

**FB61**

**Pentium 4/Celeron, 478-pin Processor  
Based MAINBOARD**

*User's Manual*

# Shuttle® FB61

## Pentium 4/Celeron, 478-pin Processor Based Mainboard Manual Version 1.1

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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: FB61

S/N: N/A

CPU:

External Frequency: 100 MHz

Intel P4 1.8/2.0/2.2/2.4/2.5 GHz

External Frequency: 133 MHz

Intel P4 2.26/2.4/2.53/2.66/2.80/3.06 GHz

External Frequency: 200 MHz

Intel P4 XP 2.4/2.6/2.8/3.0/3.2 GHz

VGA Port: one port with 15 pins

Serial Port: one port with 9 pins

1394 Port: one port with 6 pins

LAN Port: one port with 8 pins

USB 2.0 Port: four ports with 4 pins respectively

Mouse Port: one port with 6 pins

Keyboard Port: one port with 6 pins

Line-Out & Line-In & Mic-In Ports: one port for each

DDR Memory : 256 MB \*2

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	Case Open/Closed
1	133 MHz	Pentium 4 3.06 GHz	Closed
2	133 MHz	Pentium 4 3.06 GHz	Open
3	100 MHz	Pentium 4 2.4 GHz	Closed
4	100 MHz	Pentium 4 2.4 GHz	Open
5	200 MHz	Pentium 4 3.2 GHz	Closed
6	200 MHz	Pentium 4 3.2 GHz	Open

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

Remedy: N/A

EMI Interference:

Crystal: 32.768 KHz (X1)/ 14.318 MHz (X2)/ 25 MHz (X4)/ 24.576 MHz(X6)

Clock Generator: U5

(D) Supported Host Peripherals:

Host Peripheral	Product Name	Model Name
#1	Case	FB61
#2	Power Supply (250w)	PC40N250EV
#3	IBM HDD (30.7 GB)	91024UB
#4	MITSUMI FDD	D353M
#5	SONY VCD Player	CDU4811
#6	POWER CABLE	Detachable and Shielded
#7	AGP CARD	Winfast Geforce 2 MX

(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" or 3.5" FDD and screws are fastened to an EMI shielding.
7. Make sure a case is closely in contact with EMI connected points.
8. Make sure there is no cleft in a case which is not deformed.
9. Make sure a PCI or AGP door is bound to a case.
10. Make sure cables of other devices (fans or some others) are fixed in a case.

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## About This Manual

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For System Integrator .....	Page 6

# 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 FB61 mainboard.

### **Experienced DIY User**

Congratulate on your purchase of the Shuttle FB61 mainboard. You will find that installing your new Shuttle FB61 mainboard is just easy. Bundled with an array of onboard functions, the highly-integrated FB61 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**

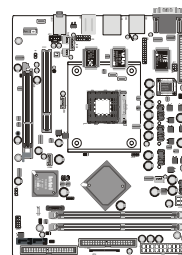
You have wisely chosen Shuttle FB61 to construct your system. Shuttle FB61 incorporates all the state-of-the-art technology of the 82865G + 82801EB chipset from Intel. It integrates the most advanced functions you can find to date in a compact Shuttle Form Factor ATX board.

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## 1.2 Item Checklist

Check all items with your FB61 mainboard to make sure nothing is missing.  
The complete package should include:

- ✴ One piece of Shuttle FB61 Mainboard



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



- ✴ One piece of Floppy Ribbon Cable



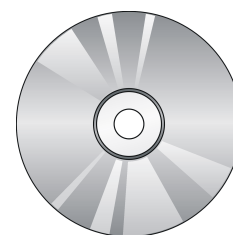
- ✴ One piece of Serial ATA Cable



- ✴ FB61 User's Manual



- ✴ One piece of Bundled CD-ROM with containing:
  - FB61 user's manual saved in PDF format
  - Install Intel Chipset driver
  - Install VGA Device driver
  - Install Realtek Audio driver
  - Install Realtek LAN driver
  - Install USB2.0 driver
  - Award Flashing Utility



# 2 FEATURES

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FB61 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 Pentium 4/Celeron, 478-pin supports both Northwood and Prescott processors with 400/533/800MHz FSB.  
Willamette not support.

### ★ Chipset : Springdale-G + ICH5 (Intel 82865G + 82801EB)

Features Intel 82865G N.B. and 82801EB S.B..  
Onboard Lan  
Realtek 8100C, supports 10/100 Mbps operation.  
Onboard 1394a  
VIA VT6307, supports 400Mb/s, 200Mb/s or 100Mb/s data transfer rate.

### ★ Jumperless CPU Configuration

Soft-configuration FSB (The FSB speed is software configurable from 100MHz to 255MHz in the Frequency/Voltage Control of BIOS setup program.)

### ★ On Board 5.1 Channel AC97 Audio

ALC650 compliant with AC'97 2.2 involves SPDIF-IN/OUT function.  
5.1 channel slot selectable DAC Output for multi-channel applications.

### ★ Versatile Memory Support

Features the dual-channel mode of 128 bit data transfer rate.  
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 support 4X/8X AGP device.

### ★ PCI Expansion Slot

PCI 2.3 specification compliance.  
Provides one 32-bit PCI slot, RTL8100c 10/100Mbps Lan and VT6307 IEEE 1394 firewire on board.

### ★ 8 USB 2.0/1.1 Complaint Interface Onboard

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

---

## ★ I/O Interface

Provides a variety of I/O interfaces:

- 1 x Floppy interface for 3.5-inch FDD with 720KB, 1.44MB or 2.88MB format or for 5.25-inch FDD with 360K or 1.2MB format.
- 1 x DB9 Serial connector.
- 1 x VGA connector.
- 4 x USB2.0 ports.
- 1 x IEEE1394a connectors.
- 1 x RJ45 LAN connector.
- 1 x PS/2 mouse connector.
- 1 x PS/2 Keyboard connector.
- 1 x Front-Out port.
- 1 x Rear-Out port.
- 1 x Bass/Center-Out port.

## ★ PCI Bus Master IDE Controller Onboard

Two Ultra DMA 100/66/33 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 100/66/33 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/SATA Power Supply Connector

ATX/SATA power supply unit (250W) can connect 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).

## **\* Form Factor**

System board conforms to Shuttle Form Factor (SFF) 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.

## **\* Intelligent Features**

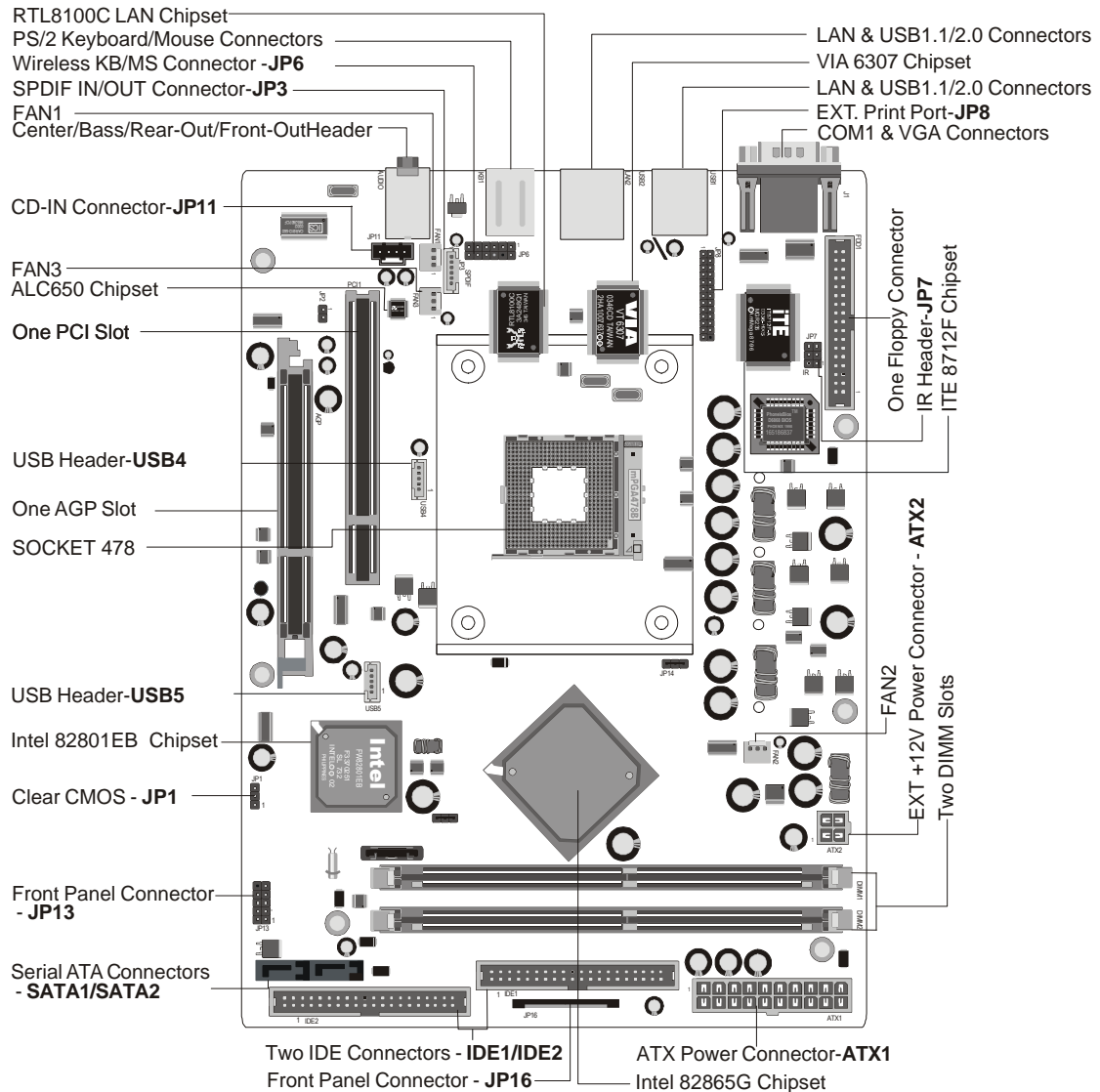
- Voltage Monitoring-Monitors various voltages of key elements, such as the CPU and other critical system voltage levels to ensure stable current passing through mainboard components.
- Fan Status Monitoring-To prevent CPU from overheating, the CPU fan is monitored for RPM and failure. (CPU Cooling FAN 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 and 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 FB61



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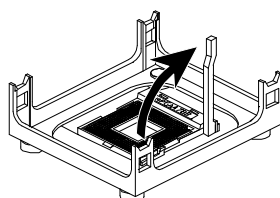
## Step 1

### CPU Installation:

This mainboard supports Intel Pentium 4/Celeron Socket 478 series CPU. Please follow the steps as follows to finish CPU installation.

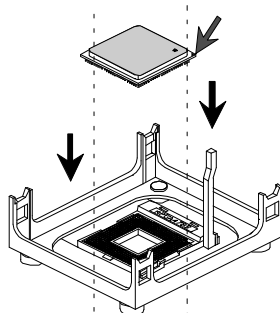
Note the CPU orientation when you plug it into CPU socket.

1. Pull up the CPU socket lever to 90-degree angle.



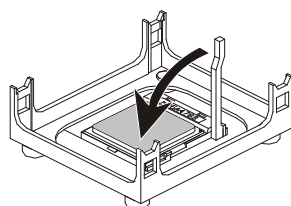
**CPU socket lever up to 90-degree angle**

2. Locate Pin 1 in the socket and look for a black dot or cut edge on the CPU upper interface. Match Pin 1 and cut edge, and insert the CPU into the socket.



