Table of Contents

Chapter 1: Introduction........................................................................... 1
  Key Features.............................................................................. 1
  Unpacking the Mainboard.......................................................... 2
  Electrostatic Discharge Precautions........................................ 2
  Mainboard Layout w/ Default Settings*........................................ 3

Chapter 2: Hardware Setup................................................................. 4
  Jumpers...................................................................................... 4
    Factory Set Jumpers................................................................. 4
    JP5: CMOS Reset Jumper......................................................... 4
    J1: Sleep Switch Connector...................................................... 5
    JP15: Stopped Clock Generator Select (Fixed at 1-2)............ 5
    JP49-50: ICP DMA Select......................................................... 5
    JP5: Display Type Settings..................................................... 6
    J6: PS/2 Mouse Function Jumper.............................................. 6
  Multi I/O Port Address............................................................... 7
    JP2: EPROM/FLASH Memory Select Jumper............................ 7
  CPU Type Configuration............................................................ 8
    Intel 486DX/XX SL-Enhanced CPU.......................................... 8
    Intel 486DX/XX ST-Enhanced, DX4-ODP (SV) CPU.............. 9
    Intel DX4(3.45V) CPU.............................................................. 10
    Intel F24D Internal Write-Back Cache) CPU......................... 11
    Intel F4T CPU (Fremont OverDrive 236 pin, Internal 25x Clock, Internal Write-back Cache).................................................. 12
    Cyrix CT, SDX/DX/DXX/XDX CPU......................................... 13
    Cyrix 5x86/33M/100-100 CPU (3.45V)................................. 13
    UMC 155 CPU.................................................................. 15
    AMD 486DX CPU................................................................. 16
    AMD 486DX Enhanced Plus CPU (Internal Write-Back Cache).... 17
    AMD 5X CPU (Internal 16K Write-Back Cache).................... 18
  Cache Configuration................................................................. 19
    Cache Jumper Settings........................................................... 19
    Cache Size and RAM Locations.............................................. 19
    256K Cache (64K x 8 4-pcs) w/ Astar TAG RAM................... 20
    256K Cache (64K x 8 4-pcs) w/ Winbond TAG RAM............. 20
    512K Cache (128K x 8 6-pcs).............................................. 21
1 Introduction

The 486 PCI mainboard is a high-performance system board that supports Intel 486DX2/IX/SX/XL Enhanced 486, P24T, P24D, DX4, Cyrix, AMD, and UMC CPUs. The mainboard is fully compatible with industry standards, while incorporating many technical enhancements.

The 486 PCI mainboard offers superior system performance, compatibility, and reliability, and is the ideal choice for a wide variety of system applications.

Key Features

- Supports Power Management Mode
  - Supports the SMM and the SM
  - CPU Stop Clock Function
  - Four Power Saving States (normal / dose / standby / suspended)
  - Supports the APM control
  - Supports Sleep Switch control
  - Power Saving also on non-SMI CPU
- More System Event Monitoring and Power Saving Control
- Direct map cache controller that supports 256K and 512K
- Fast page burst mode DRAM controller
- Memory configurations from 1MB to 256MB using combinations of 80ns 256K, 512K, 1M, 2M, 4M, and 16M SIMM modules. Uses four 72-pin DRAM modules in unrestricted configurations (Table Free).
- Hardware turbo speed switch
- Four 16-bit ISA slots, three master PCI slots, 1 slave PCI slot, and 1 slave VESA slot
- Support for 5V and 3.35V / 3.3V / 4.0V CPU
- On-board local bus IDE Controller and Floppy Controller
- Built-in NCR 810 PCI SCSI driver
- On-board supports for two high speed USBs (USB/16550) and multifunction parallel port for standard, Enhanced (EPP) and high speed (ECP) modes
- FLASH Memory BIOS with Plug and Play function
- On-board built-in PS/2 mouse function.

Introduction

The mainboard package contains:

- The 486 PCI/VESA Mainboard
- This User's Guide

Note: Do not unpack the mainboard until you are ready to install it.

