse

8. [icon] PS/2 Keyboard

9. [icon] Line-In port

10. [icon] Central / Bass

11. [icon] Rear out(R/L)

12. [icon] Front out (R/L)

13. [icon] Clear CMOS button
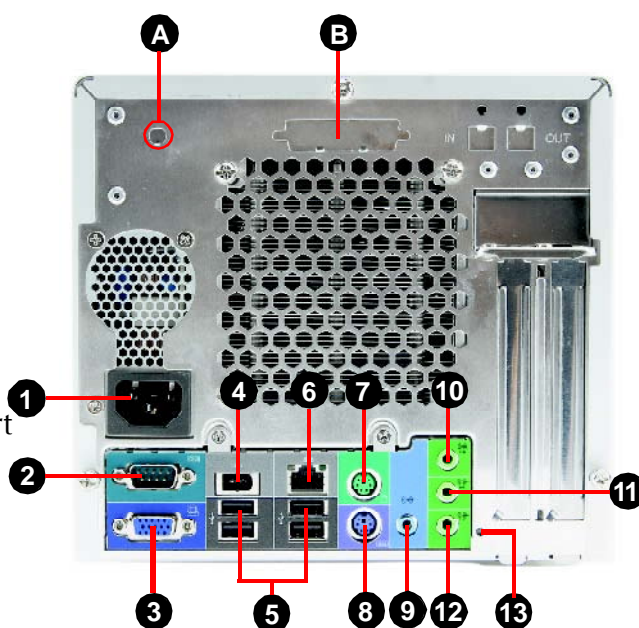
A. Wireless LAN perforation

B. Parallel port perforation

## ■ 1.4 Accessories

1. ICE Heat-Pipe (1)
2. FDD cable (1)
3. Screws
4. Power Cord (1)
5. Power extension cable (1)
6. Adhesive (1)
7. Cable clip (1)
8. Heatsink compound (1)
9. XPC User Mnaual (1)
10. RAID manual (1)
11. Motherboard CD Driver(32bits/64bits) (2)
12. Shuttle Extras CD (1)
13. RAID Driver Floppy Disk (32bits/64bits) (2)

Note : Bundled Accessories may differ from specified. If there are items missing, please contact your local authorized Shuttle dealer.

# ■ 1.5 XPC Mainboard

# ■ 1.5.1 SK21G mainboard illustration

PS/2 K/B & M/S Connector

LINE-IN Connector

SPDIF-out Header-JP8

Rear out/Front out/Center/Bass Audio Connectors

Clear CMOS Button

VT1617A Chip

CD_IN Connector- CN11

Mini CD-IN-CN14

FAN Connector- FAN1

One PCI Slot

One AGP Slot

K8M800 Chipset

Dual USB Header -JP4

Socket 754

VT8237R+ Chipset

FAN Connector- FAN2

Clear CMOS-JP1

Two DIMM Slots

Dual Channel Serial ATA- SATA1/SATA2

One IDE Slot- IDE1

LAN & Dual USB Port

1394 & Dual USB Port

VGA & COM Port

Line_IN Header- CN12

Floppy Connector -FDC1

VT6307 Chip

ITE 8705F Chip

EXT. Print Port -JP7

ATX Power Connector- CN13

ATX Power Connector- PWR1

SOCKET 754

Front Panel Connector-JP3

Front Panel Connector-JP9

## ■ 1.5.2 Jumper Settings

Several hardware adjustments are made by setting jumpers on the mainboard. To successfully change jumper settings, you will need to locate pin#1. In this manual, pin#1 is represented by a white square, other pins are represented by a circles. An illustration is shown below for your reference:
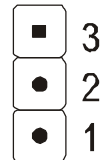
Jumpers with two pins are shown as [■■■] for Closed [On] or [●■] for Open [Off]. To Short jumper pins, simply place a plastic jumper cap over the desired pair of pins.

---

**Caution!**

1. **Do not remove the mainboard from its case.**

2. **Do not touch the components on the mainboard. When installing components, pay special attention not to man handle sensative components on the mainboard.**

3. **Wear an antistatic wrist strap or take other suitable measures to prevent electrostatic discharge (ESD) whenever handling this equipment or installing components.**

---

### ✍ *Fan Connectors (FAN1/FAN2)*

The mainboard provides two onboard 12V cooling fan power connectors to support CPU (FAN1), System (FAN2) cooling fans.

PWM_CTRL
SPEED_SENSE
+12V
GND

---
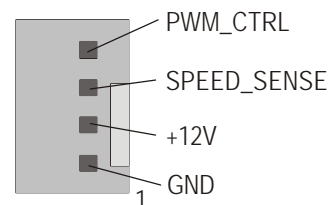
**Note : Both cable wiring and type of plug may vary depending on the fan maker.**

## ✎ *Front Panel Connector (JP3/JP9)*

Header JP3can be used to provide operation status signals to the front daughterboard. Note that this is an alternative header to the 50pins streamline header that also connects the motherboard to the front daughterboard.

Headers JP9 is used to connect cable to front panel connector mounted on front-panel or back-panel. The front panel is where the hard drive activity lights, reset button, on/off button, computer power on light, USB connectors, 1394 connectors, and audio headers, are located.

Pin Assignments (JP9):

| | |
|---|---|
| 1 = HDLED_PU | 2 = GLEDA |
| 3 = HDLED | 4 = GLEDB |
| 5 = Reset_SW | 6 = Power_SW |
| 7 = GND | 8 = GND |
| 9 = NC | 10 = KEY |
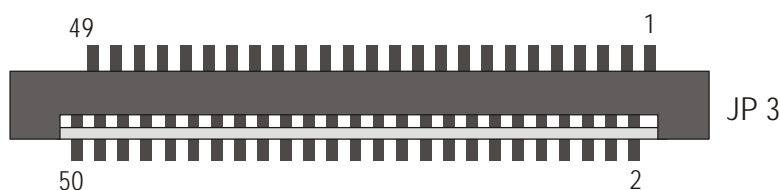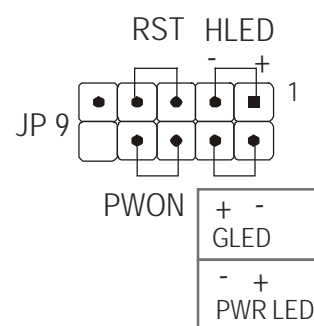
## ✎ *Dual USB Header (JP4)*

The header is used to connect auxillary USB devices to the mainboard. The header is directional and will only allow USB cables to be connected in one direction.

Pin Assignments (JP4):

| | |
|---|---|
| 1 = VCC | 2 = VCC |
| 3 = Data0- | 4 = Data1- |
| 5 = Data0 + | 6 = Data1 + |
| 7 = Ground | 8 = Ground |
| 9 = Key | 10 = NC |

## ✎ *SPDIF-out Connector (JP8)*

Port JP8 provides the mainboard connection for the SPDIF-out signal port.

1  2  3

JP 8
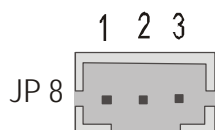
Pin Assignments (JP8):

1 = SPDIF-out signal

2 = VCC

3 = GND

## ✎ *LINE-IN (CN12)(Blue), CD-IN (CN11)(Black), mini CD-IN (CN14) (White) Connectors*

Port CN12(Blue), CN11(Black) and CN14(White) are used to connect stereo audio inputs from a CD-ROM.

Pin Assignments (CN12):

1 = Line-IN-Left
2 = Ground
3 = Ground
4 = Line-IN-Right

Pin Assignments (CN11):

1 = CD-IN-Left
2 = Ground
3 = Ground
4 = CD-IN-Right

Pin Assignments (CN14):

1 = Ground
2 = CD-IN-Left
3 = Ground
4 = CD-IN-Right

1  2  3  4          1  2  3  4          1  2  3  4
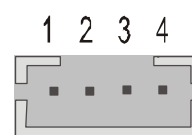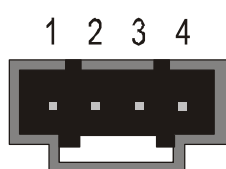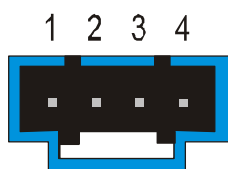
## ✍ *Clear CMOS Setting (JP1)*

JP1 is used to clear CMOS data. Clearing CMOS will result in the permanently erasing previous system configuration settings and the restoring original system settings.

Pin 1-2 (Default)

Pin 2-3 (Clear CMOS)

## ✍ *Parallel Port Header-EXT. Printer Port (JP7)*

A DB25 male parallel port header is located near the rear panel of the mainboard. The header is used to connect a parallel port socket (PC8) to the mainboard. The parallel printer port can be purchased from Shuttle as an optional accessory.

Pin Assignments (JP7):

| | | |
|---|---|---|
| 1 = PSTB | 2 = PD0 | 3 = PD1 |
| 4 = PD2 | 5 = PD3 | 6 = PD4 |
| 7 = PD5 | 8 = PD6 | 9 = PD7 |
| 10 = P_-ACK | 11 = P_BUSY | 12 = P_PE |
| 13 = P_SLCT | 14 = PAUTOFD | 15 = P_-ERR |
| 16 = PINIT | 17 = PSLCTIN | 18 = GND |
| 19 = GND | 20 = GND | 21 = GND |
| 22 = GND | 23 = GND | 24 = GND |
| 25 = GND | 26 = KEY | |

# 2   XPC Installation Guide

## ■   2.1   Installation

> **Note : For safety reasons, please ensure that the power cord is disconnected
> before opening the case.**

