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# Chapter 1

## Introduction

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The 5ATXB, equipped with a 321-pin Zero Insertion Force (ZIF) CPU socket, is a fast Pentium processor system board supports Intel Pentium CPU 75MHz-200MHz, and Intel Pentium MMX CPU 166-233MHz. The 5ATXB also supports Cyrix M1 P120+/P133+/P150+/P166+ and CYRIX M2 (MMX) CPU, AMD K5, K6 (MMX) CPU.

The 5ATXB uses the chipset that supports Error Checking and Correction (ECC). It performs single bit error correction and parity check for multi-bit error detection.

The 5ATXB can support 8MB to 384MB of system memory using EDO or fast page mode x32 or x36 DRAM or SDRAM. This system board also supports pipeline burst SRAM.

The 5ATXB design is based on the Peripheral Component Interconnect (PCI) local bus and Industry Standard Architecture (ISA) standards. It is equipped with 4x32-bit PCI slots, 3x16-bit ISA slots.

The 5ATXB board has two bus master PCI IDE connectors. Bus mastering reduces CPU use during disk transfer. This system board is also equipped with two NS16C550A-compatible serial ports, an SPP/ECP/EPP parallel port, a floppy disk drive controller, one PS/2 mouse port and one PS/2 or AT keyboard connector.

## 1.1 Features and Specifications

### ☞ Processor

- 321-pin ZIF socket (Intel Socket 7)
- Supports Switch Voltage Regulator (for P55C) built-in
- INTEL Pentium™ 75/90/100/120/133/150/166/180/200 MHz
- INTEL Pentium MMX 166/200/233/266 MHz
- Future Pentium™ Over Drive processor
- CYRIX M1 P120+/P133+/P150+/P166/CYRIX M2 (MMX)
- AMD K5 / K6 (MMX)

### ☞ Cache Memory

- Implements level two (L2), external cache write through or write back design, feature two pipeline sram onboard
- External Cache size is on board 256KB or 512KB Cache RAM

### ☞ System Memory, (SIMM1-4, DIMM1-2)

- 64 bit data path to Memory
- Supports two 168-pin SDRAM, bank 0 and bank 1
- Supports four 72-pin SIMM, bank 0 and bank 1. At least, two SIMM installed. Single side or Double side SIMM two banks.
- 8MB to 384MB onboard memory
- Supports EDO or fast page mode x32 or x36 DRAM, 60 or 70ns, 5V. But can't be mixed in the same memory bank.
- ECC and Parity Check supported (uses x36 DRAM)

### ☞ System Green BIOS

- Flash BIOS option on board, AWARD deep green BIOS, PLUG & PLAY, PnP function.
- Auto configuration for PCI add-on cards.
- CPU stop-clock, real zero clock for CPU.
- I/O Device's power saving, APM & SMI.
- Implements the EPA Energy Star PC specification with Deep Green system design.
  - # Full-on : System runs in full speed CPU clock.
  - # Doze : System scales-down CPU clock.
  - # Standby : System scales-down the CPU clock, and turns off video display, and spin-off hard disk driver.
  - # Suspend : With SMM CPU, stop CPU clock in suspend mode.

### ☞ **Enhanced PCI IDE & ISA I/O**

- Built in enhanced PCI Local Bus IDE controller.
- Ultra DMA/33 Support BUS master IDE
- Supports 4 PCI IDE devices. PIO Mode 4 and DMA Mode 2 and CDROM driver. BIOS auto detects HDD.
- Two serial ports with 16550, one Parallel port with ECP/EPP pocket device, bi-direction, one PS/2 mouse port, two FDD. Through ECP/EPP, the board increases the performance of printer or connect SCSI or IDE devices.
- Controlled by BIOS. Disable I/O function by BIOS in order to Install an I/O card. Set COM 1 and COM 2 as COM 3 and COM 4 by BIOS.
- Universal Serial Bus

### ☞ **Connectors**

- 2 serial ports
- 1 parallel port
- 2 IDE connectors
- 1 floppy connector
- 1 PS/2 mouse port

### ☞ **Expansion Slots**

- 4x32-bit PCI slots
- 3x16-bit ISA slots

### ☞ **PCB**

- 4 layers, Baby AT form factor
- 25cm x 22cm

\*Supported in future revision.

## 1.2 Package Checklist

The 5ATXB package contains the following items:

- The 5ATXB system board
- The 5ATXB user's manual
- One 40-pin IDE hard disk cable
- One 34-pin floppy disk drive cable
- One 25-pin printer port cable for chassis mounting
- One card-edge bracket with serial and mouse port cables

*If any of these items are missing or damaged, please contact your dealer or sales representative for assistance.*

## Chapter 2

# Hardware Installation

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This chapter summarizes the steps to install the 5ATXB system board into your system unit. It also includes a description of the area in which you must work and directions for memory installation. Before installing the system board, obtain the memory you plan to install. Please refer to the information on page 13 for the number and type of SIM modules needed for the amount of memory you require.

### **Preparing the Area**

Before unpacking the system board, make sure the location you have selected is reactively free of dust and static electricity. Excessive exposure to dust, static electricity, direct sunlight, excessive humidity, extreme cold, and water can damage the operational capabilities of your system board. Avoid placing the unit on surfaces such as carpeted floors. These areas attract static electricity which can damage circuits on your system board.

