XPC User Guide

For the : SS59G

Shuttle XPC EMI Test Statement

Shuttle XPC 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: XPC

Status: Sample

Model Name: SS59G

S/N:N/A

CPU:

External Frequency: 133 MHz

Intel Pentium 4, LGA 775 Processor: 2.40/ 2.53/ 2.66/ 2.80 GHz

External Frequency: 200 MHz

Intel Pentium 4, LGA 775 Processor: 2.8/ 3/ 3.2/ 3.4 GHz

Serial Port: one port with 9 pins

VGA Port: one port with 15 pins

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 and one port with 6 pins respectively

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

Center/Bass-Out Port: four ports

Mic-In Ports: one port

Line-In Ports: two ports

SPDIF-Out (Coaxial) Port: one port

SPDIF-Out (Optical) Port: one port

SPDIF-In (Optical) Port: one port

Clear CMOS button: one port

DIMM Memory (optional): DDR 400 256 MB *2

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

Monitor: CRT+DVI

Maximum Resolution: 1280 X 1024   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	P4 3.4 GHz	Close
2	200MHz	P4 3.4 GHz	Open

| 3 | 133MHz | P4 2.8 GHz | Close |
| 4 | 133MHz | P4 2.8 GHz | Open |

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

Remedy: N/A

EMI Interference:

Crystal : 14.318MHz(X2)/ 25MHz(X6)/ 32.768KHz(X9)/ 12MHz(X4)
/ 24.576MHz(X7)/ 24.576MHz(X5).

Clock Generator: U4, U5

(D) Supported Host Peripherals:

Host Peripheral	Product Name	Model Name
# 1	Case	SS59G
# 2	Power Supply	PC30I2003
# 3	Serial ATA Seagate	ST312G026A8
# 4	Card Reader	PC12
# 5	DVD Player	P10437007995

(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:

➢ 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.

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

6. Make sure a 5.25" 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 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

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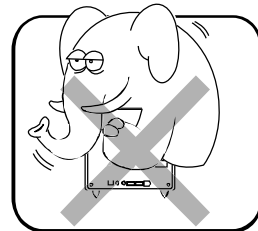
Do not expose this device to high levels of direct sunlight, high-humidity or wet conditions.

Do not use or expose this device around magnetic fields as magnetic interference may affect the performance of the device.
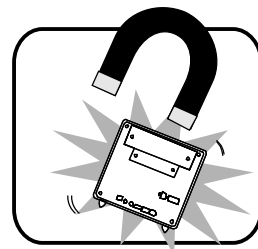
Do not block the air vents to this device or impede the airflow in any way.
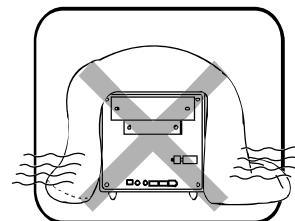
TABLE OF CONTENTS

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

1. Intel Prescott Desktop Processors in the LGA 775 pin package with 533 / 800 MHz FSB.
2. (2004/2005 Mainstream/Value FMB - 04A/05A)

Chipset

Features SiS 661FX N.B. and SiS 964 S.B..

Memory

Two 184-pin DIMM slots to support up to 2GB of PC2100, PC2700 or PC3200 compliant DDR SDRAM module.

Audio

On Board 5.1 Channel AC97 Audio

Ethernet

RTL8100C, support 10/100 Mbps operation rate and wake-on-Lan (WOL) function.

IEEE 1394a

VIA VT6307, support 400Mb/s, 200Mb/s, or100Mb/s data transfer rate.

Serial ATA

SiS964 integrated SATA, Two Channel UDMA 150MB/s S-ATA with Raid 0, 1, and JBOD

Onboard headers & connectors

(1) ATA100 IDE connector	**(1) Floppy connector**	**(2) SATA connector**
(2) Fan connectors	**(1) Power & reset header**	**(1) Line_In header**
(1) CD_In header	**(1) Mini CD_In header**	**(1) AGP**
(2) 1x5 pin USB 2.0 headers	**(1) Printer port header**	**(1) PCI**
(1) SPDIF In/Out header	**(2) Power connector**	

PSU

Output:200W, Input: 100/240V AC, Active PFC, FCC, CE , BSMI, UL, TUV, CB certificated

Chassis

G, Dimension: 254 (W) x 185 (H) x 280 (L)
Bay: (2) 3.5" bays, (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. 〈((•))〉 ⊙ Aux-in

8. ⌾ ⊙ Mic

9. ⌓ ⊙ Headphone

10. •⇆ ▯ USB ports

11. ⌗ ▯ FireWire® 400 mini port
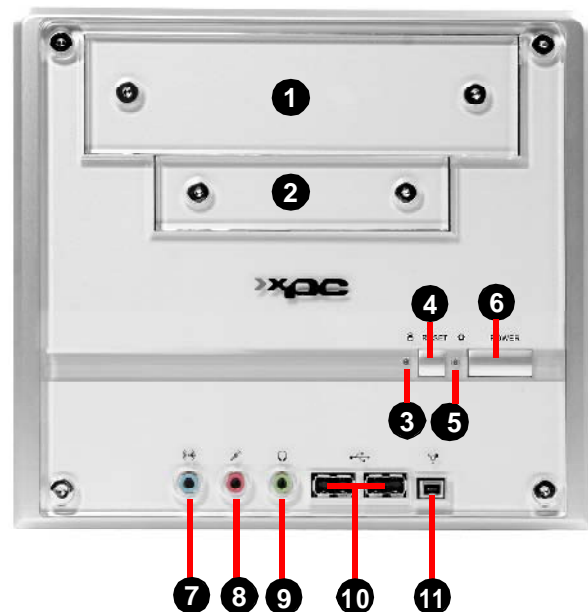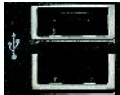
■ **1.3.2 XPC Back**

1. AC Power socket

2. COM port

3. VGA port

4. 1394 FireWire® 400 port

5. USB Ports

6. LAN port

7. PS/2 Mouse

8. PS/2 Keyboard

9. Line-In port

10. Central / Bass

11. Rear out(R/L)

12. Front out (R/L)

13. Clear CMOS button
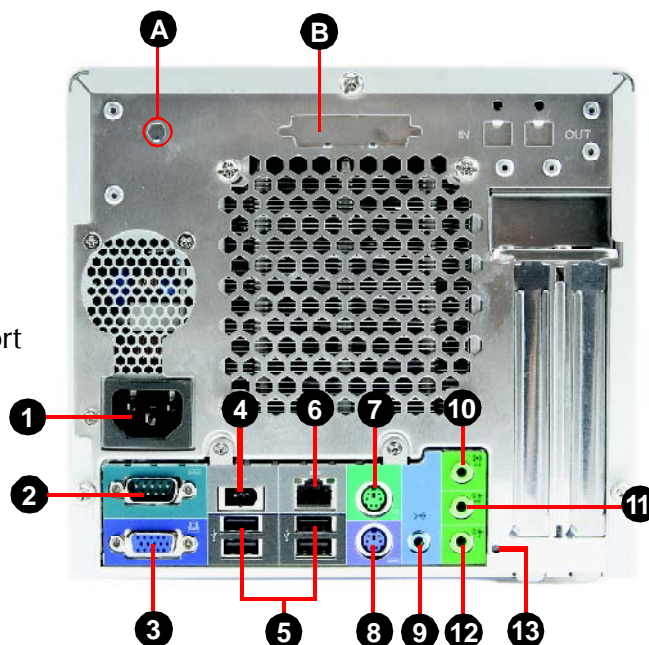
A. Wireless LAN perforation

B. Parallel port perforation

■ 1.4 Accessories

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

> **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 SS59G mainboard illustration

LINE-In Connector- J4

PS/2 K/B & M/S Connector

LAN & Dual USB Ports

Lind-In Port

1394 & Dual USB Ports

CD-In Connector- CN3

VGA & COM Ports

Rear-Out/Front-Out/Center/Bass Audio Connectors

Clear CMOS Button

ALC655 Chip

SPDIF IN/OUT Connector-JP4

Mini CD-In Connector - CN4

FAN Connector- FAN1

RTL8100C Chipset

Socket 775

One PCI Slot

One AGP Slot

USB Header-USB1

SiS 661FX Chipset

SiS 964 Chipset

Two DIMM Slots

Dual Channel Serial ATA- SATA1/SATA2

One IDE Slot- IDE1

ITE 8705F Chip

Floppy Connector -FDD1

VT6307 Chip

USB Header- USB3

EXT. Print Port - JP11

ATX Power Connector- ATX1

Front Panel Connector-JP9

Front Panel Connector-JP8

ATX Power Connector- CN5

FAN Connector- FAN2

■ 1.5.2 Jumper Settings

✍ *Front Panel Connector (JP9/JP8)*

Header JP8 can 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 (JP8):

1 = HDLED_PU	2 = GLEDA
3 = HDLED	4 = GLEDB
5 = Reset_SW	6 = Power_SW
7 = GND	8 = GND
9 = NC	10 = KEY

```
                    HLED
           RST      -  +
           | |     | |
         9  7  5  3  1
        ┌────────────┐
        │ • • • • ■ │   JP8
        │ • • • • • │
        └────────────┘
        10  8  6  4  2
           | |     | |
        PWON    +  -   -  +
              GLED/ PWR LED
```

```
  49                              1
 ┌──────────────────────────────┐
 │ ▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮ │   JP9
 │ ▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮ │
 └──────────────────────────────┘
  50                              2
```
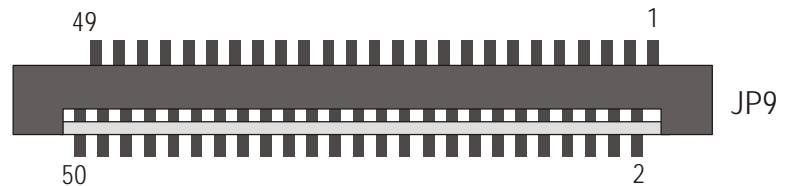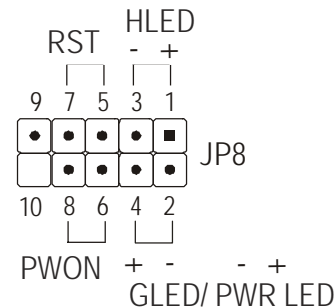
✍ *Fan Connectors (FAN1/FAN2)*

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

```
  ┌──────┐  ─ SPEED_SENSE
  │ ▪    │
  │ ▪    │  ─ +12V
  │ ▪    │
  └──────┘  ─ GND
      1
   FAN2
```

```
  ┌──────┐  ─ PWM CTRL
  │ ▪    │
  │ ▪    │  ─ SPEED_SENSE
  │ ▪    │
  │ ▪    │  ─ +12V
  └──────┘  ─ GND
      1
   FAN1
```
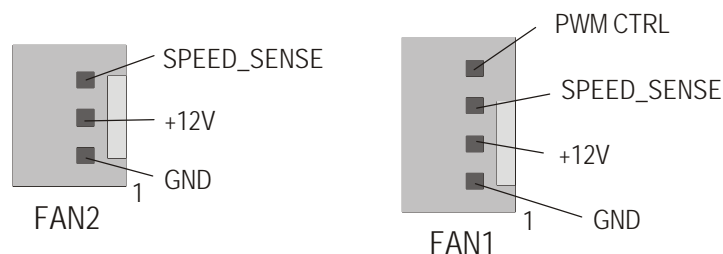
> **Note : Both cable wiring and type of plug may vary depending on the fan maker.**

✍ *Extended USB Connectors (USB1/USB3)*

These headers are used to connect auxillary USB devices to the mainboard. These headers are directional and will only allow USB cables to be connected in one direction.

