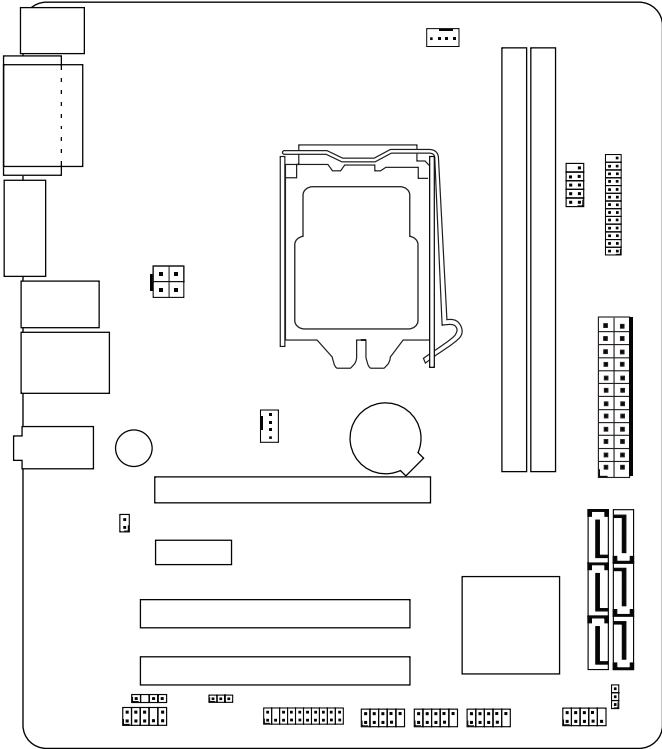


# IPMIP

## Motherboard Reference Guide



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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.

---

**NOTE: 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.**

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## 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.



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

---

# Specifications summary

<b>CPU</b>	<b>Socket:</b> Intel Socket 1156 <b>Supports:</b> Lynnfield, Clarkdale
<b>Chipset</b>	<b>North Bridge :</b> Intel Ibex peak (H55, H57)
<b>Memory</b>	Dual Channel, 2 slots, Non-ECC, Unbuffered, 240 pin DDR3, Max. 8GB <b>Types:</b> 1066/PC3-8500, 1333/PC3-10600
<b>Expansion slots</b>	1x PCI Express slot (x16) 1x PCI Express slot (x1) 2x PCI slots
<b>Audio</b>	Realtek ALC662 / Colay ALC888S (6-channel)
<b>LAN</b>	<b>Gigabit:</b> Realtek RTL8111DL (PCI-E)
<b>Graphics</b>	Integrated Graphics
<b>Storage</b>	6x SATA ports, SATA300
<b>USB</b>	12x USB 2.0 ports, 12/480Mbps
<b>Rear panel I/O ports</b>	1x Mouse (PS/2) port + 1x Keyboard (PS/2) port 1x Serial (COM) port + 1x Display (DVI) port 1x Display (VGA) port 4x USB 2.0 ports 1x LAN (RJ-45) port + 2x USB 2.0 ports 3x Audio jacks (6-channel)
<b>Internal connectors</b>	1x ATX 12V power connector 1x ATX CPU power connector 1x CPU fan connector 1x System fan connector 2x SATA connectors 3x USB 2.0 connectors 1x Internal serial (COM) port connector 1x Parallel port connector 1x Front panel audio connector 1x SPDIF output connector 1x TPM connector 1x Front panel connector
<b>BIOS</b>	AMI 64Mb
<b>Form factor</b>	µATX 9.6 inches x 8.0 inches

# Hardware Installation

---

## 1 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.**
  - **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.**
- 

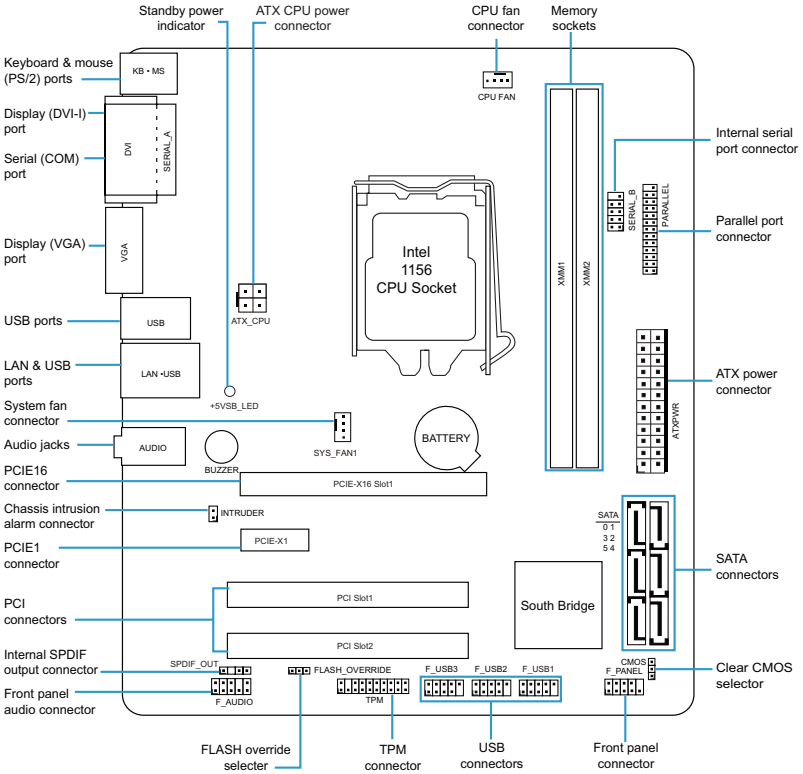
## Package contents

Check your package for the following items.

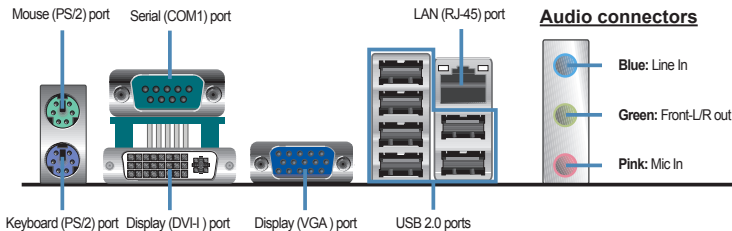
- Motherboard
- Cables
- Accessories
- Drivers & Utilities Support disc
- This Motherboard Reference Guide

# 2 Motherboard layout

## Top view



## Rear panel connectors



### 3 Central Processing Unit (CPU)

---

The motherboard comes with a surface mount socket designed for various processors.

