

# User's Manual

# CT7600

Daewoo Lucoms

## FCC-B Radio Frequency Interference Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures.

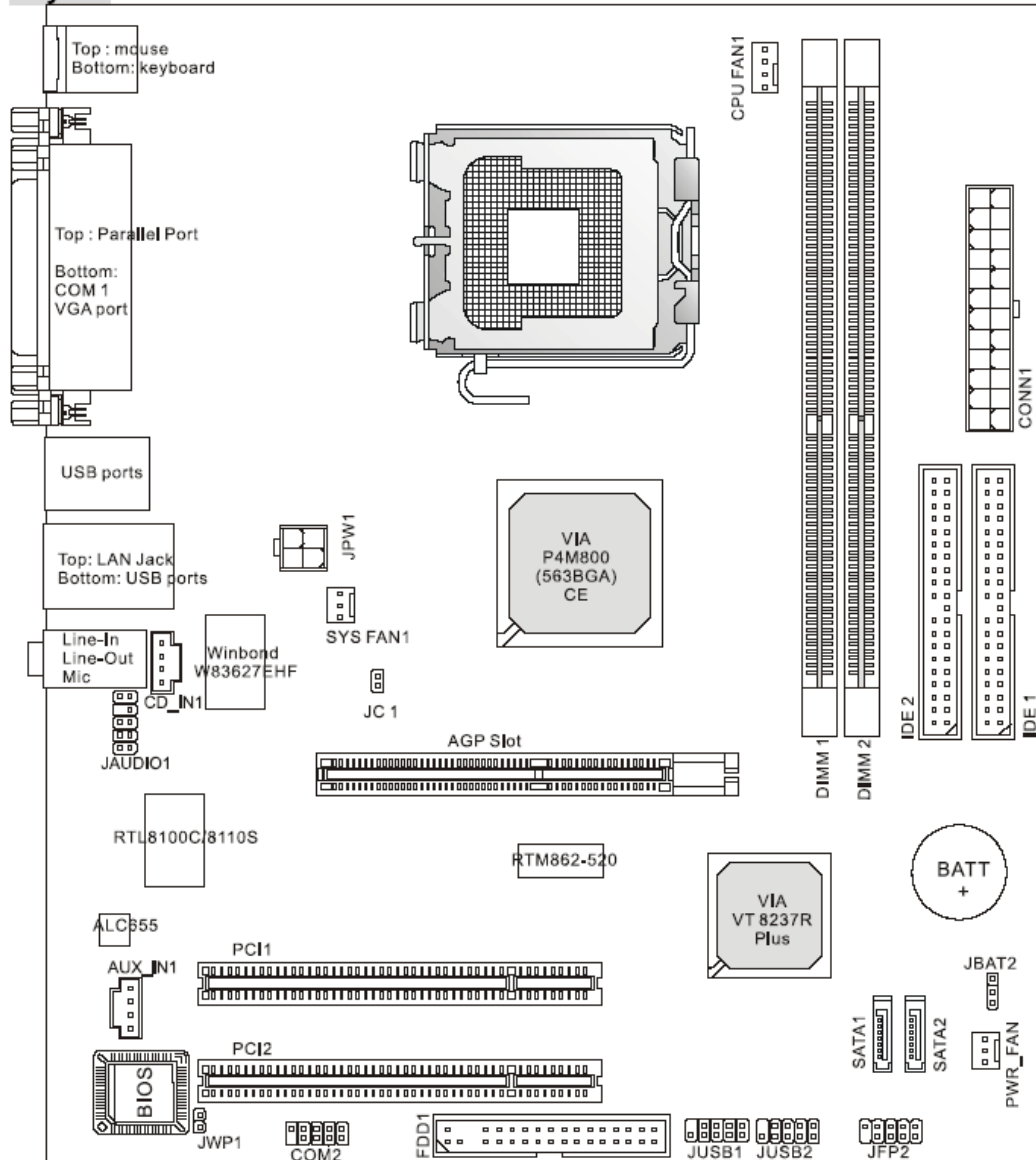
- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio, TV technical for help.
- Only shielded interface cable should be used.