Pin Assignments (USB1/USB3):

1 = GND

2 = GND

3 = Data +

4 = Data-

5 = VCC

USB1/ USB3
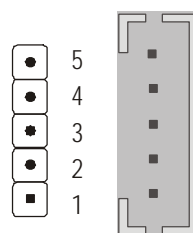
✍ *LINE-In(J4), CD-In(CN3), Mini CD-In(CN4) Connectors*

Port J4(Blue), CN3(Black) and CN4 can be used to connect a stereo audio input from CD-ROM, TV-tuner or MPEG card.

Pin Assignments (J4):

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

Pin Assignments (CN3):

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

Pin Assignments (CN4):

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

1 2 3 4

LINE-IN   J4

1 2 3 4

CD-IN   CN3

1 2 3 4

Mini CD-In   CN4
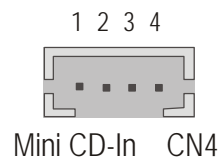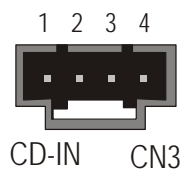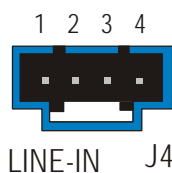
✍ *SPDIF-In/Out Connector (JP4)*

Port JP4 can be used to connect special device.

Pin Assignments (JP4):

1 = SPDIF IN
2 = GND
3 = VCC
4 = GND
5 = VCC
6 = SPDIF OUT
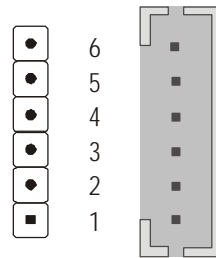
SPDIF- IN/OUT   JP4

✍ *Parallel Port Header-EXT. Printer Port (JP11)*

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.
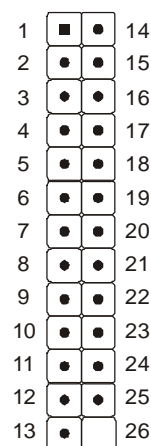
JP11

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 three thumbscrews.
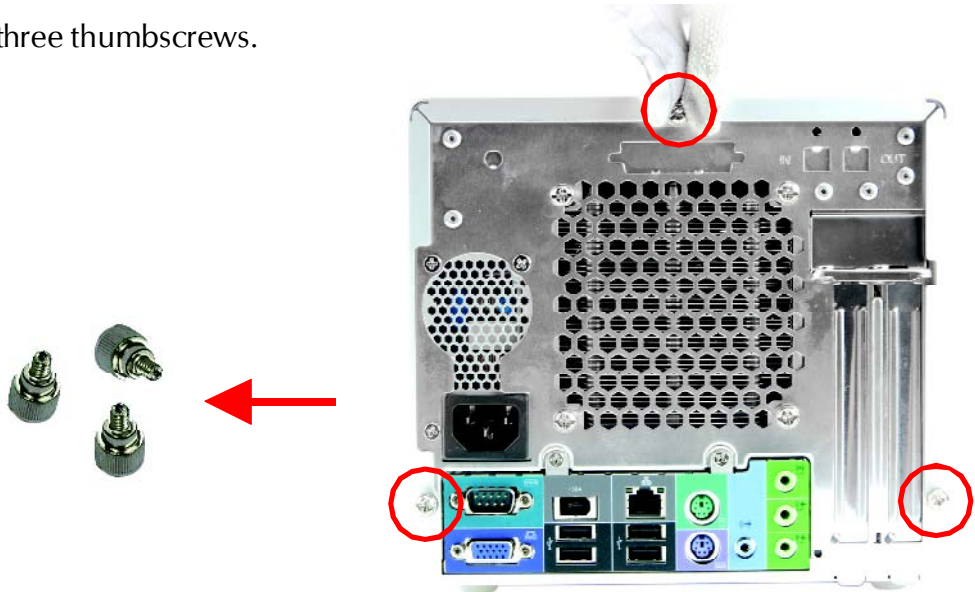
2. Slide the cover backwards and upwards.
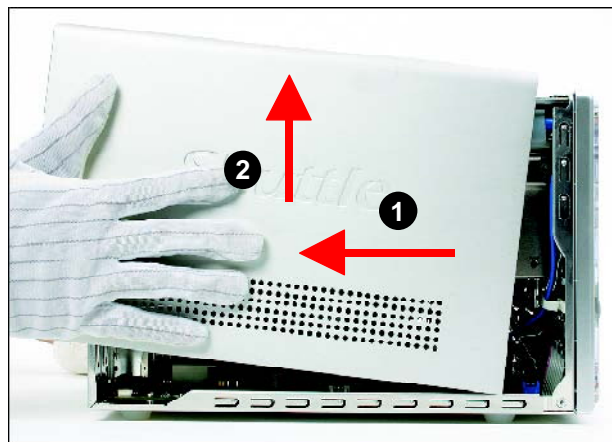
■ 2.1.2 Remove the Rack

1. Unfasten the rack mount screws.
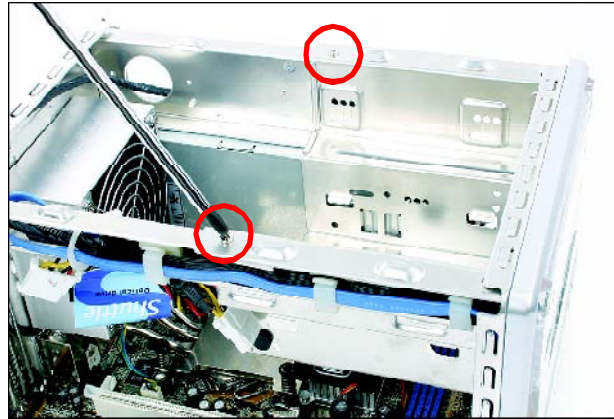
2. Remove the rack.
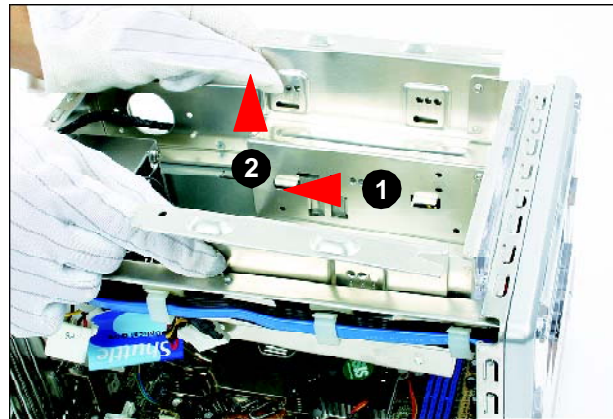
3. Unscrew and remove the front bay covers.
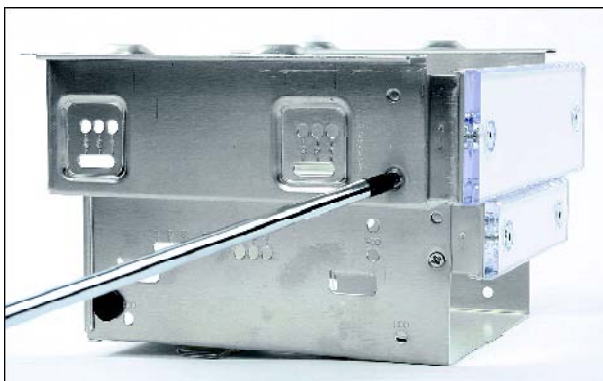
Rack

Note : There are 2 screws on each side of the mounting rack.

■ 2.2 CPU and ICE Installation

■ 2.2.1 Remove the ICE Module

1. Unfasten the ICE fan thumbscrews on the back of the chassis.
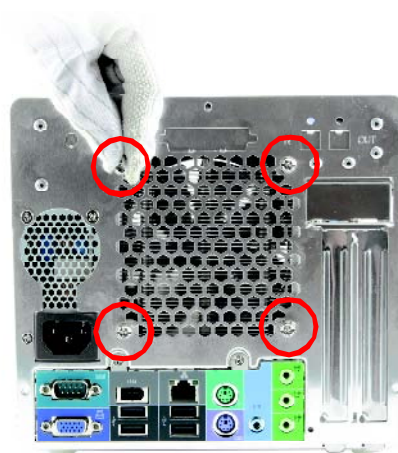
2. Unplug the fan power connector.
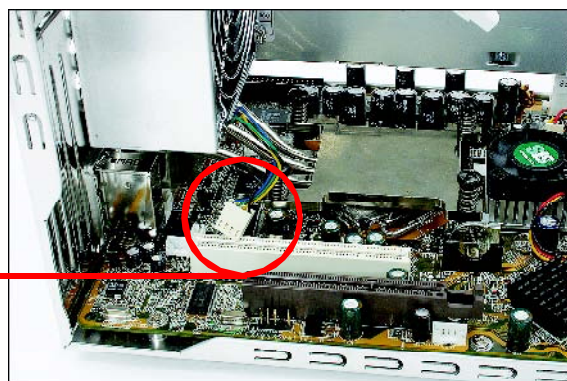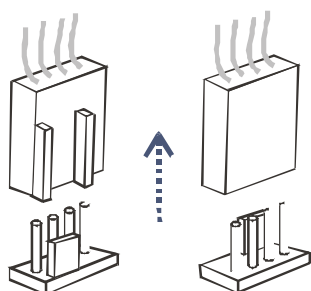
3. Unfasten the four attachment screws.
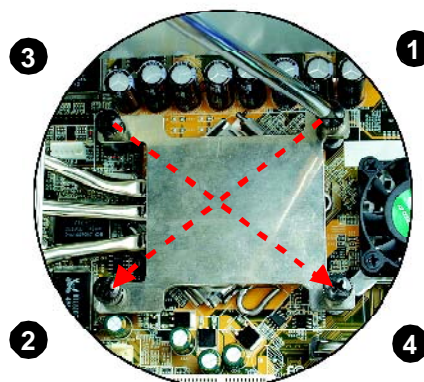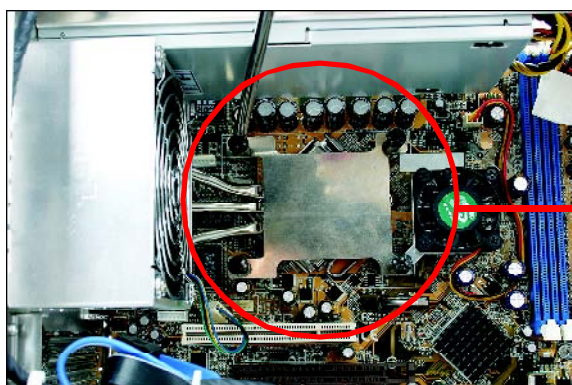
4. Remove the ICE module from the chassis and put it aside.