**CPU Pin 1 and cut edge**

3. Press down the CPU socket lever and finish CPU installation.



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

4. Intel Pentium 4/Celeron processors require a set of heatsink and fan to cool down the processor. You need to purchase a heatsink and fan if they are not bundled with your CPU. Required is that install the set and plug its cable in the CPU fan power connector. Note that there are kinds of CPU fan connectors. Normally, if your mainboard supports a hardware monitoring function, a 3-pin fan power connector can have your system detect the CPU fan's speed. A CPU fan with a 2-pin or 4-pin fan power connector does not support the detection of the CPU fan's speed, and must directly be connected to the system's power supply unit.



---

## 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

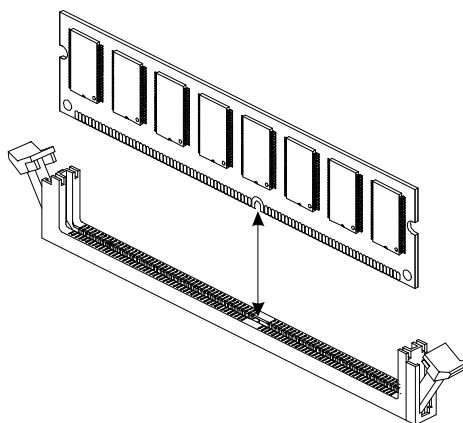
For first-time DIY system builders, we recommend that you do not change the default jumper settings if you are not totally familiar with the mainboard configuration procedures. The factory-set default settings are tuned for optimum system performance. For the advanced users who wish to customize their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

## 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.

#### DDR SDRAM



---

## **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:

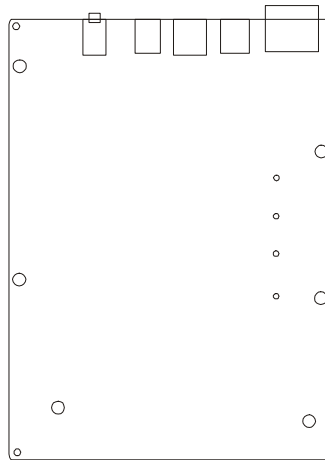
1. Set the required jumpers on each device according to the instructions provided by the manufacturer. (IDE devices, HDD and CD-ROM, have to set jumpers to Master or Slave mode depending on whether you install more than one device of each kind.)
2. Connect IDE cable and FDD cable on the back-panel of 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.

---

## 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 back-panel of the mainboard in a close fit with your system case, as shown below.



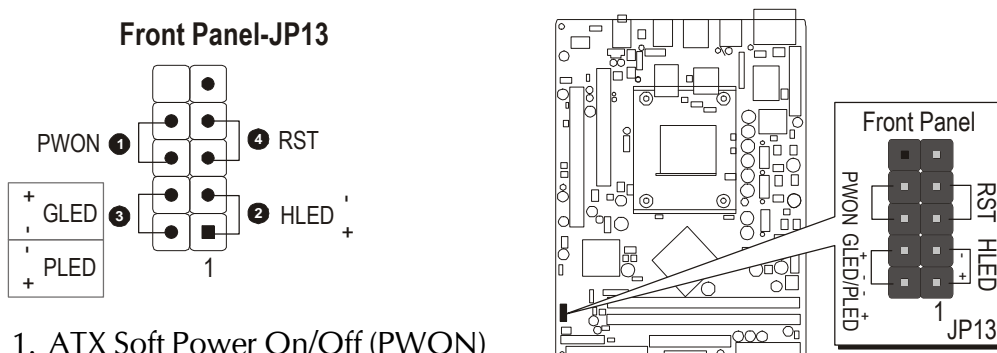
2. After deciding on the proper mounting holes, position the studs between the frame of the chassis and the mainboard. The studs are used to fix the mainboard and to keep a certain distance between the system's chassis and the mainboard, in order to avoid any electrical shorts between the board and the 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

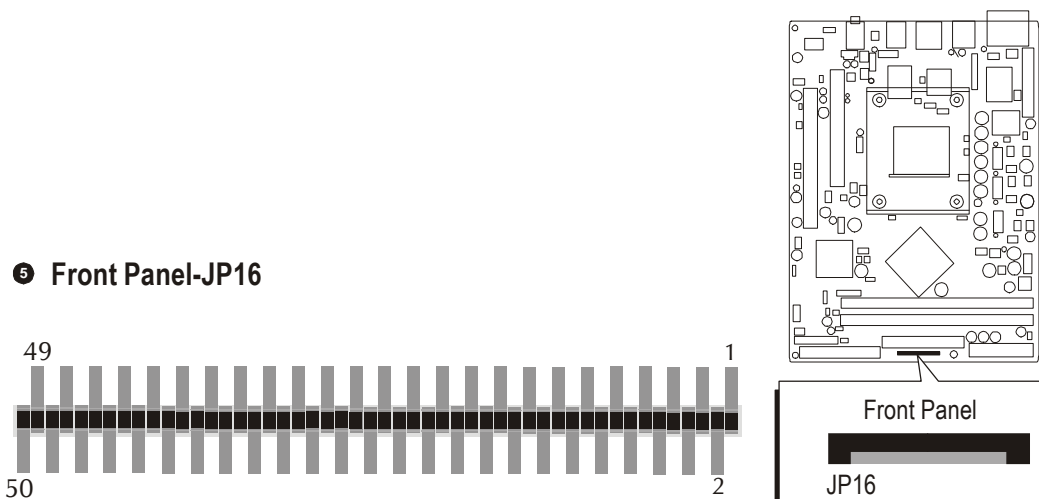
You can find there are several different cables already existing in the system case and originating from the computer's front-panel devices (HDD LED, Power LED or Reset Switch devices etc.) These cables serve to connect the front-panel switches and LEDs connectors to the mainboard's front-panel connectors 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)

### Connect Front Panel USB/MIC/Line-out/Line-in/1394

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

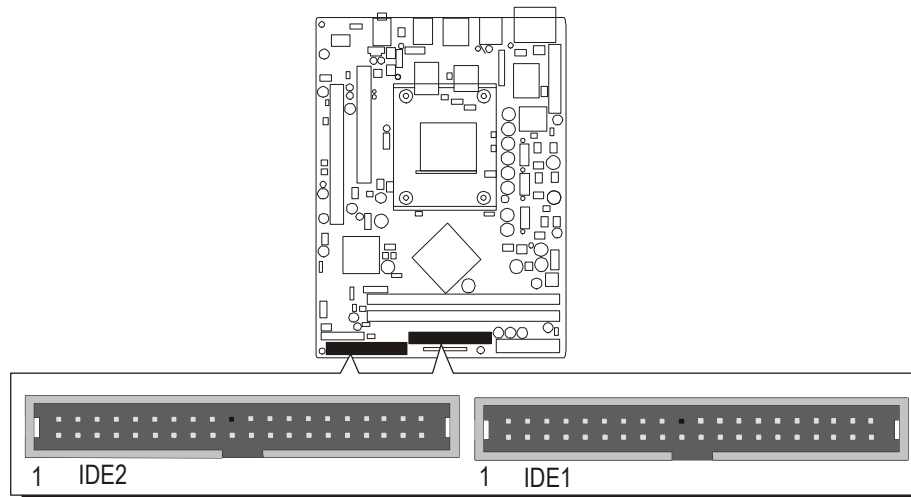


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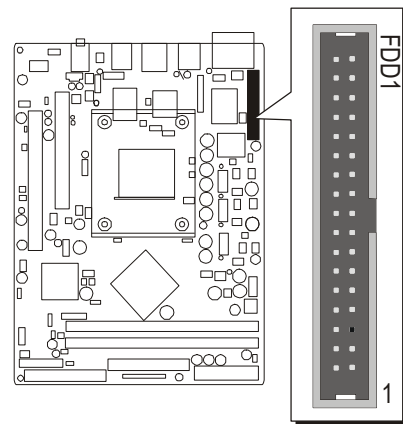
## Step 7

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

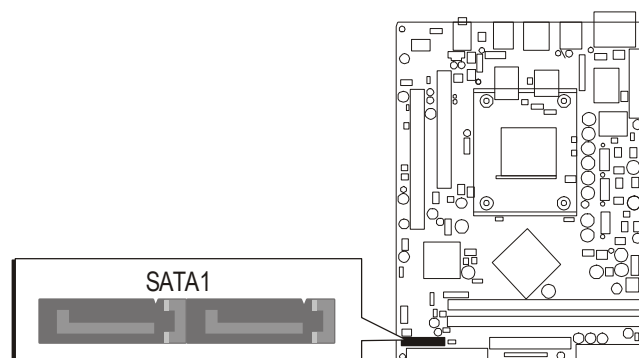
#### 1. IDE cable Connectors



#### 2. Floppy Cable Connector



#### 3. Serial ATA Connector

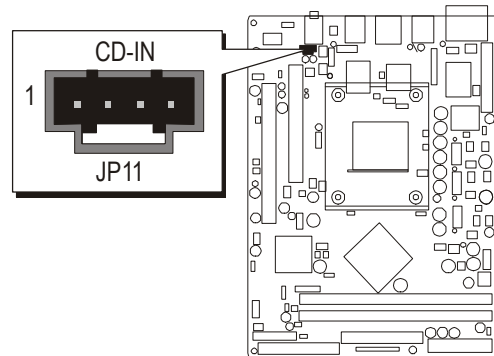


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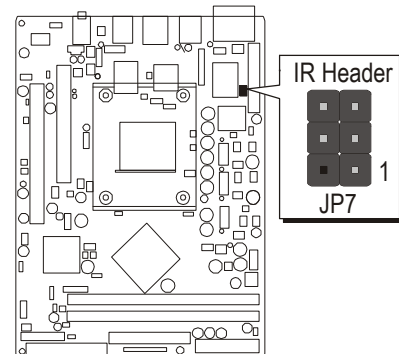
## Step 8

### Connect Other Internal Peripherals

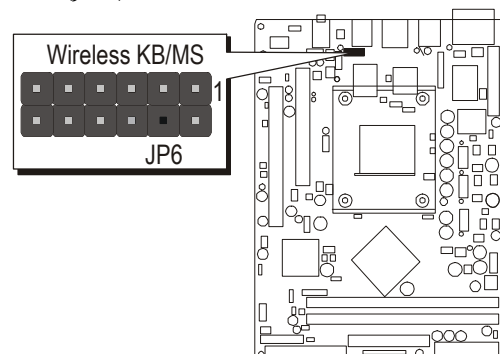
#### 1. CD-IN Header (JP11)



#### 2. IR Header (JP7)

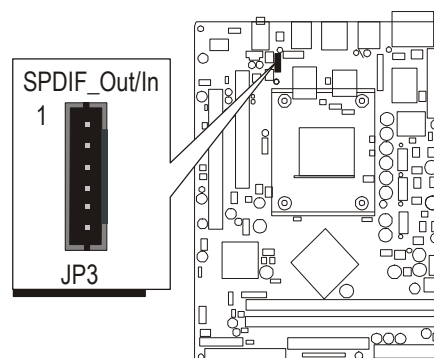


#### 3. Wireless Keyboard and Mouse Headers (JP6)

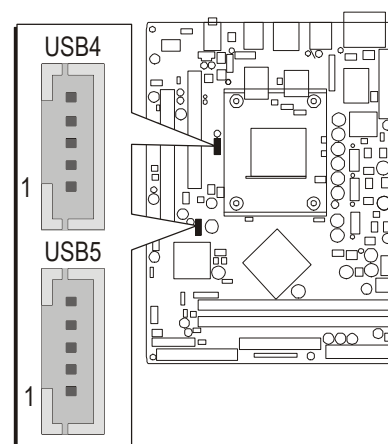


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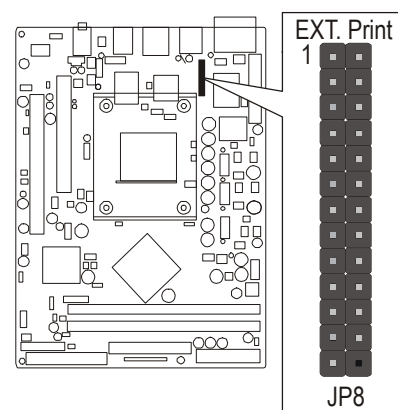
4. SPDIF\_Out/In Header (JP3)



