P5VDC-TVM TE

Motherboard

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Notices

Federal Communications Commission Statement

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

* This device may not cause harmful interference, and
* This device must accept any interference received including interference that may cause undesired operation.

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 manufacturer's 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 to an outlet on a circuit different from that to which the receiver is connected.
* Consult the dealer or an experienced radio/TV technician for help.

> The use of shielded cables for connection of the monitor to the graphics card is required to assure compliance with FCC regulations. Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

Canadian Department of Communications Statement

This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

This class B digital apparatus complies with Canadian ICES-003.

Safety information

Electrical safety

- To prevent electrical shock hazard, disconnect the power cable from the electrical outlet before relocating the system.
- When adding or removing devices to or from the system, ensure that the power cables for the devices are unplugged before the signal cables are connected. If possible, disconnect all power cables from the existing system before you add a device.
- Before connecting or removing signal cables from the motherboard, ensure that all power cables are unplugged.
- Seek professional assistance before using an adapter or extension cord. These devices could interrupt the grounding circuit.
- Make sure that your power supply is set to the correct voltage in your area. If you are not sure about the voltage of the electrical outlet you are using, contact your local power company.
- If the power supply is broken, do not try to fix it by yourself. Contact a qualified service technician or your retailer.

Operation safety

- Before installing the motherboard and adding devices on it, carefully read all the manuals that came with the package.
- Before using the product, make sure all cables are correctly connected and the power cables are not damaged. If you detect any damage, contact your dealer immediately.
- To avoid short circuits, keep paper clips, screws, and staples away from connectors, slots, sockets and circuitry.
- Avoid dust, humidity, and temperature extremes. Do not place the product in any area where it may become wet.
- Place the product on a stable surface.
- If you encounter technical problems with the product, contact a qualified service technician or your retailer.

This symbol of the crossed out wheeled bin indicates that the product (electrical and electronic equipment) should not be placed in municipal waste. Please check local regulations for disposal of electronic products.

About this guide

This user guide contains the information you need when installing and configuring the motherboard.

How this guide is organized

This manual contains the following parts:

- **Chapter 1: Product introduction**

  This chapter describes the features of the motherboard and the new technology it supports. This chapter also lists the hardware setup procedures that you have to perform when installing system components. It includes description of the jumpers and connectors on the motherboard.

- **Chapter 2: BIOS setup**

  This chapter tells how to change system settings through the BIOS Setup menus. Detailed descriptions of the BIOS parameters are also provided.

Where to find more information

Refer to the following sources for additional information and for product and software updates.

1. **System builder websites**

   The system builder website provides updated information on hardware and software products. Refer to the contact information.

2. **Optional documentation**

   Your product package may include optional documentation, such as warranty flyers, that may have been added by your dealer. These documents are not part of the standard package.

Conventions used in this guide

To make sure that you perform certain tasks properly, take note of the following symbols used throughout this manual.

DANGER/WARNING: Information to prevent injury to yourself when trying to complete a task.

CAUTION: Information to prevent damage to the components when trying to complete a task.

IMPORTANT: Instructions that you MUST follow to complete a task.

NOTE: Tips and additional information to help you complete a task.

Typography

Bold text	Indicates a menu or an item to select.
Italics	Used to emphasize a word or a phrase.
<Key>	Keys enclosed in the less-than and greater-than sign means that you must press the enclosed key.
	Example: <Enter> means that you must press the Enter or Return key.
<Key1+Key2+Key3>	If you must press two or more keys simultaneously, the key names are linked with a plus sign (+).
	Example: <Ctrl+Alt+D>
`Command`	Means that you must type the command exactly as shown, then supply the required item or value enclosed in brackets.
	Example: At the DOS prompt, type the command line:
	`afudos /i[filename]`
	`afudos /iPSVDCTVM.ROM`

P5VDC-TVM TE specifications summary

CPU	LGA775 socket for Intel® Pentium® D/Pentium® 4/Celeron CPU compatible with Intel® 06B/05A/04A processors Supports Intel® EM64T/Hyper-Threading Technology
Chipset	Northbridge: VIA P4M900 Southbridge: VIA VT8237A
Front side bus	1066/800/533 MHz
Memory	2 x 240-pin DIMM sockets support max. 2GB DDR2 667/533/400 non-ECC, unbuffered memory.
Expansion slots	1 x PCI Express™ x16 slot 1 x PCI Express™ x1 slot 2 x PCI slots
VGA	Integrated VIA UniChrome Graphics, up to 64MB shared memory
Storage	South Bridge: VT8237A 2 x UltraDMA 133/100/66 2 x Serial ATA 1.5Gb/s
LAN	Realtek® RTL8100C 10/100 LAN controller
Audio	Realtek® ALC883 HD 8-channel audio codec
Back panel I/O ports	1 x Parallel port 1 x RJ-45 port 4 x USB 2.0 ports 1 x VGA port 1 x Serial port 1 x PS/2 keyboard port 1 x PS/2 mouse port 1 x 8-channel audio I/O
Firewire (optional)	2 x T1 firewire ports (1 on the back panel; 1 onboard)
BIOS	4 Mb Flash ROM, AWARD BIOS, PnP, WfM2.0, DMI2.0, SM BIOS 2.3
Manageability	WOL by PME, WOR by PME, PXE
USB	Max. 8 USB 2.0 ports

(continued on the next page)

P5VDC-TVM TE specifications summary

Internal I/O connectors	2 x USB 2.0/1.1 connectors support additional 4 USB ports 2 x SATA connectors 2 x IDE connectors 1 x CPU fan connector 1 x Chassis fan connector 1 x CD audio-in connector (optional) 1 x Chassis Intrusion connector (optional) 1 x Floppy disk drive connector 1 x S/PDIF out connector 1 x IR connector (optional) 1 x Com port (optional) 24-pin EATX power connector 4-pin ATX 12V power connector Front panel audio connector System panel connector
Form factor	mATX form factor, 9.6 in x 9.6 in (24.5 cm x 24.5 cm)

*Specifications are subject to change without notice.

This chapter describes the motherboard features and the new technologies it supports.

Product introduction

1

1.1   Special features

Latest processor technology

This motherboard comes with a 775-pin surface mount Land Grid Array (LGA) socket designed for the Intel® Pentium® 4 processor in the 775-land package. Supporting the Intel® Pentium® 4 processor with 1066 MHz Front Side Bus (FSB), this motherboard is equipped with Intel® Hyper-Threading Technology and is fully compatible with the Intel® 06B/05A/04A processors.
See page 1-7 for details.

64-bit CPU support

64-bit computing, the next generation technology to replace current 32-bit architecture, delivers advanced system performance, faster memory access and increased productivity. This motherboard provides excellent compatibility and flexibility by supporting either 64-bit or 32-bit architecture.

Dual-Core CPU

Enjoy the extraordinary CPU power from the latest dual-core CPU. The advanced processing technology contains two physical CPU cores with individually dedicated L2 cache to satisfy the rising demand for more powerful processing capability.

PCI Express™ interface

The motherboard fully supports PCI Express, the latest I/O interconnect technology that speeds up the PCI bus. PCI Express features point-to-point serial interconnections between devices and allows higher clockspeeds by carrying data in packets. This high speed interface is software compatible with existing PCI specifications. See page 1-18 for details.

Serial ATA I technology

The motherboard supports the Serial ATA I technology through the Serial ATA interfaces and the VIA VT8237A chipset. The SATA specification allows for thinner, more flexible cables with lower pin count, reduced voltage requirement, and up to 300 MB/s data transfer rate. See page 1-24 for details.

AUDIO CODEC

The Realtek ALC655 is an AC"97 CODEC that allows 6-channel audio playback. The audio CODEC provides six DAC channels for 5.1 surround sound, AUX, and Line In stereo inputs.

USB 2.0 technology

The motherboard implements the Universal Serial Bus (USB) 2.0 specification, dramatically increasing the connection speed from the 12 Mbps bandwidth on USB 1.1 to a fast 480 Mbps on USB 2.0. USB 2.0 is backward compatible with USB 1.1. See page 1-22 and 1-27 for details.

1.2 Before you proceed

Take note of the following precautions before you install motherboard components or change any motherboard settings.

⚠️

- Unplug the power cord from the wall socket before touching any component.

- Use a grounded wrist strap or touch a safely grounded object or to a metal object, such as the power supply case, before handling components to avoid damaging them due to static electricity

- Hold components by the edges to avoid touching the ICs on them.

- Whenever you uninstall any component, place it on a grounded antistatic pad or in the bag that came with the component.

- Before you install or remove any component, ensure that the ATX power supply is switched off or the power cord is detached from the power supply. Failure to do so may cause severe damage to the motherboard, peripherals, and/or components.

Onboard LED

The motherboard comes with a standby power LED that lights up to indicate that the system is ON, in sleep mode, or in soft-off mode. This is a reminder that you should shut down the system and unplug the power cable before removing or plugging in any motherboard component. The illustration below shows the location of the onboard LED.

SB_PWR1

ON
Standby
Power

OFF
Powered
Off

P5VDC-TVM TE Onboard LED
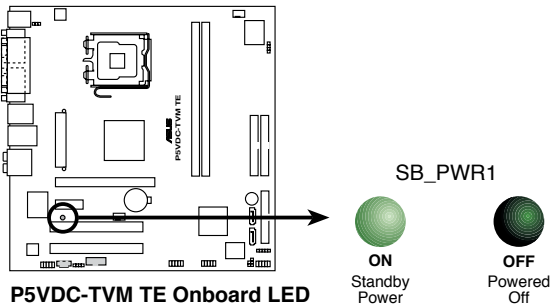
1.3 Motherboard overview

Before you install the motherboard, study the configuration of your chassis to ensure that the motherboard fits into it.

⚡ Make sure to unplug the power cord before installing or removing the motherboard. Failure to do so can cause you physical injury and damage motherboard components.

1.3.1 Placement direction

When installing the motherboard, make sure that you place it into the chassis in the correct orientation. The edge with external ports goes to the rear part of the chassis as indicated in the image below.

1.3.2 Screw holes

Place eight (8) screws into the holes indicated by circles to secure the motherboard to the chassis.

⚠ Do not overtighten the screws! Doing so can damage the motherboard.

Place this side towards the rear of the chassis

P5VDC-TVM TE

1.3.3 Motherboard layout

24.5cm (9.6in)

PS/2KBMS
T: Mouse
B: Keyboard
KBPWR1
ATX12V1
CPU_FAN1
Super I/O
CHASSIS1
COM1
PARALLEL PORT
LGA775
VGA1
F_USB12
LAN_USB34
ATXPWR1
VIA P4M900
DDR2_A1 (64 bit,240-pin module)
DDR2_B1 (64 bit,240-pin module)
PRI_IDE1
SEC_IDE1
PCIEX16
RTL8100C
PCIEX1
CR2032 3V Lithium Cell CMOS Power
CHA_FAN1
SB_PWR1
PCI1
ALC883
PCI2
AAFP1
CD1
SPDIF_OUT1
COM2
USB56
USB78
BUZZER1
SATA2
SATA1
VIA VT8237A
4Mb BIOS
CLRTC1
IR_CON1
FLOPPY1
F_PANEL1

P5VDC-TVM TE

24.5cm (9.6in)

1.4   Central Processing Unit (CPU)

The motherboard comes with a surface mount LGA775 socket designed for the Intel® Pentium® 4/Intel® Pentium® D processor in the 775-land package.

> • Your boxed Intel® Pentium® 4 LGA775 processor package should come with installation instructions for the CPU, fan and heatsink assembly. If the instructions in this section do not match the CPU documentation, follow the latter.
>
> • Upon purchase of the motherboard, make sure that the PnP cap is on the socket and the socket pins are not bent. Contact your retailer immediately if the PnP cap is missing, or if you see any damage to the PnP cap/socket pins/motherboard components. ASUS will shoulder the cost of repair only if the damage is shipment/transit-related.
>
> • Keep the cap after installing the motherboard. ASUS will process Return Merchandise Authorization (RMA) requests only if the motherboard comes with the cap on the LGA775 socket.
>
> • The product warranty does not cover damage to the socket pins resulting from incorrect CPU installation/removal, or misplacement/loss/incorrect removal of the PnP cap.

> This motherboard does not support Intel® Pentium® Processor Extreme Edition.

