

**FT62**

**Pentium 4/Celeron , 478-pin Processor  
Based MAIN BOARD**

# Shuttle® FT62

## Pentium 4/Celeron , 478-pin Processor Based Mainboard Manual Version 1.0

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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: FT62

S/N: N/A

CPU:

External Frequency: 100 MHz

Intel Pentium4: 1.6/ 1.8/ 2.0/2.2/2.4/2.6 GHz

External Frequency: 133 MHz

Intel Pentium4: 2.26/ 2.40/ 2.53/ 2.66/ 2.80/ 3.06 GHz

External Frequency: 200 MHz

Intel Pentium4: 2.8/ 3.0/ 3.2 GHz

Serial Port: one port with 9 pins

VGA Port: one port with 15 pins

Keyboard Port: one port with 6 pins

Mouse Port: one port with 6 pins

S-Video Port: one port with 7 pins

USB 2.0 Port: four ports with 4 pins respectively

1394a Port: two ports with 6 pins respectively

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

SPDIF-Out Port: one port for each

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

Center/Bass-Out Port: three ports

Reset Button: one button for each

DC-IN Power Connector: one port for each

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

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

Monitor: CRT

Maximum Resolution: 1280 X 1024 V:60Hz

All CPUs have completely been tested, and values offered by the worst EMI combination of CPU external frequency are listed as follows:

Test Mode	External Frequency	CPU	CPU Open/Close
1	133MHz	P4 3.06 GHz	Close
2	133MHz	P4 3.06 GHz	Open

3	200MHz	P4 3.20 GHz	Close
4	200MHz	P4 3.20 GHz	Open

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

Remedy: N/A

EMI Interference:

Crystal : 24.576MHz(X4)/ 24.576MHz(X6)/ 25.00MHz(X7)/ 32.768KHz(X2)

Clock Generator: CLK1

(D) Supported Host Peripherals:

Host Peripheral	Product Name	Model Name	S/N	FCC ID
#1	Case	FT62	N/A	
#2	Power Supply	PC32B180HR	030509011	D33032
#3	Maxtor HDD (40 GB)	D740X-6L	N/A	3902B975
#4	Shuttle Card R/W	PC-12	N/A	
#5	Pioneer DVD Player	DVD-116	AAMS027197WL	3892D029

(E) Notices for Assembling Computers:

1. Cases should be made of iron or other metal that has good electric conductivity.
2. Cylinders in a case should be made of metal, and as having a mainboard mounted in a case, make sure screws are all utilized and fastened on a mainboard.
3. An I/O shielding should be contacted with I/O metallic parts of a mainboard.
4. Cables should appropriately be arranged and fixed in a case. Follow instructions:
  - Leave IDE cables not crossed upon CPU and SDRAM;
  - Leave power cables minimum in length, and not crossed upon a mainboard;
  - Leave CPU fan cables minimum in length, and not near CPU;
  - Leave cables on panels and other spare cables tied in a computer case.
5. Make sure an EMI shielding attached to a case has properly been installed.
6. Make sure a 5.25" and screws are fastened to an EMI shielding.
7. Make sure a case is closely in contact with EMI connected points.
8. Make sure there is no cleft in a case which is not deformed.
9. Make sure a PCI door is bound to a case.
10. Make sure cables of other devices (fans or some others) are fixed in a case.

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# 1 INTRODUCTION

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## 1.1 To Different Users

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

Welcome to the DIY world! Building your own computer system is not as difficult as you may think. To make your first computer DIY experience successful, right from the start, we have designed the 3.1 Hardware Installation section in a step-by-step fashion for all the first-time DIY system builders. Prior to installation, we also suggest you to read the whole manual carefully to gain a complete understanding of your new Shuttle FT62 mainboard.

### **Experienced DIY User**

Congratulate on your purchase of the Shuttle FT62 mainboard. You will find that installing your new Shuttle FT62 mainboard is just easy. Bundled with an array of onboard functions, the highly-integrated FT62 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**

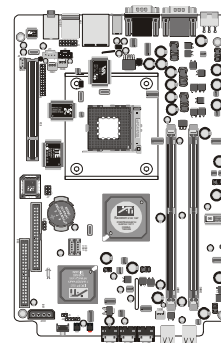
You have wisely chosen Shuttle FT62 to construct your system. Shuttle FT62 incorporates all the state-of-the-art technology of the RS300+ IXP150 chipset from ATI. It integrates the most advanced functions you can find to date in a compact Small Form Factor ATX board.

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## 1.2 Item Checklist

Check all items with your FT62 mainboard to make sure nothing is missing.  
The complete package should include:

- ★ One piece of Shuttle FT62 Mainboard



- ★ Three piece of ATA100/66/33 Ribbon Cable



- ★ One piece of IDE Device Power Cable



- ★ One S-Video to Composite/AV-Output Cable

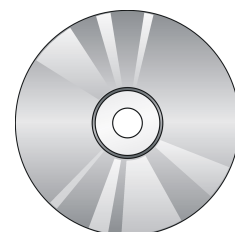


- ★ FT62 User's Manual



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

- FT62 user's manual saved in PDF format
- Install ATI Chipset Driver
- Install ATI VGA Driver
- Install Realtek Audio Driver
- Install Realtek Lan Driver
- Install ATI USB2.0 Driver
- Award Flashing Utility



# 2 FEATURES

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FT62 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 support Northwood processor with 400/533/800MHz FSB.

### ★ Chipset

Features ATI RS300 N.B. and ATI IXP150 S.B..

Onboard Lan

RTL8100C support 10Mb/s and 100Mb/s operation.

Onboard 1394a

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

### ★ Jumperless CPU Configuration

Soft-configuration FSB (The FSB speed is software configurable from (1MHz to 15MHz) of BIOS setup program.

### ★ On Board 6 Channel AC97 Audio

Realtek ALC650 supports 18bits ADC and 20bits DAC resolution and 6 channel slot selectable DAC Output for multi-channel applications.

Compliant with AC'97 2.2 specifications.

### ★ 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 PC1600, PC2100, PC2700 or PC3200 compliant DDR SDRAM module.

### ★ PCI Expansion Slot

Provides one 32-bit PCI slot.

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

➤ 2 x USB ports on back-panel, 2 x USB ports on front-panel and one sets of 2 x USB port headers on mid-board.

### ★ I/O Interface

Provides a variety of I/O interfaces:

➤ 1 x DC-IN connector.

➤ 1 x DB15 VGA connector.

- 
- 1 x Clear CMOS button.
  - 1 x AV & S-Video port.
  - 1 x DB9 Serial port.
  - 1 x SPDIF-out port.
  - 2 x 1394a ports.
  - 1 x RJ45 LAN port.
  - 2 x USB 1.1/2.0 ports.
  - 1 x PS/2 Mouse port.
  - 1 x PS/2 Keyboard port.
  - 1 x Bass/Center port.
  - 1 x Rear-Out port.
  - 1 x Front-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.

### **\* 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 Small form factor ATX specification.  
Board dimension: 266mm x 170mm.

### **\* Advanced Features**

- Low EMI - Built in spread spectrum 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.

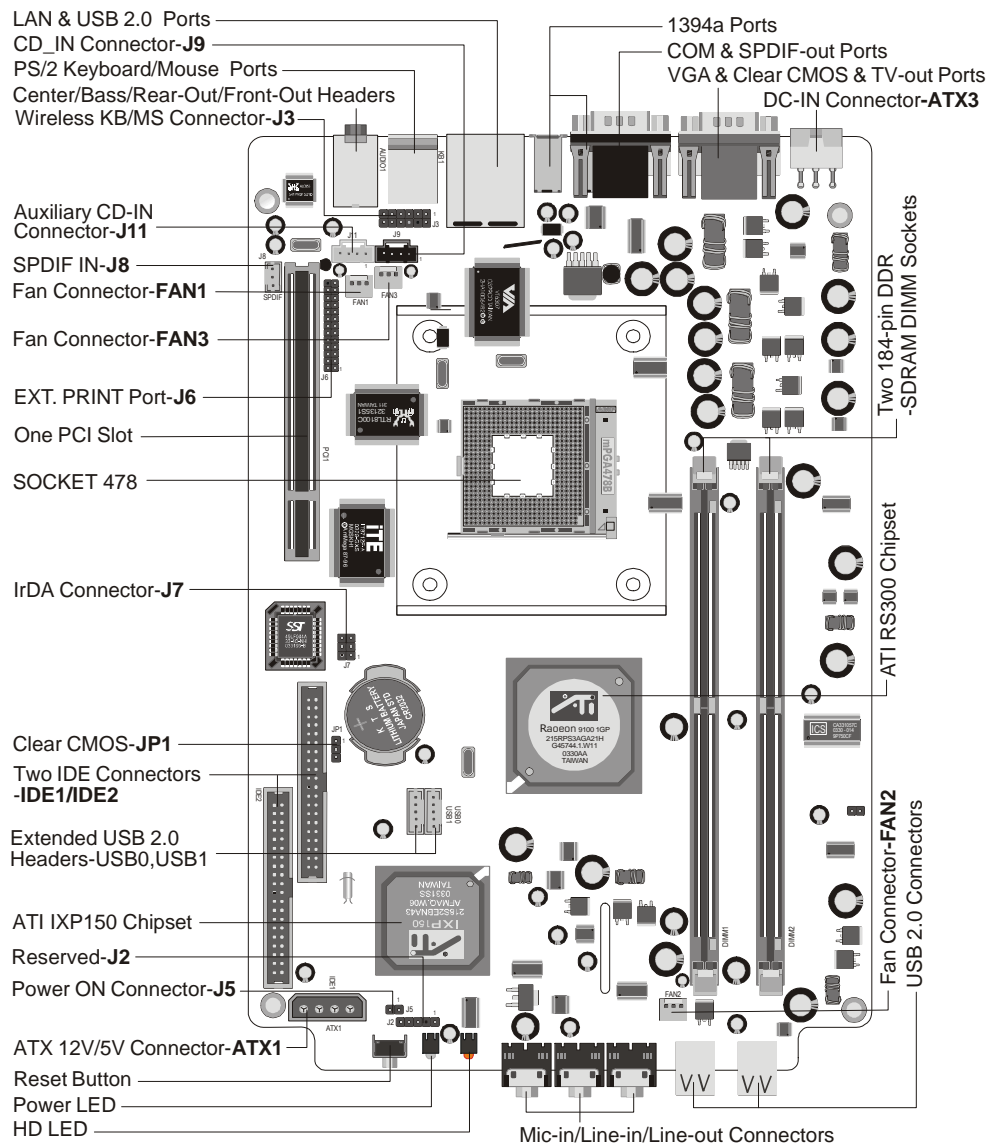
# 3 HARDWARE INSTALLATION

Before removing or installing any of these devices including CPU, DIMMs, Add-On Cards, 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 FT62



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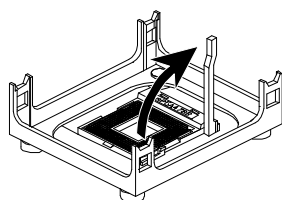
## Step 1

### CPU Installation:

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

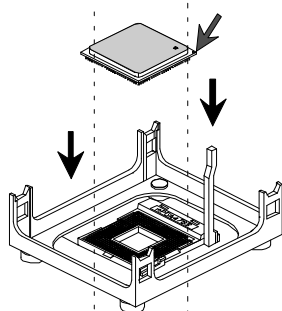
Note the CPU orientation when you plug it into CPU socket.

