

**MV42/MV42N**  
**Pentium 4 Processor**  
**Based DDR/SDR MAIN BOARD**  
*User's Manual*

# Shuttle® Spacewalker™ MV42/MV42N

## Pentium 4 , 478-pin processor based DDR Mainboard

### Manual Version 1.0

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# WHAT'S IN THE MANUAL

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## About This Manual

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# 1 INTRODUCTION

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## 1.1 To Different Users

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

Welcome to the DIY world! Building your own computer system is not as difficult as you may think. To make your first computer DIY experience successful, right from the start, we have designed the **3.1 Hardware Installation** section in a step-by-step fashion for all the first-time DIY system builders. Prior to installation, we also suggest you to read the whole manual carefully to gain a complete understanding of your new Shuttle MV42/MV42N mainboard.

### **Experienced DIY User**

Congratulate on your purchase of the Shuttle MV42/MV42N mainboard. You will find that installing your new Shuttle MV42/MV42N mainboard is just easy. Bundled with an array of onboard functions, the highly-integrated MV42/MV42N 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 MV42/MV42N to construct your system. Shuttle MV42/MV42N incorporates all the state-of-the-art technology of the P4M266 chipset from VIA. It integrates the most advanced functions you can find to date in a compact Micro ATX board.

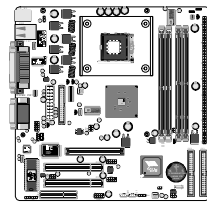


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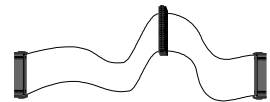
## 1.2 Item Checklist:

Check all items with you MV42/MV42N mainboard to make sure nothing is missing. The complete package should include:

- \* One piece of Shuttle MV42/MV42N Mainboard



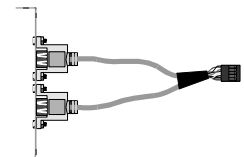
- \* One piece of ATA 100/66/33 Ribbon Cable



- \* One piece of Floppy Ribbon Cable



- \* One piece of twin ports USB Cable (optional)



- \* MV42/MV42N User's Manual



- \* One piece of Bundled CD-ROM with containing:
  - MV42/MV42N user's manual saved in PDF format
  - VIA Chipset System Driver
  - VIA AGP Driver
  - Onboard Audio controller driver
  - AMI Flashing Utility
  - LAN Driver (MV42N Only)



# 2 FEATURES

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MV42/MV42N 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, 478-pin processors with 400 MHz FSB.

### \* **Chipset**

Features VIA 8751(P4M266) N.B. and VIA 8233 S.B..

### \* **Integrated Graphics Controller**

P4M266 integrates S3® Savag4™ graphics accelerator into a single chip. P4M266 brings mainstream graphics performance to the Value PC with leading-edge 2D, 3D and DVD video acceleration into a cost effective package. Based on its capabilities, P4M266 is an ideal solution for the consumer, corporate mobile users and entry-level professionals.

Maximum-shared memory size is 32MB.

### \* **Built-in Ethernet LAN (Optional)**

Built-in 10BaseT/100BaseTX Ethernet LAN.

VT8233 integrates Fast Ethernet MAC and VT6103 LAN PHY in compliance with IEEE802.3u 100BASE-TX, 10BASE-T and ANSI X3.263 TP-PMD standards.

In compliance with ACPI 1.0 and the Network Device Class Power Management 1.0.

### \* **AC'97 Link for Audio and Telephony CODEC**

AC'97 2.2 compliant.

Spread independent PCI functions for Audio and Modem.

### \* **Versatile Memory Support**

Two **184-pin DIMM** slots to support up to 1GB of PC1600 or PC2100 compliant **DDR SDRAM** module.

or two **168-pin DIMM** slots to support up to 1GB of PC100 or PC133 compliant **SDR SDRAM** module.

### \* **PCI Expansion Slots**

Provides two 32-bit PCI slots.

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### ★ **AGP Expansion Slots**

Provides one 32-bit AGP slot which supports 4X AGP devices.

### ★ **CNR Expansion Slot**

Provides one CNR (Communication/ Network Riser) slot.

### ★ **6 USB Interface Onboard**

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

### ★ **I/O Interface**

Provides a variety of I/O interfaces:

- 1\* 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\*PS/2 mouse connector.
- 1\*PS/2 Keyboard connector.
- 1\*RJ45 LAN connector.
- 1\*DB9 Serial connectors 16550 UART compatible.
- 1\*VGA port.
- 1\*DB25 Parallel port supports Standard Parallel Port and Bi-directional (SPP), Enhanced Parallel Port (EPP), and Extended Capabilities Port (ECP) data transmission schemes.
- 1\*Line-Out port.
- 1\*Line-In port.
- 1\*Mic-In port.
- 1\*MIDI/GAME 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.net).

### ★ **ATX Power Supply Connector**

ATX power supply unit can be connected to the onboard 20-pin Pentium 4 standard ATX power connectors, supporting Suspend and Soft-On/Off by dual-function power button.

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## \* **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 AMI BIOS 2Mb Flash core and supports Green PC, Desktop Management Interface (DMI).

## \* **Micro ATX Form Factor**

System board conforms to Micro ATX specification.

Board dimension: 244mm\*244mm.

## \* **Advanced Features**

- **Low EMI** - Built in spread spectrum and automatic clock shut-off of unused PCI/SDRAMS slots to reduce EMI.
- **Dual Function Power Button** - The system can be in one of two states, one is Suspend mode and the other is Soft-Off mode. Pushing the power button for less than 4 seconds places the system into Suspend mode. When the power button is pressed for longer than 4 seconds, the system enters Soft-Off mode.
- **Modem Ring Power-On** - The system can be powered on automatically by the activation of modem ringing.
- **CPU Clock Setting** - This item allows users to adjust CPU Host Clock in BIOS.
- **CPU Multiplier Setting** - This item allows users to adjust CPU Multiplier in BIOS.

## \* **Intelligent Features**

- **Voltage Monitoring** - Monitors various voltages of key elements, such as the CPU, and other critical system voltage levels to ensure stable current passing through mainboard components.
- **Fan Status Monitoring** - To prevent CPU from overheating, the CPU fan is monitored for RPM and failure. (CPU Cooling FAN with RPM sensor is required.)
- **Temperature Monitoring** - This item allows users to make sure whether the CPU or system runs in a suitable temperature.



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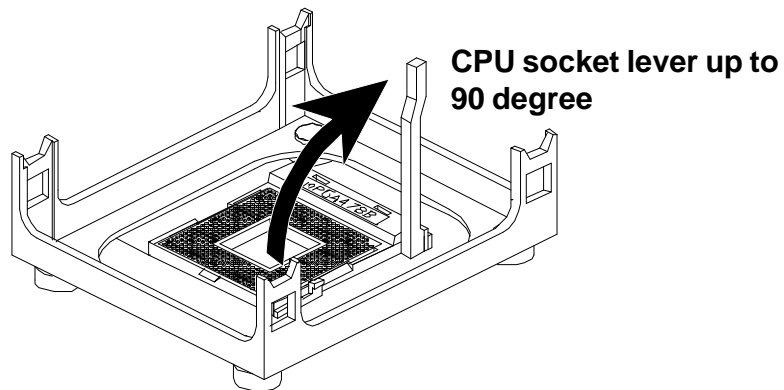
## Step 1

### CPU Installation:

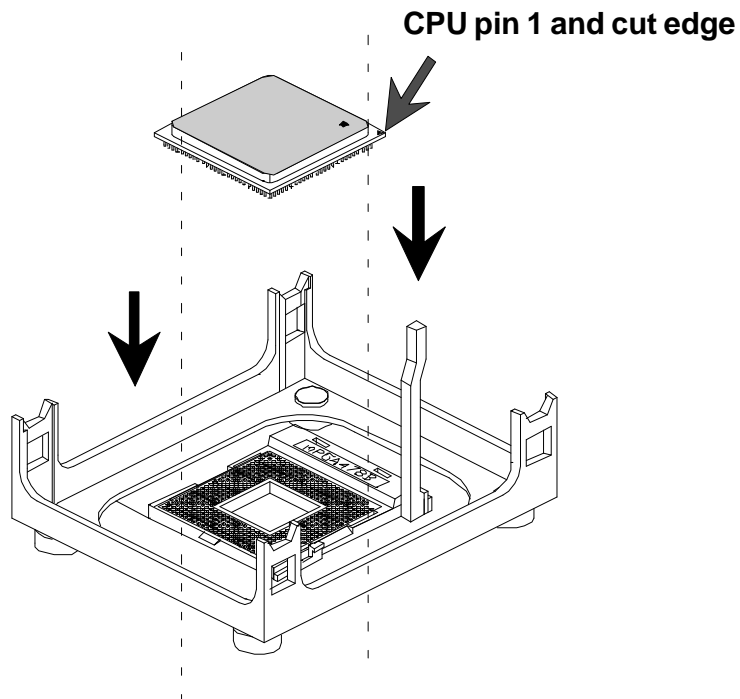
This mainboard supports VIA Pentium 4 , Socket 478 series CPU. Please follow the step as below to finish CPU installation.

Be careful of CPU orientation when you plug it into CPU socket.

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

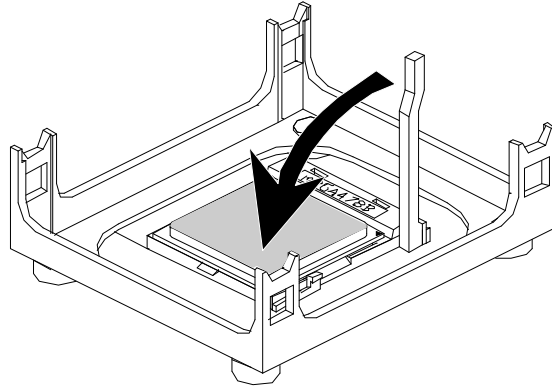


2. Locate Pin 1 in the socket and look for a black dot or cut edge on the CPU upper interface. Match Pin 1 and cut edge, then insert the CPU into the Socket.