Follow the precautions below while unpacking the mainboard:

1. Before handling the mainboard, ground yourself by grasping an unpainted portion of the system's metal chassis.
2. Remove the mainboard from its anti-static packaging and place it on a grounded surface, component side up.
3. Check the mainboard for damage. If any chip appears loose, press carefully to seat it firmly in its socket.

Do not apply power if the mainboard appears damaged. If there is damage to the mainboard, contact your dealer immediately.

Electrostatic Discharge Precautions

Make sure you ground yourself before handling the mainboard or other system components. Electrostatic discharge can easily damage the components. Note that you must take special precaution when handling the mainboard in dry or air-conditioned environments.

Adhere to the precautions below to protect your equipment from electrostatic discharge:

- Do not remove the anti-static packaging until you are ready to install the mainboard and other system components.
- Ground yourself before removing any system component from its protective anti-static packaging. To ground yourself, grasp the expansion slot covers or other unpainted portions of the computer chassis.
- Frequent ground yourself while working, or use a grounding strap.
- Handle the mainboard by the edges and avoid touching its components.

Mainboard Layout w/ Default Settings*

*Default settings are for an Intel DX4-100 SL Enhanced CPU (3.45V), 256K cache (Winboard TAG RAM), IDE on-board, and power saving controlled by SMIU signal (J15).

Figure 1-1. Mainboard Layout

Note: If you use a CPU not listed in this manual, please contact your dealer to determine the correct CPU settings.
2 Hardware Setup

This chapter explains how to set jumpers, install a processor and memory on the motherboard and make case connections. Refer to this chapter whenever you upgrade or reconfigure the system.

CAUTION: Turn off power to the motherboard, system chassis, and peripheral devices before performing any work on the motherboard or system.

Jumpers

Factory Set Jumpers

The following jumpers are set at the factory as below:

<table>
<thead>
<tr>
<th>Jumpers</th>
<th>Factory setting</th>
</tr>
</thead>
<tbody>
<tr>
<td>JP48, JP51</td>
<td>Reserved</td>
</tr>
<tr>
<td>JP25-26</td>
<td>Factory fixed at Short</td>
</tr>
</tbody>
</table>

**JP5: CMOS Reset Jumper**

This lets you discharge CMOS memory in the event you forget your password or encounter a BIOS setup problem. Before you install the motherboard make sure that JP5 is set to retain CMOS memory.

<table>
<thead>
<tr>
<th>CMOS Setting</th>
<th>JP5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Retain CMOS Data (Default)</td>
<td>1 2 1</td>
</tr>
<tr>
<td>Discharge CMOS</td>
<td>2 2 1</td>
</tr>
</tbody>
</table>

**JP3: Display Type Settings**

JP3 configures the motherboard for use with a color or monochrome monitor.

<table>
<thead>
<tr>
<th>Display Type</th>
<th>JP3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monochrome</td>
<td>1 2</td>
</tr>
<tr>
<td>Color/EGA/VGA (Default)</td>
<td>1 2</td>
</tr>
</tbody>
</table>

**JP4: PS/2 Mouse Function Jumper**

Set PS/2 mouse function enabled or disabled.

<table>
<thead>
<tr>
<th>PS/2 Mouse Function</th>
<th>JP4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disabled (default)</td>
<td>1 2</td>
</tr>
<tr>
<td>Enabled</td>
<td>1 2</td>
</tr>
</tbody>
</table>

Note: The IRQ12 is dedicated to PS/2 mouse when choose enabled of PS/2 Mouse Function.

J7: Sleep Switch Connector

Toggle this jumper to force the system to enter suspend mode. Press any key or move the input device to wake up the system to full speed mode.

**JP15: Stopped Clock Generator Select (Fixed at 1-2)**

Jumper JP15 sets the STPClk or SMOUT signal for stopping the clock generator.

<table>
<thead>
<tr>
<th>Setting</th>
<th>JP15</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stopped by SMOUT for all CPU's (Default)</td>
<td>3 2 1</td>
</tr>
<tr>
<td>Stopped by STPClk for all CPU's except AMD DXL CPU's</td>
<td>3 2 1</td>
</tr>
</tbody>
</table>

**JP49-50: ECP DMA Select**

These jumpers set the ECP DMA for DRQ2/DSACK or for DRQ1/DSACK.