Make sure the power source has a properly grounded, three-pronged socket. It is essential that the power connection be properly grounded for correct functioning of your system board. For further protection, we recommend that you use a surge suppresser. This will protect the system board from damage that may result from a power surge on the electrical line.

Move items that generate magnetic fields away from your system board since magnetic fields can also damage your system board. Once you have selected the ideal location, unpack the 5ATXB system board carefully.

### **Handling the System Board**

It is quite easy to inadvertently damage your system board even before installing it in your system unit. Static electrical discharge can damage computer components without causing any signs of physical damage. You must take extra care in handling the system board to ensure against electrostatic build-up.

## **Static Electricity Precautions**

1. To prevent electrostatic build-up, leave the board in its anti-static bag until you are ready to install it.
2. Wear an antistatic wrist strap.
3. Do all preparation work on a static-free surface with the system board components facing up.
4. Hold the system board only by its edges. Be careful not to touch any of the components, contacts or connections, especially gold contacts, on the board.
5. Avoid touching the pins or contacts on all modules and connectors. Hold modules and connectors by their ends.

## **Installing the System Board**

If you are installing the 5ATXB system board, the following outlines the basic installation steps. Before installing the system board into your system unit, you should prepare the tools you will need.

You will need:

- One medium size, flat-bladed screwdriver
- One medium Phillips screwdriver
- One needle-nosed pliers
- One nudriver

1. Unlock your system unit. Turn off the power and disconnect all power cords and cables.
2. Remove the system unit cover. Refer to the manufacturer's instructions if necessary.
3. Detach all connectors from the old system board and remove expansion cards seated in any of the expansion slots.
4. Loosen the screws holding the original system board and remove the board from the system. Save the screws.
5. Remove the 5ATXB from its original packing box. Be careful to



avoid touching all connectors and pins on the board. Please refer to the handling instructions on pages 9-10 for proper handling techniques.

6. Insert the SIMMs into the SIMM banks on the 5ATXB. The quantity and location of the SIMMs depends on the memory configuration and type of modules you intend to use.
7. Install the CPU. Be sure pin 1 of the CPU is aligned with pin 1 of the socket.
8. Set the corresponding jumpers.
9. Install the prepared 5ATXB system board into the case and replace the screws.
10. Reinstall all cards and connectors and replace the system unit cover. Reconnect all power cords and cables.

**KB1: Keyboard Connect**

PINOUT	ASSIGNMENTS
1	KEYBOARD CLOCK
2	KEYBOARD DATA
3	NC
4	GND
5	+5V

**PS/2: PS/2 MOUSE Connect**

PINOUT	ASSIGNMENTS
1	MDATA
2	NC
3	GND
4	+5V
5	MSCLK

**CN1: PS/2 MOUSE Connect (Optional)****CN2: Power Supply Connect**

PINOUT	ASSIGNMENTS
1	POWER GOOD
2	+5V
3	+12V
4	-12V
5	GND
6	GND
7	GND
8	GND
9	-5V
10	+5V
11	+5V
12	+5V

**J1:** COMA Connect

**J2:** COMB Connect

**J3:** External RTC (CMOS) Clear Setting (Optional)

**J4:** Floppy Disk Connect

**J5:** PRINTER Connect

**J6:** IDE1 Connect

**J7:** IDE2 Connect

**J9: CPUFan Power Supply Connect**

PINOUT	ASSIGNMENTS
1	+12V
2	GND

**J10: Speed LED Connect**

PINOUT	ASSIGNMENTS
1	LED SIGNAL
2	+5V

**J11: HDD LED Connect**

PINOUT	ASSIGNMENTS
1	LED SIGNAL
2	+5V

**J12: Reset Switch Connect**

PINOUT	ASSIGNMENTS
1	GND
2	RESET SIGNAL

**J13: Speaker Connect**

PINOUT	ASSIGNMENTS
1	+5V
2,3,4	SPEAKER

**J14: Power LED & Keylock Connect**

PINOUT	ASSIGNMENTS
1	LED OUTPUT
2	NC
3	GND
4	KEYLOCK
5	GND

**JP1: USB Connect**

PINOUT	ASSIGNMENTS
1	+5V
2	USBP00
3	USBP01
4	GND
5	GND
6	+5V
7	USBP10
8	USBP11
9	GND
10	GND

**JP2: RTC (CMOS) Clear Setting**

JP2	FUNCTION
OPEN	Normal (Default)
CLOSE	CMOS Clear

**JP3: FLASH ROM Setting**

JP3	FUNCTION
3-5,4-6	+5V FLASH ROM
1-3,2-4	+12V FLASH ROM

**JP4,JP7:** CPU Voltage Jumper Setting. Please refer section 2-3 or 2-4 relating

**JP5:**(Reserved)

### **JP6: DIMM Voltage Select**

JP6	FUNCTION
1-2,3-4	+5V
5-6,7-8	+3.3V

**JP8,JP9:** CPU CLK Jumper Setting. Please refer section 2-4 relating

**SIMM1-4:** 72-PIN DRAM Module Socket

**DIMM1-2:** 168-PIN SDRAM Module Socket

**U15:** TAG RAM

**U12:** CPU ZIF Socket 7

## **2.2 Install The System CPU Processor**

### **Install 586 CPU on the ZIF Socket 7**

- ☞ Locate the 321-pin ZIF Socket.
  