1.4.1   Installling the CPU

To install a CPU:

1.   Locate the CPU socket on the motherboard.
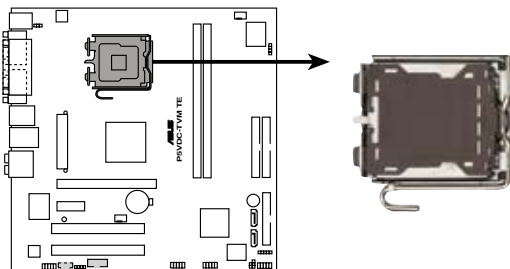
P5VDC-TVM TE CPU Socket 775

> Before installing the CPU, make sure that the socket box is facing towards you and the load lever is on your left.

2. Press the load lever with your thumb (A), then move it to the left (B) until it is released from the retention tab.

Retention tab

Load lever

A

B

PnP cap

This side of the socket box should face you.
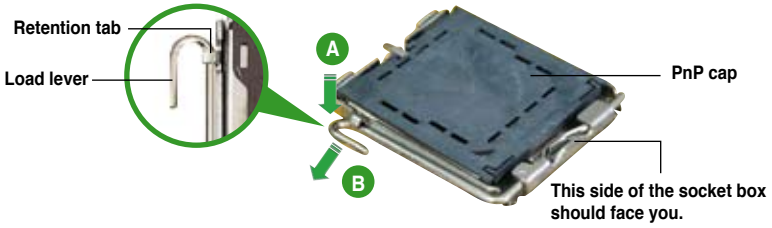
To prevent damage to the socket pins, do not remove the PnP cap unless you are installing a CPU.

3. Lift the load lever in the direction of the arrow to a 135º angle.
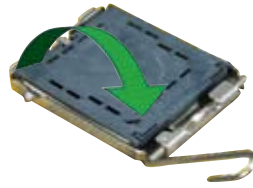
4. Lift the load plate with your thumb and forefinger to a 100º angle (A), then push the PnP cap from the load plate window to remove (B).

B

A

Load plate
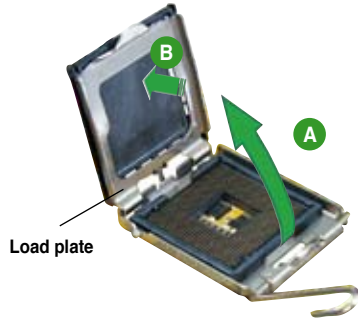
5. Position the CPU over the socket, making sure that the gold triangle is on the bottom-left corner of the socket then fit the socket alignment key into the CPU notch.

Alignment key

CPU notch

Gold triangle mark
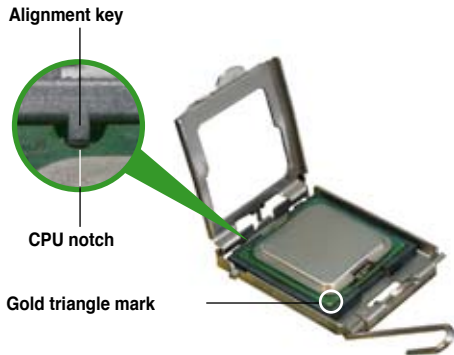
> ⚠️ The CPU fits in only one correct orientation. DO NOT force the CPU into the socket to prevent bending the connectors on the socket and damaging the CPU!

6. Close the load plate (A), then push the load lever (B) until it snaps into the retention tab.

7. If installing a dual-core CPU, connect the chassis fan cable to the CHA_FAN1 connector to ensure system stability.

Notes on Intel® Hyper-Threading Technology

- • This motherboard supports Intel® Pentium® 4 CPUs in the 775-land package with Hyper-Threading Technology.

- • Hyper-Threading Technology is supported under Windows® XP/2003 Server and Linux 1.7.x (kernel) and later versions only. Under Linux, use the Hyper-Threading compiler to compile the code. If you are using any other operating systems, disable the Hyper-Threading Technology item in the BIOS to ensure system stability and performance.

- • Installing Windows® XP Service Pack 1 or later version is recommended.

- • Make sure to enable the Hyper-Threading Technology item in BIOS before installing a supported operating system.

- • For more information on Hyper-Threading Technology, visit www.intel.com/info/hyperthreading.

To use the Hyper-Threading Technology on this motherboard:

1. Install an Intel® Pentium® 4 CPU in the 775-land package that supports Hyper-Threading Technology.

2. Power up the system and enter the BIOS Setup (see Chapter 2: BIOS setup). Under the Advanced Menu, make sure that the item Hyper-Threading Technology is set to [Enabled]. The item appears only if you installed a CPU that supports Hyper-Threading Technology.

3. Reboot the computer.

1.4.2   Installling the CPU heatsink and fan

The Intel® Pentium® 4/Pentium® D LGA775 processor requires a specially designed heatsink and fan assembly to ensure optimum thermal condition and performance.

- Install the motherboard to the chassis before you install the CPU fan and heatsink assembly

- When you buy a boxed Intel® Pentium® 4 processor, the package includes the CPU fan and heatsink assembly. If you buy a CPU separately, make sure that you use only Intel®-certified multi-directional heatsink and fan.

- Your Intel® Pentium® 4 LGA775 heatsink and fan assembly comes in a push-pin design and requires no tool to install.

If you purchased a separate CPU heatsink and fan assembly, make sure that a Thermal Interface Material is properly applied to the CPU heatsink or CPU before you install the heatsink and fan assembly.

To install the CPU heatsink and fan:

1.   Place the heatsink on top of the installed CPU, making sure that the four fasteners match the holes on the motherboard.

Fastener

Motherboard hole
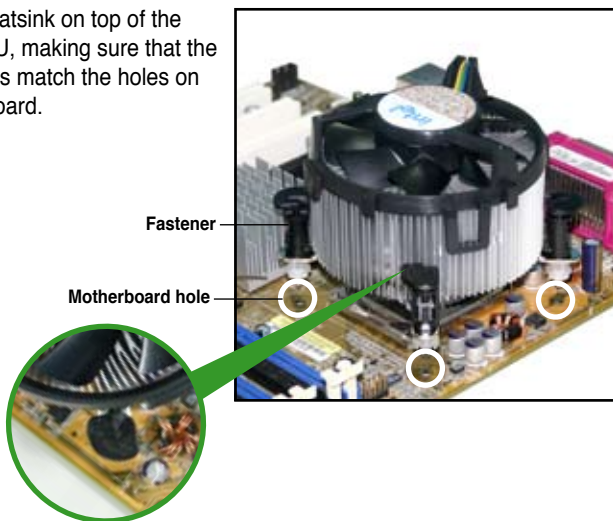
Make sure each fastener is oriented as shown, with the narrow groove directed outward.

2. Push down two fasteners at a time
    in a diagonal sequence to secure
    the heatsink and fan assembly in
    place.
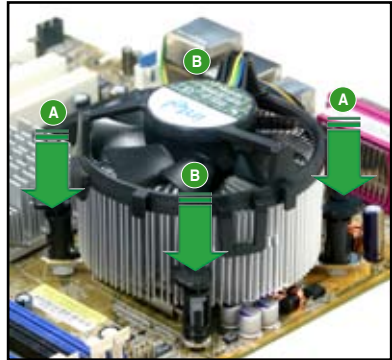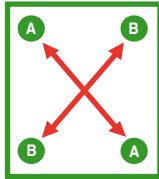
3. When the fan and heatsink assembly is in place, connect the CPU fan cable
    to the connector on the motherboard labeled CPU_FAN1.

CPU_FAN1

GND
CPU FAN PWR
CPU FAN IN
CPU FAN PWM
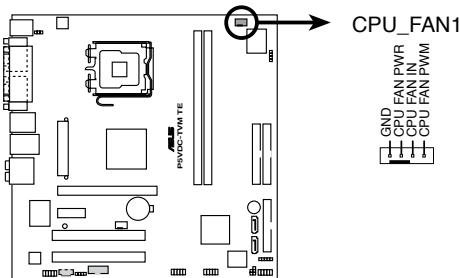
P5VDC-TVM TE CPU fan connector

Do not forget to connect the CPU fan connector! Hardware monitoring errors
can occur if you fail to plug this connector.

1.4.3 Uninstalling the CPU heatsink and fan

To uninstall the CPU heatsink and fan:

1. Disconnect the CPU fan cable from the connector on the motherboard labeled CPU_FAN.

2. Rotate each fastener counterclockwise.

3. Pull up two fasteners at a time in a diagonal sequence to disengage the heatsink and fan assembly from the motherboard.
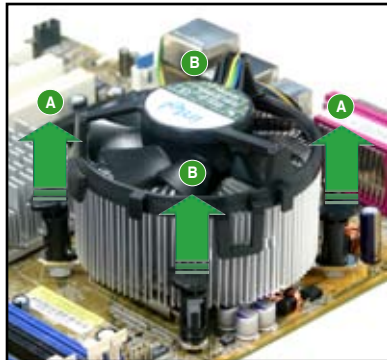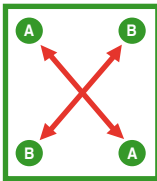
4. Remove the heatsink and fan assembly from the motherboard.

5. Rotate each fastener clockwise to reset the orientation.
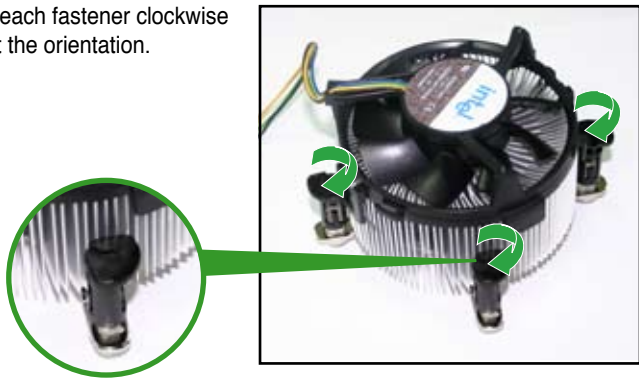
The narrow end of the groove should point outward after resetting. (The photo shows the groove shaded for emphasis.)

Narrow end of the groove

1.5 System memory

1.5.1 Overview

The motherboard comes with two 240-pin Double Data Rate (DDR2) Dual Inline Memory Modules (DIMM) sockets.
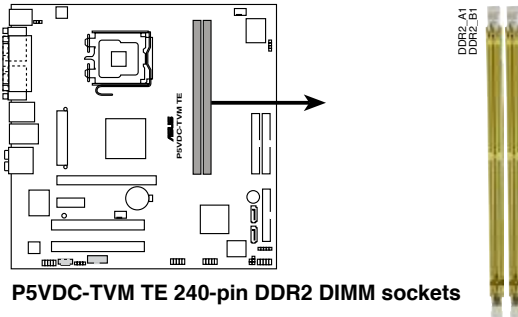
P5VDC-TVM TE 240-pin DDR2 DIMM sockets

> Due to chipset resource allocation, the system may detect less than 2 GB system memory when you installed two 1 GB DDR2 memory modules.

1.5.2 Memory Configurations

You may install 256MB, 512MB, and 1 GB unbuffered non-ECC DDR2 DIMMs into the DIMM sockets.

1.5.3 Installing a DDR2 DIMM

⚠ Unplug the power supply before adding or removing DIMMs or other system components. Failure to do so can cause severe damage to both the motherboard and the components.

To install a DIMM:

1. Unlock a DIMM socket by pressing the retaining clips outward.
2. Align a DIMM on the socket such that the notch on the DIMM matches the break on the socket.
3. Firmly insert the DIMM into the socket until the retaining clips snap back in place and the DIMM is properly seated.
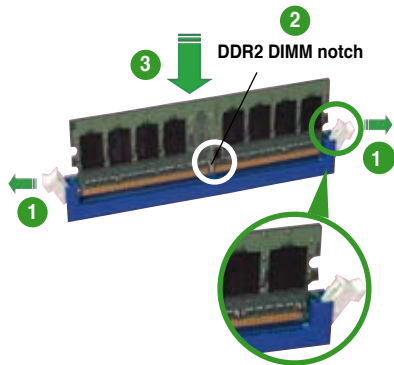
DDR2 DIMM notch

Unlocked retaining clip

⚠ • A DDR2 DIMM is keyed with a notch so that it fits in only one direction. Do not force a DIMM into a socket to avoid damaging the DIMM.

• The DDR2 DIMM sockets do not support DDR DIMMs. Do not install DDR DIMMs to the DDR2 DIMM sockets.

1.5.4 Removing a DDR2 DIMM

Follow these steps to remove a DIMM.

1. Simultaneously press the retaining clips outward to unlock the DIMM.

⚠ Support the DIMM lightly with your fingers when pressing the retaining clips. The DIMM might get damaged when it flips out with extra force.

