IMB200

Intel® PentiumD/Pentium4/Celeron D Industrial ATX Motherboard

User's Manual

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ESD Precautions

Integrated circuits on computer boards are sensitive to static electricity. To avoid damaging chips from electrostatic discharge, observe the following precautions:

- Do not remove boards or integrated circuits from their anti-static packaging until you are ready to install them.

- Before handling a board or integrated circuit, touch an unpainted portion of the system unit chassis for a few seconds. This helps to discharge any static electricity on your body.

- Wear a wrist-grounding strap, available from most electronic component stores, when handling boards and components.

T a b l e   o f   C o n t e n t s

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Chapter 1 Introduction

1.1 General Description

The **IMB200 supports LGA775-pin Intel® Pentium® D (Intel Dual-Core) processor up to 3.6GHz with a 533/800MHz front side bus (FSB), and features an Intel® 865G + ICH*5 chipset. With Intel dual-core processing technology, the IMB200 provides the excellent performance to handle multitasking and to run multiple applications simultaneously. The IMB200 is specially suited for the solutions which need more effective computing and reliability, such as Digital Video Recorder/Gamine Machine/Point of Service System/Video Server/Intelligent Transmit System and so on.**

1.2   Specifications

- ➢ **Processor**: Intel® Pentium D/Pentium4/Celeron

- ➢ **North Bridge:** Intel® 82865G

- ➢ **South Bridge:** Intel® 82801EB(ICH5)

- ➢ **CPU Socket:** LGA775

- ➢ **FSB**: 533/800 Mhz

- ➢ **L2 Cache:** Integrated in CPU(Depend on CPU)

- ➢ **BIOS:** Phoenix Award BIOS Rev.6.00

- ➢ **System Memory:** Support Dual Channel DDR 266/333/400 memory and the maximum capacity up to **4GB.**

CPU FSB	DDR Type	DDR Frequency
800MHz	PC3200/PC2700/PC2100	400/333*/266MHz
533MHz	PC2700/PC2100	333/266MHz

*Because limited of chipset, when using FSB800Mhz CPU, PC2700 DDR (333 MHz) only supports 320 MHz.

- ➢ **IDE Interface:** Two IDE connector and up to four devices, Ultra DMA 100 supported

- ➢ **FDD Interface:** Supports up to 2 drives

- ➢ **Serial Ports:** RS232/422/485 Portx1,RS232 Portx3

- ➢ **Parallel Ports:** One parallel port with ECP/EPP/SPP supported

- ➢ **VGA Controller:**

- ➢ Chipset Integrated VGA Controller and Supports up to 2048x1536 at 75 Hz resolution on non-interlaced CRT monitors

- ➢ **Ethernet:** Intel82547GI/Intel82562ET

- ➢ **SATA:** Two Channel and support the maximum data transfer rate could up to 150MB/s

➢ **CF Socket:** Support CF Type II Socket

➢ **USB Interface:** 4 USB ports; USB Spec. Rev. 2.0 compliant.

➢ **Hardware Monitoring:** Winbond W83627HG-AW detection of CPU temperature, System temperature, Power failure and Fan speed.

➢ **Watchdog Timer:**
   Software programmable time interval and hardware reset Only (1~255 seconds)

➢ **Dimensions:**304.8mmx243.8mm(4 Layer)-ATX Former

➢ **Environmental:**

Operating temperature	0 degrees to 60 degrees**(Depends on CPU)**
CPU Relative Humidity	95%

NOTE: Specifications are subject to change without notice.

1.3   Utilities Supported

- Intel® 865G Utility and Drivers
- Ethernet Utility and Drivers
- VGA Drivers
- Audio Driver

1.4   Ordering information

Model number	Description
IMB200VGE	Intel547GI/Intel82562ET LAN
IMB200VG	Intel547GI

1.4 Board Dimensions
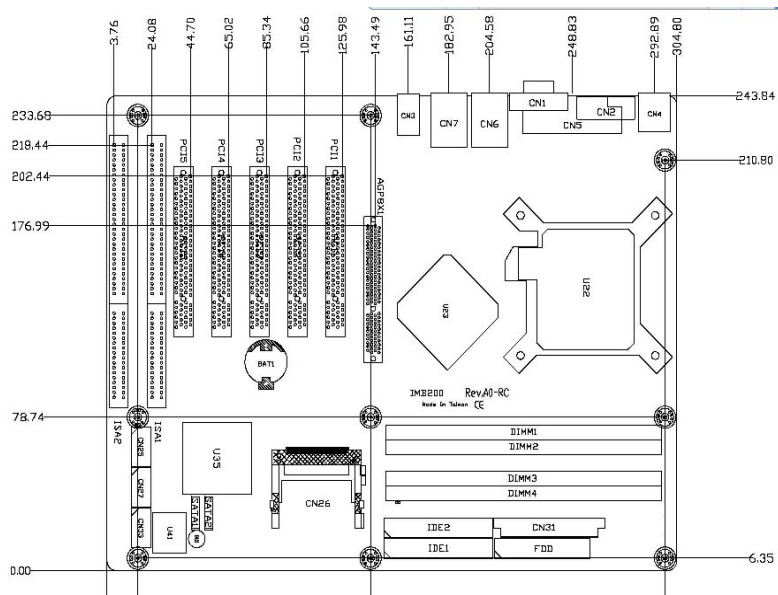
Chapter 2 Jumpers and Connectors

2.1 Board Layout
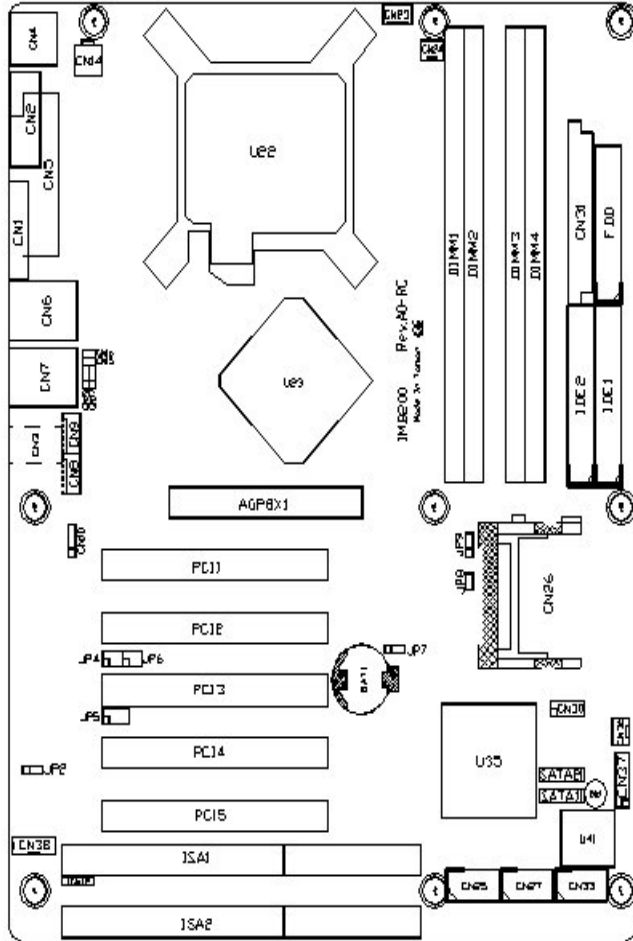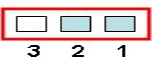
2.2   Jumper Settings

Followed as below detailed description for Jumper setting and installed the IMB200 for your application

Jumper	Default Setting	Jumper Setting
JP2	Watchdog Trigger Mode : Disable	**OPEN** Short 1-2 for NMI Short 2-3 for Reset
JP4		**Short 3-5,4-6(Default)** Short 1-3 , 2-4 for RS422/485
JP5	Com 1 RS232/422/485 Setting	**Short 1-2 ,7-8(Default)** Short 3-4 , 7-8 for RS422 Short 5-6 , 7-8 for RS485
JP6		**Short 3-5,4-6(Default)** Short 1-3 , 2-4 for RS422/485
JP7	CMOS Clear Jumper : Normal Mode	**Short 1-2 for Normal** Short 2-3 for Clear
JP8	Compact Flash Master/Slave : Master	**Short for Master** Open for Slave
JP9	Compact Flash Power Select : 3.3V	**Short 1-2 for 3.3V** Short 2-3 for 5V
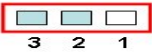
2.2.1 Watchdog Trigger Mode: JP2

	Options	Settings
3 2 1	NMI	1-2
3 2 1	RESET	2-3
	Disabled	Open (Default)

2.2.2 COM1 RS232/422/485 Settings: JP4, JP5, JP6

COM1	JP4	JP5	JP6
RS-232 (Default)	Short 3-5,4-6	Short 1-2,7-8	Short 3-5,4-6
RS-422	Short 1-3,2-4	Short 3-4,7-8	Short 1-3,2-4
RS-485	Short 1-3,2-4	Short 5-6,7-8	Short 1-3,2-4

2.2.3 Clear CMOS Setting: JP7

	Options	Settings
3 2 1	Normal	1-2(Default)
3 2 1	Clear CMOS	2-3

2.2.4 CF Master/Slave Setting: JP8

	Options	Settings
	Master	Short(Default)
	Slave	Open

2.2.5 CF Power Setting: JP9

	Options	Settings
3 2 1	3.3V	**1-2(Default)**
3 2 1	5V	2-3

2.3   Connectors

The following table lists the function of each connector on the IMB200.

Connectors	Label	Connectors	Label
General Output Connector	CN37	Primary IDE Connector	IDE1
Printer Port Connector	CN5	Secondary IDE Connector	IDE2
COM1	CN2	Compact Flash Connector	CN26
COM2	CN33	S-ATA Port 1 Connector	SATA 1
COM3	CN25	S-ATA Port 2 Connector	SATA 2
COM4	CN27	FDD Connector	FDD
USB Port 1, 2 Connector	CN6	IrDA Connector	CN12
USB Port 3, 4 Connector	CN7	CPU FAN Connector	CN23
USB Port 5, 6 Connector	CN30	SYSTEM FAN1 Connector	CN36
System BIOS	U41	SYSTEM FAN2 Connector	CN24
CRT Connector	CN1	Internal Buzzer	BU1
Keyboard/Mouse Connector	CN4	Internal Battery	BAT1
Gigabit Ethernet Connector	CN6	Audio Jack	CN3
Fast Ethernet Connector	CN7	AUX Input Connector	CN8
Gigabit Ethernet External Speed LED	CN13	CD Input Connector	CN9
Fast Ethernet External Speed LED	CN17	Speaker Output Connector	CN10
Gigabit Ethernet External Link/ACT LED	CN16	184-Pin DDR Memory Channel-A	DIMM 1/2
Fast Ethernet External Link/ACT LED	CN15	184-Pin DDR Memory Channel-B	DIMM 3/4
ATX12V CPU Power Connector	CN14	ISA Slot	ISA1/2

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Connectors	Label	Connectors	Label
ATX Power Connector	CN31	PCI Slot	PCI1~5
LGA775 CPU Socket	U22	AGP Slot	AGP8X1
DIO Connector	CN38		

Chapter 3 Installation

Before installing the processor, Please pay more attention on Intel website and obtained more information

http://www.intel.com.

3.1 CPU Installation

The LGA775 processor socket comes with a lever to protect the processor. Please pay more attention as below. Follow the pictures and place the processor into CPU socket.

