Copyright

Disclaimer

FCC Compliance Statement

This equipment has been tested and found to comply with the limits of a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense. However, there is no guarantee that interference will not occur in a particular installation.

Canadian Department of Communications Regulatory Statement

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

Table of Contents

Chapter 1. Getting Started

1.1   Introduction to Your Mainboard

Thank you for choosing this mainboard! This mainboard is designed to take advantage of the latest industry technology to provide you with the ultimate solution in data processing. In the tradition of its predecessors, this mainboard continues a commitment to reliability and performance and strives for full compliance and compatibility with industry software and hardware standards.

1.2   PX845G Series Features:

1. Contains on board I/O facilities, which include two serial ports, a parallel port, a VGA port, a PS/2 mouse port, a PS/2 keyboard port, audio ports, USB ports, a LAN port (optional), a game port, a Memory Stick™ port, and a Smart Card port.

2. Contains on board IDE facilities for IDE devices such as hard disks and CD-ROM Drives.

3. Supports the Pentium $^®$ 4 CPU, a leading edge processor. Complies with PC ATX form factor specifications.

4. Supports popular operating systems such as Windows 95/98, Windows NT, Windows 2000, Windows ME, Windows XP, Novell, UNIX, LINUX and SCO UNIX.

Chapter 2. Mainboard Specifications

2.1   Hardware

CPU
● **Provides Socket-478.**
● **Supports Pentium ® 4 processor providing the new generation power for high-end workstations and servers.**

Speed
● **Running at 400/533 MHz Front Side Bus frequency.**
● **The 33MHz 32-bit PCI 2.2 compliant.**
● **The AGP 2.0 compliant interface supports 4x data transfer mode (Supports only 1.5v AGP electrical).**

Graphics Controller
● **Integrated 2D/3D graphics accelerator.**
● **256-bit graphics core.**
● **Texture mapped 3D with point sampled, Bilinear, Trilinear, and Anisotropic filtering.**
● **Hardware setup with support for strips and fans.**
● **Hardware motion compensation assist for software MPEG/DVD decode.**
● **Intel Digital Video (DVO) ports add support for digital displays and TV-out.**
● **Integrated 350MHz RAMDAC.**
● **The PX845G's analog port utilizes on integrated 350MHz RAMDAC that can directly drive a standard progressive scan analog monitor up to resolution of 2048x1536 pixels with 32-bit color at 60Hz.**
● **The PX845G's Intel DVO ports are each capable of driving a 165MHz pixel clock. Each port is capable of driving a digital display up to 1600x1200 @ 60Hz. When in dual-channel mode, the PX845G can drive a flat panel up to 2048x1536 @ 60Hz or dCRT/HDTV up to 1920x1080 @85Hz.**

Chipset

- **North Bridge – Intel 845G.**
- **South Bridge – Intel 82801DB(ICH4).**
- **RAID – PROMISE PDC20276**.**
- **IO – Winbond Smart IO 83637HF.**
- **LAN Chip – Intel DA82562ET.***

Memory Controller

- **Up to 2.0 GB 200/266 DDR SDRAM.**
- **DIMM 1/(2+3) Support up to 2-banks memory size up to 1 GB.**
- **Supports 64MB, 128MB, 256MB, and 512MB SDRAM technology.**
- **Supports unbuffered non-ECC DIMM only.**
- **Supports only x8 and x16 SDRAM devices wit 4-banks.**
- **Does not support double-sided x16DDR DIMM.**

Accelerated Graphics Port interface

- **Supports a single, 1.5V only, AGP 2.0 compliant device.**
- **AGP interface multiplexed with 2 Intel DVO ports.**
- **Supports ADD cards.**

Shadow RAM

- **Mainboard is equipped with a memory controller providing shadow RAM and support for ROM BIOS.**

Green Functionality

- **Supports PHOENIX-AWARD™ BIOS power management functionality.**
- **Wakes from power saving sleep mode with any keyboard or mouse activity.**

BUS Slots

- **Contains 1 AGP slot. (supports ADD cards)**
- **Contains 1 CNR slot (optional).**
- **Contains 6 32-bit PCI bus slots.**

* Only for PX845G PRO II ** For PX845G PRO and PX845G

Flash Memory

- **Supports flash memory functionality.**
- **Supports ESCD functionality.**

Ultra ATA 100 Support (IDE1,2)

- **IDE 1,2 support ultra ATA/100/66/33, BMIDE and PIO modes.**
- **Independent timing of up to 4 drives, with separate IDE connections for Primary and Secondary cables.**

LAN Integrated*

- **Supports 10/100 Mbit/s Ethernet.**
- **Supports Wake-On-LAN function.**
- **Supports LAN boot.**
- **Supports PME wake up.**

Promise PDC 20276 (RAID IDE 1,2)**

- **Supports RAID 0 or RAID 1, RAID 0 or RAID 1 non-coexist.**
- **Supports Ultra ATA 133 spec.**
- **Without offering hardware switch to change ATA RAID or ATA (Microsoft WHQL limitation, Linux Kernel issue).**
- **Default is Ultra ATA133 (emulate Ultra ATA).**
- **Not supporting ATAPI (must remind users to attach ATAPI device on 2 channels that southbridge support).**

   §F or more details, please refer to Promise RAID MBFastTrack133 ^{TM} "Lite" user's manual.

Hardware Monitor Function:

- **Monitors CPU Fan Speed.**
- **Monitors Chasis Fan Speed.**
- **Monitors System Voltage.**

Infrared

- **Supports IrDA Version 1.0 SIR Protocol with Max. baud rate up to 115.2K bps.**
- **Supports SHARP ASK-IR Protocol with Max. baud rate up to 57600 bps.**
- **Supports Consumer IR with Wake-Up function.**

* Only for PX845G PRO II   ** For PX845G PRO and PX845G PRO II

Memory Stick™ Reader Interface

Smart Card Reader Interface
- PC/SC T=0, T=1 compliant
- ISO 7816 protocol compliant.
- With 16-byte send / receive FIFOs.
- Programmable baud generator
- Standard drivers for Windows 98/ME™, Windows 2000™.

AC'97 Sound Codec Onboard
- High performance CODEC with high S/N ratio (>90 dB).
- Compatible with AC'97 2.2 specification.
- 6 channels slot selectable DAC output for multi-channel applications.
- 3D Stereo enhancement.
- Digital S/PDIF input/output.

I/O facilities
- One multi-mode Parallel Port capable of supporting the following specifications:
  1. Enhanced Parallel Port (EPP).
  2. Extended Capabilities Port (ECP).
  3. Supports PS/2 compatible bi-directional parallel port.
- Supports two serial ports, 16550 UARTs with 16-byte send/receive FIFOs.
- Supports Infrared Data Transmission using IrDA.
- Supports PS/2 mouse and PS/2 keyboard.
- Supports 360KB, 1.2MB, 1.44MB, and 2.88MB floppy disk drives.
- MIDI compatible.
- Game port compatible.
- Supports Smart Card and Memory Stick Reader Interface.

Dimensions (ATX form-factor):
- **305mm x 244mm (WxL)**

Universal Serial Bus
- **Supports two back panel Universal Serial Bus Ports and four front panel Universal Serial Bus Ports *.**
- **USB 2.0 compliance.**

2.2 BIOS

- **PHOENIX legal BIOS.**
- **Supports APM1.2.**
- **Supports USB legacy.**
- **Supports ACPI Power Management.**

2.3 Operating System

Offers the highest performance for MS-DOS, Windows NT, Windows 2000, Windows 95/98, Windows ME, Windows XP, Novell, LINUX, UNIX, SCO UNIX etc.