DDR2 DIMM notch
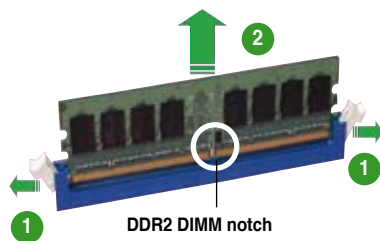
2. Remove the DIMM from the socket.

1.6   Expansion slots

In the future, you may need to install expansion cards. The following sub-sections describe the slots and the expansion cards that they support.

Make sure to unplug the power cord before adding or removing expansion cards. Failure to do so may cause you physical injury and damage motherboard components.

1.6.1   Installing an expansion card

To install an expansion card:

1.   Before installing the expansion card, read the documentation that came with it and make the necessary hardware settings for the card.
2.   Remove the system unit cover (if your motherboard is already installed in a chassis).
3.   Remove the bracket opposite the slot that you intend to use. Keep the screw for later use.
4.   Align the card connector with the slot and press firmly until the card is completely seated on the slot.
5.   Secure the card to the chassis with the screw you removed earlier.
6.   Replace the system cover.

1.6.2   Configuring an expansion card

After installing the expansion card, configure it by adjusting the software settings.

1.   Turn on the system and change the necessary BIOS settings, if any. See Chapter 2 for information on BIOS setup.
2.   Assign an IRQ to the card. Refer to the tables on the next page.
3.   Install the software drivers for the expansion card.

When using PCI cards on shared slots, ensure that the drivers support "Share IRQ" or that the cards do not need IRQ assignments. Otherwise, conflicts will arise between the two PCI groups, making the system unstable and the card inoperable. Refer to the table on the next page for details.

1.6.3   Interrupt assignments

Standard interrupt assignments

IRQ	Priority	Standard function
0	1	System Timer
1	2	Keyboard Controller
2	—	Redirect to IRQ#9
4	12	Communications Port (COM1)*
5	13	IRQ Holder for PCI Steering*
6	14	Floppy Disk Controller
7	15	Printer Port (LPT1)*
8	3	System CMOS/Real Time Clock
9	4	IRQ Holder for PCI Steering*
10	5	IRQ Holder for PCI Steering*
11	6	PCI-E x1
12	7	PS/2 Compatible Mouse Port*
13	8	Numeric Data Processor
14	9	Primary IDE Channel
15	10	Secondary IDE channel

* These IRQs are usually available for ISA or PCI devices.

IRQ assignments for this motherboard

	A	B	C	D	E	F	G	H
PCI Slot 1	shared	—	—	—	—	—	—	—
PCI Slot 2	—	shared	—	—	—	—	—	—
Onboard Lan	—	—	—	—	shared	—	—	—
Onboard 1394	—	—	—	—	—	shared	—	—

When using PCI cards on shared slots, ensure that the drivers support "Share IRQ" or that the cards do not need IRQ assignments. Otherwise, conflicts will arise between the two PCI groups, making the system unstable and the card inoperable.

1.6.4 PCI slots

The PCI slots support cards such as a LAN card, SCSI card, USB card, and other cards that comply with PCI specifications. The figure shows a LAN card installed on a PCI slot.
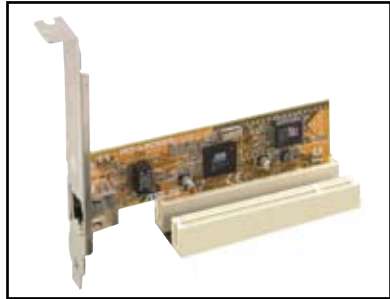
1.6.5 PCI Express x1 slot

This motherboard supports PCI Express x1 network cards, SCSI cards and other cards that comply with the PCI Express specifications. The figure shows a network card installed on the PCI Express x1 slot.
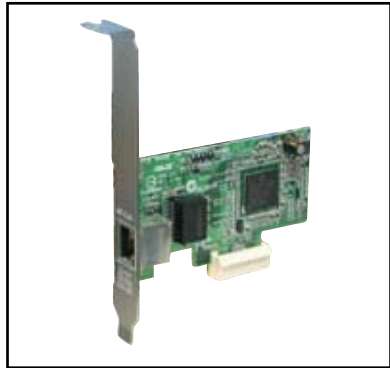
1.6.6 PCI Express x16 slot

This motherboard has one PCI Express x16 slots that support PCI Express x16 graphic cards complying with the PCI Express specifications.

1.7 Jumpers

1. Clear RTC RAM (CLRTC1)

This jumper allows you to clear the Real Time Clock (RTC) RAM in CMOS. You can clear the CMOS memory of date, time, and system setup parameters by erasing the CMOS RTC RAM data. The onboard button cell battery powers the RAM data in CMOS, which include system setup information such as system passwords.

To erase the RTC RAM:

1. Turn OFF the computer and unplug the power cord.

2. Remove the onboard battery.

3. Move the jumper cap from pins 1-2 (default) to pins 2-3. Keep the cap on pins 2-3 for about 5~10 seconds, then move the cap back to pins 1-2.

4. Re-install the battery.

5. Plug the power cord and turn ON the computer.

6. Hold down the <Del> key during the boot process and enter BIOS setup to re-enter data.

> Except when clearing the RTC RAM, never remove the cap on CLRTC jumper default position. Removing the cap will cause system boot failure!

P5VDC-TVM TE Clear RTC RAM

CLRTC1

Normal (Default)   CLEAR
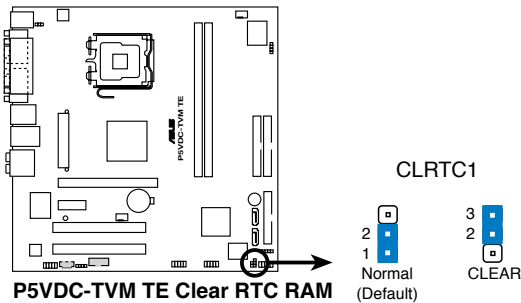
2. Keyboard power (3-pin KBPWR1)

This jumper allows you to enable or disable the keyboard wake-up feature. Set this jumper to pins 2-3 (+5VSB) to wake up the computer when you press a key on the keyboard (the default is the Space Bar). This feature requires an ATX power supply that can supply at least 1A on the +5VSB lead, and a corresponding setting in the BIOS.
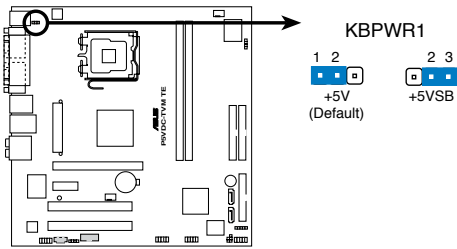
P5VDC-TVM TE Keyboard power setting

1.8 Connectors

1.8.1 Rear panel connectors
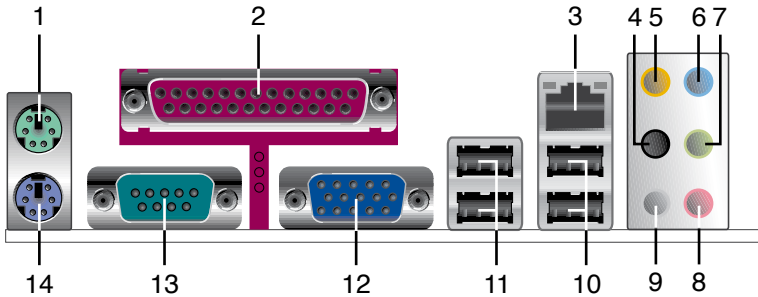
1. **PS/2 mouse port (green).** This port is for a PS/2 mouse.
2. **Parallel port.** This 25-pin port connects a parallel printer, a scanner, or other devices.
3. **LAN (RJ-45) port.** This port allows connection to a Local Area Network (LAN) through a network hub.

LAN port LED indications

ACT/LINK LED		SPEED LED	
Status	**Description**	**Status**	**Description**
OFF	Idle	OFF	10 linked
BLINKING	Data activity	GREEN	100 linked

ACT/LINK SPEED
LED   LED

LAN port
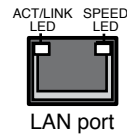
4. **Rear Speaker Out port (black).** This port connects the rear speakers in a 4-channel, 6-channel, or 8-channel audio configuration.
5. **Center/Subwoofer port (orange).** This port connects the center/subwoofer speakers.
6. **Line In port (light blue).** This port connects the tape, CD, DVD player, or other audio sources.
7. **Line Out port (lime).** This port connects a headphone or a speaker. In 4-channel, 6-channel, and 8-channel configuration, the function of this port becomes Front Speaker Out.
8. **Microphone port (pink).** This port connects a microphone.
9. **Side Speaker Out port (gray).** This port connects the side speakers in an 8-channel audio configuration.

Refer to the audio configuration table for the function of the audio ports in 2, 4, 6, or 8-channel configuration.

Audio 2, 4, 6, or 8-channel configuration

Port	Headset 2-channel	4-channel	6-channel	8-channel
Light Blue	Line In	Line In	Line In	Line In
Lime	Line Out	Front Speaker Out	Front Speaker Out	Front Speaker Out
Pink	Mic In	Mic In	Mic In	Mic In
Orange	–	–	Center/Subwoofer	Center/Subwoofer
Black	–	Rear Speaker Out	Rear Speaker Out	Rear Speaker Out
Gray	–	–	–	Side Speaker Out

10. **USB 2.0 ports 3 and 4.** These two 4-pin Universal Serial Bus (USB) ports are available for connecting USB 2.0 devices.

11. **USB 2.0 ports 1 and 2.** These two 4-pin Universal Serial Bus (USB) ports are available for connecting USB 2.0 devices.

12. **VGA port.** This 15-pin VGA port connects to a VGA monitor.

13. **Serial connector.** This 9-pin COM port is for serial devices.

14. **PS/2 keyboard port (purple).** This port is for a PS/2 keyboard.

1.8.2   Internal connectors

1. **Floppy disk drive connector (34-1 pin FLOPPY1)**

   This connector is for the provided floppy disk drive (FDD) signal cable. Insert one end of the cable to this connector, then connect the other end to the signal connector at the back of the floppy disk drive.

   Pin 5 on the connector is removed to prevent incorrect cable connection when using an FDD cable with a covered Pin 5.

FLOPPY1
NOTE: Orient the red markings on the floppy ribbon cable to PIN 1.

PIN 1
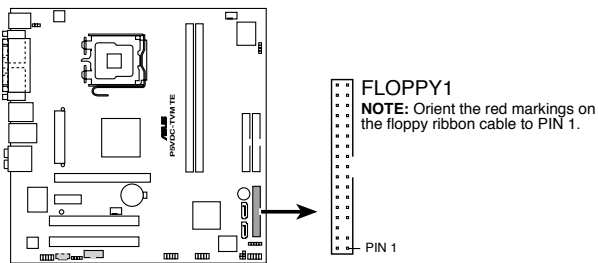
P5VDC-TVM TE Floppy disk drive connector

2. Primary/Secondary IDE connector (40-1 pin PRI_IDE1, SEC_IDE1)

These connectors are for Ultra DMA 133/100/66 signal cables. The Ultra DMA 133/100/66 signal cable has three connectors: a blue connector for the primary IDE connector on the motherboard, a black connector for an Ultra DMA 100/66 IDE slave device (optical drive/hard disk drive), and a gray connector for an Ultra DMA 100/66 IDE master device (hard disk drive). If you install two hard disk drives, you must configure the second drive as a slave device by setting its jumper accordingly. Refer to the hard disk documentation for the jumper settings.

1. Follow the hard disk drive documentation when setting the device in master or slave mode.

2. Pin 20 on each IDE connector is removed to match the covered hole on the UltraATA cable connector. This prevents incorrect orientation when you connect the cables.

3. The hole near the blue connector on the UltraATA cable is intentional.

PRI_IDE1
SEC_IDE1

NOTE: Orient the red markings (usually zigzag) on the IDE ribbon cable to PIN 1.

PIN 1 PIN 1

P5VDC-TVM TE IDE connectors

3. Serial ATA connectors (7-pin SATA1 and SATA2)

These connectors are for the Serial ATA signal cables for Serial ATA hard disk drives.

If you installed Serial ATA hard disk drives, you can create a RAID 0, RAID 1, and JBOD configuration through the onboard VIA VT8237A RAID controller.