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



**Note:** If you do not match the CPU socket Pin 1 and CPU cut edge well, it may damage the CPU.

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## Step 2.

### Set Jumpers

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:

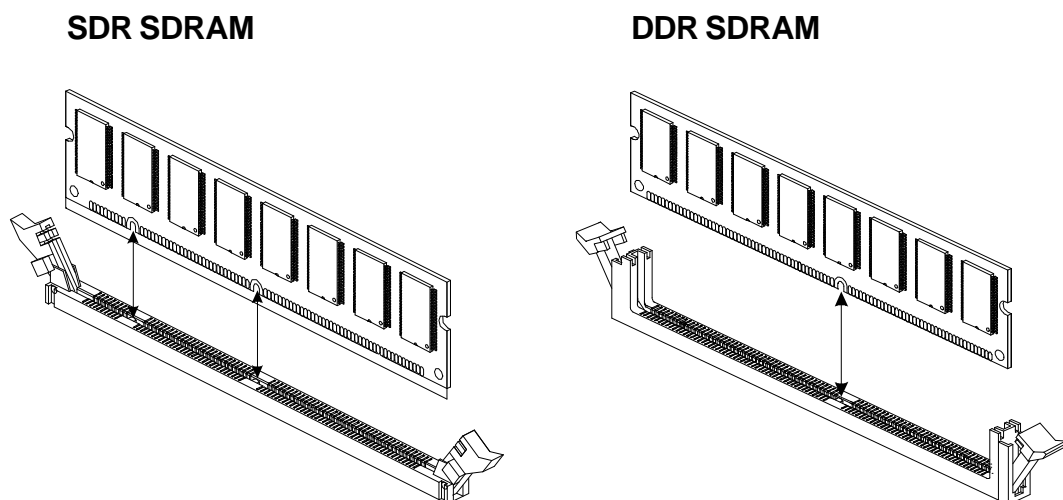
1. Clear CMOS
2. CPU Clock Setting
3. DRAM Type and Voltage Setting
4. Keyboard power on Setting
5. Select flash ROM Size or Voltage

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 or SDR SDRAM System Memory

To insert memory module(s) in any one or two DIMM slot(s). Please note that 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.





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## **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:

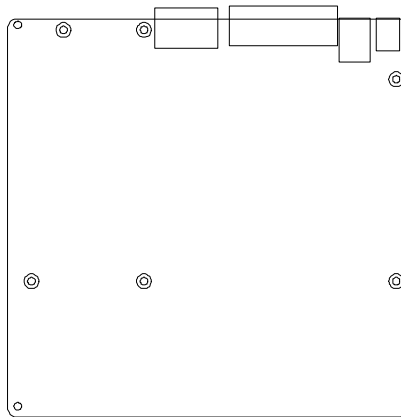
1. Set the required jumpers on each device according to the instructions provided by the manufacturer. (IDE devices, HDD, and CD-ROM, have to set jumpers to Master or Slave mode depending on whether you install more than one device of each kind.)
2. Connect IDE cable and FDD cable on the back-panel of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

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## Step 5

### Mount the Mainboard on the Computer Chassis

1. You may find that there are a lot of different mounting hole positions both on your computer chassis and on the mainboard. To choose correct mounting holes, the key point is to keep the back-panel of the mainboard in a close fit with your system case, as shown below.



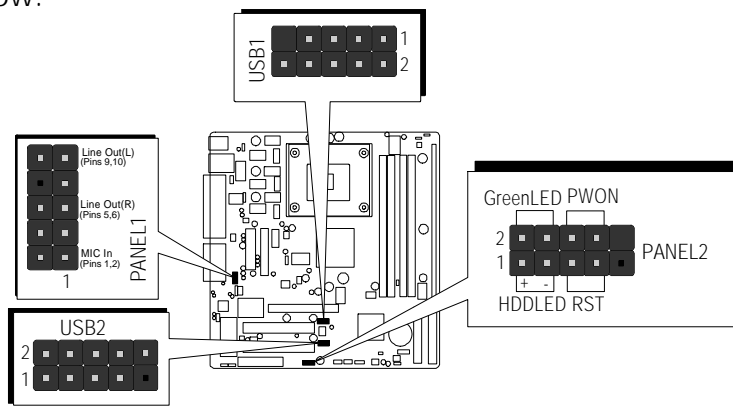
2. After deciding on the proper mounting holes, position the studs between the frame of the chassis and the mainboard. The studs are used to fix the mainboard and to keep a certain distance between the system chassis and the mainboard, in order to avoid any electrical shorts between the board and the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

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, Reset Switch, Audio Line-out, Microphone-in, or USB devices etc.) These cables serve to connect the front-panel switches, LEDs, and USB connectors to the mainboard's front-panel connectors group, as shown below.



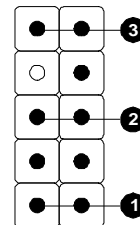
#### PANEL 1

1. MIC In (Pin 1,2)
2. Line In (R) (Pin 5,6)
3. Line Out (L) (Pin 1,10)

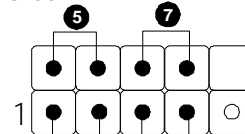
#### PANEL 2

4. HDD-LED (HDDLED)
5. Green-LED and Power-LED (GLED/PLED)
6. Reset Switch
7. Power Switch (Power ON/OFF)

8. Extended USB Headers



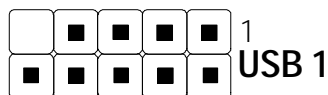
GreenLED Power ON/OFF



HDDLED Reset Switch

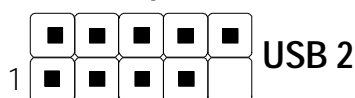
8

USB port 3



USB port 4

USB port 6



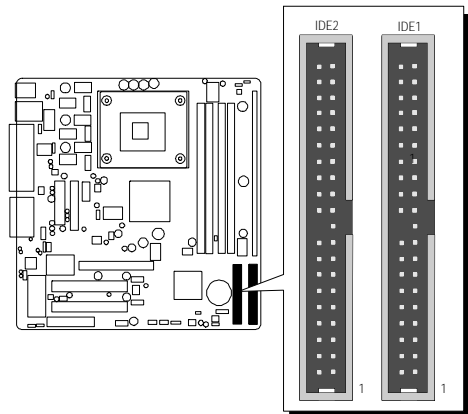
USB port 5

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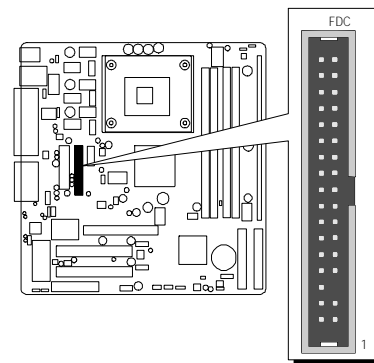
## Step 7

### Connect IDE and Floppy Disk Drives

1. IDE cable connector



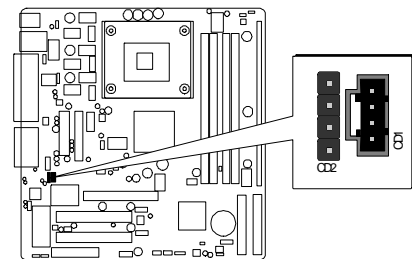
2. Floppy cable connector



## Step 8

### Connect Other Internal Peripherals

1. CD-IN connectors

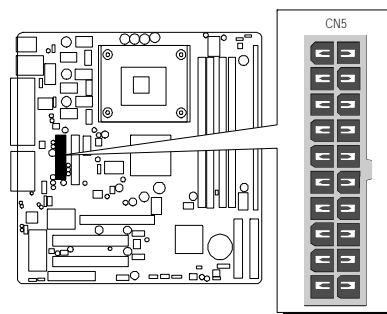


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## Step 9

### Connect the Power Supply

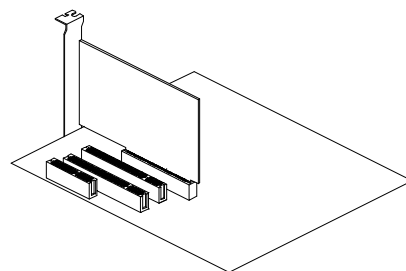
1. System power connector



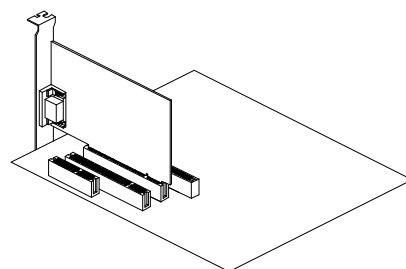
## Step 10

### Install Add-on Cards in Expansion Slots

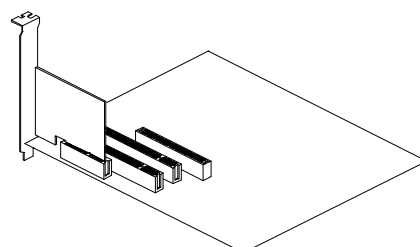
1. Accelerated Graphics Port (AGP) Card



2. PCI Card



3. CNR Card

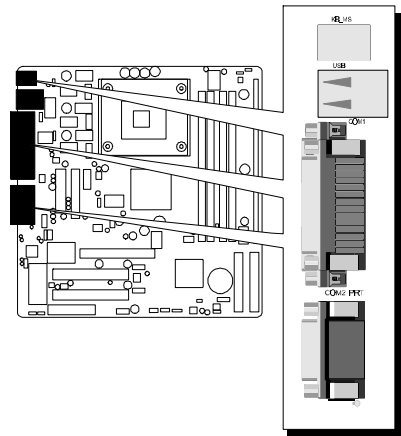


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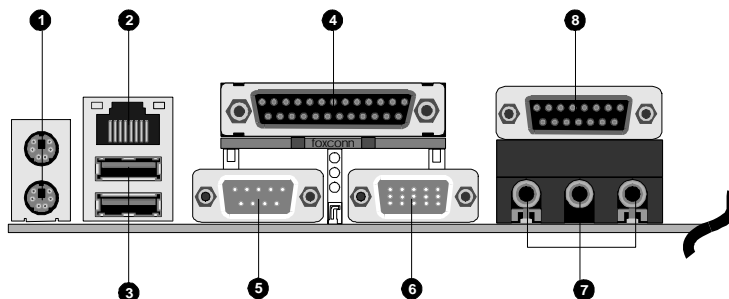
## Step 11

### 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. PS/2 Mouse and PS/2 Keyboard
2. LAN Port
3. USB1/2 Ports
4. Parallel Port
5. COM Port
6. VGA Port
7. Audio Line-Out /Line-In / Mic-In Ports
8. MIDI/GAME 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 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/NT operating systems only. Make sure your operating system is already installed before running the drivers installation CD-ROM programs.