Finally, any changes or modifications to the equipment by the user not expressly approved by the grantee or manufacturer could void the users authority to operate such equipment

## Introduction

Thank you for choosing the PM8M3-V (MS-7211 v1.x) Micro-ATX mainboard. The PM8M3-V is design based on VIA® P4M800 & VIA® VT8237R Plus chipsets for optimal system efficiency. Designed for the Intel® P4 processors supporting Hyper-Threading Technology in the LGA775 package, the PM8M3-V delivers a high performance and professional desktop platform solution.

### Layout



## Specifications

### CPU

- . Supports Intel® Pentium® 4/ Prescott (LGA 775) processor.
- . FSB @ 800/533MHz.
- . Supports Intel P4 Prescott CPU up to 3.2GHz, and Intel P4 Prescott Celeron CPU.

### Chipset

- . VIA® P4M800CE chipset
  - P4 processors FSB (800MHz).
  - DDR SDRAM memory (333/400MHz).
  - AGP 8x.
  - Supports 8X V-Link.
  
- . VIA® VT8237R plus chipset
  - Integrated Hardware Sound Blaster/Direct Sound AC97 audio
  - Ultra DMA 66/100/133 master mode PCI EIDE controller
  - ACPI & PC2001 compliant enhanced power management
  - Supports USB2.0 up to 8 ports

### Main Memory

- . Supports two memory banks using two 184-pin DDR DIMM.
- . Supports up to 2GB PC3200 (DDR400) SDRAMs.
- . Supports 2.5v DDR SDRAM.

### Slots

- . One AGP (Accelerated Graphics Port) 8x slot.
- . Two PCI 2.2 32-bit PCI bus slots (support 3.3v/5v PCI bus interface).

### On-Board IDE

- . An IDE controller on the VIA® VT8237R plus Chipset provides IDE
- . HDD/CD-ROM with PIO, Bus Master and Ultra DMA 33/66/100/133 operation modes.
- . Can connect up to four IDE devices.

### Audio

- . AC97 link controller integrated in VT8237R plus.
- . Realtek® ALC655 6-channel software audio codec.
- Compliance with AC'97 v2.2 spec.

## **LAN**

- . Realtek® 8100C / 8110SB (optional).
- Supports 10Mb/s, 100Mb/s and 1000Mbps(1000Mbps for 8110SB only).
- Compliance with PCI 2.2.
- Supports ACPI Power Management.

## **On-Board Peripherals**

- . On-Board Peripherals include:
- 1 floppy port supports 2 FDDs with 360K, 720K, 1.2M, 1.44M and 2.88Mbytes
- 1 serial port (COM1)
- 1 parallel port supports SPP/EPP/ECP mode
- 8 USB 2.0 ports (Rear \* 4/ Front \* 4)
- 1 audio (Line-In/Line-Out/Mic) port
- 1 RJ45 LAN jack
- 1 VGA port
- 1 COM2 pin header
- 2 SATA 150

## **BIOS**

- . The mainboard BIOS provides “Plug & Play” BIOS which detects the peripheral devices and expansion cards of the board automatically.
- . The mainboard provides a Desktop Management Interface (DMI) function which records your mainboard specifications.