SATA2

GND
RSATA_RXN2
RSATA_RXP2
GND
RSATA_TXN2
RSATA_TXP2
GND

SATA1

GND
RSATA_RXN1
RSATA_RXP1
GND
RSATA_TXN1
RSATA_TXP1
GND

P5VDC-TVM TE SATA connectors
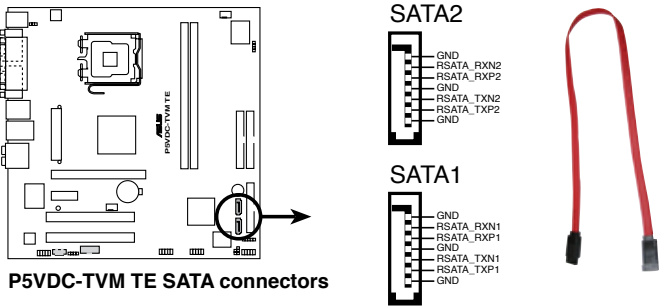
Important notes on Serial ATA

- The Serial ATA RAID feature is available only if you are using Windows® 2000/2003 Server/XP operation system.

- The SATA ports couldn't be Book Disk under Windows® 98SE and ME.

- Install the Windows® 2000 Service Pack 4, the Windows® XP Service Pack1 or later version before using Serial ATA.

4. Internal audio connectors (4-pin CD1) (Optional)

These connectors allow you to receive stereo audio input from sound sources such as a CD-ROM, TV tuner, MPEG card or modem.

CD1
(Black)

Left Audio Channel
Ground
Ground
Right Audio Channel

P5VDC-TVM TE Internal audio connector
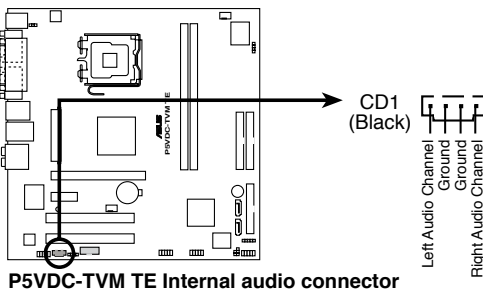
5. **CPU and Chassis fan connectors**
   (4-pin CPU_FAN1, 4-pin CHA_FAN1)

   The fan connectors support cooling fans of 350mA~740mA (8.88W max.) or
   a total of 1A~2.22A (26.64W max.) at +12V. Connect the fan cables to the fan
   connectors on the motherboard, making sure that the black wire of each cable
   matches the ground pin of the connector.

   > Do not forget to connect the fan cables to the fan connectors. Insufficient air
   > flow inside the system may damage the motherboard components. These are
   > not jumpers! DO NOT place jumper caps on the fan connectors.

   CPU_FAN1

   GND FAN PWR
   CPU FAN IN
   CPU FAN PWM

   CHA_FAN1

   GND FAN PWR
   CPU FAN IN
   CPU FAN PWM

   P5VDC-TVM TE Fan connectors
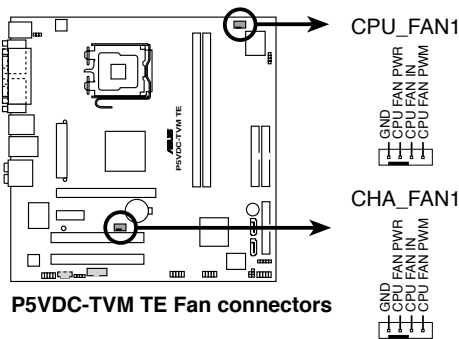
6. **Digital Audio connector (4-1 pin SPDIF_OUT1)**

   This connector is for the S/PDIF audio module to allow digital sound output.
   Connect one end of the S/PDIF audio cable to this connector and the other
   end to the S/PDIF module.

   SPDIF_OUT1

   +5V
   SPDIFOUT
   GND

   P5VDC-TVM TE Digital audio connector
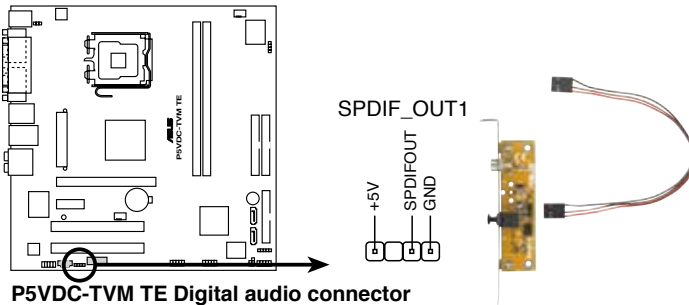
   > The S/PDIF out module is purchased separately.

7. ATX power connectors (24-pin ATXPWR1, 4-pin ATX12V1)

These connectors are for an ATX power supply. The plugs from the power supply are designed to fit these connectors in only one orientation. Find the proper orientation and push down firmly until the connectors completely fit.

- Do not forget to connect the 4-pin ATX +12 V power plug; otherwise, the system will not boot up.

- When using an ATX 12 V PSU with 20-pin power plug, make sure that it can provide 8 A on the +12 V lead and at least 1A on the +5V standby lead (+5 VSB). The minimum recommended wattage is 300 W, or 350 W for a fully configured system. The system may become unstable or may not boot up if the power is inadequate.

- You must install a Power Supply Unit (PSU) with a higher power rating if you intend to install additional devices.

ATX12V1   ATXPWR1

+12V DC   GND

+12V DC   GND

+3 Volts	Ground
+12 Volts	+5 Volts
+12 Volts	+5 Volts
+5V Standby	+5 Volts
Power OK	-5 Volts
Ground	Ground
+5 Volts	Ground
Ground	Ground
+5 Volts	PSON#
Ground	Ground
+3 Volts	-12 Volts
+3 Volts	+3 Volts

P5VDC-TVM TE ATX power connectors
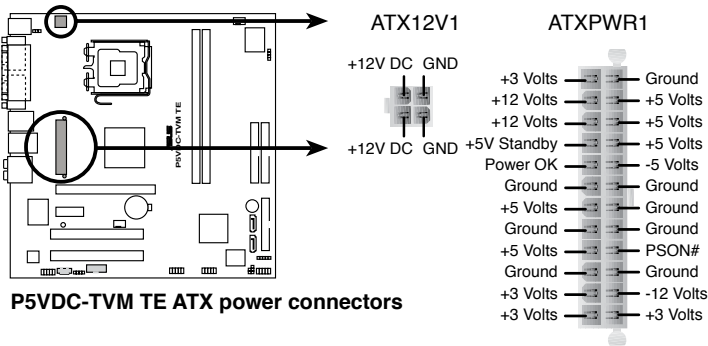
8. **USB connectors (10-1 pin USB56, USB78)**

   These connectors are for USB 2.0 ports. Connect the optional USB/GAME module cable to any of these connectors, then install the module to a slot opening at the back of the system chassis. These USB connectors comply with USB 2.0 specification that supports up to 480 Mbps connection speed.
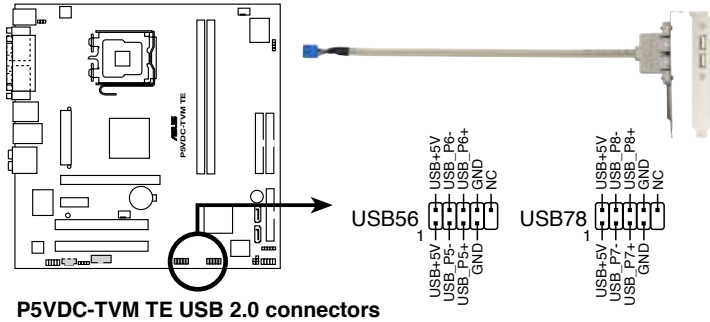
   P5VDC-TVM TE USB 2.0 connectors

   Never connect a 1394 cable to the USB connectors. Doing so will damage the motherboard!

9. **Front panel audio connector (10-1 pin AAFP1)**

   This connector is for a chassis-mounted front panel audio I/O module that supports either HD Audio or legacy AC'97 audio standard. Connect one end of the front panel audio I/O module cable to this connector.
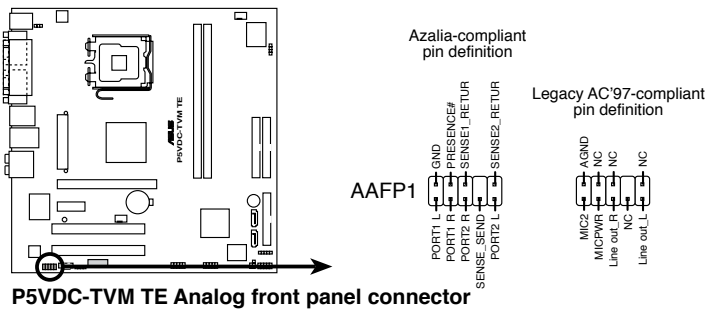
   P5VDC-TVM TE Analog front panel connector

10. Chassis intrusion connector (4-1 pin CHASSIS1) (Optional)

This connector is for a chassis-mounted intrusion detection sensor or switch. Connect one end of the chassis intrusion sensor or switch cable to this connector. The chassis intrusion sensor or switch sends a high-level signal to this connector when a chassis component is removed or replaced. The signal is then generated as a chassis intrusion event.

By default , the pin labeled "Chassis Signal" and " Ground" are shorted with a jumper cap. Remove the jumper caps only when you intend to use the chassis intrusion detection feature.

CHASSIS1

GND
Chassis Signal   (Default)
+5VSB_MB
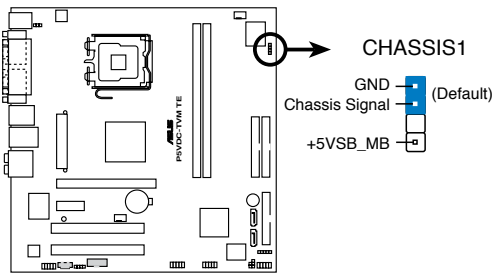
P5VDC-TVM TE Chassis intrusion connector

11. Infrared module connector (5-1 pin IR_CON1) (Optional)

This connector supports an optional wireless transmitting and receiving infrared module. Use a ribbon cable to connect an IR module to this connector.

IR_CON1

+5V
IRRX
GND
IRTX
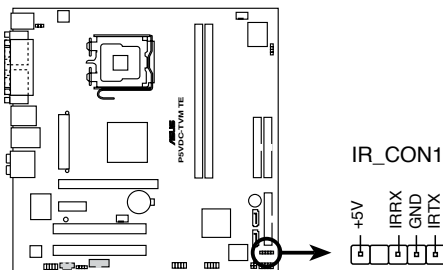
P5VDC-TVM TE Infrared module connector

The IR module is purchased separately.

12. **Serial port connector (10-1 pin COM2) (Optional)**

This connector is for a serial (COM) port. Connect the serial port module cable to this connector, then install the module to a slot opening at the back of the system chassis.

COM2

PIN 1

P5VDC-TVM TE COM port connector
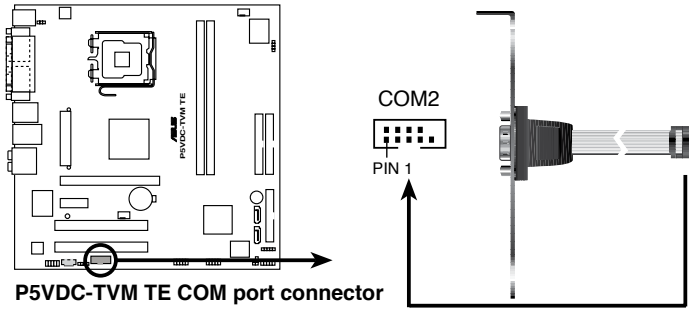
13. System panel connector (10-1 pin F_PANEL1)

This connector supports several chassis-mounted functions.
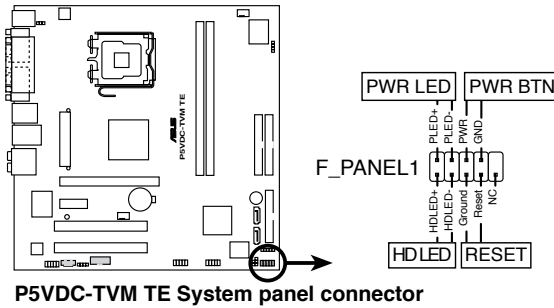
P5VDC-TVM TE System panel connector

- **System power LED (2-pin PLED)**

  This 2-pin connector is for the system power LED. Connect the chassis power LED cable to this connector. The system power LED lights up when you turn on the system power, and blinks when the system is in sleep mode.

- **Hard disk drive activity LED (2-pin HDLED)**

  This 2-pin connector is for the HDD Activity LED. Connect the HDD Activity LED cable to this connector. The IDE LED lights up or flashes when data is read from or written to the HDD.

- **ATX power button/soft-off button (2-pin PWR)**

  This connector is for the system power button. Pressing the power button turns the system on or puts the system in sleep or soft-off mode depending on the BIOS settings. Pressing the power switch for more than four seconds while the system is ON turns the system OFF.