ICE Heat-Pipe Module

Smart Fan

Heat-pipe

Smart Fan Power Connector
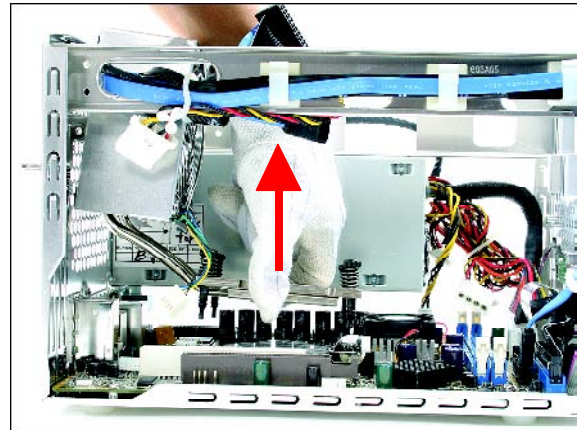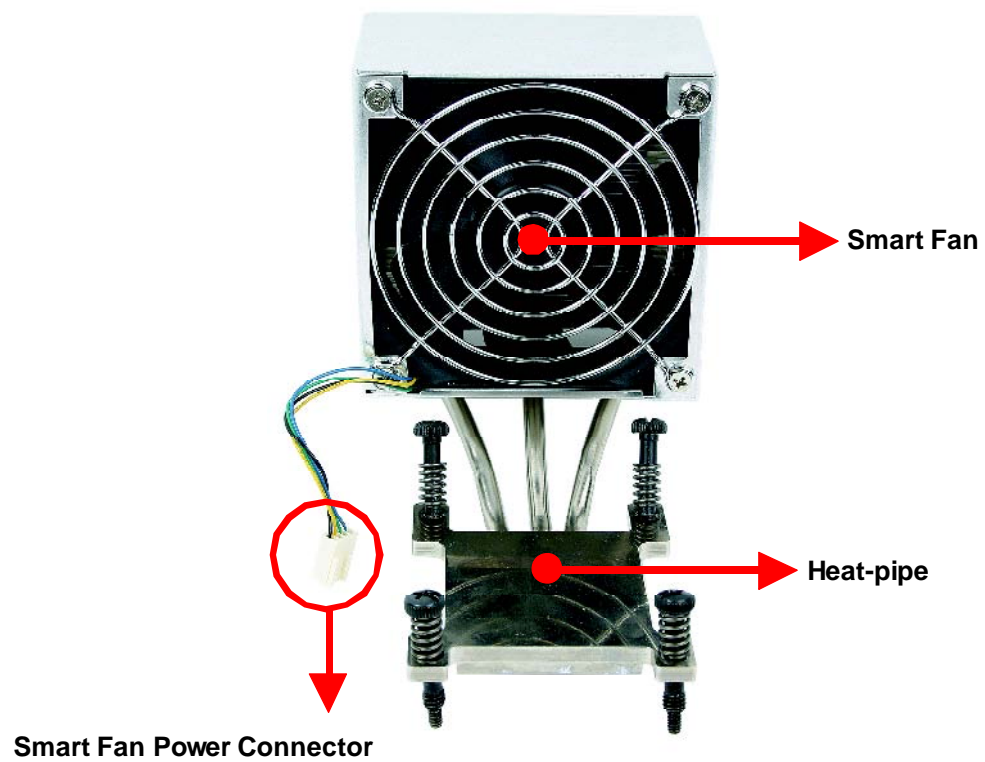
■ 2.2.2 Install the CPU

> **Note : This 775 pin socket is fragile and easily damaged. Always use extreme care when installing a CPU and limit the number of times that you remove or change the CPU.**

1. Remove the protective cover.
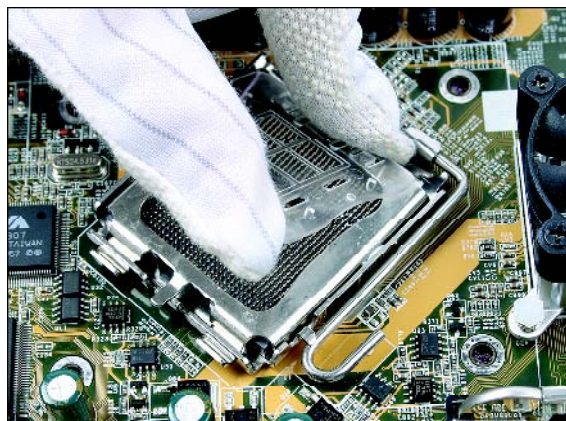
2. First unlock and raise the socket lever, then open the load plate (be careful not to touch the socket pins during this process).

Lift the CPU socket lever
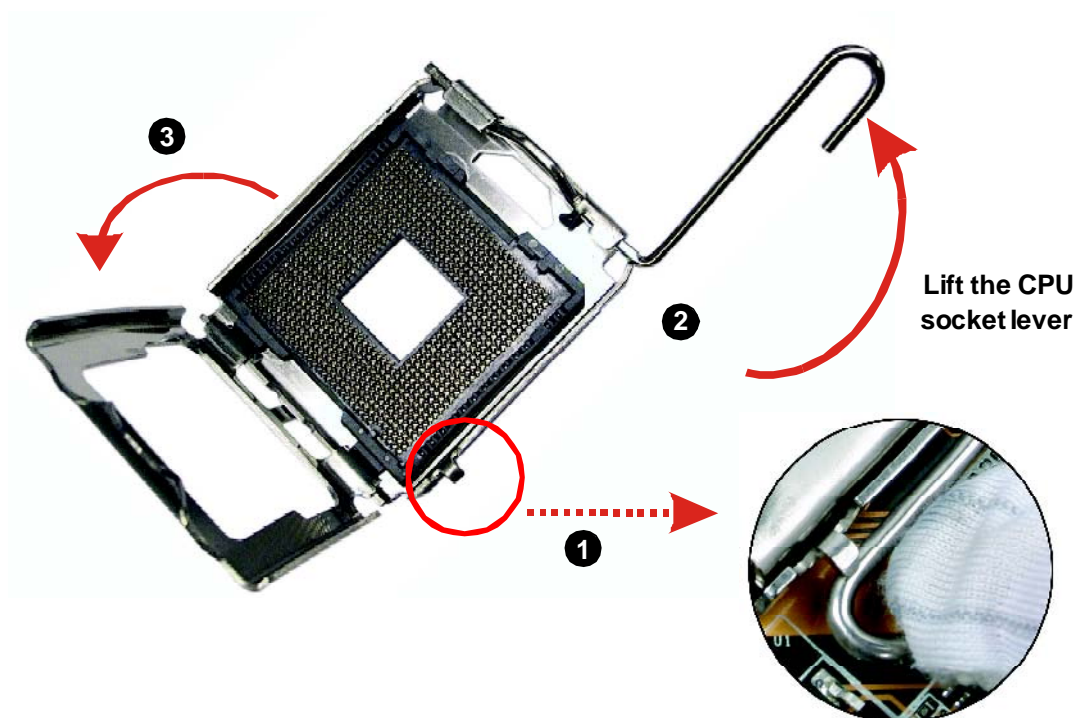
3. Orientate the CPU and socket, aligning the yellow triangle on the corner of the CPU with the triangle on the socket. Making sure the CPU is perfectly horizontal, insert the CPU into the socket. Close the load plate, lower the CPU socket lever and lock in place.
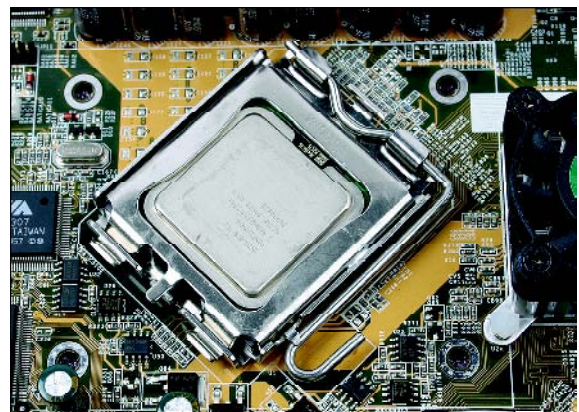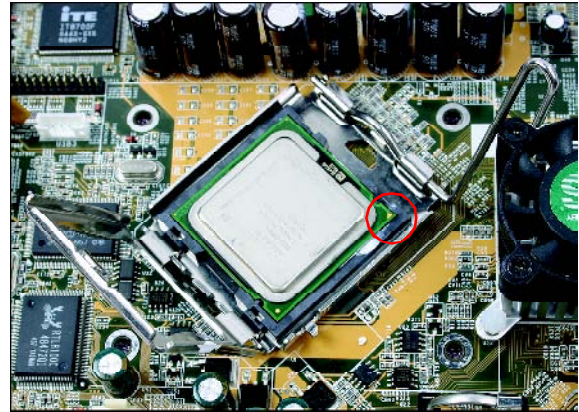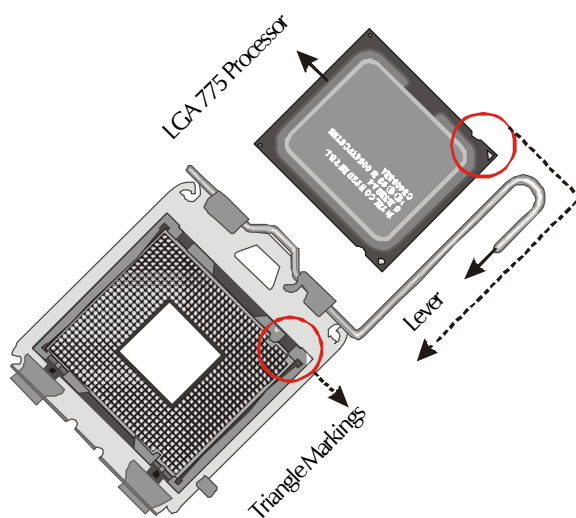
4. Spread an even layer of thermal compound on the CPU die.