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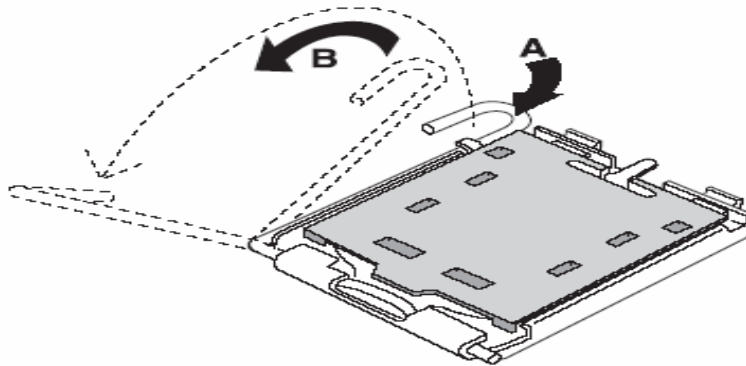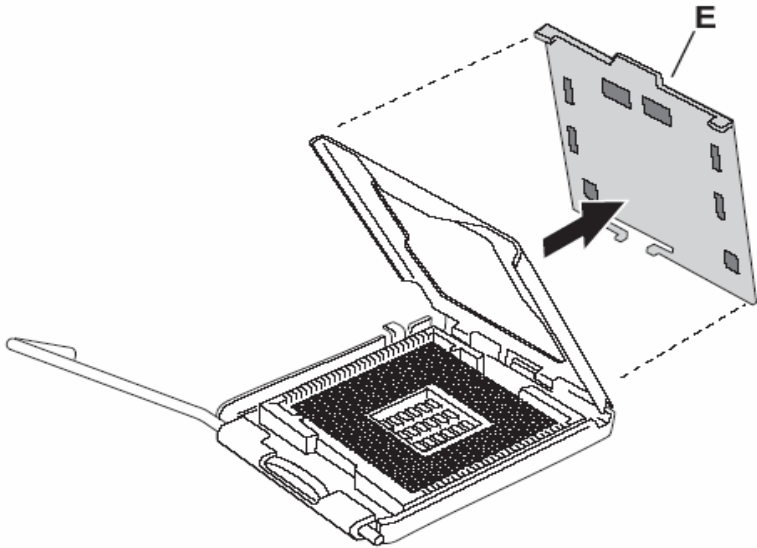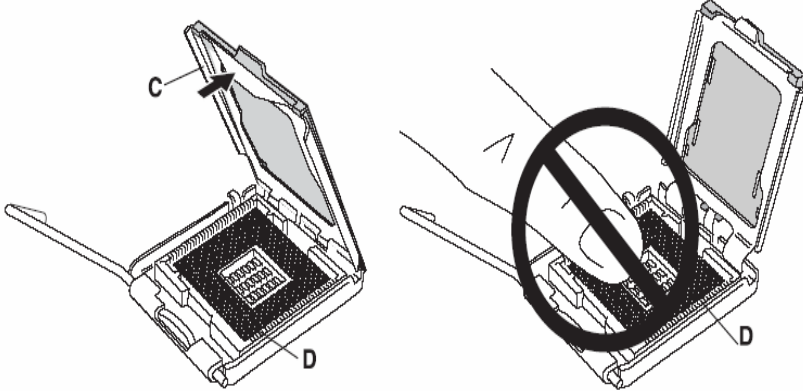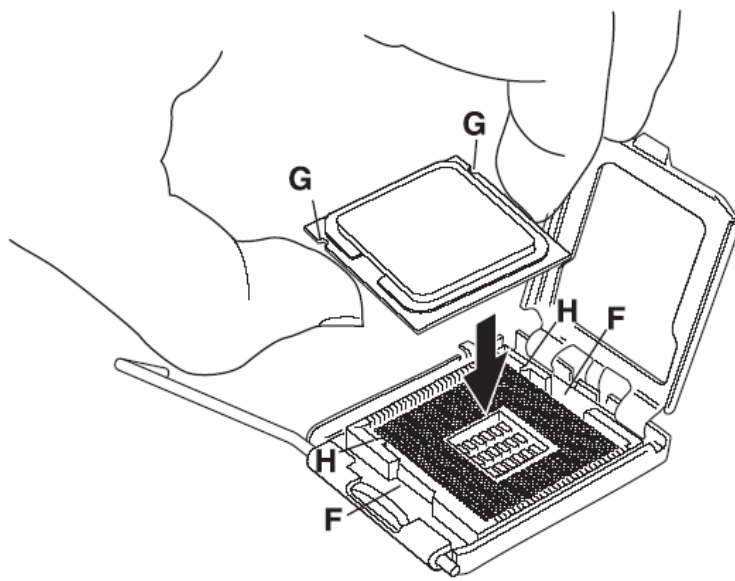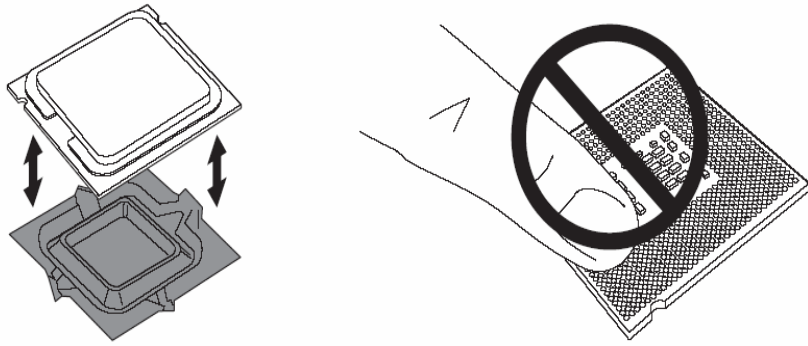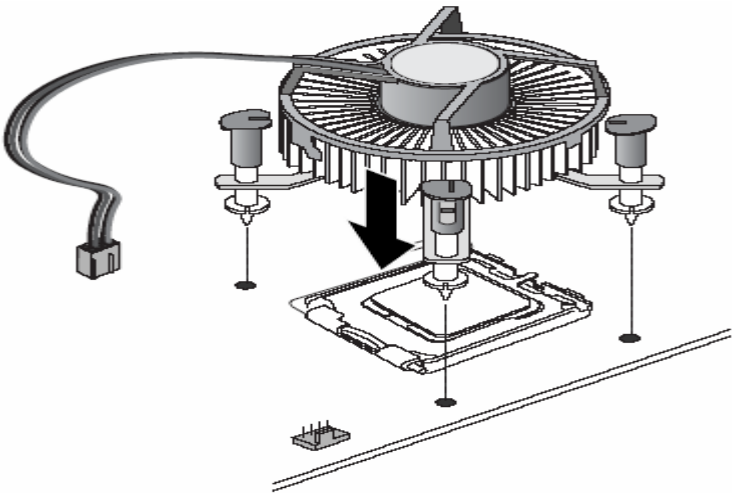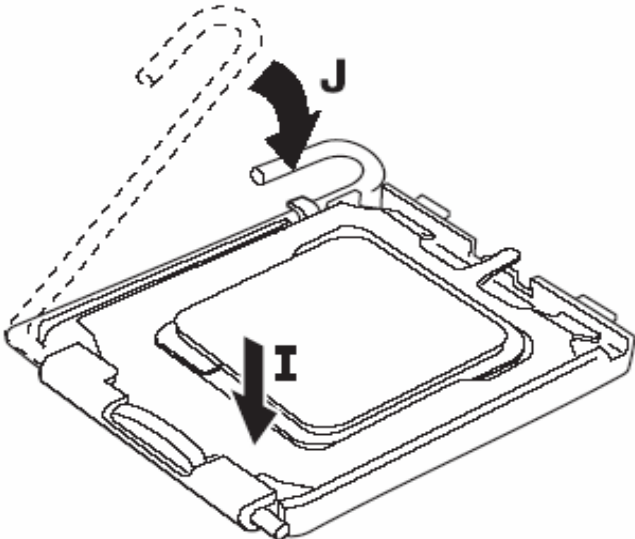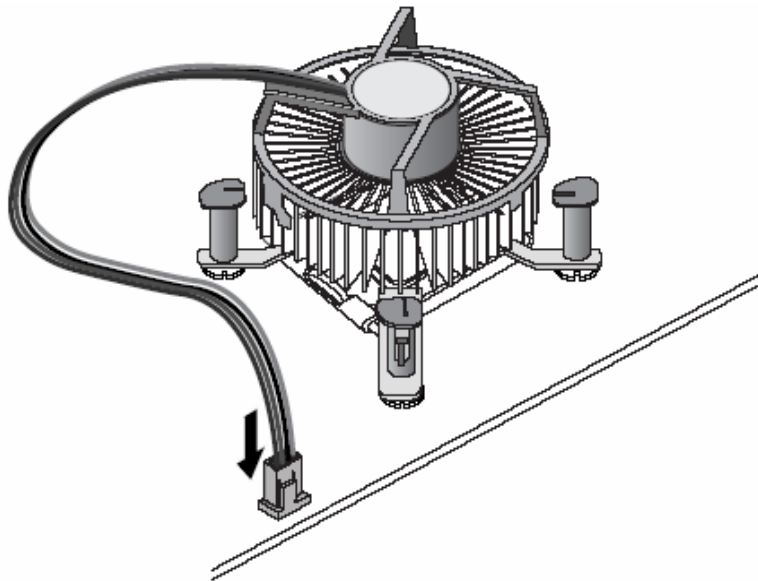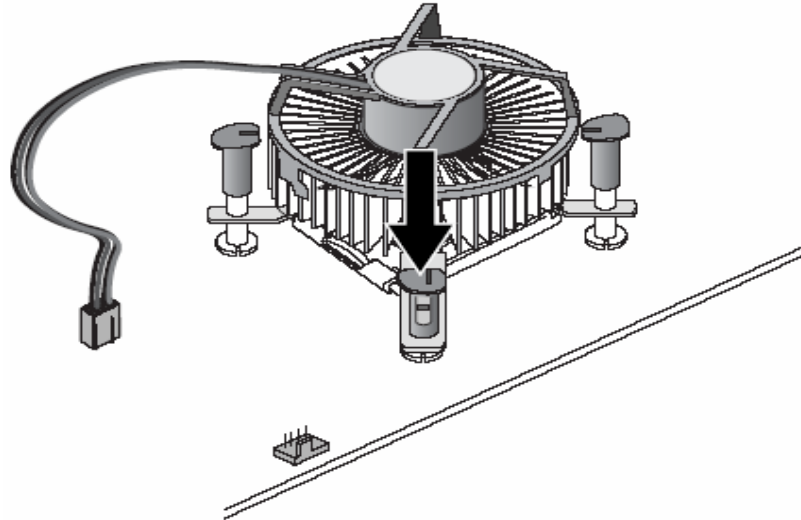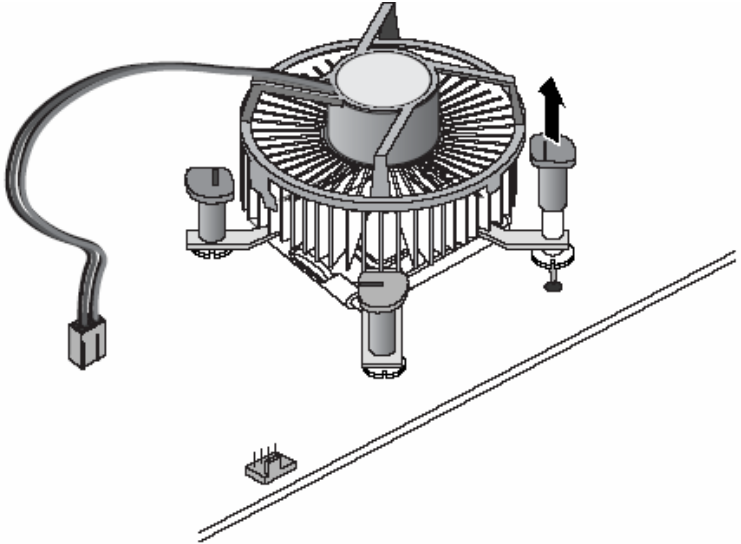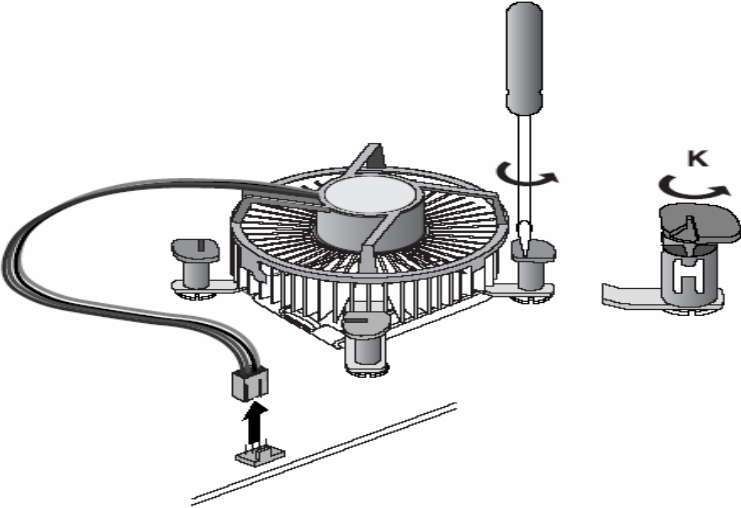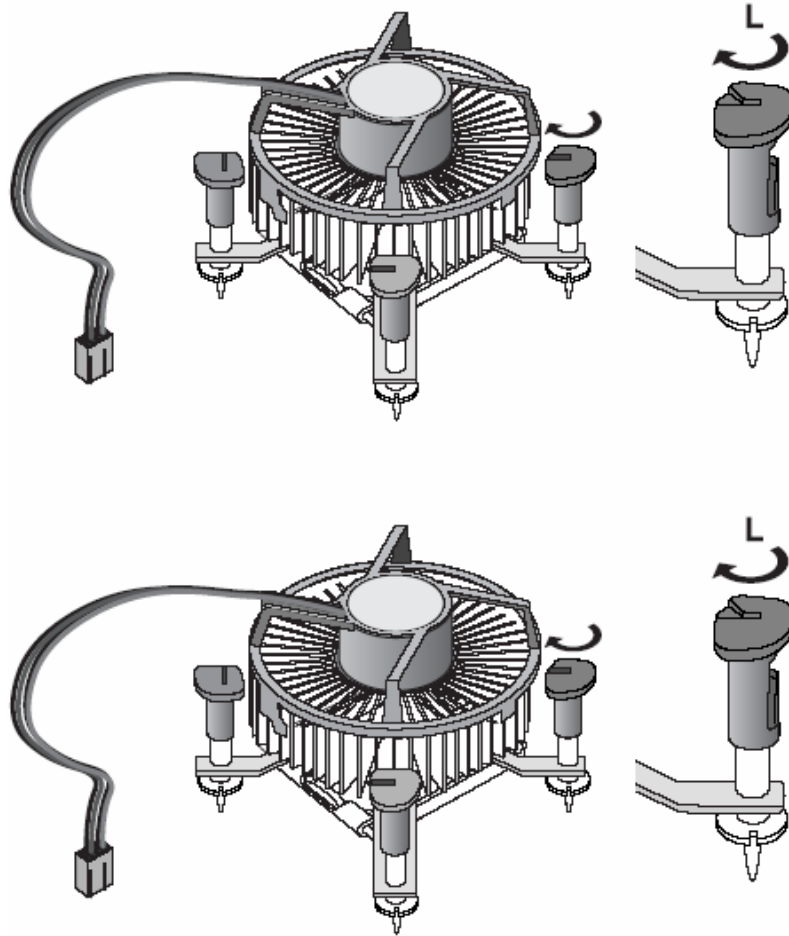
3.2   Installing ATX Power Supply