1. Insert the MV42/MV42N bundled CD-ROM into your CD-ROM drive. The autorun program will display the drivers main installation window on screen.
2. Choose "Install Mainboard MV42 Software" and complete it.
3. Choose "Install Mainboard MV42N Software" and complete it.
4. Choose "Install VIA Chipset Driver" and complete it.
5. Choose "Install Audio Driver" and complete it.
6. Choose "Install VGA Driver" and complete it.

✿ Please refer to section **Chapter 4 Software Utility** to install LAN 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.

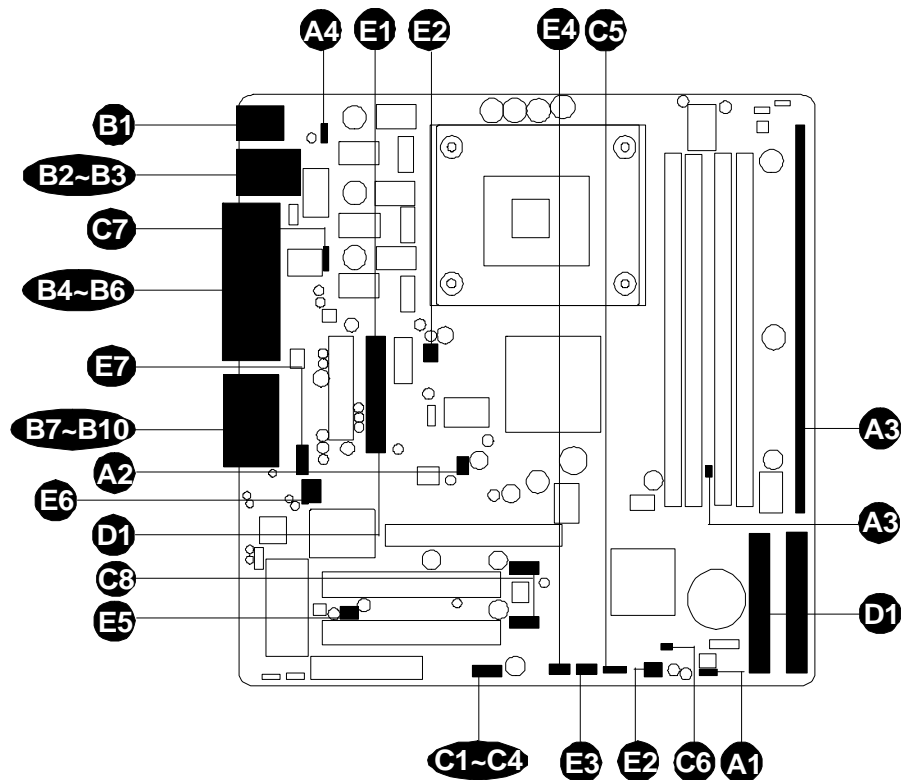
### **Caution!**

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

- |           |                                                                                                                          |
|-----------|--------------------------------------------------------------------------------------------------------------------------|
| Socket478 | : CPU Socket for Pentium 4 processors                                                                                    |
| DIMM1/2   | : Two DIMM Slots for 16, 32, 64, 128, 256, 512 MB, and 1GB of 3.3V SDR SDRAM                                             |
| DDR1/2    | : Two DIMM Slots for 64, 128, 256, 512 MB, and 1GB of 2.5V DDR SDRAM<br>(The total installed memory does not exceed 2GB) |
| AGP       | : One AGP (Accelerated Graphics Port) Slot                                                                               |
| PCI       | : Three 32-bit PCI Expansion Slots                                                                                       |
| CNR       | : Communication Network Riser Card                                                                                       |

---

### ***Jumpers***

- A1** JBAT1 : Clear CMOS setting
- A2** JP1A1/JP1B1 : CPU Clock
- A3** JP1 : DRAM Voltage
- A3** J2A/B/C/D : DDR/SDR DRAM Type Selector  
J3A/B/C/D
- A4** JP2 : Keyboard Power On

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

- B1** KB : PS/2 keyboard port
- B1** MS : PS/2 mouse port
- B2** LAN : RJ45 LAN Port (Optional)
- B3** USB : 2 USB (Universal Serial Bus) ports
- B4** PRINTER : Parallel port (DB25 female)
- B5** COM1 : Serial ports 1
- B6** VGA : VGA Port
- B7** LINE-OUT : Line-Out Port
- B8** LINE-IN : Line-In Port
- B9** MIC-IN : Mic-In Port
- B10** MIDI/GAME : MIDI/GAME Port

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

- C1** HDDLED : IDE drive active LED
- C2** Green LED : Green LED (ON when system stays in power saving mode)
- C3** RST : Hardware reset switch
- C4** PWON : ATX power on/off momentary type switch
- C5** SPK1 : Speaker Connector
- C6** J12 : Sleep Switch
- C7** J16 : LAN LED Indicator
- C8** USB1/USB2 : Extended USB Header( USB Port3/4 & 5/6)

---

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

- Ⓛ1 FDC : Floppy disk drive interface
- Ⓛ1 IDE1 : IDE primary interface (Dual-channel)
- Ⓛ1 IDE2 : IDE secondary interface (Dual-channel)

### ***Other Connectors***

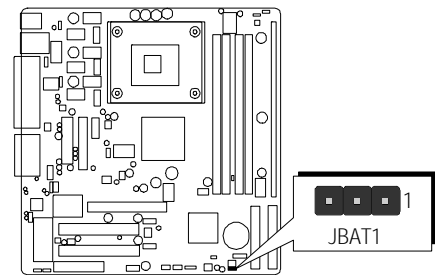
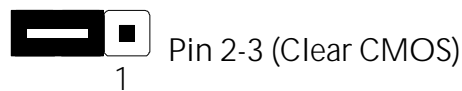
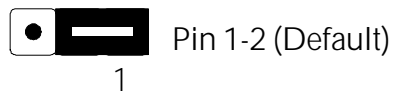
- Ⓛ1 CN5 : ATX power connector
- Ⓛ2 CPU FAN : CPU fan connector
- Ⓛ2 SYSTEM FAN : System fan connector
- Ⓛ3 WOL1 : Wake-On-LAN connector
- Ⓛ4 WOM1 : Wake-On-Modem connector
- Ⓛ5 SIR1 : Serial infrared port
- Ⓛ6 CD1/CD2 : Onboard Audio Connector
- Ⓛ7 PANEL1 : Audio Line\_Out/ Mic\_In

---

## Jumpers

### **A1** Clear CMOS Setting (JBAT1)

JBAT1 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.



- 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 JBAT1 pins 1-2.
- Step 4.** Place the jumper cap on JBAT1 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).

---

## **A2 CPU Clock Setting (JP1A1/JP1B1)**

This jumper enables to select CPU frequency.

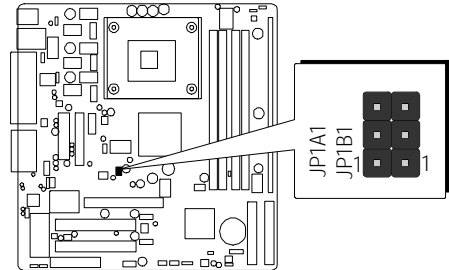
JP1A1/JP1B1



Pin 1-2 / Pin 2-3 (100MHz)



Pin 2-3 / Pin 1-2 (133MHz)



## **A3 DRAM Voltage Setting (VCC) (JP1) & DDR/SDR DRAM Type Selector (J2A/B/C/D, J3A/B/C/D)**

JP1 is set to select voltage of DRAM.

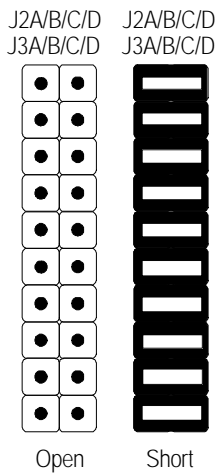
J2A/B/C/D and J3A/B/C/D are set to select the type of DDR or SDR DRAM.



Open Pins 1-2 (2.5V DDR)

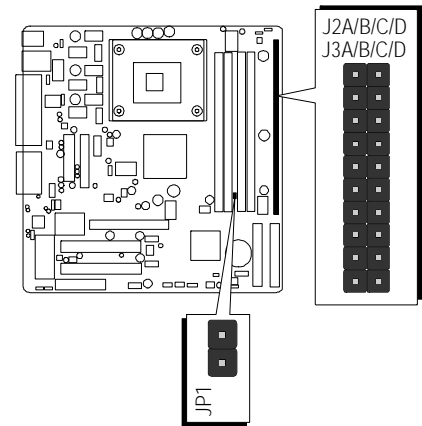


Short Pins 1-2 (3V SDR)



DDR1,DDR2:  
Short all J2A/B/C/D and  
J3A/B/C/D pins

DIMM1,DIMM2:  
Open all J2A/B/C/D and  
J3A/B/C/D pins



#### **A4** Keyboard Power On(JP2)

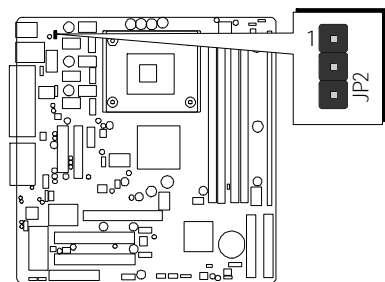
This jumper enables any keyboard activity to power up a system previously in a standby or sleep state.