5. Dual USB Header (USB4 / USB5)



6. Parallel Port (EXT. Print) - (JP8)

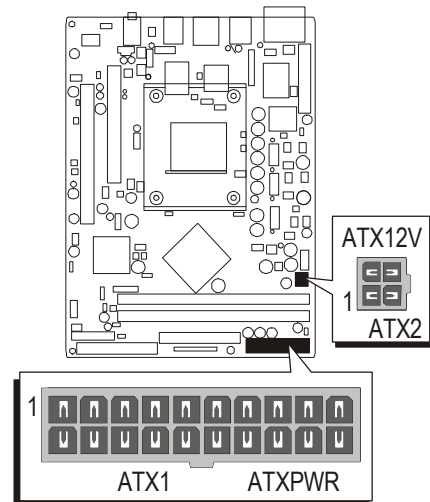


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## Step 9

### Connect the Power Supply

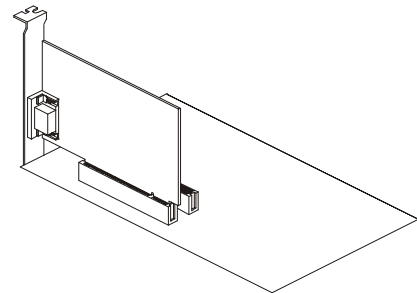
1. System Power Connectors (ATX1/ATX2)



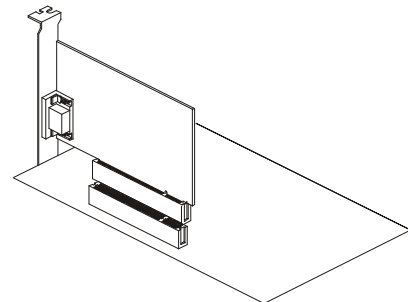
## Step 10

### Install Add-on Cards in Expansion Slots

1. Accelerated Graphics Port (AGP) Card



2. PCI Card



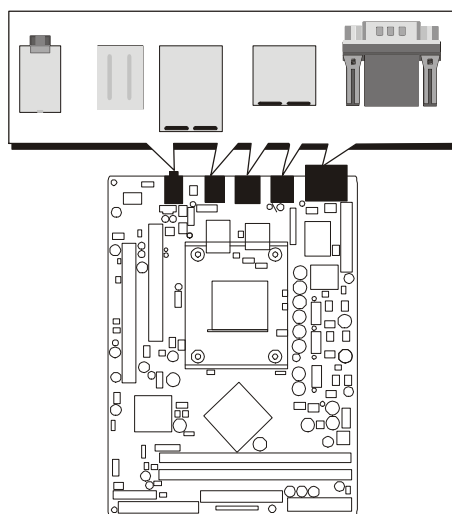


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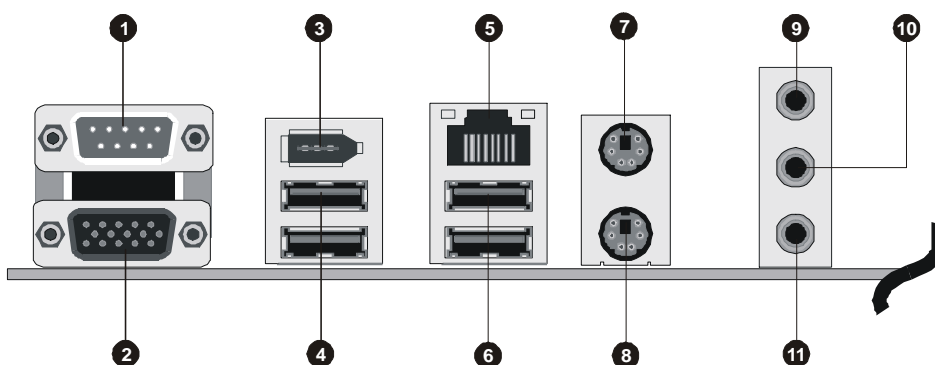
## Step 11

### 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. COM1 Port
2. VGA Port
3. 1394a Port
4. USB 0/1 Ports
5. LAN Port
6. USB 2/3 Ports
7. PS/2 Mouse
8. PS/2 Keyboard
9. Audio Bass/Center-Out Port
10. Audio Rear-Out Port
11. Audio Front-Out Port



---

## 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 FB61 bundled CD-ROM into your CD-ROM drive. The autorun program will display the drivers main installation window on screen.
2. Choose "Install Intel Chipset Driver" and complete it.
3. Choose "Install VGA Device Driver" and complete it.
4. Choose "Install Realtek Audio Driver" and complete it.
5. Choose "Install Realtek LAN Driver" and complete it.
6. Choose "Install USB2.0 Driver" and complete it.
7. 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 mini jumpers to connect jumper pins on the mainboard. Pin #1 could be located at any corner of each jumper, you just find the location with a white right angle which stands for pin 1#. There are several types of pin 1# shown as below:

3-pin and multi (> 3) pin jumpers shown as following:

Pin #1 to the left:



Pin #1 on the top:





Pin #1 to the right:



Pin #1 on the bottom:



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

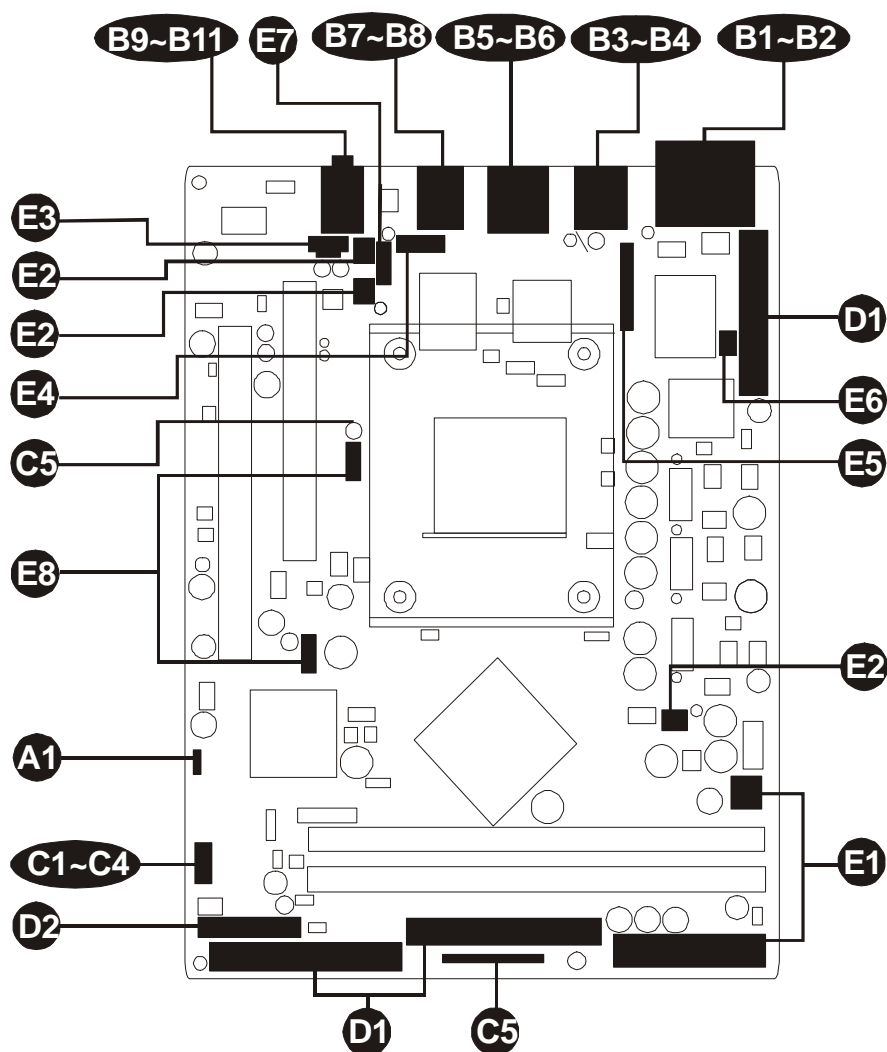
### Caution!

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 top of its original packaging film, 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.

---

## 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:



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

Socket 478	: CPU Socket for Pentium 4/Celeron processors
DIMM 1/2	: Two 184-pin DIMM Slots for 128, 256, 512 MB (The total installed memory does not exceed 2GB)
AGP	: One AGP 4X/8X Slot
PCI	: One 32-bit PCI Expansion Slot

---

### ***Jumpers***

- A1** JP1 : Clear CMOS setting

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

- B1** COM1 : Serial port (DB9 male)  
**B2** VGA : VGA port (DB15 female)  
**B3** 1394a : 1394a Port  
**B4** USB 0/1 : 2 x USB 2.0/1.1 (0/1) (Universal Serial Bus) ports  
**B5** LAN : 10/100 base-T LAN Port  
**B6** USB 2/3 : 2 x USB 2.0/1.1 (2/3) (Universal Serial Bus) ports  
**B7** MS : PS/2 mouse Port  
KB : PS/2 keyboard Port  
**B8** BASS/CENTER : Audio Bass/Center-Out Port  
**B9** Rear-OUT : Audio Rear-Out Port  
**B10** Front-OUT : Audio Front-Out Port

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

- C1** PWON : ATX power on/off momentary type switch  
**C2** HLED : IDE drive active LED  
**C3** GLED/PLED : Green LED (ON when system stays in power saving mode) / System power LED  
**C4** RST : Hardware reset switch  
**C5** JP16 : Front Panel Header

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

- D1** FDD1 : Floppy disk drive interface  
**D1** IDE1 : IDE primary interface (Dual-channel)  
**D1** IDE2 : IDE secondary interface (Dual-channel)  
**D2** SATA : Serial ATA Connectors

### ***Other Connectors***

- E1** ATX1/ATX2 : ATX/ATX + 12V power connectors  
**E2** FAN1/2/3 : CPU/System/Chipset fan connectors  
**E3** JP11 : Audio CD\_IN connector  
**E4** JP6 : Wireless Keyboard and Mouse connector

---

<b>E5</b>	JP8	: Ext. Print Port
<b>E6</b>	JP7	: IR Header
<b>E7</b>	JP3	: SPDIF In/Out Port
<b>E8</b>	USB4 / USB5	: USB Headers

## **Jumpers**

### **A1 Clear CMOS Setting (JP1)**

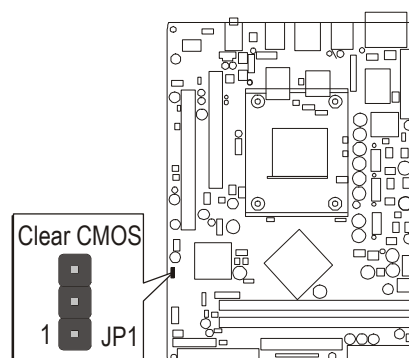
JP1 is used to clear CMOS data. Clearing CMOS will result in the permanently erasing previous system configuration settings and the restoring original (factory-set) system settings.



