

**FS58**

**Pentium 4, LGA 775 Processor  
Based MAIN BOARD**

# Shuttle® FS58

## Pentium 4, LGA 775 Processor Based Mainboard

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## 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: FS58

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/ 3.6 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: four 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 3.6 GHz | Close          |
| 2         | 200MHz             | P4 3.6 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(X1)/ 12MHz(X4)  
/ 24.576MHz(X7)/ 24.576MHz(X5).

Clock Generator: U4, U5

(D) Supported Host Peripherals:

| Host Peripheral | Product Name               | Model Name      |
|-----------------|----------------------------|-----------------|
| # 1             | Case                       | FS58            |
| # 2             | Power Supply               | PC40I2503       |
| # 3             | Serial ATA Western Digital | WD1200JD-00FYB0 |
| # 4             | Panasonic FDD              | JU-257A606P     |
| # 5             | Pioneer DVD Player         | DVD-116         |

(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.



## Important Safety Information

### SAFETY INSTRUCTIONS

1. Please read these safety instructions carefully.
2. Please keep this User's Manual for later reference.
3. Please disconnect this equipment from AC outlet before cleaning. Don't use liquid or sprayed detergent for cleaning.
4. For pluggable equipment, the socket-outlet shall be installed near the equipment and shall be easily accessible.
5. Please keep this equipment from humidity.
6. Lay this equipment on a reliable surface when install. A drop or fall could cause injury.
7. Do not leave this equipment in an environment unconditioned, it may damage the equipment.
8. The openings on the enclosure are for air convection hence Protect the equipment from overheating. **DO NOT COVER THE OPENINGS.**
9. Make sure the voltage of the power source when connect the equipment to the power outlet.
10. Place the power cord such a way that people can not step on it. Do not place anything over the power cord. The power cord must be rated for the product and for the voltage and current marked on the product's electrical ratings label. The voltage and current rating of the cord should be greater than the voltage and current rating marked on the product.
11. All cautions and warnings on the equipment should be noted.
12. If the equipment is not use for long time, disconnect the equipment from mains to avoid being damaged by transient over-voltage.
13. Never pour any liquid into ventilation openings, this could cause fire or electrical shock.
14. **CAUTION:** The computer is provided with a battery-powered real-time clock circuit. There is a danger of explosion if battery is incorrectly replaced. Replace only with same or equivalent type recommended by the manufacture. Discard used batteries according to the manufacturer's instructions.

**CAUTION : RISK OF EXPLOSION IF BATTERY IS REPLACED BY AN  
INCORRECT TYPE. DISPOSE OF USED BATTERIES  
ACCORDING TO THE INSTRUCTIONS**

15. THE COMPUTER IS PROVIDED WITH CD DRIVES COMPLY WITH APPROPRIATE SAFETY STANDARDS INCLUDING IEC 60825.

**CLASS 1 LASER PRODUCT**

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# WHAT'S IN THE MANUAL

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## About This Manual

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# 1 INTRODUCTION

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## 1.1 To Different Users

### **First-Time DIY System Builder**

Welcome to the DIY world! Building your own computer system is not as difficult as you may think. To make your first computer DIY experience successful, right from the start, we have designed the 3.1 Hardware Installation section in a step-by-step fashion for all the first-time DIY system builders. Prior to installation, we also suggest you to read the whole manual carefully to gain a complete understanding of your new Shuttle FS58 mainboard.

### **Experienced DIY User**

Congratulate on your purchase of the Shuttle FS58 mainboard. You will find that installing your new Shuttle FS58 mainboard is just easy. Bundled with an array of onboard functions, the highly-integrated FS58 mainboard provides you with a total solution to build the most stable and reliable system. Refer to sections 3.2 Jumper Settings and Chapter 4 Drivers/Software Utilities to find out how to get the best out of your new mainboard. Chapter 5 BIOS Setup also contains the relevant information on how to tune up your system to achieve higher performance.

### **System Integrator**

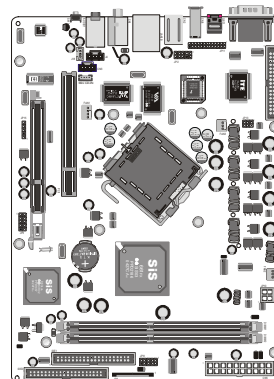
You have wisely chosen Shuttle FS58 to construct your system. Shuttle FS58 incorporates all the state-of-the-art technology of the SiS 661FX + SiS 963L chipset from Intel. It integrates the most advanced functions you can find to date in a compact Small Form Factor board.

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## 1.2 Item Checklist

Check all items with your FS58 mainboard to make sure nothing is missing.  
The complete package should include:

- ✳ One piece of Shuttle FS58 Mainboard



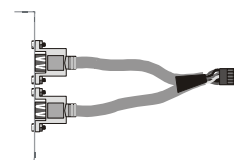
- ✳ One piece of ATA100/66/33 Ribbon Cable



- ✳ One piece of Floppy Ribbon Cable



- ✳ One piece of twin ports USB Cable (optional)

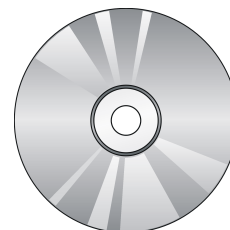


- ✳ FS58 User's Manual



- ✳ One piece of Bundled CD-ROM with containing:

- FS58 user's manual saved in PDF format
- SIS AGP Driver
- SIS IDE Driver
- SIS VGA Driver
- Realtek LAN Driver
- Realtek Audio Driver
- SIS USB2.0 Driver
- DirectX9 Utility
- Award Flashing Utility





## 2 FEATURES

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FS58 mainboard is carefully designed for the demanding PC user who wants high performance and maximum intelligent features in a compact package.

### 2.1 Specifications

#### ★ CPU Support

Intel Prescott/Tejas Desktop Processors in the LGA 775 pin package with 533 / 800 MHz FSB.

#### ★ Chipset

Features SiS 661FX N.B. and SiS 963L S.B..

Onboard Lan

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

Onboard 1394

VIA VT6307, support 400Mb/s, 200Mb/s, or 100Mb/s data transfer rate.

#### ★ Jumperless CPU Configuration

Soft-configuration FSB (The FSB speed is software configurable from 100 MHz to 200 MHz of BIOS setup program.)

#### ★ On Board 5.1 Channel AC97 Audio

Realtek ALC650 include SPDIF-IN/OUT function.

Compliant with AC97 2.2 specification.

5.1-Channel can share with Line-In by software select.

#### ★ Versatile Memory Support

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

#### ★ AGP Expansion Slot

Provides one 32-bit AGP slot which supports up to 4X / 8X AGP device.

#### ★ PCI Expansion Slots

Provides one 32-bit PCI slot.

#### ★ 6 USB 2.0/1.1 Interface Onboard

➤ 2 x USB 2.0 connectors on back-panel and two sets of dual USB ports headers on mid-board.

---

## **\* I/O Interface**

Provides a variety of I/O interfaces:

- 1 x DB9 Serial port.
- 1 x DB15 VGA port.
- 1 x SPDIF-In port.
- 1 x 1394 port.
- 1 x PS/2 Mouse port.
- 1 x PS/2 Keyboard port.
- 1 x LAN port.
- 2 x USB 1.1/2.0 ports.
- 1 x SPDIF-Out RCA port.
- 1 x Line-In port.
- 1 x 5.1 Channel Center/Bass port.
- 1 x 5.1 Channel Rear-Out port.
- 1 x 5.1 Channel Front-Out port.
- 1 x Clear CMOS button.

## **\* PCI Bus Master IDE Controller Onboard**

Two Ultra DMA 33/66/100/133 Bus Master Dual-channel IDE ports provide support to a maximum of four IDE devices (one Master and one Slave per channel). The IDE Bus implements data transfer speeds of up to 33/66/100/133 MB/sec and also supports Enhanced PIO Modes. 80-pin Cable Backward Compatible Legacy ATAPI Devices, ATAPI IDE CD-ROM, CD-R, CD-RW, and LS-120 Supports.

## **\* ATX Power Supply Connector**

ATX power supply unit can connected to the onboard 20-pin Pentium 4 standard ATX power connectors, supporting Suspend and Soft-On/Off by dual-function power button. The Pentium 4 ATX power include other 4-pin + 12V ATX power connector.

## **\* Advanced Configuration and Power Interface**

Features four power saving modes: S1 (Snoop), S3 (Suspend to RAM), S4 (Suspend to DISK), and S5 (Soft-Off). ACPI provides more efficient Energy Saving Features controlled by your operating system that supports OS Direct Power Management (OSPM) functionality.

## **\* System BIOS**

Provides licensed Award BIOS V6.0 PG on 4Mb Flash core and supports Green PC, Desktop Management Interface (DMI).

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## ★ Form Factor

System board conforms to Shuttle small form factor ATX specification.

Board dimension: 254mm x 185mm.

## ★ Advanced Features

### ➤ Low EMI -

Built in spread spectrum and automatic clock shut-off of unused PCI/SDRAMS slots to reduce EMI.

### ➤ Dual Function Power Button -

The system can be in one of two states, one is Suspend mode and the other is Soft-Off mode. Pushing the power button for less than 4 seconds places the system into Suspend mode. When the power button is pressed for longer than 4 seconds, the system enters Soft-Off mode.

### ➤ Modem Ring Power-On -

The system can be powered on automatically by the activation of modem ringing.

### ➤ CPU Host/DRAM Clock Setting -

These items allow users to adjust CPU Host/DRAM Clock in BIOS.

### ➤ CPU Multiplier Setting -

This item allows users to adjust CPU Multiplier in BIOS.

### ➤ CPU/RAM/AGP/Chipset Voltage Setting -

These items allow users to adjust CPU/RAM/AGP/Chipset Voltage in BIOS.

## ★ Intelligent Features

### ➤ Voltage Monitoring -

Monitors various voltages of key elements, such as the CPU, and other critical system voltage levels to ensure stable current passing through mainboard components.

### ➤ Fan Status Monitoring -

To prevent CPU from overheating, the CPU fan is monitored for RPM and failure. (CPU Cooling FAN with RPM sensor is required.)

### ➤ Temperature Monitoring -

This item allows users to make sure whether the CPU or system runs in a suitable temperature.

### ➤ CPU Fan AutoGuardian -

This SMART Bios enabled 3 phase Variable Fan Speed and CPU temperature Control feature.

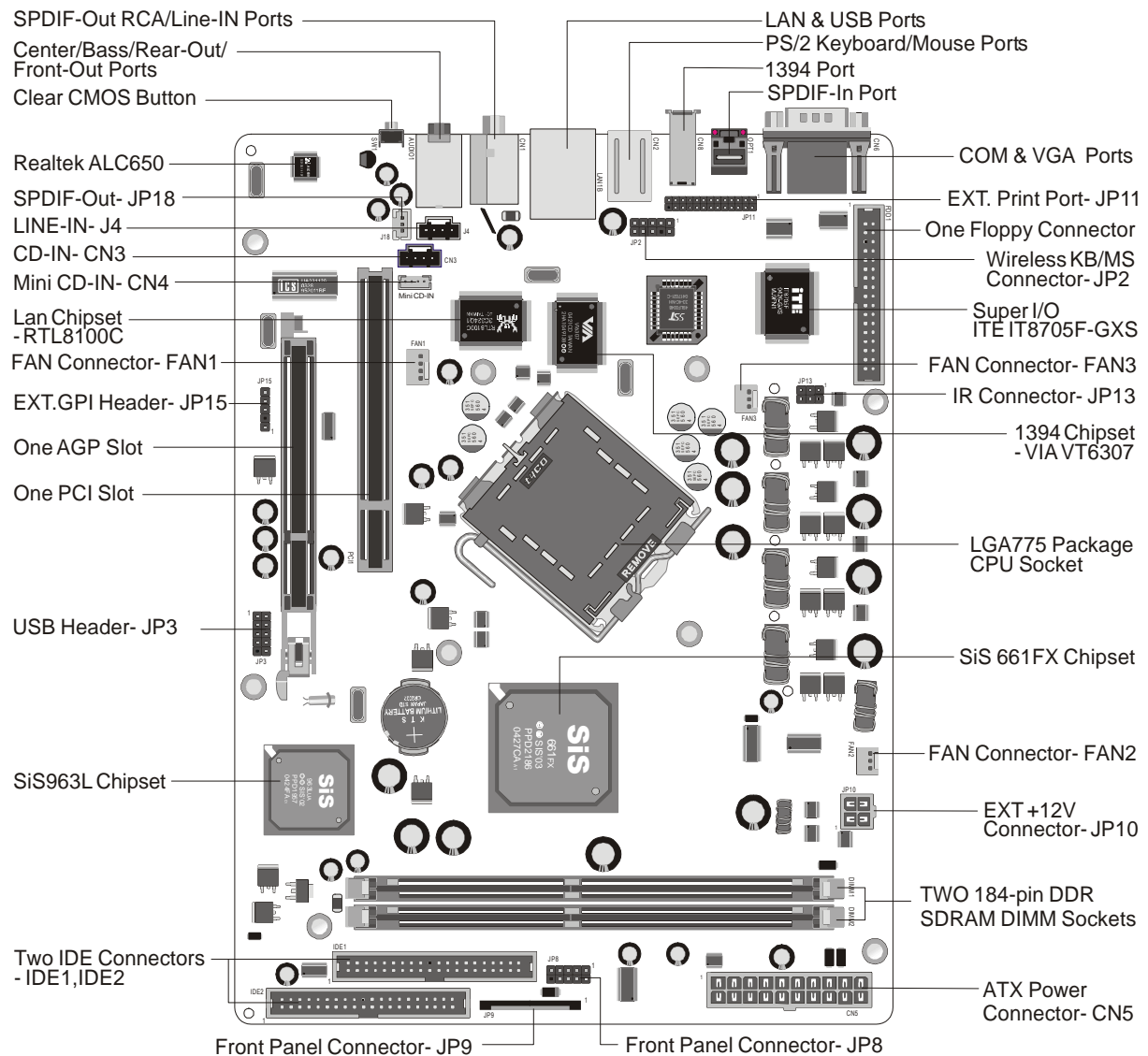
# 3 HARDWARE INSTALLATION

Before removing or installing any of these devices including CPU, DIMMs, Add-On Cards, Cables, please make sure to unplug the onboard power connector.