## ■   2.1.1   Remove the Cover

1.  Unscrew the four thumbscrews.
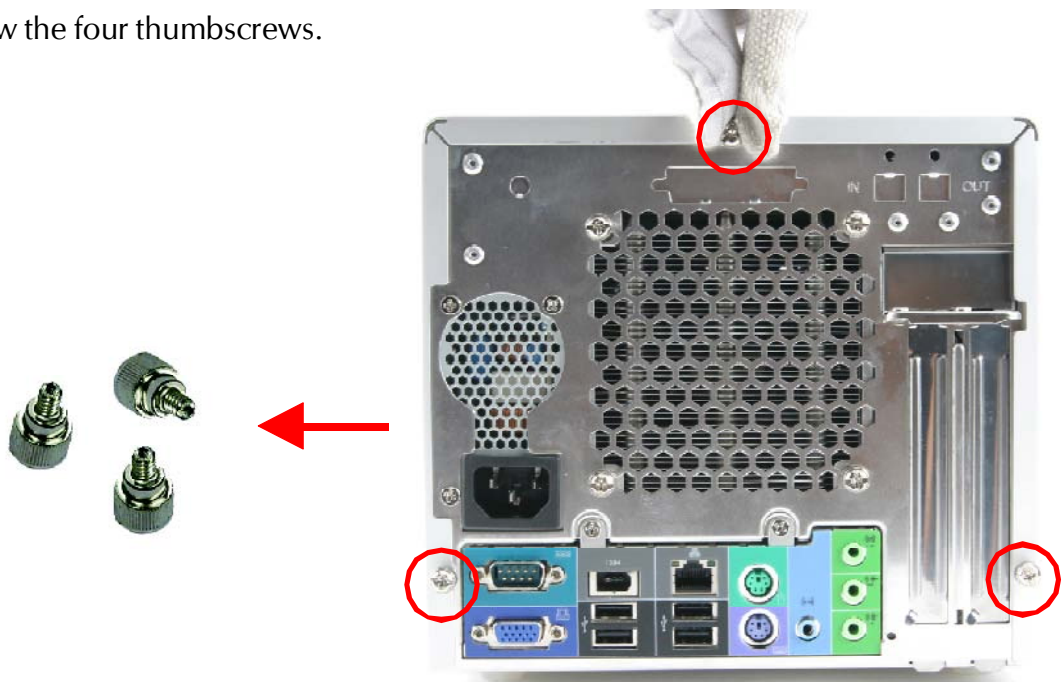
2.  Slide the cover backwards and upwards.
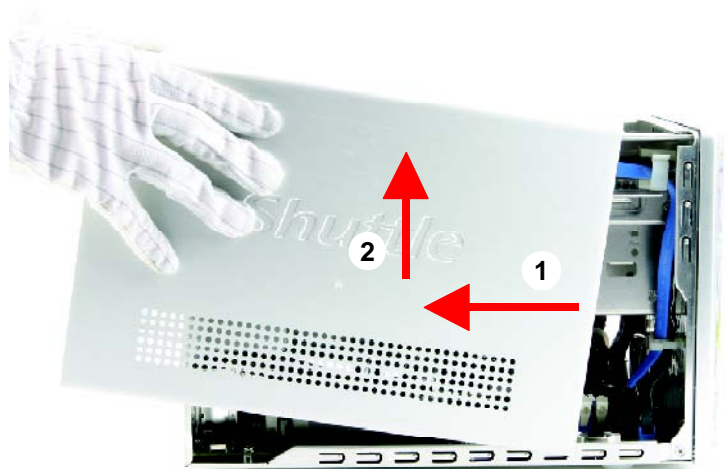
## ■ 2.1.2 Remove the Rack

1. Unbuckle the two Serial ATA HDD mounting brackets from the rack.
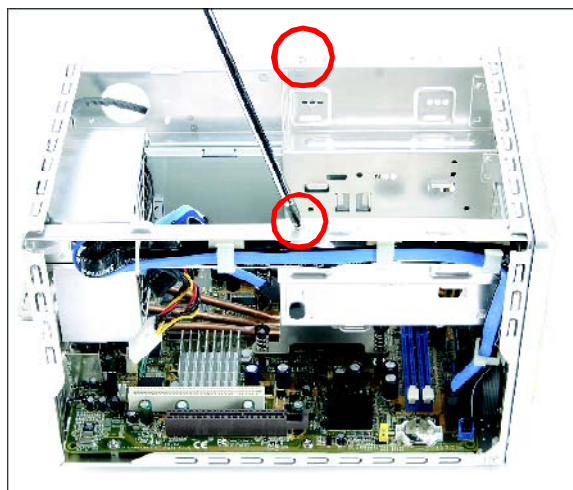


2. Remove the rack.
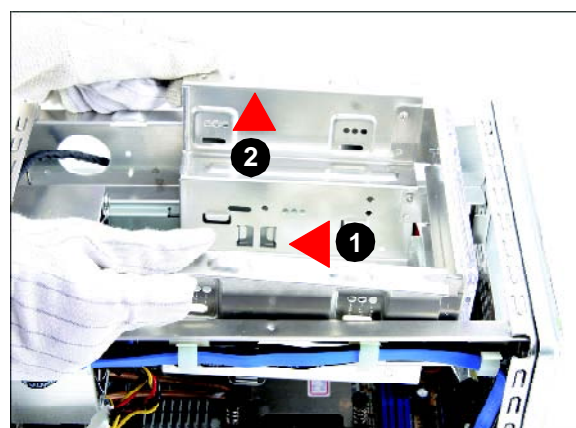


3. Unscrew and remove the front bay covers.
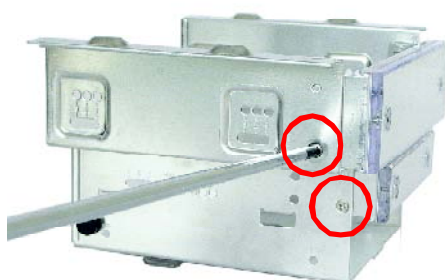
## ■ 2.2 CPU, DDR and ICE Installation

## ■ 2.2.1 Remove the ICE Module.

1. Unfasten the ICE fan thumbs screws on the back of the chassis.
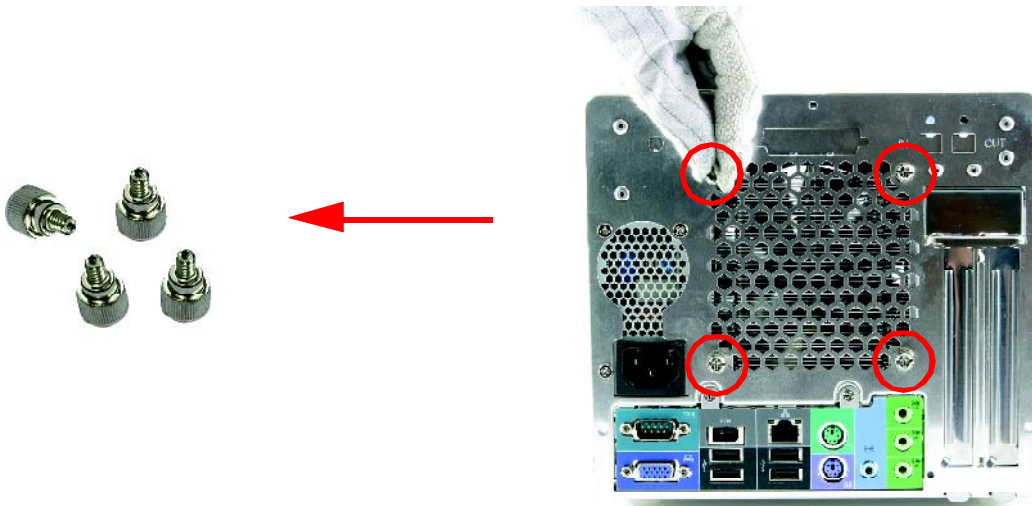
2. Unplug the fan power connector.
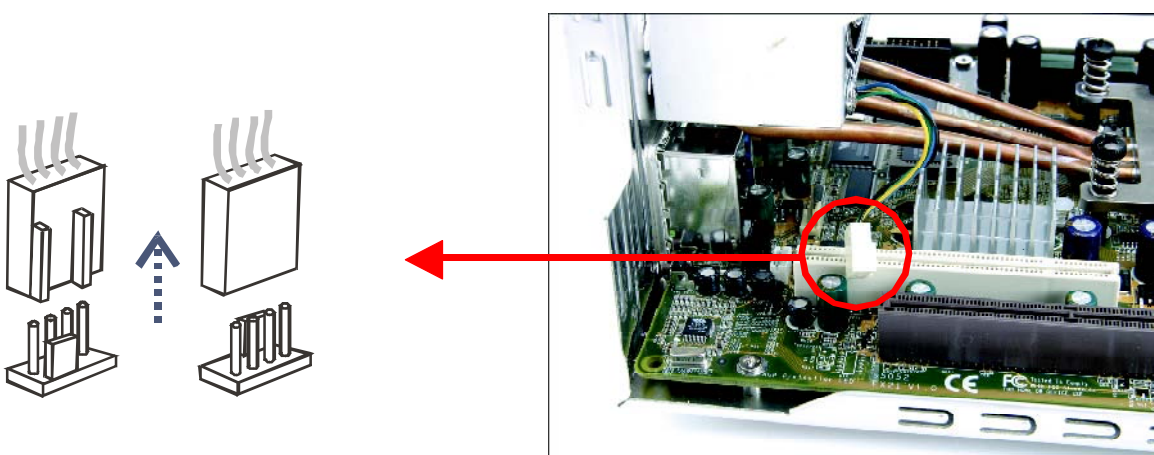
3. Unfasten the four ICE module attachment screws.
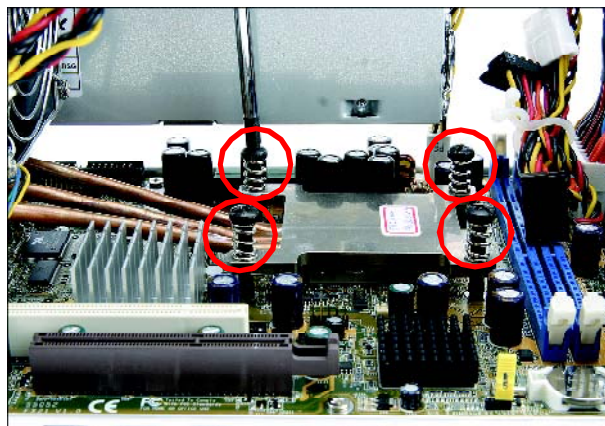


4. Remove the ICE module from the chassis and put it aside.



**ICE Heat-Pipe Module**



**Smart Fan**

**Smart Fan Power Connector**
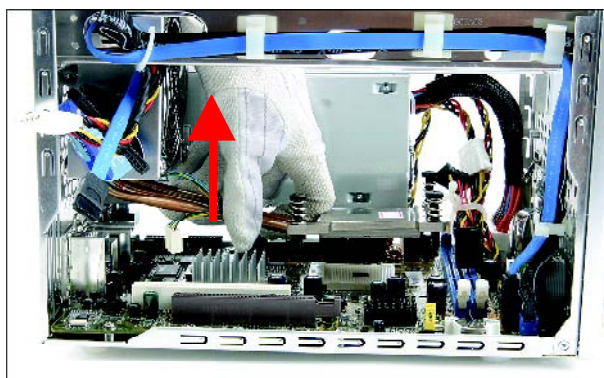
**Heat-pipe**
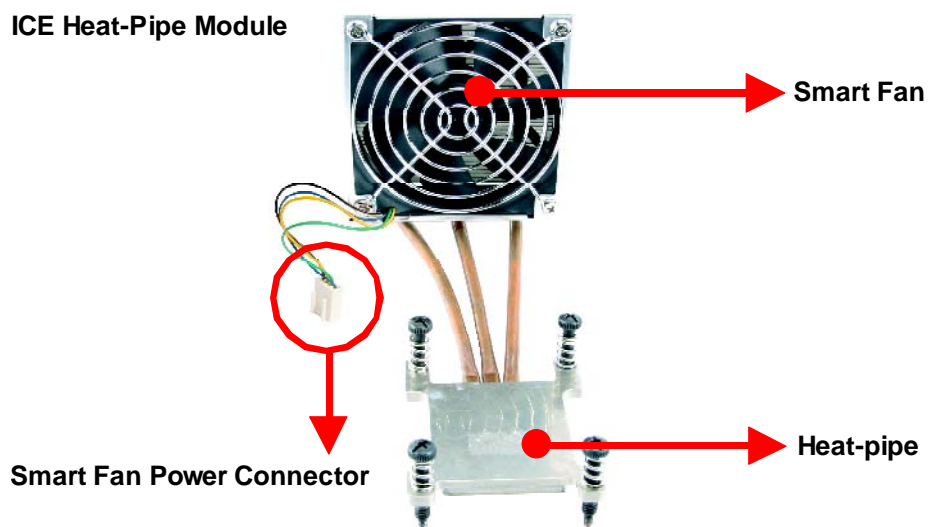
## ■ 2.2.2 Install the CPU