Pin 1-2 (Default)



Pin 2-3 (Clear CMOS)



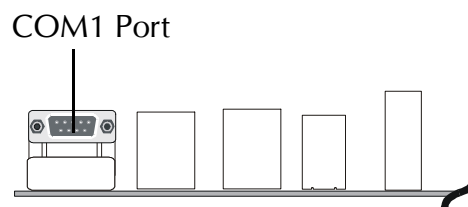
- Step 1. Turn off the system power (PC-> Off).
  - Step 2. Remove ATX Power cable from ATX Power connector.
  - Step 3. Remove jumper cap from JP1 pins 1-2.
  - Step 4. Place the jumper cap on JP1 pin 2-3 for a few seconds.
  - Step 5. Return the jumper cap to pin 1-2.
  - Step 6. Plug ATX Power cable into ATX Power connector.
  - Step 7. Turn on the system power (PC-> On).

---

## **Back-Panel Connectors**

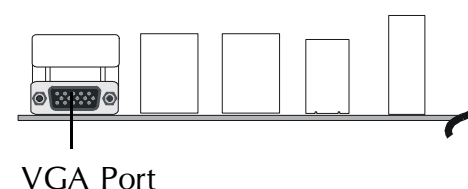
### **B1 COM1 Port Connector**

This mainboard can accommodate two serial device on COM1.  
Attach a serial device cable to the DB9 serial port COM1 at the back-panel of your computer.



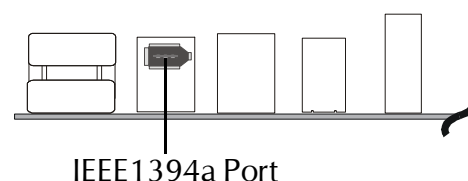
### **B2 VGA Connector**

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



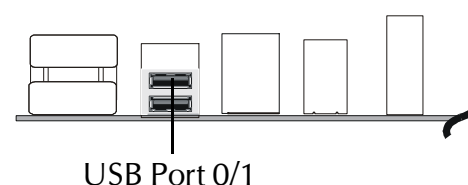
### **B3 IEEE 1394a Port Connector**

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



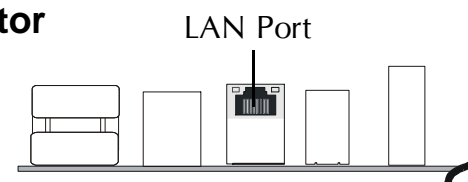
### **B4 USB Port 0/1 Connectors**

Two female connectors USB0/USB1 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 connector.



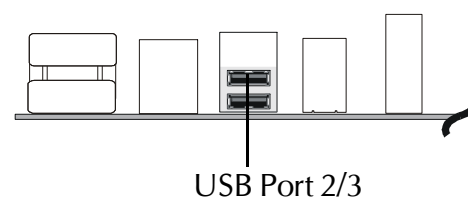
### **B5 10/100 base-T LAN Port Connector**

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



### **B6 USB Port 2/3 Connectors**

Two female connectors USB2/USB3 share the same USB (Universal Serial Bus) bracket at the rear panel of your mainboard. Plug each USB device jack into an available USB2/USB3 connector.

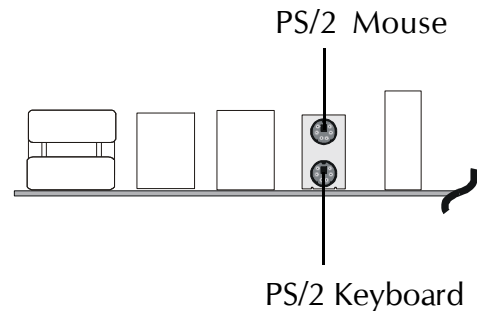




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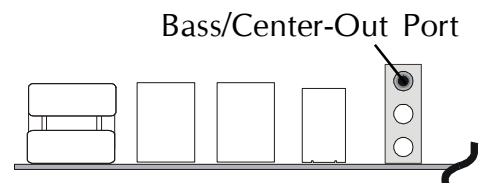
## **B7 PS/2 Keyboard & PS/2 Mouse Connectors**

Two 6-pin female PS/2 keyboard & Mouse connectors are located at the rear panel of the mainboard. Depending on the computer housing you use (desktop or tower), the PS/2 Mouse connector is situated at the top of the PS/2 Keyboard connector when the mainboard is laid into a desktop, as opposed to a tower where the PS/2 Mouse connector is located at the right of the PS/2 Keyboard's. Plug the PS/2 keyboard and mouse jacks into their corresponding connectors.



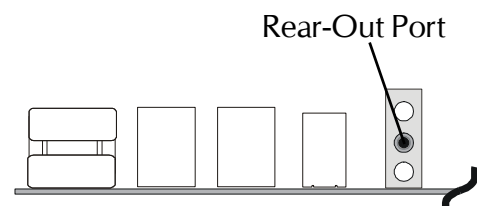
## **B8 Bass/Center-Out Port Connector**

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.



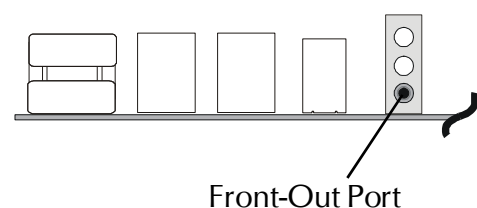
## **B9 Rear-Out Port Connector**

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.



## **B10 Front-Out Port Connector**

Line-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.

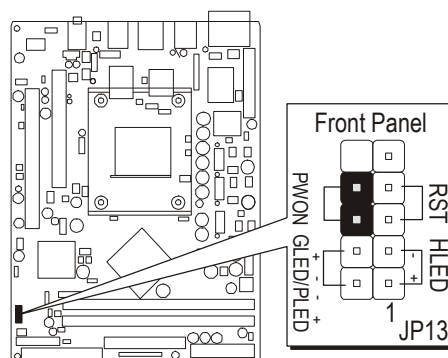


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## **Front-Panel Connectors**

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

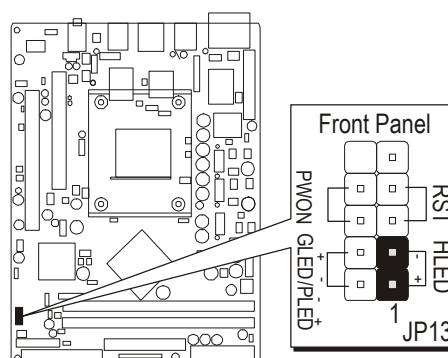
The Power On/Off Switch is a momentary type switch used for turning on or off the system ATX power supply. Attach the connector cable from the Power Switch to the 2-pin (PWON) header on the mainboard.



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.

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

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



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### ③ Green LED / Power LED Connector (GLED/PLED)

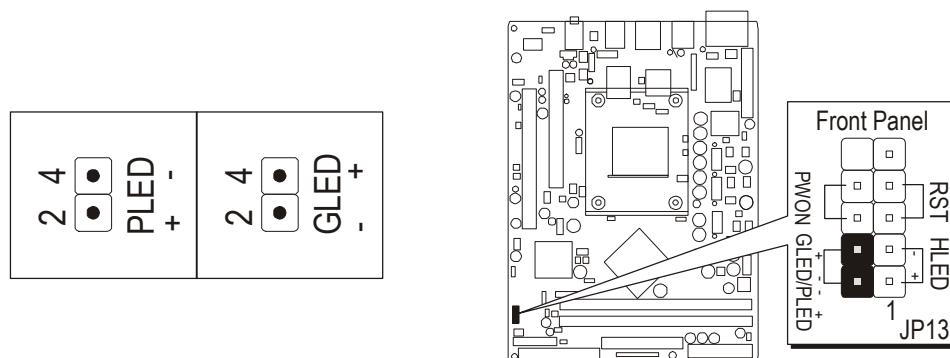
This header is dual color LED function.

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.

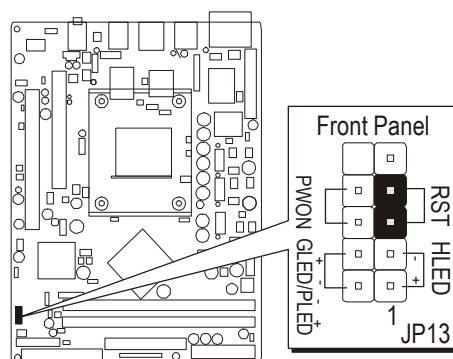
This Power LED will go off during power saving mode.

Attach a 2-pin Green LED/Power LED cable to (GLED/PLED) header.



### ④ Hardware Reset Connector (RST)

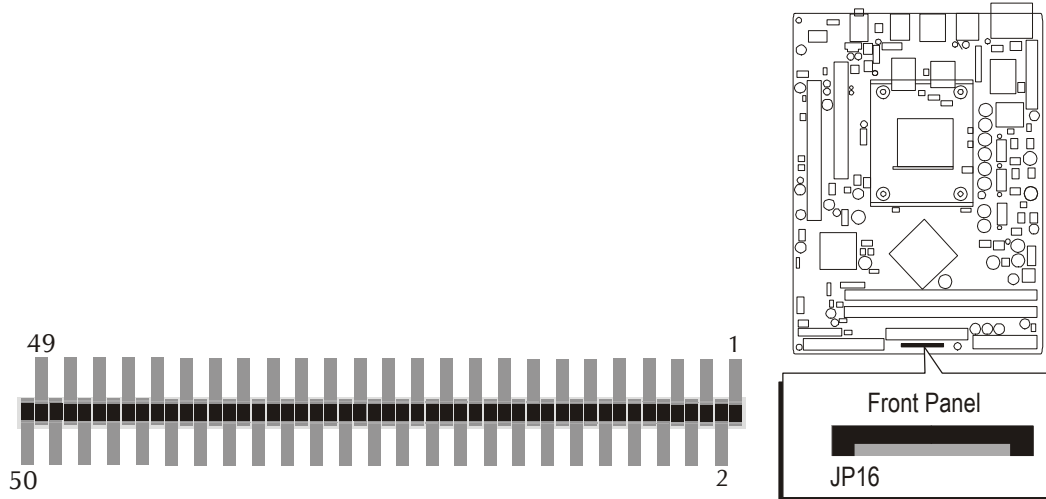
Attach the 2-pin hardware reset switch cable to the (RST) header. Pressing the reset switch causes the system to restart.



---

## ⑤ Front Panel Connector (JP16)

Port JP16 can be used to connect special device.



### Pin Assignments:

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**

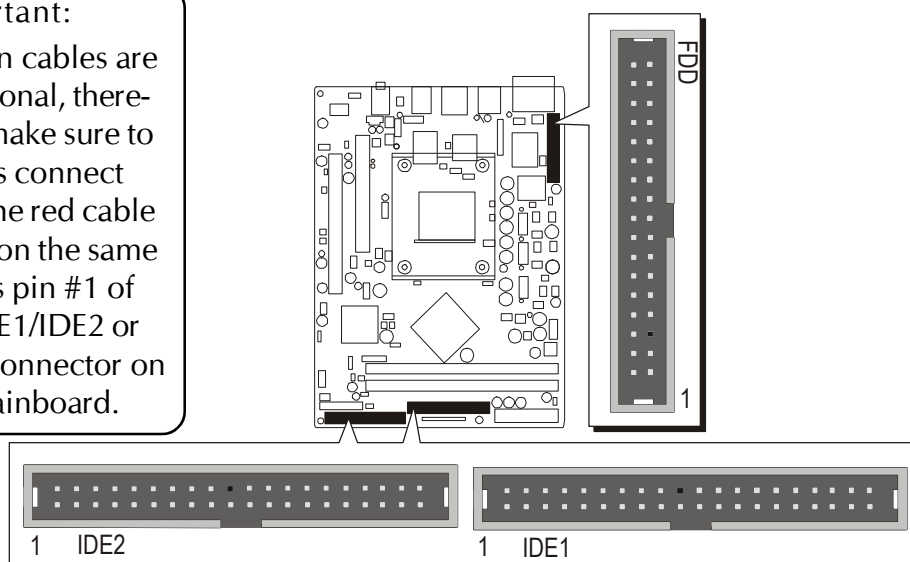
### **D1 Enhanced IDE, Floppy Connectors**

The mainboard features two 40-pin dual-channel IDE device connectors (IDE1/IDE2) providing support for up to four 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 (FDD). 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:**

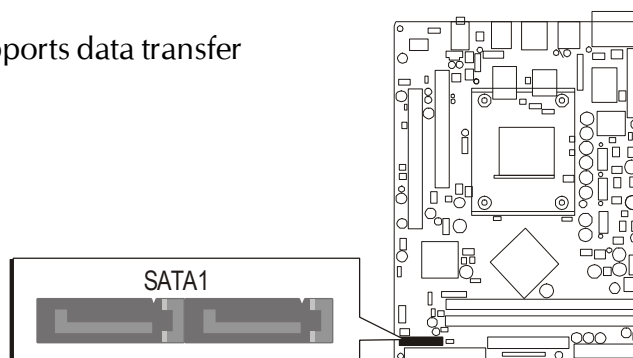
Ribbon cables are directional, therefore, make sure to always connect with the red cable stripe on the same side as pin #1 of the IDE1/IDE2 or FDC connector on the mainboard.