<table>
<thead>
<tr>
<th>ECP DMA Select</th>
<th>JP49/JP50</th>
</tr>
</thead>
<tbody>
<tr>
<td>DRQ1/DSACK</td>
<td>1</td>
</tr>
<tr>
<td>DRQ2/DSACK</td>
<td>1</td>
</tr>
<tr>
<td>None (Default)</td>
<td>1</td>
</tr>
</tbody>
</table>

**Multi I/O Port Address**

Default settings for multi-I/O port addresses are shown in the following table.

<table>
<thead>
<tr>
<th>Port</th>
<th>I/O Address</th>
<th>IRQ</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>LPT1</td>
<td>378H</td>
<td>7</td>
<td>Standard Parallel Port</td>
</tr>
<tr>
<td>COM1</td>
<td>378H</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>COM2</td>
<td>298H</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

* LPT1 is default for standard mode. If you want ECP/EPP function, you must use the BIOS or drivers settings. You must also set JP49 and JP50 to configure DRQ/DSACK. If the default I/O port addresses conflict with other I/O cards (e.g., sound cards or I/O cards), you must adjust one of the I/O addresses to avoid address conflict. (You can adjust these I/O port addresses from the BIOS, see page 28.)

Note: Some sound cards have a default IRQ setting for IRQ2, which may conflict with printing functions. If this occurs, do not use the sound card functions at the same time as you print.

**JP2: EPROM/FLASH Memory Select Jumper**

Set EPROM or FLASH memory type with jumper JP2.

<table>
<thead>
<tr>
<th>Type</th>
<th>JP2</th>
</tr>
</thead>
<tbody>
<tr>
<td>EPROM/FLASH (non-program)</td>
<td>1 2 3</td>
</tr>
<tr>
<td>FLASH memory (program)</td>
<td>1 2 3</td>
</tr>
</tbody>
</table>
Hardware Setup

CPU Type Configuration

Configure the 486 PCI motherboard's CPU by inserting the specified CPU and setting jumpers as described in the diagrams that follow. Note that the CPU Type jumpers on the motherboard have yellow caps and the Clock Setting jumpers have red caps.

Intel 486SX/SXI Enhanced CPU
486SX-25/33 Setting

486SX2-50*/66* Setting

Figure 3-1. 486SX/SXI Enhanced CPU Jumper Settings

* For these CPUs, a cooling fan is necessary for system stability.

Intel DX4(3.45V) CPU
DX4-75*/100* Settings

Figure 2-1. Intel DX4 (3.45V) CPU Jumper Settings

Note:
1. For these CPUs, a cooling fan is necessary for system stability.
2. The DX4 75/100 is 3.45V CPU; JP29/JP40 must be set as above.

Intel 486DX/DXI Enhanced, DX4-ODP (5V) CPU
UMC 486DX2 CPU
DX-25/33/40*/50*, DX2-60*/66*/80* Settings

U486DX2-EE6*/E90*

Figure 2-2. 486DX/DXI Enhanced, DX4 ODP (5V) CPU Jumper Settings

Note:
1. For these CPUs, a cooling fan is necessary for system stability.
2. Do not change the JP40 setting, the INTEL DX4 ODP is a 5V CPU.

Intel P24D (Internal Write-Back Cache) CPU
P24D-50*/66* Settings

Figure 3-4. Intel P24D CPU Settings

* For these CPUs, a cooling fan is necessary for system stability.
* For these CPUs, a cooling fan is necessary for system stability.

* Use this page setting for CX486 DX4-100GP4 and DX4-9/10.
**Hardware Setup**

**AMD 486DX CPU**
- DX4-75/100° (N)VBT (3.45V)
- DX2-66°/80° (N)VBT (3.45V)
- DX2-66°/80° (5V)

**Figure 2-9. AMD 486DX CPU Jumper Settings**

*For these CPUs, a cooling fan is necessary for system stability.*

---

**AMD 486DX Enhanced Plus CPU (Internal Write-Back Cache)**
- 486DX2-66°/80° CPU(N)VBT (3.45V)
- 486DX4-75°/100°/120° CPU (N)VBT (3.45V)