---

**NOTE:** Your boxed 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.

---

**NOTE:** Upon purchase of the motherboard, make sure that the PnP cap is on the socket and the socket pins are not bent. Do not remove the PnP cap unless you are installing a CPU. Contact your retailer immediately if the PnP cap is missing, or if you see any damage to the PnP cap/socket pins/motherboard components.

---

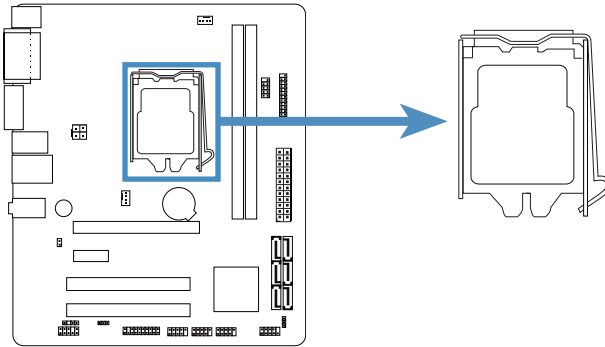
**NOTE:** Keep the cap after installing the motherboard. It is required for product returns or repairs.

---

**NOTE:** 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.

---

#### Installing the CPU



---

**WARNING:** Be very careful when handling the CPU. Hold the processor only by the edges and do not touch the contacts on the motherboard or CPU. Any physical damage to the motherboard pins will void the warranty.

---

1. Unhook the load lever by pushing down and away from the socket.
2. Pull the load lever back and the load plate will automatically lift.
3. Remove the protective socket cap from the Socket in a straight up motion.
4. Align the notches in the processor with the notches on the socket.
5. Lower the CPU straight down into the socket without tilting or sliding.
6. Lower the load plate so it is resting on the CPU.
7. Pull back the load lever again to ensure the load plate tip engages under the shoulder screw cap.
8. Carefully close and latch the load lever.



### 3 Central Processing Unit (CPU)

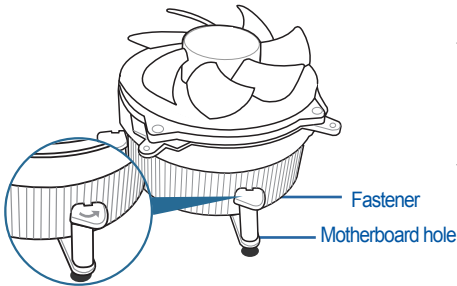
#### Installing the CPU heatsink and fan

The processor requires a specially designed heatsink and fan assembly to ensure optimum thermal condition and performance. When you buy a boxed processor, the package includes the CPU fan and heatsink assembly.

**NOTE: Install the motherboard to the chassis before you install the CPU fan and heatsink assembly**

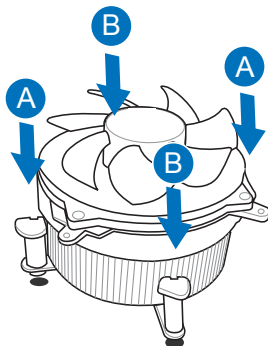
**NOTE: If you buy a CPU separately, make sure that you use only certified multi-directional heatsink and fan and make sure that a Thermal Interface Material is properly applied to the CPU heatsink or CPU before you install the heatsink and fan assembly.**

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

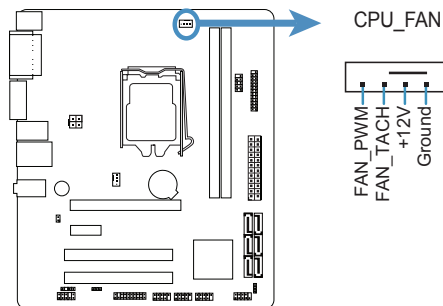


**NOTE: Make sure each fastener is oriented as shown, with the narrow groove directed outward.**

2. Push down two fasteners at a time in a diagonal sequence to secure the heatsink and fan assembly in place.



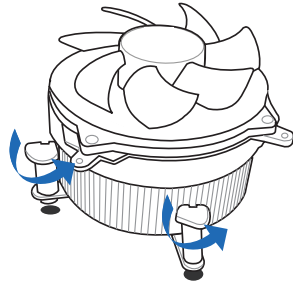
3. When the fan and heatsink assembly is in place, connect the CPU fan cable to the connector on the motherboard.



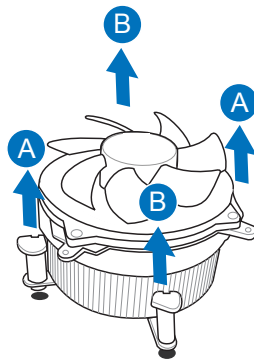
### 3 Central Processing Unit (CPU)

#### Uninstalling the CPU heatsink and fan

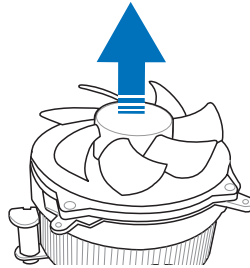
1. Disconnect the CPU fan cable from the connector on the motherboard.
2. Rotate each fastener counterclockwise.



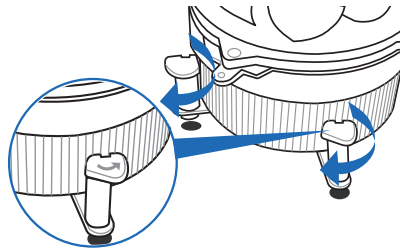
3. Pull up two fasteners at a time in a diagonal sequence to disengage the heatsink and fan assembly from the motherboard.



4. Remove the heatsink and fan assembly from the motherboard.



5. Rotate each fastener clockwise to reset the orientation.



**NOTE:** The narrow end of the groove should point outward after resetting.

## 4 System memory

### Memory types

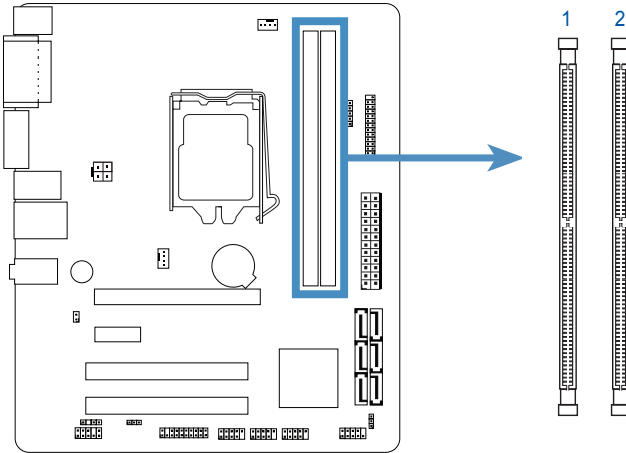
The motherboard comes with Double Data Rate 3 (DDR3) Dual Inline Memory Modules (DIMM) sockets.