Disabled  
Short Pins 1-2 (5V)



Enabled  
Short Pins 2-3 (5VSB)

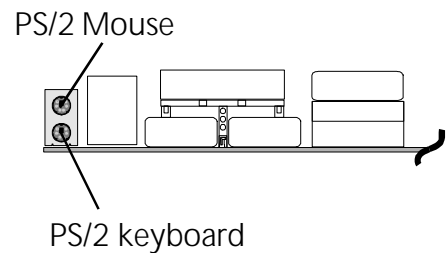


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## ☞ **Back-Panel Connectors**

### **B1 PS/2 Keyboard & PS/2 Mouse Connectors**

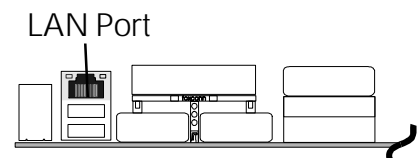
Two 6-pin female PS/2 keyboard & Mouse connectors are located at the rear panel of the mainboard. Depending on the computer housing you use (desktop or tower), the PS/2 Mouse connector is situated at the top of the PS/2 Keyboard connector when the mainboard is laid into a desktop, as opposed to a tower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



### **B2 LAN Port Connectors(Optional)**

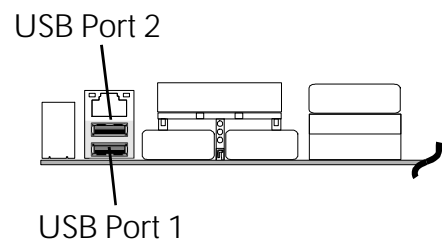
This mainboard can accommodate one device on LAN.

Attach a 10/100 baseT cable to the RJ45 at the back-panel of your computer.



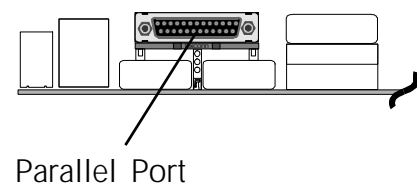
### **B3 USB1/USB2 Port Connectors**

This mainboard offers 2 USB ports on back panel. Plug each USB device jack into an available USB1/USB2 connector.



### **B4 Parallel Port Connector**

One DB25 female parallel connector is located at the rear panel of the mainboard. Plug the connection cable from your parallel device(printer, scanner, etc.) into this connector.



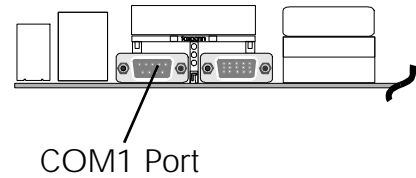


---

**B5 COM Port Connector**

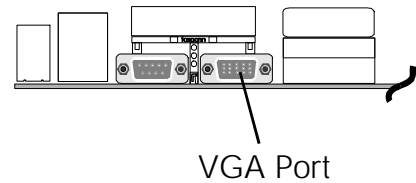
This mainboard can accommodate one serial device on COM.

Attach a serial device cable to the DB9 serial port COM at the back-panel of your computer.



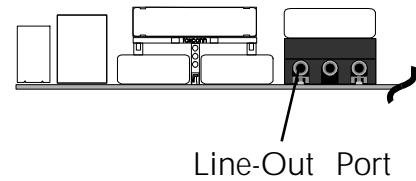
**B6 VGA Connector**

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



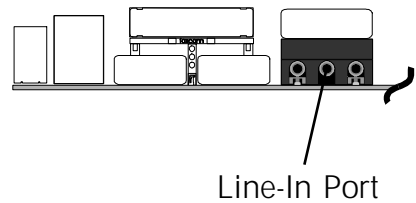
**B7 Line-Out Port Connector**

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.



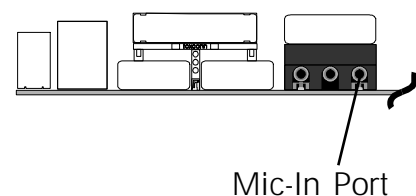
**B8 Line-In Port Connector**

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.



**B9 Mic-In Port Connector**

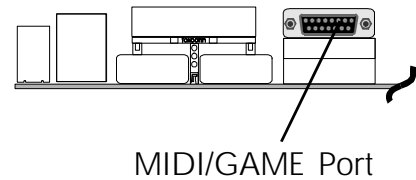
Mic-In is a 1/8-inch jack that provides a mono input. It can use a dynamic mono or stereo microphone with a resistance of not more than 600 Ohms.



---

### **B10 MIDI/GAME Port Connector**

The MIDI/GAME port is a 15-pin female connector. This port can be connected to any IBM PC compatible game with a 15-pin D-sub connector.



#### **MIDI Instrument Connection**

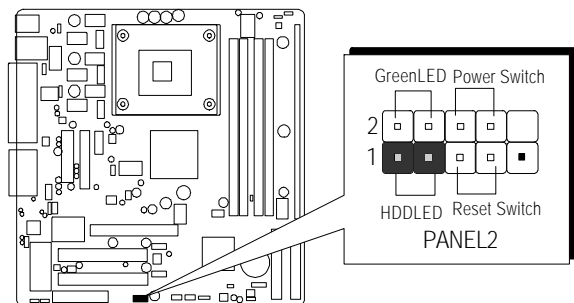
You will need a MIDI adapter to connect a MIDI compatible instrument to the sound card. The MIDI adapter can in turn be connected to the Joystick/MIDI port. You will also need the MIDI sequencing software to run MIDI instruments with your computer etc. into this connector.

---

## ☞ **Front-Panel Connectors**

### ④ **HDD LED Connector**

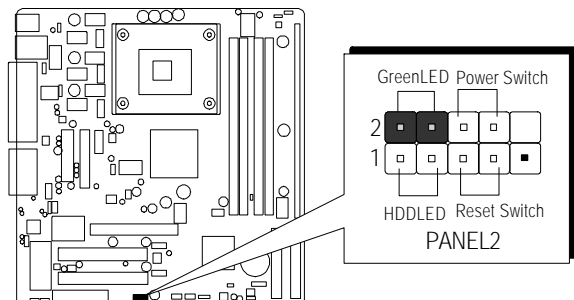
Attach the connector cable from the IDE device LED to the 2-pin (HLED) header. The HDD LED lights up whenever an IDE device is active.



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

### ⑤ **Green LED / Power LED Connector**

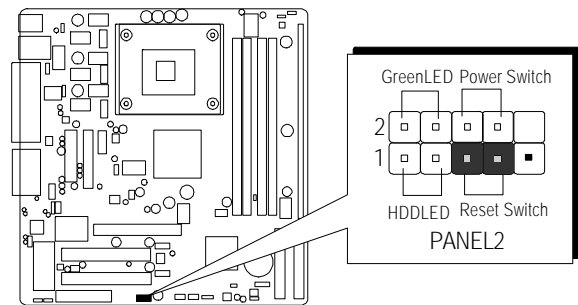
The Green LED (Green LED) indicates that the system is currently in one of the power saving mode (Doze/Standby/Suspend). When the system resumes to normal operation mode, the Green LED will go off. Attach a 2-pin Green LED cable to Green LED header.



---

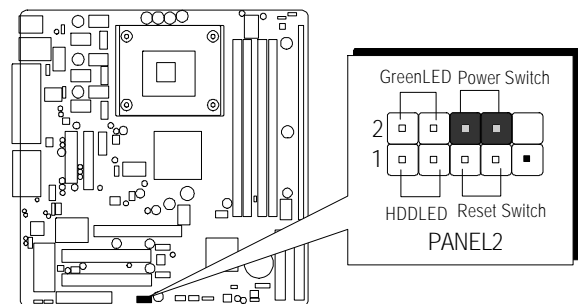
### ③ Hardware Reset Connector

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



### ④ ATX Power On/Off Switch Connector

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.



---

## 65 Speaker Connector (SPK1)

Attach the PC speaker cable from the case to the 4-pin speaker connector (SPK1).

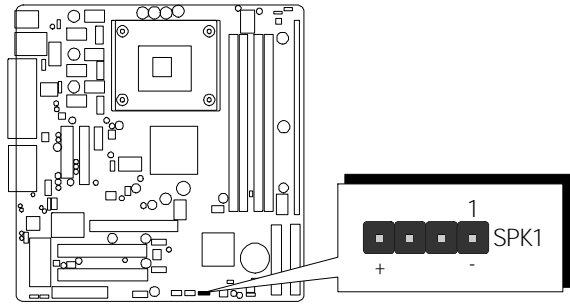
Pins Assignment:

1 = External speaker

2 = Onboard buzzer

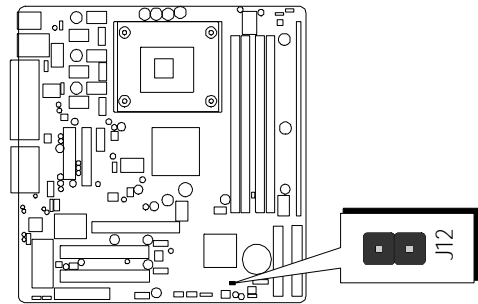
3 = NC

4 = VCC



## 66 Sleep Switch (J12)

This header is connected to the sleep button for suspending the computer's activity if pushing the button. Or, the computer is automatically suspended after passing a period of time.