1. Pull up the CPU socket lever to 90-degrees.
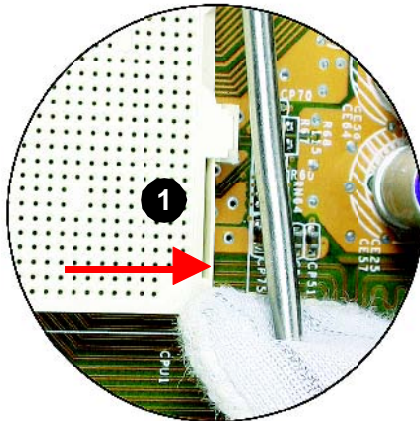


**Push the lever**
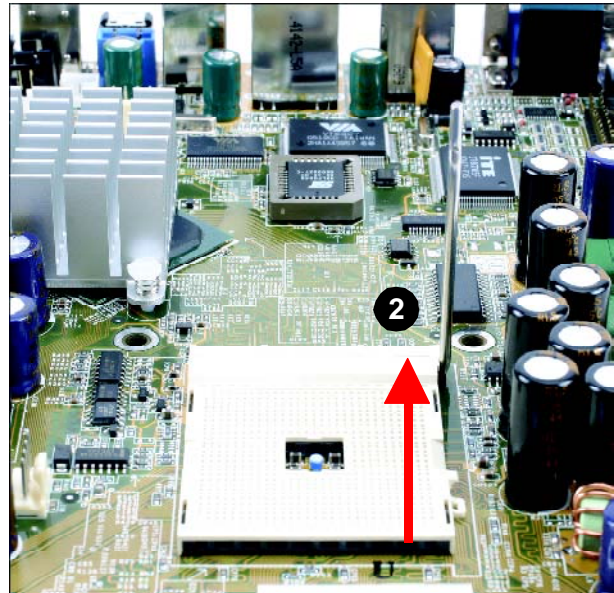


**CPU socket lever at 90 degrees**

2. Match the yellow triangle on a corner of the CPU with the triangle on the socket corner and gently insert the CPU into the socket.





Lever

Lever

AMD Athlon™64 Processor

Triangle Mark
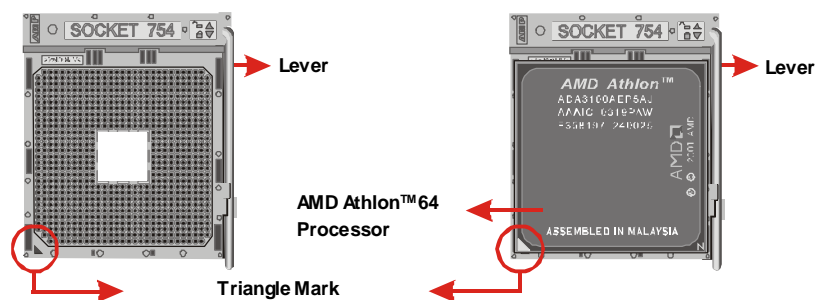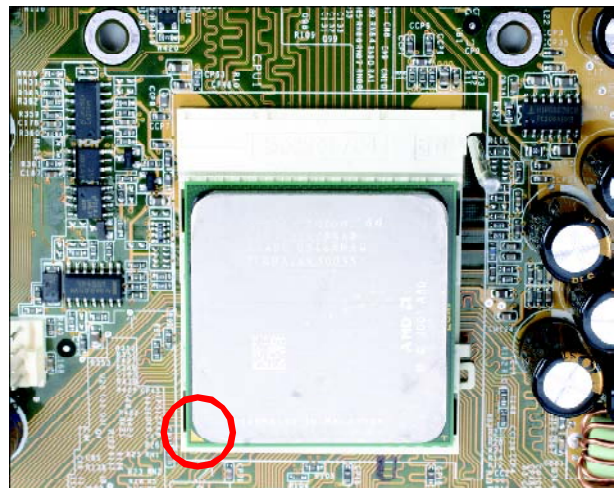
3. Press down the CPU socket lever.
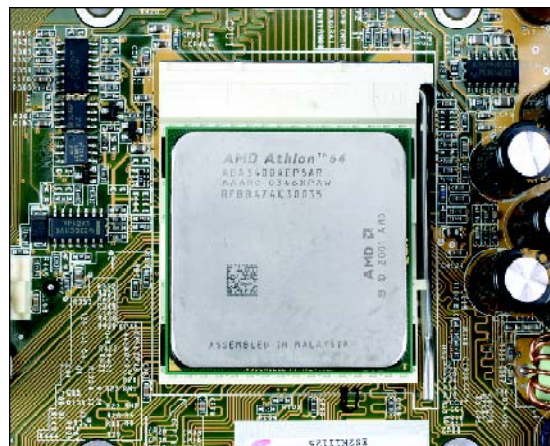


> **Note : Failure to correctly align the CPU and socket can result in damage to the CPU.**

4. Spread an even layer of thermal compound on the CPU die.

**Thermal compound application area** ←
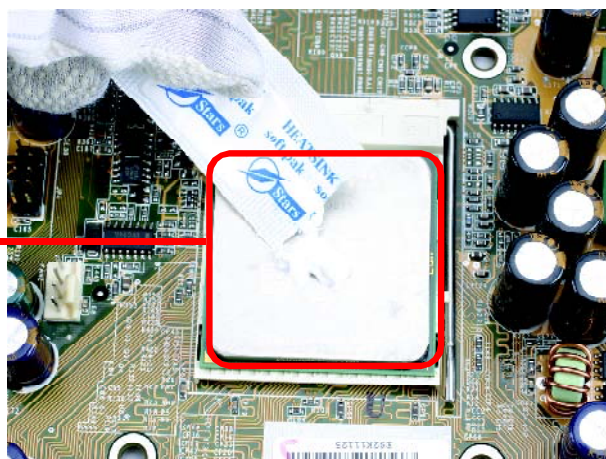
# ■ 2.2.3 Install the ICE Module

1. Place the ICE module on the CPU and match the screws with the holes on the motherboard.
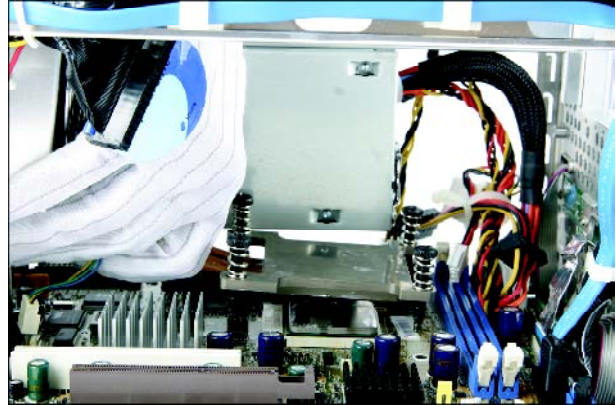


2. Screw the ICE module to the motherboard. Press down firmly on the opposite corner as you screw.
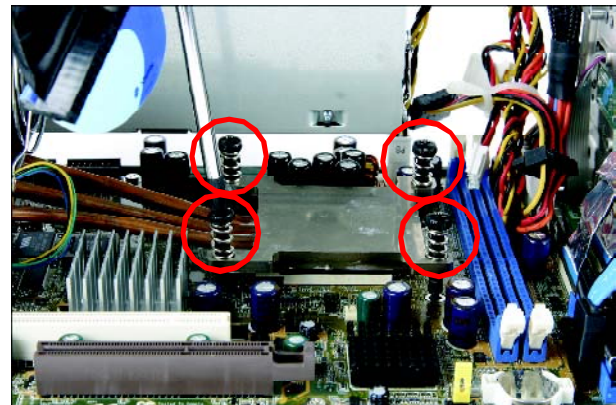


3. Connect the fan's power connector.
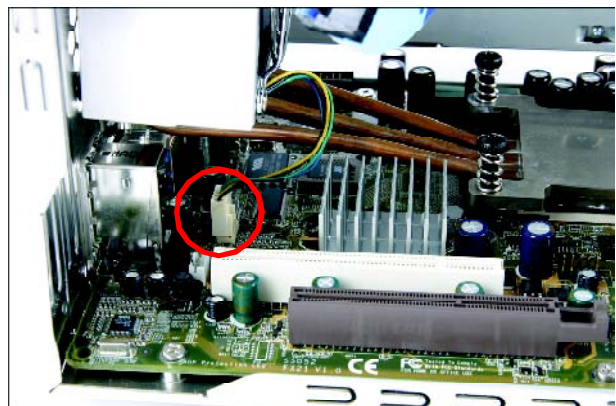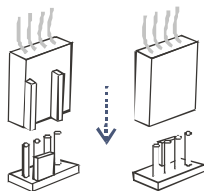
4. Fasten the smart fan to the chassis with the four thumbscrews.
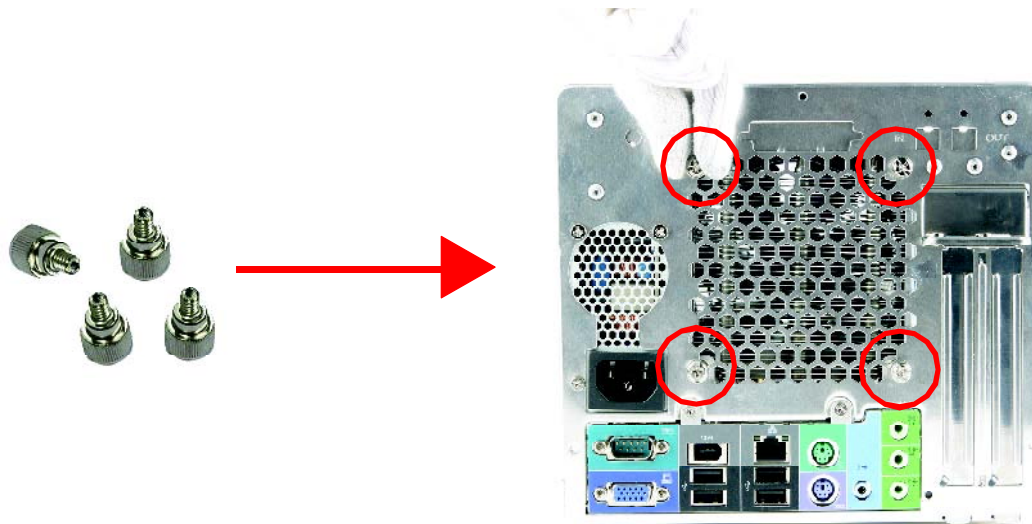
# ■ 2.3 DDR Installation

Install the DDR module in DIMM1/DIMM2.