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



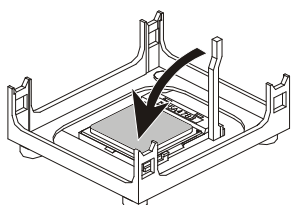
**CPU socket lever up to 90-degree angle**

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**

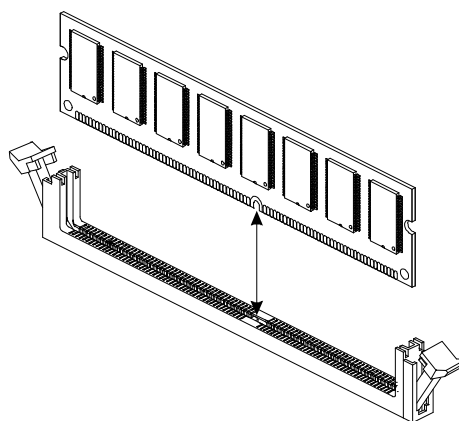
For first-time DIY system builders, we recommend that you do not change the default jumper settings if you are not totally familiar with the mainboard configuration procedures. The factory-set default settings are tuned for optimum system performance. For the advanced users who wish to customize their 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), CD-ROM drive, and ATX power supply unit. This will greatly facilitate in making the connections to the mainboard described below.

To install IDE drives, follow this procedure:

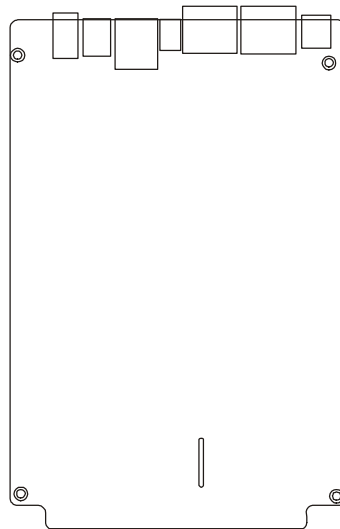
1. Set the required jumpers on each device according to the instructions provided by the manufacturer. (IDE devices, HDD, and CD-ROM, have to set jumpers to Master or Slave mode depending on whether you install more than one device of each kind.)
2. Connect IDE cable on the back-panel of the internal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

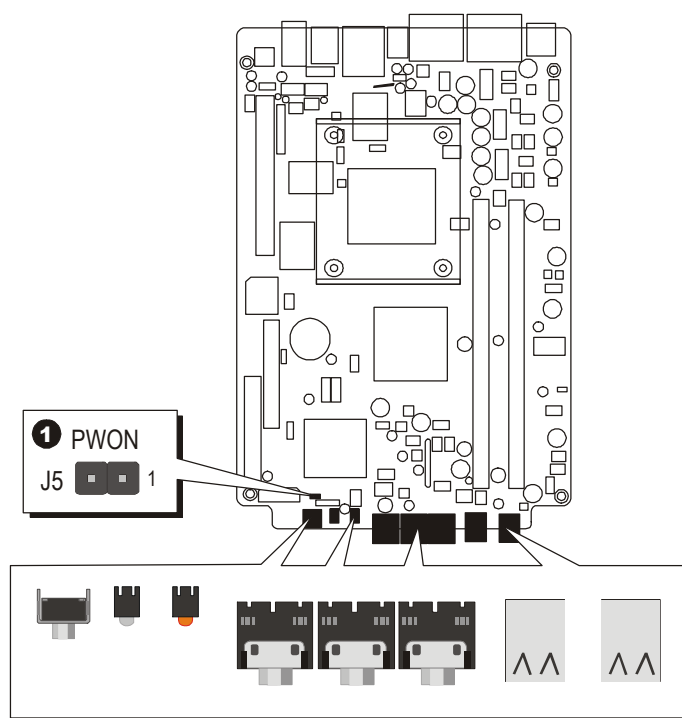
Note : In most computer housings, you will be able to find 4 or more attachment points to install mounting studs and then fix the mainboard. If there aren't enough matching holes, then make sure to install at least 4 mounting studs to ensure proper attachment of the mainboard.

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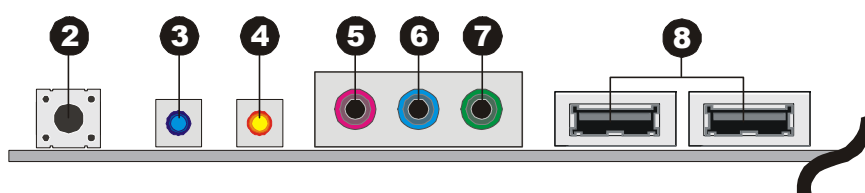
## Step 6

### Connect Front-Panel Switches/LEDs/Speaker/USBs

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



1. ATX power on/off momentary type switch
2. Hardware reset switch
3. Power LED
4. IDE drive active LED
5. MIC-IN
6. Line-IN
7. Line-OUT
8. 2 USB 2.0/1.1 (2/3) Ports

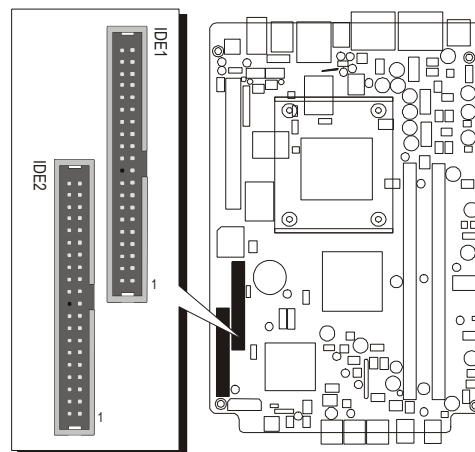


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## Step 7

### Connect IDE Disk Drives

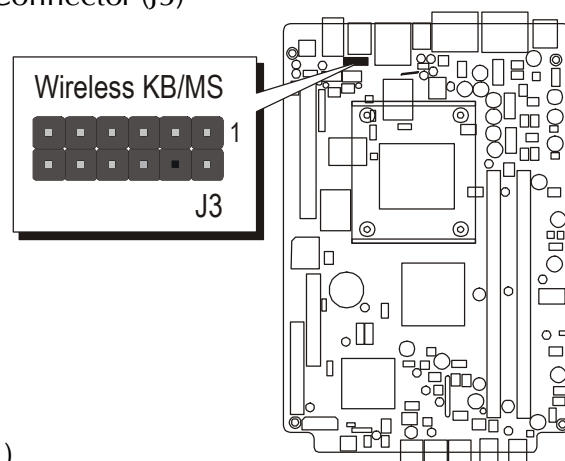
1. IDE cable connectors



## Step 8

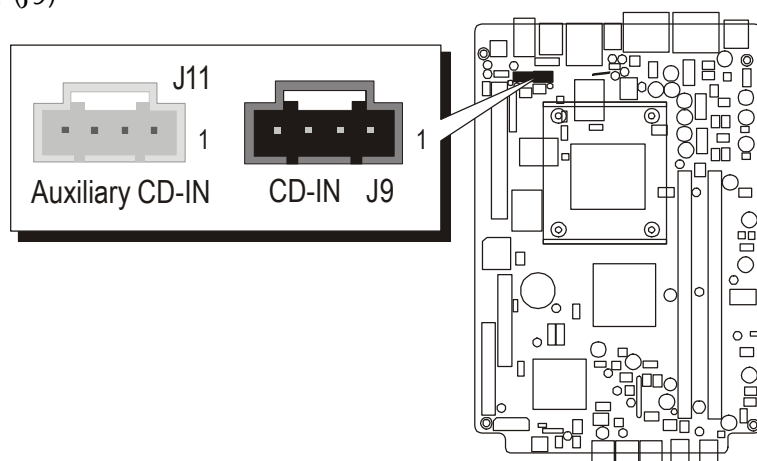
### Connect Other Internal Peripherals

1. Wireless Keyboard and Mouse Connector (J3)



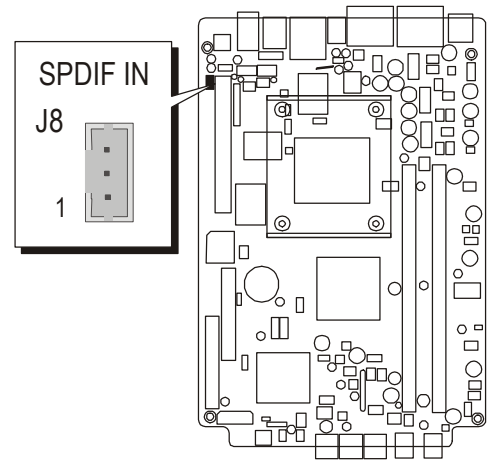
2. Auxiliary CD\_IN Connector (J11)

CD\_IN Connector (J9)

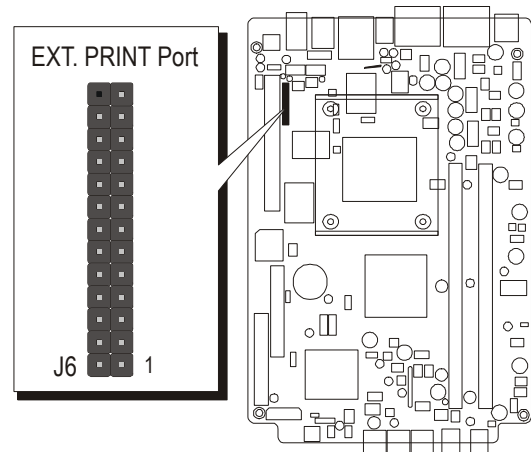


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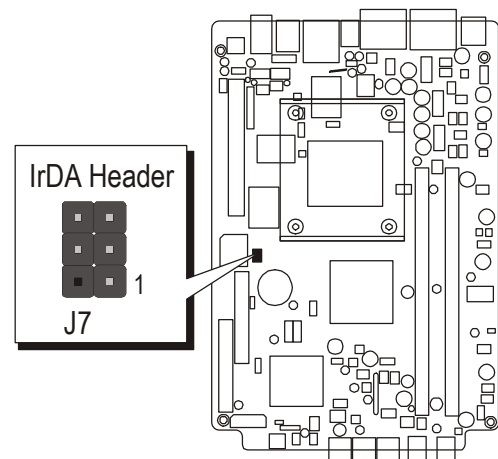
3. SPDIF IN Port (J8)



4. Parallel port Header (J6)

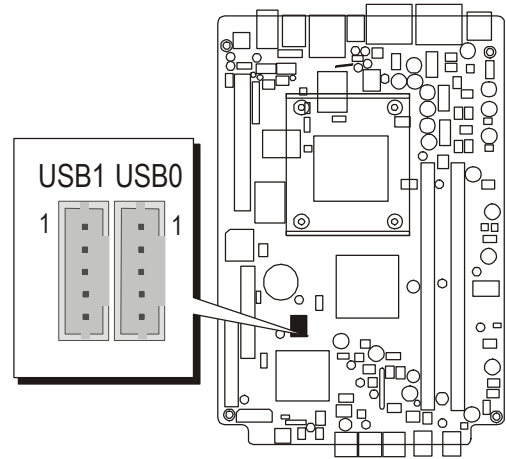


5. IrDA Header (J7)



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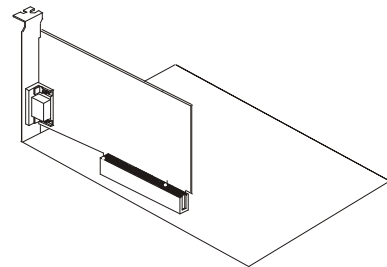
6. DUAL USB Header (USB0, USB1)