- ☞ Raise the ZIF Socket retaining arm to the open position. Pin Coordinates' A-1 will be the arm corner.
  
- ☞ Position the notched corner of microprocessor over the notched corner of the ZIF Socket and align the pins of CPU over the Socket.
  
- ☞ Carefully insert the aligned CPU into the ZIF Socket and press Firmly.  
After CPU inserted, press ZIF retaining arm downwards.
  
- ☞ Examine the installed CPU to ensure it is install on the correct direction and pin aligned properly.

**5ATXB JUMPER SETTING  
 INSTALL 586CPU  
 QUICK TO SETTING FOR INTEL PENTIUM  
 MMX/AMDK6 MMX/CYRIX M2 MMX CLK**

Product Name	CPU Speed	BUS CLK	JP8.JP9 CONNECT				Multiplier
<b>PENTIUM- MMX-166</b>	<b>166</b>	<b>66</b>	1	2	1	2	<b>2.5X</b>
			3	4	3	4	
			5	6	5	6	
					7	8	
<b>PENTIUM MMX-200</b>	<b>200</b>	<b>66</b>	1	2	1	2	<b>3X</b>
			3	4	3	4	
			5	6	5	6	
					7	8	
<b>PENTIUM- MMX-233</b>	<b>233</b>	<b>66</b>	1	2	1	2	<b>3.5X</b>
			3	4	3	4	
			5	6	5	6	
					7	8	
<b>PENTIUM MMX-266</b>	<b>266</b>	<b>66</b>	1	2	1	2	<b>4X</b>
			3	4	3	4	
			5	6	5	6	
					7	8	

# SET CPU VOLTAGE

AMD K6 MMX

CPU CLK

CPU TYPE		CPU POWER		JP4CONNECT		JP7 CONNCECT		
Product Name	CPU Speed	BUS CLK		JP8.JP9 CONNECT				Multiplier
AMD K6-166	166	66		1	2	1	2	2.5X
				3	4	3	4	
				5	6	5	6	
						7	8	
AMD K6-200	200	66		1	2	1	2	3X
				3	4	3	4	
				5	6	5	6	
						7	8	
AMD K6-233	233	66		1	2	1	2	3.5X
				3	4	3	4	
				5	6	5	6	
						7	8	
AMD K6-266	266	66		1	2	1	2	4X
				3	4	3	4	
				5	6	5	6	
						7	8	

Product Name	CPU Speed	BUS CLK	JP8.JP9 CONNECT				Multiplier
<b>AMD K6-300</b>	<b>300</b>	<b>66</b>	1	2	1	2	<b>4.5X</b>
			3	4	3	4	
			5	6	5	6	
					7	8	
<b>AMD K6-333</b>	<b>333</b>	<b>66</b>	1	2	1	2	<b>5X</b>
			3	4	3	4	
			5	6	5	6	
					7	8	
<b>AMD K6-350</b>	<b>350</b>	<b>66</b>	1	2	1	2	<b>5.5X</b>
			3	4	3	4	
			5	6	5	6	
					7	8	



# SET CPU VOLTAGE

CPU TYPE	CPU POWER TYPER TYPE	JP4 CONNECT	JP7 CONNCECT																
<b>AMD K6-166/200</b>	<b>DUAL 2.9V&amp;3.3V</b>	<table border="1" style="margin: auto;"> <tr><td style="background-color: #cccccc;">1</td><td style="background-color: #cccccc;">2</td></tr> <tr><td>3</td><td>4</td></tr> <tr><td>5</td><td>6</td></tr> <tr><td style="background-color: #cccccc;">7</td><td style="background-color: #cccccc;">8</td></tr> </table>	1	2	3	4	5	6	7	8	<table border="1" style="margin: auto;"> <tr><td>1</td><td>2</td></tr> <tr><td>3</td><td>4</td></tr> <tr><td style="background-color: #cccccc;">5</td><td style="background-color: #cccccc;">6</td></tr> <tr><td style="background-color: #cccccc;">7</td><td style="background-color: #cccccc;">8</td></tr> </table>	1	2	3	4	5	6	7	8
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<b>AMD K6-233</b>	<b>DUAL 3.2V &amp; 3.3V</b>	<table border="1" style="margin: auto;"> <tr><td>1</td><td>2</td></tr> <tr><td>3</td><td>4</td></tr> <tr><td style="background-color: #cccccc;">5</td><td style="background-color: #cccccc;">6</td></tr> <tr><td style="background-color: #cccccc;">7</td><td style="background-color: #cccccc;">8</td></tr> </table>	1	2	3	4	5	6	7	8	<table border="1" style="margin: auto;"> <tr><td>1</td><td>2</td></tr> <tr><td>3</td><td>4</td></tr> <tr><td style="background-color: #cccccc;">5</td><td style="background-color: #cccccc;">6</td></tr> <tr><td style="background-color: #cccccc;">7</td><td style="background-color: #cccccc;">8</td></tr> </table>	1	2	3	4	5	6	7	8
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<b>AMD K6-266</b> <b>AMD K6-300</b> <b>AMD K6-333</b> <b>AMD K6-350</b>	<b>DUAL 2.2V &amp; 3.3V</b> <b>DUAL 2.2V &amp; 3.45V</b>	<table border="1" style="margin: auto;"> <tr><td>1</td><td>2</td></tr> <tr><td style="background-color: #cccccc;">3</td><td style="background-color: #cccccc;">4</td></tr> <tr><td>5</td><td>6</td></tr> <tr><td>7</td><td>8</td></tr> </table>	1	2	3	4	5	6	7	8	<table border="1" style="margin: auto;"> <tr><td>1</td><td>2</td></tr> <tr><td>3</td><td>4</td></tr> <tr><td style="background-color: #cccccc;">5</td><td style="background-color: #cccccc;">6</td></tr> <tr><td style="background-color: #cccccc;">7</td><td style="background-color: #cccccc;">8</td></tr> </table>	1	2	3	4	5	6	7	8
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**QUICK TO SETTING FOR INTEL PENTIUM & AMD K5 CPU CLK & VOLTAGE**