1. Unlock the DIMM latch.
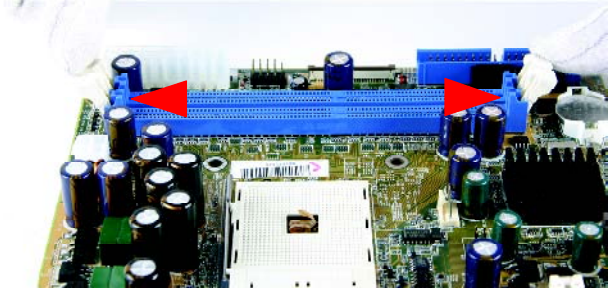
2. Align the DDR module's cutout with the DIMM slot notch.

Cutout

Notch

Latch → ← Latch
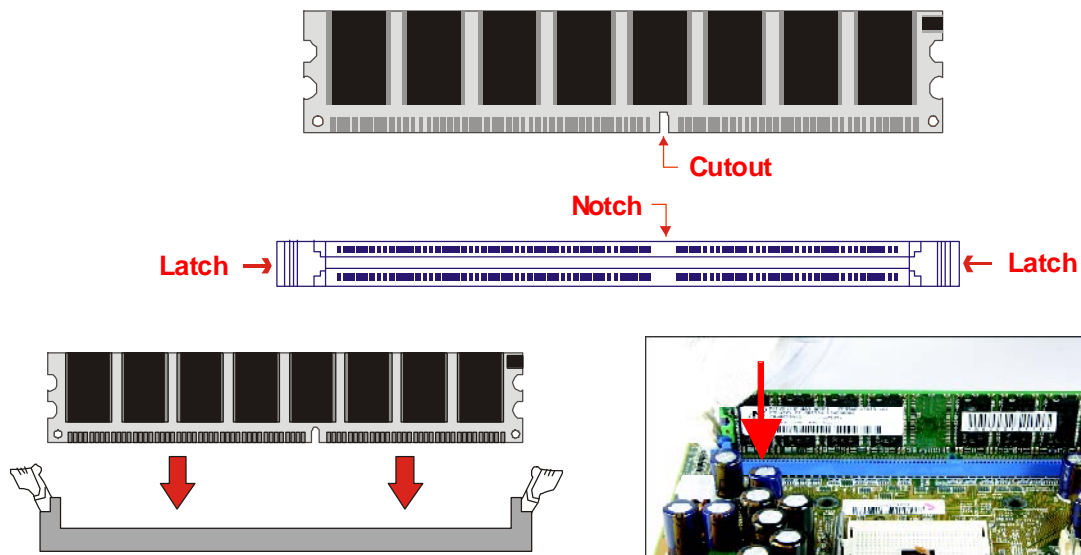
3. Check that the latches are closed, and the DDR module is firmly installed.
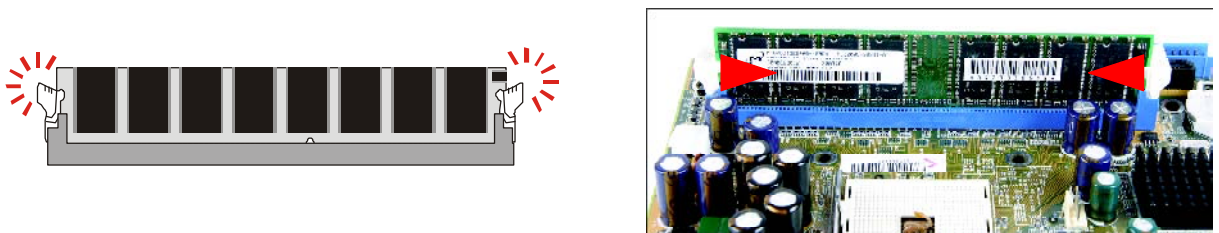
## ■ 2.4 Cable and Rack Installation

### ■ 2.4.1 Install the FDD Cable

1. Plug the FDD cable in the FDD header (FDD1).
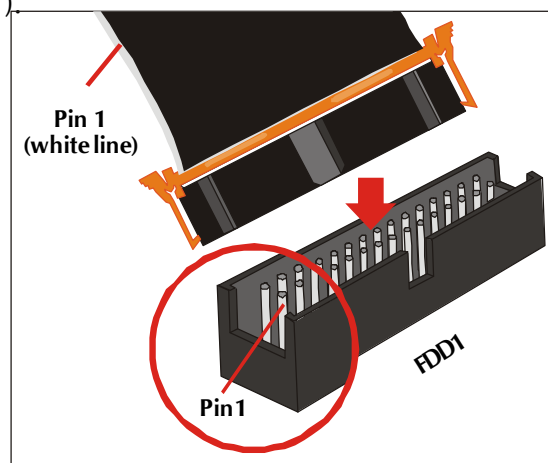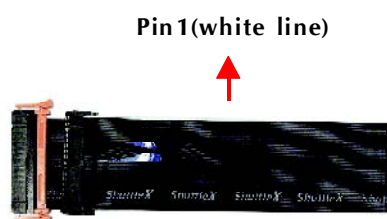


2. Fold the FDD cable under the power supply.



3. Fix the FDD  cable to the power and chassis rail with the suppied adhesive tape.
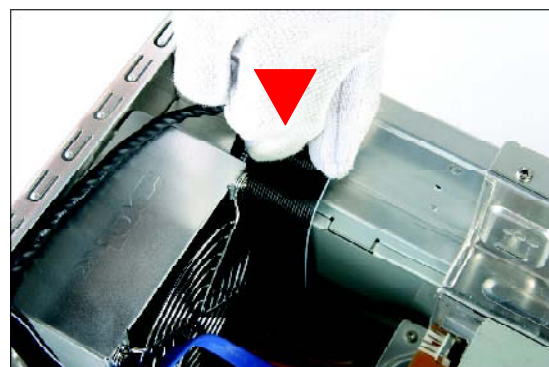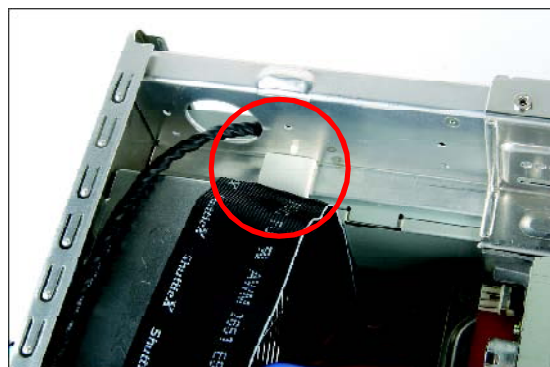
# ■ 2.4.2 Install the Serial ATA HDD Cable