### **D2 Serial ATA Connectors**

The Serial ATA is an evolutionary replacement for the Parallel ATA physical storage interface. Serial ATA is scalable and will allow future enhancements to the computing platform. The Serial ATA supports all ATA and ATAPI device, including CDs, DVDs, tapes devices, high capacity removeable devices, zip drivers and CDRW's.

The Serial ATA interface supports data transfer rates up to 150MB/s.



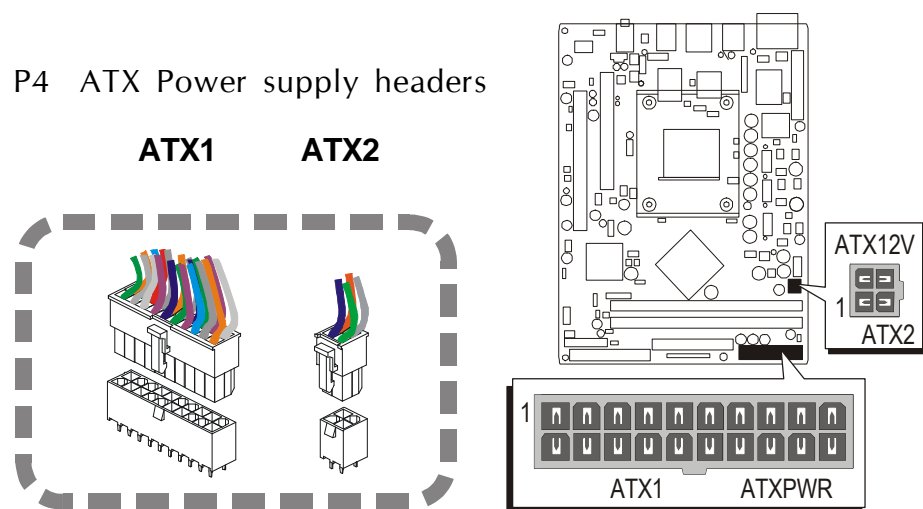


## Other Connectors

### ⓔ ATX Power Supply Connectors (ATX1 and ATX2)

This motherboard uses 20-pin (ATX1) Pentium 4 standard ATX power header and ATX2 with 1X4-pin + 12V PC ATX power supply headers.

Please make sure you plug in the right direction.



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.

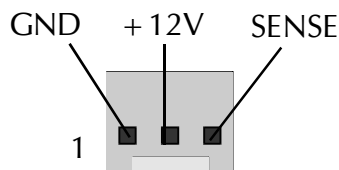
Note 2: Make sure the latch of the ATX power connector clicks into place to ensure a solid attachment.

Note 3: Your ATX power supply must be supplied to ACPI + 5V standby power and at least 720mA compatible.

Note 4: Make sure your power supply have enough power for higher speed processor installed.

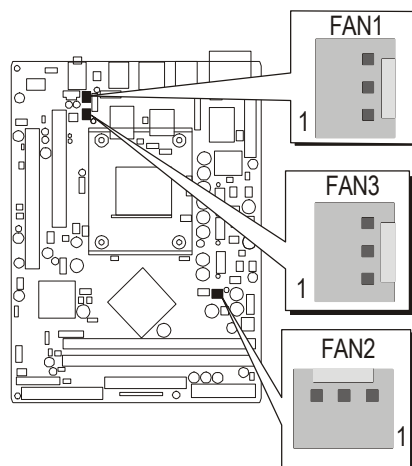
## CPU, System and Chipset Fan Connectors - FAN1/2/3

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



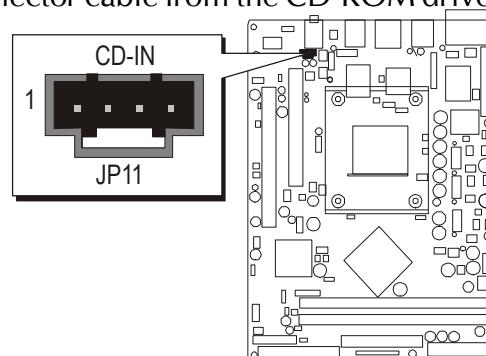
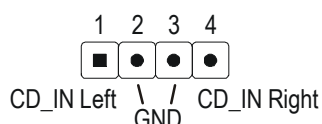
### Note:

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.



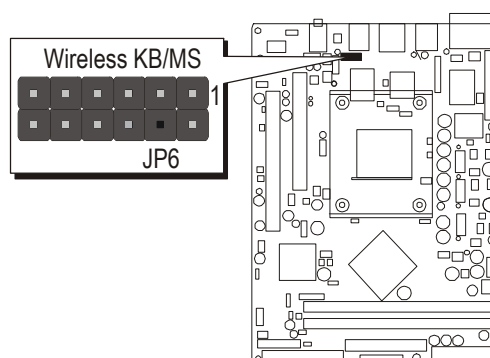
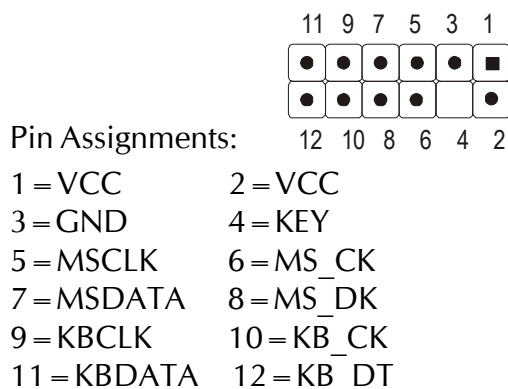
## Audio CD\_IN Connector (JP11) (Black)

Port JP11 is used to attach an audio connector cable from the CD-ROM drive.



## Wireless Keyboard and Mouse Connector (JP6)

Port JP6 can be used to connect wireless keyboard and mouse device.

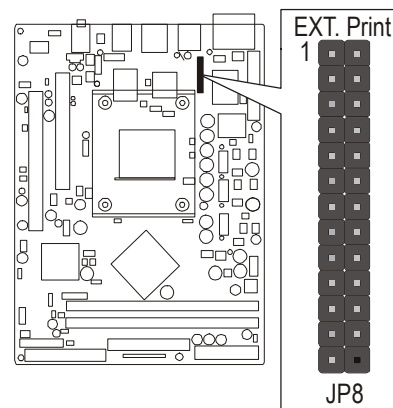


## **E5 Parallel Port Header-EXT. Print Port (JP8)**

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

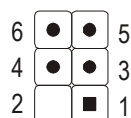
Pin Assignment:

1 = PSTB	2 = PD0	3 = PD1
4 = PD2	5 = PD3	6 = PD4
7 = PD5	8 = PD6	9 = PD7
10 = P_-ACK	11 = P_-BUSY	12 = P_-PE
13 = P_-SLCT	14 = P_-AFD	15 = P_-ERR
16 = P_-INIT	17 = P_-SLIN	18 = GND
19 = GND	20 = GND	21 = GND
22 = GND	23 = GND	24 = GND
25 = GND	26 = KEY	



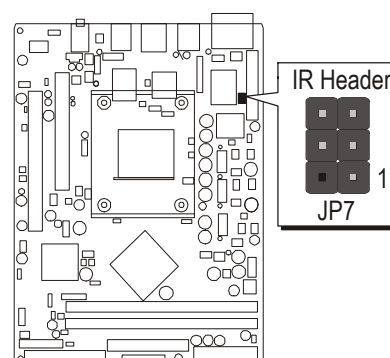
## **E6 IR Header (JP7)**

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



Pin Assignments:

1 = NC	2 = KEY
3 = VCC	4 = GND
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 JP7.

(Refer to the above diagram for IR pin assignment.)

Step2: This mainboard support IrDA or Normal transfer modes.

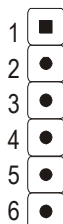


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### **E7 SPDIF\_Out / In Header (JP3)**

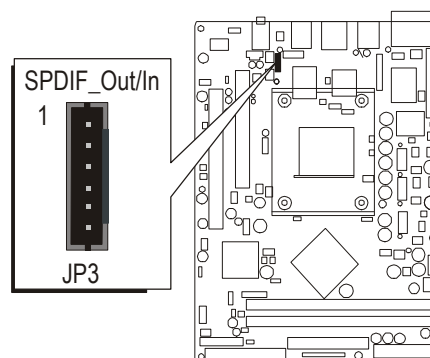
Port JP3 can be used to connect special device.

#### **JP3**



Pin Assignments:

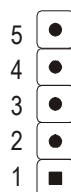
1 = SPDIF_IN	2 = GND
3 = VCC	4 = GND
5 = VCC	6 = SPDIF_OUT



### **E8 USB Headers (USB4/ USB5)**

The headers are used to connect the cable attached to USB connectors which are mounted on front panel or back panel. But the USB cable is optional at the time of purchase.

#### **USB4/ USB5**

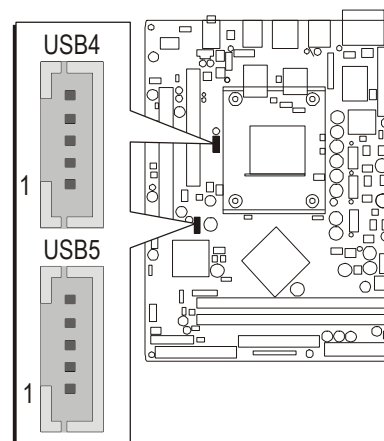


USB4 Pin Assignments:

1 = GND	2 = GND
3 = Data7 +	4 = Data7 -
5 = VCC	

USB5 Pin Assignments:

1 = GND	2 = GND
3 = Data6 +	4 = Data6 -
5 = VCC	



---

## 3.3 System Memory Configuration

The FB61 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 or 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.

Density	128Mbit		256Mbit		512Mbit	
Device Width	x8	x16	x8	x16	x8	x16
Single/Double	SS/DS	SS/DS	SS/DS	SS/DS	SS/DS	SS/DS
184pin DDR DIMMs	128/256MB	64MB/NA	256/512MB	128MB/NA	512/1024MB	256MB/NA

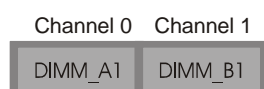
Note: Maximum installed memory is 2GB.

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.

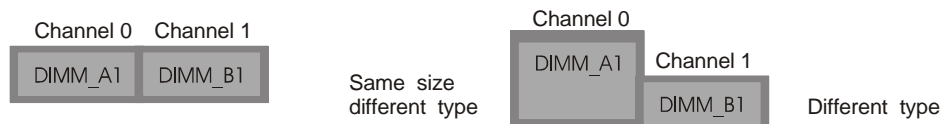
Don't support double-sided X16 DDR DIMMs.