---

**WARNING: Only DDR3 RAM modules can be used on this motherboard.**

---

The figure illustrates the location of the DDR3 DIMM sockets:



---

**IMPORTANT: Always install DIMMs with the same CAS latency. For optimum compatibility, it is recommended that you obtain memory modules from the same vendor.**

---

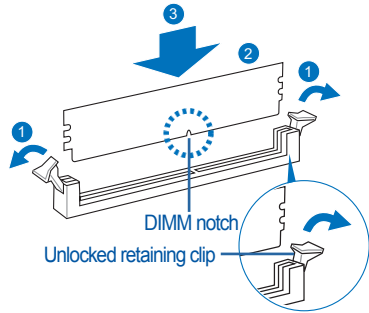
# 4 System memory

## Installing a DIMM

**WARNING:** 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.

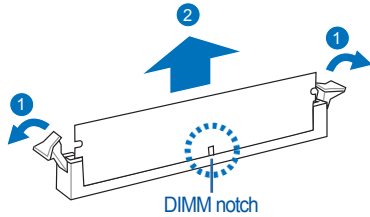


**NOTE:** A DIMM is keyed with a notch so that it fits in only one direction. Do not force a DIMM into a socket to avoid damaging the DIMM.

## Removing a DIMM

### Follow these steps to remove a DIMM:

1. Simultaneously press the retaining clips outward to unlock the DIMM.
2. Remove the DIMM from the socket.

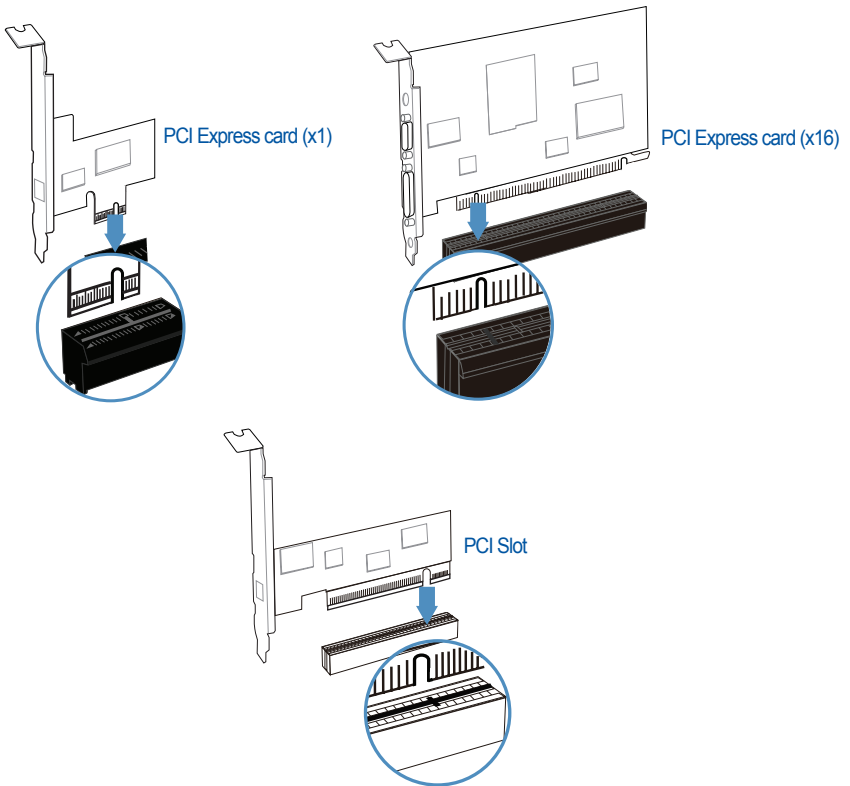


**TIP:** Support the DIMM lightly with your fingers when pressing the retaining clips. The DIMM might get damaged when it flips out with extra force.

## 5 Expansion slots

---

In the future, you may need to install expansion cards. The following shows the slots and the expansion cards that they support.



### Installing an expansion card

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**WARNING:** 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.

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#### To install an expansion card:

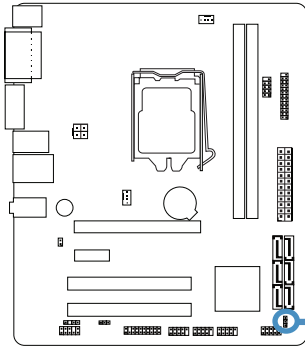
1. Before installing the expansion card, read the documentation that came with it and make the necessary hardware settings for the card.
2. Remove the system unit cover (if your motherboard is installed in a chassis).
3. Remove the bracket opposite the slot that you intend to use.
4. Align the card connector 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.

# 6 Selectors

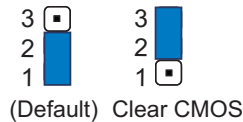
## Clear CMOS selector

This selector allows you to clear the Real Time Clock (RTC) RAM in CMOS. You can clear the CMOS memory of date, time, system setup parameters, and passwords by erasing the CMOS RTC RAM data.

**IMPORTANT: Except when using this function, do not remove the jumper cap from the default position or else there may be a system boot failure!**



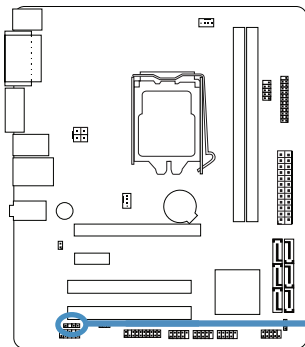
- To erase the CMOS RTC RAM user settings:**
1. Turn OFF the computer and unplug the power cord.
  2. Move the cap to clear for 5 to 10 secs, then move the cap back to default.
  3. Plug the power cord and turn ON the computer.
  4. During the boot process, enter BIOS setup to re-enter user settings.



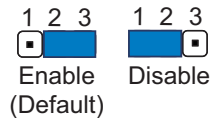
## Flash Override selector

This selector allows you to enable or disable the Flash Override capability. You can manually manage information stored in the Flash by enabling the Flash Override capability.

**IMPORTANT: Except when using this function, do not remove the jumper cap from the default position or else there may be a system boot failure!**



- To enable or disable the Flash Override:**
1. Turn OFF the computer and unplug the power cord.
  2. Move the cap to the enable (default) or disable position.
  3. Plug the power cord and turn ON the computer.