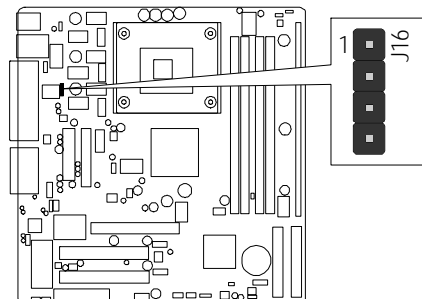
## 67 LAN LED Indicator (J16)

This connected is attached to LAN device that needs a LED indicator.

Pins Assignment:

1, + 2 = Link LED

+ 3, 4 = ACT LED

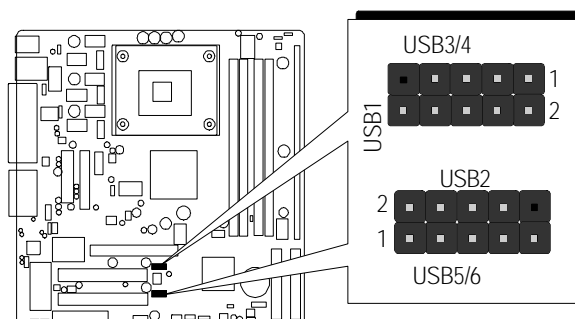
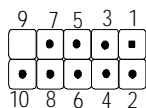


Note: The plus sign(+) indicates a pin which must be connected to a positive voltage.

---

### ③ Extended USB Header (USB1,USB2)

The mainboard has USB ports installed on the rear edge I/O port array. Some computer cases have a special module that mounts USB ports at the front of the case. If you have this kind of case, use auxiliary USB connectors USB1 and USB2 to connect the front-mounted ports to the mainboard.



Pins Assignment:

- 1 = +5V
- 3 = USBP2-N
- 5 = USBP2-P
- 7 = GND
- 9 = Empty
  
- 2 = +5V
- 4 = USBP3-N
- 6 = USBP3-P
- 8 = GND
- 10 = OC#

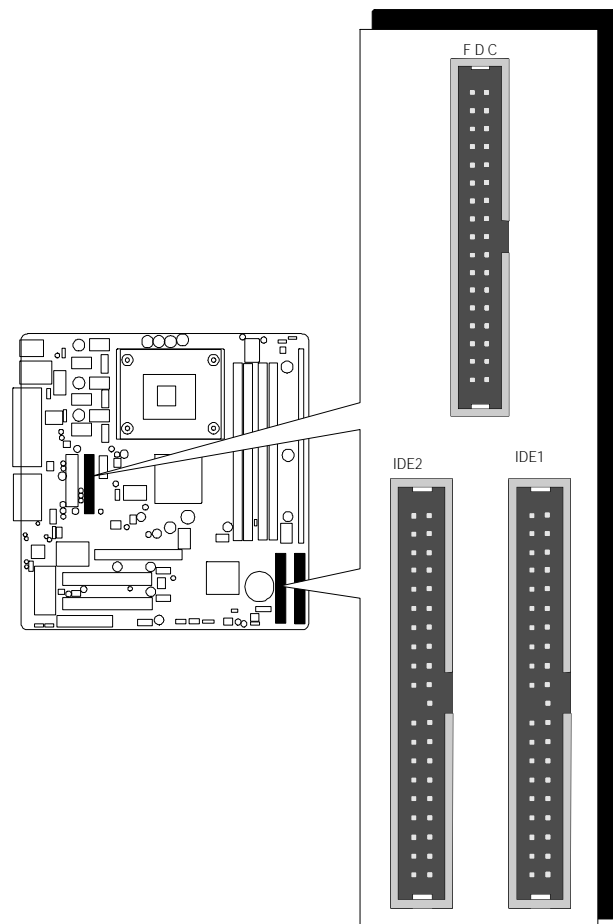
---

## ☞ **Internal Peripherals Connectors**

### **01 Enhanced IDE and 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.

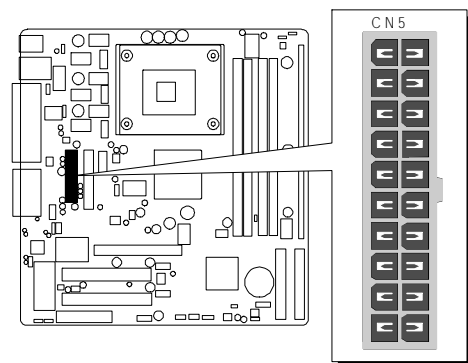
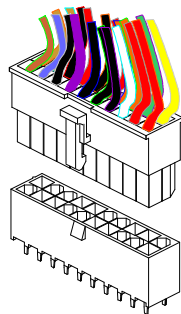
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☞ **Other Connectors**

**④ ATX Power Supply Connector (CN5)**

This motherboard uses 20-pin Pentium 4 standard ATX power header, CN5 and comes with another headers.

**CN5**



A traditional ATX system should remain at power off stage when AC power resumes from power failure. In such case, if there is no an UPS to keep power-on, the kind of design is inconvenient for a network server or workstation. However, this motherboard implements an AC Power Auto Recovery function to solve this problem. You may enable the function PWRON After PWR-Fail that is under sub-menu of Power Mangement Setup through BIOS setup program.

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

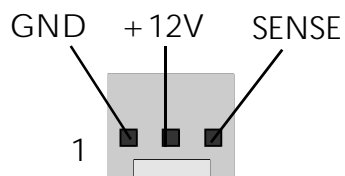


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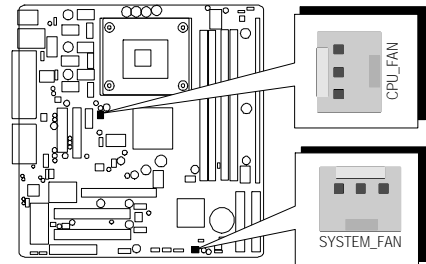
## Ⓔ CPU and System Fan connectors

The mainboard provides two onboard 12V cooling fan power connectors to support CPU and System 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.

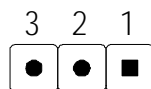


CPU FAN with rotate sense.  
System FAN with rotate sense.



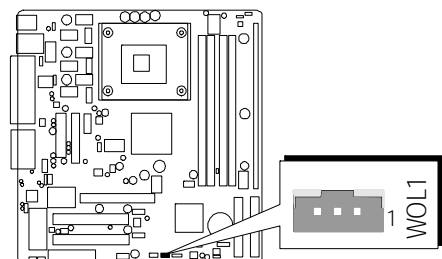
## Ⓕ Wake-On-LAN Connector (WOL1)

Attach a 3-pin connector through the LAN card which supports the Wake-On-LAN (WOL1) function. This function lets users wake up the connected system through the LAN card.



Pins Assignment:

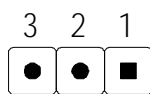
- 1 = 5VSB
- 2 = Ground
- 3 = SENSE



---

## **E4** Wake-On-Modem Connector (WOM1)

If you have installed a modem, use the cable provided with the modem to plug into the mainboard WOM1 connector. This enables the Wake On Modem(WOM) feature. When you system is in a power-saving mode, any modem signal automatically resumes the system. You must enable this item using the Power Management page of the Setup Utility.

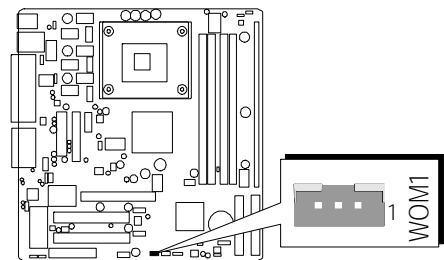


Pins Assignment:

1 = 5VSB

2 = Ground

3 = SENSE



## **E5** Serial infrared port (SIR1)

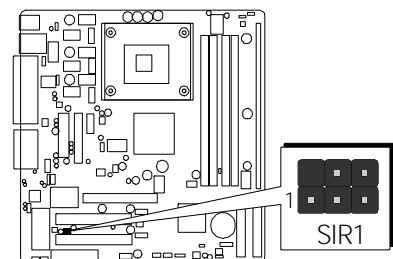
The mainboard supports a Serial Infrared (SIR) data port. Infrared ports allow the wireless exchange of information between your computer and similarly equipped devices such as printers, laptops, Personal Digital Assistants (PDAs), and other computers.

Pins Assignment:

1 = RESERVED      2 = EMPTY

3 = VCC            4 = GROUND

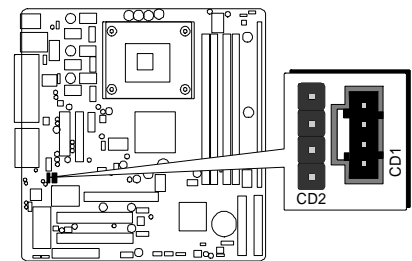
5 = IRTX           6 = IRRX



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## E6 Audio Cable Header (CD1/CD2)

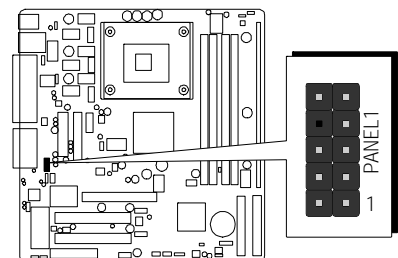
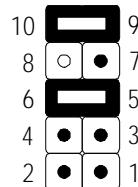
Use the audio cable provided with the CD-ROM/DVD drive to connect to the mainboard CD-in connector CDIN1 OR CDIN2.



## E7 Front-Panel Microphone and Line\_out Header (PANEL1)

This header allows users to install auxiliary front-oriented microphone and line-out ports for easier access. Either the Mic and Line\_out connector on back-panel or JP19 header are available at the same time. If you would like to use this JP19 header on front-panel, please remove all jumpers from PANEL1 and install your special Extra Mic / Line\_out cable instead.

Pins Assignment:  
1,2= MIC In  
5,6=Line Out (R)  
9,10=Line Out (L)



---

### 3.3 System Memory Configuration

The MV42/MV42N mainboard has two 184-pin and two 168-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 PC1600/PC2100 compliant 2.5V single or double side 64-bit wide data path DDR SDRAM modules.