This section outlines how to install and configure your mainboard. Refer to the following mainboard layout to help you to identify various jumpers, connectors, slots, and ports. Then follow these steps designed to guide you through a quick and correct installation of your system.

## 3.1 Step-by-Step Installation

### Accessories Of FS58



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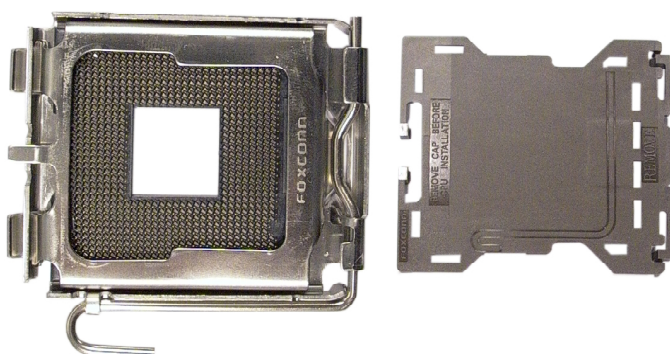
## Step 1

### CPU Installation:

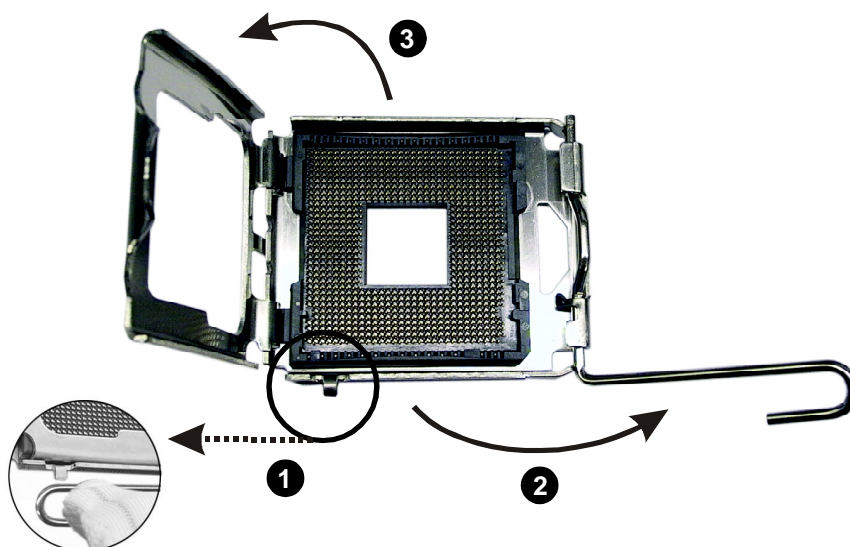
This mainboard supports Socket 775 Prescott/Tegas Processors (CPU). To install, follow the steps outlined below. Note the CPU orientation carefully when you insert it into the socket.

Caution : 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.

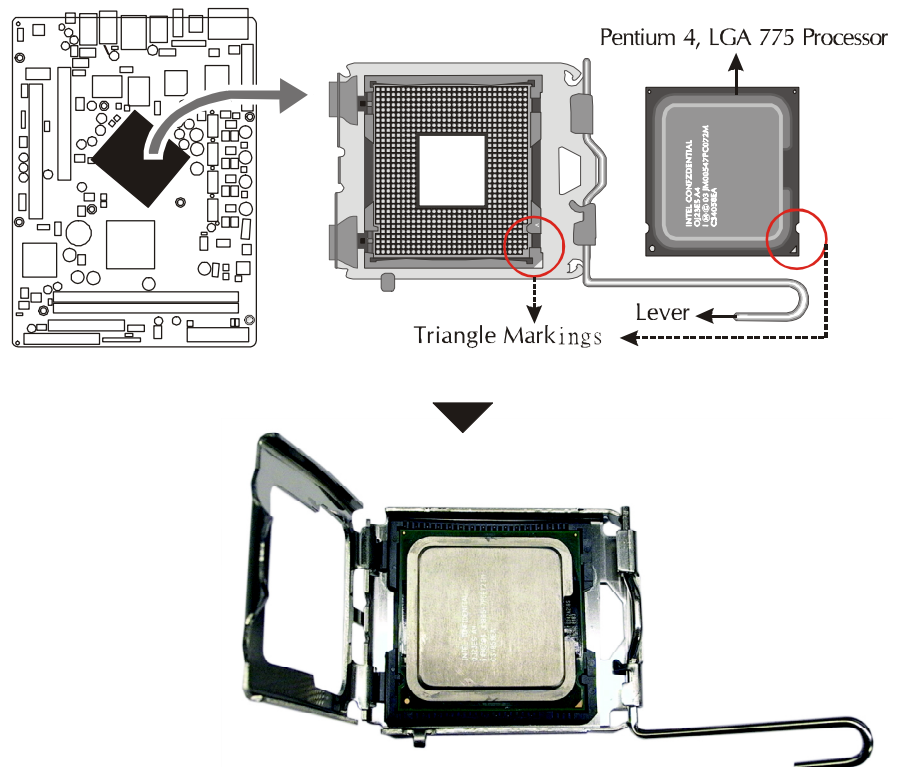
1. Remove the protective cover.



2. Unlock the socket lever and lift it to 90-degrees (be careful not to touch the socket pins during this process).



- 
3. Orientate the CPU and socket, aligning the yellow triangle on the corner of the CPU with the triangle on the socket. Gently insert. Take care not to place any sideways force on the CPU when inserting, as the socket is fragile and easily damaged.



4. Lower the CPU socket lever and lock in place.

Note : The CPU might be damaged if you do not match the CPU socket Pin 1 and cut edge well.



5. The Socket 775 processor requires a heat sink and cooling fan to run efficiently, cool and stable. If you do not receive a bundled heat sink and fan when you purchase your CPU, it is essential that you acquire one.

---

## Step 2.

### Set Jumpers

This mainboard is jumperless! The default jumper settings have been set for the common usage standard of this mainboard. Therefore, you do not need to reset the jumpers unless you require special adjustments as any of the following cases:

#### 1. Clear CMOS

For first-time DIY system builders, we recommend that you do not change the default jumper settings if you are not totally familiar with the mainboard configuration procedures. The factory-set default settings are tuned for optimum system performance. For the advanced users who wish to customize their system, section 3.2 Jumper Settings will provide detailed information on how to configure your mainboard manually.

Caution: If you did not place the battery appropriately, which may cause risk of explosion. please refer to the related rule for the dispose of used batteries.

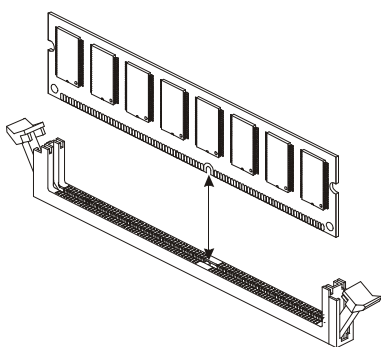
## Step 3

### Install DDR SDRAM System Memory

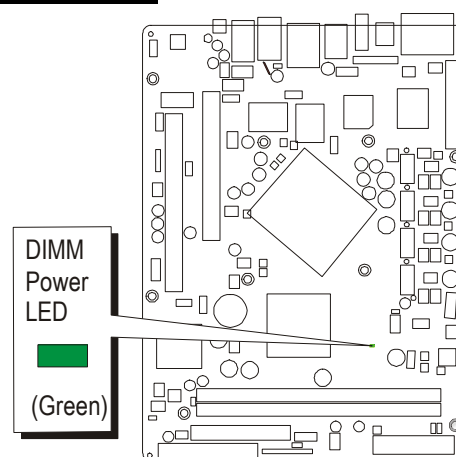
To install memory, insert DDR SDRAM memory module(s) in DIMM slot(s). Note that DDR SDRAM modules are directional and will not go in the DIMM slots unless properly oriented. After the module is fully inserted into the DIMM slots, lift the clips of both sides of the DIMM slot to lock the module in place.

Do not remove memory modules while DIMM LED is on. It might cause short or other unexpected damages due to the 2.6V stand by voltage. Remove memory modules only when AC Power cord is disconnected.

#### DDR SDRAM



#### DIMM Power LED



---

## **Step 4**

### **Install Internal Peripherals in System Case**

Before you install and connect the mainboard into your system case, we recommend that you first assemble all the internal peripheral devices into the computer housing, including but not limited to the hard disk drive (IDE/HDD), floppy disk drive (FDD), CD-ROM drive, and ATX power supply unit. This will greatly facilitate in making the connections to the mainboard described below.

To install IDE & FDD drives, follow this procedure:

1. Set the required jumpers on each device according to the instructions provided by the manufacturer. (IDE devices, HDD, and CD-ROM, have to set jumpers to Master or Slave mode depending on whether you install more than one device of each kind.)
2. Connect IDE cable and FDD cable on the back-panel of the internal peripheral devices to the corresponding headers on board. Note that the cable should be oriented with its colored stripe (usually red or magenta) connected to pin#1 both on the mainboard IDE or FDD connector and on the device as well.
3. Connect an available power cable from your system power supply unit to the back-panel of each peripheral device. Note that the power cable is directional and cannot fit in if not properly positioned.

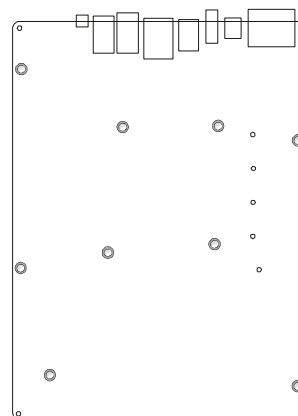


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## Step 5

### Mount the Mainboard on the Computer Chassis

1. You may find that there are a lot of different mounting hole positions both on your computer chassis and on the mainboard. To choose correct mounting holes, the key point is to keep the backpanel of the mainboard in a close fit with your system case.
2. After deciding on the proper mounting holes, position the studs between the frame of the chassis and the mainboard. The studs are used to fix the mainboard and to keep a certain distance between the system's chassis and the mainboard, in order to avoid any electrical shorts between the board and the metal frame of the chassis.



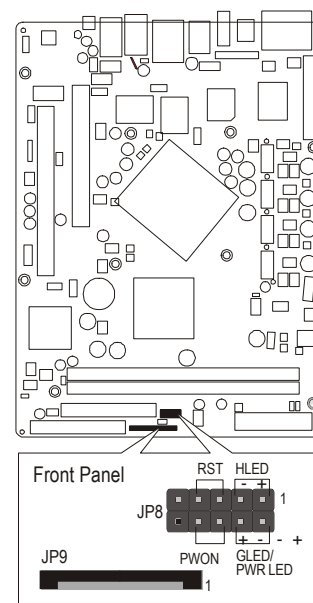
(If your computer case is already equipped with mounting studs, you will need to tighten screws to attach the mainboard.)

Note : In most computer housings, you will be able to find 4 or more attachment points to install mounting studs and then fix the mainboard. If there aren't enough matching holes, then make sure to install at least 4 mounting studs to ensure proper attachment of the mainboard.

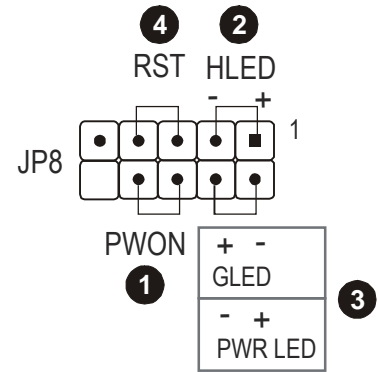
## Step 6

### Connect Front-Panel Switches/LEDs/USBs/1394/Aux-In/Mic-In/Line-Out

You can find there are several different cables already existing in the system case and originating from the computer's front-panel devices (HDLED, GLED, USB4/5, Aux-In, Mic-In, Line-Out, 1394 devices etc.) These cables serve to connect the HDLED, GLED, USB4/5, Aux-In, Mic-In, Line-Out or 1394 connectors to the mainboard's front-panel connectors group, as shown below.