**Step 9**

**Install Add-on Cards in Expansion Slots**

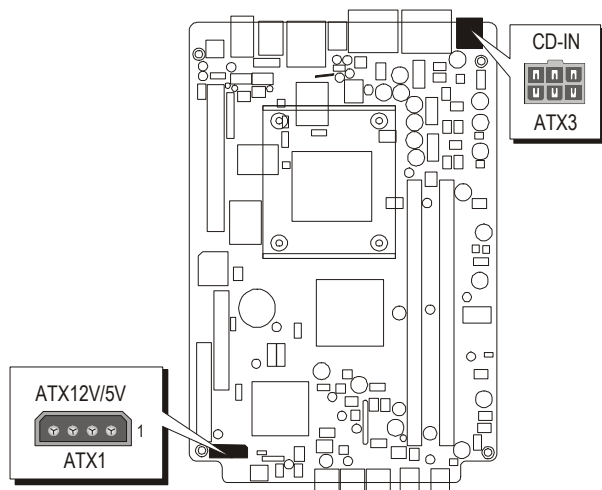
1. PCI Card



**Step 10**

**Connect the Power Supply**

1. System power connectors (ATX1/ATX3)



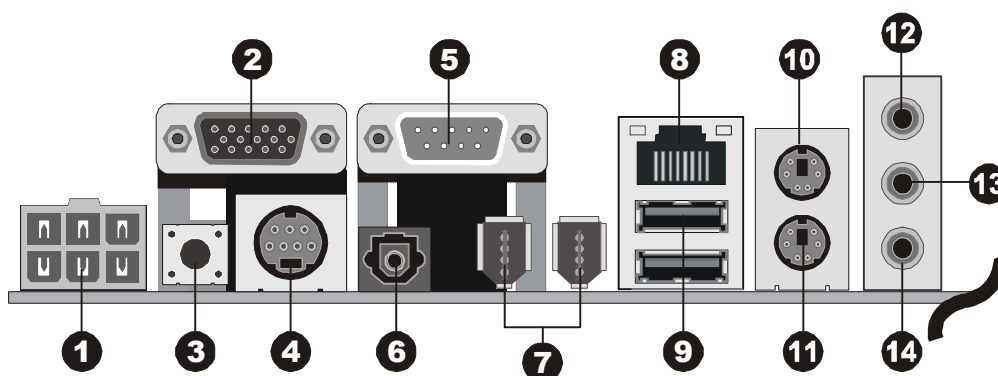
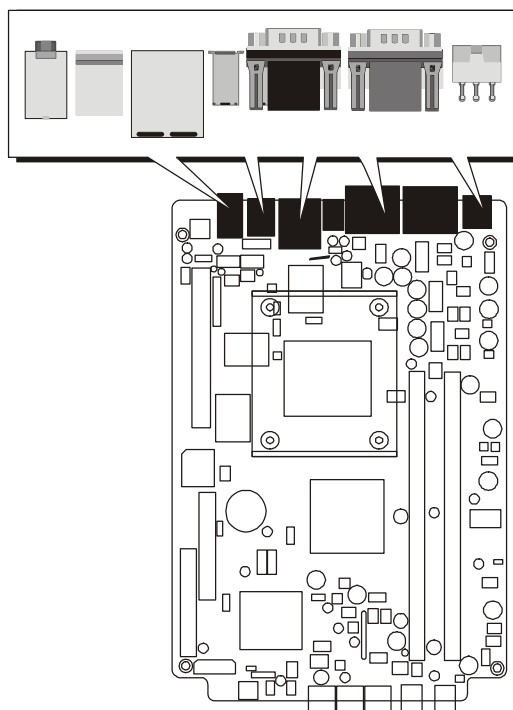
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## Step 11

### 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. DC-IN power connector
2. VGA Port (DB15 female)
3. Clear CMOS button
4. TV-Out Port (AV & S-Video)
5. Serial Port (DB9 male)
6. SPDIF-Out port
7. 1394a Ports
8. LAN Port
9. 2 USB 2.0/1.1 (0/1) Ports
10. PS/2 mouse Port
11. PS/2 keyboard Port
12. BASS/CENTER Port
13. Rear-OUT Port
14. Front-OUT Port





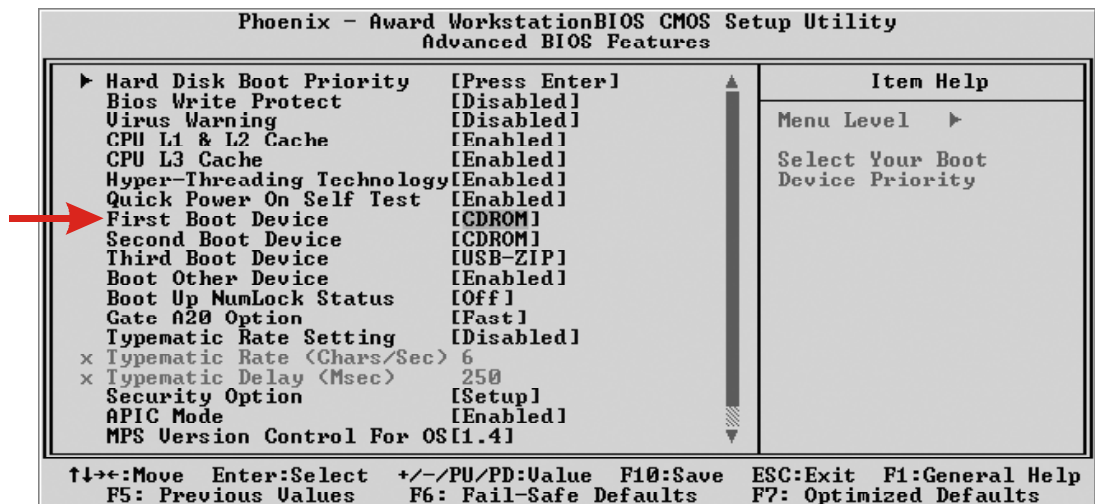
---

## 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. Turn on the system power then press "del" to enter BIOS.  
Please set "CD-ROM" as the first boot device. Insert the operating system setup CD disk into CD-ROM. Now you may save & exit the BIOS setup. System will restart automatically.



2. After restart, just choose start computer with CD-ROM support.  
Then the CD disk will bring up continuous message that teach you how to get your HDD ready for operating system setup such as HDD partition creation & format.
3. Once the C: disk's format is done, you can begin to install operating system.
4. 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 FT62 bundled CD-ROM into your CD-ROM drive. The autorun program will display the drivers main installation window on screen.
2. Choose "Install ATI Chipset Driver" and complete it.
3. Choose "Install ATI VGA 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 ATI 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 jumper caps to connect jumper pins to the mainboard. Pin #1 could be located at any corner of each jumper; you just find a location marked with a white right angle, which stands for pin 1#. There are several types of pin 1# shown as below:


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



Pin #1 to the left: 1 

1 

Pin #1 on the top: 1 

Pin #1 to the right:  1

Pin #1 on the bottom:  1

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

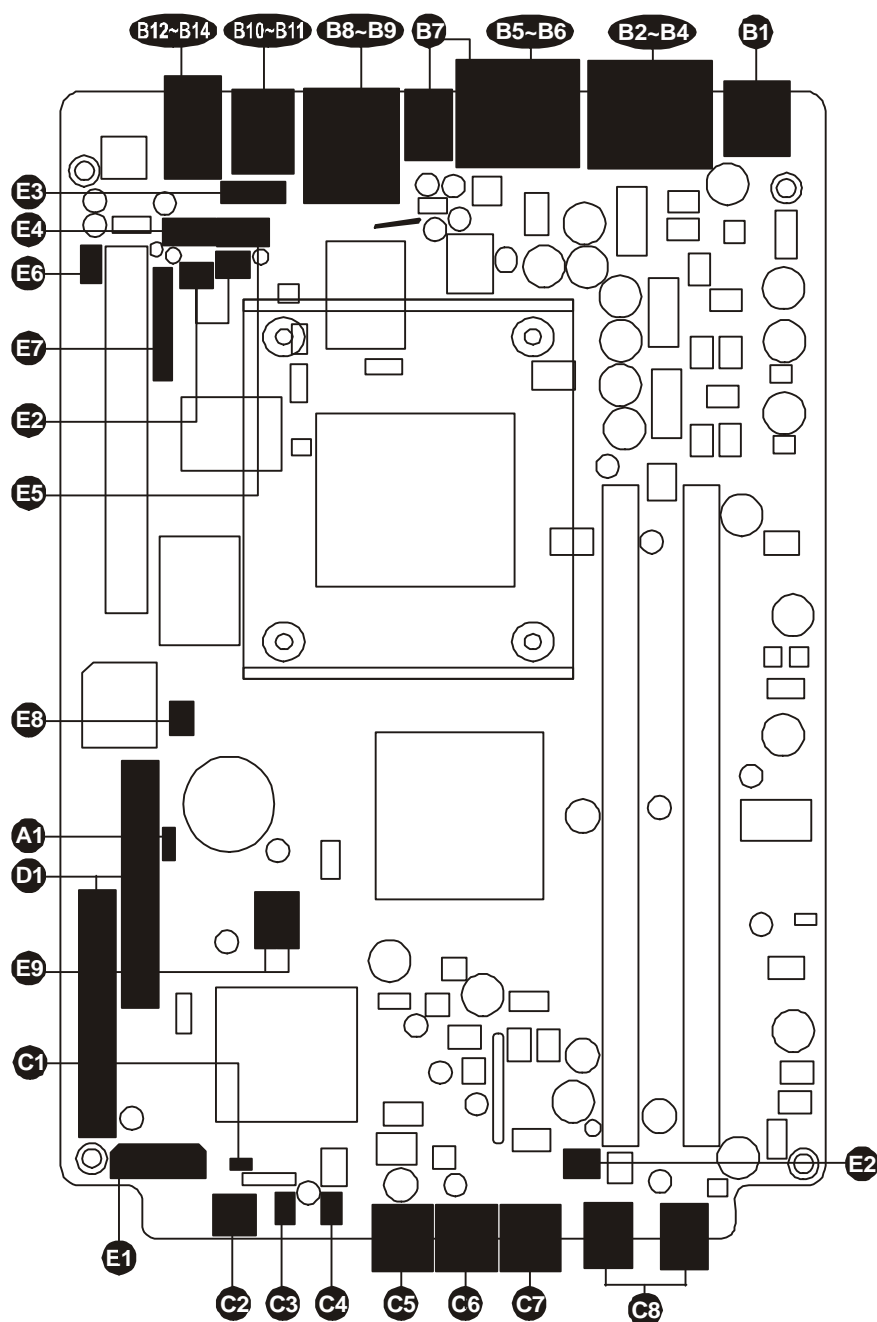
### Caution!

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

---

## 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***

Socket478	: CPU Socket for Pentium 4/Celeron processors
DIMM1/2	: Two 184-pin DIMM Slots for 64,128, 256, 512 MB, and 1GB of 2.5V DDR SDRAM (The total installed memory does not exceed 2GB)
PCI	: One 32-bit PCI Expansion Slot

### ***Jumpers***

<b>A1</b>	JP1	: Clear CMOS setting
-----------	-----	----------------------

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

<b>B1</b>	DC-IN	: DC-IN power connector
<b>B2</b>	VGA	: VGA Port (DB15 female)
<b>B3</b>	Clear CMOS	: Clear CMOS button
<b>B4</b>	TV-Out	: TV-Out Port (AV & S-Video)
<b>B5</b>	COM	: Serial Port (DB9 male) Port
<b>B6</b>	SPDIF-Out	: SPDIF-Out port
<b>B7</b>	1394a	: 2 x 1394a Ports
<b>B8</b>	LAN	: LAN Port
<b>B9</b>	USB	: 2 USB 2.0/1.1 (0/1) (Universal Serial Bus) Ports
<b>B10</b>	MS	: PS/2 mouse Port
<b>B11</b>	KB	: PS/2 keyboard Port
<b>B12</b>	BASS/CENTER	: Audio Bass/Center-Out Port
<b>B13</b>	Rear-OUT	: Audio Rear-Out Port
<b>B14</b>	Front-OUT	: Audio Front-Out Port

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

<b>C1</b>	PWON	: ATX power on/off momentary type switch
<b>C2</b>	Reset Button	: Hardware reset switch
<b>C3</b>	Power LED	: Power LED
<b>C4</b>	HD LED	: IDE drive active LED
<b>C5</b>	MIC-IN	: Front panel audio port

- 
- |           |          |  |
|-----------|----------|--|
| <b>C6</b> | Line-IN  | : Front panel audio port                           |
| <b>C7</b> | Line-OUT | : Front panel audio port                           |
| <b>C8</b> | USB      | : 2 USB 2.0/1.1 (2/3) (Universal Serial Bus) Ports |

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

- |           |      |  |
|-----------|------|--|
| <b>D1</b> | IDE1 | : IDE primary interface (Dual-channel)   |
| <b>D1</b> | IDE2 | : IDE secondary interface (Dual-channel) |