Each 168-pin DIMM (Dual In-line Memory Module) Slot can accommodate 64MB, 128MB, 256MB, 512MB, and 1GB of PC100/PC133 compliant 3.3V single or double side 64-bit wide data path SDRAM modules.

#### Install Memory:

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

##### *SDR SDRAM*

DIMM Slot	Memory Modules	Module Quantity
DIMM 1	64MB, 128MB, 256MB, 512MB and 1GB 168-pin 3.3V SDR SDRAM DIMM	x 1
DIMM 2	64MB, 128MB, 256MB, 512MB and 1GB 168-pin 3.3V SDR SDRAM DIMM	x 1

##### *DDR SDRAM*

DIMM Slot	Memory Modules	Module Quantity
DDR 1	64MB, 128MB, 256MB, 512MB and 1GB 184-pin 2.5V DDR SDRAM DIMM	x 1
DDR 2	64MB, 128MB, 256MB, 512MB and 1GB 184-pin 2.5V DDR SDRAM DIMM	x 1

***Important: You can choose 168-pin SDR SDRAM or 184-pin DDR SDRAM to boot, but the system doesn't start if you use both of them at the same time!***

Note: You need to set jumpers to configure memory by jumper J2A/B/C/D & J3A/B/C/D & JP1. Please refer to the details page 28-29. 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 DRAM 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 MV42/MV42N 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 MV42 Software-** Installing .
- ☞ **Install Mainboard MV42N Software -** Installing .
- ☞ **Manual -** MV42/MV42N 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.

⚙ The Win 9x/ME/2000/NT LAN Device Driver must be installed manually.



---

## 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 MV42 Software**" or "**Install Mainboard MV42N Software**" bar to run into sub-menu.

The Mainboard MV42 Software include:

- [4.2.A] Install VIA Chipset Driver
- [4.2.B] Install Audio Device Driver
- [4.2.C] Install VGA Device Driver



The Mainboard MV42N Software include:

- [4.2.A] Install VIA Chipset Driver
- [4.2.B] Install Audio Device Driver
- [4.2.C] Install VGA Device Driver
- [4.2.D] Install LAN Driver



---

## 4.2.A Install VIA Chipset Driver

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



MV42



MV42N

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 Audio Driver

Select using your pointing device (e.g. mouse) on the "Install Audio Device Driver" bar to install AC'97 Audio driver.



MV42



MV42N

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 VIA VGA Driver

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



MV42



MV42N

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.

---

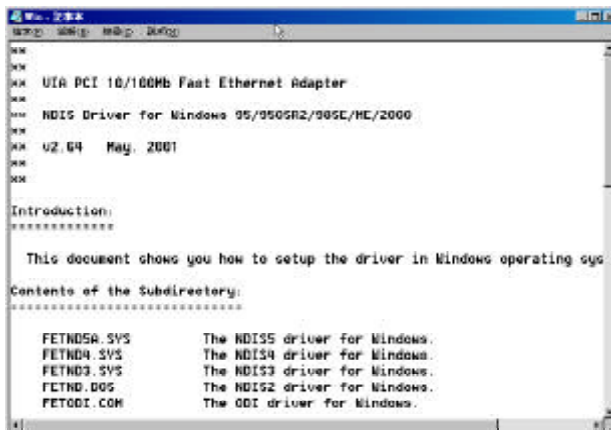
#### 4.2.D Install LAN Driver (MV42N only)

As lan driver can't be installed automatically under windows9x/ME/2000/NT operating system, please take reference to pop up window for setup details. Please follow the way to come to opo window:

Using pointing device (such as mouse) to run to support CD main screen. Then sequentially choose bars which are "Install Mainboard MV42N Software", "Install LAN Driver". Now you are prompted with pop up windows. Just read the installation guide to complete lan setup.



MV42N



---

### 4.3 View the User's Manual

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

Select using your pointing device (e.g. mouse) on the "Manual" bar.



Then **Online Information** windows will appear on your screen. Click on the "Install Acrobat Reader" bar if you need to install acrobat reader.



Then click on "MV42N Manual" bar to view user's manual.

# 5 BIOS SETUP

---

MV42/MV42N 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.** As you see the message "Hit F2 if you want to run setup.", press < F2 > key immediately.

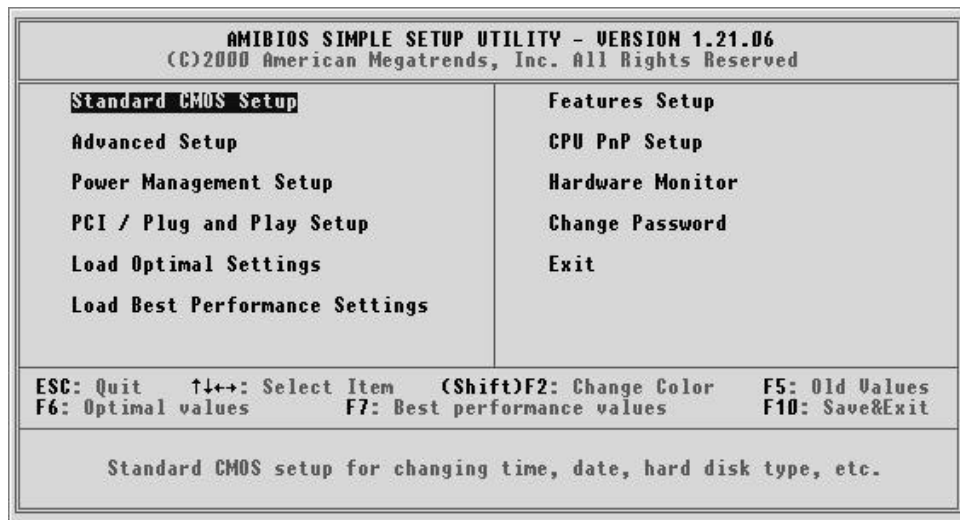
**Note 1.** If you miss the train (the message disappears before you can respond) and you still wish to enter BIOS Setup, restart the system and try again by turning the computer OFF and ON again or by pressing the < RESET > switch located at the computer's front panel. You may also reboot by simultaneously pressing the < Ctrl > , < Alt > , < Del > keys.

- 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 AMIBIOS(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.

### **Standard CMOS Features**

This setup page includes all items in a standard compatible BIOS.

### **Advanced BIOS Features**

This setup page includes all items of Advanced features.

### **Power Management Setup**

This setup page includes all items of Power Management features.

### **PCI / Plug and Play setup**

This page sets some of the parameters for devices installed on the PCI bus and devices that use the system plug and play capability.

### **Load Optimal Settings**

Optimal settings load the values required by the System for the maximum performance. However, you can change the parameter through each Setup Menu.

---

### ***Load Best Performance Settings***

Fail Safe settings load the values required by the system for the O.K. performance. However, you can change the parameter through each Setup Menu.

### ***Features Setup***

This setup page includes all items of peripheral features.

### ***CPU PnP Setup***

This setup page includes all items of CPU PnP features.

### ***Hardware Monitor Setup***

This setup page includes all items of Hardware Monitor features.

### ***Change Password***

Change, set, or disable password. It allows you to limit access to the system and Setup, or just to Setup.

### ***Exit***

Save all the CMOS values changed to CMOS and exit setup.



## Standard CMOS Features

The items in Standard CMOS Setup Menu are divided into 8 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.

```
AMIBIOS SETUP - STANDARD CMOS SETUP
(C)2000 American Megatrends, Inc. All Rights Reserved

Date (mm/dd/yyyy): Tue Jan 22, 2002
Time (hh/mm/ss) : 17:40:01

                                LBA Blk PIO 32Bit
                                Type  Size  Cyln  Head WPcom Sec Mode Mode Mode Mode
Pri Master :Not Installed
Pri Slave  :Not Installed
Sec Master :Not Installed
Sec Slave  :Not Installed

Floppy Drive A: Not Installed
Floppy Drive B: Not Installed

Month: Jan - Dec
Day: 01 - 31
Year: 1901 - 2099

ESC : Exit
↑↓ : Select Item
PU/PD/+/- : Modify
(Shift)F2 : Color
F3 : Detect All HDD
```

### Date

< mm > < 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.

### Pri Master

Options are in its sub-menu.

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

### Pri Slave

Options are in its sub-menu.

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

---

**See Master**

Options are in its sub-menu.

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

**See Slave**

Options are in its sub menu.

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

**Floppy Drive A/ Floppy 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.





## ADVANCED SETUP

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.

AMIBIOS SETUP - ADVANCED SETUP			
(C)2000 American Megatrends, Inc. All Rights Reserved			
<b>Quick Boot</b>	<b>Disabled</b>	AGP Mode	4x
1st Boot Device	Disabled	AGP Comp. Driving	Manual
2nd Boot Device	Disabled	Manual AGP Comp. Driving	00
3rd Boot Device	Disabled	AGP Aperture Size	256MB
Try Other Boot Devices	Yes	Auto Detect DIMM/PCI Clk	Disabled
S.M.A.R.T. for Hard Disks	Disabled	CLK GEN Spread Spectrum	Disabled
BootUp Num-Lock	Off		
Floppy Drive Swap	Disabled		
Floppy Drive Seek	Disabled		
PS/2 Mouse Support	Disabled		
Password Check	Setup		
Boot To OS/2 > 64MB	No		
L1 Cache	Disabled		
L2 Cache	Disabled		
System BIOS Cacheable	Disabled		
DOS Flat Mode	Disabled		
SDRAM Timing by SPD	Disabled		
SDRAM Frequency	100MHz		
SDRAM CAS# Latency	2.5		
SDRAM Bank Interleave	Disabled		
		ESC : Quit	↑↓←→ : Select Item
		F1 : Help	PU/PD/+/- : Modify
		F5 : Old Values	(Shift)F2 : Color
		F6 : Load BIOS Defaults	
		F7 : Load Setup Defaults	

### Quick Boot

If you enable this item, the system starts up more quickly by eliminating some of the power on test routines. Quick Power On Self Test (Enabled)

- The choice: Enabled or Disabled .