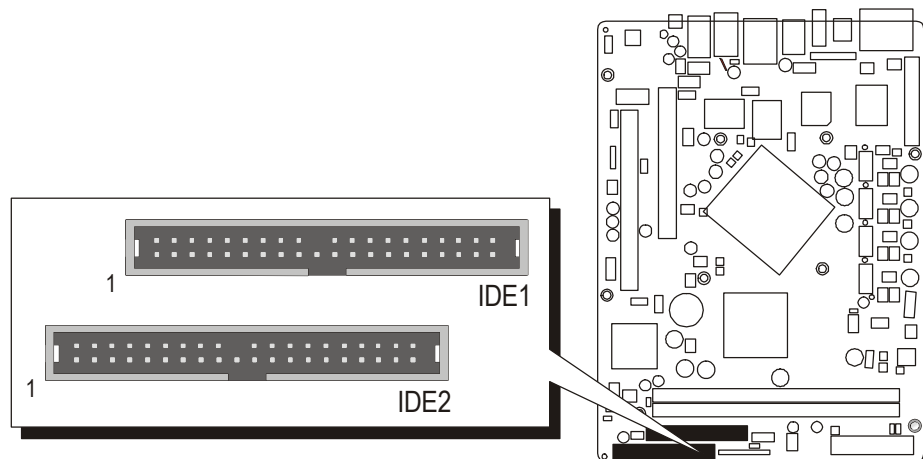
1. ATX Soft Power On/Off (PWON)
2. HDD-LED (HLED)
3. Green-LED and Power-LED (GLED/PLED)
4. Hardware Reset Switch Button (RST)



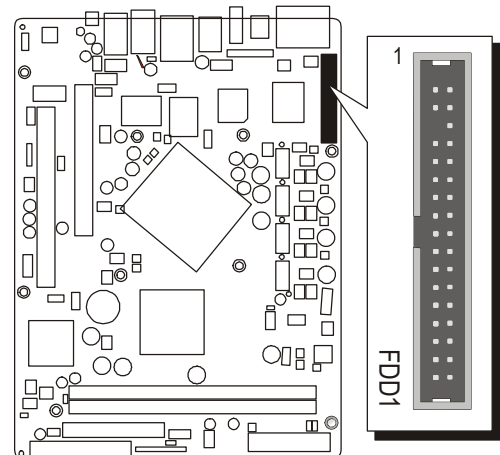
## Step 7

### Connect IDE, Floppy, and Serial ATA Disk Drives

1. IDE cable connector



2. Floppy cable connector

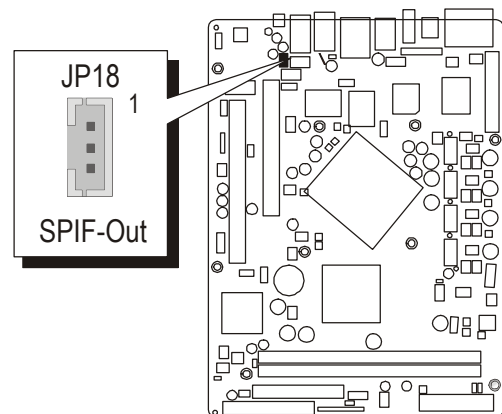


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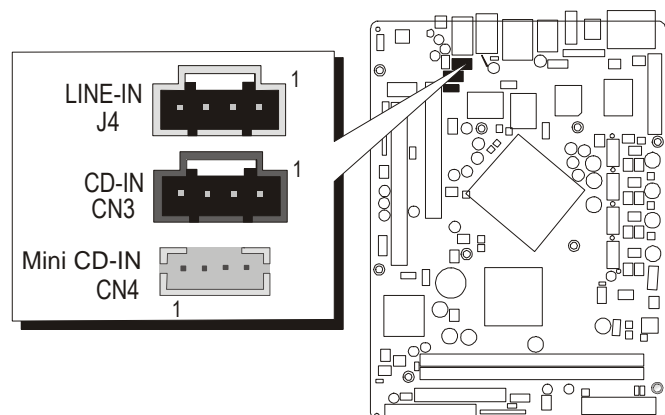
## Step 8

### Connect Other Internal Peripherals

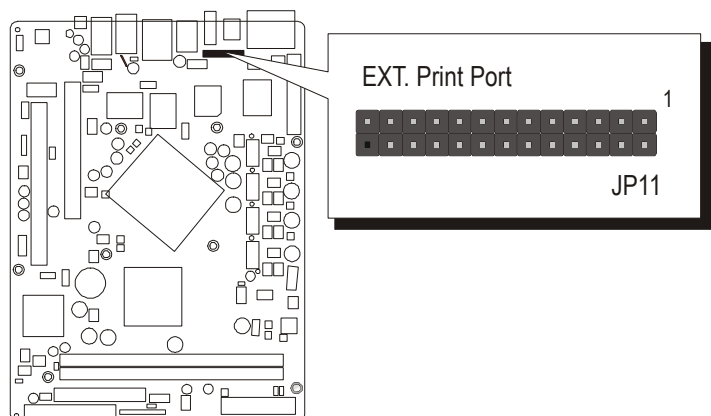
#### 1. SPDIF OUT Connector (JP18)



#### 2. LINE-IN(J4) , CD-IN(CN3), Mini CD-IN(CN4) Connectors

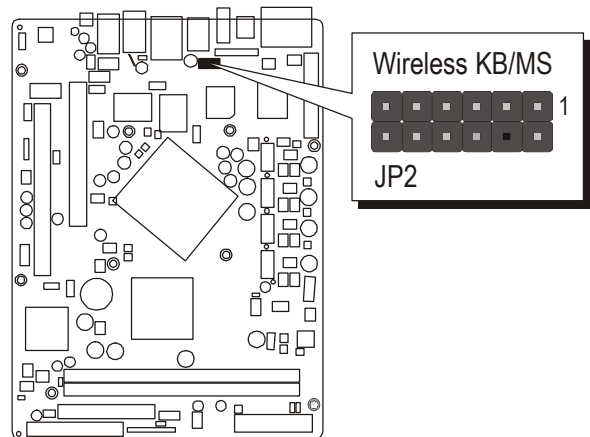


#### 3. Parallel Port (EXT. Print) - (JP11)

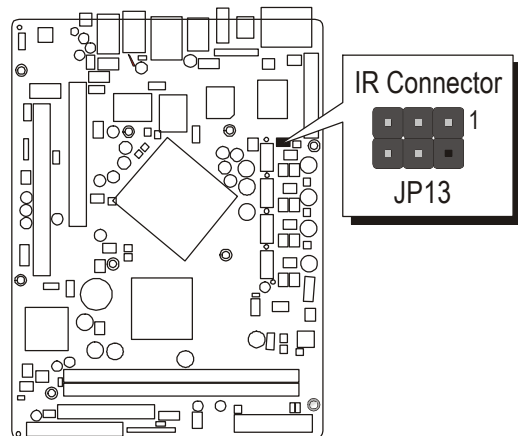


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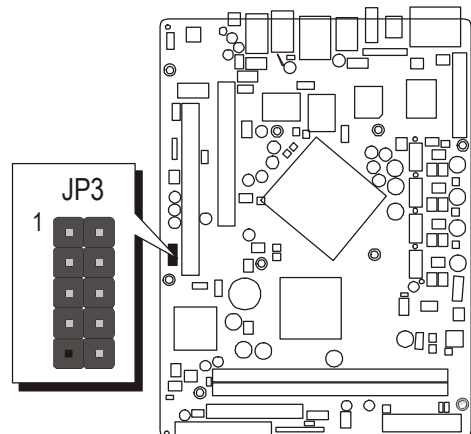
#### 4. Wireless Keyboard and Mouse Connectors (JP2)



#### 5. IR Connector(JP13)

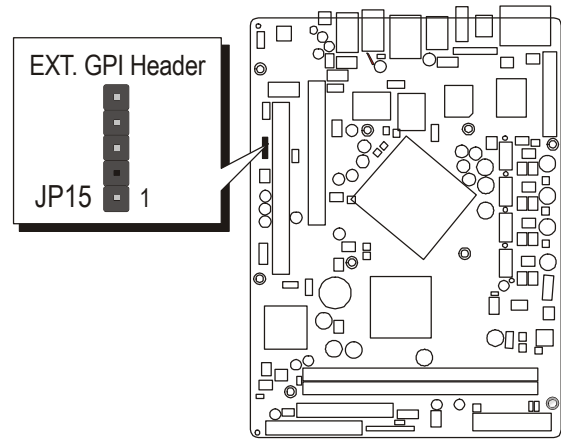


#### 6. USB Header (JP3)



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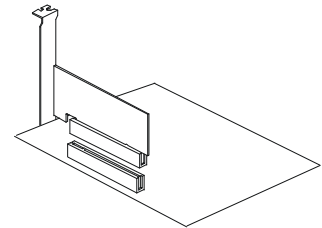
## 7. EXT. GPI Header (JP1)



## Step 9

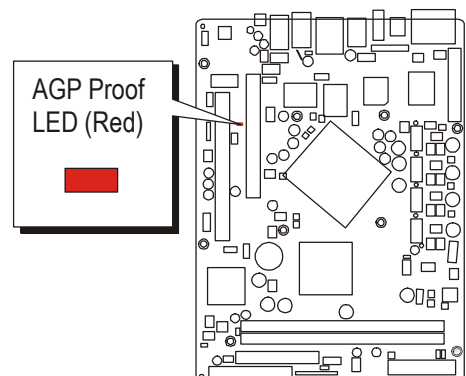
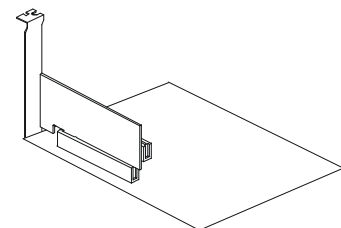
### Install Add-on Cards in Expansion Slots

#### 1. PCI Card



#### 2. Accelerated Graphics Port (AGP) Card

AGP proof LED: Serving as a smart burn-out protection for the motherboard, this red LED lights up if you plug in any 3.3V AGP card into the AGP slot. When this LED is Lit, there is no way you can turn on the system power even if you press the power button. The red LED(AGP proof) is a smart protection from motherboard burn out caused by an incorrect AGP card. If you plug in any 3.3V AGP card into the 1.5V AGP slot, this LED lights up thus preventing the system to power up. This LED remains off if you plug in a 1.5V AGP card.

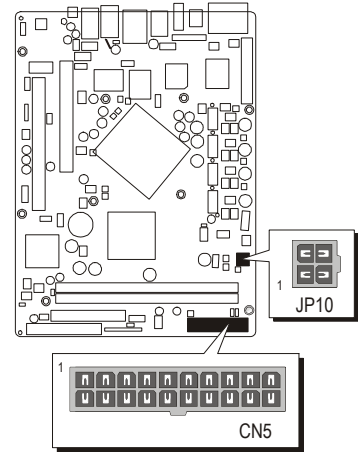


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## Step 10

### Connect the Power Supply

1. System power connectors (CN5/JP10)

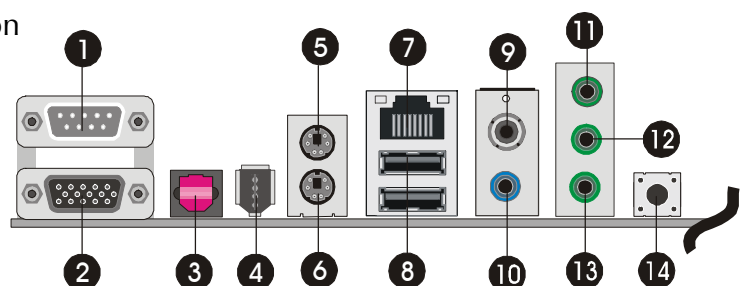
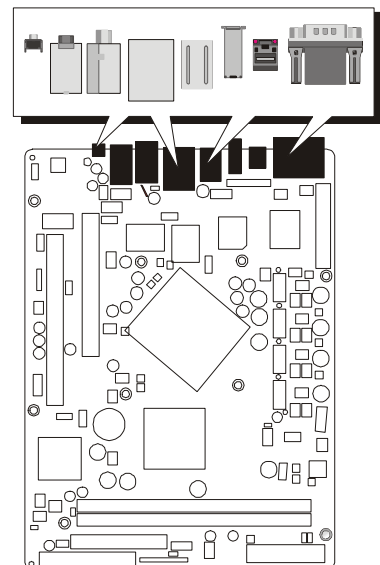


## Step 11

### Connect External Peripherals to Back-Panel

You are now ready to put the computer case back together and get on to the external peripherals connections to your system's back-panel.

1. DB9 Serial port
2. DB15 VGA port
3. SPDIF-In port
4. 1394 port
5. PS/2 Mouse port
6. PS/2 Keyboard port
7. LAN port
8. USB 1.1/2.0 ports
9. SPDIF-Out RCA port
10. Line-In port
11. 5.1 Channel Bass/Center port
12. 5.1 Channel Rear-Out port
13. 5.1 Channel Front-Out port
14. Clear CMOS button



---

## Step 12

### First Time System Boot Up

To assure the completeness and correctness of your system installation, you may check the above installation steps once again before you boot up your system for the first time.

1. Insert a bootable system floppy disk (DOS 6.2x, Windows 95/98/NT, or others) which contains FDISK and FORMAT utilities into the FDD.
2. Turn on the system power.
3. First, you must use the FDISK utility to create a primary partition of the hard disk. You can also add an extended partition if your primary partition does not use all of the available hard disk space. If you choose to add an extended partition, you will have to create one or more logical partitions to occupy all the space available to the extended partition. The FDISK utility will assign a drive letter (i.e., C:, D:, E:,...) to each partition which will be shown in the FDISK program. After FDISK procedure, reboot your system by using the same system floppy disk.

Note : DOS 6.2x and Windows 95A can only support up to 2.1GB of HDD partition. If you use the FDISK utility with one of the operating systems mentioned above, you can only install your HDD into partitions no larger than 2.1GB each.

4. Now, use the FORMAT utility to format all the partitions you've created. When formatting the primary partition (C:), make sure to use the `FORMAT C: /S` command.

Note : `FORMAT C: /S` can transfer all the necessary system files into the primary partition of your hard disk. Then, your HDD will become a bootable drive.

5. Install all the necessary drivers for CD-ROM, Mouse, etc.
6. Setup the complete operating system according to your OS installation guide.

---

## **Step 13**

### **Install Drivers & Software Components**

Please note that all the system utilities and drivers are designed for Win 9x/2000/ME/XP/NT operating systems only. Make sure your operating system is already installed before running the drivers installation CD-ROM programs.