System power was provided for the IMB200 Industrial motherboard by **CN31**

ATX1: ATX Power Supply Connector
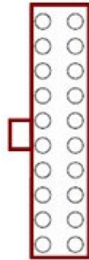
Signal Name	Pin #	Pin #	Signal Name
3.3V	13	1	3.3V
-12V	14	2	3.3V
Ground	15	3	Ground
PS-ON	16	4	+5V
Ground	17	5	Ground
Ground	18	6	+5V
Ground	19	7	Ground
-5V	20	8	Power good
+5V	21	9	5VSB
+5V	22	10	+12V

3.3 Installing the Memory

The **IMB200** support Dual Channel DDR 266/333/400 memory and support the maximum memory capacity could up to 4GB.

If you want to know what is difference between DDR and DDR2.See below picture

DDR-Slot: 184 Pins, 2.5 V

DDR2 Slot: 240 Pins, 1.8 V

PS: IMB200 only support Un-Buffered DIMM and could not support ECC/Registered DIMM

Lock → DDR Module ← Lock

↓ ↓

↑ Lock ↑ Lock
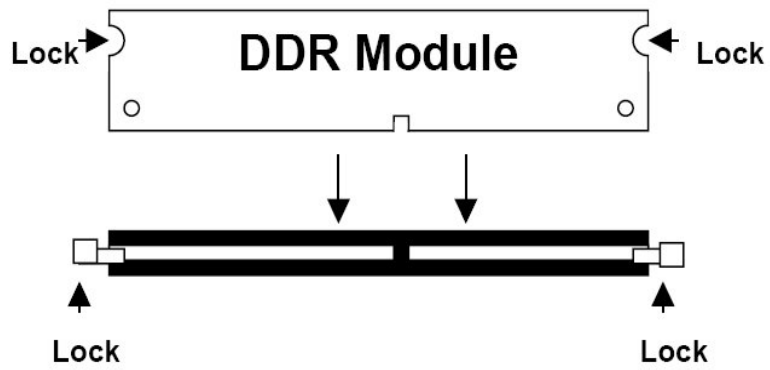
Chapter 4 Hardware Description

4.1 General Output Connector: CN37
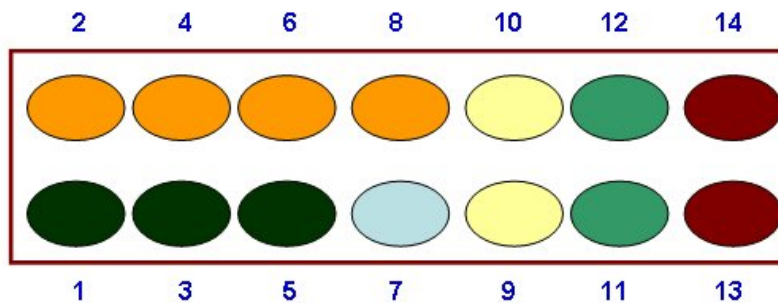
■ **Power LED**

Pins 1, 3, 5, 7 connect the system power LED indicator to its respective switch on the case. Pin 1 is +, and pin 5 is assigned as -.Pin 7 is defined as NC

■ **External Speaker and Internal Buzzer Connector**

Pins 2, 4, 6, 8 connect to the case-mounted speaker unit or internal buzzer.

■ **Hardware Reset**

Pins 11 & 12 were designed for Hardware Reset.

■ **HDD Activity LED**

This connector extends to the hard drive activity LED on the control panel. This LED will flash when the HDD is being accessed. **Pins 13 & 14** connect the hard disk drive and the front panel HDD LED.

■ **Power Button**

This 2-pin connector was designed at Pin9/10

4.2 Enhance IDE1/IDE2 connecotor-IDE1 and IDE2

The **IMB200** provided two IDE Port and support the maximum IDE devices could up to four **IDE devices.**
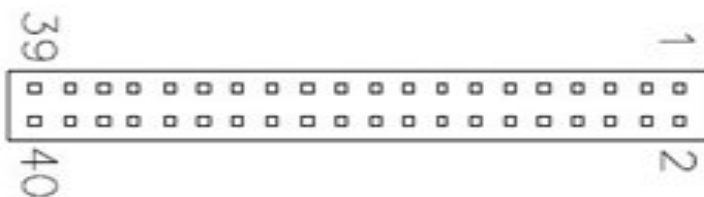
Pin	Description	Pin	Description	Pin	Description
1	Reset #	2	GND	3	Data 7
4	Data 8	5	Data 6	6	Data 9
7	Data 5	8	Data 10	9	Data 4
10	Data 11	11	Data 3	12	Data 12
13	Data 2	14	Data 13	15	Data 1
16	Data 14	17	Data 0	18	Data 16
19	GND	20	N/C	21	N/C
22	GND	23	IOW #	24	GND
25	IOR #	26	GND	27	IOCHRDY
28	N/C	29	N/C	30	GND-Default
31	Interrupt	32	N/C	33	SA1
34	N/C	35	SA0	36	SA2
37	HDC CS0 #	38	HDC CSI #	39	HDD Active #
40	GND				

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4.3 Display interface-CN1

The GMCH provides interfaces to a progressive scan analog monitor and DVO can drive a variety of DVOdevices• The GMCH has an integrated 350 MHz RAMDAC that can directly drive a progressive scan analog monitor up to a resolution of 2048x1536 at 75 Hz.
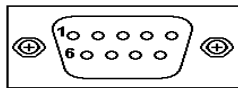
Pin	Signal	Pin	Signal	Pin	Signal
1	Red	2	Green	3	Blue
4	N/A	5	GND	6	AGND
7	AGND	8	AGND	9	+5V
10	GND	11	N/A	12	DDC DAT
13	Horizontal Sync	14	Vertical Sync	15	DDC CLK

4.4 Floppy Disk Connector-FDD

The **IMB200** provides a 34-pin header type connector supporting up to two floppy drives. The floppy drives may be any one of the following types: 5.25" 360KB/1.2MB and 3.5" 720KB/1.44MB/2.88MB.
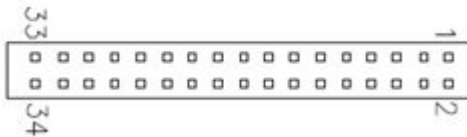
Pin	Description	Pin	Description	Pin	Description
1	GND	2	Reduce write	3	GND

			Current		
4	N/C	5	GND	6	N/C
7	GND	8	Index #	9	GND
10	Motor enable A #	11	GND	12	Drive Select B #
13	GND	14	Drive select A #	15	GND
16	Motor enable B #	17	GND	18	Direction #
19	GND	20	STEP #	21	GND
22	Write data #	23	GND	24	Write gate #
25	GND	26	Track #	27	GND
28	Write protect #	29	GND	30	Read data #
31	GND	32	Side 1 select #	33	GND
34	Disk change #				

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4.5 Parallel Port Connector
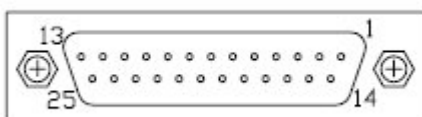
- **Standard mode:**   IBM PC/XT, PC/AT and PS/2^{TM} compatible with bi-directional parallel port

- **Enhanced mode:**   Enhance parallel port (EPP) compatible with EPP 1.7 and EPP 1.9 (IEEE 1284 compliant)

- **High speed mode:**   Microsoft and Hewlett Packard extended capabilities port (ECP) IEEE 1284 compliant

The address select of the onboard parallel port in LPT1 (3BCH) or disabled is done by BIOS CMOS setup.