### 1st/2nd/3rd Boot Device

Use these items to determine the device order the computer uses to look for an operating system to load at start-up time.

- The choice: CDROM, SCSI, NETWORK, BBS-0, BBS-1, BBS-2, BBS-3, USB FDD, USB CDROM, USB HDD, USB LS120, ZIP MO, Disabled, IDE-0, IDE-1, IDE-2, IDE-3, Floppy, ZIP A:/LS120, ATAPI ZIP C: .

### Try Other Boot Devices

If you enable this item, the system will also search for other boot devices if it fails to find an operating system from the first two locations. Boot Up

- The choice: Yes or No.

---

### S.M.A.R.T. for Hard Disks

Enable this item if any IDE hard disks support the S.M.A.R.T. (Self-Monitoring, Analysis and Reporting Technology) feature.

- The choice: Enabled or Disabled .

### BootUp Num-Lock

This item determines if the Num Lock key is active or inactive at system start-up time.

- The choice: Off or On .

### Floppy Drive Swap

If you have two diskette drives installed and you enable this item, drive A becomes drive B and drive B becomes drive A.

- The choice: Enabled or Disabled .

### Floppy Drive Seek

If you enable this item, your system will check all floppy disk drives at start up. Disable this item unless you are using an old 360KB drive.

- The choice: Enabled or Disabled .

### PS/2 Mouse Support

Enable this item if you plan to use a PS/2 mouse.

- The choice: Enabled or Disabled .

### Password Check

If you have entered a password for the system, use this item to determine, if the password is required to enter the Setup Utility (*Setup*) or required both at start-up and to enter the Setup Utility (*Always*).

- The choice: Setup or Always.

### Boot to OS/2 > 64MB

Enable this item if you are booting the OS/2 operating system and you have more than 64MB of system memory installed.

- The choice: YES or No.

### L1/L2 Cache

Leave these items enabled since all the processors that can be installed on this board have internal L1/L2 cache memory.

- The choice: Enabled or Disabled .

---

### System BIOS Cacheable

If you enable this item, a segment of the system BIOS will be copied to main memory for faster execution.

- The choice: Enabled or Disabled .

### DOS Flat Mode

This item allow user to enhance compatibility with some particular VGA Card under DOS environment.

- The choice: Enabled or Disabled .

### SDRAM Timing By SPD

This item allows you to enable or disable the SDRAM timing defined by the Serial Presence Detect electrical.

- The choice: Enabled or Disabled .

### SDRAM Frequency

This item determines frequency of SDRAM memory.

- The choice: Auto, 100MHz, 133 MHz.

### SDRAM CAS# Latency

This item determines the operation of SDRAM memory CAS (column address strobe). It is recommended that you leave this item at the default value. The 2T setting requires faster memory that specifically supports this mode.

- The choice: 3.

### SDRAM Bank Interleave

Enable this item to increase SDRAM memory speed. When enabled, separate memory banks are set for odd and even addresses and the next byte of memory can be accessed while the current byte is being refreshed.

- The choice: Enabled or Disabled .

### AGP Mode

This item provides the OnBoard VGA mode with three options of 1,2, 4 multiplied frequency.

- The choice: 4X, 2X, 1X .

### AGP Comp. Driving

Use this item to signal driving current on AGP cards to auto or manual. Some AGP cards need stronger than normal driving current in order to operate. We recommend that you set this item to the default.

- The choice: Auto or Manual .

---

### Manual AGP Comp. Driving

When AGP Driving is set to Manual, use this item to set the AGP current driving value.

- The choice: CB.

### AGP Aperture Size

This item defines an AGP for the graphics. Leave this item at the default value 64MB.

- The choice: 4MB,8MB,16MB,32MB,64MB,128MB,256MB.

### Auto detect DIMM/PCI Clock

When this item is enabled, BIOS will disable the clock signal of free DIMM/PCI slots.

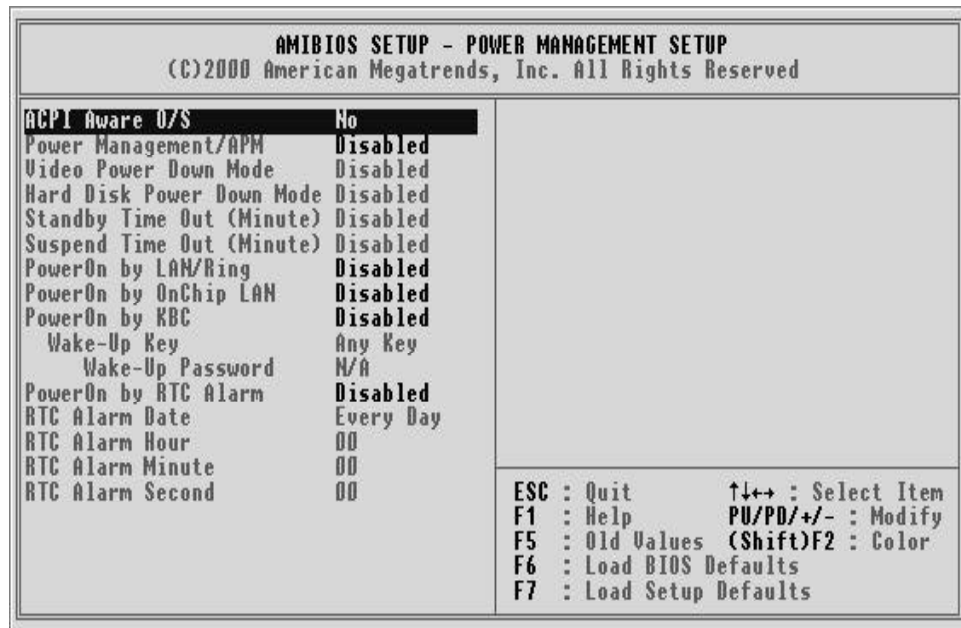
- The choice: Enabled or Disabled .

### CLK GEN Spread Spectrum

Use this item to set the system bus spread spectrum for the installed processor.

- The choice: Enabled or Disabled .

---

 **Power Management Setup**

### ACPI Aware O/S

This item supports ACPI (Advanced Configuration and Power management Interface). Use this item to enable or disable the ACPI feature.

- The choice: Yes or No.

### Power Management/APM

Use this item to enable or disable a power management scheme. If you enable power management, you can use the items below to set the power management operation. Both APM and ACPI are supported.

- The choice: Enabled or Disabled .

### Video Power Down Mode

Use this item to determine which power-saving mode is required to power down the graphics sub-system. You can force the graphics to power down in Stand By or Suspend modes, or you can disable the powerdown. ➤The choice: Suspend.

### Hard Disk Power Down Mode

Use this item to determine which power-saving mode is required to power down the hard disk drive(s). You can force the hard disk to power down in Stand By or Suspend modes, or you can disable the powerdown. ➤The choice: Stand By.

---

### **Standby Time Out (Minute)**

This sets the timeout for Standby mode in minutes. If the time selected passes without any system activity, the computer will enter power-saving Standby mode.

- The choice: Enabled or Disabled .

### **Suspend Time Out (Minute)**

This sets the timeout for Suspend mode in minutes. If the time selected passes without any system activity, the computer will enter power-saving Suspend mode.

- The choice: Enabled or Disabled .

### **PowerOn by LAN/Ring**

The system can be turned off with a software command. If you enable this item, the system can automatically resume if there is an incoming call on the Modem. You must use an ATX power supply in order to use this feature.

- The choice: Enabled or Disabled .

### **PowerOn by OnChip LAN**

The system can be turned off with a software command. If you enable this item, the system can automatically resume on OnChip LAN. You must use an ATX power supply in order to use this feature.

- The choice: Enabled or Disabled .

### **PowerOn by KBC/ Wake up key/Wake up password**

If you enable this item, system can automatically resume by pressing hot keys on the keyboard or typing in the password. You must enable the Keyboard Power On jumper and use an ATX power supply in order to use this feature.

- The choice: Enabled or Disabled . / Any key, Specific key / password.

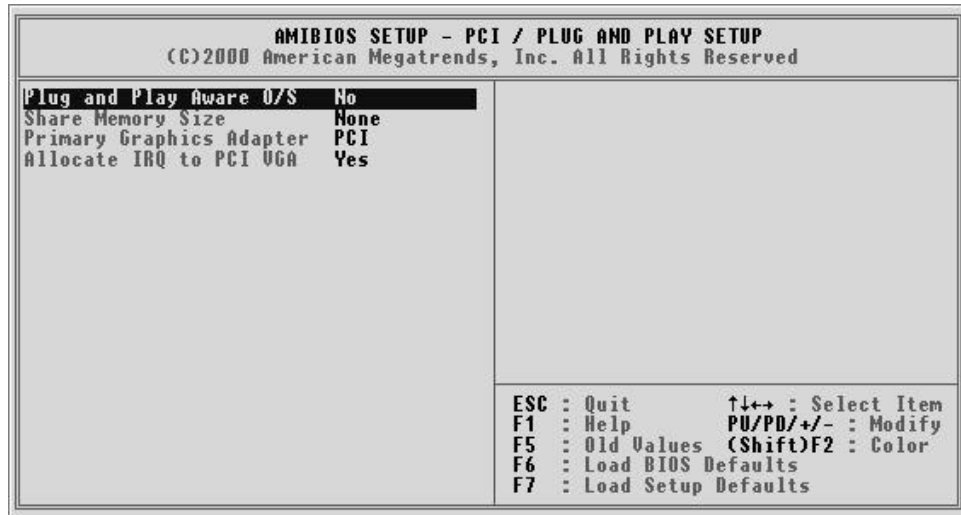
### **PowerOn by RTC Alarm / Date / Hour / Minute / Second**

The system can be turned off with a software command. If you enable this item, the system can automatically resume at a fixed time based on the system's RTC (realtime clock). Use the items below this one to set the date and time of the wake-up alarm. You must use an ATX power supply in order to use this feature.