#### ***Other Connectors***

- |           |            |   |
|-----------|------------|---|
| <b>E1</b> | ATX1       | : ATX 12V/5V Connector                  |
| <b>E2</b> | FAN1/2/3   | : Fan Connectors                        |
| <b>E3</b> | J3         | : Wireless Keyboard and Mouse Connector |
| <b>E4</b> | J11        | : Auxiliary CD_IN Connector             |
| <b>E5</b> | J9         | : CD_IN Connector                       |
| <b>E6</b> | J8         | : SPDIF IN Port                         |
| <b>E7</b> | J6         | : Parallel port Header                  |
| <b>E8</b> | J7         | : IrDA Header                           |
| <b>E9</b> | USB0, USB1 | : Extended USB Connector Headers        |



## Jumpers

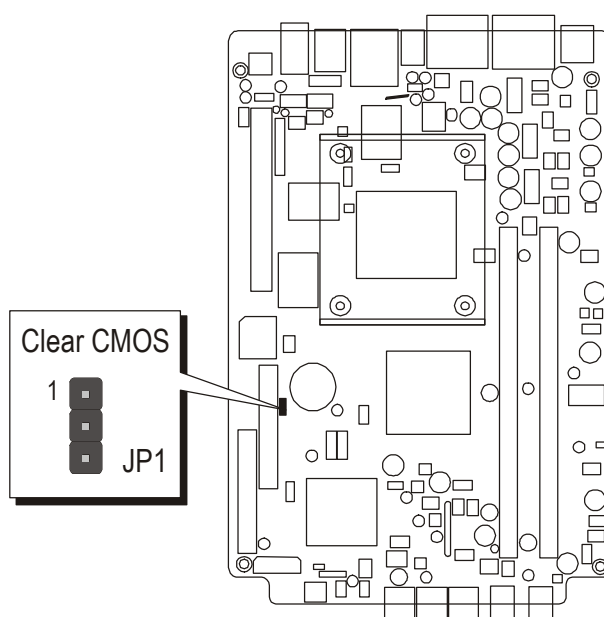
### A1 Clear CMOS Setting (JP1)

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 2-3 (Clear CMOS)



Pin 1-2 (Default)



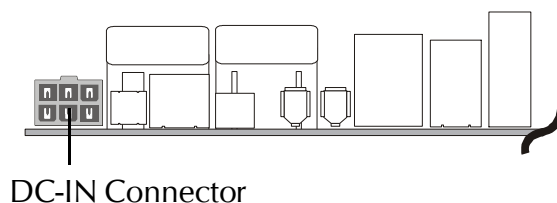
- Step 1. Turn off the system power (PC-> Off).
- Step 2. Remove DC-IN(12V) Power cable from DC-IN Power connector.
- Step 3. Remove jumper cap from JP1 pins 1-2.
- Step 4. Place the jumper cap on JP1 pin 2-3 for a few seconds.
- Step 5. Return the jumper cap to pin 1-2.
- Step 6. Please wait for 2 seconds.
- Step 7. Plug DC-IN Power cable into DC-IN Power connector.
- Step 8. Turn on the system power (PC-> On).

---

## **Back-Panel Connectors**

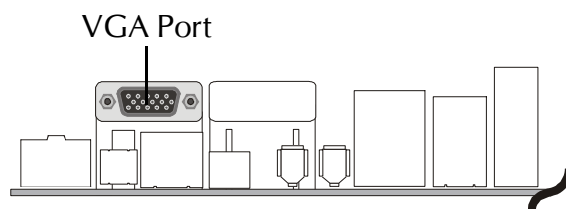
### **B1 DC-IN Power Connector**

This motherboard uses the 12V, 15Amp DC-IN power connector that is 2x3.



### **B2 VGA Connector**

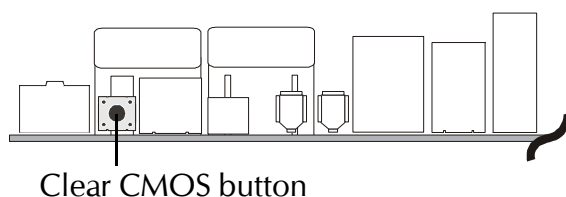
One 15-pin VGA connector is located at the rear panel of the mainboard.



### **B3 Clear CMOS button**

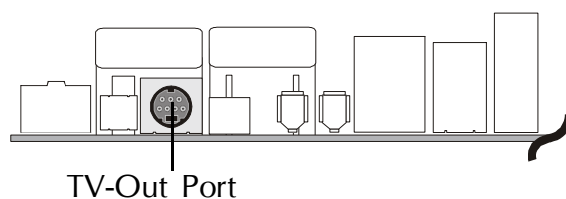
This button is used to clear CMOS data.

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



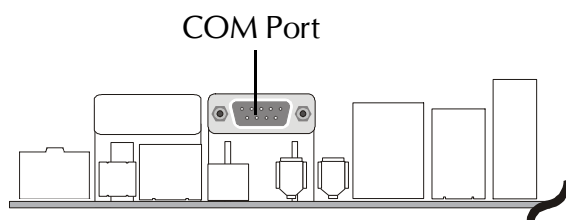
### **B4 TV-Out Connector**

This mainboard can accommodate AV and S Video ports on back-panel.



### **B5 COM Port Connector**

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

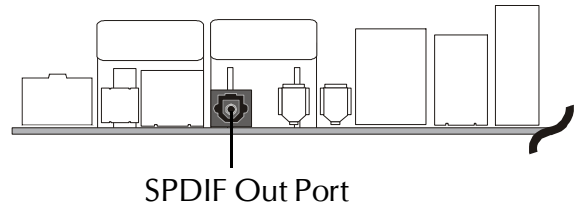




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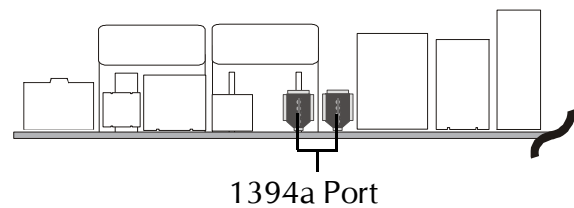
### **B6 SPDIF Out Port Connector**

SPDIF out connector can accept digital audio data from optic fiber.



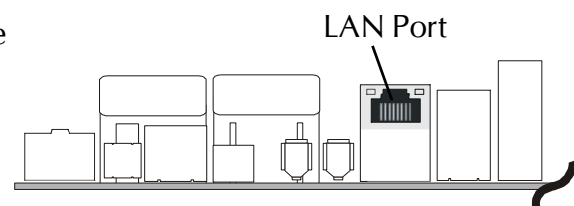
### **B7 1394a Port Connectors**

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



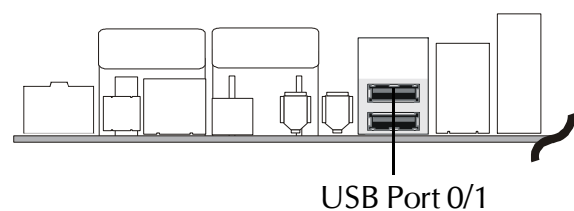
### **B8 LAN Port Connector**

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



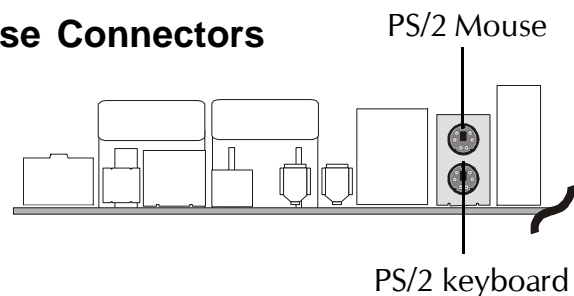
### **B9 USB Port 0/1 Connectors**

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



### **B10 PS/2 Keyboard & PS/2 Mouse Connectors**

**B11** 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

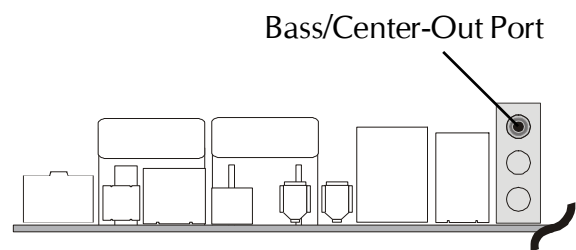


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the top of the PS/2 Keyboard connector when the main-board is laid into a desktop, as opposed to a tower where the PS/2 Mouse connector is located at the right of the PS/2 Keyboard's. Plug the PS/2 keyboard and mouse jacks into their corresponding connectors.

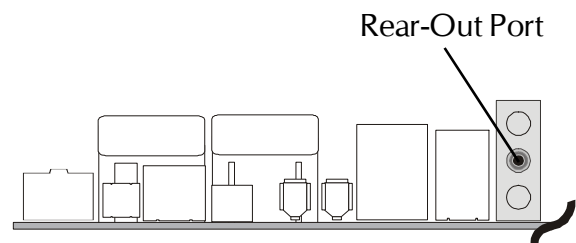
### **B12 Bass/Center Port Connector**

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.



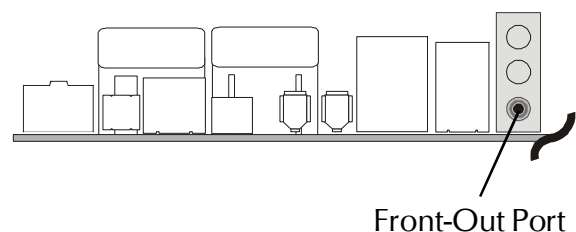
### **B13 Rear-Out Port Connector**

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.



### **B14 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.

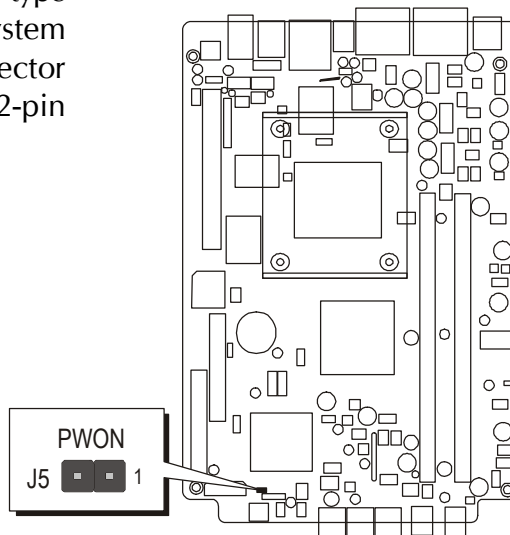


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## **Front-Panel Connectors**

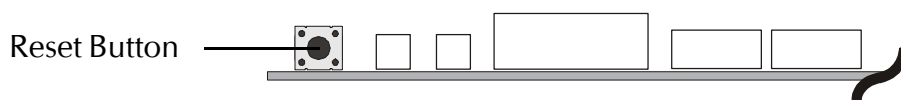
### **❶ ATX Power On/Off Switch Connector (PWON)**

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.



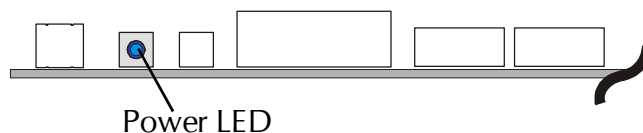
### **❷ Reset Button**

This switch allows you to reboot without having to power off the system. It is also used for shutting down the system when <Ctrl> <Alt> <Del> does not respond.



### **❸ Power LED**

This LED will light when the system's power is on.



### **❹ HD LED**

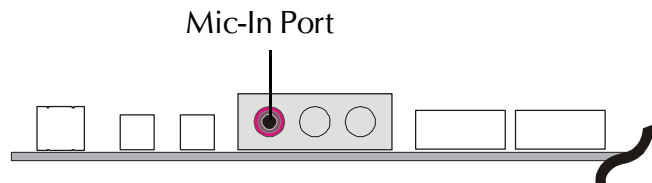
This LED will light when the hard drive is being accessed.