## **Dimension**

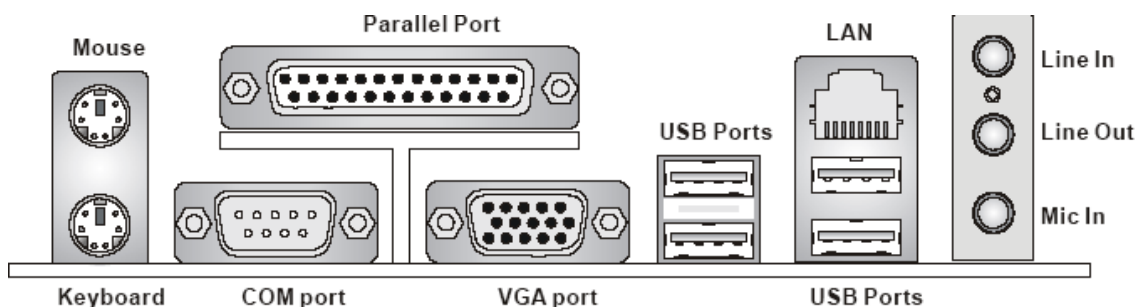
- . Micro-ATX Form Factor: 245mm x 210mm

## **Mounting**

- . 6 mounting holes.

## Rear Panel

The rear panel provides the following connectors:



## Hardware Setup

This chapter tells you how to install the CPU, memory modules, and expansion cards, as well as how to setup the jumpers on the mainboard. It also provides the instructions on connecting the peripheral devices, such as the mouse, keyboard, etc. While doing the installation, be careful in holding the components and follow the installation procedures.

### Central Processing Unit: CPU

The mainboard supports Intel® Pentium 4 processor. The mainboard uses a CPU socket called LGA775. When you are installing the CPU, make sure to install the cooler to prevent overheating.

If you do not have the CPU cooler, contact your dealer to purchase and install them before turning on the computer.

#### Overheating

Overheating will seriously damage the CPU and the system, always make sure the cooling fan can work properly to protect the CPU from overheating.

#### Overclocking

This mainboard is designed to support overclocking. However, please make sure your components are able to tolerate such abnormal setting, while doing overclocking. Any attempt to operate beyond product specifications is not recommended. We do not guarantee the damages or risks caused by inadequate operation or beyond product specifications.

### Memory Speed/CPU FSB Support Matrix

FSB	Memory	DDR 333	DDR 400
	533MHz		OK
800MHz		OK	OK

## LGA775 CPU and Cooler Installation

When you are installing the CPU, make sure the CPU has a cooler attached on the top to prevent overheating. If you do not have the cooler, contact your dealer to purchase and install them before turning on the computer. Meanwhile, do not forget to apply some silicon heat transfer compound on CPU before installing the cooler for better heat dispersion.

Follow the steps below to install the CPU & cooler correctly. Wrong installation will cause the damage to your CPU & mainboard.

1. The CPU has a land side cover on the bottom to protect the CPU contact from damage. Rotate it to make the pin 1 indicator (yellow triangle) in the left-bottom corner. The availability of it depends on the CPU packing.
2. Take out the accompanying CPU Clip (shown in the right) and rotate it for the same direction as the CPU (Pin 1 indicator is in the left-bottom corner).
3. Use 2 hands to remove the land side cover (if any). Please note not to touch the pins.
4. Align the two pin 1 indicators (the triangles on the CPU & the CPU Clip), and use the CPU Clip to clip the CPU up, pressing the clips on both sides to the center, as the arrows shown.
5. The CPU has a plastic cap on it to protect the contact from damage. Before you have installed the CPU, always cover it to protect the socket pin.
6. Remove the cap from lever hinge side. The pins of socket reveal.
7. Lift the load lever up and open the load plate.
8. Correctly align the triangle of CPU Clip with the CPU chamfer, and the square on the CPU Clip to the hook of the socket.
9. Use your thumb and the middle fingers to push the clips to release the CPU, then press down the CPU with your index finger to allow the whole module to be installed onto the CPU socket.
10. The CPU is installed well on the CPU socket.
11. Visually inspect if the CPU is seated well into the socket, then remove the CPU Clip with 2 fingers. Then cover the load plate onto the package.
12. Press down the load lever lightly onto the load plate, and then secure the lever with the hook under retention tab.
13. Align the holes on the mainboard with the cooler. Push down the cooler until its four clips get wedged into the holes of the mainboard.
14. Press the four hooks down to fasten the cooler. Then rotate the locking switch (refer to the correct direction marked on it) to lock the hooks.
15. Turn over the mainboard to confirm that the clip-ends are correctly inserted.