Note: DIMMs population:

1. 128 Bit Mode: Exactly the same size and type DIMMs on Channels 0 and 1.



2. 2\*64 Bit Mode: DIMMs installed on different Channels.



### 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

---

## 4.1 Mainboard CD Overview

Note: The CD contents attached in FB61 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 Software - Installing Intel Chipset, VGA Device, Realtek Audio, Realtek LAN and USB 2.0 drivers.
- ☞ Manual - FB61 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

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



FB61 Software include:

- [4.2.A] Install Intel Chipset driver
- [4.2.B] Install VGA Device driver
- [4.2.C] Install Realtek Audio driver
- [4.2.D] Install Realtek LAN driver
- [4.2.E] Install USB 2.0 driver

---

### 4.2.A Install Intel Chipset Driver

Select using your pointing device (e.g. mouse) on the "Install Intel Chipset Driver" bar to install Intel chipset 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 VGA Driver

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

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

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

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

#### 4.3 View the User's Manual

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 "FB61 Manual" bar to view user's manual.

# 5 BIOS SETUP

---

FB61 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:

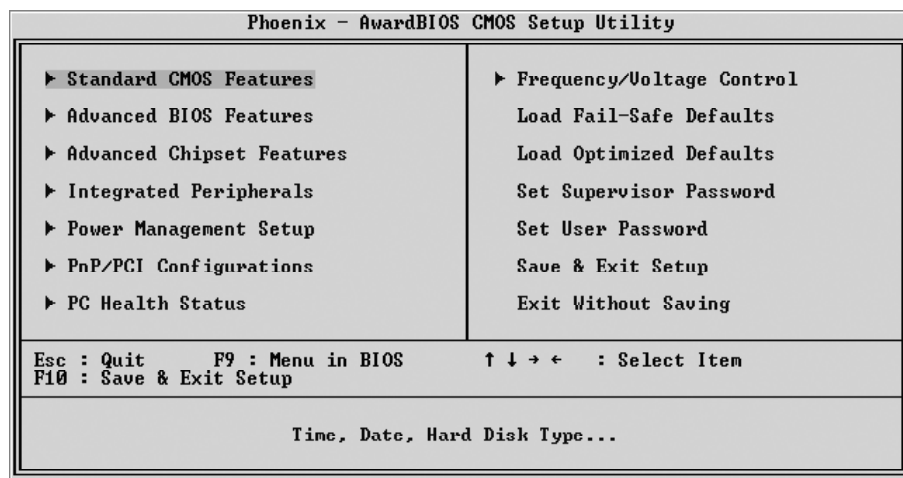
" Press F1 to Continue, DEL to Enter Setup "

- 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)	Sun, Apr 13 2003	Item Help Menu Level ▶ Change the day, month, year and century
Time (hh:mm:ss)	5 : 50 : 6	
▶ 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.]	
Drive B	[None]	
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 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 Primary Master

Options are in its sub-menu.

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

### IDE Primary Slave

Options are in its sub-menu.

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

### IDE Secondary Master

Options are in its sub-menu.

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

---

### IDE Secondary Slave

Options are in its sub-menu.

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

### Drive A/Drive B

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.

\*\*\*\*\*

### ***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.

---

### IDE Primary Master

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

- The choice: None, Auto or Manual.

### Access Mode

Choose the access mode for this hard disk.

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

### Capacity

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

- Auto-Display your disk drive size.

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

### Cylinder

Set the number of cylinders for this hard disk.

- Min = 0, Max = 65535

### Head

Set the number of read/write heads.

- Min = 0, Max = 255

### Precomp

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

- Min = 0, Max = 65535

### Landing zone

Set the Landing zone size.

- Min = 0, Max = 65535

### Sector

Number of sector per track.

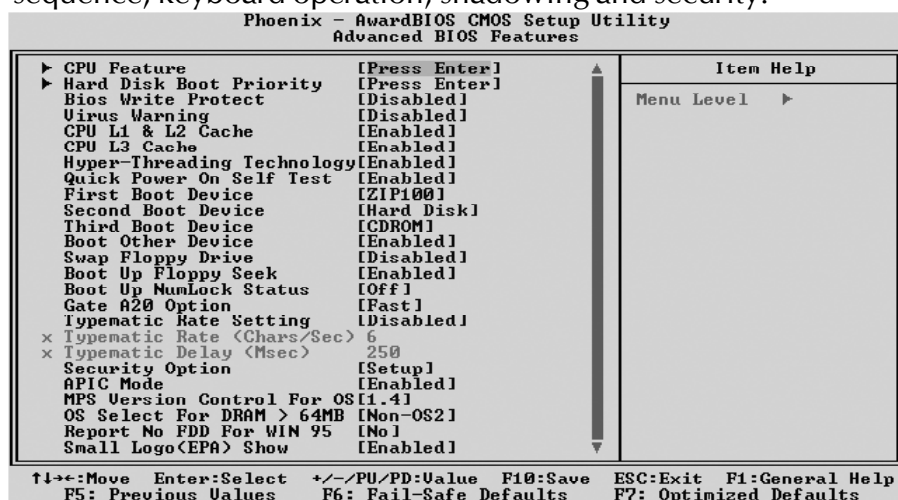
- Min = 0, Max = 255

\*\*\*\*\*



## Advanced BIOS Features

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



### CPU Feature

This item allows you to set CPU Feature.

Delay Prior to Thermal

Enable this item to set the delay time before the CPU enters auto thermal mode.

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

Thermal Management

This item allows you to set Thermal Monitor.

- The Choice: Thermal Monitor 1 or Thermal Monitor2.

TM2 Bus Ratio

Represents the frequency bus ratio of the throttled performance state will be initiated when the on die sensor gose from not hot to hot.

- The Choice: 0X ~ 15X.

(Note: If CPU supports thermal 2 function, the item appear.)

TM2 Bus VID

Represents the voltage of the throttled performance state will be initiated when the on die sensor gose from not hot to hot.

- The Choice: 0.8375V ~ 1.6000V.

(Note: If CPU supports thermal 2 function, the item appear.)

---

#### Limit CPUID MaxVal

This item allows you to set CPUID MaxVal to 3, should be "Disabled" for WinXp.

- The Choice: Enabled or Disabled.

(Note: If CPU supports thermal 2 function, the item appear.)

#### 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.

#### Virus Warning

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

Enabled Activates automatically when the system boots up, causing a warning message to appear when anything attempts to access the boot sector or hard disk partition table.

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

- The choice: Enabled or Disabled.

#### CPU L1&L2&L3 Cache

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

Leave this item at the default value for better performance.

- The choice: Enabled or Disabled.

(Note: If CPU supports, L3 item appear.)

#### Hyper-Threading Technology

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

- 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.

### Boot Other Device

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

- The choice: Enabled or Disabled.

### Swap Floppy Drive

If the system has two floppy drives, you can swap the logical drive name assignment.

- The choice: Enabled or Disabled.

### Boot Up Floppy Seek

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

- The choice: Enabled or Disabled.

### Boot Up NumLock Status

Selects power-on state for NumLock.

- The choice: Off or On.

### Gate A20 Option

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

- The choice: Normal or Fast.

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

#### APIC Mode

Via the routing, I/O APIC support a total of 24 interrupts. "Enabled" for Windows XP and Windows 2000.

- The choice: Enabled or Disabled.

#### MPS Version Control For OS

Selects the operating system multiprocessor support version.

- The choice: 1.1 or 1.4

#### 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.

#### Report No FDD For Win 95

Whether report no FDD runs for Win 95 or not.

- The choice: Yes or No.

#### 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.

Phoenix - AwardBIOS CMOS Setup Utility	
Advanced Chipset Features	
DRAM Timing Selectable	[By SPD]
CAS Latency Time	[2]
Active to Precharge Delay	[8]
DRAM RAS# to CAS# Delay	[4]
DRAM RAS# Precharge	[4]
Memory Frequency For	[Auto]
System BIOS Cacheable	[Enabled]
Video BIOS Cacheable	[Disabled]
Memory Hole At 15M-16M	[Disabled]
AGP Aperture Size (MB)	[64]
Init Display First	[PCI Slot]
** On-Chip UGA Setting **	
On-Chip UGA	[Enabled]
On-Chip Frame Buffer Size	[ 8MB]
Boot Display	[Auto]
TV Format for DOS	[NTSC_M]
Turbo Mode	[Enabled]

Item Help	
Menu Level	▶

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

### DRAM Timing Selectable

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

- The Choice: Manual or By SPD.

### CAS Latency Time

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

- The Choice: 2, 2.5 or 3.

### Active to Precharge Delay

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

- The Choice: 8, 7, 6 or 5.

---

### DRAM RAS # to CAS # Delay

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

➤ The Choice: 4, 3 or 2.

### DRAM RAS # Precharge

If an insufficient number of cycles is allowed for the RAS to accumulate its charge before DRAM refresh, the refresh may be-incompleted, and the DRAM may fail to retain data. Fast gives faster performance; and Slow gives more stable performance. This field is applied only when synchronous DRAM is installed in the system.

➤ The Choice: 4, 3 or 2.

### Memory Frequency For

This item is select SDRAM Frequency.

CPU Frequency	The Choice
100~132	AUTO/DDR266
133~199	AUTO/DDR266/DDR333
200~355	AUTO/DDR266/DDR320/DDR400

➤ The Choice: DDR266, DDR333, DDR320, DDR400 or Auto.

### System BIOS Cacheable

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

➤ The Choice: Enabled or Disabled.

### Video BIOS Cacheable

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

➤ The Choice: Enabled or Disabled.

### Memory Hole At 15M-16M

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

➤ The Choice: Enabled or Disabled.

---

#### AGP Aperture Size(MB)

This item defines the size of the aperture if you use an AGP graphics adapter. The AGP aperture refers to section of the PCI memory address range used for graphics memory. We recommend that you leave this item at the default value.

- The Choice: 4, 8, 16, 32, 64, 128 or 256.

#### Init Display First

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

- The choice: PCI Slot or Onboard /AGP .

\*\*\*\*\* On -Chip VGA Setting \*\*\*\*\*

#### On-Chip VGA

This item allows you to enable or disable On-Chip AGP.

- The Choice: Enabled or Disabled.

#### On-Chip Frame Buffer Size

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

- The Choice: 1MB, 8MB or 16MB.

#### Boot Display

If you plug CV21 add card, you can select boot display device as CRT/TV/TFT(DVI). If you don't plug CV21, the item will be hidden.

- The Choice: Auto, CRT, EFP, TV, CRT + EFD or CRT + TV.

#### TV Standard for Windows

If you plug CV21 add card and display device is TV, you can select TV mode for Windows. If you don't plug CV21, the item will be hidden.

- The Choice: NTSC or PAL.

#### TV Format for DOS

If you plug CV21 add card and display device is TV, you can select TV mode for DOS. If you don't plug CV21, the item will be hidden.

- The Choice: NTSC\_M, NTSC\_M\_J, NTSC\_N, PAL\_B, PAL\_G, PAL\_D, PAL\_H, PAL\_I, PAL\_M or PAL\_N.

#### Turbo Mode

This item allows you to set Turbo Mode.