2.4 Package Contents

- **HDD Cable.**
- **FDD Cable.**
- **USB 2.0 Cable *.**
- **Fully Setup Driver CD.**
- **User's Manuel.**

* Only for PX845G PRO II

Chapter 3. Mainboard Configuration

Layout of PX845G Pro II
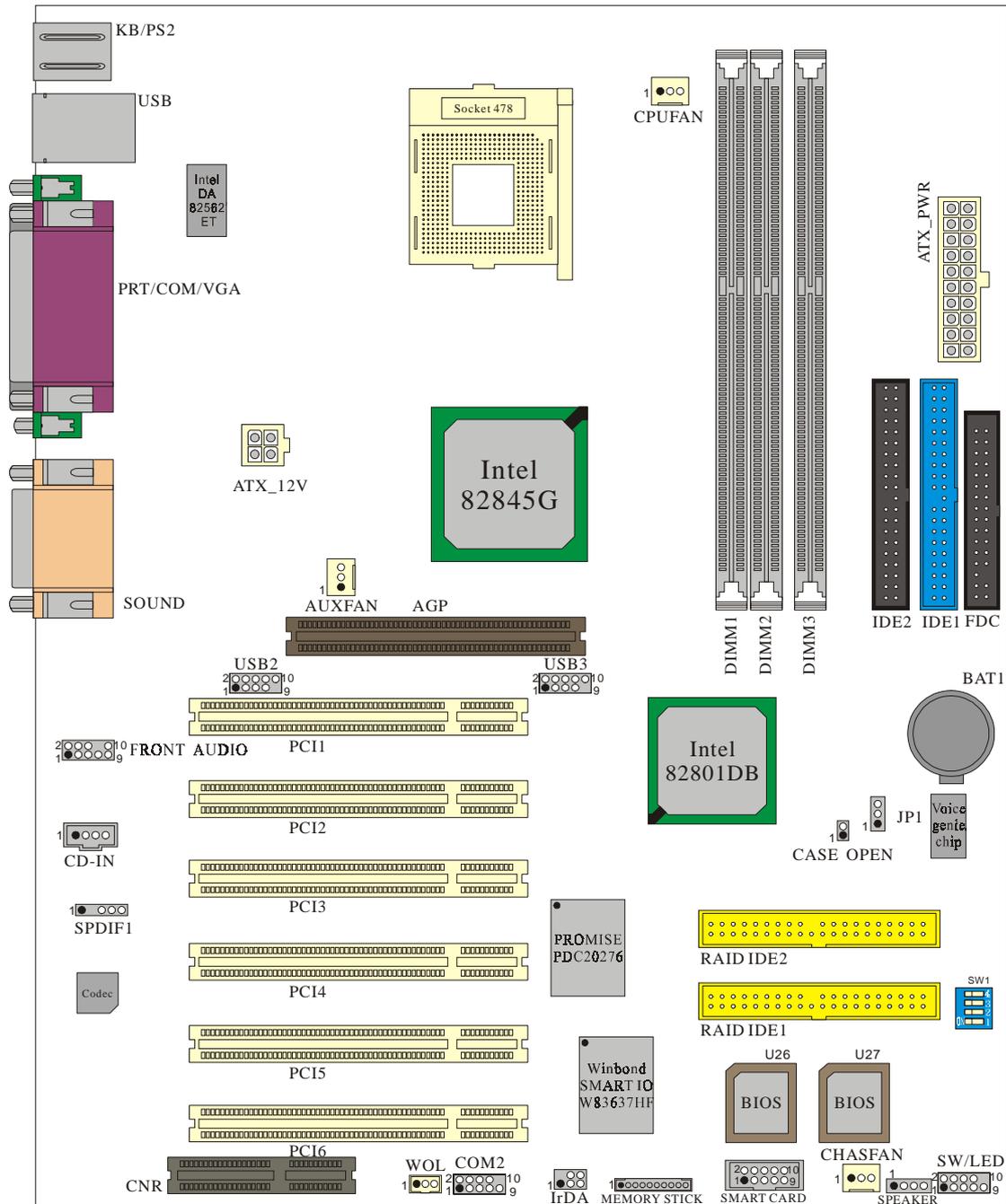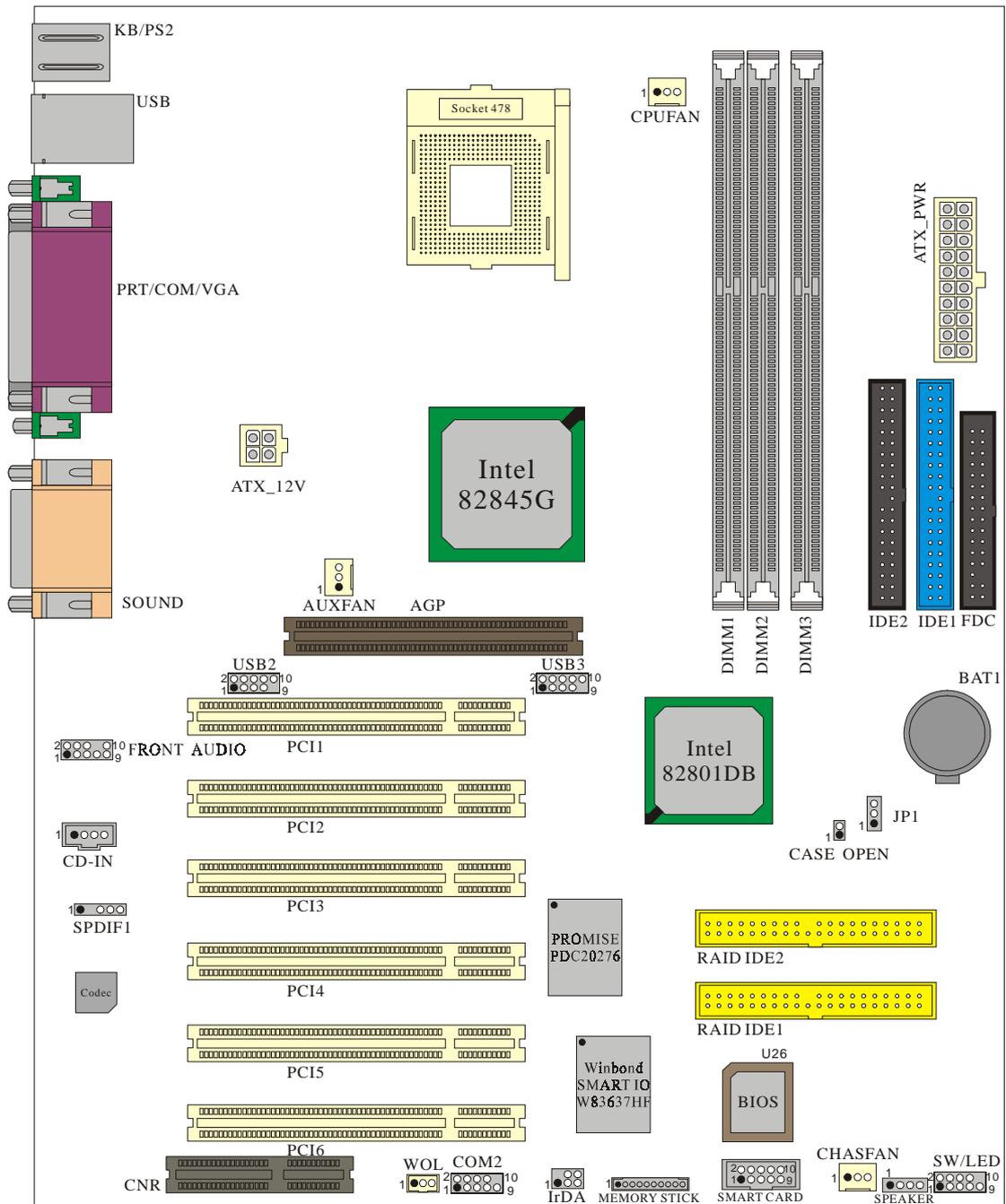
Layout of PX845G Pro