Note: If you want to uninstall the CPU, align the 4 points (see Point 8 for details) again and push the clip to lift up the CPU.

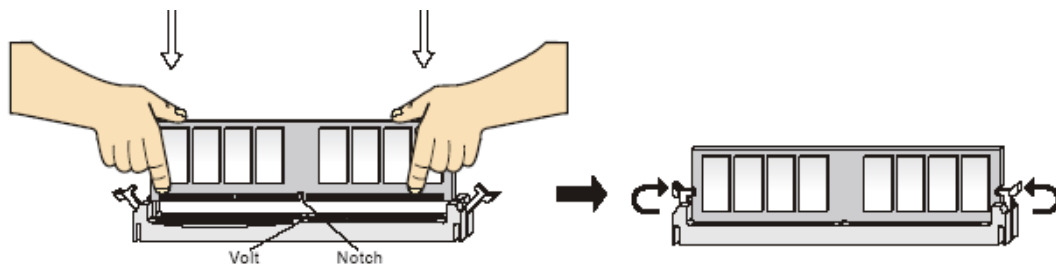
1. Make sure your CPU cooler is firmly installed before turning on your system.
2. Check the information in PC Health Status of H/W Monitor in BIOS for the temperature.
3. Do not touch the CPU socket pins to avoid damage.
4. Whenever CPU is not installed, always protect your CPU socket pins with the plastic cap covered to avoid damage.
5. Please note that the mating/unmating durability of the CPU is 20 cycles. Therefore, we suggest you do not plug/unplug the CPU too often.

## Memory

The mainboard provides two 184-pin unbuffered DDR333 / DDR400 DDR SDRAM, and supports the memory size up to 2GB. To operate properly, at least one DIMM module must be installed.

Install at least one DIMM module on the slots. Memory modules can be installed on the slots in any order. You can install either single- or double-sided modules to meet your own needs.

### Installing DDR Modules



1. The DDR DIMM has only one notch on the center of module. The module will only fit in the right orientation.
2. Insert the DIMM memory module vertically into the DIMM slot. Then push it in until the golden finger on the memory module is deeply inserted in the socket.
3. The plastic clip at each side of the DIMM slot will automatically close.

## Power Supply

The mainboard supports ATX power supply for the power system. Before inserting the power supply connector, always make sure that all components are installed properly to ensure that no damage will be caused. A 300W or above power supply is suggested.

### ATX 24-Pin Power Connector: CONN1

This connector allows you to connect an ATX 24-pin power supply. To connect the ATX 24-pin power supply, make sure the plug of the power supply is inserted in the proper orientation and the pins are aligned. Then push down the power supply



firmly into the connector.

You may use the 20-pin ATX power supply as you like. If you'd like to use the 20-pin ATX power supply, please plug your power supply along with pin 1 & pin 13. There is also a foolproof design on pin 11, 12, 23 & 24 to avoid wrong installation.

**ATX 12V Power Connector: JPW1**

This 12V power connector is used to provide power to the CPU.

**Floppy Disk Drive Connector: FDD1**

The mainboard provides a standard floppy disk drive connector that supports 360K, 720K, 1.2M, 1.44M and 2.88M floppy disk types.

**IDE Connector: IDE1/IDE2**

The mainboard has dual Ultra DMA 66/100/133 controller that provides PIO mode 0~4, Bus Master, and Ultra DMA 66/100/133 function. You can connect up to four hard disk drives, CD-ROM, 120MB Floppy and other devices.

The first hard drive should always be connected to IDE1. IDE1 can connect a Master and a Slave drive. You must configure second hard drive to Slave mode by setting the jumper accordingly.