**Figure 2-10. AMD 486DX Enhanced Plus CPU Jumper Settings**

*For these CPUs, a cooling fan is necessary for system stability.*

---

**Hardware Setup**

**AMD X5 CPU (Internal 16K Write-Back Cache)**
- X5-133/150/160 (3.45V) Settings

**Figure 2-11. AMD X5 CPU Jumper Settings**

*For these CPUs, a cooling fan is necessary for system stability.*

---

**Cache Configuration**

The 486 PCI mainboard has a write-back caching scheme. You can configure the mainboard's external cache for 256KB or 512KB by setting jumper switches and installing cache chips. Refer to the following pages for jumper switch settings and cache socket locations.

**Cache Jumper Settings**

You must set jumpers JP47 and JP20 to configure cache size. See the illustrations below. Note that cache jumpers on the mainboard have white jumper caps.

**Cache Size and RAM Locations**

You can configure cache size using 64Kb or 128Kb cache chips. The table below describes chip type and socket locations for each configuration.

<table>
<thead>
<tr>
<th>Cache Size</th>
<th>Cache RAM</th>
<th>Tag RAM</th>
<th>WB Cacheable Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>256KB</td>
<td>64K x 8   / U16, U20, U22, U23</td>
<td>32K x 8 / U32 or 16K x 8 / U52</td>
<td>32MB</td>
</tr>
<tr>
<td>512KB</td>
<td>128K x 8   / U16, U20, U22, U23</td>
<td>32K x 8 / U32</td>
<td>64KB</td>
</tr>
</tbody>
</table>

Note: Tag and Data RAM use 20ns for all conditions.
256K Cache (64K x 8 4pcs) w/ Aster TAG RAM

- 85C496
- TAG

256K Cache (64K x 8 4pcs) w/ Winbond TAG RAM

- 85C496
- TAG

* This setting is for Aster 16K x 8 TAG RAM.

* This setting is for Winbond 16K x 8 TAG RAM.

Memory Configuration

The motherboard supports four banks of 72-pin SIMM (Single In-line Memory Module). The motherboard requires SIMM of at least 80ns access time. Also support with parity (x30) or without parity (x33). There are no restrictions on memory configuration. You can install DRAM in any combination without having to rely on a memory configuration table. Memory configuration is thus "Table- Free".

Single-Sided SIMM

- 1MB = 256K x 32 (32)
- 2MB = 512K x 32 (32)
- 4MB = 1MB x 32 (32)
- 8MB = 2MB x 32 (32)
- 16MB = 4MB x 32 (32)
- 32MB = 8MB x 32 (32)

Double-Sided SIMM

- 1MB = 256K x 64 (2)
- 2MB = 512K x 64 (2)
- 4MB = 1MB x 64 (2)
- 8MB = 2MB x 64 (2)
- 16MB = 4MB x 64 (2)
- 32MB = 8MB x 64 (2)

Note: BANK3 supports only single side SIMM.

Connectors

Attach the 686 PCB mainboard to case devices, or an external battery, via connectors on the mainboard. Refer to Figure 11 for connector locations and connector pin positions.

J17 - Keylock & Power LED Connector

J17 is a connector for a lock that may be installed on the system case for enabling or disabling the keyboard. J17 also attaches to the case's Power LED.

J18 - Speaker Connector

Attach the system speaker to connector J18.

J19 - Hardware Reset Control

Attach the Reset switch to J19. Closing the Reset switch restarts the system.

J20 - External Battery Connector

J20 is a 4-pin connector to which you can attach an external battery. Pin 1 of J20 is positive (+) and pin 4 is negative (−).

J21 - Turbo Switch Connector

J21 is connected to a Turbo switch on the front of the system case. The connector's pins are opened for normal operation and shorted for turbo operation.

J22 - Turbo LED Connector

J22 connects to a Turbo LED on the case control panel and works with the Turbo Switch. If the mainboard is in Turbo mode, the Turbo LED lights. When the LED flashes, it means the system has entered power saving mode.

FDC1 Connector

Attach floppy cable to this connector.

PRT1 Connector

Attach parallel port cable to this connector.