Thermal compound application area
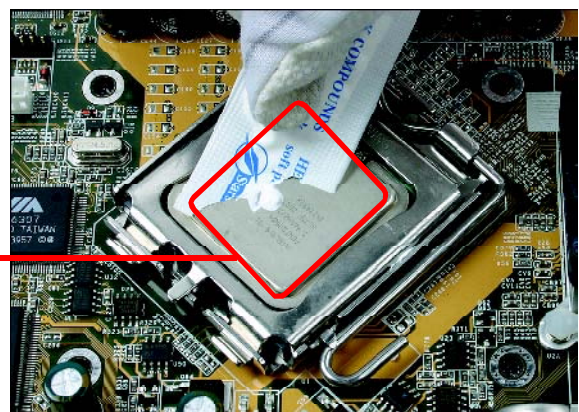
■ 2.2.3 Install the ICE Module

1. Place the ICE the module on top of the CPU and align the spring loaded screws with the mainboard mounting holes.
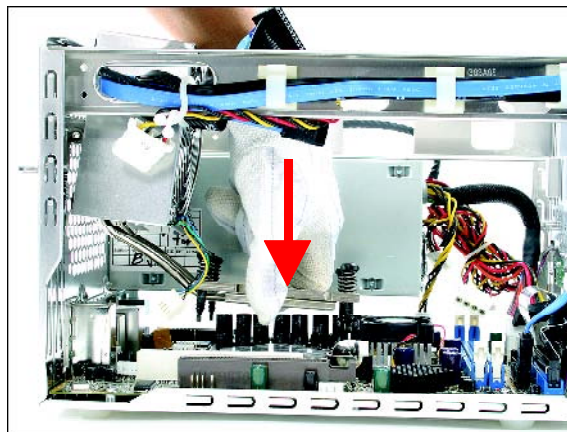
2. Screw the ICE module to the mainboard. Note to press down on the opposite diagonal corner while tightening each screw.
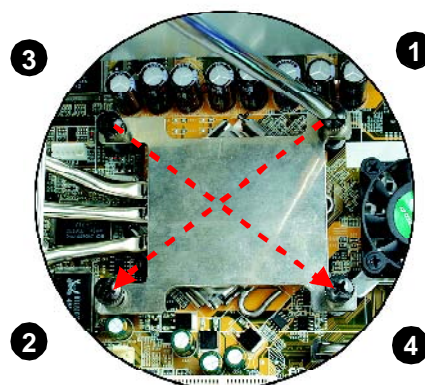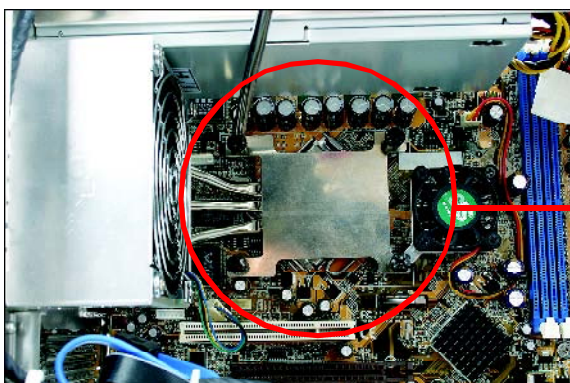
3. Attach the fan power connector to the extension cable connected to the mainboard.
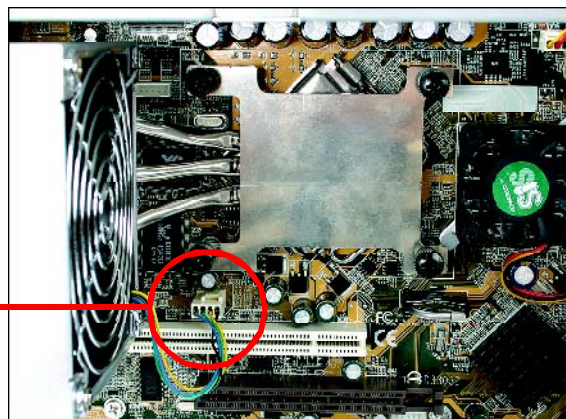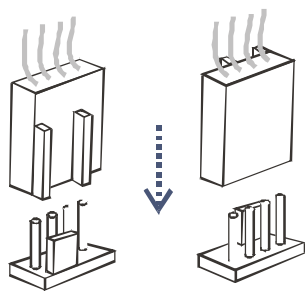
4. Fasten the Smart Fan to the chassis with the four thumbscrews.
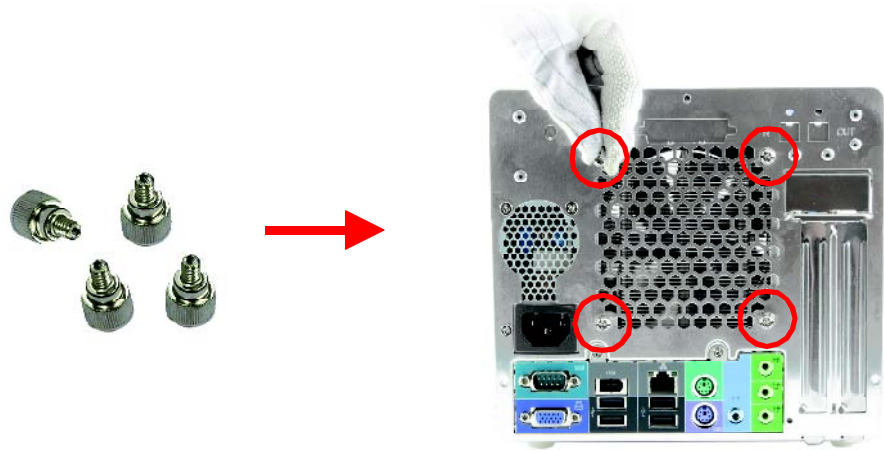
■ 2.3 DDR Installation

Memory Configuration : Install memory in any or all of the banks according to the combinations shown below.

TOTAL 2 DIMM up to 2GB and 1GB per DIMM							
Density	64 Mbit		128 Mbit		256 Mbit		512 Mbit	
Device Width	X8	X16	X8	X16	X8	X16	X8	X16
Single Side	64MB	64MB	128MB	128MB	256MB	256MB	512MB	512MB
Double Side	128MB	128MB	256MB	256MB	512MB	512MB	1024MB	N/A

Note: Double-side X16 DDR-SDRAM chips are not supported by 512M Tech.

Note : 1. *Maximum installable memory is 2GB.*

2. *Registered DIMMs are not supported.*

3. *Only unbuffered without ECC DIMM are supported.*

Note : No jumper settings are required to configure memory.
The system BIOS utility automatically detects the memory settings.
Check the total installed system memory value in the BIOS menu.

Install a DDR module in DIMM1/DIMM2.

1. Unlock the DIMM latch.

2. Align the DDR module's cutout with the DIMM slot notch.
   Slide the DDR module into the DIMM slot.

Cutout

Notch

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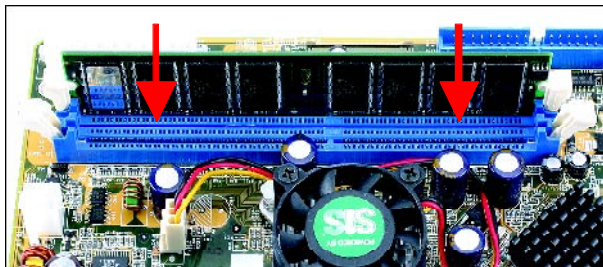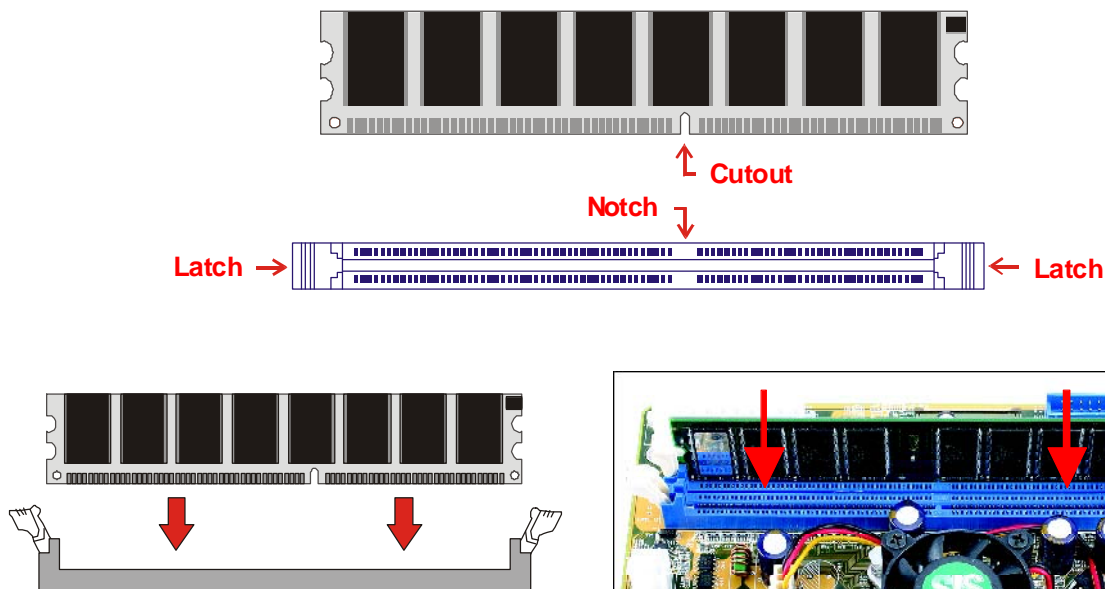
3. Check that the latches are closed, and the DDR module is firmly installed.
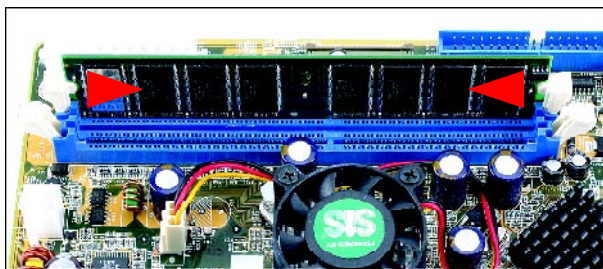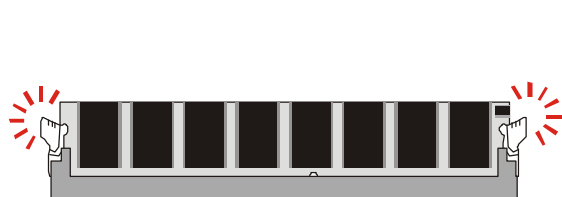
■ 2.4 Cable and Rack Installation

■ 2.4.1 Install the FDD Cable

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

Pin1 (white line)
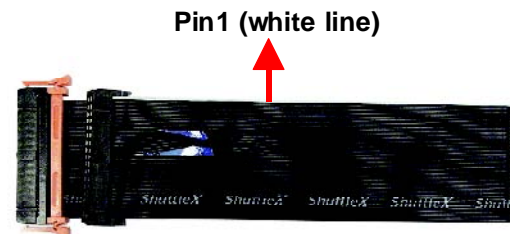
2. Fold the FDD cable under the power supply.