**Serial ATA Connectors controlled by VIA® 8237R Plus: SATA1/SATA2**

The mainboard provides dual high-speed Serial ATA interface ports. The ports support 1st generation Serial ATA data rates of 150MB/s and are fully compliant with Serial ATA 1.0 specifications. Each Serial ATA connector can connect to 1 hard disk device.

**CD In Connector: CD\_IN1**

The connector is for CD-ROM audio connector.

**AUX In Connector: AUX\_IN1**

The connector is for audio aux-in connector.

**Chassis Intrusion Switch Connector: JC1**

This connector is connected to a 2-pin chassis switch.

**BIOS Flash Jumper: JWP1**

This jumper is used to lock or unlock area on BIOS. When unlocked, the BIOS boot block area can be updated. When locked, the BIOS boot block area cannot be updated.

**Fan Power Connectors: CPUFAN1/SYSFAN1/PWRFAN1**

The 4-pin CPUFAN1 (processor fan) and 3-pin SYSFAN1 (system fan)/PWRFAN1 (power fan) support system cooling fan with +12V. When connecting the wire to the connectors, always take note that the red wire is the positive and should be connected to the +1 connected to GND. If the mainboard has a System Hardware Monitor chipset on-board, you must use a specially designed fan with speed sensor to take advantage of the CPU fan control.

**Front Panel Connectors: JFP2**

The mainboard provides a front panel connector for electrical connection to the front panel switches and LEDs. JFP2 is compliant with Intel® Front Panel I/O Connectivity Design Guide.

**Front Panel Audio Connector: JAUDIO1**

The front panel audio connector allows you to connect to the front panel audio and is compliant with Intel® Front Panel I/O Connectivity Design Guide.

**Front USB Connector: JUSB1/JUSB2**

The mainboard provides two standard USB 2.0 pin headers JUSB1&JUSB2. USB2.0 technology increases data transfer rate up to a maximum throughput of 480Mbps, which is 40 times faster than USB1.1, and is ideal for connecting high-speed USB interface peripherals such as USB HDD, digital cameras, MP3 players, printers, modems, etc.

**Serial Port Connector: COM 2**

The mainboard offers one 9-pin male DIN connector COM 1 (on the rear panel), and one optional serial port COM2. Both are 16550A highspeed communication ports that send/receive 16 bytes FIFOs. You can attach a serial mouse or other serial device directly to them.

**Clear CMOS Jumper: JBAT2**

There is a CMOS RAM on board that has a power supply from external battery to keep the data of system configuration. With the CMOS RAM, the system can automatically boot OS every time it is turned on. If you want to clear the system configuration use the JBAT1 (Clear CMOS Jumper) to clear data. Follow the instructions in the image to clear the data

You can clear CMOS by shorting 2-3 pin while the system is off. Then return to 1-2 pin position. Avoid clearing the CMOS while the system is on, which will damage the mainboard.

### **AGP (Accelerated Graphics Port) Slot**

The AGP slot allows you to insert the AGP graphics card. AGP is an interface specifically designed for the throughput demands of 3D graphics. It introduces a 66MHz graphics controller to directly access main memory. The slot supports AGP card for 1x/2x at 1.5v (3.3v is not supported).