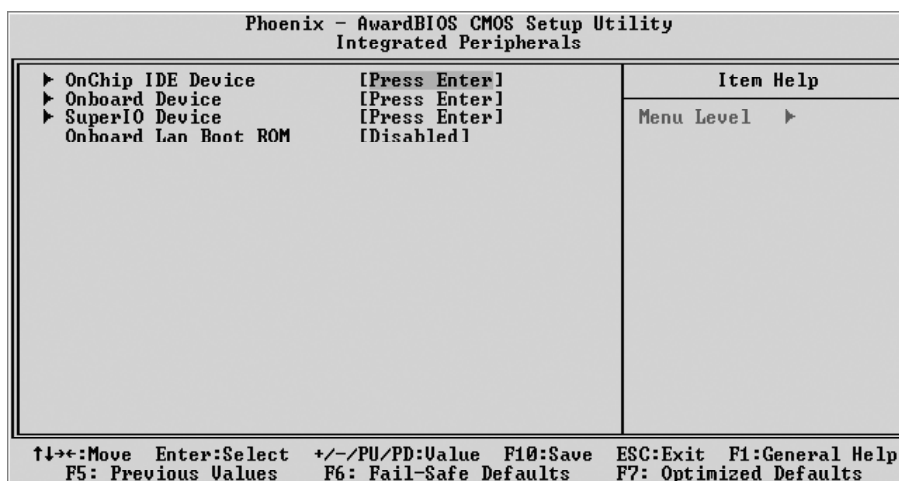
Auto To allow user enable "Turbo Mode" with 533 MHz FSB only.

Manual To allow user enable "Turbo Mode" with 533/800 MHz FSB.

- The Choice: Auto or Enabled.



## Integrated Peripherals



### On-Chip IDE Device

Options are in its sub-menu.

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

#### IDE HDD Block Mode

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

- The choice: Enabled or Disabled.

#### IDE DMA transfer access

Use these items to enable or disable the IDE DMA transfer access that are integrated on the mainboard.

- The choice: Enabled or Disabled.

#### On-Chip Primary /Secondary PCI IDE

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

- The choice: Enabled or Disabled.

#### IDE Primary Master/Primary Slave/Secondary Master/ Secondary Slave PIO

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

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

---

IDE Primary Master/Primary Slave/Secondary Master/  
Secondary Slave UDMA

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

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

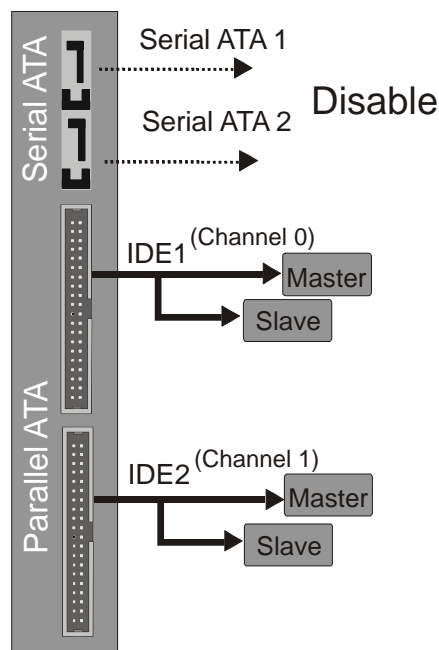
➤ The Choice: Auto or Disabled.

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

#### On-Chip Serial ATA

➤ The Choice: Disabled, Auto, Combined Mode, Enhanced Mode or SATA Only.

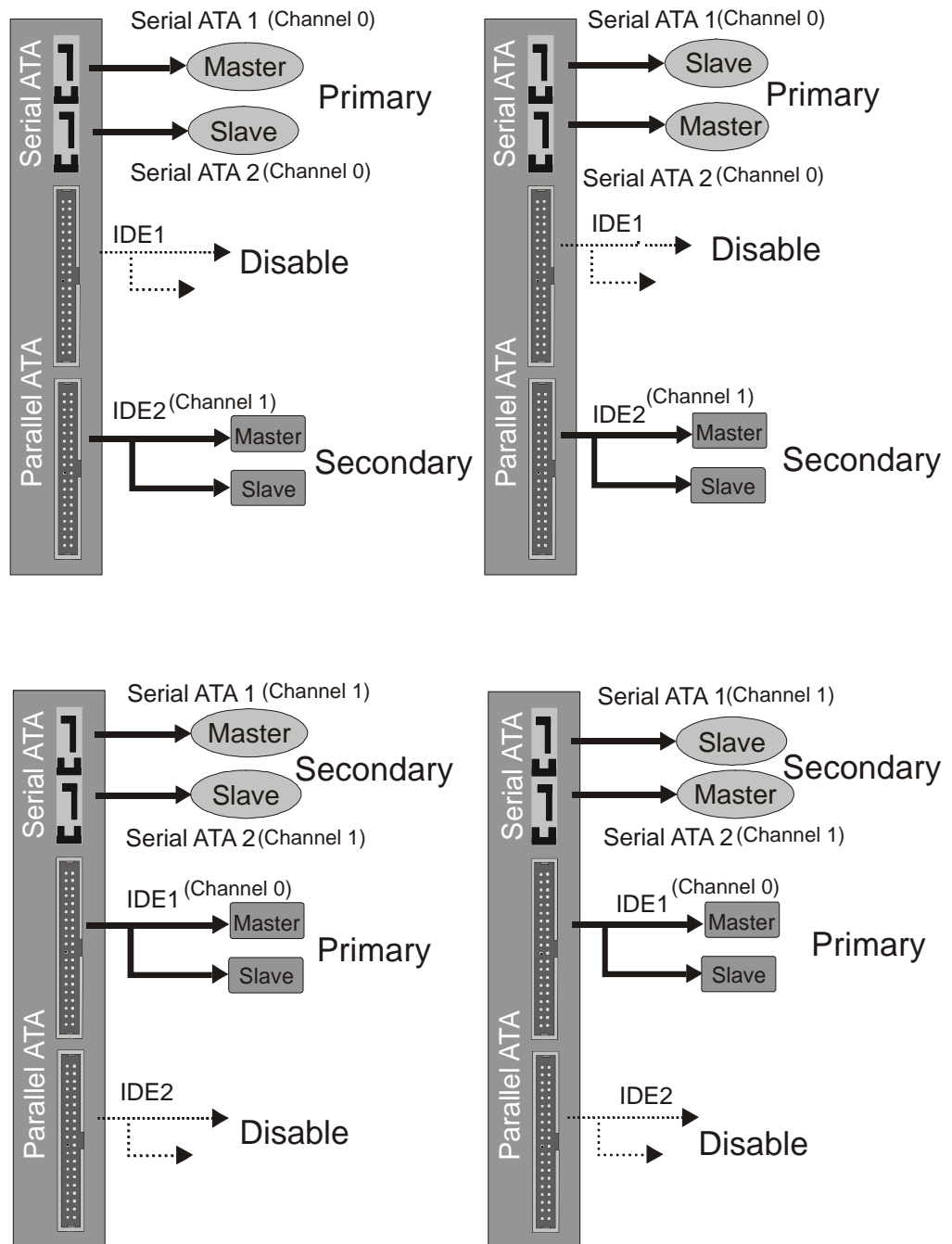
Disabled : Disabled SATA Controller.



Auto: Auto arrange by BIOS.

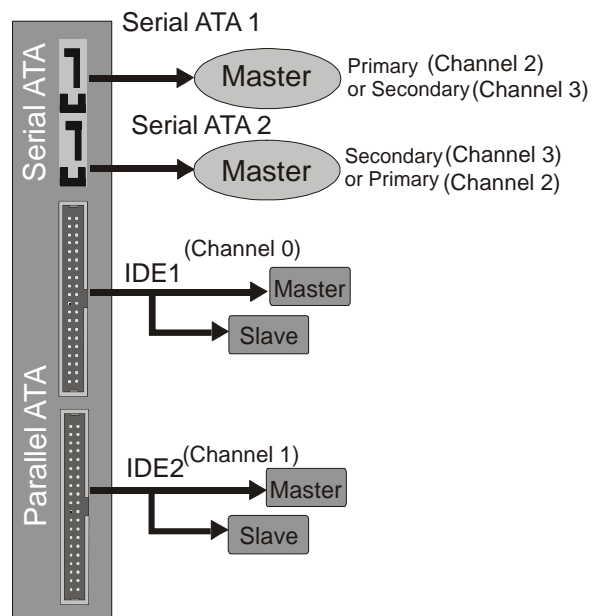
---

Combined Mode: PATA and SATA are combined. Max. of 2 IDE drives in each channel.  
(DOS, Win2K, Win98/ME...) should set SATA and PATA to Compatible Mode.

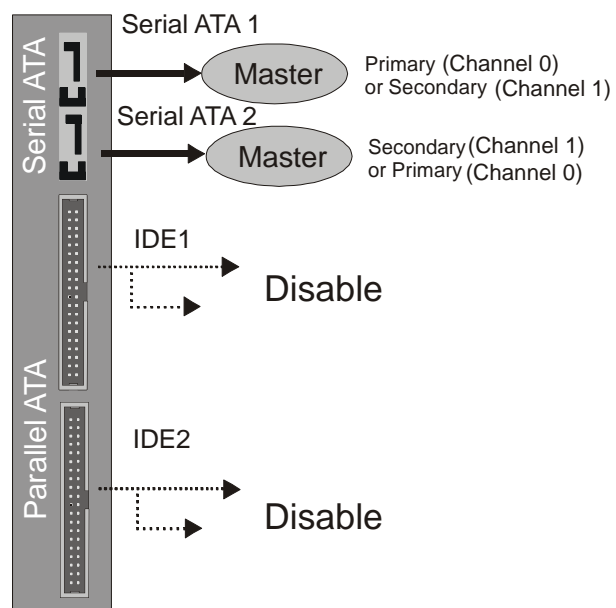


---

Enhanced Mode: Enable both SATA and PATA. Max. of 6 IDE drives are supported.  
New OS that support switch to Enhanced mode (WinXP, Windows.NET Server) can set SATA and PATA to Enhanced Mode.



SATA-Only: SATA is operating in legacy mode.



---

#### Serial SATA Port 0/1 Mode

This item allows you to select SATA Port 0 (Port1) H.D. mode to Master (Slave), Slave (Master), SATA0 (SATA1) or SATA1(SATA0).

- The choice: Primary Master, Secondary Master, SATA 0 master, SATA1 master, Primary Master, Primary Slave, Secondary Master or Secondary Slave.

#### Onboard Device

Options are in its sub-menu.

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

#### USB Controller

Select Enabled if your system contains a Universal Serial Bus (USB) 1.1 controller and you have USB peripherals.

- The choice: Enabled or Disabled.

#### USB 2.0 Controller

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

- The choice: Enabled or Disabled.

#### USB Keyboard Support

Select Enabled if you plan to use a keyboard connected through the USB port in a legacy operating system (such as DOS) that doesn't support Plug and Play.

- The choice: Enabled or Disabled.

#### AC97 Audio

This item allows you to select AC 97 audio chip to support Audio. Disable this item if you are going to install a PCI audio add-on card.

- The Choice: Auto or Disabled.



---

### SuperIO Device

Options are in its sub-menu.

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

#### Onboard FDC Controller

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

- The choice: Enabled or Disabled.

#### Onboard Serial Port1

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

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

#### Onboard Infrared Port

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

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

#### UART Mode Select

This field is available if the Onboard Serial Port 2 field is set to any option but disabled. UART Mode Select enables you to select the infrared communication protocol-Normal (default), IrDA, or ASKIR. IrDA is an infrared communication protocol with a maximum baud rate up to 115.2K bps. ASKIR is Sharp's infrared communication protocol with a maximum baud rate up to 57.6K bps.

- The choice: SCR, IrDA or ASKIR.

#### UR2 Duplex Mode

This item is available when UART 2 mode is set to either ASKIR or IrDA. This item enables you to determine the infrared function of the onboard infrared chip. The options are Full and Half (default).

Full-duplex means that you can transmit and send information simultaneously. Half-duplex is the transmission of data in both directions, but only one direction at a time.

- The choice: Full or Half.

---

### Onboard Parallel Port

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

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

### Parallel Port Mode

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

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

### ECP Mode Use DMA

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

- The choice: 1 or 3.