# 7 Connectors

## ATX power connectors

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

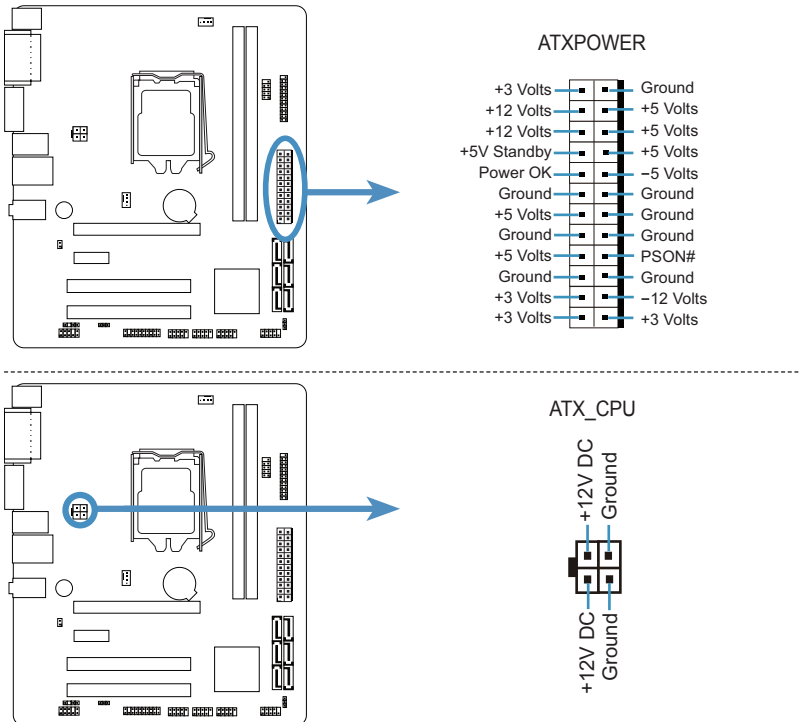
**NOTE:** Do not forget to connect the 4-pin ATX +12V power plug; otherwise, the system will not boot.

**NOTE:** Use of a power supply unit (PSU) with a higher power output is recommended when configuring a system with more power-consuming devices. The system may become unstable or may not boot up if the power is inadequate.

**NOTE:** Make sure that your PSU can provide at least the minimum power required by your system.

**NOTE:** If you intend to use a PSU with 20-pin and 4-pin power plugs, make sure that the 20-pin power plug can provide at least 15A on +12V and that the PSU has a minimum power rating of 350W. The system may become unstable or may not boot up if the power is inadequate.

**NOTE:** You must install a PSU with a higher power rating if you intend to install additional devices.

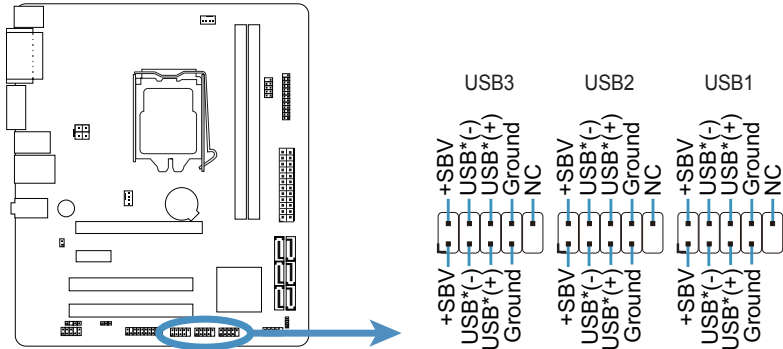


# 7 Connectors

## USB connectors (dual ports)

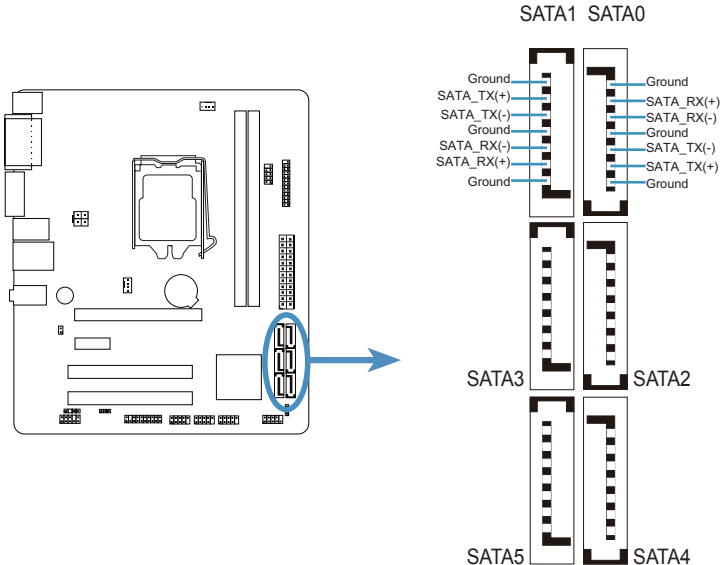
These connectors are for USB 2.0 ports. Connect a USB module cable to any of these connectors, then install the module to a slot opening at the back of the system chassis. These USB connectors comply with USB 2.0 specification that supports up to 480 Mbps connection speed.

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



## Serial ATA connectors

These connectors are for the Serial ATA signal cables for Serial ATA devices.

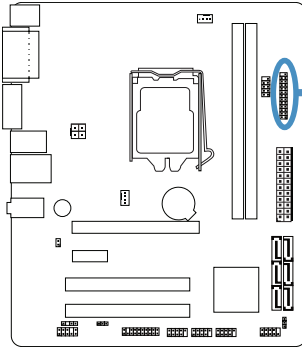




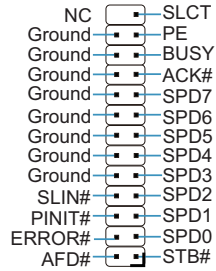
# 7 Connectors

## Parallel port connector

This connector is for a parallel port. Connect the parallel port module cable to this connector, then install the module to the system chassis.

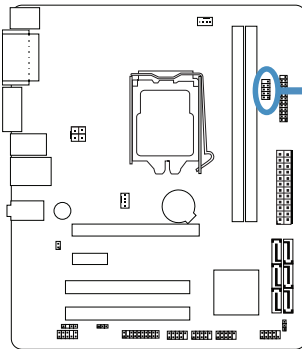


### PARALLEL

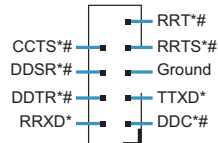


## Internal serial port connector

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



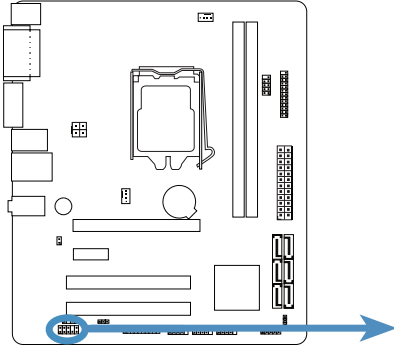
### SERIAL\_B



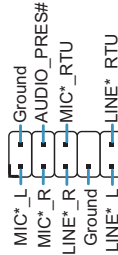
# 7 Connectors

## Front panel audio connector

This connector is for a chassis-mounted front panel audio I/O module that supports HD Audio.