- **Reset button (2-pin RESET)**

  This 2-pin connector is for the chassis-mounted reset button for system reboot without turning off the system power.

This chapter tells how to change
the system settings through the
BIOS Setup menus. Detailed
descriptions
of the BIOS parameters are also

BIOS setup
2

2.1   BIOS setup program

This motherboard supports a programmable firmware chip that you can update using the provided utility.

Use the BIOS Setup program when you are installing a motherboard, reconfiguring your system, or prompted to"Run Setup." This section explains how to configure your system using this utility.

Even if you are not prompted to use the Setup program, you can change the configuration of your computer in the future. For example, you can enable the security password feature or change the power management settings. This requires you to reconfigure your system using the BIOS Setup program so that the computer can recognize these changes and record them in the CMOS RAM of the firmware hub.

The firmware hub on the motherboard stores the Setup utility. When you start up the computer, the system provides you with the opportunity to run this program. Press <Del> during the Power-On Self-Test (POST) to enter the Setup utility; otherwise, POST continues with its test routines.

If you wish to enter Setup after POST, restart the system by pressing <Ctrl+Alt+Delete>, or by pressing the reset button on the system chassis. You can also restart by turning the system off and then back on. Do this last option only if the first two failed.

The Setup program is designed to make it as easy to use as possible. Being a menu-driven program, it lets you scroll through the various sub-menus and make your selections from the available options using the navigation keys.

•   The default BIOS settings for this motherboard apply for most conditions to ensure optimum performance. If the system becomes unstable after changing any BIOS settings, load the default settings to ensure system compatibility and stability. Select "Load Setup Default" under the Exit Menu. See section "2.6 Exit Menu."

•   The BIOS setup screens shown in this section are for reference purposes only, and may not exactly match what you see on your screen.

•   Visit the website of system builder to download the latest BIOS file for this motherboard.

2.1.1   BIOS menu screen

Menu items   Menu bar   Configuration fields   General help

```
                    Phoenix - AwardBIOS CMOS Setup Utility
      Main    Advanced    Power    Boot    Exit

           System Time              15 : 30 : 36                    Select Menu
           System Date              Thu, Aug 15  2006
                                                              Item Specific Help▶
           Legacy Diskette A:       [1.44M, 3.5 in.]
                                                              Change the internal
      ▶    Primary IDE Master       [None]                    time.
      ▶    Primary IDE Slave        [None]
      ▶    Secondary IDE Master     [None]
      ▶    Secondary IDE Slave      [None]
      ▶    SATA 1                   [None]
      ▶    SATA 2                   [None]
           HDD SMART Monitoring     [Disabled]

           Installed Memory            512MB
           Usable Memory               447MB


      F1:Help          ↑↓ : Select Item    -/+: Change Value         F5: Setup Defaults
      ESC: Exit        →←: Select Menu      Enter: Select SubMenu     F10: Save and Exit
```

                    Sub-menu items   Legend bar

2.1.2   Menu bar

The menu bar on top of the screen has the following main items:

Main   For changing the basic system configuration

Advanced   For changing the advanced system settings

Power   For changing the advanced power management (APM)
                  configuration

Boot   For changing the system boot configuration

Exit   For selecting the exit options and loading default
                  settings

To select an item on the menu bar, press the right or left arrow key on the keyboard until the desired item is highlighted.

> The BIOS setup screens shown in this chapter are for reference purposes only, and may not exactly match what you see on your screen.

2.1.3   Legend bar

At the bottom of the Setup screen is a legend bar. The keys in the legend bar allow you to navigate through the various setup menus. The following table lists the keys found in the legend bar with their corresponding functions.

Navigation Key	Function
<F1>	Displays the General Help screen
<F5>	Loads setup default values
<Esc>	Exits the BIOS setup or returns to the main menu from a sub-menu
Left or Right arrow	Selects the menu item to the left or right
Up or Down arrow	Moves the highlight up or down between fields
Page Down or – (minus)	Scrolls backward through the values for the highlighted field
Page Up or + (plus)	Scrolls forward through the values for the highlighted field
<Enter>	Brings up a selection menu for the highlighted field
<F10>	Saves changes and exit

2.1.4   Menu items

The highlighted item on the menu bar displays the specific items for that menu. For example, selecting **Main** shows the Main menu items.

The other items (Advanced, Power, Boot, and Exit) on the menu bar have their respective menu items.

2.1.5   Sub-menu items

A solid triangle before each item on any menu screen means that the item has a sub-menu. To display the sub-menu, select the item and press <Enter>.

2.1.6   Configuration fields

These fields show the values for the menu items. If an item is user-configurable, you can change the value of the field opposite the item. You cannot select an item that is not user-configurable.

A configurable field is enclosed in brackets, and is highlighted when selected. To change the value of a field, select it then press <Enter> to display a list of options. Refer to "2.1.7 Pop-up window."

2.1.7   Pop-up window

Select a menu item then press <Enter> to display a pop-up window with the configuration options for that item.

```
                  Phoenix - AwardBIOS CMOS Setup Utility
   Main   Advanced   Power   Boot   Exit

      System Time                 15 : 30 : 36           Select Menu
      System Date                 Thu, Aug 15  2006
                                                    Item Specific Help▶

      Legacy Diskette A:          [1.44M, 3.5 in.]   Specifies the capacity
                                                     d physical size of
   ▶  Primary IDE Master     Legacy Diskette A:      skette drive A.
   ▶  Primary IDE Slave
   ▶  Secondary IDE Mast    Disabled      ..... [ ]
   ▶  Secondary IDE Slave   720K , 3.5 in.  ..... [ ]
   ▶  SATA 1                1.44M, 3.5 in.   ..... [▮]
   ▶  SATA 2
      HDD SMART Monitorir

      Installed Memory        ↑↓:Move   ENTER:Accept  ESC:Abort
      Usable Memory


   F1:Help          ↑↓ : Select Item    -/+: Change Value      F5: Setup Defaults
   ESC: Exit        →←: Select Menu     Enter: Select SubMenu   F10: Save and Exit
```

Pop-up menu

2.1.8   General help

At the top right corner of the menu screen is a brief description of the selected item.

2.2 Main menu

When you enter the BIOS Setup program, the Main menu screen appears, giving you an overview of the basic system information.

Refer to section "2.1.1 BIOS menu screen" for information on the menu screen items and how to navigate through them.

```
              Phoenix - AwardBIOS CMOS Setup Utility
   Main   Advanced   Power   Boot   Exit

      System Time                  15 : 30 : 36              Select Menu
      System Date                  Thu, Aug 15  2006
                                                        Item Specific Help▶

      Legacy Diskette A:           [1.44M, 3.5 in.]     Change the internal
                                                        time.
   ▶  Primary IDE Master          [None]
   ▶  Primary IDE Slave           [None]
   ▶  Secondary IDE Master        [None]
   ▶  Secondary IDE Slave         [None]
   ▶  SATA 1                      [None]
   ▶  SATA 2                      [None]
      HDD SMART Monitoring         [Disabled]

      Installed Memory             512MB
      Usable Memory                447MB


   F1:Help        ↑↓ : Select Item    -/+: Change Value      F5: Setup Defaults
   ESC: Exit      →←: Select Menu      Enter: Select SubMenu  F10: Save and Exit
```

2.2.1 System Time [xx:xx:xx]

Allows you to set the system time.

2.2.2 System Date [Day xx/xx/xxxx]

Allows you to set the system date.

2.2.3 Legacy Diskette A [1.44M, 3.5 in.]

Sets the type of floppy drive installed.
Configuration options: [Disabled] [720K , 3.5 in.] [1.44M, 3.5 in.]

2.2.4   Primary/Secondary IDE Master/Slave

While entering Setup, the BIOS automatically detects the presence of IDE devices. There is a separate sub-menu for each IDE device. Select a device item then press <Enter> to display the IDE device information.
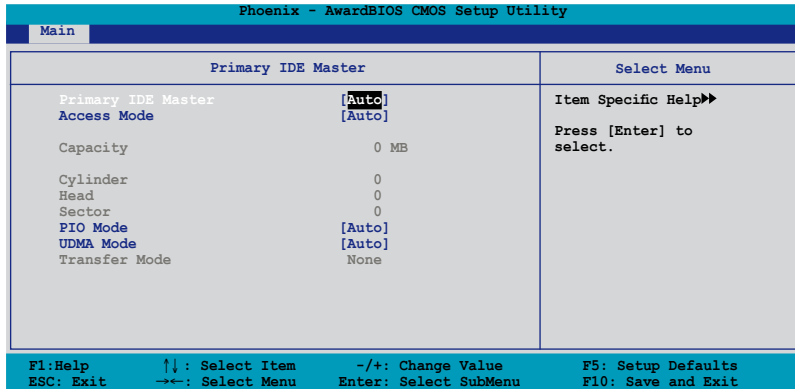
```
                    Phoenix - AwardBIOS CMOS Setup Utility
  Main

                      Primary IDE Master                    Select Menu

  Primary IDE Master            [Auto]          Item Specific Help
  Access Mode                   [Auto]
                                               Press [Enter] to
  Capacity                       0 MB          select.

  Cylinder                          0
  Head                              0
  Sector                            0
  PIO Mode                      [Auto]
  UDMA Mode                     [Auto]
  Transfer Mode                  None




  F1:Help          ↑↓ : Select Item      -/+: Change Value      F5: Setup Defaults
  ESC: Exit        →←: Select Menu       Enter: Select SubMenu  F10: Save and Exit
```

The BIOS automatically detects the values opposite the dimmed items (Capacity, Cylinder, Head, Sector and Transfer Mode). These values are not user-configurable. These items show N/A if no IDE device is installed in the system.

Primary/Secondary IDE Master/Slave [Auto]
Select [Auto] to automatically detect an IDE hard disk drive. If automatic detection is successful, the BIOS automatically fills in the correct values for the remaining fields on this sub-menu. If the hard disk was already formatted on a previous system, the setup BIOS may detect incorrect parameters. Select [Manual] to manually enter the IDE hard disk drive parameters. If no drive is installed select [None]. Configuration options: [None] [Auto] [Manual]

Access Mode [Auto]
The default [Auto] allows automatic detection of an IDE hard disk drive. Select [CHS] for this item if you set the IDE Primary/Secondary Master/Slave to [Manual]. Configuration options: [CHS] [LBA] [Large] [Auto]

> Before attempting to configure a hard disk drive, make sure you have the correct configuration information supplied by the drive manufacturer. Incorrect settings may cause the system to fail to recognize the installed hard disk.

Capacity

Displays the auto-detected hard disk capacity. This item is not configurable.

Cylinder

Shows the number of the hard disk cylinders. This item is not configurable.

Head

Shows the number of the hard disk read/write heads. This item is not configurable.

Sector

Shows the number of sectors per track. This item is not configurable.

PIO Mode [Auto]

Sets the PIO mode for the IDE device.
Configuration options: [Auto] [Mode 0] [Mode 1] [Mode 2] [Mode 3] [Mode 4]

UDMA Mode [Auto]

Disables or sets the UDMA mode. Configuration options: [Disabled] [Auto]

Transfer Mode

Shows the Transfer mode. This item is not configurable.

After entering the IDE hard disk drive information into BIOS, use a disk utility, such as FDISK, to partition and format new IDE hard disk drives. This is necessary so that you can write or read data from the hard disk. Make sure to set the partition of the Primary IDE hard disk drives to active.

2.2.5   SATA 1/2

While entering Setup, the BIOS automatically detects the presence of Serial ATA devices. There is a separate sub-menu for each SATA device. Select a device item then press <Enter> to display the SATA device information.

```
                    Phoenix - AwardBIOS CMOS Setup Utility
   Main

                         SATA 1                           Select Menu

 Extended IDE Drive                  [Auto]        Item Specific Help▶▶
 Access Mode                         [Auto]
                                                  Selects the type of
 Capacity                            0 MB         fixed disk connected
                                                  to the system.
 Cylinder                            0
 Head                                0
 Landing Zone                        0
 Sector                              0




 F1:Help         ↑↓ : Select Item      -/+: Change Value     F5: Setup Defaults
 ESC: Exit       →←: Select Menu    Enter: Select SubMenu     F10: Save and Exit
```

The BIOS automatically detects the values opposite the dimmed items (Capacity, Cylinder, Head, Landing Zone and Sector). These values are not user-configurable. These items show 0 if no SATA device is installed in the system.

Extended Drive [Auto]

Selects the type of fixed disk connected to the system.
Configuration options: [None] [Auto]

Access Mode [Auto]

Sets the sector addressing mode. Configuration options: [Large] [Auto]

Before attempting to configure a hard disk drive, make sure you have the correct configuration information supplied by the drive manufacturer. Incorrect settings may cause the system to fail to recognize the installed hard disk.