Layout of PX845G
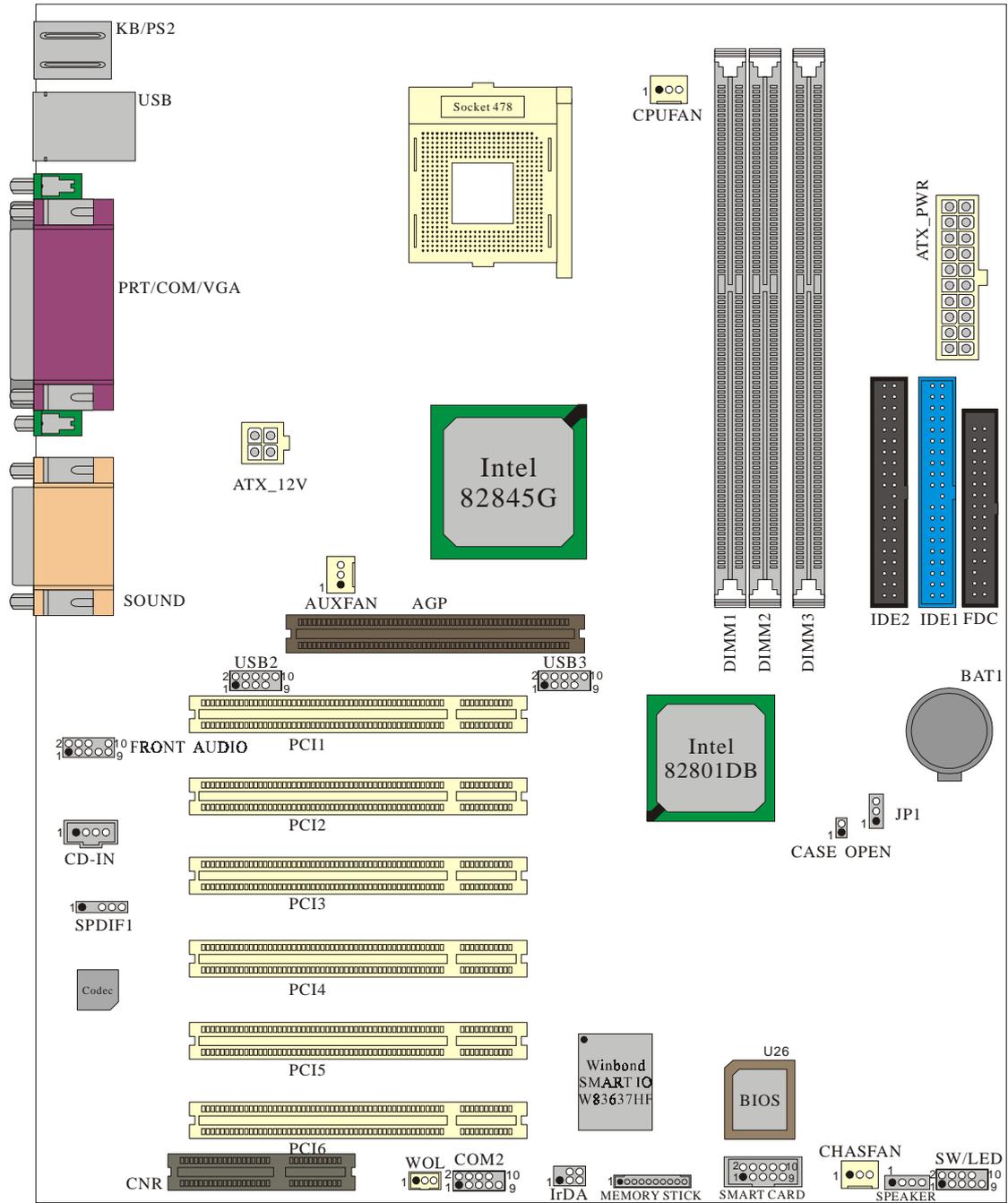
3.1 CPU Configuration

CPU Socket-478 Configuration Steps:

1. Please find the CPU socket on your mainboard and pull the lever sideways away from the socket, then raise the lever up to a 90-degree angle.
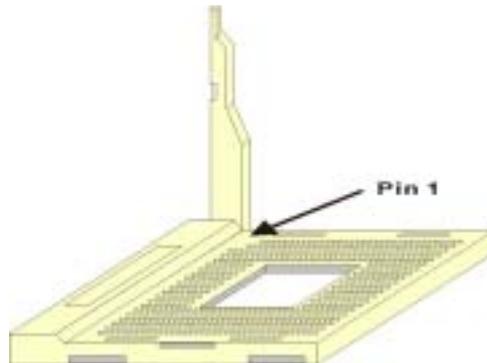
2. Find Pin-1 in the socket and look for the white dot or cut edge in the CPU. Match Pin-1 with the white dot/cut edge then insert the CPU.
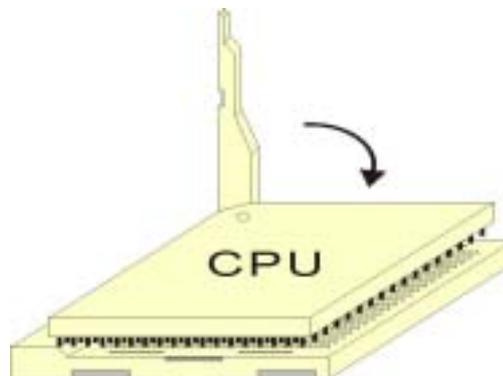
3. Press the lever down. Then Put the CPU fan on the CPU socket and clasp it with the socket. When the CPU fan is fixed to the CPU socket, put the fan's power port into the CPUFAN. After finishing all these steps, the CPU is ready for use.