1. Insert the FS58 bundled CD-ROM into your CD-ROM drive.  
The autorun program will display the drivers main installation window on screen.
2. Choose "Install SIS AGP Driver" and complete it.
3. Choose "Install SIS IDE Driver" and complete it.
4. Choose "Install SIS VGA Driver" and complete it.
5. Choose "Install Realtek LAN Driver" and complete it.
6. Choose "Install Realtek Audio Driver" and complete it.
7. Choose "Install SIS USB2.0 Driver" and complete it.
8. Choose "Install DirectX9 Utility" and complete it.
9. Exit from the autorun drivers installation program.

✿ Please refer to section Chapter 4 Software Utility to install driver.



---


## 3.2 Jumper Settings


Several hardware settings are made through the use of jumper caps to connect jumper pins to the mainboard. Pin #1 could be located at any corner of each jumper; you just find a location marked with a white right angle, which stands for pin 1#. There are several types of pin 1# shown as below:


3-pin and multi-pin (> 3) jumpers show as follows:

Pin #1 to the left: 1 

1 

Pin #1 on the top: 1 

Pin #1 to the right:  1

Pin #1 on the bottom:  1

Jumpers with two pins are shown as  for Close [On] or  for Open [Off]. To Short jumper pins, simply place a plastic jumper cap over the desired pair of pins.

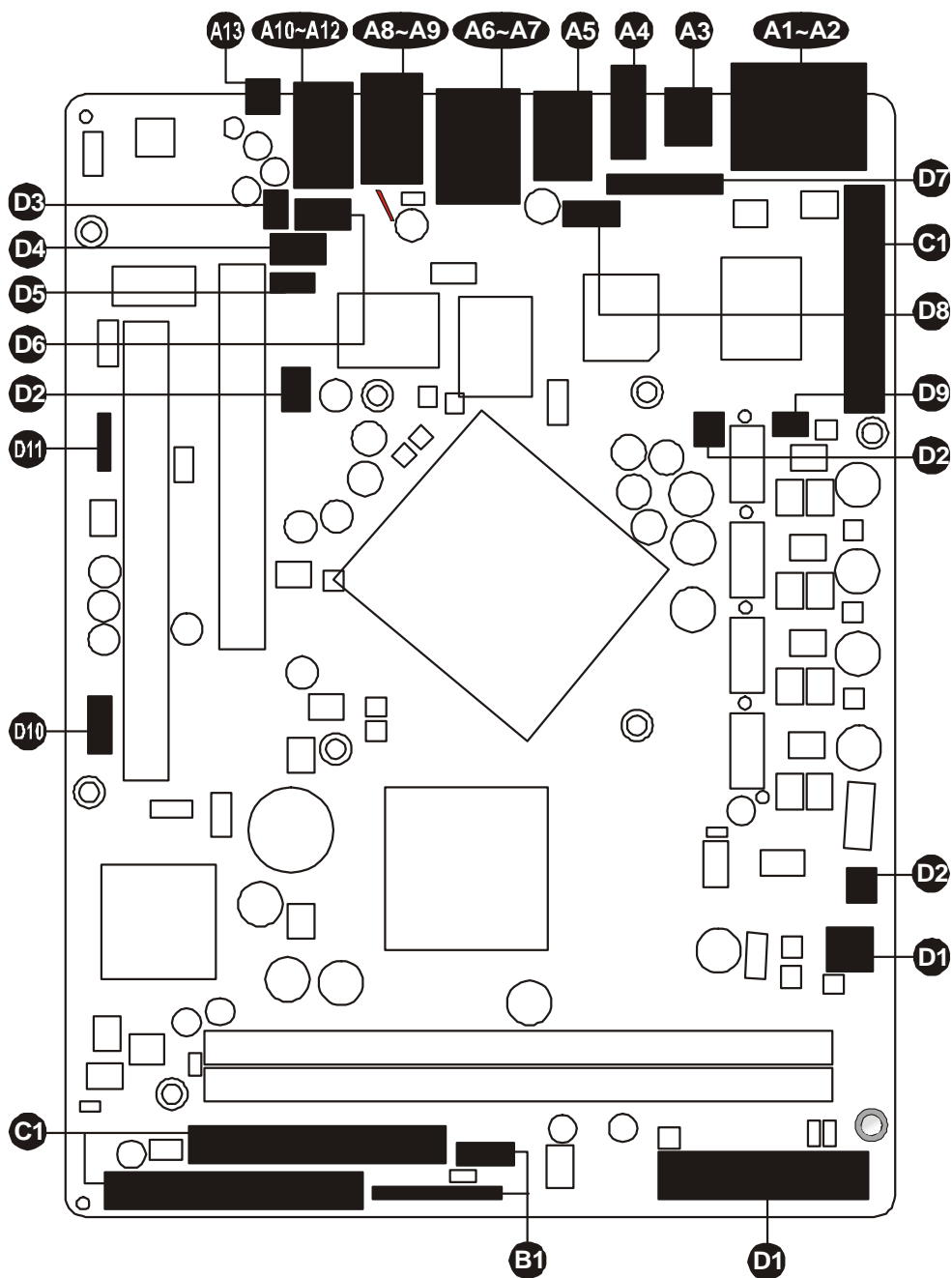
### Caution!

1. Do not remove the mainboard from its antistatic protective packaging until you are ready to install it.
2. Carefully hold the mainboard by its edges and avoid touching its components. When putting the mainboard down, place it on the top of its original packaging film and on an even surface, and components side up.
3. Wear an antistatic wrist strap or take other suitable measures to prevent electrostatic discharge (ESD) whenever handling this equipment.

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## Jumpers & Connectors Guide

Use the mainboard layout on page 11 to locate CPU socket, memory banks, expansion slots, jumpers and connectors on the mainboard during the installation. The following list will help you to identify jumpers, slots, and connectors along with their assigned functions:



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### ***CPU/Memory/Expansion Slots***

|         |  |
|---------|--|
| LGA 775 | : CPU Socket for Pentium 4 LGA 775 processors  |
| DIMM1/2 | : Two 184-pin DIMM Slots for 128, 256, 512 MB, and 1GB of 2.6V DDR SDRAM<br>(The total installed memory does not exceed 2GB) |
| AGP     | : One AGP 4X/8X Slot   |
| PCI     | : One 32-bit PCI Expansion Slot  |

### ***Back Panel Connectors***

|            |               |                                |
|------------|---------------|--------------------------------|
| <b>A1</b>  | VGA           | : VGA Port (DB15 female)       |
| <b>A2</b>  | COM           | : Serial Port (DB9 male)       |
| <b>A3</b>  | SPDIF-IN      | : SPDIF-IN Port                |
| <b>A4</b>  | 1394          | : 1394 Port                    |
| <b>A5</b>  | MS            | : PS/2 mouse Port              |
| <b>A5</b>  | KB            | : PS/2 keyboard Port           |
| <b>A6</b>  | LAN           | : 10/100 Mbps LAN Port         |
| <b>A7</b>  | USB           | : 2 USB 2.0/1.1 Ports          |
| <b>A8</b>  | SPDIF-OUT RCA | : SPDIF-OUT RCA Port           |
| <b>A9</b>  | Line-IN       | : Line-In Port                 |
| <b>A10</b> | Bass/Center   | : 5.1-Channel Bass/Center Port |
| <b>A11</b> | Rear-OUT      | : 5.1-Channel Rear-Out Port    |
| <b>A12</b> | Front-OUT     | : 5.1-Channel Front-Out Port   |
| <b>A13</b> | Clear CMOS    | : Clear CMOS button            |

### ***Front Panel Connectors***

|           |         |                         |
|-----------|---------|-------------------------|
| <b>B1</b> | JP8/JP9 | : Front Panel Connector |
|-----------|---------|-------------------------|

### ***Internal Peripherals Connectors***

|           |           |   |
|-----------|-----------|---|
| <b>C1</b> | FDD       | : Floppy disk drive interface   |
| <b>C2</b> | IDE1/IDE2 | : IDE primary interface (Dual-channel)<br>(IDE1 blue color, IDE2 black color) |

---

### ***Other Connectors***

|            |          |   |
|------------|----------|---|
| <b>D1</b>  | CN5/JP10 | : Power Connectors (4-pin JP10, 20-pin CN5) |
| <b>D2</b>  | FAN1/2/3 | : Fan Connectors                            |
| <b>D3</b>  | JP18     | : SPDIF OUT Connector                       |
| <b>D4</b>  | CN3      | : CD-IN Connector                           |
| <b>D5</b>  | CN4      | : Mini CD-IN Connector                      |
| <b>D6</b>  | J4       | : LINE-IN Connector                         |
| <b>D7</b>  | JP11     | : Parallel Port Header-EXT. Print Port      |
| <b>D8</b>  | JP2      | : Wireless Keyboard and Mouse Connectors    |
| <b>D9</b>  | JP13     | : IR Connector                              |
| <b>D10</b> | JP3      | : USB Header                                |
| <b>D11</b> | JP15     | : EXT. GPI Header                           |

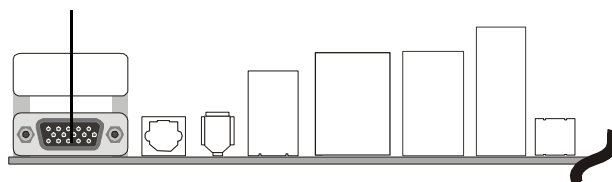
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## **Back-Panel Connectors**

### **A1 VGA Port**

One 15-pin VGA port is located at the rear panel of the mainboard.

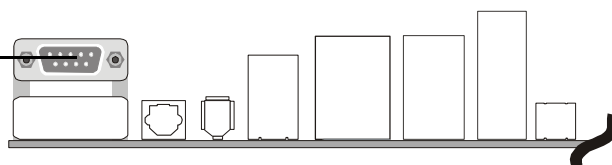
VGA Port



### **A2 COM Port**

This mainboard can accommodate one serial device on. Attach a serial device cable to the DB9 serial port at the back-panel of your computer.

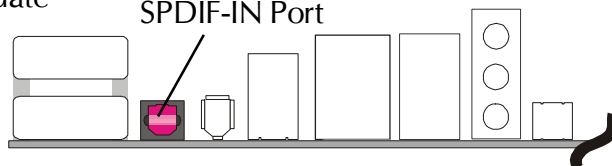
COM Port



### **A3 SPDIF-IN Port**

This mainboard can accommodate one device on SPDIF-IN. Attach a SPDIF cable to the SPDIF-IN Port at the back-panel of your computer.

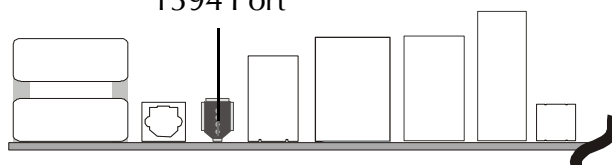
SPDIF-IN Port



### **A4 1394 Port**

This mainboard offers one 1394 port on back-panel. Plug device jack into an available 1394 port.

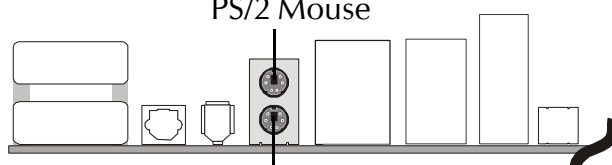
1394 Port



### **A5 PS/2 Keyboard & PS/2 Mouse Ports**

Two 6-pin female PS/2 keyboard & Mouse connectors are located at the rear panel of the mainboard.

PS/2 Mouse



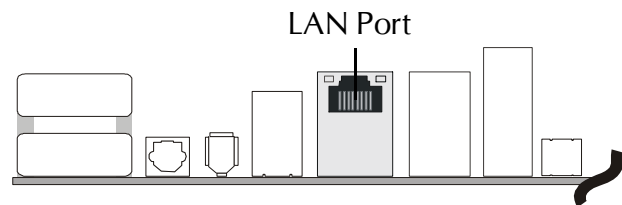
PS/2 keyboard

Depending on the computer housing you use (desktop or tower), the PS/2 Mouse port is situated at the top of the PS/2 Keyboard port when the mainboard is laid into a desktop, as opposed to a tower where the PS/2 Mouse port is located at the right of the PS/2 Keyboard's. Plug the PS/2 keyboard and mouse jacks into their corresponding ports.

---

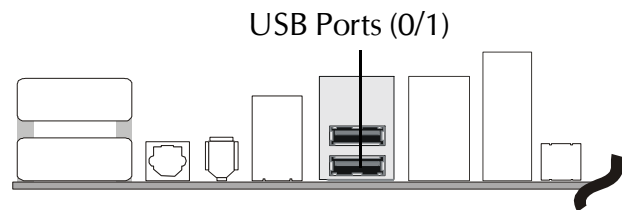
### **A6 LAN Port**

This mainboard can accommodate one device on LAN. Attach a CAT-5 cable to the LAN port at the back-panel of your computer.



### **A7 USB Ports**

Two female ports USB0/1 share the same USB ( Universal Serial Bus ) bracket at the rear panel of your mainboard. Plug each USB device jack into an available USB0/USB1 port.



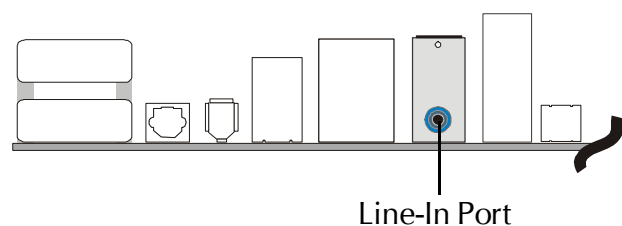
### **A8 SPDIF-OUT RCA Port**

This mainboard can accommodate one device on SPDIF-OUT. Attach a SPDIF cable to the SPDIF-OUT RCA Port at the back-panel of your computer.