### Onboard LAN Boot ROM

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

- The choice: Enabled or Disabled.



## Power Management Setup

Phoenix - AwardBIOS CMOS Setup Utility	
Power Management Setup	
ACPI Function	Enabled
ACPI Suspend Type	[S1<POS>]
x Run VGABIOS if S3 Resume	Auto
Power Management	[User Define]
Video Off Method	[DPMS]
Video Off In Suspend	[Yes]
Suspend Type	[Stop Grant]
MODEM Use IRQ	[3]
Suspend Mode	[Disabled]
HDD Power Down	[Disabled]
Soft-Off by PWR-BTN	[Instant-Off]
Wake-Up by PCI card	[Disabled]
Power On by Ring	[Disabled]
x USB Wake-Up From S3	Disabled
Resume by Alarm	[Disabled]
x Date(of Month) Alarm	0
x Time(hh:mm:ss) Alarm	0 : 0 : 0
** Reload Global Timer Events **	
Primary IDE 0	[Disabled]
Primary IDE 1	[Disabled]
Secondary IDE 0	[Disabled]
Secondary IDE 1	[Disabled]
FDD,COM,LPT Port	[Disabled]
PCI PIRQ[A-D]#	[Disabled]
PS2 Keyboard Power ON	[Disabled]
KB Power ON Password	[Enter]
Hot Key Power ON	[Any Key]
PS2 Mouse Power ON	[Disabled]
PWRON After PWR-Fail	[Off]

Item Help	
Menu Level	▶

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

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.

### Run VGABIOS if S3 Resume(Auto)

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

- The choice: Auto, Yes or No.

### Power Management

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

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

---

### Video Off Method

This determines the manner in which the monitor is blanked.

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

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

DPMS Initial display power management signaling.

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

### Video Off In Suspend

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

- The choice: Yes or No.

### Suspend Type

This item allows you to select the Suspend Type.

- The choice: Stop Grant or PwrOn suspend.

### MODEM Use IRQ

This determines the IRQ which the MODEM can use.

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

### Suspend Mode

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

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

### HDD Power Down

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

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

### Soft-Off by PWR-BTTN

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

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

#### Wake-Up by PCI card

This item Enabled/Disabled PCI Power Management Event to wake up system.

- The choice: Enabled or Disabled.

#### Power On by Ring

This item determine the system will resume by activating of modem ring.

- The choice: Enabled or Disabled.

#### USB Wake-up From S3

If you are using a USB KB/MS, and the ACPI suspend type is set to S3, you can enable this item to allow a KB/MS to wake up the system from power saving mode.

- The choice: Enabled or Disabled.

#### Resume by Alarm

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

- The choice: Disabled or Enabled.

#### Date(of Month) Alarm

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

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

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

This item selects the alarm Time.

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

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

#### \*\*\* 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 0/1

When these items are enabled, the system will restart the power-saving time out 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, 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.

#### PS2 Keyboard Power ON

This item allows you to set the PS2 Keyboard Power On function

- The choice: Disabled, Password or Hot Key.

#### KB Power ON Password

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

- Press "Enter" to set Password.

#### Hot Key Power On

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

- The choice: Any Key, Ctrl-F1 ~ Ctrl-F12.

#### PS2 Mouse Power ON

This item allows you to enable or disable the PS2 Mouse Power On.

- The choice: Disabled or Enabled.

#### Pwron After PWR-Fail

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

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



## PnP/PCI Configurations

Phoenix - AwardBIOS CMOS Setup Utility	
PnP/PCI Configurations	
Reset Configuration Data	[Disabled]
Resources Controlled By	[Auto(ESCD)]
x IRQ Resources	Press Enter
PCI/UGA Palette Snoop	[Disabled]
INT Pin 1 Assignment	[Auto]
INT Pin 2 Assignment	[Auto]
INT Pin 3 Assignment	[Auto]
INT Pin 4 Assignment	[Auto]
INT Pin 5 Assignment	[Auto]
INT Pin 6 Assignment	[Auto]
INT Pin 7 Assignment	[Auto]
INT Pin 8 Assignment	[Auto]

**Item Help**  
Menu Level ▶  
Default is Disabled. Select Enabled to reset Extended System Configuration Data (ESCD) when you exit Setup if you have installed a new add-on and the system reconfiguration has caused such a serious conflict that the OS cannot boot

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

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

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

### Reset Configuration Data

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

- The choice: Enabled or Disabled .

### Resource controlled By

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

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

- The choice: Auto(ESCD) or Manual.

---

### IRQ Resources

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

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

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

➤ The choice: PCI Device or Reserved.

### PCI/VGA Palette Snoop

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

➤ The choice: Enabled or Disabled.

### INT Pin1 ~ 8 Assignment

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

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





## PC Health Status

Phoenix - AwardBIOS CMOS Setup Utility		
PC Health Status		
CPU Fan Speed Control	[Smart Fan]	Item Help
User Set CPU Fan	[Fan 1]	
CPU Temp Tag	[80 °C]	Menu Level ▶
CPU Voltage		
AGP Voltage		
+3.3V		
+5V		
+12V		
-12V		
DDR Voltage		
+5USB		
Voltage Battery		
System Temperature		
CPU Temperature		
Fan 1 Speed		
Fan 2 Speed		
Fan 3 Speed		

Choice	Cpu Temp	Fan Speed
<Ultra>	↑80°C	Full
Low	↓80°C	<U>L
Mid	↑80°C	Full
	↓80°C	Mid
Full	always	Full

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

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

### CPU Fan Speed Control

Set the CPU Fan Speed.

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

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

Choice	Cpu Temp	Fan Speed
<Ultra>	↑80°C	Full
Low	↓80°C	<U>L
Mid	↑80°C	Full
	↓80°C	Mid
Full	always	Full

Ultra-Low	CPU Temperature below 80 °C , cpu fan speed 2000 rpm.
	CPU Temperature over 80 °C , cpu fan speed 4000 rpm.
Low	CPU Temperature below 80 °C , cpu fan speed 2400 rpm.
	CPU Temperature over 80 °C , cpu fan speed 4000 rpm.
Mid	CPU Temperature below 80 °C , cpu fan speed 3000 rpm.
	CPU Temperature over 80 °C , cpu fan speed 4000 rpm.
Full	CPU fan always 4000 rpm.

---

### User Set CPU Fan

Enabled you to choose one specific fan for further setting.

- The choice: Fan1 or Fan2.

### CPU Temp Tag

The item only for 'smart fan' and you can choose 'smart fan' on 'CPU Fan Speed Control'. This feature ranges from 30°C to 80°C, in an increment of 1 °C. When CPU current temperature over CPU Temp Tag (user set, default value as 68 °C), CPU fan will speed up. You can refer to table below.

- The choice: 30 °C ~ 80 °C.

Current CPU Temp Over CPU Temp Tag		Fan Speed (rpm)
OVER	0 °C	2050
	1 °C	2150
	2 °C	2250
	3 °C	2350
	4 °C	2450
	5 °C	2550
	6 °C	2650
	7 °C	2700
	8 °C	2750
	9 °C	2800

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

+ 3.3V

+ 5V

+ 12V

-12V

DDR Voltage

+ 5VSB

Voltage Battery

System Temperature

CPU Temperature

Fan1 Speed

Fan2 Speed

Fan3 Speed



## Frequency/Voltage Control

Phoenix - AwardBIOS CMOS Setup Utility		
Frequency/Voltage Control		
CPU Clock Ratio	[ 8 X ]	Item Help
Auto Detect PCI Clk	[Enabled]	
Spread Spectrum	[Enabled]	Menu Level ▶
***** Clock *****		
CPU & AGP/PCI Clock Set	[Auto Detect]	
x CPU Clock	100MHz	
x Async AGP/PCI/S-ATA CLK	Sync by CPU clock	
***** Voltage *****		
CPU Voltage set	[Auto]	
DDR Voltage set	[Auto]	
AGP Voltage set	[Auto]	
↑↓←→: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. If your CPU ratio is unlocked, the item is visible.

Min: 8

Max: 50

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

### Auto Detect PCI Clk

This item allows you to enable/disable auto detect empty PCI Slot Clock.

- The choice: Enabled or Disabled.

### Spread Spectrum

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

- The choice: Disabled or Enabled.

\*\*\*\*\* Clock \*\*\*\*\*

### CPU & AGP/PCI Clock Set

This item allows you to set the CPU&AGP/PCI Clock.

- The choice: Auto Detect or Manual.

### CPU Clock

This item allows the user to adjust CPU Host Clock.

Min: 100

Max: 355

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

---

#### Async AGP/PCI/S-ATA CLK

This item allows you to set AGP/PCI clock and CPU clock asynchronous. You can select 66/33, 73/36, or 80/40 to fixed AGP/PCI clock even if you adjust CPU clock.

- The choice: Sync by CPU Clock, fixed 66/33/100 MHz, fixed 73/36/100 MHz or fixed 80/40/100.

Note: If you install S-ATA device, please do not select [Sync by CPU clock]. That will let S-ATA device fail. We strongly recommend you to select [fixed 66/33/100 MHz].

\*\*\*\*\* Voltage \*\*\*\*\*

#### CPU Voltage

This item allows you to set CPU Voltage.

- The choice: Auto, 0.8250V ~ 1.5875V.

#### DDR Voltage

This item allows you to set DDR Voltage.

- The choice: Auto, 2.65V, 2.70V or 2.75V.

#### AGP Voltage

This item allows you to set AGP Voltage.

- The choice: Auto, 1.55V, 1.60V or 1.65V.



#### ***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***

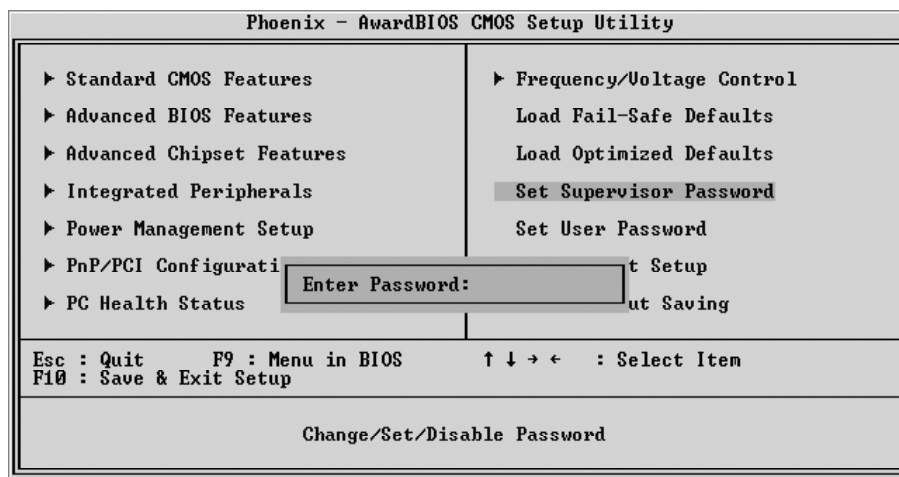
When you press <Enter> on this item, you will get a confirmation dialog box with a message similar to:

Load Optimized Defaults (Y/N) ? N

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



## Set Password



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

### New Password Setting :

1. While pressing <Enter> key to start setting password function, a dialog box appears to ask you "Enter password: ".
2. Key in a new password now. However, the password can not be over eight characters or numbers.
3. Then system will request you to confirm new password by asking you to key in new password again.
4. Once the confirmation is completed, new code takes effect.

### No Password Setting :

5. If you want to delete password, just press <Enter> key instead of new password while password input is requested. And the other procedures are the same as above password setting.

### If You Forget Password :

6. While being asked of password, you just forget it and you must access the system. The only way is to turn off system and clear CMOS memory. Please take reference in page 27 for 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)? Y

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