CPU Headers Installation

These three headers introduced here are most related to your CPU installation. They are the power headers to all the cooling fans on your mainboard. These fans play an important role on decreasing the temperature of your system.
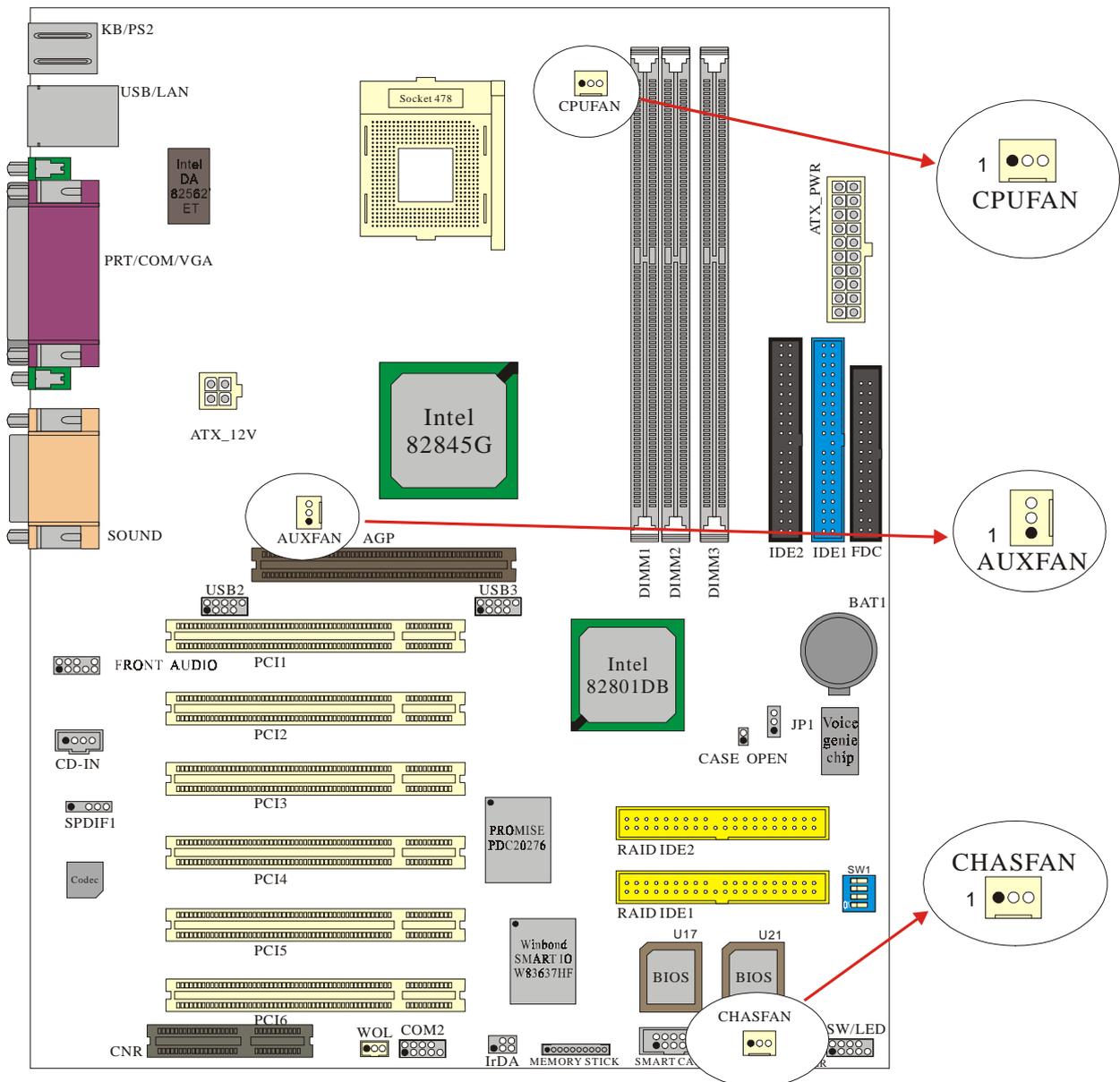
*The layout is PX845G PRO II.

CPU Fan Header: CPUFAN

Pin No.	Assignment
1	GND
2	+12V
3	Sense

System Fan Header: CHASFAN

Pin No.	Assignment
1	GND
2	+12V
3	Sense

North Bridge Chipset Fan Header: AUXFAN

Pin No.	Assignment
1	GND
2	+12V
3	NC

Chapter 4. Introduction to Jumpers, Headers, Connectors and Slots

*The layout is PX845G PRO II.

4.1   Front Panel Indicators: SW/LED

Pin No.	Assignment	Function	Pin No.	Assignment	Function
1	HD LED (+)	Hard Drive LED	2	Powe r LED (+)	POWER LED
3	HD LED (-)		4	Power LED (-)	
5	Reset Control (-)	Reset Button	6	Power Button(+)	Power-on Button
7	Reset Control(+)		8	Power Button(-)	
9	NA	NA	10	NC	NC

HD LED (Hard Drive LED Connector)

This connector can be attached to an LED on the front panel of a computer case. The LED will flicker during disk activity. This disk activity only applies to those IDE drives directly attached to the system board.

RST (Reset Button)

This connector can be attached to a momentary SPST switch. This switch is usually open and when closed will cause the mainboard to reset and run the POST (Power On Self Test).

PWR-LED (Power LED Connector)

This connector can be attached to an LED on the front panel of a computer case. The LED will illuminate while the computer is powered on.

PWR ON (Power Button)

This connector can be attached to a front panel power switch. The switch must pull the Power Button pin to ground for at least 50 ms to signal the power supply to switch on or off. (The time required is due to internal debounce circuitry on the system board). At least two seconds must pass before the power supply will recognize another on/off signal.

4.2 SPEAKER (Speaker Connector)

PIN	Assignment	PIN	Assignment
1	PC_BEEP	3	GND
2	NC	4	+5V

An off-board speaker can be installed on the mainboard as a manufacturing option. An off-board speaker can be connected to the mainboard at the front panel connector. The speaker (onboard or off-board) provides error beep code information during the Power On Self-Test when the computer cannot use the video interface. The speaker is not connected to the audio subsystem and does not receive output from the audio subsystem.

4.3 IrDA (Infrared Connector)

PIN	Assignment	PIN	Assignment
1	NC	4	GND
2	NC	5	IR_TX
3	PWR	6	IR_RX

This IrDA connector can be configured to support wireless infrared module, it is used to attach to an infrared sensing device. After the IrDA interface is configured, connectionless data transfer to and from portable devices such as laptops, PDAs is possible.

4.4 ATX 12V Power Connector: ATX_12V

This ATX power supply uses 4-pin connector. Please plug it before plugging the ATX 20-pin power connector.

Pin	Assignment	Pin	Assignment
1	GND	3	+12V
2	GND	4	+12V

4.5 ATX 20-pin Power Connector: ATX_PWR

This ATX power supply uses 20-pin connector. During your configuration, please plug it into the right direction.

PIN	Assignment	PIN	Assignment
1	+3.3V	11	+3.3V
2	+3.3V	12	-12V
3	GND	13	GND
4	+5V	14	PS_ON
5	GND	15	GND
6	+5V	16	GND
7	GND	17	GND
8	NC	18	-5V
9	5V_SB	19	+5V
10	+12V	20	+5V

4.6 Front USB Headers: USB2/ USB3

Pin	Assignment	Pin	Assignment
1	+5V(fused)	2	+5V(fused)
3	DATA_A-	4	DATA_B-
5	DATA_A+	6	DATA_B+
7	GND	8	GND
9	NC	10	OVC

4.7   Wake On LAN Header: WOL

This motherboard supports Wake On LAN function. To use this function, a network card with chipset that supports this feature is needed. Meanwhile, you have to connect a cable from LAN card to your motherboard WOL connector.

Pin	Assignment
1	5V SB
2	GND
3	Wake up

4.8   Voice Genie / BIOS Mirror / AGP Protection function: SW1

This switch supports three different functions which you can control all of them by adjusting this switch. With the SW1-1 and SW1-2, you can change the voice reminding function settings in your motherboard. With the SW1-3, you can enable or disabled the AGP Protection, because the AGP slot only supports 1.5V cards, . On the other hand, with the SW1-4, you can activate the BIOS Mirror function that can choose which BIOS ROM you want to use.

Voice Genie

Voice Genie	SW1-1	SW1-2
English (default)	ON	ON
Chinese	ON	OFF
Japanese	OFF	ON
German	OFF	OFF

AGP Protection

AGP Protection	SW1-3
Enable (default)	ON
Disable	OFF

BIOS Mirror (only for PX845G Pro II)

BIOS Mirror	SW1-4
Normal (default)	ON (U26)
Rescue	OFF (U27)

4.9 Smart Card Interface Connector: SMART CARD

Pin	Assignment	Pin	Assignment
1	PWR	6	RWLED
2	GND	7	IO-
3	PWCTL	8	NC
4	RST-	9	CLK
5	NC	10	PSNT

4.10 Memory Stick Interface Connector: MEMORY STICK

Pin	Assignment	Pin	Assignment
1	GND	6	MS4
2	MS1	7	MS5
3	PWR	8	CLK
4	MS2	9	CTL-
5	MS3	10	RWLED

4.11 Clear CMOS Jumper: JP1
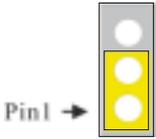
JP1	Assignment
Pin1 →	Pin 1-2 Close ➔ Normal (default)
Pin1 →	Pin 2-3 Close➔ Clear CMOS

The following procedures are for resetting the BIOS password. It is important to follow these instructions closely.