1. Plug the Serial ATA cable to the SATA1 header.

**SATA header**
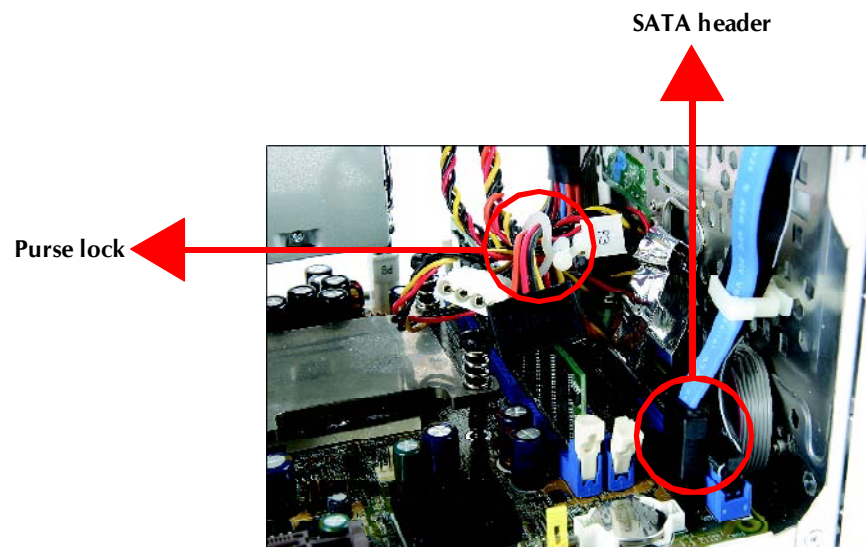
**Purse lock**

2. Loosen the purse lock and separate the Serial ATA HDD and FDD power connectors.

**Serial ATA Power connector**
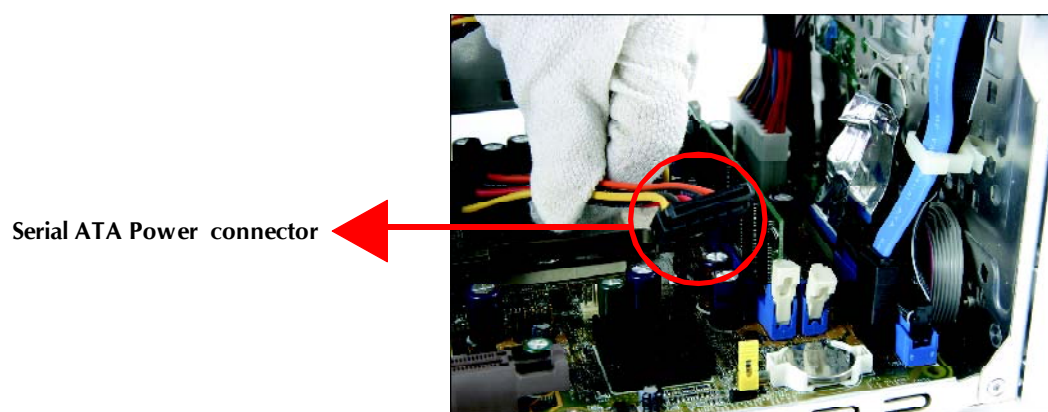
### ■ 2.4.3 Install the Rack

1. Place the HDD in the rack and secure with screws from the side.
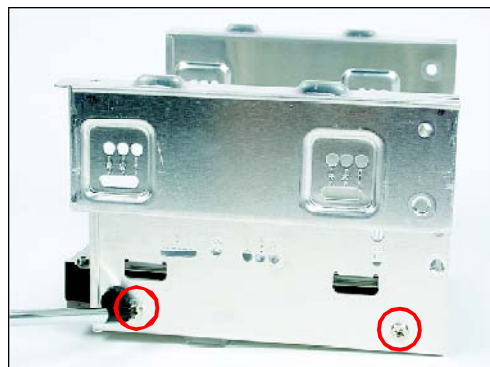


2. Place the FDD in the rack and tighten with its own screws.



**Note ：** The second screw is located at the opposite side of rack.

3. Place the rack in the chassis.
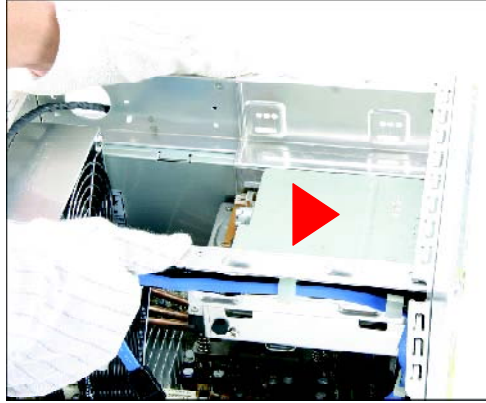


4. Refasten the rack.
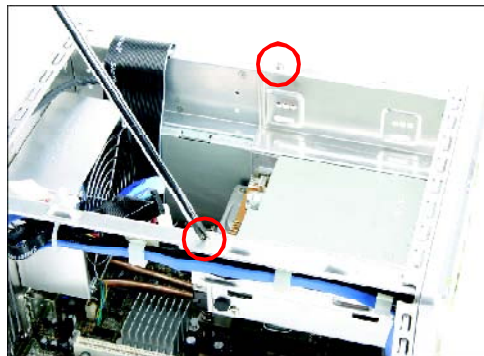
# ■ 2.5 Peripheral Installation

## ■ 2.5.1 Install the Serial ATA HDD

1. Connect the Serial ATA cable  and power connector he HDD.

**Serial ATA Power connector**

**Serial ATA HDD cable**
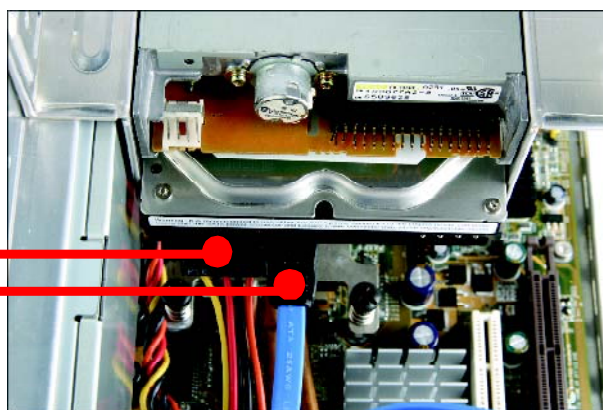
## ■ 2.5.2 Install Floppy Drive

1. Connect the FDD cable and power connector into the Floppy drive.

**FDD connector**

**Power connector**
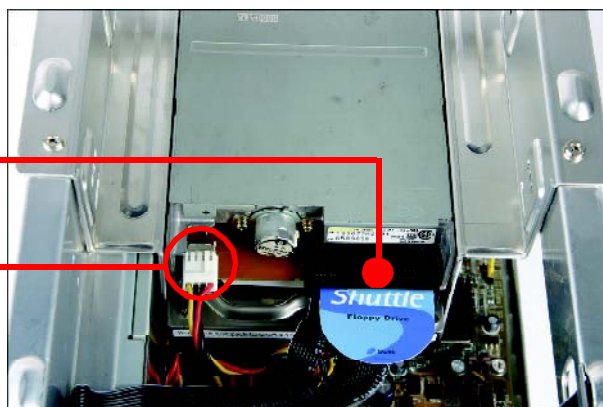
## ■  2.5.3 Install an Optical Drive

1. Slide optical driver into the chassis.
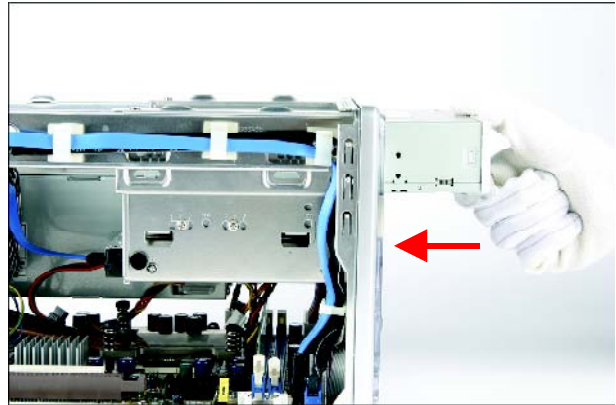
2. Check the optical drive front alignment and fasten the four side screws.

**Screws (Optical Drive)**
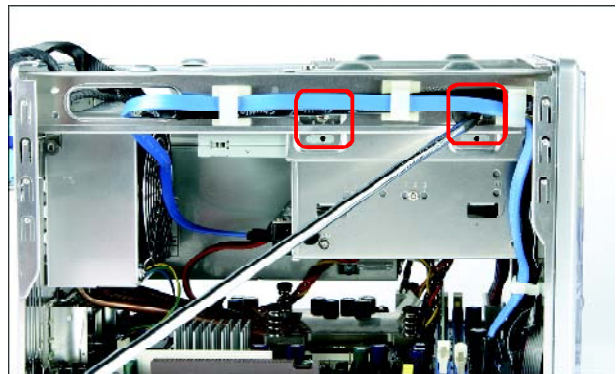
3. Plug the optical driver and power cable into the optical drive.

**Optical drive Power cable** ◄──────

**Optical drive cable** ◄──────
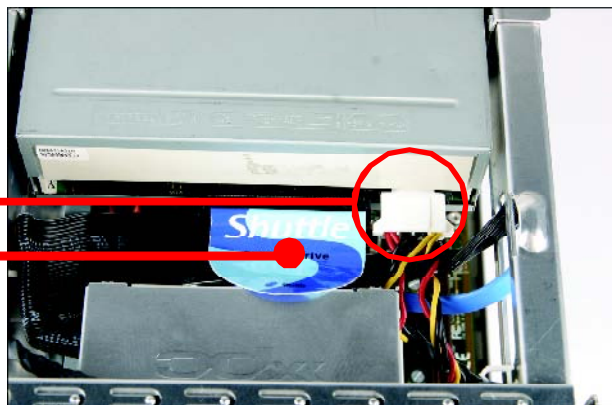
# ■ 2.6 Accessories Installation

## ■ 2.6.1 Install PCI/AGP Card

1. An AGP card will be used to demonstrate the installation procedure.

**AGP Card**

2. Unfasten expansion slot bracket screws and remove the aluminum back panel breket. Put the back panel bracket aside.

**Lift Up**
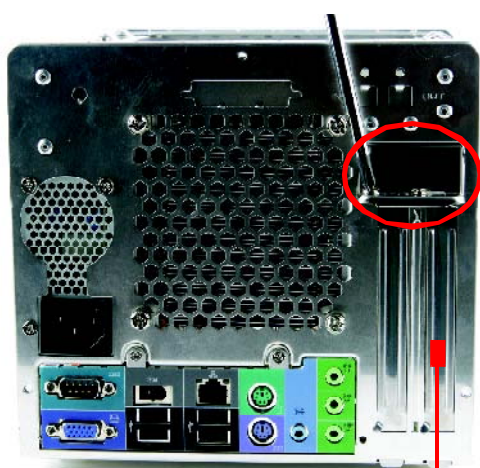
**AGP Door**
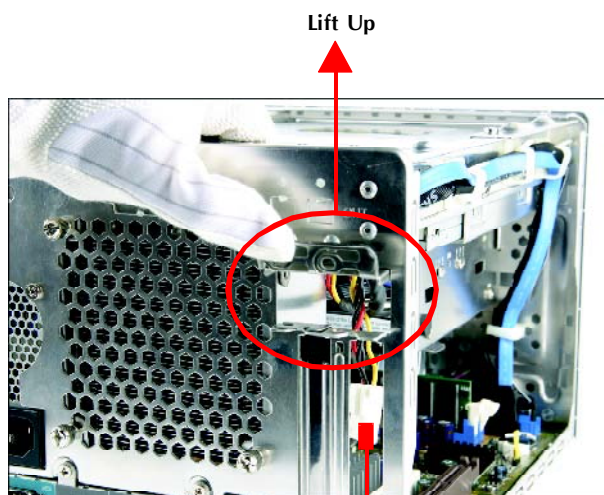
**Bracket**

3. Install AGP Card into AGP slot and secure the bracket.
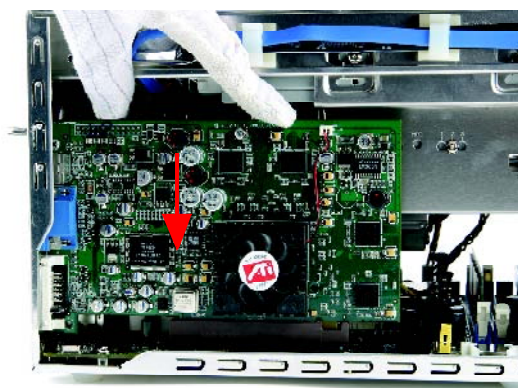
■ **2.7 Final Touches**

■ **2.7.1 Close the Chassis Cover**

1. Replace the cover and refasten the thumbscrews.
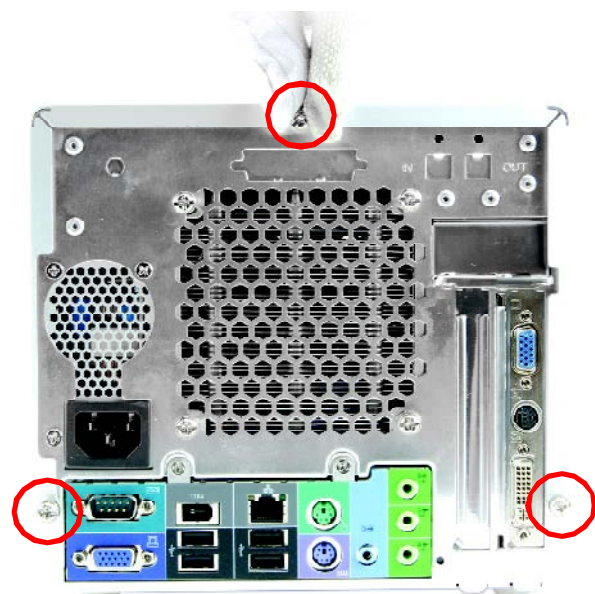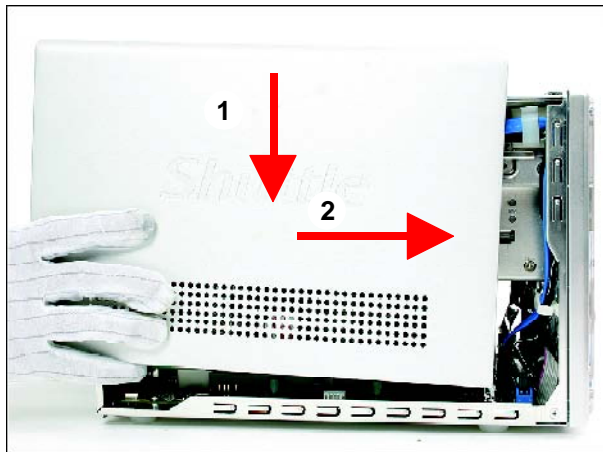
## ■ 2.7.2 Complete



## ■ 2.8 XPC Accessories

Shuttle offers over 25 great upgrade and modding kits for your XPC. Visit our website at http://www.shuttle.com for more information or speak to your local retailer.

## ■ 2.9 Tech Support

1.  Shuttle Inc.
    **http://www.shuttle.com**

2.  Tech Support
    **http://global.shuttle.com/Support/Support.asp**

3.  Download
    **http://global.shuttle.com/Download/Download.asp**

4.  Barebone FAQ
    **http://global.shuttle.com/Support/SupportFAQ_Brb.asp**

5.  Barebone Support List
    **http://global.shuttle.com/Support/SupportList_Brb.asp**

## ■ 2.A Technical Notes

## ■ 2.A.1 Clear CMOS Button

This XPC comes enhanced with an easy-to-use Clear CMOS Button. This button allows users to reset BIOS information to factory default settings.