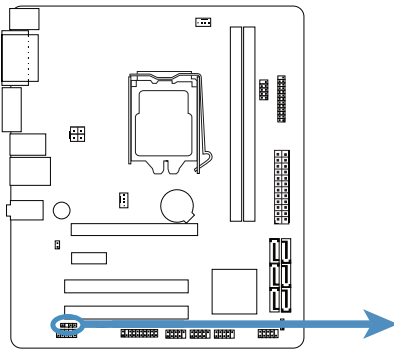
F\_AUDIO



**NOTE:** It is recommended that you connect a high-definition front panel audio module to this connector to utilize this motherboard's high-definition audio capability.

## Digital Audio connector

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 (may require separate purchase).



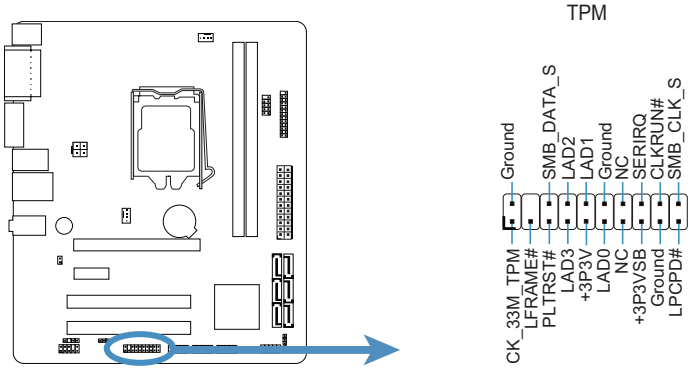
SPDIF\_OUT



# 7 Connectors

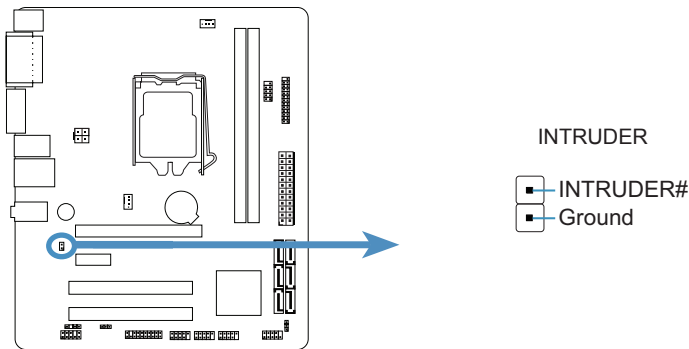
## TPM (Trusted Platform Module) connector

This connector supports a Trusted Platform Module (TPM) system, which can securely store keys, digital certificates, passwords, and data. A TPM system also helps enhance network security, protects digital identities, and ensures platform integrity.



## Chassis intrusion connector

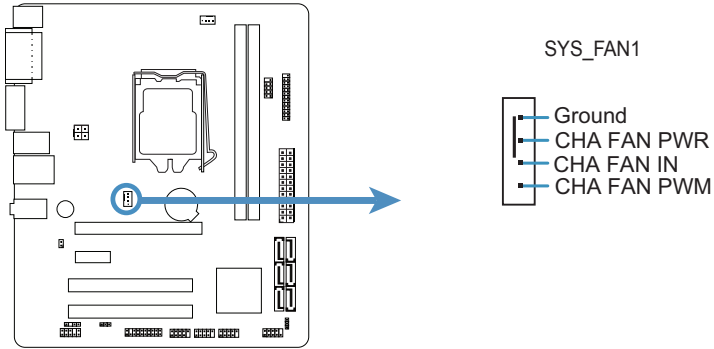
This connector is for a chassis-mounted intrusion detection sensor or switch. If enabled the chassis intrusion sensor or switch sends a high-level signal to this connector when a chassis component is removed or replaced. The signal is then generated as a chassis intrusion event.



# 7 Connectors

## Chassis Fan connector

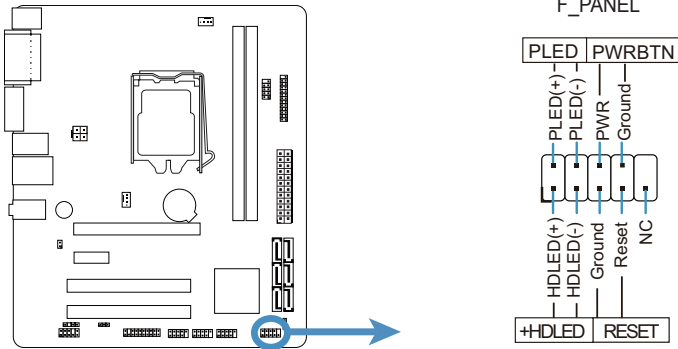
Connect the fan cables to the fan connectors on the motherboard, making sure that the black wire of each cable matches the ground pin of the connector.



# 7 Connectors

## System panel connector

These connectors support several chassis-mounted functions.



### 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.

### 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 PWRBTN)

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.

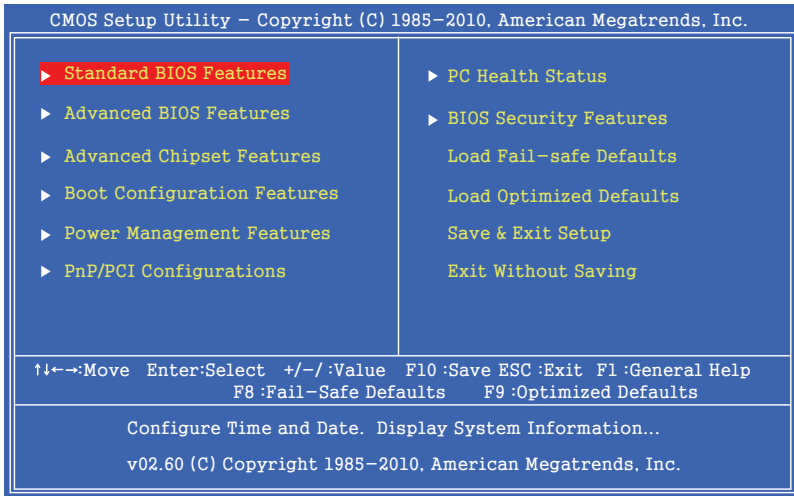
## 8 BIOS Setup reference

### BIOS setup program

When the computer first starts up (before entering Windows), press and hold the <Del> key to enter the BIOS setup program. (Press <Ctrl+Alt+Delete> to restart if you missed the opportunity.)