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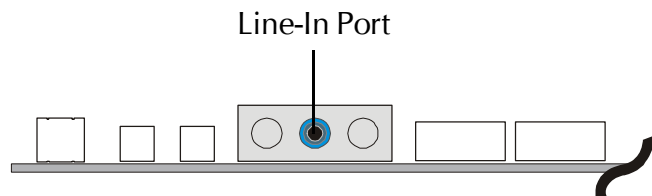
### ⑥5 Mic-In Port Connector

This jack is used to connect an external microphone or output signals from audio devices.



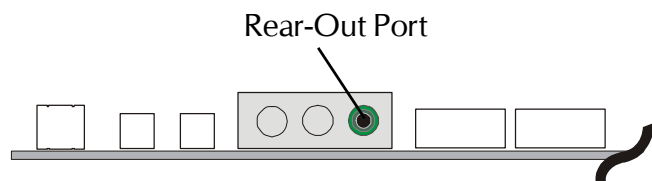
### ⑥6 Line-In Port Connector

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.



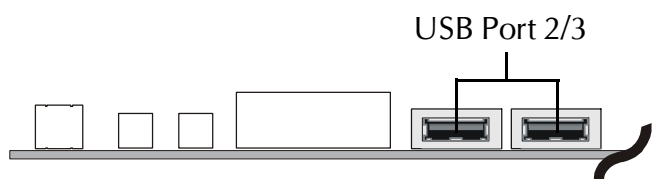
### ⑥7 Line-Out Port Connector

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. Using this port disables the front-out port at the rear panel.



### ⑥8 USB Port 2/3 Connectors

These ports allow connecting USB devices such as keyboard, pointing devices, cameras, etc. connected in a series with data transfer rates up to 480Mb/second.

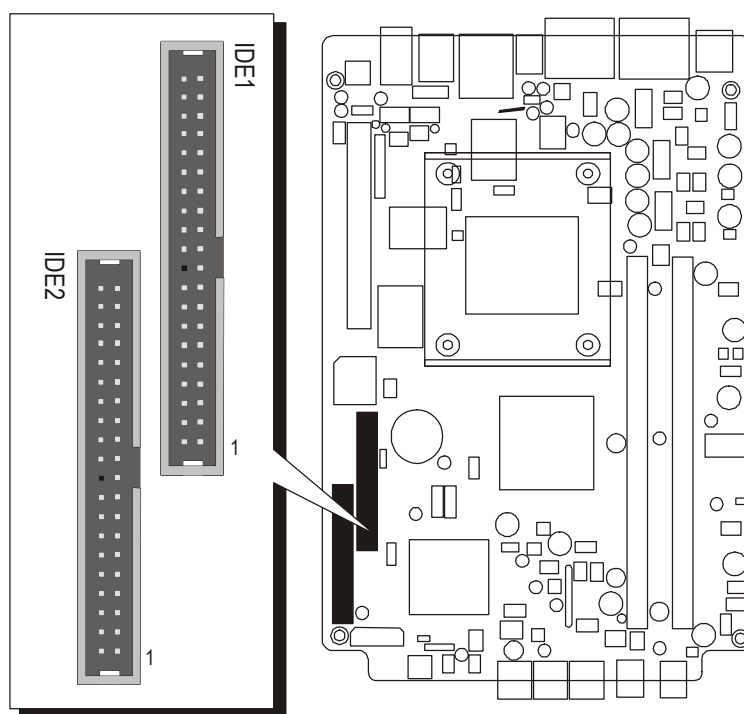


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## **Internal Peripherals Connectors**

### **① Enhanced IDE ATA 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.). Moreover, this mainboard comes with one 80-pin ATA 100/66/33 ribbon cable to connect to IDE H.D.D. connection.



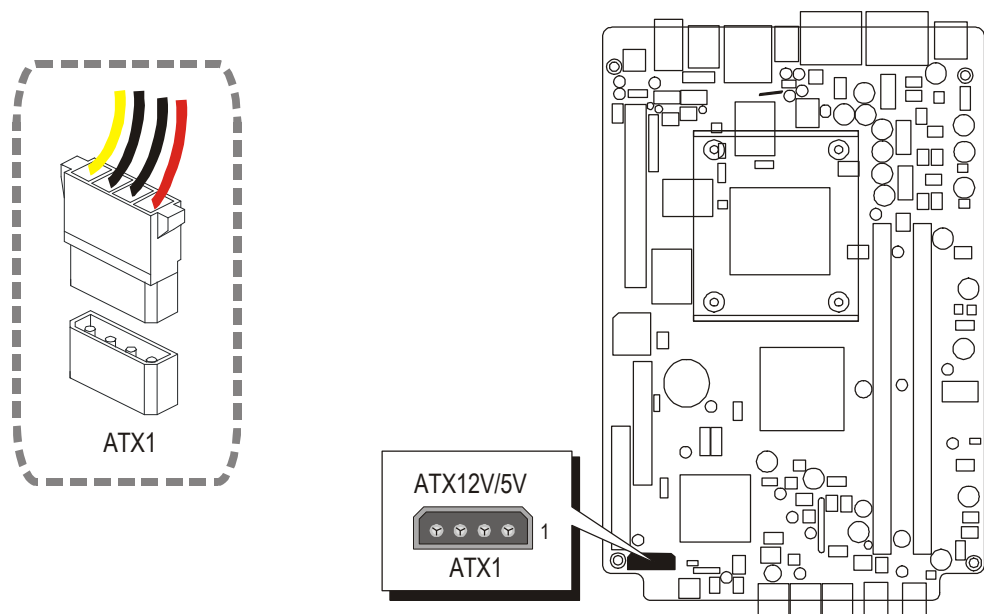
**Important :** Ribbon cables are directional, therefore, make sure to always connect with the red cable stripe on the same side as pin #1 of the IDE1/IDE2 connector on the mainboard.

---

## **Other Connectors**

### **ATX Power Supply Connector (ATX1)**

This motherboard uses 4-pin 12V/5V (ATX1) Pentium 4 standard ATX power head. Please make sure you plug in the right direction.



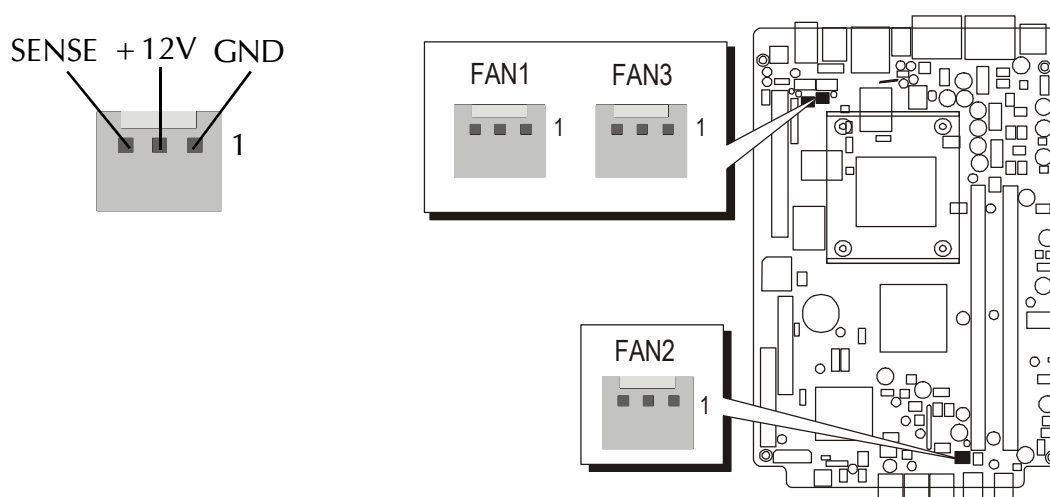
Note1: The ATX power connector is directional and will not go in unless the guides match perfectly making sure that pin#1 is properly positioned.

Note2: Make sure the latch of the ATX power connector clicks into place to ensure a solid attachment.

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## Fan Connectors - FAN1/2/3

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

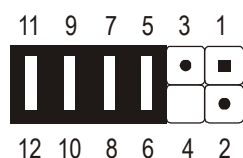


Note : Both cable wiring and type of plug may vary , which depends on the fan maker. Keep in mind that the red wire should always be connected to the +12V header and the black wire to the ground (GND) header.

## Wireless Keyboard and Mouse Connector (J3)

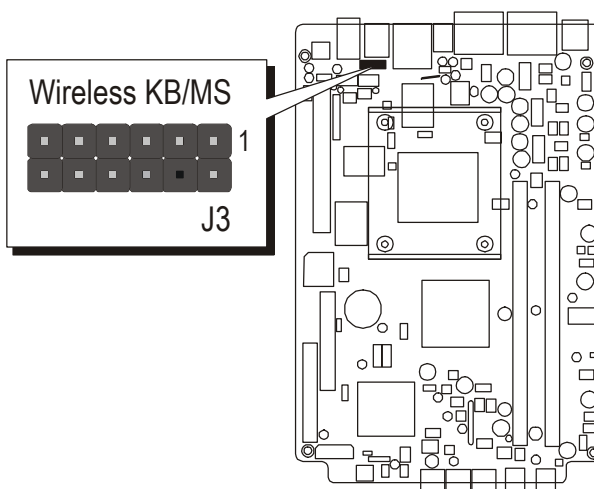
Port J3 can be used to connect wireless keyboard and mouse device.

4 piece mini Jumpers must be setted on pin 5-6, 7-8, 9-10 and 11-12 when this header is not used.



Pin Assignments:

1 = VCC	2 = VCC
3 = GND	4 = KEY
5 = MSCLK	6 = MS_CK
7 = MSDATA	8 = MS_DT
9 = KBCLK	10 = KB_CK
11 = KBDATA	12 = KB_DT

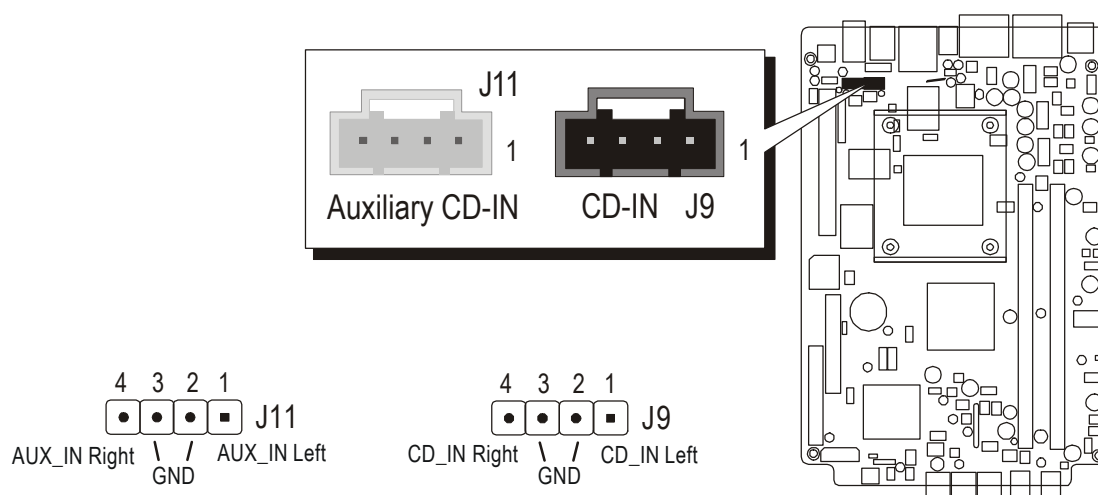


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#### **E4 AUXILIARY CD\_IN Connector (J11) (White)**

#### **E5 CD\_IN Connector (J9) (Black)**

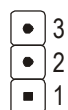
Port J11 (White) and J9 (Black) can be used to connect a stereo audio input from CD-ROM,TV-tuner or MPEG card.



#### **E6 SPDIF\_In Header (J8)**

Port J8 can be used to connect special device.