COM1/COM2 Connectors

Attach COM1/COM2 cable to these connectors.
3 BIOS Setup

The motherboard's BIOS setup program is the ROM ISA BIOS from Award Software Inc. Enter the Award BIOS program's Main Menu as follows:

1. Turn on or reboot the system. After a series of diagnostic checks, you are asked to press DEL to enter Setup.

2. Press the <DEL> key to enter the Award BIOS program and the main screen appears:

![BIOS Setup Main Menu](image)

3. Choose an option and press <Enter>. Modify the system parameters to reflect the options installed in the system. (See the following sections.)

4. Press <ESC> at anytime to return to the Main Menu.

5. In the Main Menu, choose 'SAVE AND EXIT SETUP' to save your changes and reboot the system. Choosing 'EXIT WITHOUT SAVING' ignores your changes and exits the program.

The Main Menu options of the Award BIOS are described in the sections that follow.

---

26 BIOS Features Setup

Run the BIOS Features Setup as follows.

1. Choose "BIOS FEATURES SETUP" from the Main Menu and a screen with a list of items appears. (The screen below shows BIOS default settings.)

![BIOS Features Setup](image)

2. Use the arrow keys to move between items and select values. Modify selected fields using PgUp/PgDn/+/- keys. <F keys are explained below:

   - **<F1>**: "Help" gives options available for each item.
   - **Shift <F2>**: Change color.
   - **<F3>**: Get the old values. These values are the values with which the user started the current session.
   - **<F4>**: Load all options with the BIOS Setup default values.
   - **<F5>**: Load all options with the Setup default values.

A short description of screen items follows:

- **CPU Internal Cache**: This option enables/disables the CPU's internal cache memory. (The Default setting is Enabled.)
- **External Cache**: This option enables/disables the external cache memory. (The Default setting is Enabled.)
- **Quick Power On**: Enabled provides a fast POST at boot-up.

---

27 BIOS Setup

Run the Standard CMOS Setup as follows.

1. Choose "STANDARD CMOS SETUP" from the Main Menu. A screen appears.

![Standard CMOS Setup](image)

2. Use arrow keys to move between items and select values. Modify selected fields using PgUp/PgDn/+/- keys. Some fields let you key in values directly.

   - **Date (mm/dd/yy)**: Type the current date.
   - **Time (hh/mm/ss)**: Type the current time.
   - **Primary (Secondary) Master & Slave**: Choose from the standard hard disk types 1 to 46. Type 47 is user definable. If a hard disk is not installed choose "Not Installed" (default).
   - **Video**: Choose Monochrome, Color 40x25, VGA/EGA (default), Color 80x25

3. When you finish, press the <ESC> key to return to the Main Menu.
28 BIOS Setup

PCI/VGA Palette Snoop

Enabled. The color of monitor will be incorrect if used with MPEG card. Enable this option to make the monitor normal. Notice that the VGA card must support snoop function.

Disabled. Default setting.

Video or Adapter BIOS Shadow

BIOS shadow copies BIOS code from slower ROM to faster RAM. BIOS can then execute from RAM. These 512 segments can be shadowed from ROM to RAM. BIOS is shadowed in a 512 segment if it is enabled and it has BIOS present.

3. After you have finished the BIOS Features Setup program, press the <ESC> key and follow the screen instructions to save or discard your settings.

Chipset Features Setup

The Chipset Features Setup option changes the values of the chipset registers. These registers control system options in the computer.

Note: Change these settings only if you are familiar with the chipset.

Run the Chipset Features Setup as follows.

1. Choose "CHIPSET FEATURES SETUP" from the Main Menu and the following screen appears. (The screen below shows default settings.)

29 BIOS Setup

2. Use the arrow keys to move between items and select values. Modify selected fields using the PgUp/PgDn/+/- keys.

A short description of screen items follows:

Auto Configuration

Enable this option (strongly recommended) and the system automatically sets all options on the left side of the screen (except cache update mode & BIOS cacheable).

If this option is Enabled you must boot from Torref mode.

ISA Bus Clock

The default setting is 1/4 PCIX (assuming PCIX is 33 MHz). It is recommended that you do not change this setting. This value should be close to 8 MHz.