Product Name	CPU Speed	BUS CLK	JP8.JP9 CONNECT				Multiplier
<b>PENTIUM-90</b> <b>AMD K5-PR90</b> <b>AMD-K5-PR120</b>	<b>90</b>	<b>60</b>	1	2	1	2	<b>1.5X</b>
			3	4	3	4	
			5	6	5	6	
					7	8	
<b>PENTIUM-100</b> <b>AMD K5-PR100</b> <b>AMD-K5-PR133</b>	<b>100</b>	<b>66</b>	1	2	1	2	<b>1.5X</b>
			3	4	3	4	
			5	6	5	6	
					7	8	
<b>PENTIUM-120</b> <b>AMD-K5-PR150</b>	<b>120</b>	<b>60</b>	1	2	1	2	<b>2X</b>
			3	4	3	4	
			5	6	5	6	
					7	8	
<b>PENTIUM-133</b>	<b>133</b>	<b>66</b>	1	2	1	2	<b>2X</b>
			3	4	3	4	
			5	6	5	6	
					7	8	

**QUICK TO SETTING FOR INTEL PENTIUM & AMD K5 CPU CLK & VOLTAGE**

Product Name	CPU Speed	BUS CLK	JP8.JP9 CONNECT				Multiplier
<b>PENTIUM-150</b>	<b>150</b>	<b>60</b>	1	2	1	2	<b>2.5X</b>
			3	4	3	4	
			5	6	5	6	
					7	8	
<b>PENTIUM-166 AMD-K5- PR166</b>	<b>166</b>	<b>66</b>	1	2	1	2	<b>2.5X</b>
			3	4	3	4	
			5	6	5	6	
					7	8	
<b>PENTIUM-180</b>	<b>180</b>	<b>60</b>	1	2	1	2	<b>3X</b>
			3	4	3	4	
			5	6	5	6	
					7	8	
<b>PENTIUM-200</b>	<b>200</b>	<b>66</b>	1	2	1	2	<b>3X</b>
			3	4	3	4	
			5	6	5	6	
					7	8	

C.CYRIX M2 MMX

**1,CPU CLK**

Product Name	CPU Speed	BUS CLK	JP8.JP9 CONNECT				Multiplier
<b>CYRIX-M2-PR166</b>	<b>150</b>	<b>60</b>	1	2	1	2	<b>2.5X</b>
			3	4	3	4	
			5	6	5	6	
					7	8	
<b>CYRIX-M2-PR200</b>	<b>166</b>	<b>66</b>	1	2	1	2	<b>2.5X</b>
			3	4	3	4	
			5	6	5	6	
					7	8	
<b>CYRIX-M2-PR233</b>	<b>200</b>	<b>66</b>	1	2	1	2	<b>3X</b>
			3	4	3	4	
			5	6	5	6	
					7	8	
<b>CYRIX-M2-PR300</b>	<b>233</b>	<b>66</b>	1	2	1	2	<b>3.5X</b>
			3	4	3	4	
			5	6	5	6	
					7	8	
<b>CYRIX-M2-PR350</b>	<b>300</b>	<b>75</b>	1	2	1	2	<b>4X</b>
			3	4	3	4	
			5	6	5	6	
					7	8	