1. Turn off your system and remove AC power line.
2. Set JP1 to OFF (2-3 Closed).
3. Wait several seconds.
4. Set JP1 to ON (1-2 closed).
5. Connect the AC power line and turn on your system.
6. Reset your desired password or clear CMOS data.

4.12 Case Open Warning function: CASE OPEN

If this function is set to "Enabled" in BIOS and the case is opened by others, the system will automatically show alert messages on the screen display when you power on your computer. On the contrary, if this function is set to "Disabled" in BIOS, the system will not show alert messages when you power on your computer even if someone opened the case.

Case Open	Assignment
1	INTRUDR-
2	GND

4.13 Floppy Disk Connector: FDC

The mainboard provides a standard floppy disk connector (FDC) that supports 360K, 720K, 1.2M, 1.44M and 2.88M floppy disk types. This connector supports the provided floppy drive ribbon cables.

4.14 Hard Disk Connectors: IDE1/IDE2

This mainboard has a 32-bit Enhanced PCI IDE Controller that provides PIO Mode 0~4, Bus Master, and Ultra DMA/33, Ultra DMA/66, Ultra DMA/100, (Ultra DMA/133 only for PX845G PRO II) functionality. It has two HDD connectors IDE1 (primary) and IDE2 (secondary).

IDE1 (Primary IDE Connector)

The first hard drive should always be connected to IDE1. IDE1 can connect a Master and a Slave drive. You must configure the second hard drive on IDE1 to Slave mode by setting the jumper accordingly.

IDE2 (Secondary IDE Connector)

The IDE2 controller can also support a Master and a Slave drive. The configuration is similar to IDE1. The second drive on this controller must be set to slave mode.

RAID IDE1 and RAID IDE2 **

The RAID IDE1 and RAID IDE2 support Ultra ATA133. RAID IDE1 and RAID IDE2 can also connect a Master and a Slave drive. RAID IDE1 and RAID IDE2 support RAID0 or RAID1, RAID0 and RAID1 non-coexist.

§ Please read the Promise Raid Function User's manual, to understand the details of Chipset 20276.

** For PX845GPRO and PX845G PRO II

4.15 Slots

The slots in this mainboard are designed to hold expansion cards and connect them to the system bus. Expansion slots are a means of adding or enhancing the mainboard's features and capabilities. With these efficient facilities, you can increase the mainboard's capabilities by adding hardware that performs tasks that are not part of the basic system.

AGP (Accelerated Graphics Port) Slot

This mainboard supports video cards for PCI slots but is also equipped with an Accelerated Graphics Port (AGP). An AGP card will take advantage of AGP technology for improved video efficiency and performance, especially with 3D graphics. There is AGP protection circuit on this mainboard. When you use 1x or 2X AGP Card (3.3V Core) to install on this mainboard, you will not be able to power on this mainboard. Please replace 4x AGP card or use on board VGA to restart.

The PX845G provides interfaces to a progressive scan analog monitor and two DVOs (muxed with AGP) capable of driving an ADD card. The digital display channels are capable of driving a variety of DVO devices (e.g. TMDS, LVDS and TV-OUT).

CNR (Communication Network Riser) Slot (optional)

The CNR specification is compliant Intel CNR specification that defines a hardware scalable riser card interface, which supports audio, modem, USB and LAN.

PCI (Peripheral Component Interconnect) Slots

This mainboard is equipped with 6 standard PCI slots. PCI 6 is master for PX845G only. PCI stands for Peripheral Component Interconnect and is a bus standard for expansion cards, which has, for the most part, supplanted the older ISA bus standard. This PCI slot is designated as 32-bit.

Chapter 5: Audio Function

KB/PS2

USB/LAN

Intel DA 82562 ET

Socket 478

CPUFAN

ATX_PWR

PRT/COM/VGA

ATX_12V

Intel 82845G

SOUND

AUXFAN   AGP

DIMM1 DIMM2 DIMM3

IDE2 IDE1 FDC

FRONT AUDIO

USB2

USB3

BAT1

FRONT AUDIO

PCI1

Intel 82801DB

CD-IN

CD-IN

PCI2

JP1 Voice genie chip

CASE OPEN

SPDIF1

PCI3

PROMISE PDC20276

RAID IDE2

SW1

SPDIF1

Codec

PCI4

RAID IDE1

PCI5

Winbond SMART IO W83637HF

U17   U21

BIOS   BIOS

CHASFAN

SW/LED

PCI6

WOL COM2

CNR

IrDA   MEMORY STICK   SMART CARD   SPEAKER

*The layout is PX845G PRO II.

5.1 S/PDIF (Sony/Philips Digital Interface) Connector: SPDIF

S/PDIF (Sony/Philips Digital Interface) is a newest audio transfer file format, which provides impressive quality through optical fiber and allows you to enjoy digital audio instead of analog audio. Normally there are one S/PDIF outputs as shown, one for RCA connector, the most common one used for consumer audio products, and the other for optical connector with better audio quality. Through a specific audio cable, you can connect the S/PDIF connector to other end of the S/PDIF audio module, which bears S/PDIF digital output.

SPDIF	Assignment
1	PWR
2	NC
3	SPD_OUT
4	GND
5	SPD_IN

Super 5.1 Channel Audio Effect

This motherboard comes with an ALC650 Codec, which supports high quality of 5.1 Channel audio effect, bringing you a brand new audio experience. On the strength of the innovative design of ALC650, you're able to use standard line-jacks for surround audio output without connection any external module. To apply this function, you have to install the audio driver in the bonus Pack CD as well as an audio application supporting 5.1 Channel. Picture bellow represents the standard location of all speakers in 5.1 Channel sound track. Please connect the plug of your front speakers to the green "Speaker out" port, rear speakers' plug to the blue "Line in" port and both of the center and subwoofer speakers to the red "MIC in" port.

5.2 CD-ROM Audio-In Header: CD-IN

This header is used to connect CD Audio Cable from CD-ROM / DVD drive to onboard sound.

Pin No.	Assignment
1	Left Channel Input
2	GND
3	GND
4	Right Channel Input

5.3 Front Panel Audio Header: FRONT AUDIO

If your housing has been designed with an Audio port on the front panel. You have to remove the jumper caps before connecting the front panel Audio port; then you can use either panel. On the other hand, if your housing does not have Audio port on the front panel, please **do not remove** the jumper caps.

Pin No.	Assignment	Pin No.	Assignment
1	FP_MIC	2	GND
3	FP_VREF	4	+5V
5	SPOUT_R (From IC)	6	SPOUT_R (To Connector)
7	NC	8	NC
9	SPOUT_L (From IC)	10	SPOUT_L (To Connector)

Note: if you maintain the caps place, jumper cap 1 is on pin5, pin6 and jumper cap 2: pin9, pin10

Chapter 6: Back Panel Features
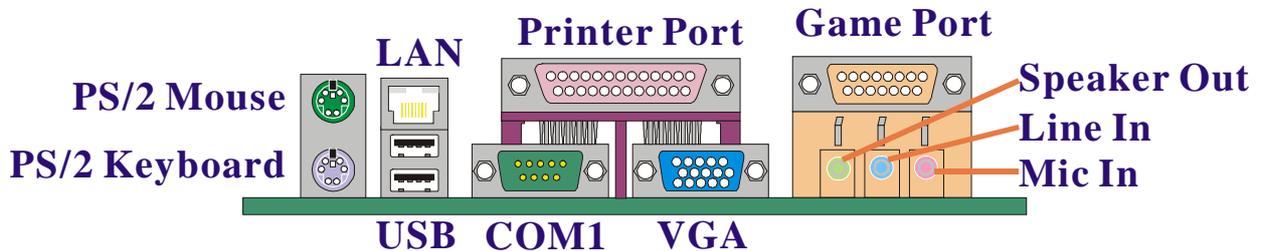
*The LAN connector is only for PX845G PRO II.