### **A9 Line-In Port**

Line-In is a stereo line-level input port that accepts a 1/8-inch TRS stereo plug. It can be used as a source for digital sound recording, a source to be mixed with the output, or both.

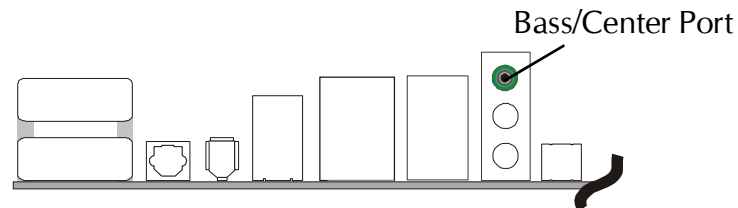


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**A10 5.1 Channel Bass/Center port**

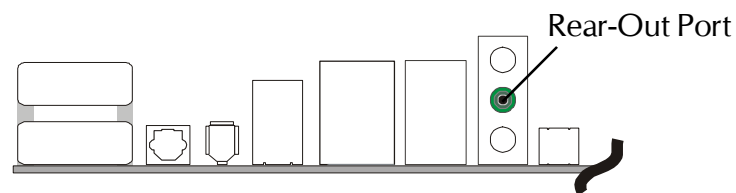
Bass/Center-Out is a stereo output port through which the combined signal of all internal and external audio sources on the board is output.

It can be connected to 1/8-inch TRS stereo headphones or to bass/center amplified speakers.



**A11 5.1 Channel Rear-Out port**

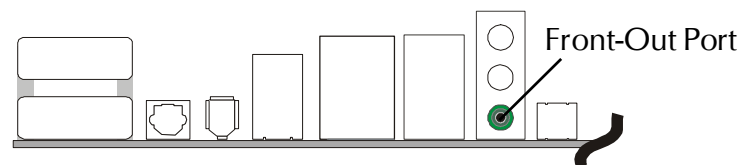
Rear-Out is a stereo line-level input port that accepts a 1/8-inch TRS stereo plug.



**A12 5.1 Channel Front-Out port**

Front-Out is a stereo output port through which the combined signal of all internal and external audio sources on the board is output.

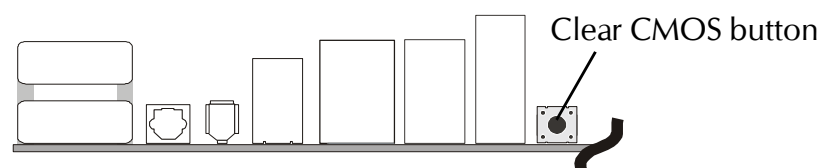
It can be connected to 1/8-inch TRS stereo headphones or to amplified speakers.



**A13 Clear CMOS Button**

This button is used to clear CMOS data.

You can clear CMOS without opening the chassis. It's a very friendly button.

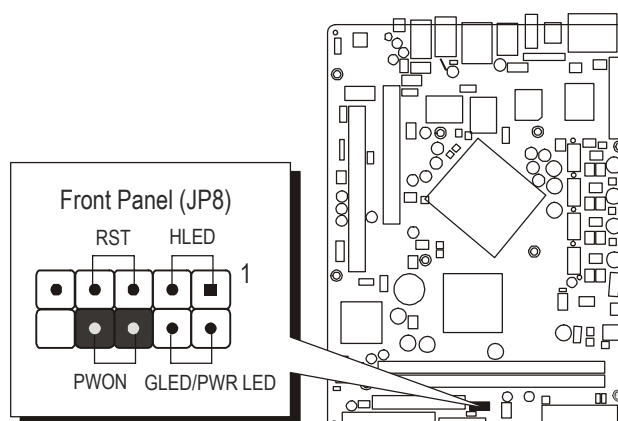


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## ➡ **Front-Panel Connectors**

### **B1 ATX Power On/Off Switch Connector (PWON)**

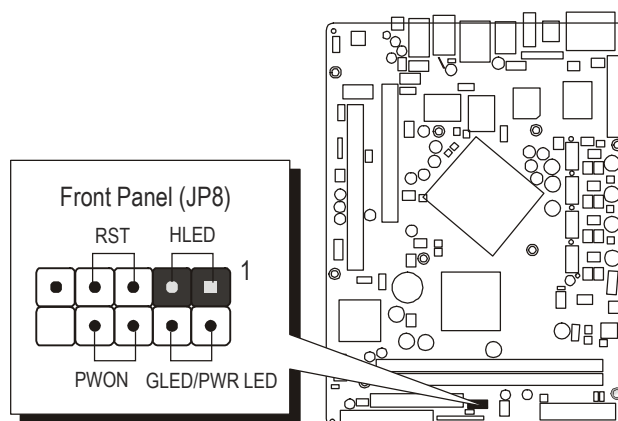
The Power On/Off Switch is a momentary type switch used for turning on or off the system ATX power supply. Attach the connector cable from the Power Switch to the 2-pin (PWON) header on the mainboard.



Note : Please notice all the LED connectors are directional. If your chassis's LED does not light up during running, please simply change to the opposite direction.

### **B1 HDD LED Connector (HLED)**

Attach the connector cable from the IDE device LED to the 2-pin (HDD LED) header. The HDD LED lights up whenever an IDE device is active.





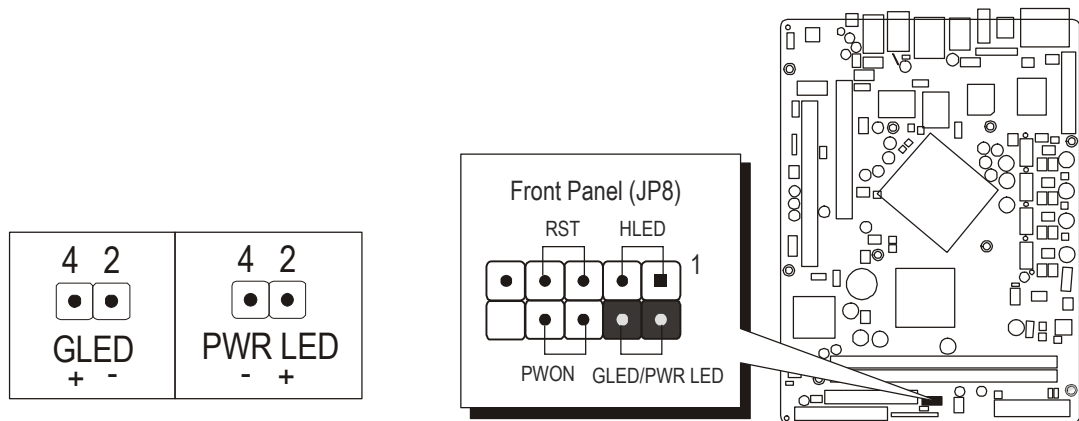
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### **B1 Green LED/ Power LED Connector (GLED/PWR LED)**

This header is dual color LED function. Dual color LED function is defined by either Power LED or Green LED, the header can be in these states.

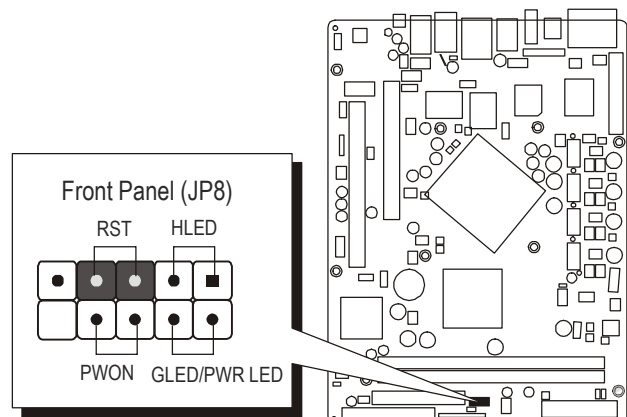
The Green LED indicates that the system is currently in one of the power saving mode (Doze/Standby/Suspend). When the system resumes to normal operation mode, the Green LED will go off, power LED on.

This Power LED will go off during power saving mode. Attach a 2-pin Green LED/Power LED cable to (GLED/PWR LED) header.



### **B1 Hardware Reset Connector (RST)**

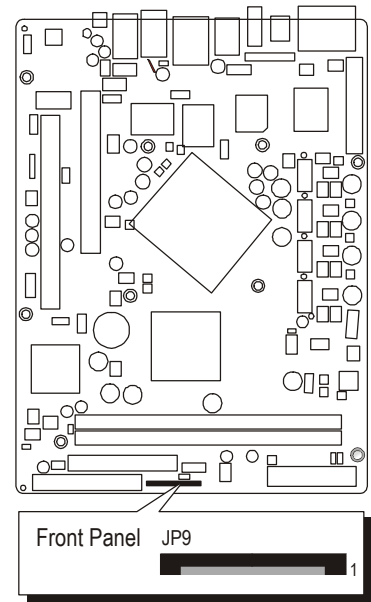
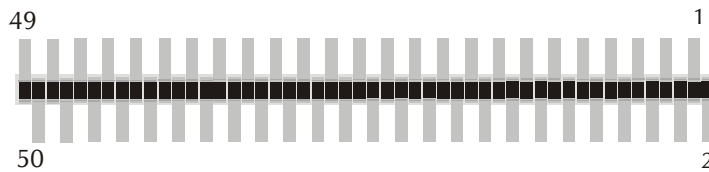
Attach the 2-pin hardware reset switch cable to the (RST) header.  
Pressing the reset switch causes the system to restart.



---

## **B1 Front Panel AUDIO/ USB/ 1394 Connector (JP9)**

Port JP9 can be used to connect special device.



### Pin Assignments (JP9):

|                 |                 |                 |
|-----------------|-----------------|-----------------|
| 1 = USBVCC      | 2 = USBVCC      | 3 = USBVCC      |
| 4 = USBVCC      | 5 = USBVCC      | 6 = USBVCC      |
| 7 = USBVCC      | 8 = USBVCC      | 9 = USB4 +      |
| 10 = USB4-      | 11 = GND        | 12 = GND        |
| 13 = USB5 +     | 14 = USB5-      | 15 = GND        |
| 16 = GND        | 17 = TPA1 +     | 18 = TPA1-      |
| 19 = GND        | 20 = GND        | 21 = TPB1 +     |
| 22 = TPB1-      | 23 = GND_Audio  | 24 = GND_Audio  |
| 25 = Front MIC  | 26 = FMIC_Power | 27 = Sense 0    |
| 28 = GND_Audio  | 29 = LineIn_L   | 30 = GND_Audio  |
| 31 = LineIn_R   | 32 = Sense 1    | 33 = GND_Audio  |
| 34 = GND_Audio  | 35 = LineOut_R  | 36 = FrontOut_R |
| 37 = GND_Audio  | 38 = GND_Audio  | 39 = LineOut_L  |
| 40 = FrontOut_L | 41 = GND_Audio  | 42 = GND_Audio  |
| 43 = HDLED_PU   | 44 = GLEDA      | 45 = HDLED      |
| 46 = GLEDB      | 47 = Reset_Sw   | 48 = Power_Sw   |
| 49 = VCC        | 50 = VCC        |                 |

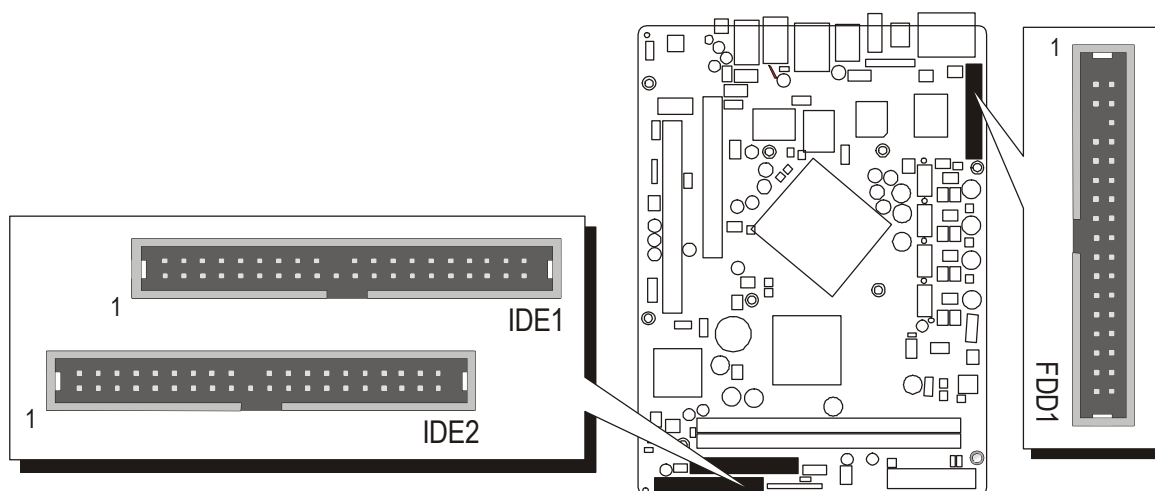
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## **Internal Peripherals Connectors**

### **Enhanced IDE, Floppy Connectors**

The mainboard features one 40-pin dual-channel IDE device connectors (IDE1,IDE2) providing support for up to two IDE devices, such as CD-ROM and Hard Disk Drives (H.D.D.).

This mainboard also includes one 34-pin floppy disk controller (FDC) to accommodate the Floppy Disk Drive (FDD1). Moreover, this mainboard comes with one 80-pin ATA 100/66/33 ribbon cable to connect to IDE H.D.D. and one 34-pin ribbon cable for F.D.D. connection.