Pin	Description	Pin	Description

1	Strobe #	14	Auto Form Feed #
2	Data 0	15	Error #
3	Data 1	16	Initialize #
4	Data 2	17	Printer Select In #
5	Data 3	18	GND
6	Data 4	19	GND
7	Data 5	20	GND
8	Data 6	21	GND
9	Data 7	22	GND
10	Acknowledge #	23	GND
11	Busy	24	GND
12	Paper Empty #	25	GND
13	Printer Select	26	

4.6 COM1 Port Connector-CN2

COM1
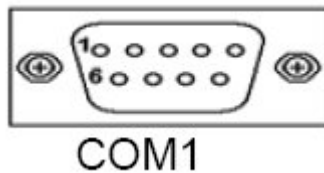
CN2 is DB-9 Connector and belong to Jumper selectable for RS232/422/485

Signal Name	Pin #	Pin #	Signal Name
DCD, Data carrier detect	1	6	DSR, Data set ready
RXD, Receive data	2	7	RTS, Request to send
TXD, Transmit data	3	8	CTS, Clear to send
DTR, Data terminal ready	4	9	RI, Ring indicator
GND, ground	5	10	Not Used

4.7 COM2/3/4 Port Connector- CN25/CN27/CN33 support RS232
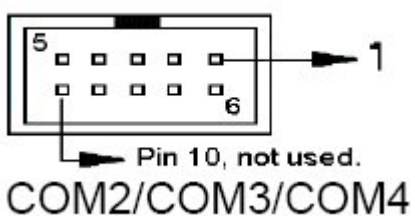
Pin 10, not used.
COM2/COM3/COM4

Signal Name	Pin #	Pin #	Signal Name
DCD, Data carrier detect	1	6	DSR, Data set ready
RXD, Receive data	2	7	RTS, Request to send
TXD, Transmit data	3	8	CTS, Clear to send
DTR, Data terminal ready	4	9	RI, Ring indicator
GND, ground	5		

4.8 USB and Gigabit LAN RJ-45 Connector- CN6

Pin #	Signal Name
1	Vcc
2	USB-
3	USB+
4	Ground
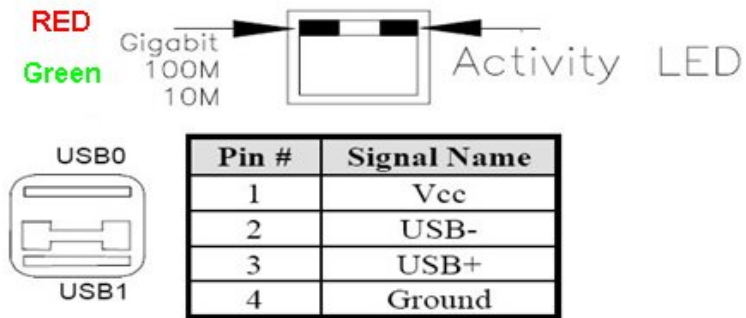
4.9 USB and 10/100Mb LAN RJ-45 Connector-CN7

Pin #	Signal Name
1	Vcc
2	USB-
3	USB+
4	Ground
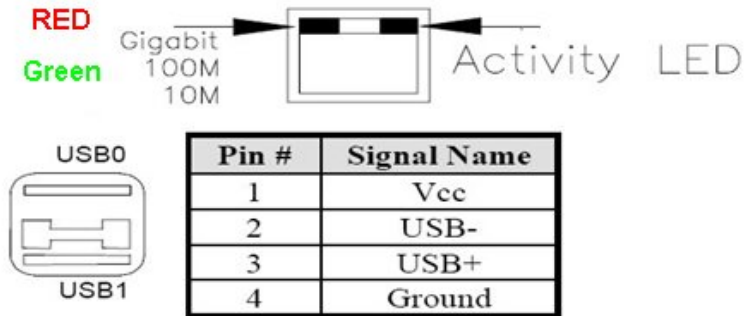
4.10 USB Connector by pin header-CN30

USB	USB	USB	USB
GND	P0+	P0-	Power

```
        □    □    □    ■ 1
10 □    □    □    □    □ 2
```

AGND	USB	USB	USB	USB
	GND	P1+	P1+	Power
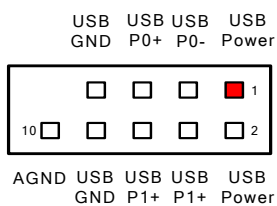
4.11 Audio Jack (Line-in/Line-Out/MIC)-CN3

```
◎  Line  in
◎  Line  out
◎  Microphone
```

4.12 ATX12V CPU Power Connector: CN14

This connector connected to an ATX12V power supply and used for CPU Core Voltage.

```
1 □ □ 2
3 □ □ 4
```
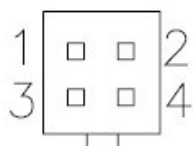
Pin #	Signal Name
1	Ground
2	Ground
3	+12V
4	+12V

Important Note: Make sure your ATX12V power supply can provide 16A on the +12V lead and at least 1A on the +5V standby lead (+5VSB). The

minimum recommended wattage is 250W or 300W for a fully configured system. The system may become unstable and may experience difficulty powering up if the power supply is inadequate.

4.13 Serial ATA Connectors-CN28/CN29

Pin #	Signal Name
1	GND
2	TXP
3	TXN
4	GND
5	RXN
6	RXP
7	GND

4.14 PS/2 Keyboard/Mouse connector-CN4
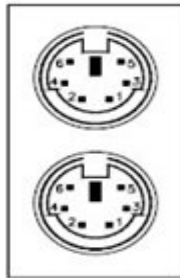
PS/2 Mouse

PS/2 Keyboard

4.15 Digital I/O Connector-CN38
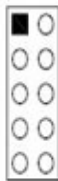
Signal Name	Pin	Pin	Signal Name
Out1	1	2	IN1
Out2	3	4	IN2
Out3	5	6	IN3
Out4	7	8	IN4
GND	9	10	GND

4.16 CD/In Connector-CN9

Pin #	Signal Name
1	CD Audio L
2	Ground
3	Ground
4	CD Audio R

4.17 CPU/System FAN Connector-CN23/CN24

CN23
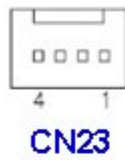
Pin #	Signal Name
1	Ground
2	+12V
3	Rotation detection
4	NC

CN24
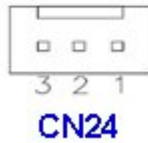
Pin #	Signal Name
1	Ground
2	+12V
3	Rotation detection

Chapter 5 Installing VGA driver

5.1   Introduction

The GMCH provides interfaces to a progressive scan analog monitor.

■ The GMCH has an integrated 350 MHz RAMDAC that can directly drive a progressive scan analog monitor up to a resolution of 2048x1536 at 75 Hz.

5.2   Driver Disks' Contents

The driver diskettes that come with the **IMB200** **Series** package contain the following installation programs:

■ Win2000 driver
■ WinXP driver

5.3   Windows 2000 VGA Driver Installation

To install or upgrade the DirectX driver

Microsoft DirectX 8.0a must be installed prior to installing the video driver support on the **IMB200** **Series**.

If you've installed a retail version of Windows 2000 you'll need to install Microsoft DirectX 8.0a. This file can be downloading from

http://www.microsoft.com/windows/directx/default.asp

To install video support

If you have installed retail Windows you need to install the video driver. The driver is contained in the \IMB200\Drivers\VGA subdirectory on the drivers CD.

To install or upgrade the Intel 865G video driver:

1. Run SETUP.EXE from the driver directory on your drivers CD

2. Follow the onscreen directions to complete installation.

3. There may be messages about the driver not having a digital signature, select Yes to all these message boxes.

4. Upon successful completion you will be asked to reboot your computer, choose "Yes, I want to restart my computer now" if you have no other drivers to install. Otherwise, choose "No, I will restart my computer later" and continue to next step.

5.4   Windows XP VGA Driver Installation

To install video support

If you have installed retail Windows you need to install the video driver. The driver is contained in the \IMB200\Drivers\VGA subdirectory on the drivers CD.

To install or upgrade the video driver:

1.   Run SETUP.EXE from the video driver directory.

2.   Follow the onscreen directions to complete the installation.

3.   At the end you will be asked to reboot the PC. Choose YES and press FINISH to exit the video driver installation.

Chapter 6 Installing LAN Driver

6.1   Introduction

The **IMB200** was built-in high performance Plug and Play Ethernet interface which is fully compliant with the IEEE 802.3 standard, and consisting of the RJ-45 connector

6.2   Features

- 10/100/1000BASE-T Triple-speed MAC
- PCI host interface
- Standards compliant WOL

6.3   Drivers Supported

The onboard LAN Chip for **IMB200** Ethernet interface allows great flexibility to work with all major networking operating systems including Windows 2000, XP, Linux 2.2, 2.4, Netware, Solaris x86 and UNIX.

> *NOTE: Before installing LAN driver, please followed the detailed installation procedure from the Product Information CD-ROM and be sure to make installation and backup copies of the driver files.*

Chapter 7 Award BIOS Utility

Please pay more time and check all of detailed information for BIOS settings when you want to used the **IMB200**

7.1   BIOS Introduction

The Award BIOS (Basic Input/Output System) installed in your computer system's ROM supports Intel Celeron processors in a standard IBM-AT compatible I/O system. The BIOS provides critical low-level support for standard devices such as disk drives, serial and parallel ports. It also adds virus and password protection as well as special support for detailed fine-tuning of the chipset controlling the entire system.

7.2   BIOS Setup

The Award BIOS provides a Setup utility program for specifying the system configurations and settings. The BIOS ROM of the system stores the Setup utility. When you turn ON the computer, the Award BIOS is immediately activated. Pressing the <Del> key immediately allows you to enter the Setup utility. If you are a little bit late pressing the <Del> key, POST (Power on Self Test) will continue with its test routines, thus preventing you from invoking the Setup. If you still wish to enter Setup, restart the system by pressing the "Reset" button or simultaneously pressing the <Ctrl>, <Alt> and <Delete> keys. You can also restart by turning the system OFF and back ON again. The following message will appear on the screen:

Press <DEL> to Enter Setup

In general, you press the arrow keys to highlight items, <Enter> to select, the <PgUp> and <PgDn> keys to change entries, <F1> for help and <Esc> to quit.

When you enter the Setup utility, the Main Menu screen will appear on the screen. The Main Menu allows you to select

from various setup functions and exit choices.

```
                Phoenix - AwardBIOS CMOS Setup Utility
   ┌────────────────────────────────┬──────────────────────────────────┐
   │ ► Standard CMOS Features        │  ► Frequency/Voltage Control      │
   │                                 │                                   │
   │ ► Advanced BIOS Features        │     Load Fail-Safe Defaults       │
   │                                 │                                   │
   │ ► Advanced Chipset Features      │     Load Optimized Defaults        │
   │                                 │                                   │
   │ ► Integrated Peripherals        │     Set Supervisor Password        │
   │                                 │                                   │
   │ ► Power Management Setup         │     Set User Password              │
   │                                 │                                   │
   │ ► PnP/PCI Configurations         │     Save & Exit Setup             │
   │                                 │                                   │
   │ ► PC Health Status               │     Exit Without Saving           │
   ├────────────────────────────────┴──────────────────────────────────┤
   │ Esc : Quit      F9 : Menu in BIOS     ↑ ↓ → ←   : Select Item       │
   │ F10 : Save & Exit Setup                                             │
   ├─────────────────────────────────────────────────────────────────────┤
   │                  Time, Date, Hard Disk Type...                      │
   └─────────────────────────────────────────────────────────────────────┘
```

The section below the setup items of the Main Menu displays the control keys for this menu. Another section located at the bottom of the Main Menu, just below the control keys section, displays information on the currently highlighted item in the list.