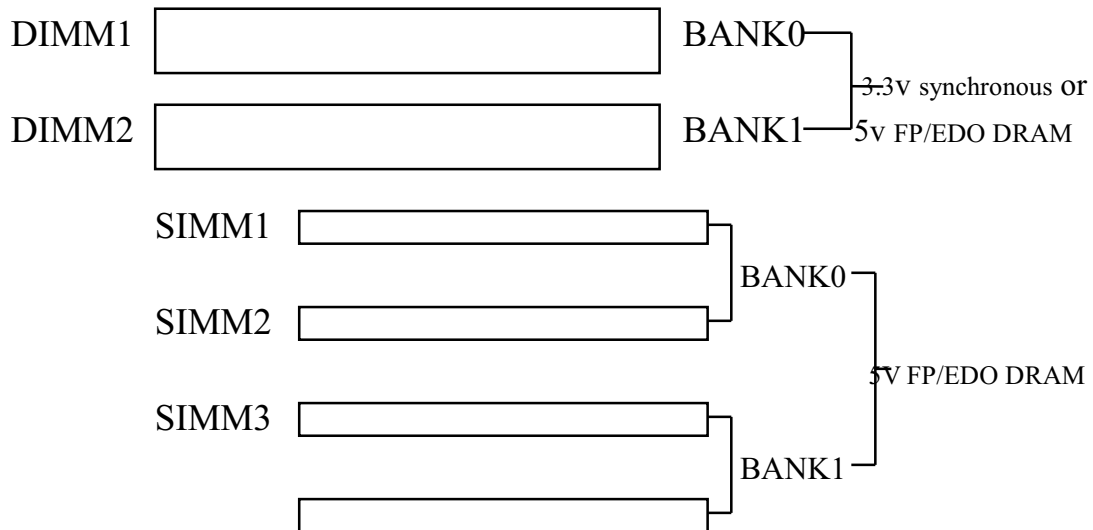
Product Name	CPU Speed	BUS CLK	JP8.JP9 CONNECT				Multiplier
<b>CYRIX-M2-PR333</b>	<b>266</b>	<b>66</b>	1	2	1	2	<b>4X</b>
			3	4	3	4	
			5	6	5	6	
					7	8	
<b>CYRIX-M2-PR233</b>	<b>188</b>	<b>75</b>	1	2	1	2	<b>2.5X</b>
			3	4	3	4	
			5	6	5	6	
					7	8	
<b>CYRIX-M2-PR300</b>	<b>225</b>	<b>75</b>	1	2	1	2	<b>3X</b>
			3	4	3	4	
			5	6	5	6	
					7	8	
<b>CYRIX-M2-PR333</b>	<b>263</b>	<b>75</b>	1	2	1	2	<b>3.5x</b>
			3	4	3	4	
			5	6	5	6	
					7	8	

CPU TYPE	CPU POWER TYPER TYPE	JP4 CONNECT	JP7 CONNCECT																
<b>CYRIX-M2-PR166-PR350</b>	<b>DUAL 2.9V&amp;3.3V</b>	<table border="1"> <tr><td>1</td><td>2</td></tr> <tr><td>3</td><td>4</td></tr> <tr><td>5</td><td>6</td></tr> <tr><td>7</td><td>8</td></tr> </table>	1	2	3	4	5	6	7	8	<table border="1"> <tr><td>1</td><td>2</td></tr> <tr><td>3</td><td>4</td></tr> <tr><td>5</td><td>6</td></tr> <tr><td>7</td><td>8</td></tr> </table>	1	2	3	4	5	6	7	8
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7	8																		
		<b>68</b>	<b>Mx2</b>																

(1)PCB Layout and Relevant Position for SDRAM

(2)The supports different type of settings for the system memory. There is no jumper nor connector needed for memory configuration.

Following figures provides all possible memory combinations.



BANK0	BANK1	BANK0	BANK1	STATUS
SIMM1,2	SIMM3,4	DIMM1	DIMM2	
INSTALLED	NONE	NONE	NONE	OK
NONE	INSTALLED	NONE	NONE	OK
NONE	NONE	INSTALLED	NONE	OK
NONE	NONE	NONE	INSTALLED	OK
INSTALLED	NONE	NONE	INSTALLED	OK
NONE	INSTALLED	INSTALLED	NONE	OK
INSTALLED	INSTALLED	NONE	NONE	OK
NONE	NONE	INSTALLED	INSTALLED	OK
INSTALLED	INSTALLED	INSTALLED	NONE	OK
INSTALLED	INSTALLED	NONE	INSTALLED	OK
INSTALLED	INSTALLED	INSTALLED	INSTALLED	OK

**NOTE:**

1. Supports both Fast Page DRAM and EDO DRAM SIMMs, but they can not be mixed in the same memory bank.
2. DIMM Module Specification:  
3.3V/

### 3. 2.8 Install System DRAM Memory

The board supports different types 72-pin SIMM whatever single side or double side. There is no jumper nor connector needed for memory configuration. It also supports both fast page DRAM or EDO DRAM SIMMs, but you can't use them at the same bank, i.e. one SIMM is fast page DRAM and the other is EDO SIMM.

SIMMs can be use parity (x 36) or none parity (x 32). The 70ns fast page SIMM or 60ns EDO DRAM needed, at least.

BANK 0, SIMM 1/2	BANK 1, SIMM 3/4	TOTAL
4MB SS+4MB SS	NONE	8MB
4MB SS+4MB SS	4MB SS + 4MB SS	16MB
4MB SS+4MB SS	8MB DS + 8MB DS	24MB
4MB SS+4MB SS	16MB SS + 16MB SS	40MB
4MB SS+4MB SS	32MB DS + 32MB DS	72MB
8MB DS+8MB DS	NONE	16MB
8MB DS+8MB DS	4MB SS + 4MB SS	24MB
8MB DS+8MB DS	8MB DS + 8MB DS	32MB
8MB DS+8MB DS	16MB SS + 16MB SS	48MB
8MB DS+8MB DS	32MB DS + 32MB DS	80MB
16MB SS+16MB SS	NONE	32MB
16MB SS+16MB SS	4MB SS + 4MB SS	40MB
16MB SS+16MB SS	8MB DS + 8MB DS	48MB
16MB SS+16MB SS	16MB SS + 16MB SS	64MB
16MB SS+16MB SS	32MB DS + 32MB DS	96MB
32MB DS+32MB DS	NONE	64MB
32MB DS+32MB DS	4MB SS + 4MB SS	72MB
32MB DS+32MB DS	8MB DS + 8MB DS	80MB
32MB DS+32MB DS	16MB SS + 16MB SS	96MB
32MB DS+32MB DS	32MB DS + 32MB DS	128MB