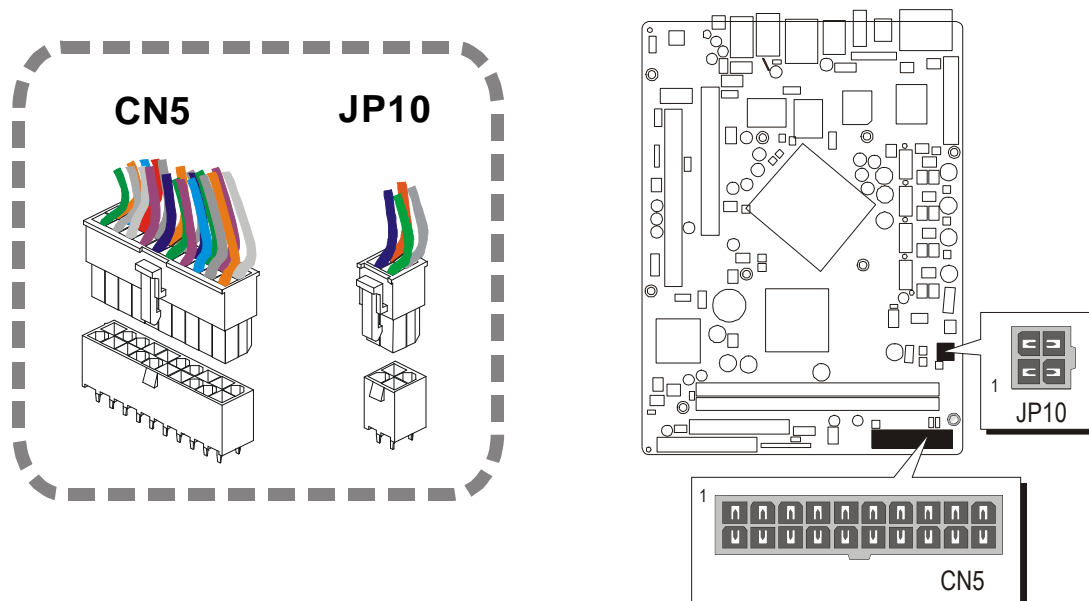
**Important:** Ribbon cables are directional, therefore, make sure to always connect with the red cable stripe on the same side as pin #1 of the IDE1 or FDC connector on the mainboard.

---

## Other Connectors

### ATX Power Supply Connectors (CN5/JP10)

This motherboard uses 20-pin ATX power header (CN5), and comes with the other one header (JP10). Please make sure you plug each in the right direction. It is essential to have these two power supply connectors plugged or your system won't boot up.

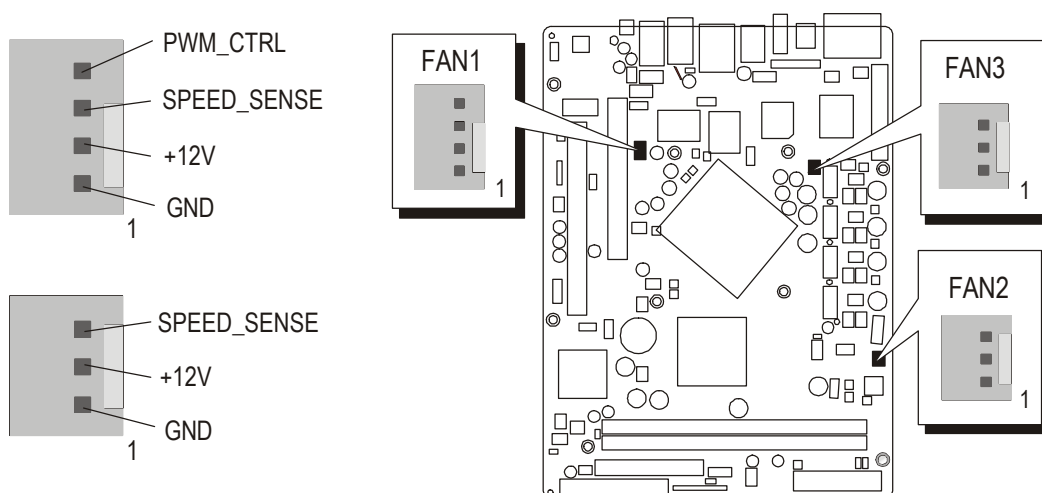


A traditional ATX system remains in the power-off stage when AC power resumes from power failure. However, it is inconvenient for a network server or workstation if there is not an UPS to execute power-on. Thus, this motherboard supports an AC Power Auto Recovery function to solve this problem. You may enable the function, "PWRON After PWR-Fail," in the sub-menu of "Power Management Setup" within the BIOS setup program.

- |         |   |
|---------|---|
| Note 1: | The ATX power connector is directional and will not go in unless the guides match perfectly, making sure that pin#1 is properly positioned. |
| Note 2: | Make sure the latch of the ATX power connector clicks into place to ensure a solid attachment.  |
| Note 3: | Your ATX power supply must be supplied to ACPI + 5V stand-by power and at least 720mA compatible.   |
| Note 4: | Make sure your power supply have enough power for higher speed processor installed.   |

## D2 Fan Connectors - FAN1/2/3

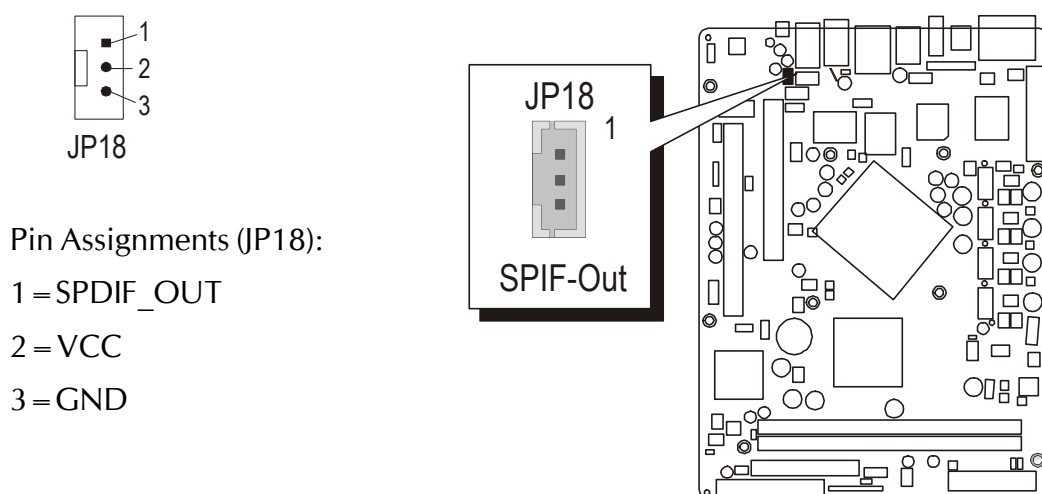
The mainboard provides four onboard 12V cooling fan power connectors to support System (FAN1), Chipset (FAN2) or CPU (FAN3) cooling fans.



Note : Both cable wiring and type of plug may vary , which depends on the fan maker. Keep in mind that the red wire should always be connected to the +12V header and the black wire to the ground (GND) header.

## D3 SPDIF OUT Connector (JP18)(White)

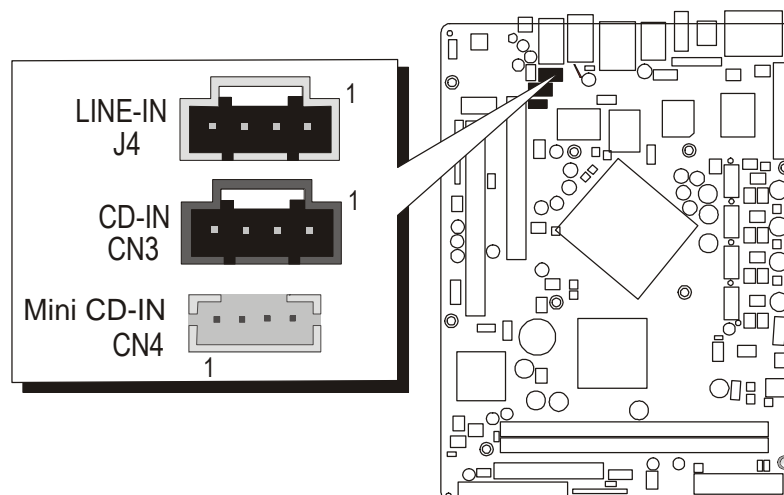
Port JP18 can be used to connect special device.



---

**D4 LINE-IN(J4), CD-IN(CN3), Mini CD-IN(CN4) Connectors**

- D5** Port J4(White), CN3(Black) and CN4 can be used to connect a stereo audio input  
**D6** 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

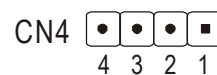
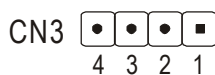
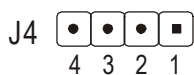
**Pin Assignments (CN4):**

1= Ground

2= CD-IN Right

3= Ground

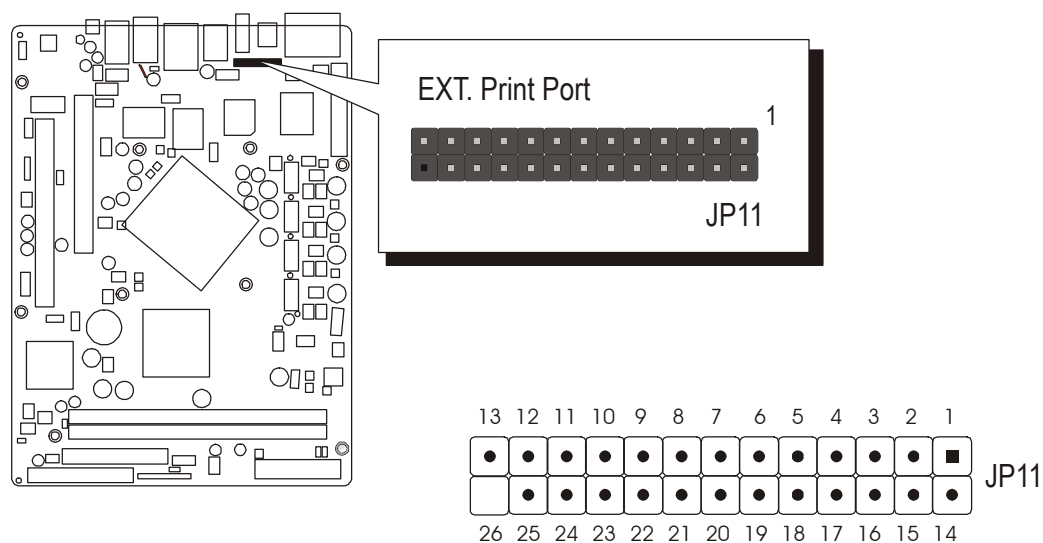
4= CD-IN Left



---

## **D7 Parallel Port Header-EXT. Print Port (JP11)**

One DB25 male parallel port header is located at the rear panel of the motherboard. The header is used to connect the cable attached to parallel connector. But the parallel cable is optional at the time of purchase.



### **Pin Assignments (JP11):**

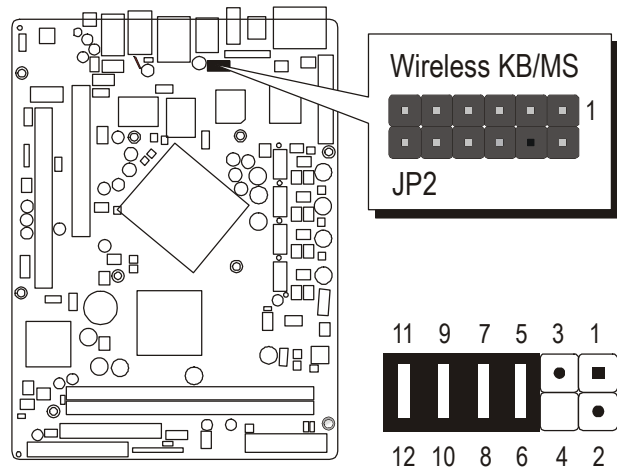
|           |            |           |
|-----------|------------|-----------|
| 1=PSTB    | 2=PPD0     | 3=PPD1    |
| 4=PPD2    | 5=PPD3     | 6=PPD4    |
| 7=PPD5    | 8=PPD6     | 9=PPD7    |
| 10=P_-ACK | 11=P_BUS Y | 12=P_PE   |
| 13=P_SLCT | 14=PAUTOFD | 15=P_-ERR |
| 16=PINIT  | 17=PSLCTIN | 18=GND    |
| 19=GND    | 20=GND     | 21=GND    |
| 22=GND    | 23=GND     | 24=GND    |
| 25=GND    | 26=KEY     |           |

### **D3 Wireless Keyboard and Mouse Connectors (JP2)**

Port JP2 can be used to connect wireless keyboard and mouse device. 4 mini Jumper must be setted on pin 5-6, 7-8, 9-10 and 11-12 when this header is not used.

Pin Assignments (JP2):

|           |          |
|-----------|----------|
| 1=VCC     | 2=VCC    |
| 3=GND     | 4=KEY    |
| 5=MSCLK   | 6=MS_CK  |
| 7=MSDATA  | 8=MS_DK  |
| 9=KBCLK   | 10=KB_CK |
| 11=KBDATA | 12=KB_DK |

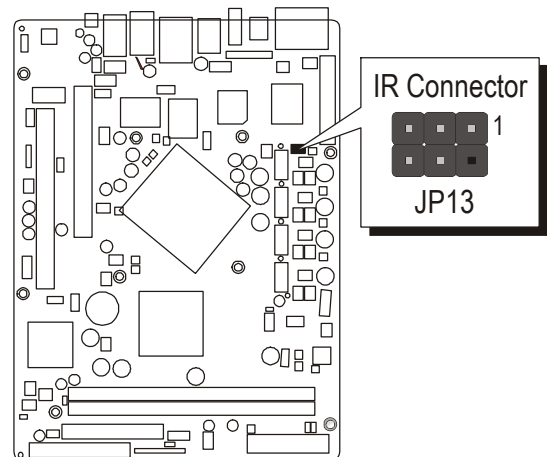
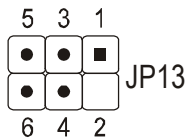


### **D3 IR Connector (JP13)**

If you have an infrared device, this mainboard can implement IrDA transfer function. To enable the IrDA transfer function, follow these steps:

Pins Assignment (JP13):

|          |
|----------|
| 1=NC     |
| 2=KEY    |
| 3=VCC    |
| 4=Ground |
| 5=IrTx   |
| 6=IrRx   |



Note : Before connect your IR device, please be sure each IR on board pin allocation is matchable with the pin of the IR device. Other wise, incorrect IR connection may do damage to your IR device.