**NOTE: Default BIOS settings apply for most conditions to ensure optimum performance. If this system becomes unstable after changing any BIOS settings, load the default settings to ensure system compatibility and stability. Find the load default options under the Exit Menu.**

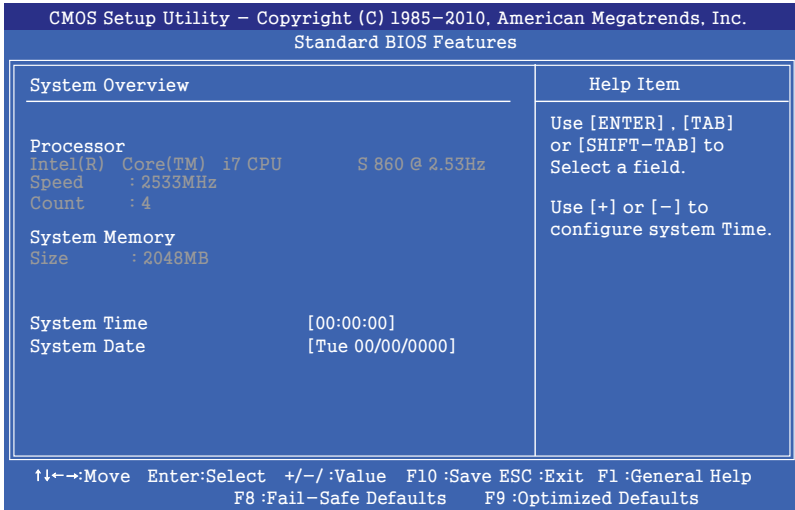
### Main BIOS Screen



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

# 8 BIOS Setup reference

## Standard BIOS Features



### Processor

Displays the system's auto-detected processor information.

### System Memory

Displays the auto-detected system memory information.

### System Time [xx:xx:xx]

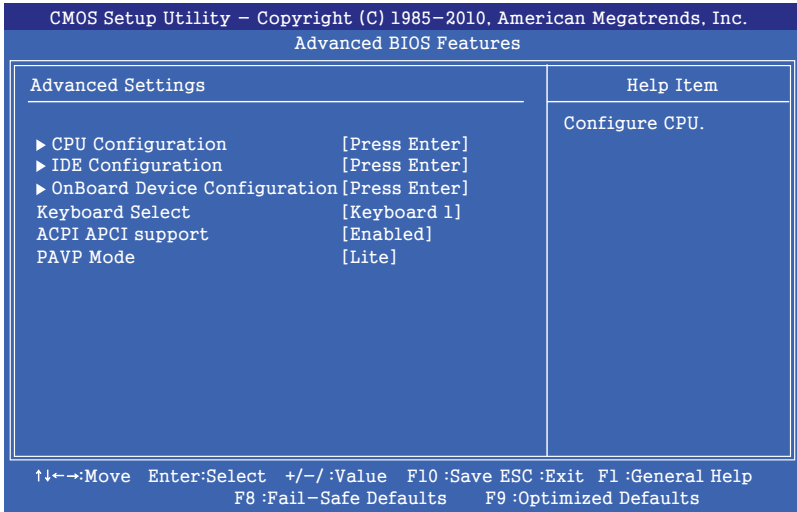
This item allows you to set the system time.

### System Date [Day xx/xx/xxxx]

This item allows you to set the system date.

# 8 BIOS Setup reference

## Advanced BIOS Features



### ▶ CPU Configuration

This item provides the auto-detected CPU specifications.

#### Execute Disable Bit

Default: [Enabled] / Options: [Disabled] [Enabled]

#### Enhanced C1

Default: [Enabled] / Options: [Disabled] [Enabled]

#### Thermal Management

Default: [Enabled] / Options: [Disabled] [Enabled]

#### EIST

Default: [Enabled] / Options: [Disabled] [Enabled]

#### Limit CPUID MaxVal

Default: [Disabled] / Options: [Disabled] [Enabled]

#### Hyper Threading

Default: [Enabled] / Options: [Disabled] [Enabled]

#### CPU Host Clock

Display field only: x.xxGHz



## 8 BIOS Setup reference

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### Advanced BIOS Features

#### CPU Host Ratio

Default: [19]

#### Spread Spectrum

Default: [Enabled] / Options: [Disabled] [Enabled]

#### ▶ **IDE Configuration**

The items in this menu allow you to set or change the configurations for the IDE devices installed in the system. Select an item then press <Enter> if you wish to configure the item.

#### ▶ **SATA 0/SATA 1/SATA 2/SATA 3/SATA 4/SATA 5**

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.

<b>Type</b>	Default: [Auto]
<b>LBA/Large Mode</b>	Default: [Auto]
<b>Block (Multi-Sector Transfer)</b>	Default: [Auto]
<b>PIO Mode</b>	Default: [Auto]
<b>DMA Mode</b>	Default: [Auto]
<b>S.M.A.R.T.</b>	Default: [Auto]
<b>32Bit Data Transfer</b>	Default: [Disabled]

#### SATA Controller Setup

Default: [IDE]

#### ▶ **Onboard Devices Configuration**

##### Onboard USB Controller

This item allows you to enable or disable the USB Functions.

Default: [Enabled] / Options: [Disabled] [Enabled]

##### USB 2.0 Controller

This item allows you to change the USB 2.0 Controller setting.

Default: [Enabled] / Options: [Disabled] [Enabled]

##### USB Keyboard/Mouse Support

This item allows you to enable or disable support for USB keyboard or Mouse.

Default: [Enabled] / Options: [Disabled] [Enabled]

# 8 BIOS Setup reference

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## Advanced BIOS Features

### Onboard Audio

This item allows you to enable or disable High Definition Audio.

Default: [Enabled] / Options: [Disabled] [Enabled]

### Onboard LAN

This item allows you to enable or disable the Onboard LAN device.

Default: [Enabled] / Options: [Disabled] [Enabled]

### Boot ROM

This item allows you to enable or disable the Onboard LAN Boot ROM.

Default: [Enabled] / Options: [Disabled] [Enabled]

### **Keyboard Select**

Default: [Keyboard 1]

### **ACPI APIC Support**

This item allows you to enable or disable ACPI APIC Support.