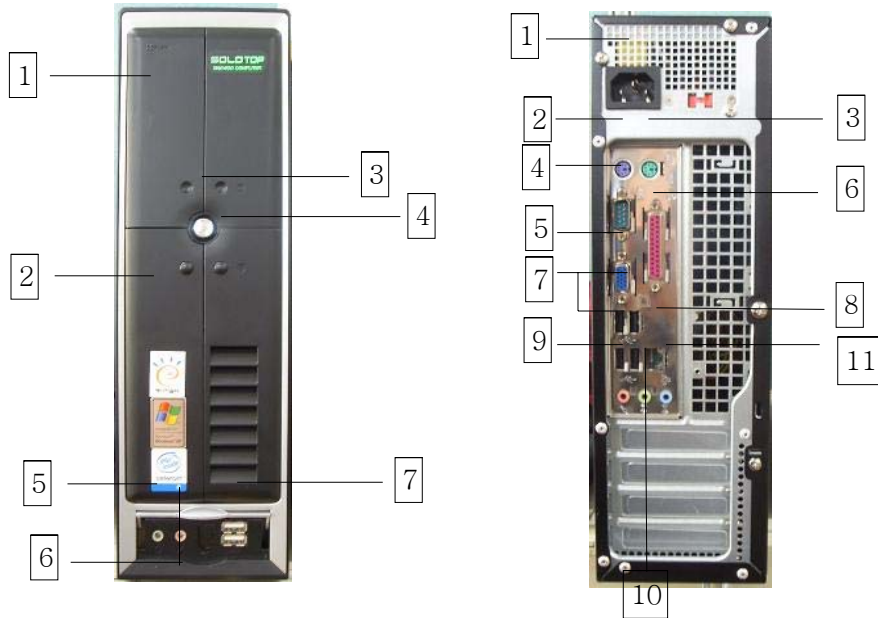
### **PCI (Peripheral Component Interconnect) Slots**

The PCI slots allow you to insert the expansion cards to meet your needs. When adding or removing expansion cards, make sure that you unplug the power supply first. Meanwhile, read the documentation necessary hardware or software settings for the expansion card, such as jumpers, switches BIOS configuration.

### **PCI Interrupt Request Routing**

The IRQ, abbreviation of interrupt request line and pronounced I-R-Q, are hardware lines over which devices can send interrupt signals to the microprocessor. The PCI IRQ pins are typically connected to the PCI bus INT A# ~ INT D# pins as follows:

## SOLO TOP CASE



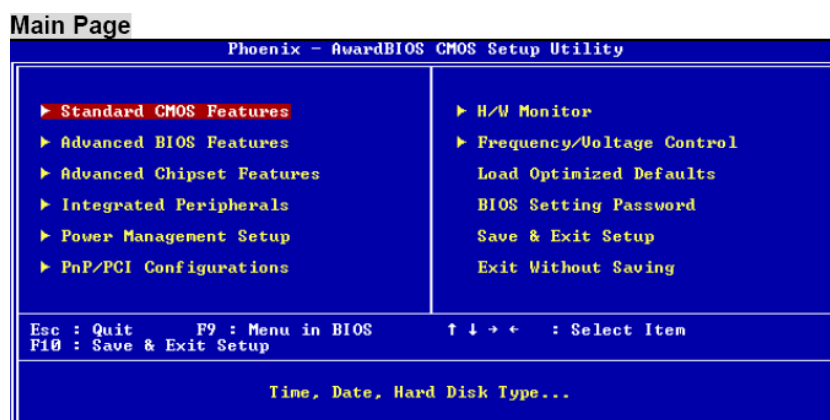
1	FDD	1	AC Out Connector
2	DVD,CD±R/RW	2	PS/2 K/B Port
3	Power Button	3	PS/2 Mouse Port
4	Reset Button	4	COM A Port
5	Speaker Out	5	VGA Port
6	MIC In	6	Parallel Port
7	USB Port	7	USB Port
		8	LAN Port
		9	MIC In
		10	Line-Out
		11	Line-In

## BIOS Setup

Power on the computer and the system will start POST (Power On Self Test) process. When the message below appears on the screen, press <DEL> key to enter Setup.

DEL: Setup      F11: Boot Menu      TAB: Logo

If the message disappears before you respond and you still wish to enter setup, restart the system by turning it OFF and On or pressing the RESET button. You may also restart the system by simultaneously pressing <Ctrl>, <Alt>, and <Delete> keys.