> **NOTE: If you find that your computer cannot boot after making and saving system changes with Setup, the Award BIOS, via its built-in override feature, resets your system to the CMOS default settings.**

We strongly recommend that you avoid making any changes to the chipset defaults. These defaults have been carefully chosen by both Award and your system manufacturer to provide the absolute maximum performance and reliability.

7.3   Standard CMOS Setup

"Standard CMOS Setup" allows you to record some basic hardware configurations in your computer system and set the system clock and error handling. If the motherboard is already installed in a working system, you will not need to select this option. You will need to run the Standard CMOS option, however, if you change your system hardware configurations, the onboard battery fails, or the configuration stored in the CMOS memory was lost or damaged.

```
          Phoenix - AwardBIOS CMOS Setup Utility

  ► Standard CMOS Features        ► Frequency/Voltage Control
  ► Advanced BIOS Features          Load Fail-Safe Defaults
  ► Advanced Chipset Features       Load Optimized Defaults
  ► Integrated Peripherals          Set Supervisor Password
  ► Power Management Setup          Set User Password
  ► PnP/PCI Configurations          Save & Exit Setup
  ► PC Health Status               Exit Without Saving

  Esc : Quit      F9 : Menu in BIOS    ↑ ↓ → ←  : Select Item
  F10 : Save & Exit Setup

                Time, Date, Hard Disk Type...
```

At the bottom of the menu are the control keys for use on this menu. If you need any help in each item field, you can press the <F1> key. It will display the relevant information to help you. The memory display at the lower right-hand side of the menu is read-only. It will adjust automatically according to the memory changed. The following pages describe each item of this menu.

● **Date**

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

day	The day of week, from Sun to Sat, determined by the BIOS, is read only
date	The date, from 1 to 31 (or the maximum allowed in the month), can key in the numerical / function key
month	The month, Jan through Dec.
year	The year, depends on the year of BIOS

● **Time**

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

● **IDE Channel 0 Master/IDE Channel 0 Slave/IDE Channel 1 Master/IDE Channel 1 Slave**

The categories identify the types of one channel that have been installed in the computer. There are 45 predefined types and 2 users definable types are for Enhanced IDE BIOS. Type 1 to Type 45 is predefined. Type User is user-definable.

Press <PgUp>/<+> or <PgDn>/<−> to select a numbered hard disk type or type the number and press <Enter>. Note that the specifications of your drive must match with the drive table. The hard disk will not work properly if you enter improper information within this category. If your hard disk drive type does not match or is not listed, you can use Type User to define your own drive type manually.

If you select Type User, related information is asked to be entered to the following items. Enter the information directly from the keyboard and press <Enter>. This information should be provided in the documentation from your hard disk vendor or the system manufacturer.

If the controller of HDD interface is ESDI, select "Type 1".

If the controller of HDD interface is SCSI, select "None".

If the controller of HDD interface is CD-ROM, select "None".

CYLS.	number of cylinders	LANDZONE	landing zone
HEADS	number of heads	SECTORS	number of sectors
PRECOMP	write precom	MODE	HDD access mode

If there is no hard disk drive installed, select NONE and press <Enter>.

● **Drive A type/Drive B type**
The category identifies the types of floppy disk drive A or drive B installed in the computer.

None	No floppy drive installed
360K, 5.25 in	5.25 inch PC-type standard drive; 360Kb capacity
1.2M, 5.25 in	5.25 inch AT-type high-density drive; 1.2MB capacity
720K, 3.5 in	3.5 inch double-sided drive; 720Kb capacity
1.44M, 3.5 in	3.5 inch double-sided drive; 1.44MB capacity
2.88M, 3.5 in	3.5 inch double-sided drive; 2.88MB capacity

● **Halt On**
This field determines whether the system will halt if an error is detected during power up.

No errors	The system boot will halt on any error detected.
All errors	Whenever the BIOS detects a non-fatal error, the system will stop and you will be prompted.(Default)
All, But Keyboard	The system boot will not stop for a keyboard error; it will stop for all other errors.
All, But Diskette	The system boot will not stop for a disk error; it will stop for all other errors.
All, But Disk/Key	The system boot will not stop for a keyboard or disk error; it will stop for all other errors.

7.4   Advanced BIOS Features

This section allows you to configure and improve your system and allows you to set up some system features according to your preference.

```
              Phoenix - AwardBIOS CMOS Setup Utility
                       Advanced BIOS Features

   ► CPU Feature              [Press Enter]          Item Help
   ► Hard Disk Boot Priority  [Press Enter]
     Virus Warning            [Disabled]          Menu Level   ►
     Hyper-Threading Technology[Enabled]
     Quick Power On Self Test [Enabled]
     First Boot Device        [Floppy]
     Second Boot Device       [Hard Disk]
     Third Boot Device        [LS120]
     Boot Other Device        [Enabled]
     Swap Floppy Drive        [Disabled]
     Boot Up Floppy Seek      [Enabled]
     Boot Up NumLock Status   [On]
     APIC Mode                [Enabled]



   ↑↓→←:Move  Enter:Select  +/-/PU/PD:Value  F10:Save  ESC:Exit  F1:General Help
      F5: Previous Values    F6: Fail-Safe Defaults   F7: Optimized Defaults
```

7.4.1 CPU Feature

Clicks the cursor to this field and press <Enter>. The following screen will be appeared.

```
              Phoenix - AwardBIOS CMOS Setup Utility
                           CPU Feature

     Delay Prior to Thermal   [16 Min]              Item Help
     Thermal Management       [Thermal Monitor 2]
     TM2 Bus Ratio            [ 0 X]             Menu Level   ►►
     TM2 Bus VID              [0.8375V]
     Limit CPUID MaxVal       [Disabled]
     C1E Function             [Auto]
     Execute Disable Bit      [Enabled]
     Virtualization Technology [Enabled]






   ↑↓→←:Move  Enter:Select  +/-/PU/PD:Value  F10:Save  ESC:Exit  F1:General Help
      F5: Previous Values    F6: Fail-Safe Defaults   F7: Optimized Defaults
```
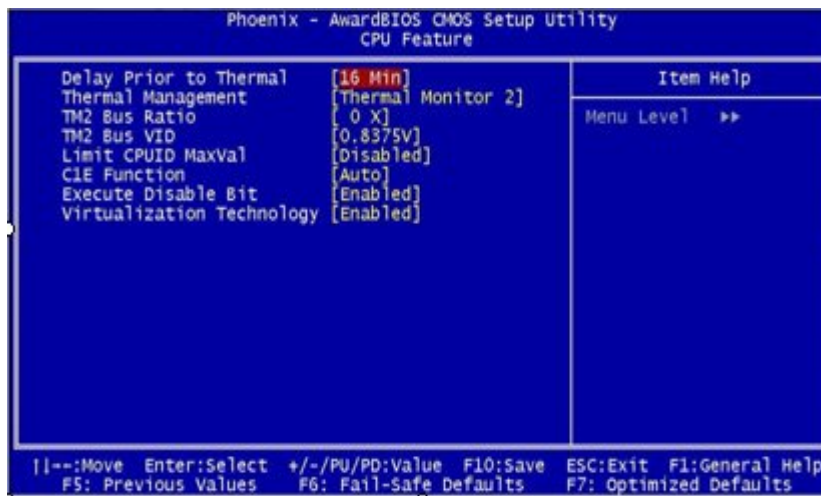
The setting on the screen is for reference only. Your version

may not be identical to this one.

- **Delay prior to Thermal**
  This filed is used to select the time that would force the CPU to a 50% duty cycle when it exceeds us maximum operating temperature therefore protecting the CPU and the system board
  From overheating to ensure a safe computing environment.

- **Thermal Management**
  Thermal Monitor 1   On-die throttling
  Thermal Monitor 2   Ratio and VID transition

- **Limited CUPID MaxVal**
  The CPUID instruction if some newer CPUs will return a value greater than 3. The default is disabled because this problem does not exist in the Windows series operating systems. If you are using an operating system other than Windows, this problem
  May occur. To avoid this problem, enable this field to limit the return value to 3 or lesser than 3.

- **C1E Function**

The Pentium 4 5xxJ version already features a power management function to reach the same level with the Enhanced Halt State (C1E). With the C1E, it was either x14 or the maximum coefficient without intermediate levels. So at 0% of use the coefficient was x14 / 1.2v, and for a use of 5%, the coefficient and electrical tension were set to the maximum

- **Execute Disable Bit**

  Execute Disable Bit is a hardware-based security feature that can reduce exposure to viruses and malicious-code attacks and prevent harmful software from executing and propagating on the server or network. Help protect your customers' business assets and reduce the need for costly virus-related repairs

- **Virtualization Technology**

  Intel® Virtualization Technology requires a computer system with a processor, chipset, BIOS, virtual machine monitor (VMM) and for some uses, certain platform software enabled for it. Functionality, performance or other benefit will vary depending on hardware and software configurations

7.4.2 Hard Disk Boot Priority

This field is used to select the boot sequence of the hard drives. Move the cursor to this field then press <Enter>. Use the Up or Down arrow keys to select a device then press<+> to move it up or <-> to move it down the list.
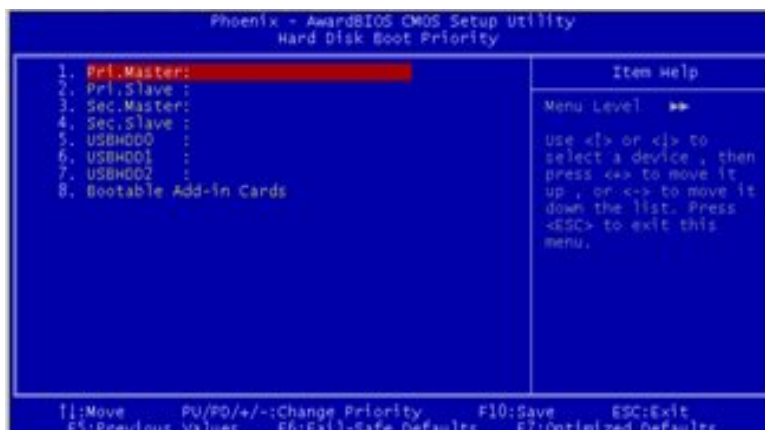
- **Virus Warning**

  This item protects the boot sector and partition table of your hard disk against accidental modifications. If an attempt is made, the BIOS will halt the system and display a warning message. If this occurs, you can either allow the operation to continue or run an anti-virus program to locate and remove the problem.

  NOTE: Many disk diagnostic programs, which attempt to access the boot sector table, can cause the virus warning. If you will run such a program, disable the Virus Warning feature.

- **Quick Power On Self Test**

Enabling this setting will cause the BIOS power-on self test routine to skip some of its tests during boot up. One of the key things this setting usually does when enabled is cause the POST to skip checking all of extended memory for errors.

Most people enable this setting to speed up the boot process, but you should realize that you do increase the chance of the POST missing an error if you use this. Fortunately (or unfortunately) the POST memory test is virtually useless to detect <u>transient memory errors</u> (as opposed to hard errors that you would discover the first time you powered up the machine with the new memory in it), so once your system is running and stable, you can in most cases enable this setting safely. It's still safest to leave it disabled, which is what I recommend unless you have truly monstrous amounts of RAM. After all, how often do you boot the system during normal use.

- **First/Second/Third Boot Device**
  These items allow the selection of the 1st, 2nd, and 3rd devices that the system will search for during its boot-up sequence. The wide range of selection includes Floppy, LS120, ZIP100, HDD0~3, SCSI, and CDROM.

- **Boot Other Device**
  This item allows the user to enable/disable the boot device not listed on the First/Second/Third boot devices option above. The default setting is **enabled**.