## Chapter 3 Introduction

### 3.1 Main Menu

Once you enter the Award BIOS CMOS Setup Utility, the Main Menu will appear on the screen. The Main Menu allows you to select from several setup functions and two exit choices. Use the arrow keys to select among the items and press <Enter> to accept and enter the sub-menu.

ROM PCI/ISA BIOS  
CMOS SETUP UTILITY  
AWARD SOFTWARE, INC.

STANDARD CMOS SETUP	INTEGRATED PERIPHERALS
BIOS FEATURES SETUP	SUPERVISOR PASSWORD
CHIPSET FEATURES SETUP	USER PASSWORD
POWER MANAGEMENT SETUP	IDE HDD AUTO DETECTION
PNP/PCI CONFIGURATION SETUP	HDD LOW LEVEL FORMAT
LOAD BIOS DEFAULTS	SAVE & EXIT SETUP
LOAD SETUP DEFAULTS	EXIT WITHOUT SAVING
Esc : Quit	↑↓→← : Select Item (Shift) F2 : Color
Time, Date, Hard Disk Type...	

Note that a brief description of each highlighted selection appears at the bottom of the screen.

#### Setup Items

The main menu includes the following main setup categories. Recall that some systems may not include all entries.

#### Standard CMOS Setup

This setup page includes all the items in a standard, AT-compatible BIOS.

#### BIOS Features

This setup page includes all the items of Award special enhanced features.



### **Super/User Password Setting**

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

### **Chipset Features Setup**

This setup page includes all the items of chipset special features.

### **Power Management Setup**

This entry only appears if your system supports Power Management, “Green PC”, standards.

### **PNP/PCI Configuration Setup**

This entry appears if your system supports PNP/PCI.

### **Load BIOS Defaults**

The BIOS defaults have been set by the manufacturer and represent settings which provide the minimum requirements for your system to operate.

### **Load Setup Defaults**

The chipset defaults are settings which provide for maximum system performance. While Award has designed the custom BIOS to maximize performance, the manufacturer has the right to change these defaults to meet their needs.

### **Integrated Peripherals**

This section page includes all the items of IDE hard drive and Programmed Input/ Output features.

### **IDE HDD Auto Detection**

Automatically detect and configure hard disk parameters. The Award BIOS includes this ability in the event you are uncertain of your hard disk's parameters.

### **HDD Low Level Format**

If supported by your system, this provides a hard disk low level format utility.

## Save & Exit Setup

Save CMOS value changes to CMOS and exit setup.

## Exit Without Save

Abandon all CMOS value changes and exit setup.

## 3.2 Standard CMOS Setup

The items in Standard CMOS Setup Menu are divided into 10 categories. Each category includes no, one or more than one setup items. Use the arrow keys to highlight the item and then use the <PgUp> or <PgDn> keys to select the value you want in each item.

ROM PCI/ISA BIOS  
STANDARD CMOS SETUP  
AWARD SOFTWARE. INC.

Date (mm:dd:yy) : Fri, Dec 6 1996										
Time (hh:mm:ss) : 15 : 40 : 00										
HARD DISKS    TYPE    SIZE    CYLS    HEAD    PRECOMP    LANDE    SECTOR    MODE										
Primary Master	:	Auto	0	0	0	0	0	0	Auto	
Primary Slave	:	Auto	0	0	0	0	0	0	Auto	
Secondary Master	:	Auto	0	0	0	0	0	0	Auto	
Secondary Slave	:	Auto	0	0	0	0	0	0	Auto	
Drive A	:	1.44M, 3.5in								
Drive B	:	None								
Base Memory : 640K										
Extended Memory : 15360 K										
Other Memory : 384K										
Total Memory : 16384K										
ESC	:	Quit	↑↓→← : Select Item				PU/PD/+/- : Modify			
F1	:	Help	(Shift) F2 : Change Color							

**Date**

The date format is <day>, <date> <month> <year>. Press<F3> to show the calendar.

day	The day, from Sun to Sat, determined by the BIOS and is display-only
date	The date, from 1 to 31 (or the maximum allowed in the month)
month	The month, Jan through Dec.
year	The year, from 1900 through 2099

**Time**

The time format is <hour><minute><second>. The time is calculated based on the 24-hour military-time clock. For example, 1 p.m. is 13:00:00

**Daylight saving**

The category adds one hour to the clock when daylight-saving time begins. It also subtracts one hour when standard time returns.

### 3.3 BIOS Features Setup

This section allows you to configure your system for basic operation. You have the opportunity to select the system's default speed, boot-up sequence, keyboard operation, shadowing and security.

ROM PCI/ISA BIOS  
BIOS FEATURES SETUP  
AWARD SOFTWARE. INC.