Pin 1 (white line)

FDD1

Pin1

Made in China
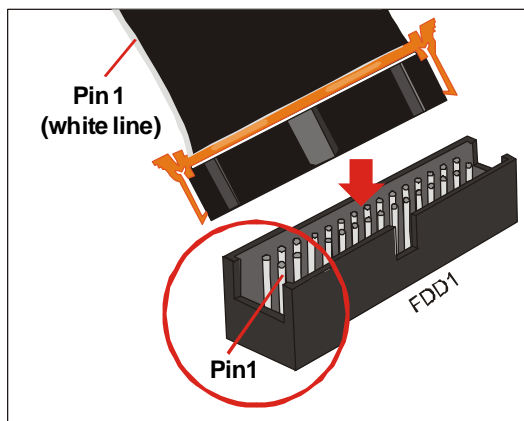
3. Fix the FDD cable to the power and chassis rail with the supplied adhesive tape.
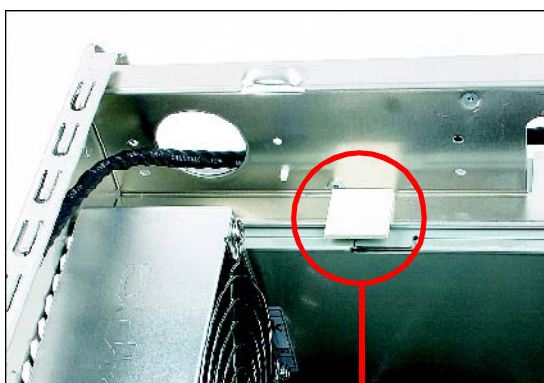
Adhesive
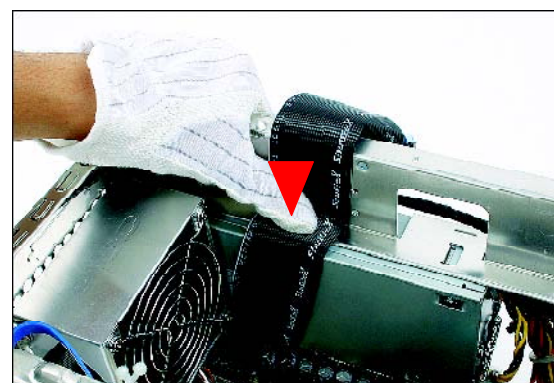
4. Loosen the purse lock and separate the IDE HDD/FDD power cable.

Purse lock
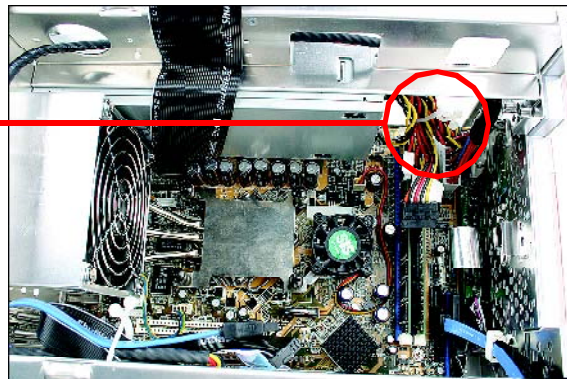
FDD Power Cable

Serial ATA Power Cable
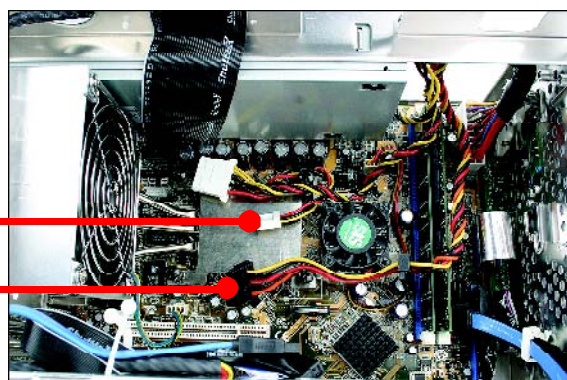
■ 2.4.2 Install the Rack

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

Screws (FDD)

Screws (HDD)
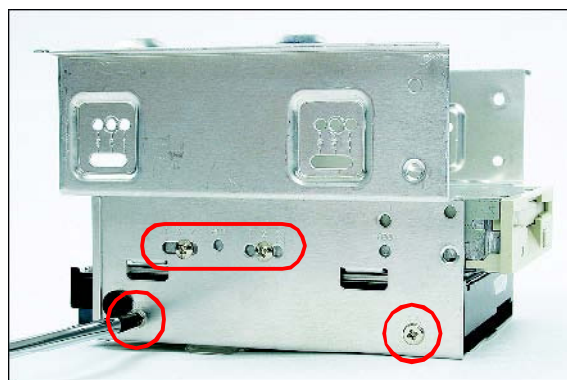
> **Note : Please make sure to secure the screws on each side.**

2. Place the rack in the chassis.

3. Refasten the rack.
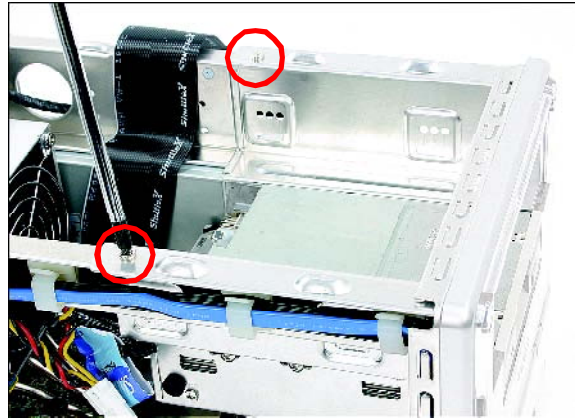
4. Place the power cables in the rack clip located on the underside of the rack mount then loosen the purse lock and separate the Optical Drive power cable.

Purse lock

Rack Clip
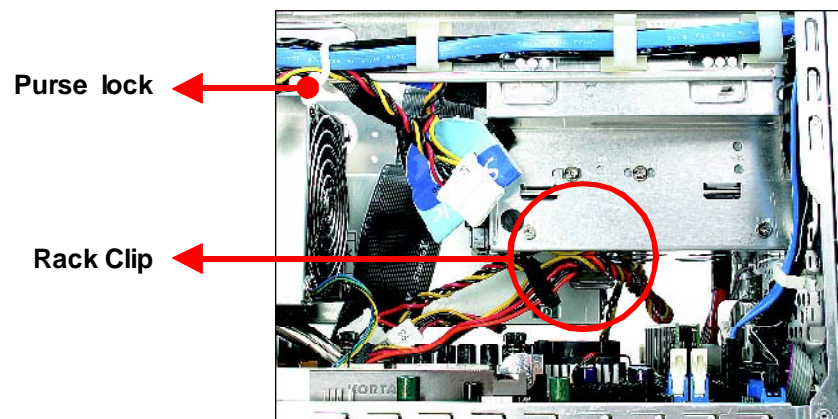
■ 2.5 Peripheral Installation

■ 2.5.1 Install the Serial ATA HDD

1. Connect the Serial ATA and power cables to the HDD.

Serial ATA Power Cable ←

Serial ATA Cable ←
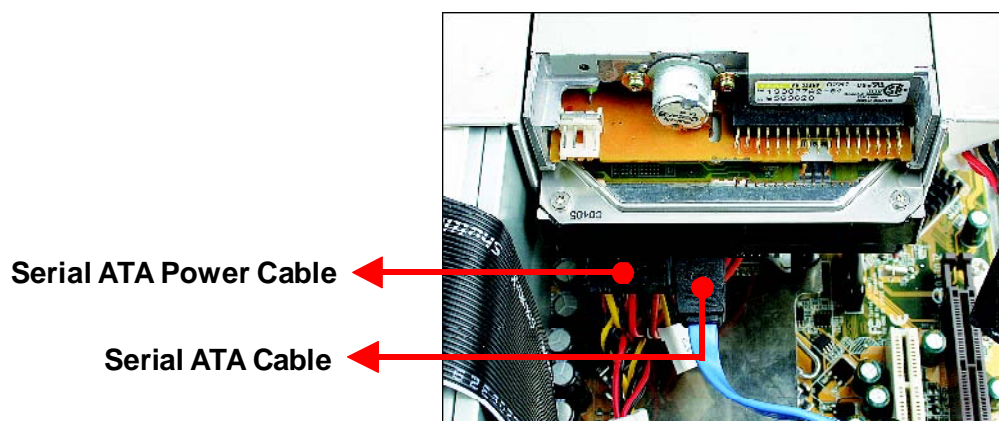
■ 2.5.2 Install the Floppy Drive

1. Connect the FDD and power cables to the Floppy drive.

FDD Power Cable ←

FDD Cable ←
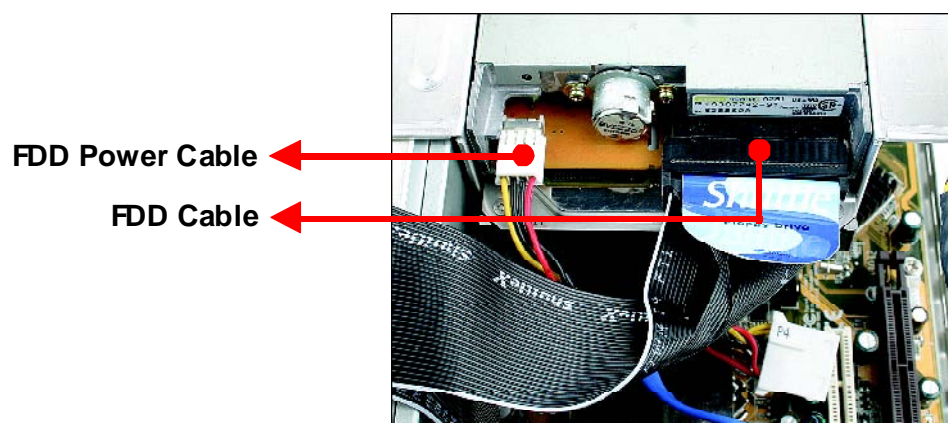
■ 2.5.3 Install an Optical Drive

1. Slide the optical drive into the chassis.

2. Fasten the four side screws.

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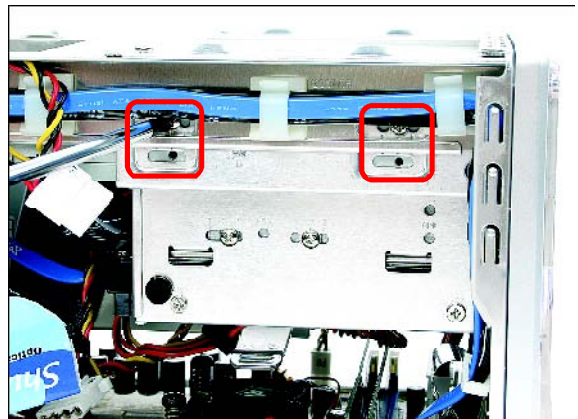
3. Plug the optical drive cable and power cable into the optical drive.