LRD# Sample Point

Use the default setting.

DRAM Speed

Automatically set by BIOS.

DRAM Write Cycle

Automatically set by BIOS.

CPU Burst Write

Choose Enabled or Disabled. The default is Disabled.

L2 Cache Policy

Choose Write-through or Write-back. The default is Write-back.

Cache Write Cycle

Use the default setting.

Cache Burst Read Cycle

Use the default setting.

L2 Cache / DRAM Cycle WS

Use the default setting.

Onboard 488 IDE Port

Choose both (default) or Disabled. The Enabled setting enables both primary and secondary (I/Os). The Disabled setting turns off the primary IDE and the secondary IDE.

IDE 0/1 Master/Slave Mode

Choose Auto (default) or 0,1,2,3,4. The 0-4 settings are for IDE mode speed. Mode 0 is the slowest speed. Mode 4 is the fastest. Unless you know the HDD speed, you should use the Auto setting for more reliable and better performance.

30 BIOS Setup

Onboard FDC Control

Enabled. Use the on-board floppy controller (default).

Disabled. Turn off the on-board floppy controller.

Onboard Serial Port 1

Choose serial port 1 & 2’s I/O address. Do not set port 1 & to the same value except for Disabled.

COM 1/3/BH 1 COM 5/6/BH 2

(default)

COM 2/3/BH 1 COM 5/6/BH 2

(default)

Onboard Parallel Port

Choose the printer I/O address: 378H (default), 278H, 378H.

Note: Under Windows 95, you can choose only 378H or 278H.

Onboard Printer Mode

Choose EPP/SPP (default), ECP/EPP, ECP mode. The mode depends on your external device that connects to this port.

Serial Port 1/2 MIDI

For future function.

3. After you have finished with the Chipset Features Setup, press the <ESC> key and follow the screen instructions to save or discard your settings.

Power Management Setup

The Power Management Setup option sets the system’s power saving functions.

Run the Power Management Setup as follows.

1. Choose "POWER MANAGEMENT SETUP" from the Main Menu and a screen with a list of items appears.

31 BIOS Setup

2. Use the arrow keys to move between items and to select values. Modify selected fields using the PgUp/PgDn/+/- keys.

A short description of selected screen items follows:

Power Management

Options are as follows:

User Define

Let you define the HDD and system power down times.

Disabled

Disables the Green PC Features.

Max/Min Saving

Doze Mode = 10 Sec/40 Min., Standby Mode = 10 Sec/40 Min., Suspend Mode = 10 Sec/40 Min.

PM Control by APM

Choose Yes or No (default). APM stands for Advanced Power Management. To use APM you must run "power.exe" under DOS 6.0 or later version...

Video Off Method

When suspend mode occurs, the monitor screen shuts off. If any IRQ event occurs, the screen comes back on.

PM Interrupt Use

This item is only valid for Non-SMI CPU. It is recommended that you use the default setting (IRQ12).

(Assign the Non-SMI routine to a dedicated IRQ.)
After you have finished with the Power Management Setup, press the <ESC> key to return to the Main Menu.

3. After you have finished with the Power Management Setup, press the <ESC> key to return to the Main Menu.

**BIOS Setup**

**PCI Configuration Setup**

This option sets the motherboard's PCI Slot. Run this option as follows:

1. Choose "PCI CONFIGURATION SETUP" from the Main Menu and the following screen appears. (The screen below shows default settings.)

   - PnP BIOS Auto Config: Disabled
   - Slot 1 using INT # : A
   - Slot 2 using INT # : AUTO
   - Slot 3 using INT # : A
   - Slot 4 using INT # : AUTO
   - 1st Available IRQ: 9
   - 2nd Available IRQ: 10
   - 3rd Available IRQ: 11
   - 4th Available IRQ: 12
   - PCI IRQ Activated By: Edge
   - Primary PCI Slot and ISA: PnP
   - Secondary ISA Slot: 8
   - Master Arbitration Protocol: Seek
   - CPU/P-DIMM Power On-Wake: Disabled
   - CPU/P-DIMM Power On-Wake: Disabled
   - PnP/PCI Master Burst Read/Write: Enabled
   - Boot BIOS Defaults: Yes
   - Load Setup Defaults: Yes

   * These options will disappear when PnP BIOS Auto Config. is enabled.