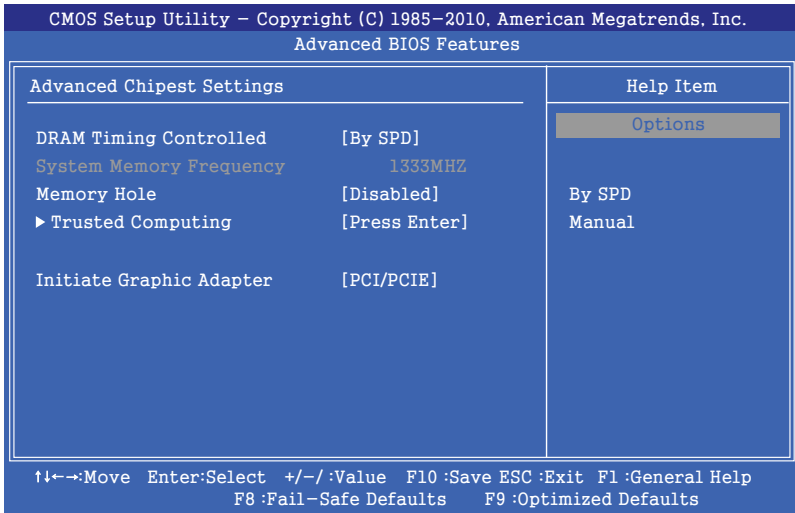
Default: [Enabled] / Options: [Disabled] [Enabled]

### **PAVP Mode**

Default: [Lite]

# 8 BIOS Setup reference

## Advanced Chipset Features



### DRAM Timing Controlled

Default: [By SPD] / Options: [By SPD] [Manual]

### System Memory Frequency

Display field only: xxxxMHZ

### Memory Hole

Default: [Disabled] / Options: [Disabled] [Enabled]

### ▶ Trusted Computing

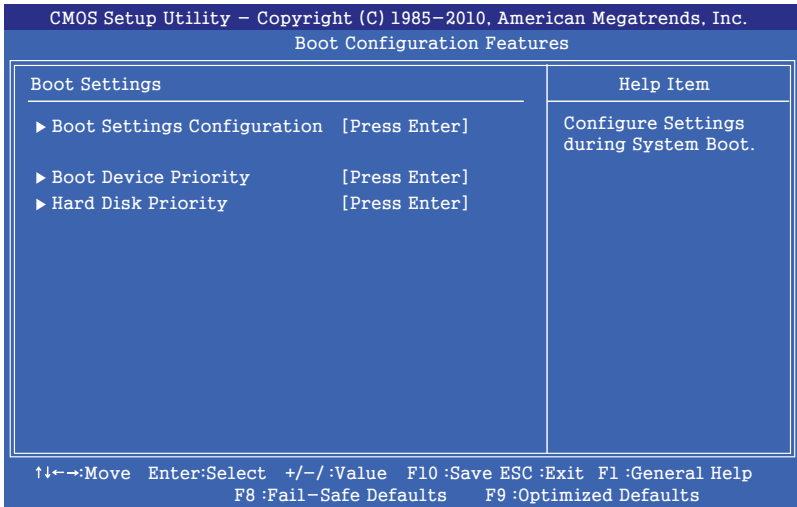
Trusted Computing enforces the computer to consistently behave in expected ways by hardware and software. This allows verification that only authorized code runs on the system.

### Initiate Graphic Adapter

Default: [PCI/PCIE]

# 8 BIOS Setup reference

## Boot Configuration Features



### ▶ Boot Settings Configuration

#### **Quick Boot (Fast Boot)**

This item allows you to enable or disable the system quick boot feature. When Enabled, the system skips certain tests while booting.

Default: [Enabled] / Options: [Disabled] [Enabled]

#### **Boot Up Num-Lock**

This item allows you to select the power-on state for the NumLock.

Default: [On] / Options: [Off] [On]

#### **Full Screen Logo**

Default: [Enabled] / Options: [Disabled] [Enabled]

#### **Halt On**

This item allows you to change the Halt On setting.

Default: [ALL But KeyBoard]

## 8 BIOS Setup reference

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### Boot Configuration Features

#### ▶ **Boot Device Priority**

##### **1st, 2nd, 3rd, ... Boot Device**

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.

Some possible configuration options: [USB:] [Network:] [SATA:] [Disabled]

#### ▶ **Hard Disk Priority**

These items specify the boot device priority sequence from the available hard disks. The number of hard disks that appears on the screen depends on the number of hard disks installed in the system.

## 8 BIOS Setup reference

### Power Management Features

CMOS Setup Utility – Copyright (C) 1985–2010, American Megatrends, Inc.	
Power Management Features	
Power Management Features	Help Item
ACPI Suspend Type [S1 (POS)]	Select the ACPI state used for System Suspend.
USB KB/Mouse Wake up [Enabled]	
EUP Mode [Disabled]	
▶ APM Configuration [Press Enter]	

↑←→:Move Enter:Select +/-:Value F10:Save ESC:Exit F1:General Help  
F8:Fail-Safe Defaults F9:Optimized Defaults

#### ACPI Suspend Type

This item allows you to select the Advanced Configuration and Power Interface (ACPI) state to be used for system suspend.

Default: [S1 (POS)]

#### USB KB/Mouse Wake up

This item allows you to enable or disable the function to wake up the system from suspend mode using USB keyboard or mouse.

Default: [Enabled] / Options: [Disabled] [Enabled]

#### EUP Mode

This item allows you to enable or disable EUP Mode.

Default: [Disabled]

#### ▶ APM Configuration

##### Resume By PME#

Default: [Enabled] / Options: [Disabled] [Enabled]

##### Power On By Ring

Default: [Disabled] / Options: [Disabled] [Enabled]

## 8 BIOS Setup reference

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### Power Management Features

#### **Power On By RTC Alarm**

This item allows you to change the Power On RTC Alarm setting.

Default: [Disabled] / Options: [Disabled] [Enabled]

#### **Restore on AC Power Loss**

Default: [Power Off]

#### **Power Button Mode**

This item allows you to change the system's behaviour when the power button is pressed.

Default: [On/Off]

## 8 BIOS Setup reference

### PnP/PCI Configurations

CMOS Setup Utility – Copyright (C) 1985–2010, American Megatrends, Inc.	
PnP/PCI Configurations	
Advanced PCI/PnP Settings	Help Item
Clear NVRAM [Disabled]	Clear NURAM during System Boot.
Plug & Play O/S [No]	

↑←→:Move Enter:Select +/-:Value F10:Save ESC:Exit F1:General Help  
F8:Fail-Safe Defaults F9:Optimized Defaults

#### **Clear NVRAM**

This item allows you to enable or disable Clear NVRAM feature.