Optical Drive Cable

Optical Drive Power Cable
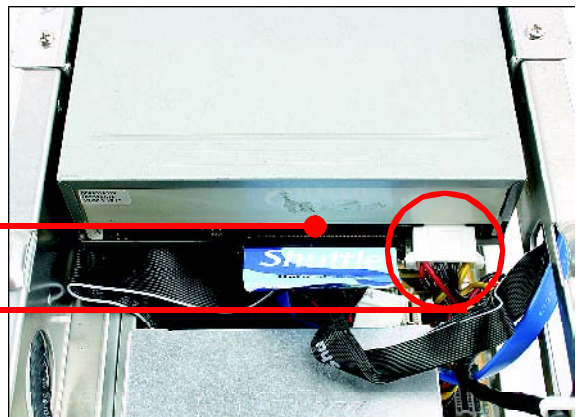
■ **2.6 Accessories Installation**

■ **2.6.1 Install PCI/ AGP Card**

1. A PCI/AGP card will be used to demonstrate the installation procedure. Unfasten expansion slot bracket screws.
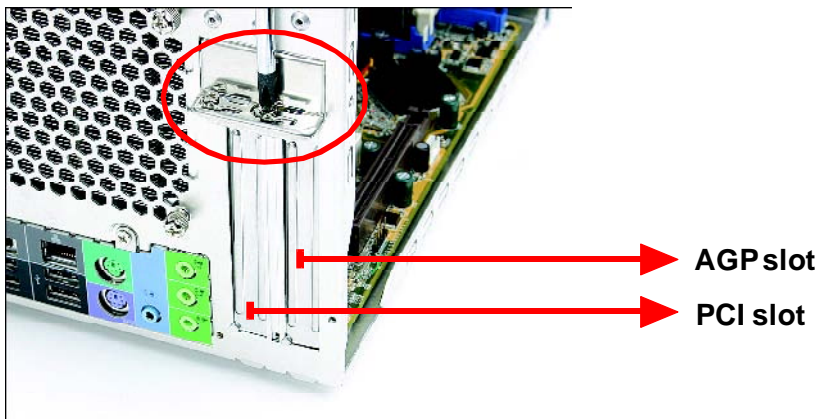
AGP slot

PCI slot

2. Remove the back panel bracket and put the bracket aside.

Lift up
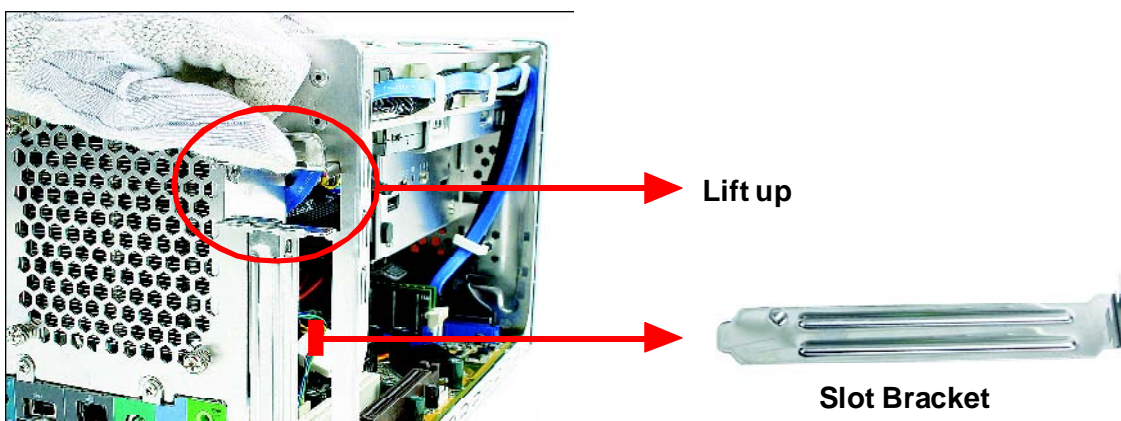
Slot Bracket

3. Install the PCI card into the PCI slot.
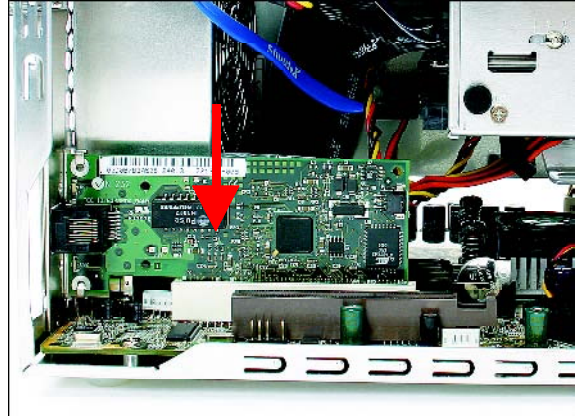
4. As shown Install the AGP card into the AGP slot.
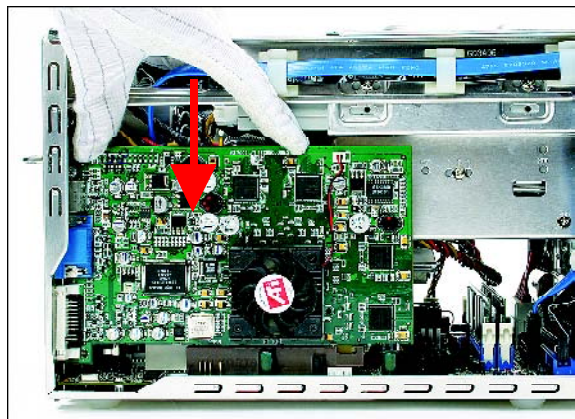
5. Secure the bracket.
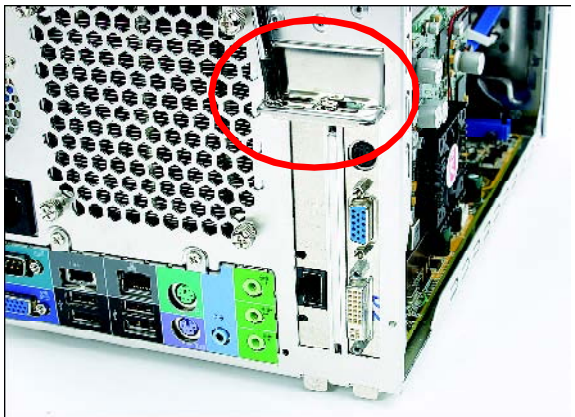
■ **2.7 Final Touches**

■ **2.7.1 Close the Chassis Cover**

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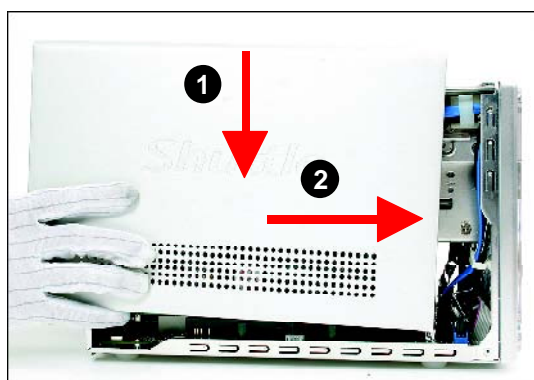
■ **2.7.2 Complete**

■ 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: 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 ◄────────
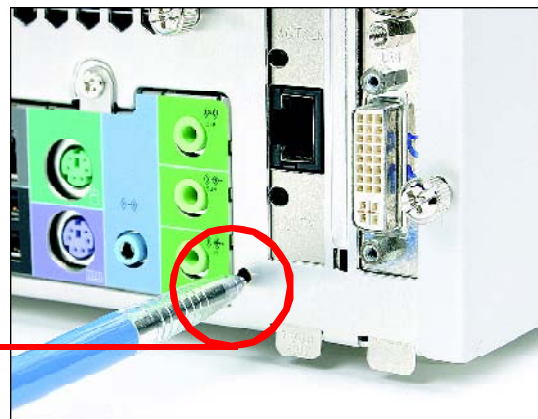
> **Note : Remove the power cord before clearing CMOS.**

3 Driver and Software Installation

■ **3.1 Mainboard Driver CD**

> **Note : The CD contents attached in SS59G 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 SiS AGP Driver, SiS IDE Driver, SiS VGA Driver, SiS RAID Driver, Realtek LAN Driver, Realtek Audio Driver, SiS USB2.0 Driver, DirectX9 Utility.

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

☞ **Manual** - SS59G 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 SiS AGP Driver**

☞ **Install SiS IDE Driver**

☞ **Install SiS VGA Driver**

☞ **Install SiS RAID Driver**

☞ **Install Realtek LAN Driver**

☞ **Install Realtek Audio Driver**

☞ **Install SiS USB2.0 Driver**

☞ **Install DirectX9 Utility**

Appendix

BIOS Settings

The SS59G BIOS ROM has a built-in Setup program that allows users to modify basic system configuration. This information is stored in battery-backed RAM so that it retains Setup information even if the system power is turned off.

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

System date and time

Hardware execution sequence

Power management functions

Allocation of system resources

Enter the BIOS

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

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

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

> **Note 1. If you miss the train of words mentioned in step2 (the message disappears before you can respond) and you still wish to enter BIOS Setup, restart the system and try again by turning the computer OFF and ON again or by pressing the <RESET> switch located at the computer's front-panel. You may also reboot by simultaneously pressing the <Ctrl>,<Alt>, <Del> keys simultaneously.**
>
> **Note 2. If you do not press the keys in time and system does not boot, the screen will prompt an error message, and you will be given the following options:**
>
> **"Press F1 to Continue, DEL to Enter Setup"**

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

The Main Menu

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

```
          Phoenix - AwardBIOS CMOS Setup Utility
┌──────────────────────────────────┬─────────────────────────────────┐
│ ▶ Standard CMOS Features          │ ▶ Frequency/Voltage 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/Voltage Control

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

Load Fail-Safe Defaults

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

Load Optimized Defaults

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

Set Supervisor / User Password

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

Save & Exit Setup

Save CMOS value changes in CMOS and exit from setup.

Exit Without Saving

Abandon all CMOS value changes and exit from setup.

✍ *Standard CMOS Features*

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

```
            Phoenix - AwardBIOS CMOS Setup Utility
                    Standard CMOS Features
┌─────────────────────────────────────────────┬──────────────────────┐
│  Date (mm:dd:yy)         Mon, Aug 17 2099     │      Item Help       │
│  Time (hh:mm:ss)          15 : 52 : 46        ├──────────────────────┤
│                                               │ Menu Level    ►      │
│ ► IDE Channel 0 Master                        │                      │
│ ► IDE Channel 0 Slave                         │ Change the day, month,│
│ ► IDE Channel 2 Master                        │ year and century     │
│ ► IDE Channel 3 Master                        │                      │
│                                               │                      │
│  Drive A                 [1.44M, 3.5 in.]     │                      │
│                                               │                      │
│  Video                   [EGA/VGA]            │                      │
│  Halt On                 [All Errors]         │                      │
│                                               │                      │
│  Base Memory                   640K           │                      │
│  Extended Memory                 1K           │                      │
│  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, IDE Channel 2, 3 Master

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, or All, But Keyboard.