1. Power down the XPC and remove the power cord.

2. Press the Clear CMOS Button by inserting a pointed object (e.g. a pen nib) into the clear CMOS hole. Keep it pressed for 5 seconds.

3. Reconnect the power cord and turn on the computer.



**Clear CMOS button**
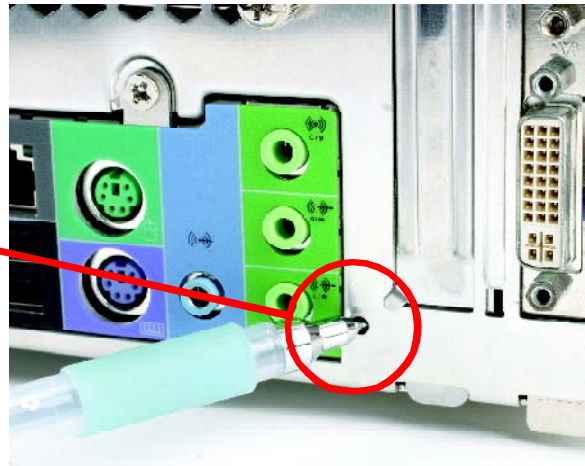
> **Note : Remove the power cord before clearing CMOS.**

# 3  Driver and Software Installation

## ■ 3.1  Mainboard Driver CD

> **Note : The CD contents attached in SK21G 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 -** VIA 4in1 Driver, VIA VGA Driver, VIA LAN Driver,VIA Audio Driver,  VIA RAID Driver,VIA USB 2.0 Driver.

☞ **Install Utility -** Install Acrobat Reader, WinFlash Utility.

☞ **Manual -** SK21G 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.
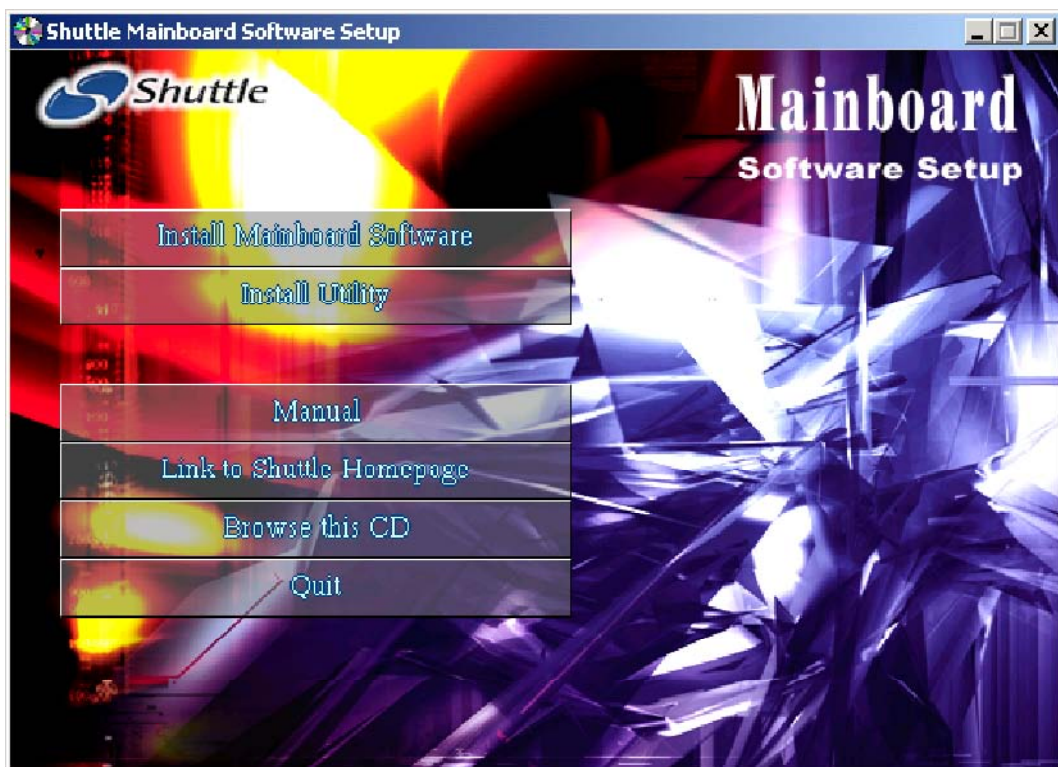
## ■ 3.1.1 Install Mainboard Software

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 VIA 4in1 Driver**
>
> ☞ **Install VIA VGA Driver**
>
> ☞ **Install VIA LAN Driver**
>
> ☞ **Install VIA Audio Driver**
>
> ☞ **Install VIA RAID Driver**
>
> ☞ **Install VIA USB 2.0 Driver**

# Appendix

## BIOS Settings

The SK21G 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.

English

## 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.

```
          Phoenix - AwardBIOS CMOS Setup Utility
┌─────────────────────────────────┬──────────────────────────────────┐
│  ► Standard CMOS Features        │  ► Frequency Control             │
│  ► Advanced BIOS Features        │    Load Fail-Safe Defaults       │
│  ► Advanced Chipset Features     │    Load Optimized Defaults       │
│  ► Integrated Peripherals        │    Set Supervisor Password       │
│  ► Power Management Setup         │    Set User Password             │
│  ► PnP/PCI Configurations        │    Save & Exit Setup             │
│  ► PC Health Status              │    Exit Without Saving           │
├─────────────────────────────────┴──────────────────────────────────┤
│  Esc : Quit        F9 : Menu in BIOS    ↑ ↓ ← : Select Item         │
│  F10 : Save & Exit Setup                                             │
├─────────────────────────────────────────────────────────────────────┤
│              Time, Date, Hard Disk Type...                           │
└─────────────────────────────────────────────────────────────────────┘
```

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 Control

Use this menu to specify your settings for ratio 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.

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

     Date (mm:dd:yy)        Wed, Aug 12 2099    │      Item Help
     Time (hh:mm:ss)        17 : 9 : 42         │
                                                │ Menu Level    ▶
   ▶ IDE Channel 0 Master                       │
   ▶ IDE Channel 0 Slave                        │ Change the day, month,
                                                │ year and century
     Drive A                [None]              │
                                                │
     Video                  [EGA/VGA]           │
     Halt On                [All Errors]        │
                                                │
     Base Memory                   640K         │
     Extended Memory             65472K         │
     Total Memory                 1024K         │
                                                │
                                                │
                                                │

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

### 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 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, All, But Diskette, or All, But Disk/Key.

### Base/Extended/Total Memory

Theseitems are automatically detected by the system at start up time. These are display-only fields. You can't make change to these fields.

\* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \*

### *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 Master

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'*

### Cylinder

Set the number of cylinders for this hard disk.

&#10148; Min = 0, Max = 65535

### Head

Set the number of read/write heads.

&#10148; Min = 0, Max = 255

### Precomp

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

&#10148; Min = 0, Max = 65535

### Landing zone

Set the Landing zone size.

&#10148; Min = 0, Max = 65535

### Sector

Number of sector per track.