- **Swap Floppy Drive**
  This allows you to determine whether to enable Swap Floppy Drive or not. When enabled, the BIOS swap floppy drive assignments so that Drive A becomes Drive B and Drive B become Drive A. By default, this field is set to **Disabled.**

- **Boot Up Floppy Seek**
  During POST, BIOS will determine the floppy disk drive type, 40 or 80 tracks, installed in the system. 360Kb type is 40 tracks while 720Kb, 1.2MB and 1.44MB are all 80 tracks. The default value is *"Enabled"*.

Enabled	BIOS searches for floppy disk drive to determine if it is 40 or 80 tracks. Note that BIOS can not tell from 720K, 1.2M or 1.44M drives type as they are all 80 tracks.
Disabled	BIOS will not search for the type of floppy disk drive by track number. There will be no warning message displayed if the drive installed is 360K.

● **Boot Up NumLock Status**
This option enables and disables the numberlock function of the keypad. The default value is *"On"*.

On	Keypad functions confine with numbers
Off	Keypad functions convert to special functions (i.e., left/right arrow keys)

● **APIC Mode**
This item can enable or disable the APIC (Advanced Programmable Interrupt. Controller). Due to compliance to PC2001 design guide, the system is able to run. In APIC mode. Enabling APIC mode will expand available IRQs Controller.

7.5   Advanced Chipset Features

Since the features in this section are related to the chipset on the CPU board and are completely optimized, you are not recommended to change the default settings in this setup table unless you are well oriented with the chipset features.

```
            Phoenix - AwardBIOS CMOS Setup Utility
                    Advanced Chipset Features

  DRAM Timing Selectable    [By SPD]              Item Help
  CAS Latency Time          [2]
  Active to Precharge Delay [8]           Menu Level    ►
  DRAM RAS# to CAS# Delay   [4]
  DRAM RAS# Precharge       [4]
  Memory Frequency For      [Auto]
  System BIOS Cacheable     [Enabled]
  Video  BIOS Cacheable     [Disabled]
  Memory Hole At 15M-16M    [Disabled]
  AGP Aperture Size (MB)    [128]
  Init Display First        [PCI Slot]
  OnBoard Lan Function      [Enabled]

  ** On-Chip VGA Setting **
  On-Chip VGA               [Enabled]
  On-Chip Frame Buffer Size [ 8MB]


 ↑↓→←:Move  Enter:Select  +/-/PU/PD:Value  F10:Save  ESC:Exit  F1:General Help
    F5: Previous Values     F6: Fail-Safe Defaults    F7: Optimized Defaults
```

● **DARM Timing Selectable**

This field is used to select the timing of the DRAM.

By SPD The EEPROM on a DIMM has SPD (Serial Presence Detect) data structure that stores information about the module such as the memory type, memory size, memory speed etc. When this option is selected the system will run according to the information in the EEPROM. This option is the default setting because it provides the most stable condition for the system. The "CAS Latency Time " To "System Memory Frequency "field will show the default settings by SPD.

> *Manual*   If you want better performance for your system other than the one " by SPD " select " Manual " then select the best option in the " CAS Latency Time " To "System Memory Frequency "fields.

● **CAS Latency Time**

This refers to the Column Address Strobe delay time. Lower is better! However, in a P4 system, lowering this setting only improves performance minimally, so it might be better to increase this setting to gain stability or a higher over clock.

● **Active Precharge Delay**
    This refers to the Active to Precharge delay time. Lower is better! However, same as above, lowering this setting only improves performance minimally, so it might be better to increase this setting to gain stability or a higher over clock.

● **DRAM RAS# to CAS# Delay**

This refers to the Row Address Strobe to Column Address Strobe delay time. Lower is better! **This is the most crucial setting in a P4 system**! Lowering this setting improves performance quite noticeably, so you might want to sacrifice some clock speed to lower this timing.

● **DRAM RAS# Precharge**

This refers to the Row Address Strobe to Column Address Strobe delay time. Lower is better! **This is the 2nd most crucial setting in a P4 system**! Lowering this setting improves performance quite noticeably, so you might want to sacrifice some clock speed to lower this timing

● **System Memory Frequency**
    The Intel 865G Support Intel DDR 266/333/400.This setting could help you and setup the DRAM clock for DDR memory module. The default setting was **Auto**

● **System BIOS Cacheable**
    When this field is enabled, accesses to the system BIOS ROM
    Address at F0000H-FFFFFH are cached, provide that the cache controller is enabled.

● **Video BIOS Cacheable**
    As with caching the system BIOS, enabling the Video BIOS

cache will allow access to video BIOS addressed at C0000H
To be cached if the cache controller is also enabled. The larger the range of the Cache RAM, the faster the video performance.

- **Memory Hole At 15M-16M**
  You can reserve this area of system memory for ISA adapter ROM. When this area is reserved, it can't be Cached. The user information of peripherals that need To use this area of system memory usually discusses their Memory requirements.

- **AGP Aperture Size (MB)**
  This field determines the effective size of the Graphic Aperture used for a particular GMCH configuration. It can be updated by the GMCH-specific BIOS configuration sequence before the PCI standard bus enumeration sequence takes place. If it is not updated then a default value will select an aperture of maximum size.

- **Init Display First**

This BIOS feature allows you to select whether to boot the system using the AGP graphics card or the PCI graphics card. This is particularly important if you have AGP and PCI graphics cards but only one monitor.

If you are only using a single graphics card, then the BIOS will detect it as such and boot it up, irrespective of what you set the feature to. However, there may be a slight reduction in the time taken to detect and initialize the card if you select the proper setting for this BIOS feature. For example, if you only use an AGP graphics card, then setting Init Display First to **AGP** may speed up your system's booting-up process.

Therefore, if you are only using a single graphics card, it is recommended that you set the Init Display First feature to the proper setting for your system (**AGP** for a single AGP card and **PCI** for a single PCI card).

But if you are using multiple graphics cards, it is up to you which card you want to use as your primary display card. It is recommended that you select the fastest graphics card as the primary display card.

On-Chip VGA Setting

● **On-Chip VGA**
   This item allows to Disabled or enabled onboard VGA

● **On-Board Frame Buffer Size**
   This item allows adjusting the Frame Buffer Size

7.6   Integrated Peripherals

This option sets your hard disk configuration, mode and port.

```
              Phoenix - AwardBIOS CMOS Setup Utility
                       Integrated Peripherals
  ► OnChip IDE Device          [Press Enter]            Item Help
  ► Onboard Device             [Press Enter]
  ► SuperIO Device             [Press Enter]        Menu Level    ►
    Onboard UART 3             [3E8]
    Onboard UART 3 IRQ         [IRQ10]
    Onboard UART 4             [2E8]
    Onboard UART 4 IRQ         [IRQ11]
    Spread Spectrum            [Disabled]




  ↑↓→←:Move  Enter:Select  +/-/PU/PD:Value  F10:Save  ESC:Exit  F1:General Help
       F5: Previous Values     F6: Fail-Safe Defaults   F7: Optimized Defaults
```

7.6.1 On-Chip IDE Device

Move the cursor to this field and press <Enter>. The following
screen will be appeared.
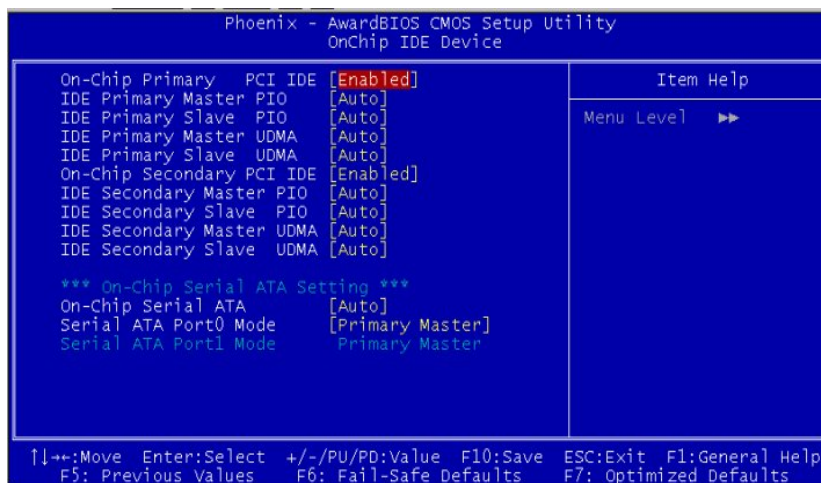
- **On-Chip Primary PCI IDE**
  This option could allow you to enable or disable the primary and secondary IDE controller, select Disabled if you want to add a Different hard drive controller.

- **IDE Primary Master PIO**
  This option could allow you to set up Master IDE interface from PIO mode0 to PIO Mode 4

- **IDE Primary Slave PIO**
   This option could allow you to set up Slave IDE interface from PIO mode0 to PIO Mode 4

- **IDE Primary Master UDMA**
  This option could allow you to enabled or disabled onboard Ultra DMA mode on Primary Master

- **IDE Primary Slave UDMA**
  This option could allow you to enabled or disabled onboard Ultra DMA mode on Primary Slave

- **On-Chip Secondary PCI IDE**
  This option could allow you to enabled or disabled onboard Secondary PCI IDE controller

- **IDE Primary Master PIO**

This option could allow you to set up Master IDE interface from PIO mode0 to PIO Mode 4

- **IDE Primary Slave PIO**
  This option could allow you to set up Slave IDE interface from PIO mode 0 to PIO Mode 4

- **IDE Primary Master UDMA**
  This option could allow you to enabled or disabled onboard Ultra DMA mode on Primary Master

- **IDE Primary Slave UDMA**
  This option could allow you to enabled or disabled onboard Ultra DMA mode on Primary Slave

- **On-Chip Serial ATA**

This option could allow you to enabled or disabled onboard SATA port function

Combined Mode: This option allows you to use both IDE and SATA drive; allowing a maximum on 4 drives-1 IDE Master; 1 IDE Slave and 2 SATA. You must manually set the SATA and PATA drives mode in the " PATA IDE Mode " and " SATA Port " fields.

Enhanced Mode: This option allows you to use both IDE

And SATA drives; allowing a maximum of 6 drives – 1 IDE Master, 1

IDE Slave and 4 SATA.

SATA Only *This* option automatically sets the SATA Drives to Primary Master Mode. Since the SATA drives are In Master mode, you can not set the IDE drive to Master Mode.

7.6.2   Onboard Device
Move the cursor to this field and press <Enter>. The following Screen will be appeared.

```
                    Phoenix - AwardBIOS CMOS Setup Utility
                                Onboard Device

    USB Controller          [Enabled]                   Item Help
    USB 2.0 Controller      [Enabled]
    USB Keyboard Support    [Disabled]          Menu Level    ▶▶
    AC97 Audio              [Auto]
    Fast Ethernet           [Enabled]
    Gigabit Ethernet        [Enabled]




    ↑↓→←:Move  Enter:Select  +/-/PU/PD:Value  F10:Save  ESC:Exit  F1:General Help
       F5: Previous Values    F6: Fail-Safe Defaults    F7: Optimized Defaults
```
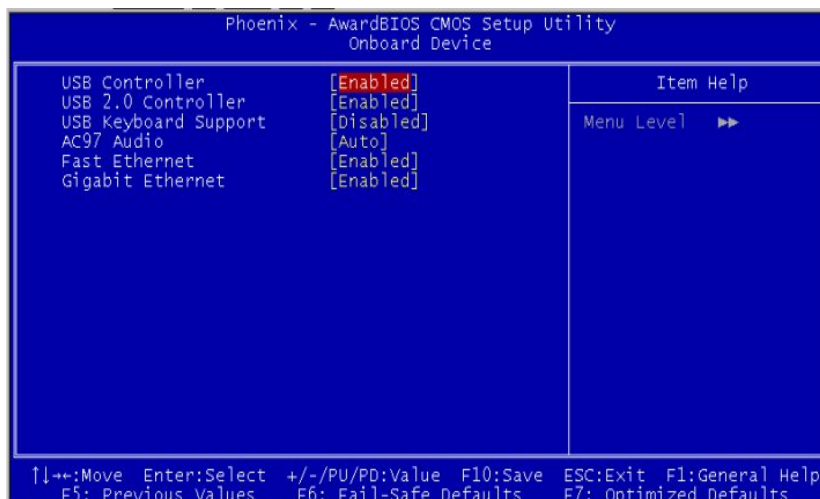
- **USB Controller**

  This setting could help you enabled or Disabled Onboard USB controller

- **USB 2.0 Controller**
  Select enabled if your system contains a Universal Serial Bus V2.0 (USB2.0) controller and you have USB2.0 peripherals. The choice: Enabled, Disabled.