Base Memory

Displays the amount of conventional memory detected during boot up.

➢ The choice: N/A.

Extended Memory

Displays the amount of extended memory detected during boot up.

➢ The choice: N/A.

Total Memory

Displays the total memory available in the system.

➢ The choice: N/A.

****

IDE Adapters

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

IDE HDD Auto-Detection

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

➢ Press Enter

IDE Channel 0 Master/Slave, IDE Channel 2, 3 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', 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.

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

  ► CPU Feature              [Press Enter]       │    Item Help
  ► Hard Disk Boot Priority  [Press Enter]       │
    BIOS Write Protect       [Disabled]          │  Menu Level   ►
    CPU L1 & L2 Cache        [Enabled]           │
    CPU L3 Cache             [Enabled]           │
    Hyper-Threading Technology[Disabled]         │
    CPU L2 Cache ECC Checking [Enabled]          │
    Quick Power On Self Test [Enabled]           │
    First Boot Device        [Floppy]            │
    Second Boot Device       [Floppy]            │
    Third Boot Device        [USB-FDD]           │
    Boot Other Device        [Enabled]           │
    Boot Up Floppy Seek      [Disabled]          │
    Boot Up NumLock Status   [Off]               │
    Gate A20 Option          [Fast]              │
    Security Option          [Setup]             │
    APIC Mode                [Enabled]           │
    MPS Version Control For OS[1.4]              │

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

CPU Feature

Options are in its sub-menu.

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

Delay prior to Thermal

This sets the delay time before the CPU enters auto thermal mode.

➢ The choice: None, 1/2/4/8/16/32/64Min.

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.

> 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.

> Note: CPU support TM2, item appear.

Limit CPUID MaxVal

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

➢ The Choice: Disabled or Enabled.

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

C1E Function

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

➢ The Choice: Auto or Disabled.

Execute Disable Bit

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

➢ The Choice: Enabled or Disabled.

> **Note: CPU support, Execute Disable Bit item appear.**

Hard Disk Boot Priority

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

Bios Write Protect

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

➢ The choice: Enabled or Disabled.

CPU L1&L2&L3 Cache

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

Leave this item at the default value for better performance.

➢ The choice: Enabled or Disabled.

> **Note : CPU support, L3 item appear.**

Hyper-Threading Technology

The latest Intel application defines a high-speed calculating ability to op

timize your system by two CUPs supported(one virtual, one physical) in a multi-task environment.

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

Boot Other Device

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

➢ The choice: Enabled or Disabled.

Boot Up Floppy Seek

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

➢ The choice: Enabled or Disabled.

Boot Up NumLock Status

Selects power on state for NumLock.

➢ The choice: Off or On.

Gate A20 Option

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

➢ The choice: Normal or Fast.

Security Option

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

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

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

➤ The choice: System or Setup.

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

APIC Mode

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

➤ The choice: Enabled or Disabled.

MPS Version Control For OS

Selects the operating system multiprocessor support version.

➤ The choice: 1.1 or 1.4

🖎 *Advanced Chipset Features*

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

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

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

    ► DRAM Clock/Timing Control  [Press Enter]          Item Help
    ► AGP & P2P Bridge Control    [Press Enter]
    ► OnChip AGP Control          [Press Enter]     Menu Level  ►
      System BIOS Cacheable       [Disabled]
      Video  RAM Cacheable        [Disabled]
      Memory Hole at 15M-16M      [Disabled]



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

DRAM Clock/Timing Control

Options are in its sub-menu.

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

Performance Mode

This item allows you to enable/disable the performance mode.

➢ The Choice: Enabled, or Disabled.

DRAM Timing Control

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.

DRAM CAS Latency

➢ The Choice: 2T, 2.5T or 3T.

RAS Active Time(tRAS)

➤ The Choice: 4T, 5T, 6T, 7T, 8T or 9T.

RAS Precharge Time(tRP)

➤ The Choice: 2T, 3T, 4T or 5T.

RAS to CAS Delay(tRCD)

➤ The Choice: 2T, 3T, 4T or 5T.

APG & P2P Bridge Control

Options are in its sub-menu.

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

AGP Aperture Size (MB)

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 or 512M.

Graphic Window WR Combin

This item enable/disable the write combine function for Graphic address space.

➤ The Choice: Enabled or Disabled.

AGP Fast Write Support

This item enable/disable the AGP fast write support.

➤ The Choice: Enabled or Disabled.

AGP Data Rate

This item allows the user to adjust AGP data rate.

➤ The Choice: Auto, 1X, 2X, 4X, 8X.

OnChip AGP Control

Options are in its sub-menu.

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

VGA Share Memory Size

This item allows the user to adjust VGA share memory size.

➤ The Choice: 16MB, 32MB, or 64MB.

System BIOS Cacheable

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

➢ The Choice: Enabled or Disabled.

Video RAM Cacheable

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

➢ The Choice: Enabled or Disabled.

Memory Hole at 15M-16M

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

➢ The Choice: Enabled or Disabled.

✎ *Integrated Peripherals*

```
            Phoenix - AwardBIOS CMOS Setup Utility
                   Integrated Peripherals
┌─────────────────────────────────────────┬───────────────────────┐
│ ▶ SIS OnChip IDE Device    [Press Enter] │      Item Help        │
│ ▶ SIS OnChip PCI Device    [Press Enter] │                       │
│ ▶ Onboard SuperIO Device   [Press Enter] │  Menu Level    ▶      │
│   IDE HDD Block Mode        [Enabled]    │                       │
│   Init Display First        [AGP/Onboard]│                       │
│                                          │                       │
│                                          │                       │
│                                          │                       │
│                                          │                       │
│                                          │                       │
│                                          │                       │
│                                          │                       │
│                                          │                       │
│                                          │                       │
│                                          │                       │
├──────────────────────────────────────────┴──────────────────────┤
│ ↑↓←:Move  Enter:Select  +/-/PU/PD:Value  F10:Save  ESC:Exit  F1:General Help │
│    F5: Previous Values    F6: Fail-Safe Defaults   F7: Optimized Defaults   │
└──────────────────────────────────────────────────────────────────┘
```

SIS Onboard IDE Device

Options are in its sub-menu.

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

Internal PCI/IDE

This chipset contains and internal PCI IDE interface with support for two IDE channels.

➢ The choice: Disabled, Primary, Secondary, or Both.

IDE Primary Master/Slave PIO

The four IDE PIO (Programmed Input/Output) fields let you set a PIO mode (0-4) for each of the four IDE devices that the onboard IDE interface supports. Modes 0 through 4 provide successively increased performance. In Auto mode, the system automatically determines the best mode for each device.

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

Primary Master/Slave UltraDMA

Ultra DMA/100 implementation is possible only if your IDE hard drive supports it and the operating environment includes a DMA driver (Windows 95 OSR2 or a third-party IDE bus master driver). If both of your hard drive and your system software support Ultra DMA/133/100, select Auto to enable BIOS support.

➢ The choice: Auto or Disabled.

SIS Onboard PCI Device

Options are in its sub-menu.

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

SIS USB Controller

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

➢ The choice: Enabled or Disabled.

USB 2.0 Supports

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

➢ The Choice: Enabled or Disabled.

SiS AC97 Audio

This item allows you to control the onboard AC97 Audio.

➢ The Choice: Enabled or Disabled.

SiS Serial ATA Controller

Use these item to enable or disable the SiS Serial ATA Controller.

➢ The Choice: Enabled or Disabled.

SiS Serial ATA Mode

This item allows you to set the SATA Mode.

➢ The Choice: IDE or RAID.

Onboard LAN Boot ROM

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

➢ The choice: Enabled or Disabled.

Onboard Super IO Device

Options are in its sub-menu.

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

Onboard FDC Controller

Select Enabled if your system has a floppy disk controller (FDC) installed on the system board and you want to use it. If you install add-on FDC or the system has no floppy drive, select Disabled in this field.

➢ The choice: Enabled or Disabled.

Onboard Serial Port1

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

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

Onboard Parallel Port

This item allows you to determine onbaord parallet port controller I/O address setting.

➤ 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 avaukable modes.

➤ The Choice: SPP, EPP, ECP or ECP + EPP.

ECP Mod Use DMA

Select a DMA channel for the parallel port for use during ECP mode.

➤ The Choice: 1 or 3.

IDE HDD Block Mode

Select Enabled for automatic detection of the optimal number of block read/write per sector the drive can support.

➤ The Choice: Enabled or Disabled.

Init Display First

This item is used to determine initial device when system power on.

➤ The choice: PCI Slot or AGP/Onboard.