   2. Use the arrow keys to move between items and select values. Modify selected fields using the PgUp/PgDn/↑/↓ keys.

   A short description of screen items follows:

   - PnP BIOS Auto Config.
     - Disabled: BIOS doesn't manage ISA PnP card (i.e., IRQ)
     - but PCI card.
     - Enabled: BIOS auto manage PCI and ISA PnP card.

   - Slot 1 (2) (3) (4) Using INT
     - Choose AUTO or assign PCI INT# number A, B, C, or D.
     - The default setting is AUTO.

   - 1st (2nd) (3rd) (4th) Available IRQ
     - If slot 1-4 is set to AUTO in the item above, then the BIOS automatically routes the INT# to the specified IRQ following the 1st (2nd) (3rd) (4th) IRQ order you assign.

   - PCI IRQ Activated By
     - Choose Edge or Level. Most PCI trigger signals are Level.
     - This setting must match the PCI card.

**BIOS Setup**

**PCI Configuration Setup**

This option sets the motherboard's PCI Slot. Run this option as follows:

1. Choose "PCI CONFIGURATION SETUP" from the Main Menu and the following screen appears. (The screen below shows default settings.)

   - PnP BIOS Auto Config: Disabled
   - Slot 1 using INT # : A
   - Slot 2 using INT # : AUTO
   - Slot 3 using INT # : A
   - Slot 4 using INT # : AUTO
   - 1st Available IRQ: 9
   - 2nd Available IRQ: 10
   - 3rd Available IRQ: 11
   - 4th Available IRQ: 12
   - PCI IRQ Activated By: Edge
   - Primary PCI Slot and ISA: PnP
   - Secondary ISA Slot: 8
   - Master Arb. Interface: Seek
   - CPU/P-DIMM Power On-Wake: Disabled
   - PnP/PCI Master Burst Read/Write: Enabled
   - Boot BIOS Defaults: Yes
   - Load Setup Defaults: Yes

   * These options will disappear when PnP BIOS Auto Config. is enabled.

   2. Use the arrow keys to move between items and select values. Modify selected fields using the PgUp/PgDn/↑/↓ keys.

   A short description of screen items follows:

   - PnP BIOS Auto Config.
     - Disabled: BIOS doesn't manage ISA PnP card (i.e., IRQ)
     - but PCI card.
     - Enabled: BIOS auto manage PCI and ISA PnP card.

   - Slot 1 (2) (3) (4) Using INT
     - Choose AUTO or assign PCI INT# number A, B, C, or D.
     - The default setting is AUTO.

   - 1st (2nd) (3rd) (4th) Available IRQ
     - If slot 1-4 is set to AUTO in the item above, then the BIOS automatically routes the INT# to the specified IRQ following the 1st (2nd) (3rd) (4th) IRQ order you assign.

   - PCI IRQ Activated By
     - Choose Edge or Level. Most PCI trigger signals are Level.
     - This setting must match the PCI card.

**BIOS Setup**

**Password Setting**

This Main Menu lets you configure the system so that a password is required every time the system boots or an attempt is made to enter the Setup program. Change the password as follows:

1. Choose "PASSWORD SETTING" in the Main Menu and press <Enter>. The following message appears:

   "Enter Password:"

2. Enter a password and press <Enter>.

   (If you do not wish to use the password function, you can just press <Enter> and a “Password disabled” message appears.)

3. After you enter your password, the following message appears prompting you to confirm the new password:

   "Confirm Password:"

4. Re-enter your password and then Press <ESC> to exit to the Main Menu.

**IDE HDD Auto Detection**

This Main Menu lets you automatically detect the hard disk type and configures the STANDARD CMOS SETUP accordingly.

**Note:** This function is only valid for IDE hard disks.

**IDE HDD Auto Detection**

This Main Menu lets you automatically detect the hard disk type and configures the STANDARD CMOS SETUP accordingly.

**Note:** This function is only valid for IDE hard disks.