Virus Warning	: Disabled	Video BIOS Shadow	: Enabled
CPU Internal Cache	: Enabled	C8000-CBFFF Shadow	: Disabled
External Cache	: Enabled	CC000-CFFFF Shadow	: Disabled
Quick Power On Self Test	: Enabled	D0000-D3FFF Shadow	: Disabled
Boot Sequence	: C, A, SCSI	D4000-D7FFF Shadow	: Disabled
Swap Floppy Drive	: Disabled	D8000-DBFFF Shadow	: Disabled
Boot Up Floppy Seek	: Enable	DC000-DFFFF Shadow	: Disabled
Boot Up Numlock Status	: On		
Boot Up System Speed	: High		
Gate A20 Option	: Fast		
Memory Parity Check	: Disabled		
Typematic Rate Setting	: Disabled		
Typematic Rate (Chars/Sec)	: 6		
Typematic Delay (Msec)	: 250	ESC : Quit	↑↓→← : Select Item
Security Option	: Setup	F1 : Help	PU/PD/+/- : Modify
PCI/VGA Palett Snoop	: Disabled	F5 : Old Values	(Shift) F2 : Color
OS Select For DRAM >	: Non-OS2	F6 : Load BIOS Defaults	
64MB	: No	F7 : Load Setup Defaults	
Report No FDD FOR Win95			

#### Virus Warning

When this item is enabled, the Award BIOS will monitor the boot sector and partition table of the hard disk drive for any attempt at modification. If an attempt is made, the BIOS will halt the system and the following error message will appear. Afterwards, if necessary, you will be able to run an antivirus program to locate and remove the problem before any damage is done.

**!WARNING!**  
**Disk boot sector is to be modified**  
**Type "Y" to accept write or "N" to abort write**  
**Award Software, Inc.**

### 3.5 Setup/Integrated Peripherals Features Setup

ROM PCI/ISA BIOS  
 CHIPSET FEATURES SETUP  
 AWARD SOFTWARE. INC.

Auto Configuration	: Enabled	Passive Release	: Disabled
AT Bus Clock	: CLK2/4	ISA Line Buffer	: Enabled
DRAM Write WS	: X-2-2-2	Delay Transation	: Disabled
Page Mode Read WS	: X-3-3-3		
RAS Precharge Period	: 3T		
RAS -TO -CAS Delay Time	: 3T		
EDO Read WS	: X-2-2-2		
DRAM Speculative Read	: Disabled		
SDRAM CAS Latency	: 3		
SDRAM Access Timing	: 3-4-7		
SDRAM Speculative Read	: Enabled		
Pipelined Function	: Enabled		
DRAM Refresh Period	: 60us		
DRAM Date Integrity Mode	: Parity		
Memory Hole At 15-16M	: Disabled		
Primary Frame Buffers	: 2M	ESC : Quit	↑↓→← : Select Item
VGA Frame Buffers	: Enabled	F1 : Help	PU/PD/+/- : Modify
Data Merge	: Disabled	F5 : Old Values	(Shift) F2 : Color
Byte Merge	: Disabled	F6 : Load BIOS Defaults	
Fast Back-to-Back	: Disabled	F7 : Load Setup Defaults	

This section allows you to configure the system based on the specific features of the installed chipset. This chipset manages bus speeds and access to system memory resources, such as DRAM and the external cache. It also coordinates communications between the conventional ISA bus and the PCI bus. It must be stated that these items should never need to be altered. The default settings have been chosen because they provide the best operating conditions for your system. The only time you might consider making any changes would be if you discovered that data was being lost while using your system.

#### DRAM Settings

The first chipset settings deal with CPU access to dynamic random access memory (DRAM). The default timings have been carefully chosen and should only be altered if data is being lost. Such a scenario might well occur if your system had mixed speed DRAM chips installed so that greater delays may be required to preserve the integrity of the data held in the slower memory chips.

## **Auto Configuration**

Pre-defined values for DRAM, cache .. timing according to CPU type & system clock.

The Choice: Enabled, Disabled.

*Note: When this item is enabled, the pre-defined items will becomes SHOW-ONLY.*

## **AT Bus Clock**

This item allows you to select 7.16MHZ, CLK2/2, CLK2/3, CLK2/4, CLK2/5, CLK2/6, clocks. The default is CLK2/4.

## **Async. SRAM Read/Write WS**

This item allows you to select x-3-3-3, x-2-2-2. The default is x-3-3-3.

## **EDO Read WS**

This item allows you to select x-3-3-3, x-2-2-2. The default is x-3-3-3.

## **Page Mode Read WS**

This item allows you to select x-3-3-3, x-4-4-4. The default is x-3-3-3.

## **DRAM Write WS**

This item allows you to select x-3-3-3, x-2-2-2. The default is x-2-2-2.

## **CPU to DRAM Page Mode**

The default is Disabled.

## **DRAM Refresh Period**

This item allows you to select 15us, 30us, 60us, 120us. The default is 60us.

## **DRAM Date Integrity Mode**

This item allows you to select between two methods of DRAM error checking, ECC and Parity. The default is Parity.

## **Pipelined Function**

This item allows you to select Disabled, Enabled, Turbo. The default is Disabled.