6.1 PS/2 Mouse / Keyboard Connector: KB/MS

The mainboard provides a standard PS/2 mouse / Keyboard mini DIN connector for attaching a PS/2 mouse. You can plug a PS/2 mouse / Keyboard directly into this connector. The connector location and pin definition are shown below:

PS/2 Mouse / Keyboard Connectors

Pin	Assignment
1	KBDATA
2, 6, 8, 12	No Connected
3, 9, 13, 14, 15, 16, 17	GND
4, 10	+5 V (fused)
5	KBCLK
7	MSDATA
11	MSCLK

6.2 USB Connectors: USB

The mainboard provides a OHCI (Open Host Controller Interface) Universal Serial Bus Roots for attaching USB devices such as: keyboard, mouse and other USB devices. You can plug the USB devices directly into this connector.

USB Connector (the below one)

Pin	Assignment
1	+5 V (fused)
2	USBP1-
3	USBP1+
4	GND

USB Connector (the above one)

Pin	Assignment
5	+5 V (fused)
6	USBP0-
7	USBP0+
8	GND

6.3 Serial and Parallel Interface Ports

This system comes equipped with two serial ports and one parallel port. Both types of interface ports will be explained in this chapter.

The Serial Interface: COM1

The serial interface port is sometimes referred to as an RS-232 port or an asynchronous communication port. Mice, printers, modems and other peripheral devices can be connected to a serial port. The serial port can also be used to connect your computer with another computer system.

Parallel Interface Port: PRT

Unlike the serial ports, parallel interface port has been standardized and should not present any difficulty interfacing peripherals to your system. Sometimes called centronics port, the parallel port is almost exclusively used with printers. The parallel port on your system has a 25-pin, DB25 connector.

Video Graphics Array Connector: VGA

This mainboard has built in video facilities. Your monitor will attach directly to VGA Connector on the mainboard.

6.4 Game Port Connector: SOUND

This connector allows you to connect a joystick or game pad for playing computer games. Also, you may play or edit professional music by connecting MIDI devices.

6.5 Audio Port Connectors

1. Speaker Out is used to connect speakers or headphones for audio output.

2. Line In can be connected to the external CD player, Tape player or other audio devices for audio input. When 6 Channels mode for 5.1 speaker out be enabled, you can change this function to Rear Speaker Out.

3. Mic In is used to connect a microphone that allows you to input sounds and voices. When 6 Channels mode for 5.1 speaker out be enabled, you can change this function to Center/Subwoofer Speaker out.

Chapter 7: RAM Module Configuration

7.1 DDR DIMM

DDR SDRAM Access Time: 2.5V unbuffer non-ECC DDR 200/266 SDRAM required.
DDR SDRAM Type: 64Mb/ 128Mb/ 256Mb/ 512Mb/ 1GB DIMM Module (184 pin).

7.2 DIMM Module Configuration

1. The DIMM socket has a "Plastic Safety Tab" and the DIMM memory module has an asymmetrical notch", so the DIMM memory module can only fit into the slot in one direction.

2. Push the tabs out. Insert the DIMM memory modules into the socket at a 90-degree angle then push down vertically so that it will fit into place.

3. The Mounting Holes and plastic tabs should fit over the edge and hold the DIMM memory modules in place.
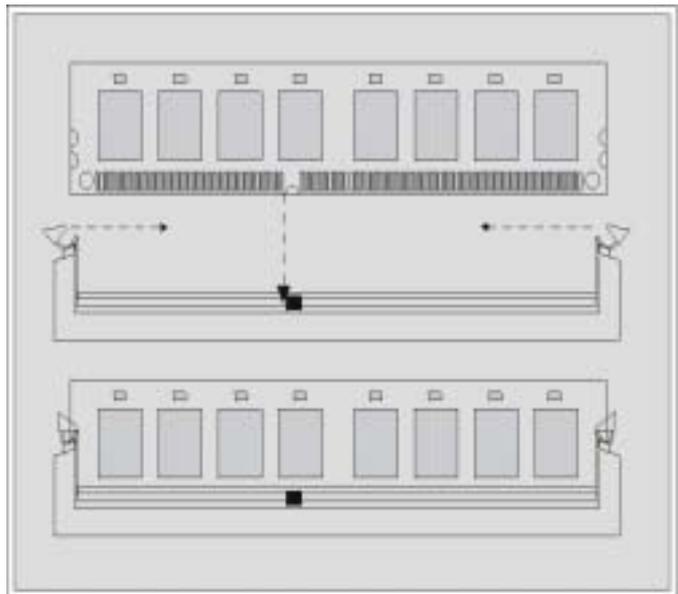
Chapter 8: BIOS Setup

Introduction

This manual discussed PHOENIX-AWARD™ Setup program built into the ROM BIOS. The Setup program allows users to modify the basic system configuration. This special information is then stored in battery-backed RAM so that it retains the Setup information when the power is turned off.

The PHOENIX-AWARD™ BIOS installed in your computer system's ROM (Read Only Memory) is a custom version of an industry standard BIOS. This means that it supports Intel™ processors input/output system. The BIOS provides critical low-level support for standard devices such as disk drives and serial and parallel ports.

Adding important has customized the PHOENIX-AWARD™ BIOS, but nonstandard, features such as virus and password protection as well as special support for detailed fine-tuning of the chipset controlling the entire system.

The rest of this manual is intended to guide you through the process of configuring your system using Setup.

Plug and Play Support

These PHOENIX-AWARD™ BIOS supports the Plug and Play Version 1.0A specification. ESCD (Extended System Configuration Data) write is supported.

EPA Green PC Support

This PHOENIX-AWARD™ BIOS supports Version 1.03 of the EPA Green PC specification.

APM Support

These PHOENIX-AWARD™ BIOS supports Version 1.1&1.2 of the Advanced Power Management (APM) specification. Power management features are implemented via the System Management Interrupt (SMI). Sleep and Suspend power management modes are supported. Power to the hard disk drives and video monitors can be managed by this PHOENIX-AWARD™ BIOS.

PCI Bus Support

This PHOENIX-AWARD™ BIOS also supports Version 2.2 of the Intel PCI (Peripheral Component Interconnect) local bus specification.

DRAM Support

DDR (Double Data Rate) are supported.

Supported CPUs

This PHOENIX-AWARD™ BIOS supports the Pentium® 4 CPUs.

Key Function

In general, you use the arrow keys to highlight items, press <Enter> to select, use the <PgUp> and <PgDn> keys to change entries, press <F1> for help and press <Esc> to quit. The following table provides more detail about how to navigate in the Setup program by using the keyboard.

Keystroke	Function
Up arrow	Move to previous item
Down arrow	Move to next item
Left arrow	Move to the item on the left (menu bar)
Right arrow	Move to the item on the right (menu bar)
Esc	Main Menu: Quit without saving changes Submenus: Exit Current page to the next higher level menu
Move Enter	Move to the item you desired
PgUp key	Increase the numeric value or make changes
PgDn key	Decrease the numeric value or make changes
+ Key	Increase the numeric value or make changes
- Key	Decrease the numeric value or make changes
Esc key	Main Menu – Quit and not save changes into CMOS Status Page Setup Menu and Option Page Setup Menu – Exit Current page and return to Main Menu
F1 key	General help on Setup navigation keys
F5 key	Load previous values from CMOS
F6 key	Load the fail-safe defaults from BIOS default table
F7 key	Load the optimized defaults
F10 key	Save all the CMOS changes and exit