Step1 : Attach the 6-pin infrared device cable to J7.  
(Refer to the above diagram for IR pin assignment.)

Step2 : This mainboard support IrDA, or Normal transfer modes.



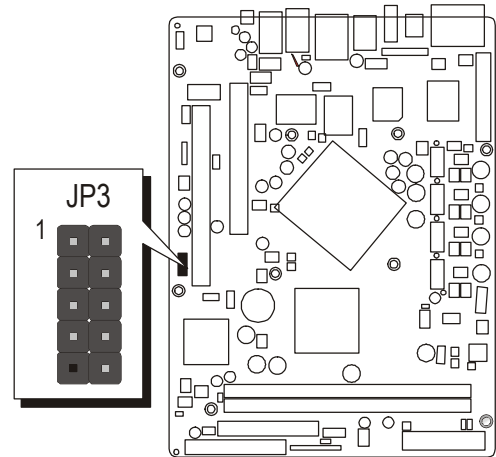
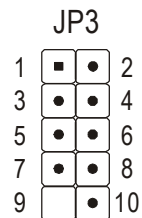
---

## **D10** USB Header (JP3)

Header JP3 are used to connect cables to USB connectors mounted on front panel or back panel. The USB cable is optional at the time of purchase.

Pin Assignments (JP3):

- 1 = VCC
- 2 = VCC
- 3 = Data0-
- 4 = Data1-
- 5 = Data0 +
- 6 = Data1 +
- 7 = Ground
- 8 = Ground
- 9 = Key
- 10 = N/C

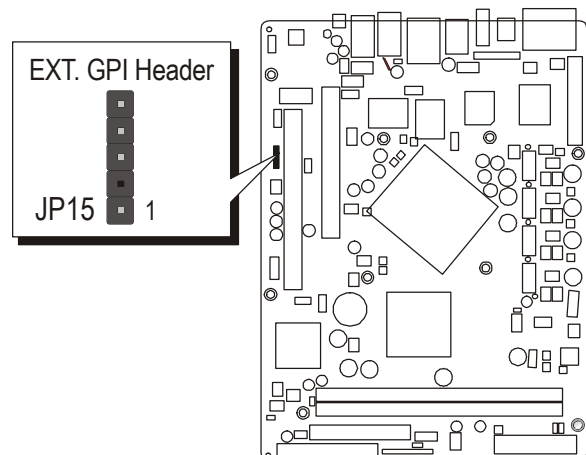
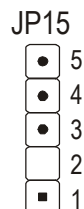


## **D11** EXT. GPI Header (JP15)

The GPI supports user-defined function names. This means that the functions inside the platform-independent code can be called anything. The user defines the linking function names in the GPI header file.

Pin Assignments (JP15):

- 1 = 5V\_DUAL
- 2 = KEY
- 3 = GND
- 4 = GPIO7
- 5 = GPIO11



---

### 3.3 System Memory Configuration

The FS58 mainboard has two 184-pin DIMM slots that allow you to install from 64MB up to 2GB of system memory.

Each 184-pin DIMM (Dual In-line Memory Module) Slot can accommodate 64MB, 128MB, 256MB, 512MB, and 1GB of PC2100/PC2700/PC3200 compliant 2.5V single (1 Bank) or double (2 Bank) side 64-bit wide data path DDR SDRAM modules.

#### Install Memory:

Install memory in any or all of the slots and in any combination shown as follows.

| DIMM Socket | Memory Modules   | Module Quantity |
|-------------|--|-----------------|
| DIMM 1      | 16MB, 32MB, 64MB, 128MB, 256MB, 512M ,and 1GB<br>184-pin 2.5V DDR SDRAM DIMM | x 1             |
| DIMM 2      | 16MB, 32MB, 64MB, 128MB, 256MB, 512M ,and 1GB<br>184-pin 2.5V DDR SDRAM DIMM | x 1             |

Note: Maximum installed memory is 2GB.

Note : You do not need to set any jumper to configure memory since the BIOS utility can detect the system memory automatically. You can check the total system memory value in the BIOS Standard CMOS Setup menu.

#### Upgrade Memory:

You can easily upgrade the system memory by inserting additional DDR SDRAM modules in available DIMM slots. The total system memory is calculated by simply adding up the memory in all DIMM slots. After upgrade, the new system memory value will automatically be computed and displayed in the field "Standard CMOS Setup" of BIOS setup program.

# 4 SOFTWARE UTILITY

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## 4.1 Mainboard CD Overview

Note: The CD contents attached in FS58 mainboard are subject to change without notice.

To start your mainboard CD disc, just insert it into your CD-ROM drive and the CD AutoRun screen should appear. If the AutoRun screen does not appear, double click or run D:\Autorun.exe (assuming that your CD-ROM drive is drive D:)

### Navigation Bar Description:

- ☞ Install Mainboard FS58 Software - Installing SIS AGP, SIS IDE, SIS VGA, Realtek LAN, Realtek Audio, SIS USB2.0 Driver, and DirectX9 Utility drivers.
- ☞ Manual - FS58 Series mainboard user's 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.



---

## 4.2 Install Mainboard Software

Insert the attached CD into your CD-ROM drive and 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 Mainboard Software Setup screen.

Select using your pointing device (e.g. mouse) on the “Install Mainboard Software” bar to run into sub-menu.

The Mainboard FS58 Software include:

- [4.2.A] Install SIS AGP Driver
- [4.2.B] Install SIS IDE Driver
- [4.2.C] Install SIS VGA Driver
- [4.2.D] Install Realtek LAN Driver
- [4.2.E] Install Realtek Audio Driver
- [4.2.F] Install SIS USB2.0 Driver
- [4.2.G] Install DirectX9 Utility



---

## 4.2A Install SIS AGP Driver

Select using your pointing device (e.g. mouse) on the "Install SIS AGP Driver" bar to install the SIS AGP driver.

Once you made your selection, a Setup window run the installation automatically.

When the copying files is done, make sure you reboot the system to take the installation effect.



## 4.2.B Install SIS IDE Driver

Select using your pointing device (e.g. mouse) on the "Install SIS IDE Driver" bar to install the SIS IDE driver.

Once you made your selection, a Setup window run the installation automatically.

When the copying files is done, make sure you reboot the system to take the installation effect.





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## 4.2C Install SIS VGA Driver

Select using your pointing device (e.g. mouse) on the “Install SIS VGA Driver” bar to install the SIS VGA driver.

Once you made your selection, a Setup window run the installation automatically.

When the copying files is done, make sure you reboot the system to take the installation effect.



## 4.2.D Install Realtek LAN Driver

Select using your pointing device (e.g. mouse) on the “Install Realtek LAN Driver” bar to install Realtek LAN driver.

Once you made your selection, a Setup window run the installation automatically.

When the copying files is done, make sure you reboot the system to take the installation effect.



---

#### 4.2.F Install Realtek Audio Driver

Select using your pointing device (e.g. mouse) on the "Install Realtek Audio Driver" bar to install the Audio driver.

Once you made your selection, a Setup window run the installation automatically.

When the copying files is done, make sure you reboot the system to take the installation effect.



#### 4.2.D Install SiS USB2.0 Driver

Select using your pointing device (e.g. mouse) on the "Install SiS USB2.0 Driver" bar to install the SiS USB2.0 driver.

Once you made your selection, a Setup window run the installation automatically.

When the copying files is done, make sure you reboot the system to take the installation effect.



---

### 4.2.G Install DirectX9 Utility

Select using your pointing device (e.g. mouse) on the "Install DirectX9 Utility" bar to install DirectX9.

Once you made your selection, a Setup window run the installation automatically.

When the copying files is done, make sure you reboot the system to take the installation effect.



### 4.3 View the User's Manual

Insert the attached CD into your CD-ROM drive and 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 Mainboard Software Setup screen. Select using your pointing device (e.g. mouse) on the "Manual " bar. Then Online Information windows will appear on your screen. Click on the " Install Acrobat Reader " bar if you need to install acrobat reader. Then click on "FS58 Manual" bar to view FS58 user's manual.





# 5 BIOS SETUP

---

FS58 BIOS ROM has a built-in Setup program that allows users to modify the basic system configuration. This information is stored in battery-backed RAM so that it retains the Setup information even if the system power is turned off.

The system BIOS is managing and executing a variety of hardware related functions in the system, including:

- System date and time
- Hardware execution sequence
- Power management functions
- Allocation of system resources

## 5.1 Enter the BIOS

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

- Step 1. Power on the computer, and the system will perform its POST (Power-On Self Test) routine checks.
- Step 2. Press <Del> key immediately, or at the following message: Press DEL to enter SETUP", or simultaneously press <Ctrl>, <Alt>, <Esc> keys

Note 1. If you miss trains of words meationed 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.

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:

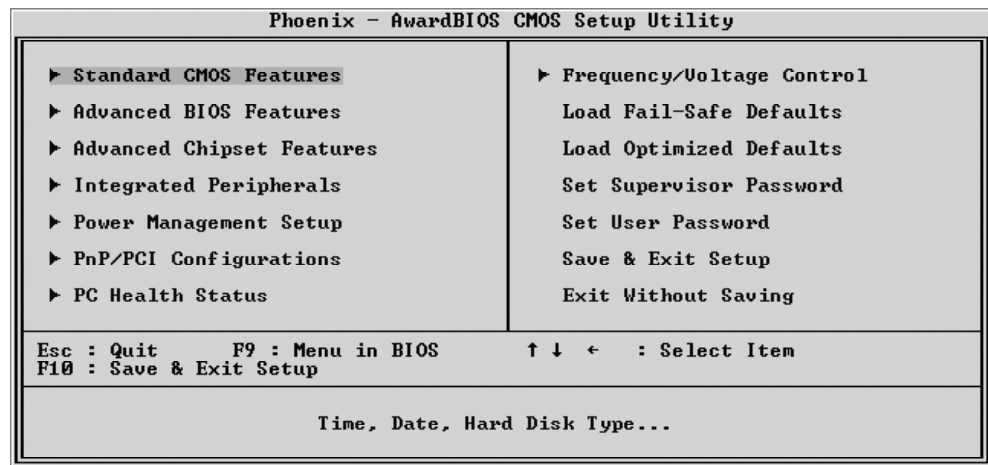
" Press F1 to Continue, DEL to Enter Setup "

- Step 3. As you enter the BIOS program, the CMOS Setup Utility will prompt you the Main Menu, as shown in the next section.

---

## 5.2 The Main Menu

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



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

### **Setup Items**

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

#### **Standard CMOS Features**

Use this menu for basic system configuration.

#### **Advanced BIOS Features**

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

#### **Advanced Chipset Features**

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

#### **Integrated Peripherals**

Use this menu to specify your settings for integrated peripherals.

#### **Power Management Setup**

Use this menu to specify your settings for power management.

#### **PnP / PCI Configurations**

This entry appears if your system supports PnP / PCI.

---

### ***PC Health Status***

This entry shows the current system temperature, Voltage, and FAN speed.

### ***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 performance 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.

It 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 Standard CMOS Setup Menu are divided into several categories. Each category includes no, 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>   | Thu, Aug 12 2004 | Item Help<br>Menu Level ▶<br>Change the day, month, year and century |
| Time <hh:mm:ss>   | 23 : 16 : 1      |  |
| ▶ IDE Channel 0 Master  | [ None ]         |  |
| ▶ IDE Channel 0 Slave   | [ None ]         |  |
| ▶ IDE Channel 1 Master  |                  |  |
| ▶ IDE Channel 1 Slave   |                  |  |
| Drive A   | [1.44M, 3.5 in.] |  |
| Video   | [EGA/UGA]        |  |
| Halt On   | [All Errors]     |  |
| Base Memory   | 640K             |  |
| Extended Memory   | 64512K           |  |
| Total Memory  | 65536K           |  |
| ↑↓:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help<br>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 0/1 Master/Slave

Options are in its sub-menu.

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

\*\*\*\*\*

### **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 0/1 Master/Slave

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

- The choice: None, Auto, or Manual.

#### Access Mode

Choose the access mode for this hard disk.

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

#### Capacity

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

- Auto-Display your disk drive size.