Capacity

Displays the auto-detected hard disk capacity. This item is not configurable.

Cylinder

Shows the number of the hard disk cylinders. This item is not configurable.

Head

Shows the number of the hard disk read/write heads. This item is not configurable.

Landing Zone

Shows the number of landing zone per track. This item is not configurable.

Sector

Shows the number of sectors per track. This item is not configurable.

After entering the IDE hard disk drive information into BIOS, use a disk utility, such as FDISK, to partition and format new IDE hard disk drives. This is necessary so that you can write or read data from the hard disk. Make sure to set the partition of the Primary IDE hard disk drives to active.

2.2.6 HDD SMART Monitoring [Disabled]

Enables or disables the Hard Disk SMART capability support.
Configuration options: [Disabled] [Enabled]

2.2.7 Installed Memory [xxxMB]

Shows the size of installed memory.

2.2.8 Usable Memory [xxxMB]

Shows the size of usable memory.

2.3 Advanced menu

The Advanced menu items allow you to change the settings for the CPU and other system devices.

⚠️ Take caution when changing the settings of the Advanced menu items. Incorrect field values can cause the system to malfunction.

```
                    Phoenix - AwardBIOS CMOS Setup Utility
      Main   Advanced   Power   Boot   Exit
   ┌──────────────────────────────────────────────┬───────────────────────────┐
   │  ▶  CPU Configuration                         │      Select Menu          │
   │  ▶  Chipset                                   │                           │
   │  ▶  PCIPnP                                     │   Item Specific Help▶     │
   │  ▶  Onboard Device Configuration              │                           │
   │  ▶  USB Configuration                         │   Press [Enter] to set.   │
   │                                               │                           │
   │                                               │                           │
   │                                               │                           │
   │                                               │                           │
   │                                               │                           │
   │                                               │                           │
   │                                               │                           │
   │                                               │                           │
   │                                               │                           │
   ├──────────────────────────────────────────────┴───────────────────────────┤
   │  F1:Help     ↑↓ : Select Item      -/+: Change Value    F5: Setup Defaults │
   │  ESC: Exit   →←: Select Menu       Enter: Select SubMenu F10: Save and Exit │
   └────────────────────────────────────────────────────────────────────────────┘
```

2.3.1 CPU Configuration

```
                    Phoenix - AwardBIOS CMOS Setup Utility
         Advanced
   ┌──────────────────────────────────────────────┬───────────────────────────┐
   │            CPU Configuration                  │      Select Menu          │
   │                                               │                           │
   │   CPU Type         Intel Celeron(R) D         │   Item Specific Help▶▶    │
   │   CPU Speed         3.20GHz                    │                           │
   │   Cache RAM        256K                        │   Press [Enter] to set.   │
   │   Current FSB Frequency          133MHz       │                           │
   │   Delay Prior to Thermal         [4 min]      │                           │
   │   Thermal Management             [TM1]        │                           │
   │ x TM2 Bus Ratio                   14 X        │                           │
   │ x TM2 Bus VID                     0.8375V     │                           │
   │   Limit CPUID MaxVal             [Disabled]   │                           │
   │   Execute Disable Bit            [Enabled]    │                           │
   │   CPU L1 & L2 Cache              [Enabled]    │                           │
   │                                               │                           │
   ├──────────────────────────────────────────────┴───────────────────────────┤
   │  F1:Help     ↑↓ : Select Item      -/+: Change Value    F5: Setup Defaults │
   │  ESC: Exit   →←: Select Menu       Enter: Select SubMenu F10: Save and Exit │
   └────────────────────────────────────────────────────────────────────────────┘
```

The BIOS automatically detects the values opposite the dimmed items (CPU Type, CPU Speed, Cache RAM, and Current FSB Frequency). These values are not user-configurable.

Delay Prior to Thermal [4 min]

Configuration options: [4 min] [8 min] [16 min] [32min]

Thermal Management [TM1]

Allows you to select between Thermal Monitor 1 and Thermal Monitor 2.
Configuration options: [TM1] [TM2]

TM2 Bus Ratio [14 X]

This item is not configurable.

TM2 Bus VID [1.2000V]

This item is not configurable.

Limit CPUID MaxVal [Disabled]

Setting this item to [Enabled] allows you to boot legacy operating systems that
cannot support CPUs with extended CPUID functions. Set this item to [Disabled]
under Windows® XP. Configuration options: [Disabled] [Enabled]

Execute Disable Bit [Enabled]

Configuration options: [Enabled] [Disabled]

CPU L1 & L2 Cache [Enabled]

Configuration options: [Disabled] [Enabled]

2.3.2   Chipset

```
              Phoenix - AwardBIOS CMOS Setup Utility
        Advanced
  ┌─────────────────────────────────────────┬──────────────────────┐
  │              Chipset                     │     Select Menu      │
  │                                          │                      │
  │ ▶ DRAM Clock/Drive Control               │  Item Specific Help▶▶│
  │ ▶ Frequency/Voltage control              │                      │
  │   Top Performance           [Disabled]   │                      │
  │   Primary Display Adapter   [PCI-E]      │                      │
  │   VGA Share Memory Size     [64MB]       │                      │
  │                                          │                      │
  │                                          │                      │
  │                                          │                      │
  │                                          │                      │
  │                                          │                      │
  │                                          │                      │
  │                                          │                      │
  └─────────────────────────────────────────┴──────────────────────┘
   F1:Help      ↑↓ : Select Item    -/+: Change Value    F5: Setup Defaults
   ESC: Exit    →←: Select Menu      Enter: Select SubMenu  F10: Save and Exit
```

DRAM Clock/Drive Control

```
              Phoenix - AwardBIOS CMOS Setup Utility
        Advanced
  ┌─────────────────────────────────────────┬──────────────────────┐
  │        DRAM Clock/Drive Control          │     Select Menu      │
  │                                          │                      │
  │   Current DRAM Frequency     266 MHz     │  Item Specific Help▶▶│
  │   DRAM Frequency            [Auto]       │                      │
  │   DRAM Timing Selectable    [By SPD]     │  Support DDR Frequency│
  │ x CAS Latency Time          4            │  from 333Mhz to 667 Mhz│
  │ x Bank Interleave           4 Bank       │                      │
  │ x Precharge to Active(Trp)  3T           │                      │
  │ x Active to Prechrage(Tras) 11T          │                      │
  │ x Active to CMD(Trcd)       3T           │                      │
  │ x REF to ACT/REF (Trfc)     27T/28T      │                      │
  │ x Act(0) to ACT(1) (TRRD)   3T           │                      │
  │                                          │                      │
  └─────────────────────────────────────────┴──────────────────────┘
   F1:Help      ↑↓ : Select Item    -/+: Change Value    F5: Setup Defaults
   ESC: Exit    →←: Select Menu      Enter: Select SubMenu  F10: Save and Exit
```

Current DRAM Frequency [266Mhz]
This item is not configurable.

DRAM Frequency [Auto]
Sets the DDR2 operating frequency.
Configuration options: [Auto] [400MHz] [533MHz] [667MHz]

DRAM Timing Selectable [By SPD]
When this item is set to [By SPD], the DRAM timing parameters are set
according to the DRAM SPD (Serial Presence Detect). When set to [Manual],
you can manually set the DRAM timing parameters through the DRAM
sub-items. The following sub-items appear when this item is set to [Manual].
Configuration options: [Manual] [By SPD]

CAS Latency Time [4]
Controls the latency between the DRAM read command and the time the data actually becomes available. Configuration options: [2] [3] [4] [5]

Bank Interleave [4 Bank]
Configuration options: [Disabled] [2 Bank] [4 Bank] [8 Bank]

Precharge to Active (Trp) [3T]
Configuration options: [2T] [3T] [4T] [5T]

Active to Precharge (Tras) [11T]
Configuration options: [05T] ~ [20T]

Active to CMD (Trcd) [3T]
Configuration options: [2T] [3T] [4T] [5T]

REF to ACT/REF (Trfc) [27T/28T]
Configuration options: [07T/08T] [08T/09T]~ [69T/70T] [70T/71T]

ACT(0) to ACT(1) (TRRD) [3T]
Configuration options: [2T] [3T]

Frequency/Voltage control

```
                    Phoenix - AwardBIOS CMOS Setup Utility
        Advanced

          Frequemcy/Voltage control                    Select Menu

   CPU Frequency Ratio          [22 X]             Item Specific Help▶▶
   Async CPU/PCIE Clock         [Async Mode]
   Spread Spectrum              [+/- 0.5%]         Set CPU Ratio for
                                                   unlocked CPU.










   F1:Help      ↑↓ : Select Item    -/+: Change Value    F5: Setup Defaults
   ESC: Exit    →←: Select Menu      Enter: Select SubMenu F10: Save and Exit
```

CPU Frequency Ratio [22 X]
To set CPU Ratio for unlocked CPU, highlight this item and press <Enter> to display a pop-up menu. Key in a value (Min=14, Max=22), then press <Enter>.

Asyna CPU/PCIE Clock [Async Mode]
Configuration options: [Sync Mode] [Async Mode]

Spread Spectrum [+/- 0.5%]

Allows you to disable or select the clock generator spread spectrum.
Configuration options: [Disabled] [+/- 0.1%] [+/- 0.2%]~[+/- 0.9%] [+/- 1.0%]

Top Performance [Disabled]

Configuration options: [Disabled] [Enabled]

Primary Display Adapter [PCI-E]

Allows you to select the graphics controller used as the primary boot device.
Configuration options: [PCI] [PCI-E]

VGA Share Memory Size [64MB]

Allows you to disable or select VGA share memory size.
Configuration options: [Disabled] [64MB] [128MB] [256MB]

2.3.3   PCIPnP

```
              Phoenix - AwardBIOS CMOS Setup Utility
        Advanced

              PCIPnP                              Select Menu

   Plug & Play O/S            [No]             Item Specific Help▶▶

   Resources Controlled By    [Auto]          Select Yes if you are
   x IRQ Resources                            using a Plug and Play
   Assign IRQ For VGA         [Enabled]       capable operating
                                              system. Select No if
                                              you need the BIOS to
   ** PCI Express relative items **           configure non-boot
   Maximum Payload Size       [4096]          devices.




   F1:Help        ↑↓: Select Item      -/+: Change Value       F5: Setup Defaults
   ESC: Exit      →←: Select Menu       Enter: Select Sub-menu  F10: Save and Exit
```

Plug & Play O/S [No]

When set to [Yes] and if you install a Plug and Play operating system, the
operating system configures the Plug and Play devices not required for boot. When
set to [No], the BIOS configures all the devices in the system.
Configuration options: [No] [Yes]

Resources Controlled By [Auto]

When set to [Auto], the BIOS automatically configures all the boot and Plug and Play compatible devices. Set to [Manual] if you want to assign the IRQ DMA and memory base address fields. Configuration options: [Auto] [Manual]

> The item **IRQ Resources** becomes user-configurable when you set **Resources Controlled By** to [Manual].

IRQ Resources

```
                        Phoenix - AwardBIOS CMOS Setup Utility
         Advanced

                    IRQ Resources                              Select Menu

    IRQ-3  assigned to           [PCI Device]          Item Specific Help▶▶▶
    IRQ-4  assigned to           [PCI Device]
    IRQ-5  assigned to           [PCI Device]          Legacy ISA for devices
    IRQ-7  assigned to           [PCI Device]          compliant with the original
    IRQ-9  assigned to           [PCI Device]          PC AT bus specification,
    IRQ-10 assigned to           [PCI Device]          PCI/ISA PnP for devices
    IRQ-11 assigned to           [PCI Device]          compliant with the Plug
    IRQ-14 assigned to           [PCI Device]          and Play standard whether
    IRQ-15 assigned to           [PCI Device]          designed for PCI or ISA
                                                       bus architecture.
```

IRQ-xx assigned to
When set to [PCI Device], the specific IRQ is free for use of PCI/PnP devices. When set to [Reserved], the IRQ is reserved for legacy ISA devices. Configuration options: [PCI Device] [Reserved]

Assign IRQ For VGA [Enabled]

Configuration options: [Disabled] [Enabled].

PCI Express relative items

This item is not configurable.