### Standard CMOS Features

Use this menu for basic system configurations, such as time, date etc.

### Advanced BIOS Features

Use this menu to setup the items of Award special enhanced features.

### Advanced Chipset Features

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

### H/W Monitor

This entry shows the status of your CPU, fan, warning for overall system status.

### Frequency/Voltage Control

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

### Load Optimized Defaults

Use this menu to load factor default settings into the BIOS for stable system performance operations.

## BIOS Setting Password

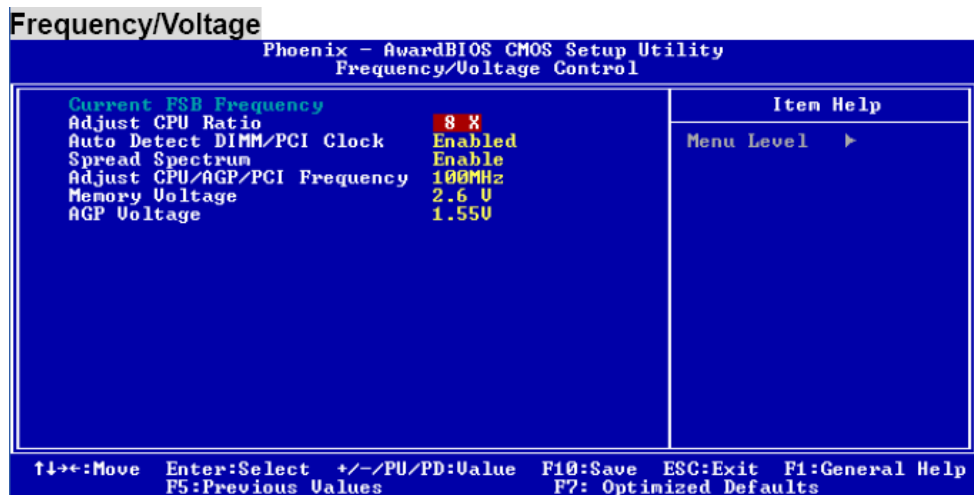
Use this menu to set BIOS setting Password.

## Save & Exit Setup

Save changes to CMOS and exit setup.

## Exit Without Saving

Abandon all changes and exit setup.



## Current FSB Clock

It shows the current FSB clock of . Read-only.

## Adjust CPU Ratio

This item allows you to adjust the CPU ratio. Setting range is from [8] to [50].

## Auto Detect DIMM/PCI Clock

This item is used to auto detect the DIMM and PCI slots. When set to [Enabled], the system will remove (turn off) clocks from empty DIMM and PCI slots to minimize the electromagnetic interference (EMI).

## Spread Spectrum

When the motherboard's clock generator pulses, the extreme values (spikes) of the pulses creates EMI (Electromagnetic Interference). The Spread Spectrum function reduces the EMI generated by modulating the pulses so that the spikes of the pulses are reduced to flatter curve. If you do not have any EMI problem, leave the setting at Disabled for optimal system stability and performance. But if you are plagued by EMI, set to Enabled for EMI reduction. Remember to disable Spread Spectrum if you are overclocking because even a slight jitter can introduce a temporary boost in clock speed which may just cause your overclocked processor to lock up.

### Adjust CPU/AGP/PCI Frequency

This item allows you to select the CPU/AGP/PCI Front Side Bus clock frequency (in MHz) and overclock the processor by adjusting the FSB clock to a higher frequency.

### Memory Voltage

Adjusting the DDR voltage can increase the DDR speed. Any changes made to this setting may cause a stability issue, so changing the DDR voltage for long-term purpose is NOT recommended.

### AGP Voltage

AGP voltage is adjustable in the field, allowing you to increase the performance of your AGP display card when overclocking, but the stability may be affected. Setting options: 1.5V to 1.85at 0.05V increment.

### Load Optimized Defaults

You can load the default values provided by the mainboard manufacturer for the stable performance.