J8  
SPDIF

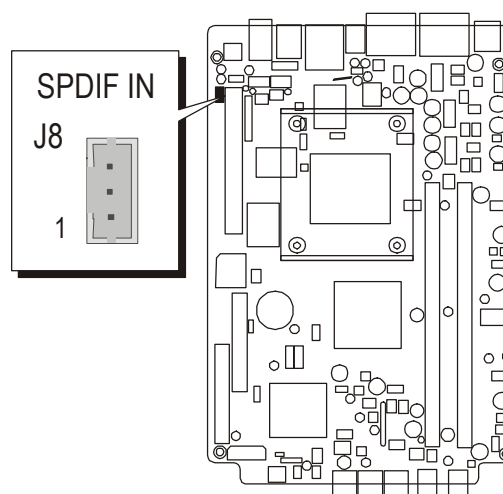


Pin Assignments:

1 = SPDIF IN

2 = GND

3 = VCC

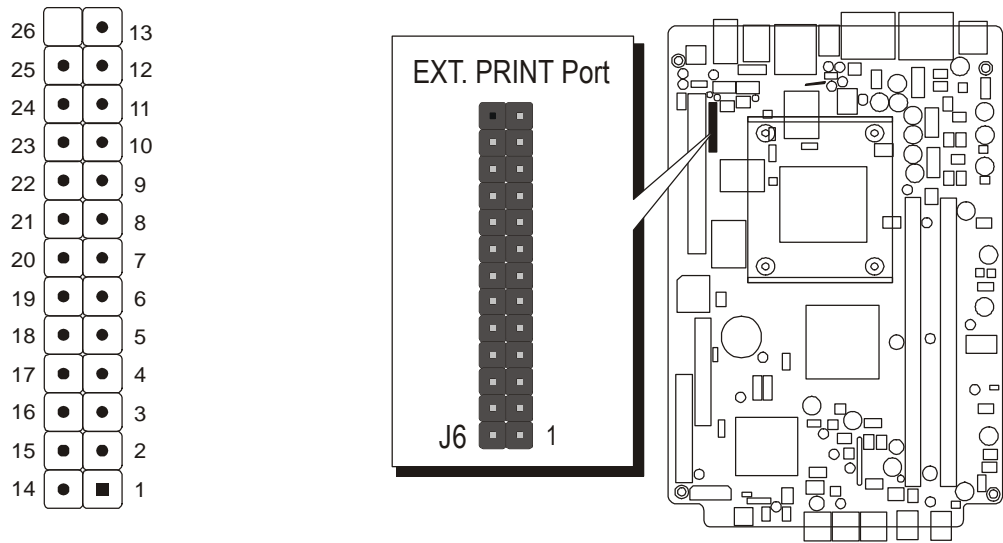




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## **Parallel Port Header-EXT. Print Port (J6)**

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

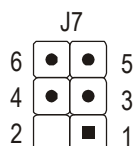


### Pin Assignments:

1 = P_-STB	2 = P_-PRD0	3 = P_-PRD1
4 = P_-PRD2	5 = P_-PRD3	6 = P_-PRD4
7 = P_-PRD5	8 = P_-PRD6	9 = P_-PRD7
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	

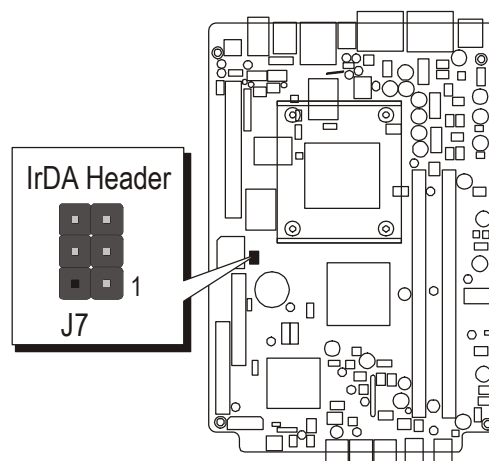
### Ⓔ IrDA Header (J7)

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



Pin Assignment:

1 = NA	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 J7.  
(Refer to the above diagram for IR pin assignment.)

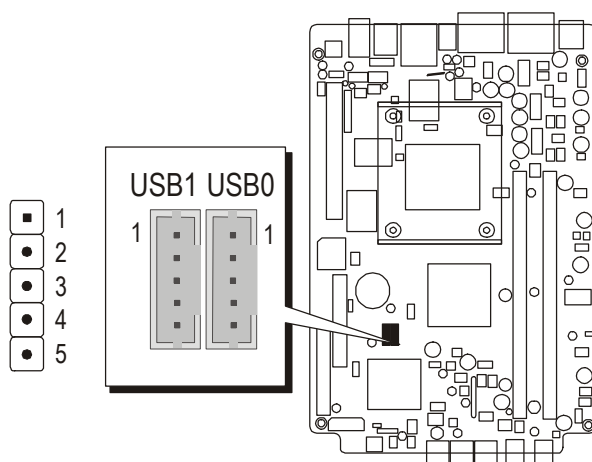
Step2 : This mainboard support IrDA, or Normal transfer modes.

### Ⓕ Extended USB Connector Headers (USB0, USB1)

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.

Pins Assignment:

USB1	USB0
1 = GND	1 = GND
2 = GND	2 = GND
3 = Data5 +	3 = Data4 +
4 = Data5 -	4 = Data4 -
5 = VCC	5 = VCC



---

### 3.3 System Memory Configuration

The FT62 mainboard has two 184-pin DIMM slots that allow you to install from 32MB 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 PC1600, 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 banks. The combination shown as follows.

Density	Device Width	Single/Double	184pin DDR DIMMs
64 Mbit	4M x 16	SS / DS	32 / 64 MB
	8M x 8	SS / DS	64 / 128 MB
128 Mbit	4M x 32	SS / DS	32 / 64 MB
	8M x 16	SS / DS	64 / 128 MB
	16M x 8	SS / DS	128 / 256 MB
256 Mbit	8M x 32	SS / DS	64 / 128 MB
	16M x 16	SS / DS	128 / 256 MB
	32M x 8	SS / DS	256 / 512 MB
512 Mbit	32M x 16	SS / DS	256 / 512 MB
	64M x 8	SS / DS	512 / 1024 MB
1024 Mbit	64M x 16	SS / DS	512 / 1024 MB
	128M x 8	SS / DS	1024 / 2048 MB

Note: Maximum installed memory is 2GB.

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

#### Upgrade Memory:

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

# 4 SOFTWARE UTILITY

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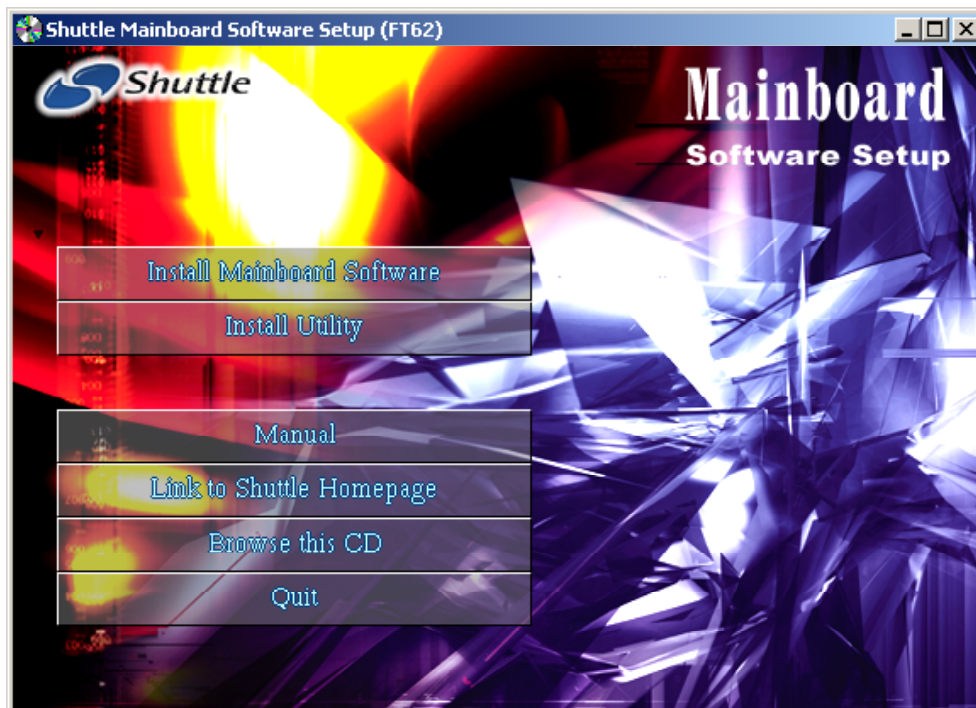
## 4.1 Mainboard CD Overview

Note : The CD contents attached in FT62 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 ATI Chipset Driver, ATI VGA Driver, Realtek Audio Driver, Realtek LAN Driver, USB2.0 Driver.
- ☞ Install Utility - Installing Acrobat Reader, WinFlash Utility.
- ☞ Manual - FT62 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.



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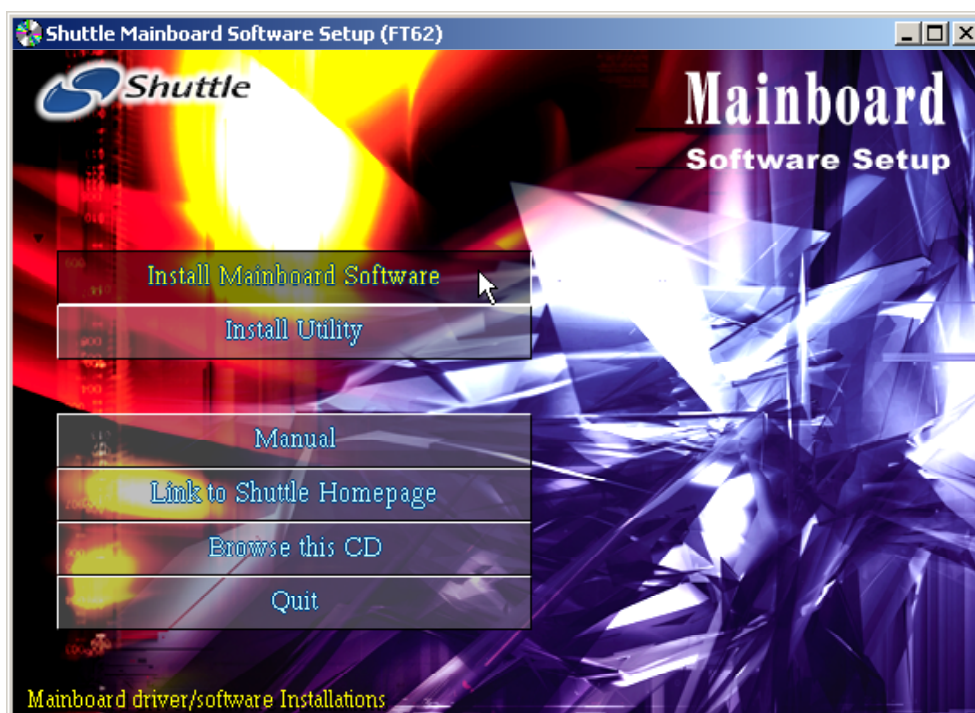
## 4.2 Install Mainboard Software

Insert the attached CD into your CD-ROM drive and the CD AutoRun screen should appear. If the AutoRun screen does not appear, double click on Autorun icon in My Computer to bring up Shuttle Mainboard Software Setup screen.