✎ *Power Management Setup*

```
                    Phoenix - AwardBIOS CMOS Setup Utility
                             Power Management Setup

    ACPI function             Enabled              ┌──────────────────┐
    ACPI Suspend Type         [S1(POS)]            │    Item Help     │
    Power Management          [User Define]        ├──────────────────┤
    Suspend Mode              [Disabled]           │ Menu Level    ►  │
    Video Off Option          [Susp,Stby -> Off]   │                  │
    Video Off Method          [DPMS Supported]     │                  │
    Switch Function           [Break/wake]         │                  │
    MODEM Use IRQ             [AUTO]                │                  │
    HDD Off After             [Disabled]           │                  │
    Power Button Override     [Instant Off]        │                  │
    Power State Resume Control[Always Off]         │                  │
  ► PM Wake Up Events         [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)

➢ Aways "Enabled".

ACPI Suspend Type

This item allows you to select sleep state when suspend.

➢ The choice: S1(POS), S3(STR), or S1 & S3.

Power Management / Suspend Mode

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

➢ The choice: Min Saving / 1 Hour.
Max Saving / 1 Min.
User Define / Disabled, 1Min, 2Min, 4Min, 8Min, 12Min, 20Min, 30Min, 40 Min, 1Hour.

Video Off Option

When enabled, this feature allows the VGA adapter to operate in a power saving mode.

Always On   Monitor will remain on during power saving mode.

Suspend -- > Off   Monitor is blanked when the system enters the Suspend mode.

Susp,Stby -- > Off   Monitor is blanked when the system enters

either Suspend or Standby modes.

All Modes -- > Off Monitor is blanked when the system enters
any power saving mode.

➢ The choice: Always On, Suspend - >Off, Susp,stby - > Off, or All
Modes - > Off.

Video Off Method

This determines the manner in which the monitor is blanked.

V/H SYNC + Blank: This selection will cause the system to turn off
the vertical and horizontal synchronization
ports and write blanks to the video buffer.

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

DPMS Supported: Initial display power management signaling.

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

Switch Function

Enables you to set the System Management Interrupt (SMI) button
function in DOS.

➢ The choice: Disabled or Break /wake.

MODEM Use IRQ

This determines the IRQ which the MODEM can use.

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

HDD Off After

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, 1 Min ~ 15 Min.

Power Button Override

Pressing the power button for more than 4 seconds forces the system to
enter the Soft-Off state when the system has "hung.".

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

Power State Resume Control

This item enables your computer to automatically restart or return to its
last operating status after power returns from a power failure.

➢ The choice: Always Off, Always On, Keep Pre-state.

PM Wake Up Events

Options are in its sub-menu.
Press <Enter> to enter the sub-menu of detailed options.

IRQ [3-7, 9-15], NMI

When enabled, any event occurring at IRQs 3 through 15 (excluding IRQ 8) will awaken a system, which has been powered down.

➢ The choice: Enabled, Disabled.

IRQ 8 Break Suspend

This field allows you to enable or disable monitoring of IRQ8 so that it does not awaken the system from a suspend mode.

➢ The choice: Enabled, Disabled.

RING Power Up Control

When set to Enabled, the system power will be turned on if there is any modem activity.

➢ The choice: Enabled, Disabled.

PCIPME Power Up Control

When set to Enabled, system power will be turned on if there is any PCI card activity from PCI cards that trigger a PME event, such as LAN or Modem cards.

➢ The choice: Enabled, Disabled.

PS2KB Power Up Control

When Select Password, Please press ENTER key to change Password Max 8 numbers. If Select Password, and press Enter twice It mean KB Power On Function Disable. Hot Key: Alt+Ctrl+ <-

➢ The choice: Hot key, Password, Any key.

PS2MS Power Up Control

This item selects the PS2MS Power Up Control.

➢ The choice: Disabled, Click, Move & Click.

Power Up by Alarm

When set to Enabled, the following three fields become available and you can set the month, date (day of the month), hour, minute and second to turn on your system.

➢ The choice: Enabled, Disabled.

Month Alarm

This is for specifying the alarm month which system will awaken the system from suspend mode.

➢ The choice: NA, 1 ～ 12.

Day of Month Alarm

This item selects the alarm date.

➢ 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.

** Reload Global Timer Events **

Global Timer (power management) Events are I/O events whose occurrence can prevent the system from entering a power saving mode or can awaken the system from such as a mode. In effect, the system remains alert for anything that occurs to a device that is configured as Enabled, even when the system is in a power-down mode.

Primary/Secondary IDE

When these items are enabled, the system will restart the power-saving timeout counters when any activity is detected on any of the drives or devices on the primary or secondary IDE channels.

➢ The choice: Disabled or Enabled.

FDD,COM,LPT Port

When this item is enabled, the system will restart the power-saving timeout counters when any activity is detected on the floppy disk drive, the serial ports, or the parallel port.

➢ The choice: Disabled or Enabled.

PCI PIRQ[A-D]#

When this item is disabled, any PCI device set as the Master will not power on the system.

➢ The choice: Disabled or Enabled.

PnP/PCI Configurations

```
              Phoenix - AwardBIOS CMOS Setup Utility
                        PnP/PCI Configurations
 ┌───────────────────────────────────────────┬──────────────────────────┐
 │  Reset Configuration Data    [Disabled]    │        Item Help         │
 │                                            ├──────────────────────────┤
 │  Resources Controlled By     [Auto(ESCD)]  │  Menu Level   ▶          │
 │ ▶ IRQ Resources              [Press Enter] │                          │
 │                                            │  Default is Disabled.    │
 │  PCI/VGA Palette Snoop       [Disabled]    │  Select Enabled to       │
 │                                            │  reset Extended System   │
 │                                            │  Configuration Data      │
 │                                            │  ESCD) when you exit     │
 │                                            │  Setup if you have       │
 │                                            │  installed a new add-on  │
 │                                            │  and the system          │
 │                                            │  reconfiguration has     │
 │                                            │  caused such a serious   │
 │                                            │  conflict that the OS    │
 │                                            │  cannot boot             │
 │                                            │                          │
 ├────────────────────────────────────────────┴─────────────────────────┤
 │ ↑↓←:Move  Enter:Select  +/-/PU/PD:Value  F10:Save  ESC:Exit  F1:General Help │
 │    F5: Previous Values     F6: Fail-Safe Defaults  F7: Optimized Defaults   │
 └──────────────────────────────────────────────────────────────────────┘
```

This section describes the configuration of PCI bus system.

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

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

Reset Configuration Data

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

➢ The choice: Enabled or Disabled .

Resource controlled By

The Award Plug-and-Play BIOS has the capacity to automatically configure all of the boot and Plug-and-Play compatible devices. However, this capability means absolutely nothing unless you are using a Plug-and-Play operating system such as Windows 95. If you set this field to "manual" , choose specific resources by going into each of the sub-menu that follows this field (a sub-menu is proceeded by a " > ").

➢ The choice: Auto(ESCD) or Manual.

IRQ Resources

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

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

✍ *PC Health Status*

```
               Phoenix - AwardBIOS CMOS Setup Utility
                          PC Health Status
  ┌─────────────────────────────────────────────┬──────────────┐
  │ CPU Fan Speed Control    [Smart Fan]         │  Item Help   │
  │ CPU Temp Tag             [60 °C]             │              │
  │  CPU Voltage                                 │              │
  │  AGP Voltage                                 │              │
  │  RAM Voltage                                 │              │
  │  +3.3V                                       │              │
  │   +5V                                        │              │
  │  +12V                                        │              │
  │  -12V                                        │              │
  │  +5VSB                                       │              │
  │ Voltage Battery                              │              │
  │ System Temperature                           │              │
  │ CPU Temperature                              │              │
  │ PWM Temperature                              │              │
  │ Fan 1 Speed                                  │              │
  │ Fan 2 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

Set the CPU Fan Speed.

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

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

CPU Temp Tag

Enabled 3 phase smart control to the Selected fan. This feature ranges from 25 ^{0}C to 75 ^{0}C, in an increment of 1^{0}C.
The default temperature is at 60^{0}C.

➢ The choice: 25 ^{0}C ~ 75 ^{0}C.

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

CPU Voltage
AGP Voltage
RAM Voltage
+3.3V
+5V
+12V
-12V
+5VSB
Voltage Battery
System Temperature
CPU Temperature
PWM Temperature
Fan 1 Speed
Fan 2 Speed

✎ *Frequency/Voltage Control*

```
         Phoenix - AwardBIOS CMOS Setup Utility
                 Frequency/Voltage Control
┌─────────────────────────────────────────┬──────────────────────┐
│ CPU Clock Ratio           [ 0 X]         │      Item Help       │
│ Auto Detect DIMM/PCI Clk  [Enabled]      ├──────────────────────┤
│ Spread Spectrum           [Disabled]     │ Menu Level     ▶     │
│ Async AGP/PCI/SRC Clk     [66/33/100MHz] │                      │
│ CPU Frequency             [133]          │                      │
│ CPU:DRAM Frequency Ratio  [1:2]          │                      │
│ DRAM Frequency                           │                      │
│                                          │                      │
│                                          │                      │
│                                          │                      │
│                                          │                      │
│                                          │                      │
├──────────────────────────────────────────┴──────────────────────┤
│ ↑↓←:Move  Enter:Select  +/-/PU/PD:Value  F10:Save  ESC:Exit  F1:General Help │
│   F5: Previous Values    F6: Fail-Safe Defaults   F7: Optimized Defaults      │
└──────────────────────────────────────────────────────────────────┘
```

CPU Clock Ratio

This item allows you to adjust CPU Ratio.

Min: 8X

Max: 50X

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

Auto Detect DIMM/PCI Clk

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

➢ The choice: Enabled, or Disabled.

Spread Spectrum

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

➢ The choice: Enabled, or Disabled.

Async AGP/PCI/SRC C1K

This item allows you to select Async AGP/PCI/SRC C1K.

➢ The choice: 66/33/100MHz, 80/40/100MHz, 72/36/100MHz , or Disabled.

CPU Frequency

This item allows the user to adjust CPU Host Clock.

Min: 133

Max: 232

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

CPU: DRAM Frequency Ratio

This item allows you to adjust CPU and DRAM Ratio.

➢ The choice: SPD, 1:1, 3:4, 3:5, 1:2.

DRAM Frequency

This item show DRAM frequency.

✍ *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 system performance.
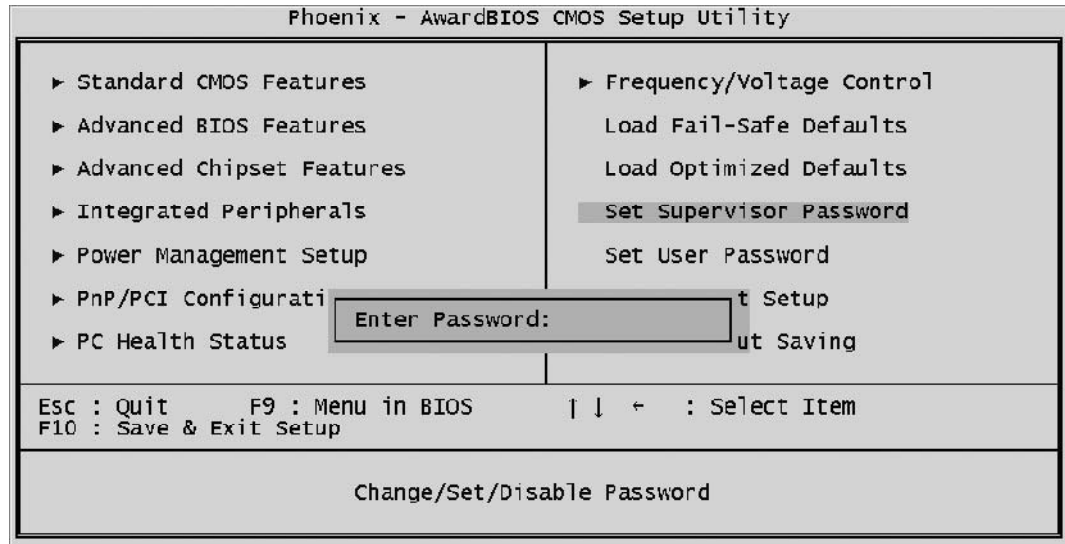
✍ *Load Optimized Defaults*

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 system performance.

✎ Set Password

```
                 Phoenix - AwardBIOS CMOS Setup Utility
 ┌─────────────────────────────────────────────────────────────────────┐
 │  ► Standard CMOS Features          ► Frequency/Voltage 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                        │
 └─────────────────────────────────────────────────────────────────────┘
```

This item is to set a supervisor password. Please follow below steps.

New Password Setting:

1. Press the <Enter> key. A dialog box appears to ask you to "Enter password: ".

2. Key in a new password.

   The password can not be over eight characters or numbers.

3. The system will then request you to confirm the new password by asking you to key in the new password again.

4. Once the confirmation is completed, new code is in effect.

No Password Setting:

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

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

Press <Enter> on this item to save your changes. The system will ask for confirmation : system

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 will restart.

✍ Exit Without Saving

Press <Enter> on this item to exit without saving changes. The system will ask for confirmation:

Quit without saving (Y/N)? Y

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

SS59G