8.1 Main Menu

When you enter PHOENIX-AWARD™ BIOS CMOS Setup Utility, the Main Menu will appear on the screen. The Main Menu allows you to select from several setup functions. Use the arrow keys to select among the items and press <Enter> to accept and enter the sub-menu.
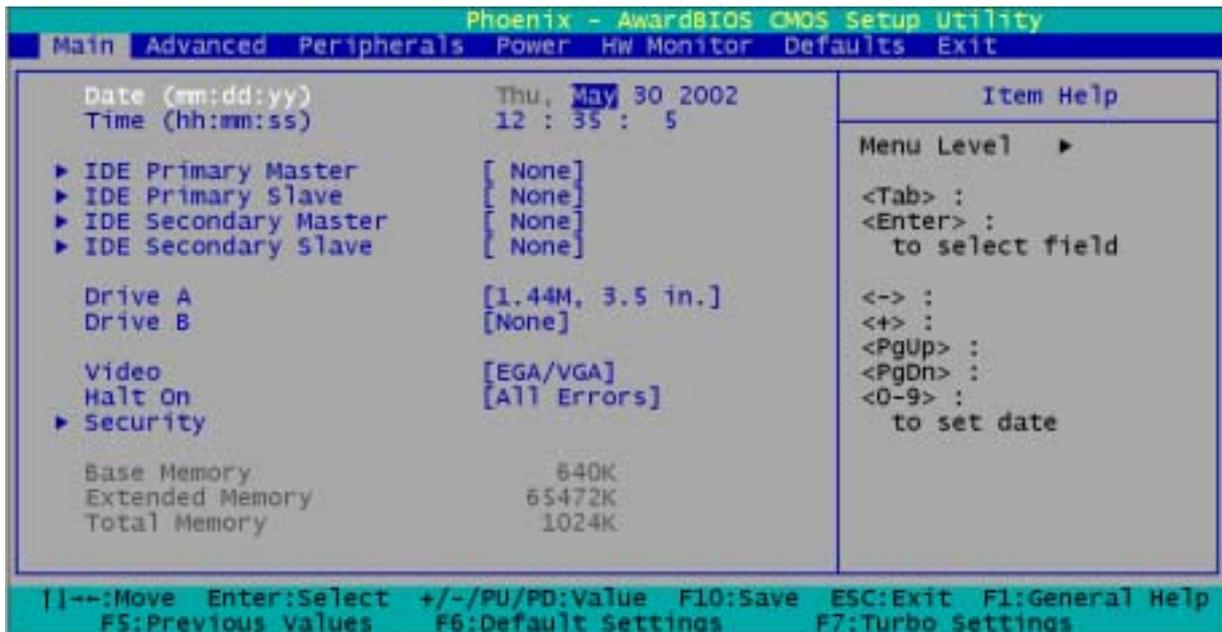
Main Menu Setup Selections

The table shown below is the selections that you can make on this Main Menu setup.

Item	Options	Description
Date	mm:dd:yy	Set system date. Note that the 'Day' automatically changes when you set the date.
Time	hh: mm: ss	Set current time of the system.
IDE Primary Master	Options are in its sub menu.	Press <Enter> to enter the sub menu of detailed options.
IDE Primary Slave	Options are in its sub menu.	Press <Enter> to enter the sub menu of detailed options.
IDE Secondary Master	Options are in its sub menu.	Press <Enter> to enter the sub menu of detailed options.
IDE Secondary Slave	Options are in its sub menu.	Press <Enter> to enter the sub menu of detailed options.

Drive A Drive B	360K, 5.25 in 1.2M, 5.25 in 1.44M, 3.5 in 2.88M, 3.5 in None	Select type of floppy disk drive installed in your system.
Video	EGA/VGA CGA 40 CGA 80 MONO	Select default video device.
Halt On	All Errors No Errors All, but Keyboard All, but Diskette All, but Disk/ Key	Select situation in which you want the BIOS to stop the POST process and notify you.
Security	Options are in its sub menu.	Press <Enter> to enter the sub menu of detailed options.
Base Memory	N/A	Displays the amount of conventional memory detected during boot up.
Extended Memory	N/A	Displays the amount of extended memory detected during boot up.
Total Memory	N/A	Displays the total memory available in the system.

8.2 Advanced Features
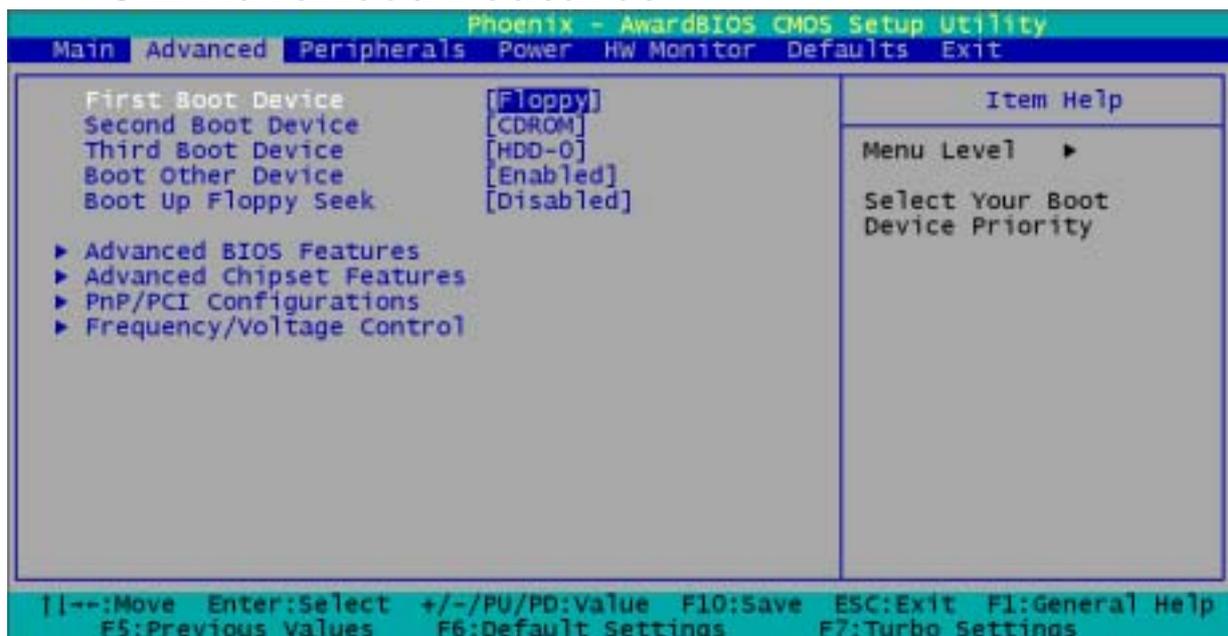
First/ Second/ Third/ Boot Other Device

These BIOS attempt to load the operating system from the devices in the sequence selected in these items.

The Choices: Floppy, LS120, HDD-0, SCSI, CDROM, HDD-1, HDD-2, HDD-3, ZIP100, USB-FDD, USB-ZIP, USB-CDROM, USB-HDD, LAN, Disabled.

Boot Up Floppy Seek

Setting to Enabled will make BIOS seek floppy A before booting the system.

The Choices: Enabled, Disabled (default).

Advanced BIOS Features

Virus Warning

This option allows you to choose the VIRUS warning feature for IDE Hard Disk boot sector protection. If this function is enabled and someone attempt to write data into this area, BIOS will show a warning message on screen and alarm beep.

Disabled (default)   Virus protection is disabled.
Enabled   Virus protection is activated.

CPU L1 & L2 Cache

Make CPU internal cache active or inactive and system will slow down if disabling this item.

Enabled (default)   Enable cache.
Disabled   Disable cache.

Quick Power On Self Test

Allow the system to skip certain tests while booting. This will decrease the time needed to boot the system.

Enabled (default)   Enable quick POST.
Disabled   Normal POST.

Swap Floppy Drive

If the system has two floppy drives, choose enable to assign physical drive B to logical drive A and vice-versa.

The Choices: Disabled (default), Enabled.