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

The Mainboard Software include:

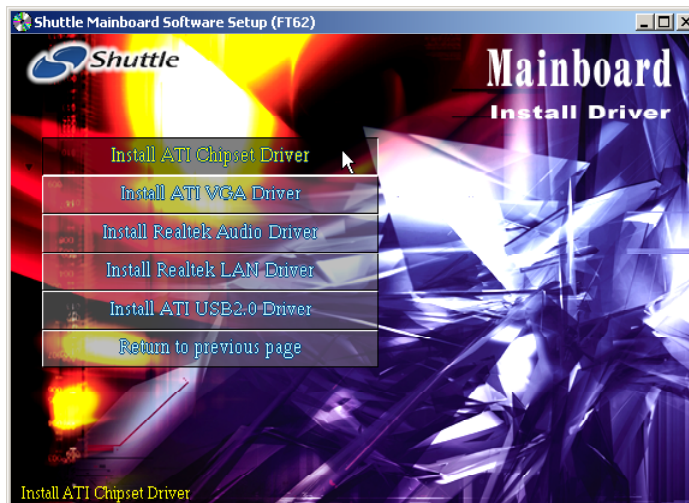
- [4.2.A]      Install ATI Chipset Driver
- [4.2.B]      Install ATI VGA Driver
- [4.2.C]      Install Realtek Audio Driver
- [4.2.D]      Install Realtek LAN driver
- [4.2.E]      Install ATI USB2.0 driver



---

#### 4.2.A Install ATI Chipset Driver

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

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



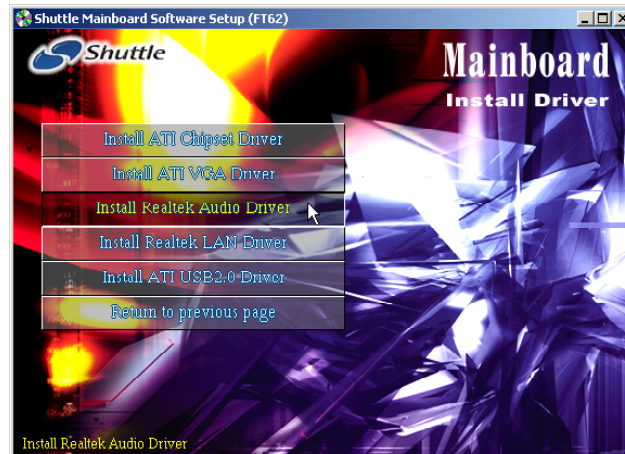
Once you made your selection, a Setup window run the installation automatically. When the copying files is done, make sure you reboot the system to take the installation effect.



---

### 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 and AC'97 Sound System Software.



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.

Important: Under Win 98/Me, please check the "Read me" file and follow steps for manual installation.

---

#### 4.2.E Install ATI USB2.0 Driver

Insert the attached CD into your CD-ROM drive and the CD AutoRun screen should appear. If the AutoRun screen does not appear, double click on Autorun icon in My Computer to bring up Shuttle Mainboard Software Setup screen. Select using your pointing device (e.g. mouse) on the "Install ATI USB2.0 Driver" bar to install USB2.0 driver.



#### 4.3 View the User's Manual

Insert the attached CD into your CD-ROM drive and the CD AutoRun screen should appear. If the AutoRun screen does not appear, double click on AutoRun icon in My Computer to bring up Shuttle Mainboard Software Setup screen.

Select using your pointing device (e.g. mouse) on the "Manual" bar. Then Online Information windows will appear on your screen. Click on the "Install Acrobat Reader" bar if you need to install acrobe reader.



Then click on "Manual" bar to view user's manual.



# 5 BIOS SETUP

---

FT62 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

Note1. If you miss trains of words mentioned in step2 (the message disappears before you can respond) and you still wish to enter BIOS Setup, restart the system and try again by turning the computer OFF and ON again or by pressing the <RESET> switch located at the computer's front-panel. You may also reboot by simultaneously pressing the <Ctrl>, <Alt>, <Del> keys simultaneously.

Note2. 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:

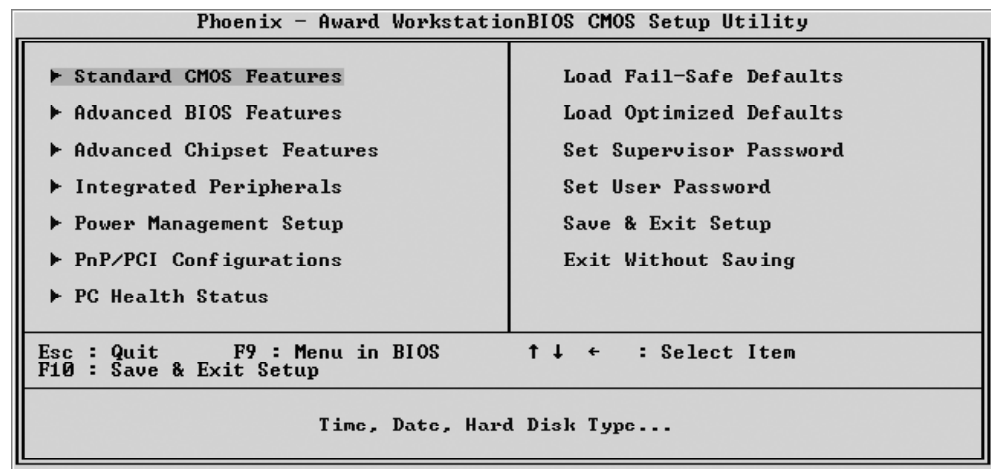
"Press F1 to Continue, DEL to Enter Setup"

- 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.

### ***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 - Award WorkstationBIOS CMOS Setup Utility		
Standard CMOS Features		
Date <mm:dd:yy>	Sat, Oct 25 2003	Item Help Menu Level ►  Change the day, month, year and century
Time <hh:mm:ss>	4 : 22 : 20	
► IDE Primary Master	[ None ]	
► IDE Primary Slave		
► IDE Secondary Master		
► IDE Secondary Slave	[ 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.

### Video

Select the default video device.

➤ The choice: EGA/VGA, CGA 40, CGA 80, or MONO.

### Halt On

Select the situation in which you want the BIOS to stop the POST process and notify you.

➤ The choice: All Errors, No Errors, or All, But Keyboard.

### Base Memory

Displays the amount of conventional memory detected during boot up.

➤ The choice: N/A.

### Extended Memory

Displays the amount of extended memory detected during boot up.

➤ The choice: N/A.

### Total Memory

Displays the total memory available in the system.

➤ The choice: N/A.

\*\*\*\*\*

## ***IDE Adapters***

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

### IDE HDD Auto-Detection

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

➤ Press Enter

### IDE 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.

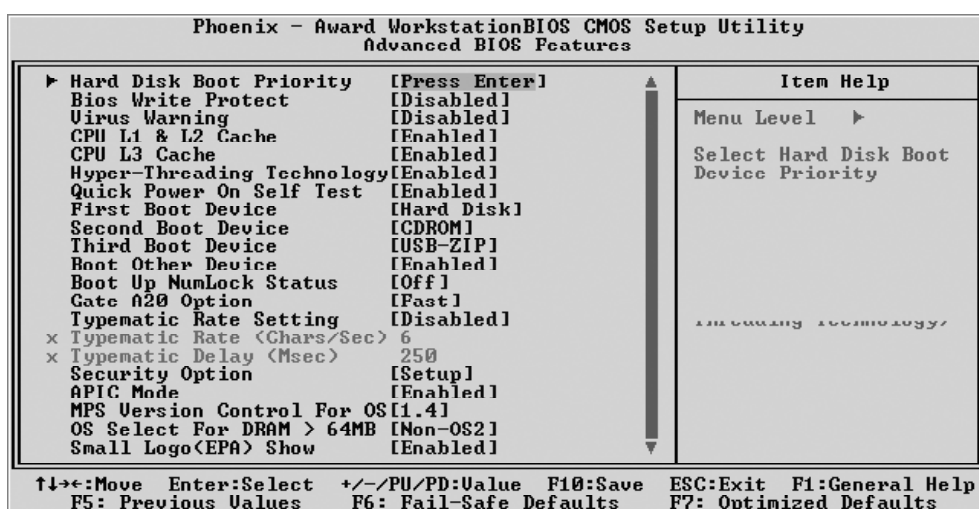
- Min = 0, Max = 255

\*\*\*\*\*



## 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.



### Hard Disk Boot Priority

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

### Bios Write Protect

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

- The choice: Enabled or Disabled.

### 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: CPU support, 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: 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.

### 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 or Windows 2003.

- 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.

### Small Logo <EPA> Show

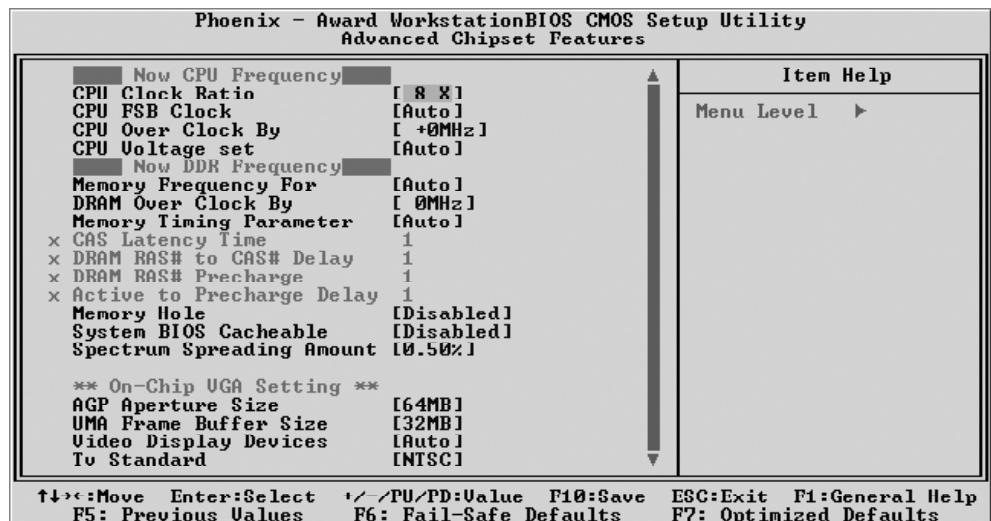
This item allows you to enable or disable the EPA logo.

- 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.



Warning: Over CPU DDR clock, voltage or timing (O.C) may damage hardware. Strongly recommend to set only for expert. Restore default setting to handle unstable system caused by O.C. If O.C cause system boot fail, you must clear CMOS and load BIOS default setting to recovery system.

---

----- Now CPU Frequency -----

It shows current frequency of CPU Clock.

#### CPU Clock Ratio

This item allows the user to adjust CPU Clock Ratio.

If CPU is unlocked, item appear.

- The Choice: 8X ~ 50X.

#### CPU FSB Clock

This item allows the user to adjust CPU FSB Clock.

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

#### CPU Over Clock By

- The Choice: +0 ~ +15MHz.

#### CPU Voltage set

This item allows you to set CPU Voltage.

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

Note: Over CPU voltage may damage CPU.

----- Now DDR Frequency -----

It shows current frequency of DDR Clock.

#### Memory Frequency For

This item allows the user to adjust Memory Frequency.

- The Choice: Auto, SYNC, DDR-200, DDR-266, DDR-333 or DDR-400.

#### DRAM Over Clock By

This item allows the user to fine tuning Memory Clock.

- The Choice: 0 ~ 15MHz.

#### Memory Timing Parameter

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: Auto or Manual.

---

### 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: 1, 1.5, 2, 2.5, 3, 3.5 or 4.

### 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: 1, 2, 3 or 4.

### 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: 1, 2, 3 or 4.

### Active to Precharge Delay

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

- The Choice: 1, 2, 3, 4, 5, 6, 7, or 8.

### Memory Hole

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

- The Choice: Enabled or Disabled.

### 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.

### Spectrum Spreading Amount

This item allows you to set the spectrum spreading amount.

- The Choice : 0.25%, 0.50%, 0.75%, 1.00%, 1.25%, 1.50%, 1.75%, or Disabled.

---

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

AGP Aperture Size

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: None, 32MB, 64MB, 128MB, 256MB, 512MB, 1GB or 2GB.

UMA Frame Buffer Size

This item is select UMA Frame Buffer Size.

It will be shared from system memory.

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

Video Display Devices

You can select boot display device as CRT/TV.

- The Choice: Auto, CRT Only or TV Only.