- **USB Keyboard Support**
  Select enabled if your system contains a Universal Serial Bus (USB) controller and you have a USB keyboard.

- **AC97 Audio**
  This option could helps to disable or enabled onboard Audio function
  The choice: Enabled, Disabled.

- **Fast Ethernet**

  Select Disabled could help to disable onboard Fast Ethernet controller

- **Gigabit Ethernet**

Select Disabled could help to disable onboard Gigabit Ethernet controller.

7.6.3 Super IO Device

Move the cursor to this field and press < Enter >. The following

Screen will be appeared.

```
              Phoenix - AwardBIOS CMOS Setup Utility
                          SuperIO Device
 ┌─────────────────────────────────────────┬──────────────────────────┐
 │ Onboard FDC Controller      [Enabled]    │       Item Help          │
 │ Onboard Serial Port 1       [3F8/IRQ4]   │                          │
 │ Onboard Serial Port 2       [2F8/IRQ3]   │  Menu Level    ▶▶        │
 │ UART Mode Select            [Normal]     │                          │
 │ RxD , TxD Active            [Hi,Lo]      │                          │
 │ IR Transmission Delay       [Enabled]    │                          │
 │ UR2 Duplex Mode             [Half]       │                          │
 │ Use IR Pins                 [IR-Rx2Tx2]  │                          │
 │ Onboard Parallel Port       [378/IRQ7]   │                          │
 │ Parallel Port Mode          [SPP]        │                          │
 │ EPP Mode Select             [EPP1.7]     │                          │
 │ ECP Mode Use DMA            [3]          │                          │
 │                                          │                          │
 │                                          │                          │
 │                                          │                          │
 │                                          │                          │
 │                                          │                          │
 ├──────────────────────────────────────────┴─────────────────────────┤
 │ ↑↓→←:Move  Enter:Select  +/-/PU/PD:Value  F10:Save  ESC:Exit  F1:General Help│
 │    F5: Previous Values    F6: Fail-Safe Defaults   F7: Optimized Defaults│
 └──────────────────────────────────────────────────────────────────────┘
```

● **Onboard FDC Controller**

This option could allows you to disabled or enabled onboard FDC controller

● **Onboard Serial Port 1/Port 2**
Select an address and corresponding interrupt for the first and second serial ports.
The choice: 3F8/IRQ4, 2E8/IRQ3, 3E8/IRQ4, 2F8/IRQ3, Disabled, Auto.

● **UART Mode Select**
This item allows you to select UART mode.
The choice: IrDA, ASKIR, Normal.

● **UR2 Duplex Mode**
This item allows you to select the IR half/full duplex function.

The choice: Half, Full.

● **UR2 Duplex Mode**

> **Half:** Data is completely transmitted before receiving Data

> **Full:** Transmits and receives data simultaneously.

● **Onboard Parallel Port**
378/IRQ7, 3BC/IRQ7, 278/IRQ5   Select the I/O address and IRQ for the onboard parallel port.

> **Disabled**:   Disables the onboard parallel port.

● **Parallel Port Mode**

The options are SPP, EPP, ECP and ECP+EPP. These apply to a

Standard specification and will depend on the type and speed of

You device. Refer to your peripherals manual for the best option.

SPP – Allows normal speed operation but in one direction only.

ECP (Extended Capabilities Port) – Allow parallel port to operate in bidirectional mode and at a speed faster then the normal mode's data transfer rate.

EPP (Enhanced Parallel Port) – Allows bidirectional parallel port operation at maximum speed.

● **ECP mode Use DMA**

This is used to select a DMA channel of the parallel port.

7.6.4 Onboard UART 3/4

Use the onboard UART. In this mode you should use the Picasso SDK UART-functions. The. Data will be set to the RS-232 a connector
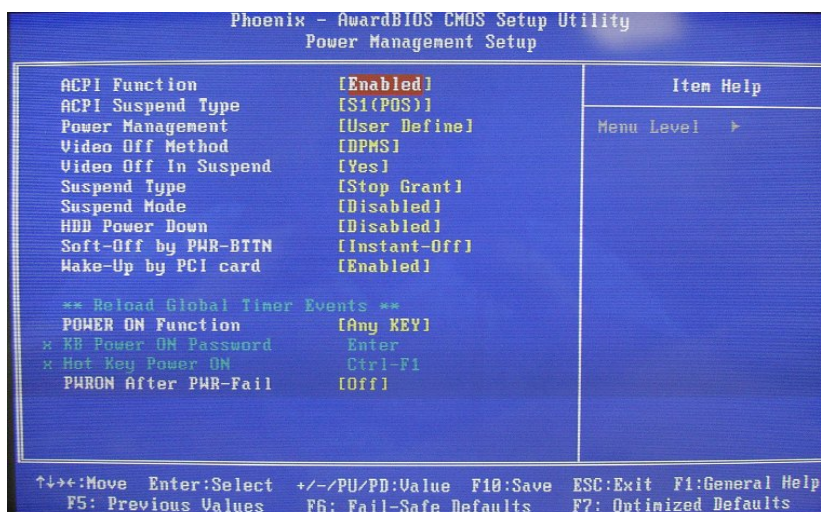
7.6.5 Onboard UART 3/4 IRQ

Use these BIOS setting could help to set up the IRQ for Onboard UART

7.6.6 Spread Spectrum

Spread spectrum is a form of <u>wireless</u> communications in which the frequency of the transmitted signal is deliberately varied. These results in a much greater <u>bandwidth</u> than the signal would have if its frequency were not varied

7.7　Power Management Setup

The Power Management Setup allows you to save energy of your system effectively. It will shut down the hard disk and turn OFF video display after a period of inactivity.

```
         Phoenix - AwardBIOS CMOS Setup Utility
                  Power Management Setup

 ACPI Function            [Enabled]              Item Help
 ACPI Suspend Type        [S1(POS)]
 Power Management         [User Define]     Menu Level    ▶
 Video Off Method         [DPMS]
 Video Off In Suspend     [Yes]
 Suspend Type             [Stop Grant]
 Suspend Mode             [Disabled]
 HDD Power Down           [Disabled]
 Soft-Off by PWR-BTTN     [Instant-Off]
 Wake-Up by PCI card      [Enabled]

 ** Reload Global Timer Events **
 POWER ON Function        [Any KEY]
 x KB Power ON Password      Enter
 x Hot Key Power ON          Ctrl-F1
 PWRON After PWR-Fail     [Off]


 ↑↓→←:Move  Enter:Select  +/-/PU/PD:Value  F10:Save  ESC:Exit  F1:General Help
      F5: Previous Values     F6: Fail-Safe Defaults  F7: Optimized Defaults
```

● **ACPI Function**
This function should be enabled only in operating systems that support ACPI. Currently, only Windows 2000/ME/XP supports this function. If you want to use the Suspend to RAM function,
Make sure this field is enabled then select "S3 (STR)" in the ACPI Suspend Type "field.

● **ACPI Suspend Type**
This field is used to select the type of Suspend mode.

S1 (POS)　　　Enables the Power on Suspend function.
S3 (STR)　　　Enables the Suspend to RAM function.

● **Power Management**
This field allows you select the type (or degree) of power saving By changing the length of idle time that elapses before the Suspend mode and HDD Power Down fields are activated.

Min Saving: Minimum power saving time for the
Suspend Mode (1 hour) and HDD Power Down (15 min.)

Max Saving: Maximum power saving time for the
Suspend Mode and HDD Power Down =1 min.

User Define: Allows you to set the power saving time in
The "Suspend Mode "and "HDD Power Down "fields.

● **Video Off Method**
   This determines the manner in which the monitor is
   blanked.

   V/H SYNC + Blank: This selection will cause the system
   to turn off the vertical and horizontal
   synchronization ports and write blanks to the video buffer.

   Blank Screen: This option only writes blanks to
   Video buffer buffer.

   DPMS: Initializes display power management
   Signaling. Use this option if your video board supports it.

● **Video Off In Suspend**
   This field is used to activate the video off feature when the
   system enters the Suspend mode. The options are Yes or
   No.

● **Suspend Type**
   The options are Stop Grant and Power ON Suspend.

● **Suspend Mode**
   This is selectable only when the Power Management field
   is set to User Define. When the system enters the Suspend
   mode according to the power saving time selected, the
   CPU and onboard peripherals will be shut off.

● **HDD Power Down**
   When enabled and after the set time of system inactivity,
   the hard disk drive will be powered down while all other
   devices remain active.

- **Soft-Off by PWR-BTTN**
  Pressing the power button for more than 4 seconds forces the system to enter the Soft-Off state when the system has "hung."
  The choice: Delay 4 Sec, Instant-Off.

- **Wake-Up By PCI card**
  If this item is enable, it allows the system to resume from a software power down or power saving mode whenever there is an Incoming call to an installed fax/modem. This function needs to be supported by the relevant hardware and software.

- **Power On function**
  Pressing this BIOS setting could helps you and power on the system by KB/Mouse

- **PWN After PWR-Fail**

  This item specifies whether your system will reboot after a power failure or interrupt occurs. Available settings are:. Off. Leaves the computer in the power off state.

7.8   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.

- ● **PNP OS Installed**

  If all your operating systems support Plug & Play (PnP), select yes so that they can take over the management of device resources. If you are using a non-PnP-aware OS or not all of the operating systems you are using support PnP, select No to let the BIOS handle it instead.

  Note that Windows 2000 will work with ACPI even with PnP OS Installed set to Enabled. Just make sure you disable Advanced Power Management (APM).

- ● **Reset Configuration Data**
      Enabled: The BIOS will reset the Extended System

Configuration Data (ESCD) once automatically.

Disabled: The BIOS will not reset the configuration data.

- ■ **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®98. The options available are Auto and Manual.

- ■ **PCI /VGA Palette Snoop**

  The VGA "palette" is the set of colors that are in use by the video card when it is in 256-color mode. Since there are thousands of colors and only 256 can be used in that mode, a palette containing the current colors is used. Some special VGA cards, high-end hardware MPEG decoders etc. need to be able to look at the video card's VGA palette to determine what colors are currently in use. Enabling this feature turns on this palette "snoop

7.9   PC Health Status

This option configures the PCI bus system. All PCI bus systems on the system use INT#, thus all installed PCI cards must be set to this value.
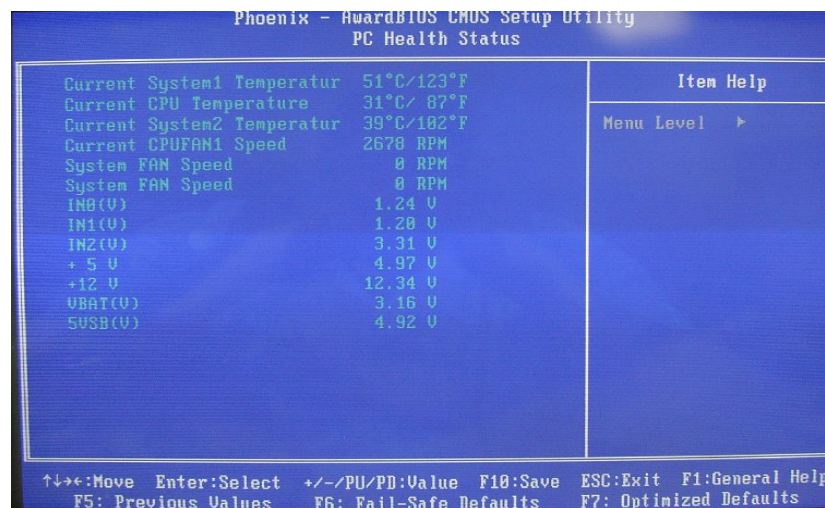
- ● **Current System1 Temperature.**
  The current system power will be detected automatically.