The following options are selectable only if the 'IDE Primary Master' item is set to 'Manual'

#### 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

\*\*\*\*\*

---

#### 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 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

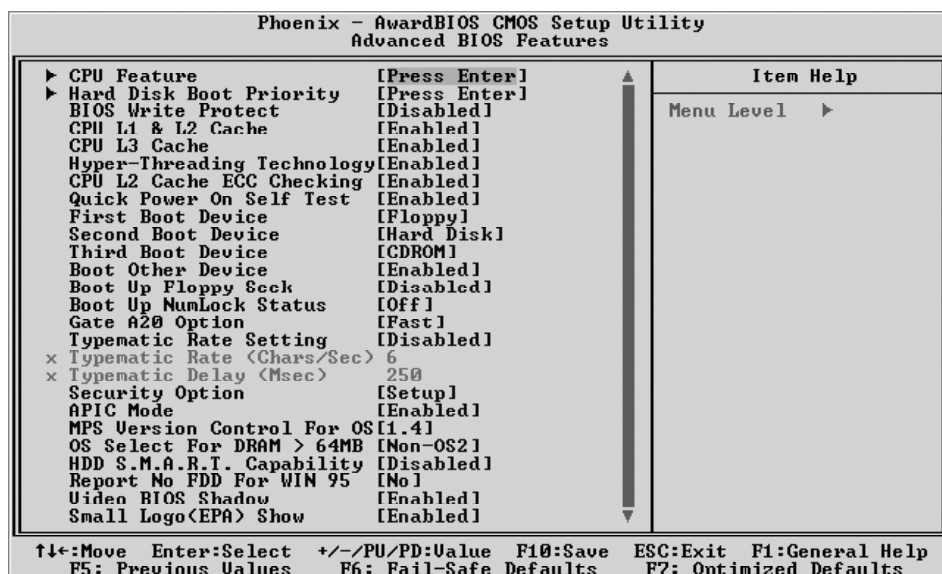
Displays the total memory available in the system.

- The choice: N/A.



## Advanced BIOS Features

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



### CPU Feature

Options are in its sub-menu.

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

### Thermal Management

Use these items to set the Thermal Management.

- The choice: Thermal Monitor 1 or Thermal Monitor 2.

### TM2 Bus Ratio

Represents the frequency (bus ratio) of the throttled performance state that will be initiated when the on-die sensor goes from not hot to hot. Use these items to set the TM2 Bus Ratio.

- Min = 0, Max = 255

### TM2 Bus VID

Represents the voltage of the throttled performance state that will be initiated when the on-die sensor goes from not hot to hot. Use these items to set the TM2 Bus VID. This feature ranges from 0.8375V to 1.6000V, in an increment of 0.0125V.

- The choice: 0.8375V ~ 1.6000V.

---

#### Limit CPUID MaxVal

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

- The choice: Disabled or Enabled.

#### NX BIOS Control

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

- The choice: Disabled or Enabled.

#### Hard Disk Boot Priority

This item allows you to select Hard Disk Boot 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 level 1 (L1), external 2 (L2) cache memory and (L3) to improve performance. Leave this item at the default value for better performance.

- The choice: Enabled or Disabled.

#### Hyper-Threading Technology

The latest Intel application defines a high-speed calculating ability to optimize your system by two CPUs supported (one virtual, one physical) in a multi-task environment.

- The choice: Enabled, or Disabled.

#### CPU L2 Cache ECC Checking

When you select Enabled, memory checking is enabled when the CPU internal L2 cache contains ECC SRAMs.

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



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#### 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.

- The choice: Enabled or Disabled.

#### Boot Up NumLock Status

Selects power-on state for NumLock.

- The choice: Off or On.

#### Gate A20 Option

This item defines how the system handles legacy software that was written for an earlier generation of processors. Leave this item at the default value.

- The choice: Normal or Fast.

#### 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 repeated 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.

#### 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

#### OS Select For DRAM > 64MB

Selects the operating system that is running with greater than 64MB of RAM in the system.

- The choice: Non-OS2 or OS2.

#### HDD S.M.A.R.T. Capabiliry

This item enable/disable the HDD system management function.

- The choice: Enabled or Disabled.

#### Report No FDD For Win 95

Whether report no FDD runs for Win 95 or not.

- The choice: Yes or No.

#### 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.

#### Small Logo(EPA) Show

This item allows you to enable/disable the EPA Logo.

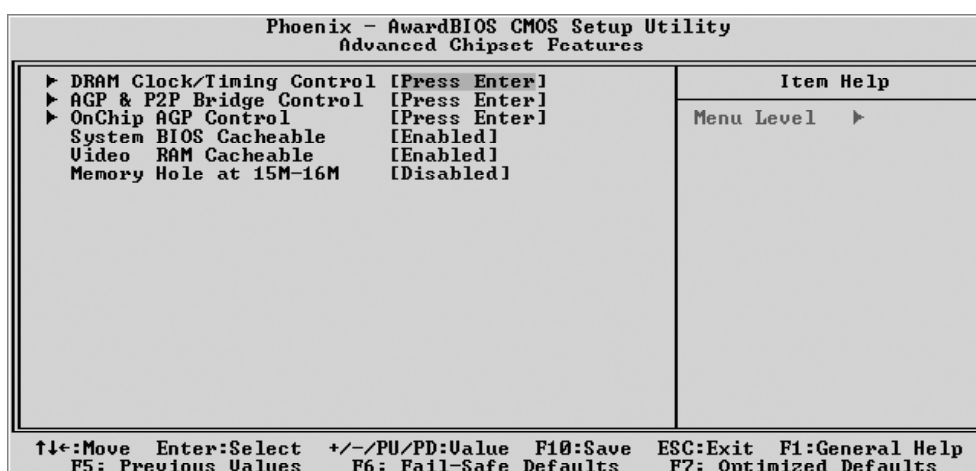
- The choice: Enabled or Disabled.



## Advanced Chipset Features

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

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



### DRAM 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.

#### Graphics Engin Clock

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

- The Choice: 100 MHz, 133 MHz, 166 MHz or 200 MHz.

---

### 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 system error may result.

➤ The Choice: Enabled or Disabled.

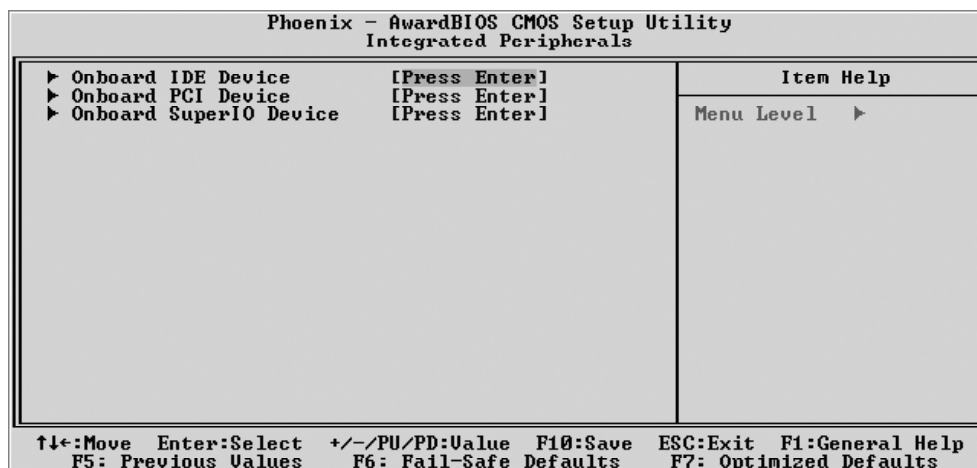
### Memory Hole at 15M-16M

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

➤ The Choice: Enabled or Disabled.



## ***Integrated Peripherals***



### 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 an internal PCI IDE interface with support for two IDE channels.

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

### IDE Primary/Secondary Master/Slave PIO

The four IDE PIO (Programmed Input/Output) fields let you set a PIO mode (0-4) for each of the four IDE devices that the onboard IDE interface supports. Modes 0 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/Secondary 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.

---

#### IDE DMA transfer access

Improve IDE HD/CDROM transfer performance.

- The choice: Enabled or Disabled.

#### IDE Burst Mode

Selecting Enabled reduces latency between each drive read/write cycle, but may cause instability in IDE subsystems that cannot support such fast performance. If you are getting disk drive errors, try setting this value to Disabled. This field does not appear when the Internal PCI/IDE field, above, is Disabled.

- The choice: Enabled or Disabled.

#### 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.

#### 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.

#### USB Keyboard Support

This item is used to defined USB Keyboard id Enabled or Disabled.

- The Choice: Enabled or Disabled.

#### SiS AC97 Audio

This item allows you to control the onboard AC97 Audio.

- The Choice: Enabled or Disabled.

#### Onboard LAN Boot ROM

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

- The choice: Enabled or Disabled.

---

### Init Display First

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

- The choice: PCI Slot or AGP/Onboard.

### 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.

### UART Mode Select

This item allows you to select which mode for the Onboard Serial Port.

- The choice: Normal, IrDA, ASKIR or SCR.

### UR2 Duplex Mode

This item allows you to select the IR half or full duplex function.

- The choice: Full or Half.

### Onboard Parallel Port

This item allows you to determine onbaord parallel 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.





## Power Management Setup

| Phoenix - AwardBIOS CMOS Setup Utility |                    |              |
|--|--------------------|--------------|
| Power Management Setup                 |                    |              |
| ACPI function                          | Enabled            | Item Help    |
| ACPI Suspend Type                      | [S1(POS)]          |              |
| 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]      |              |
| Delay Prior to Thermal                 | [None]             |              |

↑↓: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), 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.

#### USB Port Wake Up Control

This item enable/disable the USB wakeup function.

➤ 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.

#### 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.



## PnP/PCI Configurations

| Phoenix - AwardBIOS CMOS Setup Utility  |               |   |
|---|---------------|---|
| PnP/PCI Configurations  |               |   |
| Reset Configuration Data  | [Disabled]    | Item Help   |
| Resources Controlled By   | [Auto(ESCD)]  | Menu Level ▶<br><br>Default is Disabled.<br>Select Enabled to<br>reset Extended System<br>Configuration Data<br>ESCD> when you exit<br>Setup if you have<br>installed a new add-on<br>and the system<br>reconfiguration has<br>caused such a serious<br>conflict that the OS<br>cannot boot |
| ▶ IRQ Resources   | [Press Enter] |   |
| PCI/VGA Palette Snoop   | [Disabled]    |   |
| ↑↓:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help<br>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

## CPU Fan Speed Control

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

| Choice         | Cpu Temp       | Fan Speed    |
|----------------|----------------|--------------|
| <Ultra><br>Low | ↑75°C<br>↓75°C | Full<br><U>L |
| Mid            | ↑75°C<br>↓75°C | Full<br>Mid  |
| Full           | always Full    |              |

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

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---

### CPU Temp Tag

Enabled 3 phase smart control to the Selected fan. This feature ranges from 25 °C to 75 °C, in an increment of 1°C.

The default temperature is at 60°C.

➤ The choice: 25 °C ~ 75 °C.

| Current CPU<br>Temp Over<br>CPU Temp Tag | Fan<br>Speed<br>(rpm) |
|--|-----------------------|
| OVER 0 °C                                | 950                   |
| 1 °C                                     | 1050                  |
| 2 °C                                     | 1150                  |
| 3 °C                                     | 1250                  |
| 4 °C                                     | 1450                  |
| 5 °C                                     | 1550                  |
| 6 °C                                     | 1650                  |
| 7 °C                                     | 1800                  |
| 8 °C                                     | 1950                  |
| 9 °C                                     | 2100                  |
| 10 °C                                    | 2200                  |
| 11 °C                                    | 2300                  |
| :  | :                     |
| :  | :                     |

Smart Fan : base on  
Cpu Temp dynamic  
adjust Fan Speed.  
When CPU Temp over  
75 °C, fan speed full.

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

Fan 3 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]  | Menu Level ▶ |
| ZClk/Agp/Pci Clock Async.  | [Disabled] |              |
| Spread Spectrum  | [Enable]   |              |
| ***** Voltage Control *****  |            |              |
| CPU Voltage Select   | [Auto]     |              |
| RAM Voltage Select   | [Auto]     |              |
| AGP Voltage Select   | [Auto]     |              |
| ChipSet Voltage Select   | [Auto]     |              |
| ***** Clock Control *****  |            |              |
| CPU Clock by SW  | [Disabled] |              |
| x CPU Clock  | 133        |              |
| CPU:DRAM Frequency Ratio   | [SPD]      |              |
| 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.

### ZClk/Agp/Pci Clock Async

This item allows you to enable/disable ZClk/Agp/Pci Clock Async.

- The choice: Enabled, or Disabled.

### Spread Spectrum

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

- The choice: Enabled, or Disabled.

### \*\*\*\*\* Voltage Control \*\*\*\*\*

### CPU Voltage Select

This item allows you to select CPU Voltage.

- The choice: Auto, 0.8375 V ~ 1.6000V

Note : CPU VCore above 1.85V item need to be selected, save and quit BIOS, before you adjust CPU Vcore over 1.85V.

---

#### RAM Voltage Select

This item allows you to select RAM Voltage.

- The choice: Auto, 2.60V, 2.65V or 2.70V

#### AGP Voltage Select

This item allows you to select AGP Voltage.

- The choice: Auto, 1.55V, 1.60V or 1.70V.

#### Chipset Voltage Select

This item allows you to select Chipset Voltage.

- The choice: Auto, 2.00V

\*\*\*\*\* Clock Control \*\*\*\*\*

#### CPU Clock by SW

This item allows you to enable/disable CPU Clock by SW.

- The choice: Enabled or Disabled.

#### CPU Clock

This item allows the user to adjust CPU Host Clock.

Min: 100

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 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/Voltage Control    |
| ▶ Advanced BIOS Features    | Load Fail-Safe Defaults        |
| ▶ Advanced Chipset Features | Load Optimized Defaults        |
| ▶ Integrated Peripherals    | <b>Set Supervisor Password</b> |
| ▶ Power Management Setup    | Set User Password              |
| ▶ PnP/PCI Configurati       | t Setup                        |
| ▶ PC Health Status          | ut Saving                      |

Enter Password:

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:

If you want to disable the password, just press <Enter> as a password input is requested.

#### If You Forget Password:

If you forget the password, the only way to access the system is to clear the CMOS memory. Please refer to page 30  on clear CMOS setting.

### **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.