Maximum Payload Size [4096]

Allows you to set maximum TLP payload size for the PCI Express devices. The unit is byte. Configuration options: [128] [256] [512] [1024] [2048] [4096]

2.3.4   Onboard Device Configuration

```
                Phoenix - AwardBIOS CMOS Setup Utility
        Advanced

        Onboard Device Configuration                    Select Menu

    Onboard LAN                    [Enabled]        Item Specific Help▶▶
    SATA Controller                [Enabled]
    HDA Controller                 [Auto]           Enable/Disable Onboard LAN
    Onboard LAN Boot ROM           [Enabled]        device support
    Serial Port1 Address           [3F8/IRQ4]
    Parallel Port Address          [378/IRQ7]
    Parallel Port Mode             [Bi-Directinal]
    ECP Mode Use DMA               [3]




    F1:Help        ↑↓ : Select Item    -/+: Change Value     F5: Setup Defaults
    ESC: Exit      →←: Select Menu     Enter: Select Sub-menu F10: Save and Exit
```

Onboard LAN [Enabled]

Allows you to enable or disable onboard LAN device.
Configuraiton options: [Disabled] [Enabled]

SATA Controller [Enabled]

When this item is set to [Disabled], you cannot configure the succeeding item.
Configuraiton options: [Disabled] [Enabled]

HDA Controller [Auto]

Allows you to disable or set the High-Definition audio function.
Configuration options: [Auto] [Disabled]

Onboard LAN Boot ROM [Enabled]

Allows you to enable or disable the onboard LAN boot ROM.
Configuration options: [Enabled] [Disabled]

Serial Port1 Address [3F8/IRQ4]

Allows you to select the Serial Port1 base address.
Configuration options: [Disabled] [3F8/IRQ4] [2F8/IRQ3] [3E8/IRQ4] [2E8/IRQ3]
[Auto]

Parallel Port Address [378/IRQ7]

Allows you to select the Parallel Port address.
Configuration options: [Disabled] [378/IRQ7] [278/IRQ5] [3BC/IRQ7]

Parallel Port Mode [Bi-Directional]

Allows you to select the Parallel Port mode.
Configuration options: [Normal] [EPP] [ECP] [Bi-Directional]

> The "ECP Mode Use DMA" item becomes user-configurable when the "Parallel Port Mode" item is set to [ECP] or [Bi-Directional]

ECP Mode Use DMA [3]

Allows selection of ECP Mode. Configuration options: [1] [3]

2.3.5   USB Configuration

The items in this menu allows you to change the USB-related features. Select an item then press <Enter> to display the configuration options.

```
                    Phoenix - AwardBIOS CMOS Setup Utility
         Advanced

               USB Configuration                          Select Menu

     USB Controller              [Enabled]       Item Specific Help
     USB 2.0 Controller          [Enabled]
     USB Legacy support          [Auto]          Enable or Disable USB
                                                 1.1 and 2.0 Controller.
```
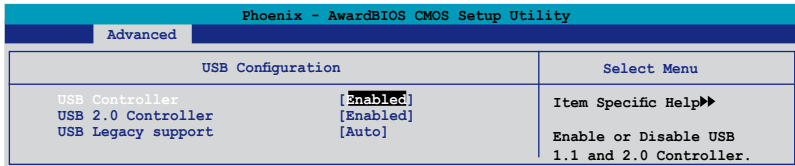
USB Controller [Enabled]

Allows you to enable or disable the onchip USB controller.
Configuration options: [Disabled] [Enabled]

USB 2.0 Controller [Enabled]

Allows you to enable or disable the USB 2.0 controller.
Configuration options: [Disabled] [Enabled]

USB Legacy Support [Auto]

Allows you to enable or disable support for USB devices on legacy operating systems (OS). Configuration options: [Auto] [Enabled] [Disabled]

2.4 Power menu

The Power menu items allow you to change the settings for the Advanced Configuration and Power Interface (ACPI) and the Advanced Power Management (APM). Select an item then press <Enter> to display the configuration options.

```
                    Phoenix - AwardBIOS CMOS Setup Utility
   Main    Advanced    Power    Boot    Exit
┌─────────────────────────────────────────────────┬─────────────────────────┐
│                                                  │      Select Menu        │
│     ACPI Suspend Type          [S1&S3]           │                         │
│     ACPI APIC support          [Enabled]         │   Item Specific Help▶   │
│   ▶ APM Configuration                            │                         │
│   ▶ Hardware Monitor                             │   Select the ACPI state │
│                                                  │   used for System       │
│                                                  │   Suspend.              │
│                                                  │                         │
│                                                  │                         │
├─────────────────────────────────────────────────┴─────────────────────────┤
│  F1:Help        ↑↓ : Select Item      -/+: Change Value    F5: Setup Defaults │
│  ESC: Exit      →←: Select Menu      Enter: Select Sub-menu  F10: Save and Exit │
└────────────────────────────────────────────────────────────────────────────┘
```
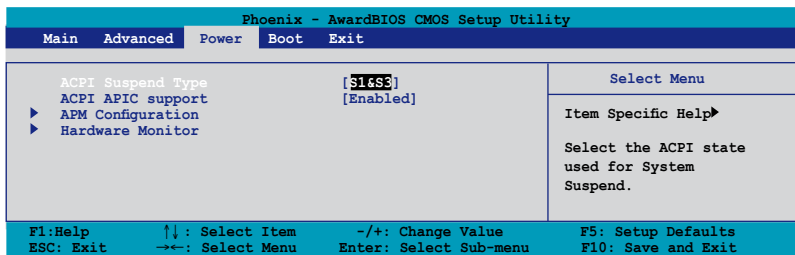
2.4.1 ACPI Suspend Type [S1&S3]

Allows you to select the Advanced Configuration and Power Interface (ACPI) state to be used for system suspend.
Configuration options: [S1 (POS)] [S3(STR)] [S1&S3]

2.4.2 ACPI APIC Support [Enabled]

Allows you to enable or disable the Advanced Configuration and Power Interface (ACPI) support in the Advanced Programmable Interrupt Controller (APIC). When set to Enabled, the ACPI APIC table pointer is included in the RSDT pointer list.
Configuration options: [Disabled] [Enabled]

2.4.3   APM Configuration

```
                Phoenix - AwardBIOS CMOS Setup Utility
          Power
┌─────────────────────────────────────────────┬───────────────────────┐
│        APM Configuration                     │    Select Menu        │
├─────────────────────────────────────────────┼───────────────────────┤
│   Power On By PS/2 Mouse         [Disabled]  │  Item Specific Help▶▶  │
│   Power On By PS/2 Keyboard      [Disabled]  │                       │
│   Power On By PCI/PCIE Devices   [Disabled]  │  Press [Enter] to     │
│   Power On By External Modem     [Disabled]  │  select               │
│   Power On By RTC Alarm          [Disabled]  │                       │
│ x Date(of Month) Alarm               0       │                       │
│ x Alarm Time (hh:mm:ss)           0 : 0 : 0  │                       │
│   Restore on AC Power Loss       [Power-Off] │                       │
│   PWR Button < 4 secs            [Instant-Off]│                      │
│                                              │                       │
│                                              │                       │
│                                              │                       │
│                                              │                       │
├─────────────────────────────────────────────┴───────────────────────┤
│ F1:Help        ↑↓: Select Item    -/+: Change Value   F5: Setup Defaults│
│ ESC: Exit      →←: Select Menu    Enter: Select SubMenu F10: Save and Exit│
└──────────────────────────────────────────────────────────────────────┘
```

Power On By PS/2 Mouse [Disabled]

When set to [Enabled], this parameter allows you to use the PS/2 mouse to turn on the system. This feature requires an ATX power supply that provides at least 1A on the +5VSB lead. Configuration options: [Disabled] [Double Click]

Power On By PS/2 Keyboard [Disabled]

Allows you to disable the Power On By PS/2 keyboard function or set specific keys on the PS/2 keyboard to turn on the system. This feature requires an ATX power supply that provides at least 1A on the +5VSB lead.
Configuration options: [Disabled] [Space Bar] [Ctrl-ESC] [Power Key]

Power On By PCI/PCIE Devices [Disabled]

Allows you to enable or disable the PME to wake up from S5 by PCI/PCIE devices & NV Onboard LAN. Configuration options: [Disabled] [Enabled]

Power On By External Modem [Disabled]

Allows you to enable or disable the Power On By External Modem function.
Configuration options: [Disabled] [Enabled]

Power On By RTC Alarm [Disabled]

Allows you to enable or disable RTC to generate a wake event. When this item is set to [Enabled], the items Date (of Month) Alarm and Alarm Time (hh:mm:ss) become user-configurable with set values.
Configuration options: [Disabled] [Enabled]

Date (of Month) Alarm [0]

To set the date of alarm, highlight this item and press <Enter> to display the Date of Month Alarm pop-up menu. Key-in a value within the specified range then press <Enter>. Configuration options: [Min=0] [Max=31]

Alarm Time (hh:mm:ss) [0 : 0 : 0]

To set the time of alarm:

1.   Highlight this item and press <Enter> to display a pop-up menu for the hour field.
2.   Key-in a value (Min=0, Max=23), then press <Enter>.
3.   Press <TAB> to move to the minutes field then press <Enter>.
4.   Key-in a minute value (Min=0, Max=59), then press <Enter>.
5.   Press <TAB> to move to the seconds field then press <Enter>.
6.   Key-in a value (Min=0, Max=59), then press <Enter>.
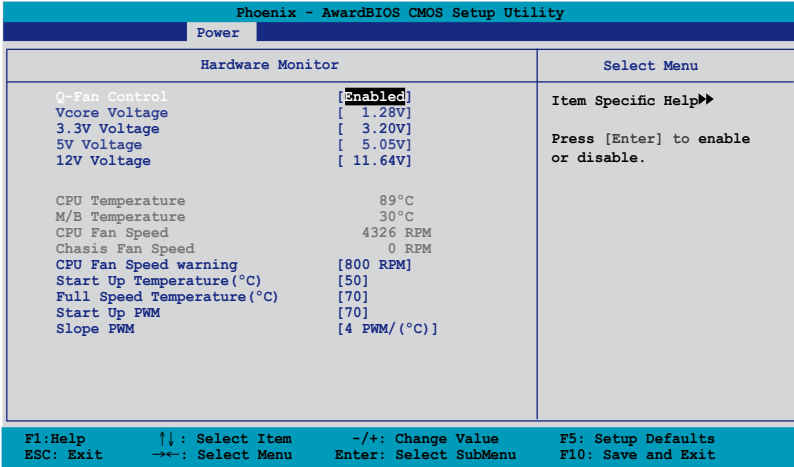
Restore on AC Power Loss [Power-Off]

Allows you to choose whether or not to restart the system after AC power loss. Configuration options: [Power-off] [Power-on] [Last State]

PWR Button < 4 secs [Instant-Off]

Allows you to set the event after the power button is pressed for more than 4 seconds. Configuration options: [Suspend] [Instant-Off]

2.4.4 Hardware Monitor

The items in this sub-menu displays the hardware monitor values automatically detected by the BIOS. It also allows you to change CPU Q-Fan feature-related parameters. Select an item then press <Enter> to display the configuration options.

```
                Phoenix - AwardBIOS CMOS Setup Utility
              Power

        Hardware Monitor                           Select Menu

   Q-Fan Control              [Enabled]       Item Specific Help►►
   Vcore Voltage              [  1.28V]
   3.3V Voltage               [  3.20V]       Press [Enter] to enable
   5V Voltage                 [  5.05V]       or disable.
   12V Voltage                [ 11.64V]

   CPU Temperature               89°C
   M/B Temperature               30°C
   CPU Fan Speed             4326 RPM
   Chasis Fan Speed            0 RPM
   CPU Fan Speed warning     [800 RPM]
   Start Up Temperature(°C)  [50]
   Full Speed Temperature(°C)[70]
   Start Up PWM              [70]
   Slope PWM                 [4 PWM/(°C)]



   F1:Help          ↑↓ : Select Item    -/+: Change Value    F5: Setup Defaults
   ESC: Exit        →←: Select Menu      Enter: Select SubMenu  F10: Save and Exit
```

Q-Fan Control [Enabled]

Allows you to enable or disable the CPU Q-Fan controller.
Configuration options: [Disabled] [Enabled]

> The **Q-Fan** profile items appear when you enable the Q-Fan Control feature.

Vcore Voltage; 3.3V Voltage; 5V Voltage; 12V Voltage

The onboard hardware monitor automatically detects the voltage output through the onboard voltage regulators.

CPU Temperature; M/B Temperature

The onboard hardware monitor automatically detects and displays the motherboard and CPU temperatures. These items are not user-configurable.

CPU Fan Speed; Chasis Fan Speed

The onboard hardware monitor automatically detects and displays the CPU and chassis fan speeds in rotations per minute (RPM). If any of the fans is not connected to the motherboard, the field shows 0. These items are not user-configurable.