## **16 Bit ISA I/O, Mem Command WS**

This item allows you to select Normal, 1 to 3 Wait. The default is 2 Wait.

## **Local Memory 15-16M**

This item allows you to select Disabled, Enabled. The default is Enabled.

## **Passive Release**

This item allows you to select Disabled, Enabled. The default is Enabled.

## **ISA Line Buffer**

This item allows you to select Disabled, Enabled. The default is Enabled.

## **Delay Transaction**

This item allows you to select Disabled, Enabled. The default is Enabled.

## **Primary Frame Buffer**

This item allows you to select Disabled, 1,2,4,8,16MB. The default is 2MB.

## **VGA Frame Buffer**

This item allows you to select Disabled, Enabled. The default is Enabled.

## **Linear Merge**

This item allows you to select Disabled, Enabled. The default is Enabled.

## **Word Merge**

The default is Disabled.

## **Byte Merge**

This item allows you to select Disabled, Enabled. The default is Disabled.

## Fast Back-to-Back

This item allows you to select Disabled, Enabled. The default is Disabled.

## PCI Write Burst

This item allows you to select Disabled, Enabled. The default is Disabled.

## Integrated Peripherals

ROM PCI/ISA BIOS  
INTEGRATED PERIPHERALS  
AWARD SOFTWARE. INC.

On-Chip IDE Controller	: Enabled	UR2 Mode	: Normal
On-Chip Secondary IDE	: Enabled		
IDE Primary Master PIO	: Auto		
IDE Primary Slave PIO	: Auto	Onboard Parallel Port	: 378/IRQ7
IDE Secondary Master PIO	: Auto	Parallel Port Mode	: SPP
IDE Secondary Slave PIO	: Auto		
IDE Primary Master UDMA	: Auto		
IDE Primary Slave UDMA	: Auto		
IDE Secondary Master UMDA	: Auto		
IDE Secondary Slave UMDA	: Auto		
IDE HDD Block Mode	: Enabled		
On-Chip USE Controller	: Enabled		
USB Keyboard Support	: Enabled		
Onboard FDC Controller	: Enabled		
Onboard Serial Port1	: Auto	ESC : Quit	↑↓→← : Select Item
UR1 Mode	: Normal	F1 : Help	PU/PD/+/- : Modify
		F5 : Old Values	(Shift) F2 : Color
		F6 : Load BIOS Defaults	
Onboard Serial Port2	: Auto	F7 : Load Setup Defaults	



## 3.6 Setup Power Management

The Power Management Setup allows you to configure your system to most effectively save energy while operating in a manner consistent with your own style of computer use.

ROM PCI/ISA BIOS  
POWER MANAGEMENT SETUP  
AWARD SOFTWARE. INC.

Power Management	: User Define	**External Switch**	
PM Control by APM	: Yes	Power Button	: Green mode
MODEM Use IRQ	: 3	Dock I/O SMI	: Disabled
Video Off Option	: Suspend → Off	Ac Power I/O SMI	: Disabled
Video Off Method	: DPMS Support		
** PM Monitor **			
HDD Power Down	: Disabled		
Doze Mode	: Disabled		
Standby Mode	: Disabled		
Suspend Mode	: Disabled		
** Standby Events **			
Primary HDD	: Disabled	ESC : Quit	↑↓→←: Select Item
Floppy	: Disabled	F1 : Help	PU/PD/+/- : Modify
Serial Ports	: Enabled	F5 : Old Values	(Shift) F2 : Color
Keyboard	: Enabled	F6 : Load BIOS Defaults	
Parallel Ports	: Disabled	F7 : Load Setup Defaults	

### Power Management

This category allows you to select the type (or degree) of power saving and is directly related to the following modes:

1. Doze Mode
2. Standby Mode
3. Suspend Mode
4. HDD Power Down

There are four selections for Power Management, three of which have fixed mode settings.

### 3.7 Setup PnP/PCI Configuration

This section describes configuring the PCI bus system. PCI, or Personal Computer Interconnect, is a system which allows I/O devices to operate at speeds nearing the speed the CPU itself uses when communicating with its own special components. This section covers some very technical items and it is strongly recommended that only experienced users should make any changes to the default settings.

ROM PCI/ISA BIOS  
PNP/PCI CONFIGURATION  
AWARD SOFTWARE. INC.

PNP OS Installed : Yes	PCI IDE 2nd channel : Disabled
Resources Controlled By : AUTO	PCI IRQ Activated By : Level
Resources Configuration Data : Disable	PCI IDE IRQ MAP to : ISA
ESC : Quit                                 ↑↓→← : Select Item	
F1 : Help                                   PU/PD/+/- : Modify	
F5 : Old Values                           (Shift) F2 : Color	
F6 : Load BIOS Defaults	
F7 : Load Setup Defaults	

#### Resource Controlled by

The Award Plug and Play BIOS has the capacity to automatically configure

all of the boot and Plug and Play compatible devices. However, this capability means absolutely nothing unless you are using a Plug and Play Operating system such as Windows<sup>®</sup> 95.

*Choices are Auto and Manual (default).*

#### Reset Configuration Data

This item allows you to determine reset the configuration data or not.

*Choices are Enabled and Disabled (default).*