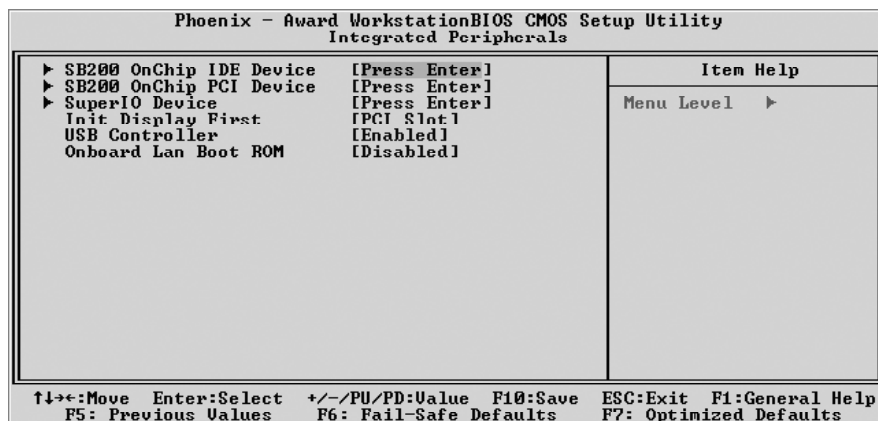
TV Standard

You can select TV mode for Dos.

- The Choice: NTSC, PAL, NTSC-JAP or PAL-N.



## Integrated Peripherals



### SB200 OnChip IDE Device

Options are in its sub-menu.

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

IDE DMA transfer access

Improve IDE HD/CDROM transfer performance.

- The choice: Enabled or Disabled.

OnChip IDE Channel 0/1

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

- The choice: Enabled or Disabled.

IDE Prefetch Mode <Rd>/<Wrt>

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

- The choice: Enabled or Disabled.

Primary/Secondary Master/Slave PIO

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

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

Primary/Secondary Master/Slave UDMA

If you install a device that supports UltraDMA that provides faster access to IDE devices, change the item to Auto.

- The choice: Disabled or Auto.

---

#### IDE HDD Block Mode

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

- The Choice: Enabled or Disabled.

#### SB200 OnChip PCI Device

Options are in its sub-menu.

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

##### Onboard AC97 Audio

This item allows you to control the onboard AC97 Audio.

- The Choice: Auto or Disabled.

#### SuperIO Device

Options are in its sub-menu.

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

##### 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.

### Init Display First

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

- The Choice: PCI Slot or Onboard.

### USB Controller

Set "Enabled" for enable usb 1.1/2.0 controller and usb keyboard & mouse.

- The choice: Enabled or Disabled.

### Onboard LAN Boot ROM

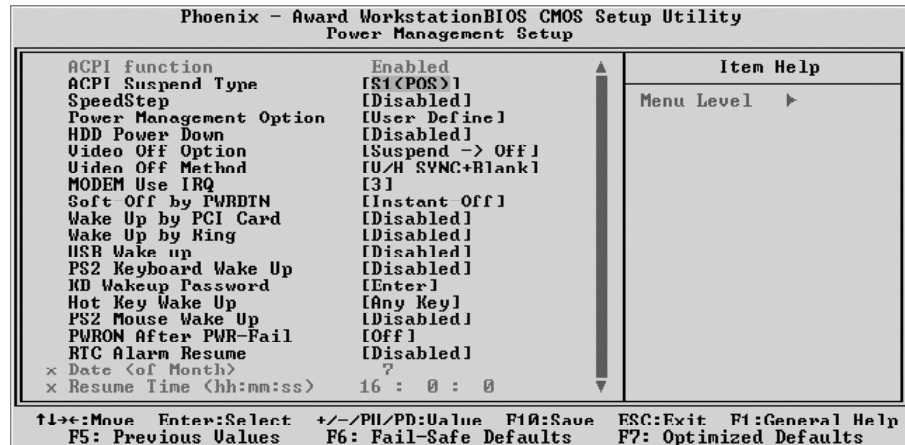
Decide whether to invoke the Boot ROM of the Onboard LAN chip.

- The choice: Disabled or Enabled.





## Power Management Setup



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.

### SpeedStep

SpeedStep only for mobile CPU.

- The choice: Enabled or Disabled.

Warning: SpeedStep "Enabled" only for Mobile CPU running on work frequency. DeskTop CPU strongly recommend set SpeedStep "Disabled".

### Power Management Option

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

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

### 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.

---

### Video Off Option

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

Always On	Monitor will remain on during the power-saving mode.
Suspend --> Off	Monitor is blanked when the system enters into the suspend mode.

➤ The choice: Always On or Suspend -> Off.

### Video Off Method

This determines the manner in which the monitor is blanked.

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

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

DPMS Support	Initial display power management signaling.
--------------	---

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

### MODEM Use IRQ

This determines the IRQ which the MODEM can use.

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

### Soft-Off by PWR-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. Set PCIPME wakeup system from S1/S3/S4/S5.

➤ The choice: Enabled or Disabled.

### Wake Up by Ring

This item determine the system will resume by activating of modem ring. Set Modem Ring wakeup system from S1/S3/S4/S5.

➤ The choice: Enabled or Disabled.

---

### USB Wake up

If you are using a USB KB/MS, you can enable this item to allow a KB/MS to wake up the system from power saving mode. Set Usb device wakeup system from S1/S3.

- The choice: Enabled or Disabled.

### PS2 Keyboard Wake Up

This item allows you to set the PS2 Keyboard Wake Up function. Set PS2 Keyboard Wake Up system from S3/S4/S5.

- The choice: Disabled, Password, or Hot KEY.

### KB Wakeup Password

This item allows you to set the KB Wakeup Password.

- Press" Enter" to set Password.

### Hot Key Wake Up

This item allows you to set the Hot Key Wake Up.

- The choice: Ctrl-F1 ~ Ctrl-F12, or Any KEY.

### PS2 Mouse Wake Up

This item allows you to enable or disable the PS2 Mouse Wake Up. Set PS2 Mouse Wake Up system from S3/S4/S5.

- 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, Former-Sts.

### RTC Alarm Resume

When this item enabled, your can set the date and time at which the RTC (real-time clock) alarm awakens the system from Suspend mode.

- The choice: Disabled or Enabled.

### Data (of Month)

This item selects the alarm date.

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

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

This item selects the alarm Time.

[hh]

- Key in a DEC number:Min = 0, Max = 23.

[mm/ss]

- Key in a DEC number:Min = 0, Max = 59.



## PnP/PCI Configurations

Phoenix - Award WorkstationBIOS 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]
Assign IRQ For UGA	[Enabled]
Assign IRQ For USB	[Enabled]
PCI Latency Timer(CLK)	[ 64]
INT Pin 1 Assignment	[Auto]
INT Pin 2 Assignment	[Auto]
INT Pin 3 Assignment	[Auto]
INT Pin 4 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.

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

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

- The choice: PCI Device or Reserved.

### PCI/VGA Palette Snoop

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

- The choice: Enabled or Disabled.

### Assign IRQ For VGA

The item aims at assigning the IRQ line to the VGA on your system. When enabled, activity from the VGA will awaken the system.

- The choice: Disabled or Enabled.

### Assign IRQ For USB

The item aims at assigning the IRQ line to the USB on your system. When enabled, activity from the USB will awaken the system.

- The choice: Disabled or Enabled.

### PCI Latency Timer <CLK>

Set the PCI Latency Timer.

- Min = 0, Max = 255

### INT Pin1 ~ 4 Assignment

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

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



## PC Health Status

Phoenix - Award WorkstationBIOS CMOS Setup Utility PC Health Status		
CPU Fan Speed Control	[Smart Fan]	Item Help
User Set CPU Fan	[Fan 1 & Fan 3]	Menu Level ▶
CPU Temp Tag	[65 °C]	Press F2 to see more
CPU Voltage		
AGP Voltage		
+3.3V		
+5V		
+12V		
-12V		
DDR Voltage		
+5USB		
Voltage Battery		
RS300 Temperature		
CPU Temperature		
PWM 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
↑↓←→: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.

Press F2 to see more		
Choice	Cpu Temp	Fan Speed
<Ultra> Low	↑80°C ↓80°C	Full <U>L
Mid	↑80°C ↓80°C	Full Mid
Full	always Full	
Smart Fan : base on Cpu Temp to adjust Fan Speed.		
Ultra Low : 1900 rpm		
Low : 2500 rpm		
Mid : 3000 rpm		

Ultra-Low	CPU Temperature below 80 °C , cpu fan speed 1900 rpm.
	CPU Temperature over 80 °C , cpu fan speed 4000 rpm.
Low	CPU Temperature below 80 °C , cpu fan speed 2500 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, Fan2, Fan3, Fan1 & Fan3.

### 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 65 °C), CPU fan will speed up. You can refer to table below.

- The choice: Default 65 °C.

Current CPU Temp Over CPU Temp Tag	Fan Speed (rpm)
OVER 0 °C	1800
1 °C	1950
2 °C	2050
3 °C	2150
4 °C	2250
5 °C	2350
6 °C	2450
7 °C	2550
8 °C	2650
9 °C	2700
10 °C	2750
11 °C	2800
12 °C	2850
13 °C	2900
14 °C	3000
15 °C	3050
16 °C	3100
:	:
:	:

Smart Fan : base on Cpu Temp dynamic adjust Fan Speed. When CPU Temp over 80 °C, fan speed full.

CPU Voltage  
AGP Voltage  
+ 3.3V  
+ 5V  
+ 12V  
-12V  
DDR Voltage  
+ 5VSB  
Voltage Battery  
RS300 Temperature  
CPU Temperature  
PWM Temperature  
Fan1 Speed  
Fan2 Speed  
Fan3 Speed

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.



### **Load Fail-Safe Defaults**

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

Load Fail-Safe Defaults (Y/N) ? N

Pressing 'Y' loads the BIOS default values for the most stable, minimal performance system operations.



### **Load Optimized Defaults**

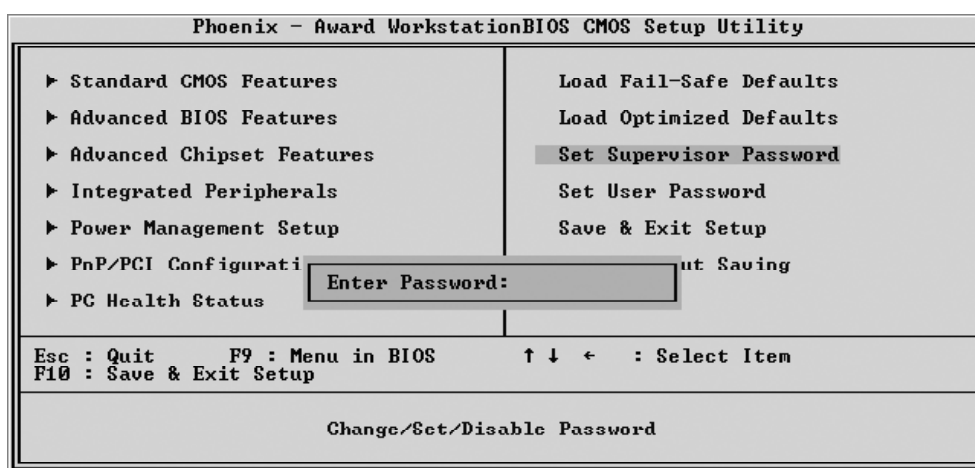
When you press <Enter> on this item, you will get a confirmation dialog box with a message similar to:

Load Optimized Defaults (Y/N) ? N

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



### **Set Supervisor/User Password**



Steps to set supervisor/user password are described as follows:



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#### New Password Setting:

1. While pressing <Enter> to set a password, a dialog box appears to ask you enter a password.
2. Key in a new password. The password can not exceed eight characters.
3. System will request you to confirm the new password again.
4. When completed, new code takes effect.

#### No Password Setting:

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

#### If You Forget Password:

If you forget the password, the only way to access the system is to clear the CMOS memory. Please refer to page 27 on clear CMOS setting.

### **Save & Exit Setup**

Pressing <Enter> on this item asks for confirmation:

SAVE to CMOS and EXIT (Y/N)? Y

Pressing "Y" stores the selections made in the menus of CMOS - a special section of memory that stays on after you turn your system off. The next time you boot your computer, the BIOS configures your system according to the Setup selections stored in CMOS. After saving the values the system is restarted again.

### **Exit Without Saving**

Pressing <Enter> on this item asks for confirmation:

Quit Without Saving (Y/N)? N

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