CPU Fan Speed warning [800RPM]

Allows you to disable or set the CPU fan warning speed.
Configuration options: [Disabled] [800RPM] [1200RPM] [1600RPM]

Start Up Temperature (°C) [50]

To set the start up temperature, highlight this item and press <Enter> to display a
pop-up menu. Key in a value (Min=0, Max=100), then press <Enter>. The fan will
start up when the temperature is over the value set.

Full Speed Temperature (°C) [70]

To set the full speed temperature, highlight this item and press <Enter> to display a
pop-up menu. Key in a value (Min=0, Max=100), then press <Enter>. The fan will
achieve full speed when the temperature is over the value set.

Start Up PWM [70]

To set the start up PWM, highlight this item and press <Enter> to display a pop-up
menu. Key in a value (Min=0, Max=127), then press <Enter>.

Slope PWM [4 PWM/°C]

Allows you to set PWM increase value when the temperature is one degree higher.
Configuration options: [0 PWM/°C] [1 PWM/°C] [2 PWM/°C] [4 PWM/°C]
[8 PWM/°C] [16 PWM/°C] [32 PWM/°C] [64 PWM/°C]

2.5   Boot menu

The Boot menu items allow you to change the system boot options. Select an item
then press <Enter> to display the sub-menu.

```
              Phoenix - AwardBIOS CMOS Setup Utility
    Main    Advanced    Power    Boot    Exit

  ▶  Boot Device Priority                         Select Menu
  ▶  Removable Drives
  ▶  Network Boot Priority                  Item Specific Help▶
  ▶  Boot Settings Configuration
  ▶  Security                               Select Boot Device
                                            Priority




    F1:Help         ↑↓ : Select Item      -/+: Change Value      F5: Setup Defaults
    ESC: Exit       →←: Select Menu     Enter: Select Sub-menu    F10: Save and Exit
```
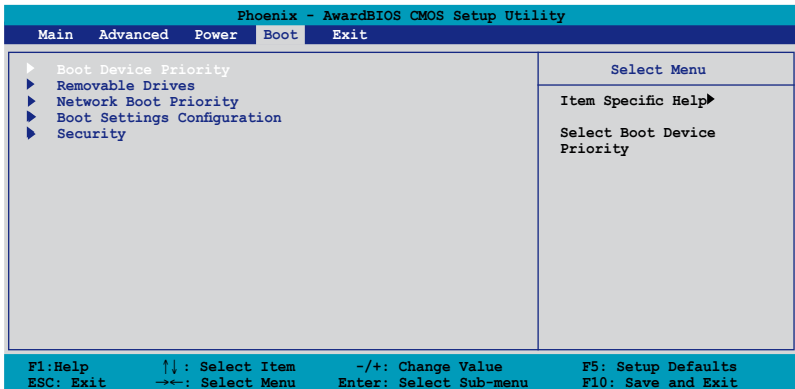
2.5.1 Boot Device Priority

```
               Phoenix - AwardBIOS CMOS Setup Utility
                 Boot
┌──────────────────────────────────────────────┬──────────────────────┐
│        Boot Device Priority                   │    Select Menu       │
├──────────────────────────────────────────────┼──────────────────────┤
│  1st Boot Device          [CDROM]             │ Item Specific Help▶▶ │
│  2nd Boot Device          [Removable]         │                      │
│  3rd Boot Device          [Hard Disk]         │ Select Your Boot     │
│  4th Boot Device          [Network]           │ Device Priority      │
│                                               │                      │
└──────────────────────────────────────────────┴──────────────────────┘
```

1st ~ 4th Boot Device [CDROM]

These items specify the boot device priority sequence from the available devices. The number of device items that appears on the screen depends on the number of devices installed in the system.
Configuration options: [Removable] [Hard Disk] [CDROM] [Network] [Disabled]

2.5.2 Removable Drives

```
               Phoenix - AwardBIOS CMOS Setup Utility
                 Boot
┌──────────────────────────────────────────────┬──────────────────────┐
│        Removable Drives                       │    Select Menu       │
├──────────────────────────────────────────────┼──────────────────────┤
│  1. Floppy Disks                              │ Item Specific Help▶  │
│                                               │                      │
│                                               │ Use <↑> or <↓> to    │
│                                               │ select a device, then│
│                                               │ press <+> to move it  │
└──────────────────────────────────────────────┴──────────────────────┘
```

1. Floppy Disks

Allows you to assign removable drives attached to the system.

2.5.3 Network Boot Priority

```
               Phoenix - AwardBIOS CMOS Setup Utility
                 Boot
┌──────────────────────────────────────────────┬──────────────────────┐
│        Network Boot Priority                  │    Select Menu       │
├──────────────────────────────────────────────┼──────────────────────┤
│  1. Network 0 : Realtek Boot Agent            │ Item Specific Help▶  │
│  2. Legacy Lan Cards                          │                      │
│                                               │ Use <↑> or <↓> to    │
│                                               │ select a device, then│
│                                               │ press <+> to move it  │
└──────────────────────────────────────────────┴──────────────────────┘
```

1. Network 0 : Realtek Boot Agent
2. Legacy Lan Cards

Allows you to assign network boot priority.

2.5.4 Boot Settings Configuration

```
             Phoenix - AwardBIOS CMOS Setup Utility
                            Boot

      Boot Settings Configuration              Select Menu

   Case Open Warning           [Enabled]        Item Specific Help
   Boot Virus Detection        [Disabled]
   Quick Boot                  [Enabled]        Press [Enter] to enable
   Boot Up Floppy Seek         [Disabled]       or disable.
   Bootup Num-Lock             [On]
   Typematic Rate Setting      [Disabled]
 x Typematic Rate (Chars/Sec)   6
 x Typematic Delay (Msec)       250
   OS Select For DRAM > 64MB   [Non-OS2]
   Full Screen LOGO            [Enabled]
   Halt On                     [All, But Keyboard]



   F1:Help        ↑↓ : Select Item    -/+: Change Value    F5: Setup Defaults
   ESC: Exit      →←: Select Menu   Enter: Select Sub-menu  F10: Save and Exit
```

Case Open Warning [Enabled]

Enables or disables the case open warning.
Configuration options: [Disabled] [Enabled]

Boot Virus Detection [Disabled]

Allows you to set the virus warning feature for IDE Hard Disk boot sector protection. Configuration options: [Enabled] [Disabled]

Quick Boot [Enabled]

Allows you to enable or disable the system quick boot feature. When this item is set to [Enabled], the system skips certain tests while booting.
Configuration options: [Disabled] [Enabled]

Boot Up Floppy Seek [Disabled]

Enables or disables the floppy seek feature while booting.
Configuration options: [Disabled] [Enabled]

Bootup Num-Lock [On]

Allows you to select the power-on state for the NumLock.
Configuration options: [Off] [On]

Typematic Rate Setting [Disabled]

Allows you to set the keystroke rate. When set to [Enabled], the succeeding two items "Typematic Rate (Chars/Sec)" and "Typematic Delay (Msec)" become user-configurable. Configuration options: [Disabled] [Enabled]

Typematic Rate (Chars/Sec) [6]

Allows you to select the rate at which a character repeats when you hold a key.
Configuration options: [6] [8] [10] [12] [15] [20] [24] [30]

Typematic Delay (Msec) [250]

Allows you to set the delay before keystrokes begin to repeat.
Configuration options: [250] [500] [750] [1000]

OS Select for DRAM > 64MB [Non-OS2]

Set this item to OS2 only when you are running on an OS/2 operating system with an installed RAM of greater than 64 KB. Configuration options: [Non-OS2] [OS2]

Full Screen LOGO [Enabled]

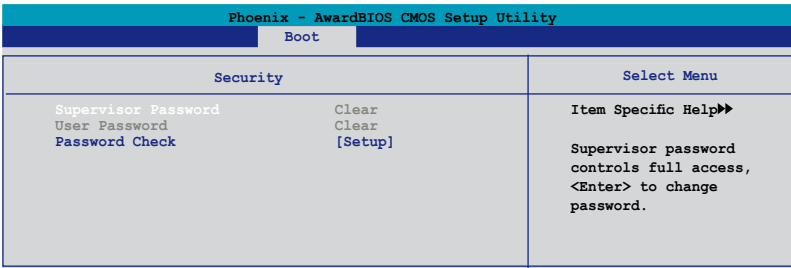Allows you to enable or disable the full screen logo display feature.
Configuration options: [Disabled] [Enabled]

Halt On [All, But Keyboard]

Allows you to select the error report type.
Configuration options: [All Errors] [No Errors] [All, But Keyboard] [All, But Diskette] [All, But Disk/Key]

2.5.5   Security

```
              Phoenix - AwardBIOS CMOS Setup Utility
                            Boot

              Security                              Select Menu

   Supervisor Password          Clear        Item Specific Help►►
   User Password                Clear
   Password Check              [Setup]       Supervisor password
                                             controls full access,
                                             <Enter> to change
                                             password.
```

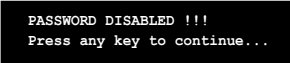### Supervisor Password
User Password

These fields allow you to set passwords:

To set a password:

1.   Select an item then press <Enter>.

2.   Type in a password using a combination of a maximum of eight (8) alpha-numeric characters, then press <Enter>.

3.   When prompted, confirm the password by typing the exact characters again, then press <Enter>. The password field setting is changed to Set.

To clear the password:

1.   Select the password field and press <Enter> twice. The following message appears:

```
PASSWORD DISABLED !!!
Press any key to continue...
```

2.   Press any key to continue. The password field setting is changed to Clear.

A note about passwords

The Supervisor password is required to enter the BIOS Setup program preventing unauthorized access. The User password is required to boot the system preventing unauthorized use.

Forgot your password?

If you forget your password, you can clear it by erasing the CMOS Real Time Clock (RTC) RAM. The RAM data containing the password information is powered by the onboard button cell battery. If you need to erase the CMOS RAM, refer to section "1.7 Jumper" for instructions.
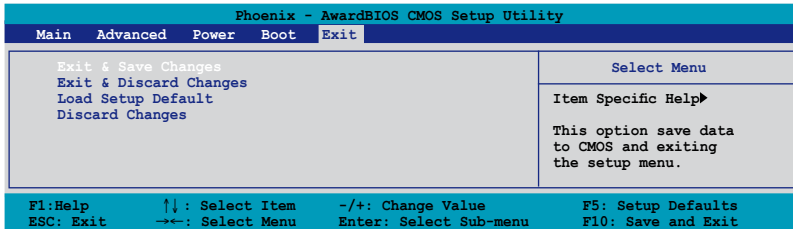
Password Check

This field requires you to enter the password before entering the BIOS setup or the system. Select [Setup] to require the password before entering the BIOS Setup. Select [System] to require the password before entering the system.
Configuration options: [Setup] [System]

2.6   Exit menu

The Exit menu items allow you to load the optimal or failsafe default values for the BIOS items, and save or discard your changes to the BIOS items.

```
                    Phoenix - AwardBIOS CMOS Setup Utility
    Main    Advanced    Power    Boot    Exit

       Exit & Save Changes                              Select Menu
       Exit & Discard Changes
       Load Setup Default                        Item Specific Help▶
       Discard Changes
                                                 This option save data
                                                 to CMOS and exiting
                                                 the setup menu.


    F1:Help          ↑↓ : Select Item      -/+: Change Value        F5: Setup Defaults
    ESC: Exit        →←: Select Menu        Enter: Select Sub-menu   F10: Save and Exit
```

Pressing <Esc> does not immediately exit this menu. Select one of the options from this menu or <F10> from the legend bar to exit.

Exit & Save Changes

Once you finish making your selections, choose this option from the Exit menu to ensure the values you selected are saved to the CMOS RAM. An onboard backup battery sustains the CMOS RAM so it stays on even when the PC is turned off. When you select this option, a confirmation window appears. Select **YES** to save changes and exit.

If you attempt to exit the Setup program without saving your changes, the program prompts you with a message asking if you want to save your changes before exiting. Press <Enter> to save the changes while exiting.

Exit & Discard Changes

Select this option only if you do not want to save the changes that you made to the Setup program. If you made changes to fields other than System Date, System Time, and Password, the BIOS asks for a confirmation before exiting.

Load Setup Defaults

This option allows you to load the default values for each of the parameters on the Setup menus. When you select this option or if you press <F5>, a confirmation window appears. Select **YES** to load default values. Select Exit & Save Changes or make other changes before saving the values to the non-volatile RAM.

Discard Changes

This option allows you to discard the selections you made and restore the previously saved values. After selecting this option, a confirmation appears. Select **YES** to discard any changes and load the previously saved values.