Default: [Disabled] / Options: [Disabled] [Enabled]

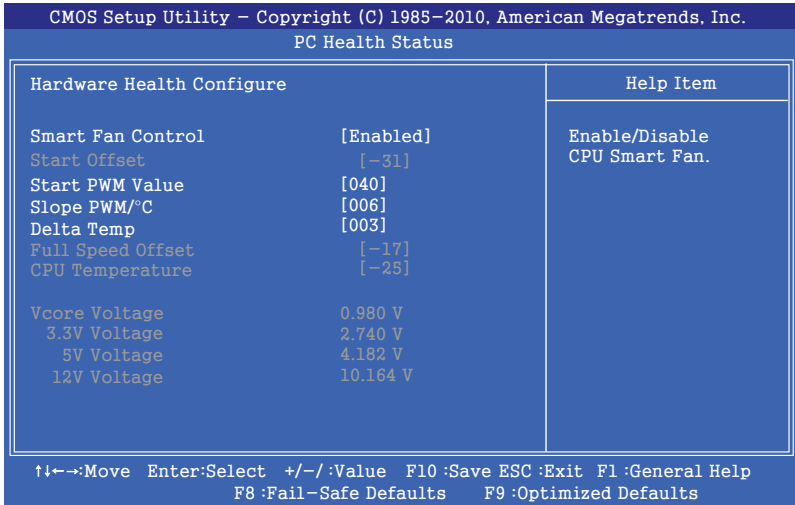
#### **Plug & Play O/S**

Default: [No]



# 8 BIOS Setup reference

## PC Health Status



### **Smart Fan Control**

This item allows you to enable or disable the CPU smart fan control that smartly adjusts the fan speeds for more efficient system operation.

Default: [Enabled] / Options: [Disabled] [Enabled]

### **Start Offset**

Display field only: [-xx]

### **Start PWM Value**

This item allows you to configure the start PWM value setting.

Default: [040]

### **Slope PWM/°C**

This item allows you to configure the temperature slope setting.

Default: [006]

### **Delta Temp**

This item allows you to configure the delta temperature setting.

Default: [003]

### **Full Speed Offset**

Display field only: [-xx]

## 8 BIOS Setup reference

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### PC Health Status

#### CPU Temperature

Display field only: [-xx]

#### Vcore Voltage

Display field only: x.xxx V

#### 3.3V Voltage

Display field only: x.xxx V

#### 5V Voltage

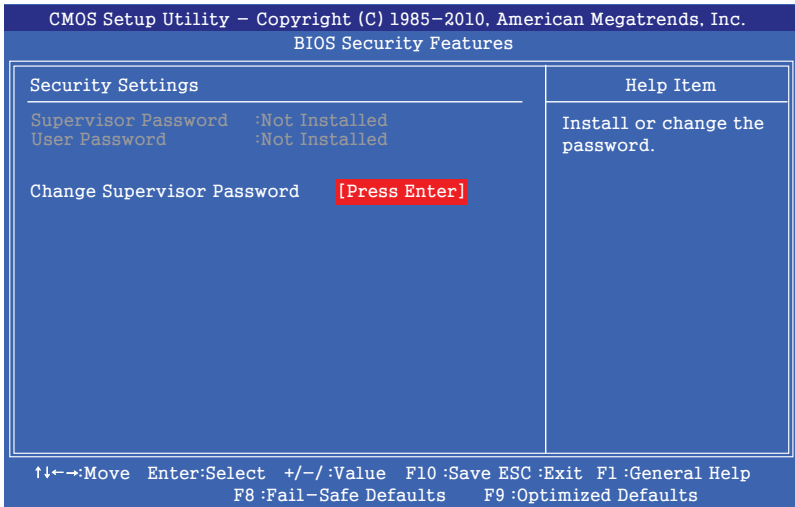
Display field only: x.xxx V

#### 12V Voltage

Display field only: x.xxx V

# 8 BIOS Setup reference

## BIOS Security Features

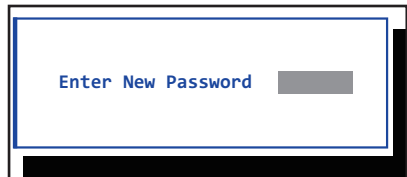


### Change Supervisor Password

Select this item to set or change the supervisor password. The **Supervisor Password** item on the top of the screen shows the default **Not Installed**. After you set a password, this item shows **Installed**.

#### To Set A Supervisor Password:

1. Select the **Change Supervisor Password** item and press <Enter>.
2. From the password box, type a password composed of at least six letters and/or numbers, then press <Enter>.
3. Confirm the password when prompted.



The message "Password Installed" appears after you successfully set your password. To change the supervisor password, follow the same steps as in setting a user password. To clear the supervisor password, select the **Change Supervisor Password** then press <Enter>. The message "Password Uninstalled" appears.

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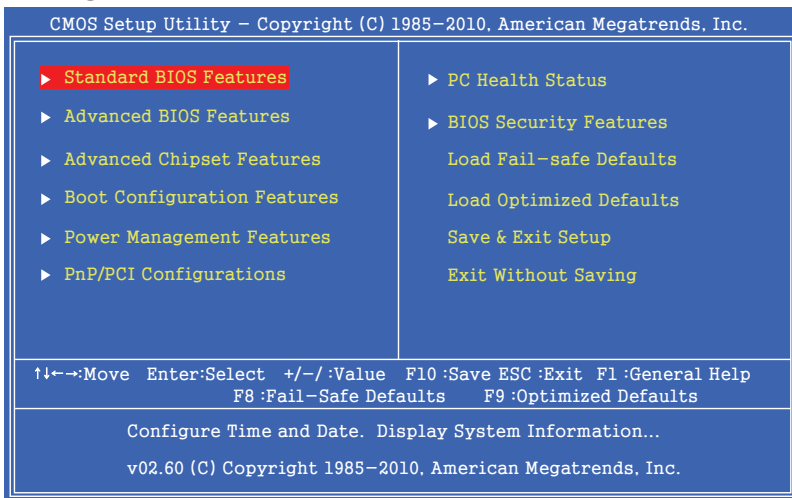
**NOTE: If you forget your BIOS password, you can clear it by erasing the CMOS Real Time Clock (RTC) RAM. See your hardware documentation for information on how to erase the RTC RAM.**

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## 8 BIOS Setup reference

### Main BIOS Screen

#### Exiting



The main menu allows you to exit the BIOS menu in different ways.

#### Load Fail-safe Defaults

This option restores BIOS fields to a fail-safe factory defaults that work with all hardware but run the system at reduced performance. When you select this option, a confirmation window appears. Select Y to load defaults. Make sure you save changes before exiting.

#### Load Optimal Defaults

This option restores BIOS fields to their factory defaults to run the system at "optimal performance". When you select this option, a confirmation window appears. Select Y to load defaults. Make sure you save changes before exiting.

#### Save & Exit Setup

Once you are finished 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 **Ok** to save changes and exit.

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**NOTE: 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.**

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## 8 BIOS Setup reference

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### Main BIOS Screen

#### Exit Without Saving

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.