&#10148; 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.

```
                        Advanced BIOS Features
  ▶ Hard Disk Boot Priority   [Press Enter]  ▲   │      Item Help
    Bios Write Protect         [Disabled]         │
    Virus Warning              [Disabled]         │  Menu Level    ▶
    CPU Internal Cache         [Enabled]          │
    External Cache             [Enabled]          │  Select Hard Disk Boot
    CPU L2 Cache ECC Checking  [Enabled]          │  Device Priority
    Quick Power On Self Test   [Enabled]          │
    USB Flash Disk Type        [Auto]             │
    First Boot Device          [CDROM]            │
    Second Boot Device         [Hard Disk]        │
    Third Boot Device          [USB-ZIP]          │
    Boot Other Device          [Enabled]          │
    Boot Up Floppy Seek        [Disabled]         │
    Boot Up NumLock Status     [Off]              │
    Typematic Rate Setting     [Disabled]         │
  x Typematic Rate (Chars/Sec) 6                  │
  x Typematic Delay (Msec)     250                │
    Security Option            [Setup]            │
    HDD Security Freeze Lock   [Enabled]          │
    APIC Mode                  [Enabled]          │
    MPS Version Control for OS [1.4]              │
    Video BIOS Shadow          [Enabled]       ▼  │

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

**Hard Disk Boot Priority**

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

**BIOS Write Protect**

The item allows you to enable/disable the Bios Write Protect.

➢ 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 Internal Cache

All processors that can be installed in this mainboard use internal level 1 (L1) cache memory to improve performance. Leave this item at the default value for better performance.

➢ The choice: Enabled or Disabled.

### External Cache

Most processors that can be installed in this system use external level 2 (L2) cache memory to improve performance. Leave this item at the default value for better performance.

➢ The choice: Enabled or Disabled.

### CPU L2 Cache ECC Checking

This item to enabled or disabled ECC (Error Correction Code) error checking on the CPU cache memory.

➢ 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.

### USB Flash Disk Type

This item allows you to select USB Flash Disk Type.

➢ The choice: Auto, Floppy or HDD.

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

### Boot Other Device

Select Your Boot Device Priority.

➢ The choice: Enabled or Disabled.

### Boot Up Floppy Seek

Seeks disk drives during boot-Up. Disabling speed boots up. 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.

### Typematic Rate Setting

Keystrokes repeat at a rate determined by the keyboard controller. When this controller enabled, the typematic rate and typematic delay can be selected.

➢ The choice: Enabled or Disabled.

### Typematic Rate (Chars/Sec)

This item sets how many times the keystroke will be repented in a second when you hold the key down.

➢ The choice: 6, 8, 10, 12, 15, 20, 24 or 30.

### Typematic Delay (Msec)

Sets the delay time after the key is held down before it begins to repeat the keystroke.

➢ The choice: 250, 500, 750 or 1000.

### 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. Do not type anything and just press <Enter>; it will disable security. Once the security is disabled, the system will boot, and you can enter Setup freely.

### HDD Security Freeze Lock

Selects enable/disable HDD Security Freeze Lock, Enabled - prevents any external application from locking Hard drive except for BIOS.

➢ The choice: Enabled or Disabled.

### APIC Mode

Selects enable/disable IO APIC function

➢ The choice: Enabled or Disabled.

### MPS Version Control For OS

Selects the operating system multiprocessor support version.

➢ The choice: 1.1 or 1.4

### Video BIOS Shadow

Determines whether video BIOS will be copied to RAM. However, it is optional depending on chipset design. Video Shadow will increase the video speed.

➢ 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.

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

  ▶ AGP & P2P Bridge Control   [Press Enter]         Item Help
  ▶ DRAM Configuration         [Press Enter]
  ▶ LDT & PCI Bus Control      [Press Enter]    Menu Level    ▶
    Memory Hole                [Disabled]
    VLink Data Rate            [8X]
    Init Display First         [PCI Slot]
    System BIOS Cacheable      [Disabled]




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

### AGP & P2P Bridge Control

Options are in its sub-menu.

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

### AGP Aperture Size

Select the size of Accelerated Graphics Port (AGP) aperture. The aperture is a portion of the PCI memory address range dedicated to graphics memory address space. Host cycles that hit the aperture range are forwarded to the AGP without any translation.

➢ The Choice: 32M, 64M, 128M, 256M, 512M or 1G.

### AGP 2.0 Mode

This item allows you to select the AGP Mode. If you set Onboard VGA or AGP 3.0 Mode AGP Card, the default value is 8X.

➢ The Choice: 1x, 2x or 4x.

### AGP Driving Control

This item enables the system to automatically select its output buffer drive strength or make it manually selectable by an end user.

➢ The Choice: Auto or Manual.

### AGP Driving Value

This item enables an end user to manually select the AGP output buffer drive strength.

➢ Key in a HEX number: Min = 0000, Max = 00FF.

### AGP Fast Write

This item enables an end user to manually select the AGP output buffer drive strength.

➢ The Choice: Enabled or Disabled.

### AGP Master 1 WS Write

When this item enabled, writing to the AGP(Accelerated Graphics Port) is executed with one wait state.

➢ The Choice: Enabled or Disabled.

### AGP Master 1 WS Read

When this item enabled, reading from the AGP (Accelerated Graphics Port) is executed with one wait state.

➢ The Choice: Enabled or Disabled.

### AGP 3.0 Calibration Cycle

If you set Onboard VGA or AGP 3.0 Mode AGP Card, the item is enable/disable the AGP calibration cycle.

➢ he Choice: Enabled or Disabled.

### VGA Share Memory Size

This item defines the onboard VGA shared memory size.

➢ The Choice: Disabled, 16M, 32M or 64M.

## DRAM Configuration

Options are in its sub-menu.

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

### Current FSB Frequency

This item shows the current CPU Front Side Bus Speed.

### Current DRAM Frequency

This item shows the current DRAM speed.

**DDR Timing Setting**

This item allows you to set DRAM timing.

➢ The Choice: Auto or Manual.

**Memclock index valux (Whz)**

Places an artificial memory clock limit on the system.

Memory is prevented from running faster than this frequency.

➢ The Choice: 100, 133,166 or 200.

**CAS# latency (Tc1)**

This item defines the timing delay in clock cycles before SDRAM starts a read command after receiving it.

➢ The Choice: 2, 2.5 or 3.0.

**Min RAS# active time (tRAS)**

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

➢ The Choice: Auto or 5 ~ 15 Bus Clocks.

**RAS# to CAS# delay (tRCD)**

This item defines the timing of the transition from RAS (row address strobe) to CAS (column address strobe) as both rows and columns are separately addressed shortly after DRAM is refreshed.

➢ The Choice: Auto or 2 ~ 7 Bus Clocks.

**Row Precharge Time (tRP)**

This item defines the numbers of cycles for RAS (row address strobe) to be allowed to precharge.

➢ The Choice: Auto or 2 ~ 7 Bus Clocks.

**MTRR mapping mode**

This item allows you to set the MTRR mapping mode.

➢ The Choice: Continuous or Discrete.

### LDT & PCI Bus Control

Options are in its sub-menu.

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

### Upstream LDT Bus Width

This item allows you to select the LDT upstream width.

➢ The Choice: 8 bit or 16 bit.

### Downstream LDT Bus Width

This item allows you to select the LDT downstream width.

➢ The Choice: 8 bit or 16 bit.

### LDT Bus Frequency

The item selects the LDT bus frequency.

➢ The Choice: Atuo, 200 MHz, 400 MHz, 600 MHz or 800 MHz.

### PCI1 Master 0 WS Write

When this item enabled, writing to the PCI bus is executed with zero wait state.

➢ The Choice: Enabled or Disabled.

### PCI2 Master 0 WS Write

When this item enabled, writing to the AGP bus is executed with zero wait state.

➢ The Choice: Enabled or Disabled.

### PCI1 Post Write

This Item enable/disable AGP post write function, which means when cpu accessing the AGP data, the chipset can queue the instruction when the AGP bus is busy, then write the data when AGP bus is available .

➢ The Choice: Enabled or Disabled.

### PCI2 Post Write

This Item enable/disable PCI post write function, which means when cpu accessing the PCI data, the chipset can queue the instruction when the PCI bus is busy, then write the data when AGP bus is available.

➢ The Choice: Enabled or Disabled.

### PCI Delay Transaction

The chipset has an embedded 32-bit posted write buffer to support delay transactions cycles. Select Enabled to support compliance with PCI specification version 2.1.

➢ The Choice: Enabled or Disabled.

### Memory Hole

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 peripherals that need to use this area of system memory ususlly discusses their memory requirements.

➢ The Choice: Disabled or 15M-16M.

### VLINK Data Rate

This item allows you to set VLINK Data Rate.

➢ The Choice: 8x or 4x.

### Init Display First

This item allows you to decide to activate whether PCI slot or AGP first.

➢ The choice: PCI Slot or AGP/Onboard.

### 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.

# ✍ *Integrated Peripherals*

```
           Phoenix - AwardBIOS CMOS Setup Utility
                    Integrated Peripherals

  ▶ VIA OnChip IDE Device    [Press Enter]        Item Help
  ▶ VIA OnChip PCI Device    [Press Enter]
  ▶ SuperIO Device           [Press Enter]    Menu Level    ▶




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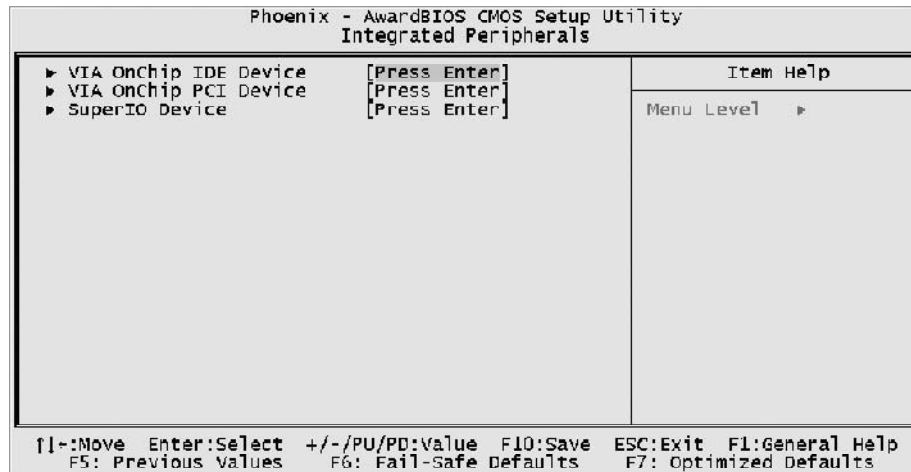
### VIA OnChip IDE Device

Option are in its sub-menu.

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

### OnChip SATA

The chipset contains a SATA interface with support to on SATA channel. Select Enabled to active the primary SATA interface. Select Disabled to deactivate the primary interface.

➢ The choice: Disabled or Enabled.
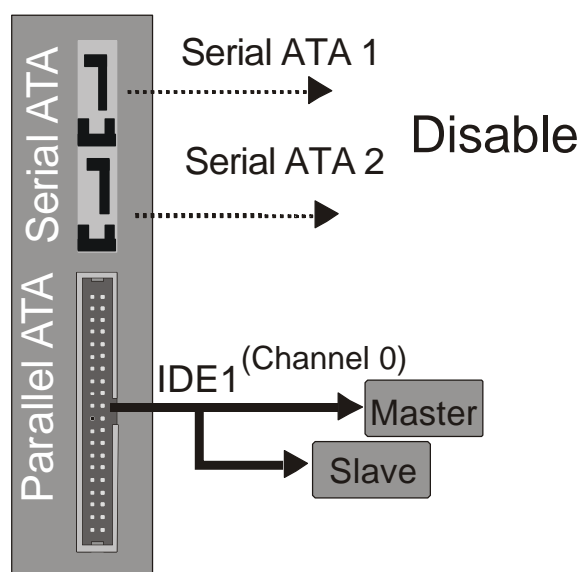
### SATA Mode

You can select SATA Mode as "RAID" to run RAID bios and make raid.

➢ The choice: IDE or RAID.

### OnChip IDE Channel0

The chipset contains a PCI IDE interface with support to two IDE channels. Select Enabled to activate the primary IDE interface; select                   Disabled to deactivate this interface.

➢ The choice: Enabled or Disabled.

### IDE Prefetch Mode

The onboard IDE drive interfaces support IDE prefetching for faster drive access. If you install a primary and/or secondary add-on IDE interface, set this field to Disabled if the interface does not support prefetching.

➢ The choice: Enabled or Disabled.

### Primary Master/Primary Slave/Secondary Master/Secondary 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.

### Primary Master/Primary Slave/Secondary Master/Secondary 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.

➢ The choice: Auto or Disabled.

### 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.

## VIA Onchip PCI Device

Option are in its sub-menu.

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

**Onboard Audio**

This item allows you to select audio chip to support Audio. Disable this item. If you are going to install a PCI audio add-on card.

➢ The Choice: Auto or Disabled.

**Onboard LAN**

This item allows you to select onchip LAN.

➢ The Choice: Enabled or Disabled.

**Onboard Lan Boot ROM**

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

➢ The Choice: Enabled or Disabled.

**Onchip USB Controller**

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

➢ The Choice: All Disabled, All Enabled, 1&2 USB Port, 2&3 USB Port, 1&3 USB Port or 1 ~ 3 USB.

**Onchip EHCI Controller**

Select Enabled if your system contains a Universal Serial Bus USB2.0 port on this mainboard.

➢ 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.

**Onboard Serial Port**

This option is used to assign the I/O address and interrupt request ( IRQ) for the onboard serial port1 ( COM1 ).

➢ The choice: Disabled, 3F8/IRQ4, 2F8/IRQ3, 3E8/IRQ4, 2E8/IRQ3, or Auto.

**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.

✎ *Power Management Setup*

```
              Phoenix - AwardBIOS CMOS Setup Utility
                       Power Management Setup
┌───────────────────────────────────────────┬─────────────────────────┐
│ ACPI function              Enabled         │      Item Help          │
│ ACPI Suspend Type          [S1(POS)]       │                         │
│ HDD Power Down             [Disable]       │ Menu Level    ►         │
│ Suspend Mode               [Disable]       │                         │
│ Video Off Option           [Suspend -> Off]│                         │
│ Video Off Method           [V/H SYNC+Blank]│                         │
│ MODEM Use IRQ              [3]              │                         │
│ Soft-Off by PWRBTN         [Instant-Off]   │                         │
│ Run VGABIOS if S3 Resume   [Auto]          │                         │
│ PWRON After PWR-Fail       [Off]           │                         │
│ ► IRQ/Event Activity Detect [Press Enter]  │                         │
│                                            │                         │
│                                            │                         │
│                                            │                         │
│                                            │                         │
├────────────────────────────────────────────────────────────────────┤
│ ↑↓←:Move  Enter:Select  +/-/PU/PD:Value  F10:Save  ESC:Exit  F1:General Help │
│    F5: Previous Values    F6: Fail-Safe Defaults   F7: Optimized Defaults │
└──────────────────────────────────────────────────────────────────────┘
```

The Power Management Setup allows you to configure your system to most effectively saving energy while operating in a manner consistent with your own style of computer use.