- ● **Current CPU Temp**
  The current system CPU temperature will be automatically detected by the system.

- ● **Current SYSTEM2 Temperature.**
  Show you the current system2 temperature.

- ● **Current CPU FAN1 Speed**
  These optional and read-only fields show the current speeds in RPM (revolution per minute) for the CPU fan and chassis fan as monitored by the hardware monitoring IC. RPM(Revolutions per Minute)

- ● **SYSTEM FAN1 Speed.**
  Show you the current system fan1 temperature.

- **SYSTEM FAN2 Speed.**
  Show you the current system fan2 temperature

- **+3.3V/+5V/+12V/-12V/-5V/VBAT(V)/5VSB**
  Show you the voltage of +3.3V/+5V/+12V/-12V/-5V.

7.10   Frequency/Voltage Control
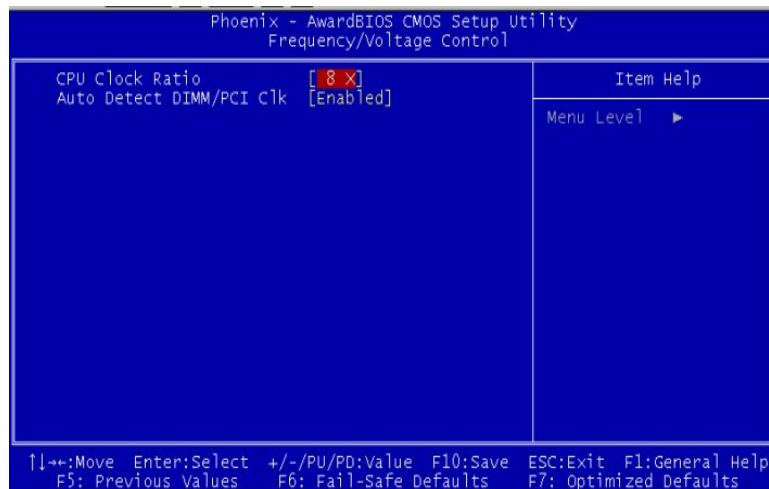
- **CPU Clock Ratio**
  This field is used to select the CPU's frequency

- **Auto Detect DIMM/PCI Clk**
  Leave this field in its default setting. Do not alter this
  setting unless advised by an engineer or technician.

7.11 Load Fail-Safe Default

When you press <Enter> on this item you get a confirmation dialog box with a message similar to:

Load Fail-Safe Defaults (Y/N)? N

Pressing "Y" loads the default values that are factory settings for optimal performance system operations

7.12 Load Optimized Default

When you press <Enter> on this item you get a confirmation dialog box with a message similar to:

Load Optimized Defaults (Y/N)? N

Pressing "Y" loads the default values that are factory settings for optimal performance system operations

7.13 Supervisor/User Password Setting

You can set either supervisor or user password, or both of then. The differences between are:

Set Supervisor Password: can enter and change the options of the setup menus.

Set User Password: just can only enter but do not have the right to change the options of the setup menus. When you select this function, the following message will appear at the center of the screen to assist you in creating a password.

ENTER PASSWORD:

Type the password, up to eight characters in length, and press <Enter>. The password typed now will clear any previously entered password from CMOS memory. You will be asked to confirm the password. Type the password again and press <Enter>. You may also press <Esc> to abort the selection and not enter a password.

To disable a password, just press <Enter> when you are prompted to enter the password. A message will confirm the password will be disabled. Once the password is disabled, the system will boot and you can enter Setup freely.

PASSWORD DISABLED.

When a password has been enabled, you will be prompted to enter it every time you try to enter Setup. This prevents an unauthorized person from changing any part of your system configuration.

Additionally, when a password is enabled, you can also require the BIOS to request a password every time your system is rebooted. This would prevent unauthorized use of your
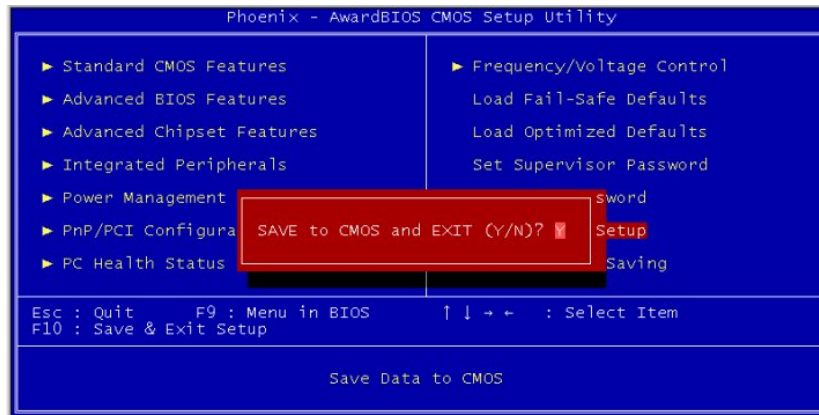
computer.

You determine when the password is required within the BIOS Features Setup Menu and its Security option (see Section 3). If the Security option is set to "System", the password will be required both at boot and at entry to Setup. If set to "Setup", prompting only occurs when trying to enter Setup.

7.14 Exit Setting

Save & Exit Setup

Pressing <Enter> on this item asks for confirmation:

Save to CMOS and EXIT (Y/N)? Y

Pressing "Y" stores the selections made in the menus in CMOS – a special section of memory that stays on after you turn your system off. The next time you boot your computer, the BIOS configures your system according to the Setup selections stored in CMOS. After saving the values the system is restarted again.
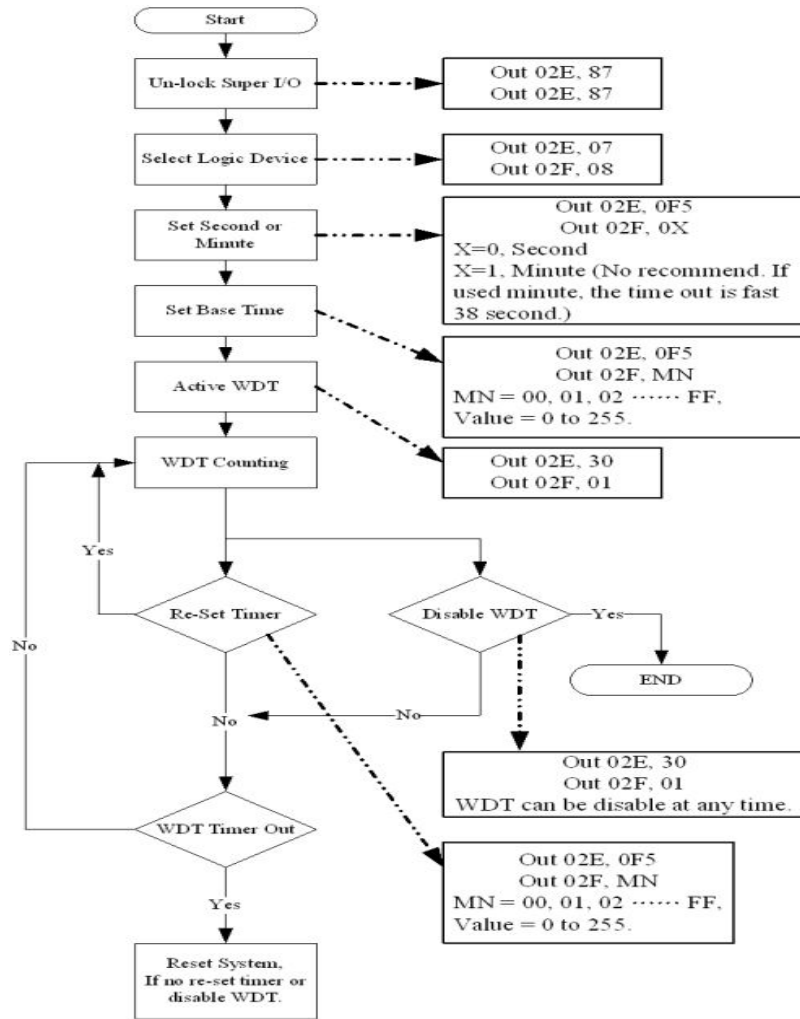
Quit Without Saving

Pressing <Enter> on this item asks for confirmation:

Quit without saving (Y/N)? Y

This allows you to exit Setup without storing in CMOS any change. The previous selections remain in effect. This exits the Setup utility and restarts your compute

A p p e n d i x A Watchdog Timer

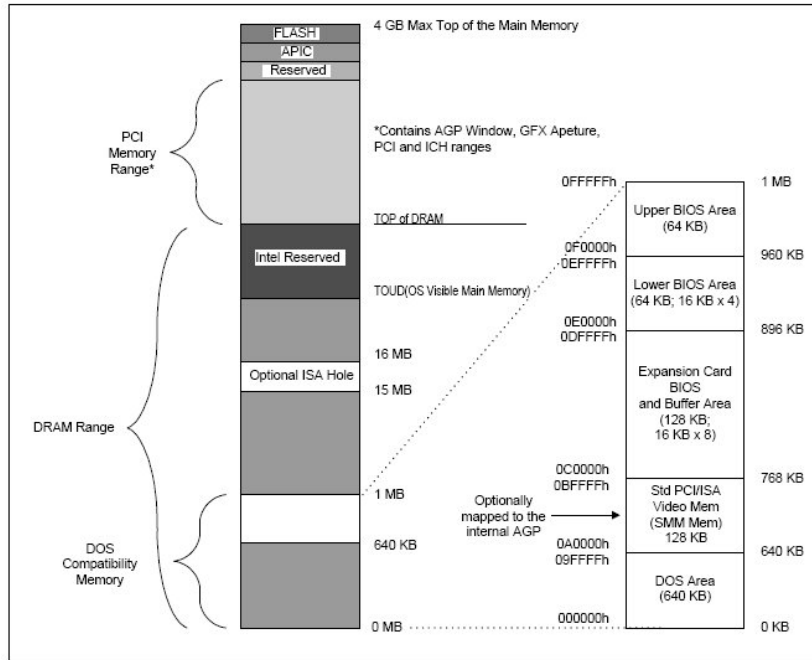Please follow the below WDT process for setup the WDT function.

A p p e n d i x B PCI IRQ Routing

PICMG PCI IRQ Routing

Device	ID	Slot	Int
PCI Slot 1	31	0	CDAB
PCI Slot 2	30	1	EFGH
PCI Slot 3	29	2	FGHE
PCI Slot 4	28	3	GHEF
PCI Slot 5	27	5	HEFG

On Board Device IRQ Routing

Device	ID	Slot	Int
PCI-ISA Bridge	22	4	

AppendixC Detailed memory Addess Mapping

AppendixD I/O Shield

P/N was 728F2000100E