- The choice: Enabled or Disabled .

---

 **PCI /Plug and Play Setup**



**Plug and Play Aware O/S**

Enable this item if you are using an O/S that supports Plug and Play such as Windows 95 or 98.

- The choice: Yes or No.

**Share Memory Size**

This item lets you allocate a portion of the main memory for the onboard VGA display application with three options of 8/16/32MB.

- The choice: 8MB,16MB,32MB or None.

**Primary Graphics Adapter**

This item indicates if the primary graphics adapter uses the PCI or the AGP bus. The default AGP setting still lets the onboard display work and allows the use of a second display card installed in an AGP slot.

- The choice: Onboard or PCI.

**Allocate IRQ for PCI VGA**

If this item is enabled, an IRQ will be assigned to the PCI VGA graphics system. You set this value to No to free up an IRQ.

- The choice: Yes or No.

---

 **Load Optimal Settings**

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

Load Optimal settings (Y/N) ? N

Pressing 'Y' the Setup Utility loads a set of fail-safe default values. These default values are not very demanding and they should allow your system to function with most kinds of hardware and memory chips.

 **Load Best Performance Settings**

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

Load best performance settings (Y/N) ? N

Pressing 'Y' the Setup Utility loads a set of best-performance default values. These default values are quite demanding and your system might not function properly if you are using slower memory chips or other low-performance components.



---

## **Features Setup**



### OnBoard FDC

Use this item to enable or disable the onboard floppy disk drive interface.

- The choice: Enabled, Auto, Disabled .

### OnBoard Serial PortA

Use this item to enable or disable the onboard COM1 serial port, and to assign a port address.

- The choice: Disabled, 3F8h/COM1, 2F8h/COM2, 3E8h/COM3, 2E8h/COM4, Auto.

### OnBoard IR Port

Use this item to enable or disable the onboard infrared port, and to assign a port address.

- The choice: Disabled, ASKIR, IrDA.

### OnBoard Parallel Port

Use this item to enable or disable the onboard LPT1 parallel port, and to assign a port address. The Auto setting will detect and available address.

- The choice: Auto, Disabled, 378h, 278h, or 3BCh.

---

### **Parallel Port Mode**

Use this item to set the parallel port mode. You can select SPP (Standard Parallel Port), ECP (Extended Capabilities Port), EPP (Enhanced Parallel Port), or ECP + EPP.

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

### **Parallel Port IRQ**

Use this item to assign IRQ to the parallel port.a port address.

- The choice: 7,5.

### **Parallel Port DMA**

Use this item to assign a DMA channel to the parallel port.

- The choice: N/A.

### **OnBoard MIDI/GAME Port**

This item enables or disables the I/O address for the MIDI/GAME Port.

- The choice: 201h,209h,Disabled.

### **OnBoard MIDI Port**

Use this item to enable or disable the onboard MIDI port, and to assign

### **MIDI Port IRQ**

Use this item to assign IRQ 7 to the parallel port.

- The choice: 10,11,5.

### **OnBoard IDE**

Use this item to enable or disable the onboard IDE channel.

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

### **OnChip LAN**

Use this item to enable or disable the OnChip LAN.

- The choice: Enabled or Disabled .

### **OnBoard AC'97 Audio**

This item enables or disables the AC'97 audio chip.

- The choice: Enabled or Disabled .

### **OnBoard MC'97 Modem**

This item enables or disables the MC'97 modem chip.

- The choice: Enabled, Disabled or Auto.

---

### **USB Controller**

Use this item to select the USB ports or disabled.

- The choice: Disabled, All USB Port, USB1, USB2, USB1&2, USB3, USB1&3, USB2&3.

### **USB Device Legacy Support**

This item allows you to enable the USB device, if you have installed a USB device on the system board.

- The choice: Disabled, No Mice, All Device.

### **ThumbDrive Support for DOS**

This item allows user to use ThumbDvive under DOS Environment.

- The choice: Disabled, Enabled.

---

## CPU PnP Setup

This page helps you manually configure the mainboard for the CPU. The system will automatically detect the type of installed CPU and make the appropriate adjustments to the items on this page.

AMIBIOS SETUP - CPU PnP SETUP	
(C)2000 American Megatrends, Inc. All Rights Reserved	
<b>CPU BRAND</b>	<b>INTEL</b>
CPU Type	Pentium 4
CPU Speed	1.7 GHz
CPU Ratio Selection	17.0X
CPU Frequency	100MHz
ESC : Quit                    ↑↓↔ : Select Item	
F1 : Help                    PU/PD/+/- : Modify	
F5 : Old Values    (Shift)F2 : Color	
F6 : Load BIOS Defaults	
F7 : Load Setup Defaults	

### CPU BRAND

This item show the Brand of CPU installed in your system.

### CPU Type

This item show the Type of CPU installed in your system.

### CPU Speed

This item decides CPU speed installed in your system.

### CPU Ratio Selection

This item show the Ratio Selection of CPU installed in your system.

### CPU Frequency

This item show the Frequency of CPU installed in your system.

---

## Hardware Monitor

On mainboards that support hardware monitoring, this item lets you monitor the parameters for critical voltages, critical temperatures, and fan speeds:

AMIBIOS SETUP - HARDWARE MONITOR	
(C)2000 American Megatrends, Inc. All Rights Reserved	
-== System Hardware ==-	
Vcore	1.712 V
Vcc2.5V	2.496 V
Vcc3.3V	3.376 V
Vcc5V	5.080 V
+12V	12.288 V
-12V	-11.311 V
SB5V	4.945 V
VBAT	2.032 V
SYSTEM Fan Speed	0 RPM
CPU FAN Speed	4115 RPM
POWER Temperature	32°C/89°F
SYSTEM Temperature	34°C/93°F
CPU Temperature	24°C/75°F
ESC : Quit                   ↑↓←→ : Select Item	
F1 : Help                    PU/PD/+/- : Modify	
F5 : Old Values           (Shift)F2 : Color	
F6 : Load BIOS Defaults	
F7 : Load Setup Defaults	

### System Component Characteristics

These fields provide you with information about the systems current operating status. You cannot make changes to these fields.

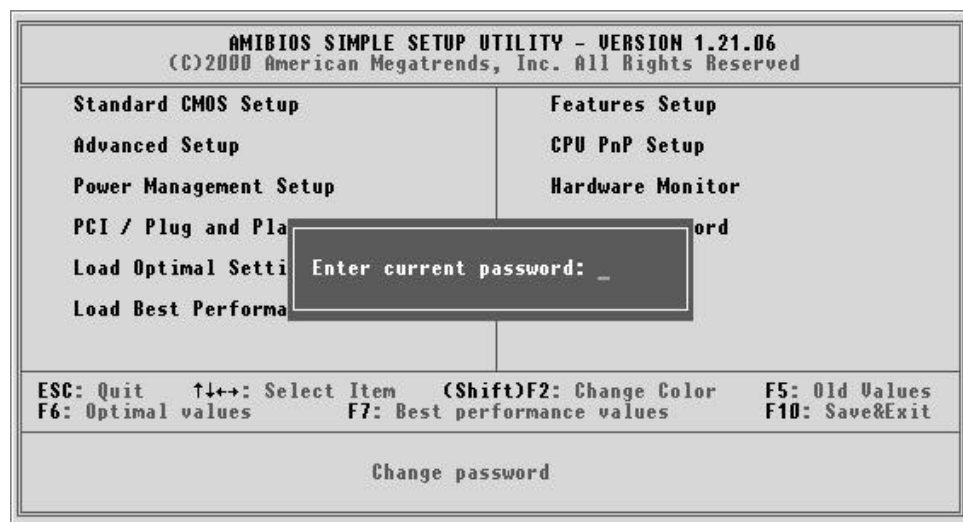
The fields include

- Vcore
- Vcc2.5V
- Vcc3.3V
- Vcc5V
- +12V
- SB3V
- 12V
- SB5V
- VBAT
- System Fan Speed
- CPU Fan speed
- System Temperature
- CPU Temperature

---

## Change Password

If you highlight this item and press Enter, a dialog box appears which lets you enter a Supervisor password. You can enter no more than six letters or numbers. Press Enter after you have typed in the password. A second dialog box asks you to retype the password for confirmation. Press Enter after you have retyped it correctly. The password is then required to access the Setup Utility or for that and at start-up, depending on the setting of the Password Check item in Advanced Setup.



### Enter Password

Type the password up to eight characters, and press < Enter > . The password typed now will clear any previously entered password from CMOS memory. You will be asked to confirm the password. Type the password again and press < Enter > . You may also press < Esc > to abort the selection and not enter a password.

To disable password, just press < Enter > when you are prompted to enter password. A message will confirm the password being disabled. Once the password is disabled, the system will boot and you can enter Setup freely.

---

## Password Disable

If you select System at Security Option of BIOS Features Setup Menu, you will be prompted in entering the password whenever the system is rebooted or you try to enter Setup. If you select Setup at Security Option of BIOS Features Setup Menu, you will be prompted only when you try to enter Setup.

**Warning :** Retain a record of your password in a safe place. If you forget the password, the only way to access the system is to clear CMOS, please refer to "Clear CMOS" on page 27.

 Exit

AMIBIOS SIMPLE SETUP UTILITY - VERSION 1.21.05 <C>2000 American Megatrends, Inc. All Rights Reserved			
Standard CMOS Setup	Features Setup		
Advanced Setup	CPU PnP Setup		
Power Management Setup	Hardware Monitor		
PCI / Plug and Play	Security		
Load Optimal Settings	Save current settings and exit (Y/N) ? Y		
Load Best Performance			
ESC: Quit	↑↓←→: Select Item	<Shift>F2: Change Color	F5: Old Values
F6: Optimal values	F7: Best performance values		F10: Save&Exit
Change password			

Highlight this item and press < Enter > to save the changes that you have made in the Setup Utility configuration and exit the program.

Save current settings 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.

Pressing "N" 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.