**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).

**HDD Power Down**

The IDE hard drive will spin down if it is not accessed within a specified length of time. Options are from 1 Min to 15 Min and Disable.

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

**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: Disable, 1Min, 2Min, 4Min, 6Min, 8Min, 10Min, 20Min, 30Min, 40Min or 1Hour.

**Video Off Option**

This item specifies on/off for the monitor when it enters the power-

saving mode.

➢ The choice: Suspend->off or Always On.

### Video Off Method

This determines the manner in which the monitor is blanked.

**Blank Screen**      This option only writes blanks to the video buffer.

**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.

**DPMS Supported**      Initial display power management signaling.

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

### MODEM Use IRQ

This determines the IRQ which the MODEM can use.

➢ The choice: 3, 4, 5, 7, 9, 10, 11 or NA.

### Soft-Off by PWR-BTN

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 Delay 4 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.

### Run VGABIOS if S3 Resume

This item becomes available when the previous item is seto to S3(STR) or S1 & S3. The item allows the system to initialize a VGA BIOS from S3 (Suspend to RAM) sleep state.

➢ The choice: Yes, No or Auto.

### PWRON After PWR-Fail

This item select power on function when power fail.

➢ The choice: Off, On or Former-Sts.

### IRQ / Event Activity Detect

Option are in its sub-menu.

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

**PS2KB Wakeup Select**

Select a hotkey or password to wake up the system.

➢ The choice: Hot key or Password.

**PS2KB Wakeup from S3/S4/S5**

Set a key to awaken the system from a keyboard.
➢ The choice: Disable, Ctrl+F1~Ctrl+F12, Power, Wake or Any Key.

**PS2MS Wakeup from S3/S4/S5**

This item enables or disables the PS/2 mouse to awaken the system.
➢ The choice: Disabled or Enabled.

**USB Resume from S3**

When this item is enabled, any activity from the USB device will awaken the system from S3 mode.
➢ The choice: Disabled or Enabled.

**VGA**

Select ON to have the VGA awaken the system.
➢ The choice: OFF or ON.

**LPT & COM**

This item determines if any activity from LPT, COM, or both wakes up the system.
➢ The choice: NONE, LPT, COM or LPT/COM.

**HDD & FDD**

Select ON to have any activity from HDD or FDD wake up the system.
➢ The choice: OFF or ON.

**PCI Master**

Select ON to have any activity from the primary PCI wake up the system.
➢ The choice: OFF or ON.

**PowerOn by PCI Card**

This item enables/disables the power on function of PCI card.
➢ The choice: Disabled or Enabled.

**Modem Ring Resume**

When this item is enabled, any event from Modem Ring will awaken the system which has been powered down.
➢ The choice: Disabled or Enabled.

**RTC Alarm Resume**

When this item is enabled, your can set the date and time at which the RTC (real-time clock) alarm awakens the system from suspend mode.
➢ The choice: Disabled or Enabled.

### Data (of Month)

This item selects the alarm date.

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

### Resume Time (hh:mm:ss)

This item selects the alarm Time.

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

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

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

### IRQs Activity Monitoring

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

### Primary INTR

Select ON/OFF to enable/disable a specified IRQ.

➤ The choice: OFF or ON.

In the following is a list of IRQs (Interrupt Requests), which can be exempted much as the COM ports and LPT ports above can. When an I/O device wants to gain the attention of the operating system, it signals this by causing an IRQ to occur. When the operating system is ready to respond to the request, it interrupts itself and performs the service. When on mode exists, activity will neither prevent the system from going into a power management mode nor awaken it.

**IRQ3 (COM 2)**

**IRQ4 (COM 1)**

**IRQ5 (LPT 2)**

**IRQ6 (Floppy Disk)**

**IRQ7 (LPT 1)**

**IRQ8 (RTC Alarm)**

**IRQ9 (IRQ2 Redir)**

**IRQ10 (Reserved)**

**IRQ11 (Reserved)**

**IRQ12 (PS/2 Mouse)**

**IRQ13 (Coprocessor)**

**IRQ14 (Hard Disk)**

**IRQ15 (Reserved)**

➤ The choice: Disabled or Enabled.

# ✎ *PnP/PCI Configurations*

This section configures how PnP and PCI operate in your system. Correctly setting up the IRQ and DMA (both PnP and PCI use) assignments will make your system work stably. It is strongly recommended that only technical users make changes to the default settings.

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

    PNP OS Installed          [No]              Item Help
    Reset Configuration Data  [Disabled]
                                          Menu Level    ▶
    Resources Controlled By   [Auto(ESCD)]
  x IRQ Resources              Press Enter    Select Yes if you are
                                              using a Plug and Play
    PCI/VGA Palette Snoop     [Disabled]      capable operating
    Assign IRQ For VGA        [Enabled]       system Select No if
    Assign IRQ For USB        [Enabled]       you need the BIOS to
                                              configure non-boot
                                              devices

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

## PNP OS Installed

This item allows you to determine PnP OS is installed or not.

➢ The choice: Yes or No.

## 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.

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

### Assign IRQ for VGA

The item allows the user to set VGA IRQ Routing table Enabled or Disabled.

➢ The choice: Enabled or Disabled.

### Assign IRQ for USB

The item allows the user the option to assign an IRQ to onboard USB controller. Since the onboard controller is always enabled, if no IRQ is assigned to it, there will be a question mark report on the system device under Windows95/98.

➢ The choice: Enabled or Disabled.

✎ *PC Health Status*

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

CPU Fan Speed Control    [Smart Fan]          Item Help

CPU Voltage                            Menu Level   ►
AGP Voltage
+3.3V
+5V
+12V                                   Choice  Cpu   Fan
-12V                                           Temp  Speed
RAM Voltage
+5VSB                                  (Ultra) ↑80°C Full
Voltage Battery                        Low     ↓80°C (U)L
System Temperature
CPU Temperature                                ↑80°C Full
FAN1 Speed                             Mid     ↓80°C Mid
FAN2 Speed
                                       Full    always Full

                                       Smart Fan : base on
                                       Cpu Temp to adjust
                                       Fan Speed.

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

**CPU Fan Speed Control**

Here you can set the ICE Fan Speed.

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

```
Choice  Cpu   Fan
        Temp  Speed
(Ultra) ↑80°C Full
Low     ↓80°C (U)L
        ↑80°C Full
Mid     ↓80°C Mid
Full    always Full
Smart Fan : base on
Cpu Temp to adjust
Fan Speed.
```

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

**CPU Voltage**       **Fan1 Speed**

**AGP Voltage**       **Fan2 Speed**

**+3.3V**

**+5V**

**+12V**

**-12V**

**RAM Voltage**

**+5VSB**

**Voltage Battery**

**System Temperature**

**CPU Temperature**

**Warning:** It is Strongly reco-mmended to disable CPU Fan Auto Guardian feature, if you wish to use other fan cooler, allowing the fan to run at its default speed.

✎ **Frequency Control**

```
            Phoenix - AwardBIOS CMOS Setup Utility
                        Frequency Control
┌──────────────────────────────────────────┬─────────────────────────┐
│ Auto Detect PCI Clk     [Enabled]         │      Item Help          │
│ Spread Spectrum         [Enabled]         │                         │
│ CPU Clock               [200MHz]          │  Menu Level    ▶        │
│                                           │                         │
│                                           │                         │
│                                           │                         │
│                                           │                         │
│                                           │                         │
│                                           │                         │
│                                           │                         │
│                                           │                         │
│                                           │                         │
│                                           │                         │
│                                           │                         │
│                                           │                         │
├──────────────────────────────────────────┴─────────────────────────┤
│ ↑↓→:Move  Enter:Select  +/-/PU/PD:Value  F10:Save  ESC:Exit  F1:General Help │
│    F5: Previous Values    F6: Fail-Safe Defaults    F7: Optimized Defaults  │
└──────────────────────────────────────────────────────────────────┘
```

**Auto Detect PCI Clk**

> This item allows you to enable/disable auto detection PCI Clock.

> ➢ The choice: Enabled or Disabled.

**Spread Spectrum**

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

> ➢ The choice: Disabled or Enabled.

**CPU Clock**

> This item allows you to adjust CPU Host Clock.

> Min: 200

> Max: 232

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

### ✍ *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.

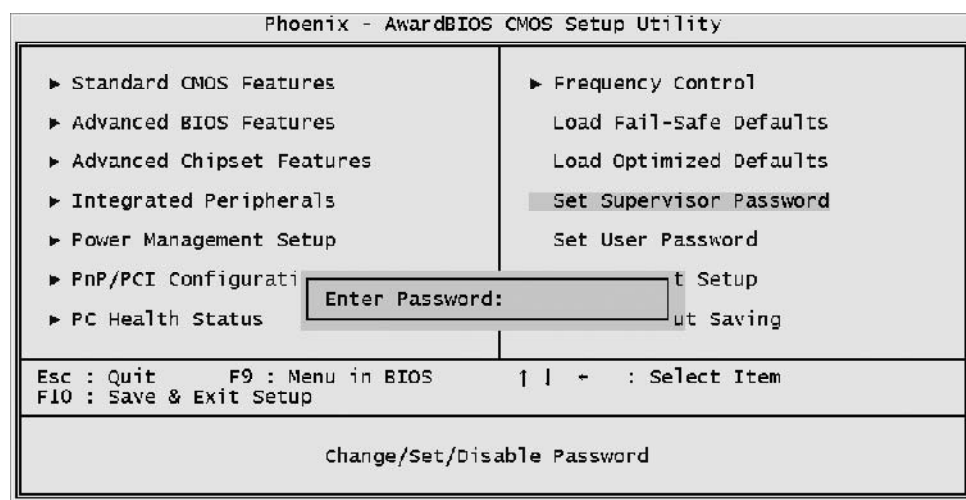### ✍ *Load Optimized Defaults*

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*

```
                Phoenix - AwardBIOS CMOS Setup Utility

  ► Standard CMOS Features          ► Frequency Control
  ► Advanced BIOS Features            Load Fail-Safe Defaults
  ► Advanced Chipset Features         Load Optimized Defaults
  ► Integrated Peripherals            Set Supervisor Password
  ► Power Management Setup            Set User Password
  ► PnP/PCI Configurati┌───────────────────────┐t Setup
  ► PC Health Status    │ Enter Password:       │ut Saving
                        └───────────────────────┘
  Esc : Quit     F9 : Menu in BIOS     ↑ ↓ ← → : Select Item
  F10 : Save & Exit Setup

                 Change/Set/Disable 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.

**XPC**
By SHUTTLE

**MEMO**

SK21G

# MEMO

SK21G

**XPC** By SHUTTLE

**MEMO**

SK21G

**XPC**
By SHUTTLE

# MEMO

SK21G