Boot Up NumLock Status

Select power on state for NumLock.
On (default)   Numpad is number keys.
Off   Numpad is arrow keys.

Gate A20 Option

Fast - let chipset control GateA20 and Normal - a pin in the keyboard controller controls GateA20.
Normal (default)   A pin in the keyboard controller controls Gate A20.
Fast   Let chipset control Gate A20.

Typematic Rate Setting

Keystrokes repeat at a rate determined by the keyboard controller – when enabled, the typematic rate and typematic delay can be selected.

Typematic Rate (Chars/Sec)

The rate at which character repeats when you hold down a key.
The Choices: 6 (default), 8,10,12,15,20,24,30.

Typematic Delay (Msec)

The delay before key strokes begin to repeat.
The Choices: 250 (default), 500,750,1000.

APIC Mode

Enabling this option, MPS version control for OS can be configured.
The Choices: Disabled, Enabled (default).

MPS Version Control for OS

1.1 version is elder version, supports 8 more IRQ in Windows NT. Choose the new 1.4 version for Windows 2000 and Windows XP.
The Choices: 1.1, 1.4 (default)

OS Select For DRAM > 64MB

Select OS2 only if you are running OS/2 operating system with greater than 64MB of RAM on the system.
The Choices: Non-OS2 (default), OS2.

HDD S.M.A.R.T. Capability

Self Monitoring Analysis and Reporting Technology is a technology that enables a PC to in some cases predict the future failure of storage drives.
The Choices: Disabled (default), Enabled.

Small LOGO (EPA) Show

This item allows you to show or hide the small LOGO of EPA.
The Choices: Disabled (default), Enabled.

Advanced Chipset Features

Dram Timing Selectable

Set the way to select the dram timing. Choose Manuel, the following options become adjustable.
The Choices: Manuel, By SPD (default)

CAS Latency Time

This item determines CAS Latency. When synchronous DRAM is installed, number of clock cycles of CAS latency depends on the DRAM timing. Do not reset this field from the default value specified by system designer.
The Choices: 1.5(default), 2, 2.5, 3.

Active to Precharge Delay/DRAM RAS # to CAS# Delay/DRAM RAS # Precharge

These options depend on the SPD value of DIMM.

Refresh Mode Select

Select the refresh mode.
The Choices: 15.6 us, 7.8 us, 64 us, Auto.

Turbo Mode

Allow you to set the turbo mode.
The Choices: Disabled (default), Enabled.

Command Pre Clock

Set to optimal will enhance performance, but system might be unsteady.
The Choices: Optimal, Auto (default).

System BIOS Cacheable

When enabled, accesses to system BIOS ROM addressed at F0000H-FFFFFH are cached, provided that the cache controller is enabled.
The Choices: Enabled (default), Disabled.

Video BIOS Cacheable

Select Enabled allows caching of the video BIOS, resulting in better system performance. However, if any program writes to this memory area, a system error may result.
The Choices: Enabled, Disabled (default).

Memory Hole at 15M-16M

When enabled, you can reserve an area of system memory for ISA adapter ROM. When this area is reserved, it cannot be cached. Refer to the user documentation of the peripheral you are installing for more information.
The Choices: Disabled (default), Enabled.

Delayed Transaction

Choose if let the transaction delayed or not.
The Choices: Disabled, Enabled (default).

Delay Prior to Thermal

Choose if let the transaction delayed or not.
The Choices: 4 Min, 8 Min, 16 Min (default), 32 Min

AGP Aperture Size

If you don't connected to AGP Card, this item allows you to setup the AGP Aperture Size.
The Choices: 4, 8, 16, 32, 64 (default), 128, 256.

On-Chip VGA

This item allows you to enable or disable the on-chip VGA.
The Choices: Disabled, Enabled (default).

On-Chip Frame Buffer Size

Choose the size of the on-chip frame buffer.
The Choices: 1MB, 8MB(default).

PnP/PCI Configurations

Reset Configuration Data

Default is Disabled. Select Enabled to reset Extended System Configuration Data ESCD) when you exit Setup if you have installed a new add-on and the system reconfiguration has caused such a serious conflict that the OS cannot boot.

Resources Controlled By

BIOS can automatically configure all the boot and Plug and Play compatible devices. If you choose Auto, you cannot select IRQ DMA and memory base address fields, since BIOS automatically assigns them**.**

IRQ Resources

When resources are controlled manually, assign each system interrupt a type, depending on the type of device using the interrupt. This is only configurable when "Resources Controlled By" is set to "Manual".

IRQ-3	assigned to: PCI device
IRQ-4	assigned to: PCI device
IRQ-5	assigned to: PCI device
IRQ-7	assigned to: PCI device
IRQ-9	assigned to: PCI device
IRQ-10	assigned to: PCI device
IRQ-11	assigned to: PCI device
IRQ-12	assigned to: PCI device
IRQ-14	assigned to: PCI device
IRQ-15	assigned to: PCI device

PCI / VGA Palette Snoop

Some graphic controllers that are not VGA compatible take the output from a VGA controller and map it to their display as a way to provide boot information and VGA compatibility.

Disabled (default)	Disable the function.
Enabled	Enable the function.

PCI Latency Timer (CLK)

This item allows you to set the PCI Latency Time (0-255) and when you select 32 PCI Clock, it makes the PCI Speed fastest.
The Choices: 0-255, 32 (default)

Frequency/Voltage Control

CPU Voltage (Volt)

This item allows you to adjust CPU voltage, from 1.100~1.850.

CPU Clock Ratio

This item, which shows only the CPU frequency is locked, allows you to adjust the CPU Ratio. The default is 8 X.

Spread Spectrum

This item allows you to enable/disable the Spread Spectrum function.

CPU HOST Frequency (MHz)

This item allows you to select CPU Clock from 100 to 248. The default depends on CPU frequency. This item is for over-clocking. Only if you over-clock it, the following 3 items can be adjusted.

Fixed AGP/PCI Output Freq

This item allows you to select Fixed AGP/PCI Clock, so that the AGP/PCI Frequency cannot be adjusted.
Choices: Disabled (default), 66MHz/33MHz.

CPU:AGP Clock Ratio

This item allows you to adjust your CPU:AGP Clock Ratio. The result shows at the AGP/PCI Frequency.
Choices: Auto (default), 1.5X, 2.0X, 2.5X.

DDR:CPU Ratio

This item allows you to adjust your DRAM:CPU Ratio.
Choices: Auto (default), 2.00X, 2.66X.

AGP Voltage (Volt)

This item allows you to adjust your AGP voltage.
Choices: 1.5 V (default), 1.6V.

DDR Voltage (Volt)

This item allows you to adjust your RAM voltage.
Choices: 2.5 V (default), 2.6 V, 2.7 V, 2.8 V.

8.3 Peripherals

```
                  Phoenix - AwardBIOS CMOS Setup Utility
  Main  Advanced  Peripherals  Power  HW Monitor  Defaults  Exit
 ┌──────────────────────────────────────────┬──────────────────────┐
 │ ▶ INTEL OnChip IDE Device                 │      Item Help        │
 │ ▶ INTEL OnChip PCI Device                 │                       │
 │   Onboard RAID Device      [Enabled]      │  Menu Level    ▶      │
 │   Init Display First       [Onboard/AGP]  │                       │
 │ ▶ Onboard I/O Chip Setup                  │                       │
 │                                           │                       │
 │                                           │                       │
 │                                           │                       │
 │                                           │                       │
 │                                           │                       │
 │                                           │                       │
 │                                           │                       │
 │                                           │                       │
 │                                           │                       │
 └──────────────────────────────────────────┴──────────────────────┘
 ↑↓→←:Move  Enter:Select  +/-/PU/PD:Value  F10:Save  ESC:Exit  F1:General Help
    F5:Previous Values     F6:Default Settings        F7:Turbo Settings
```
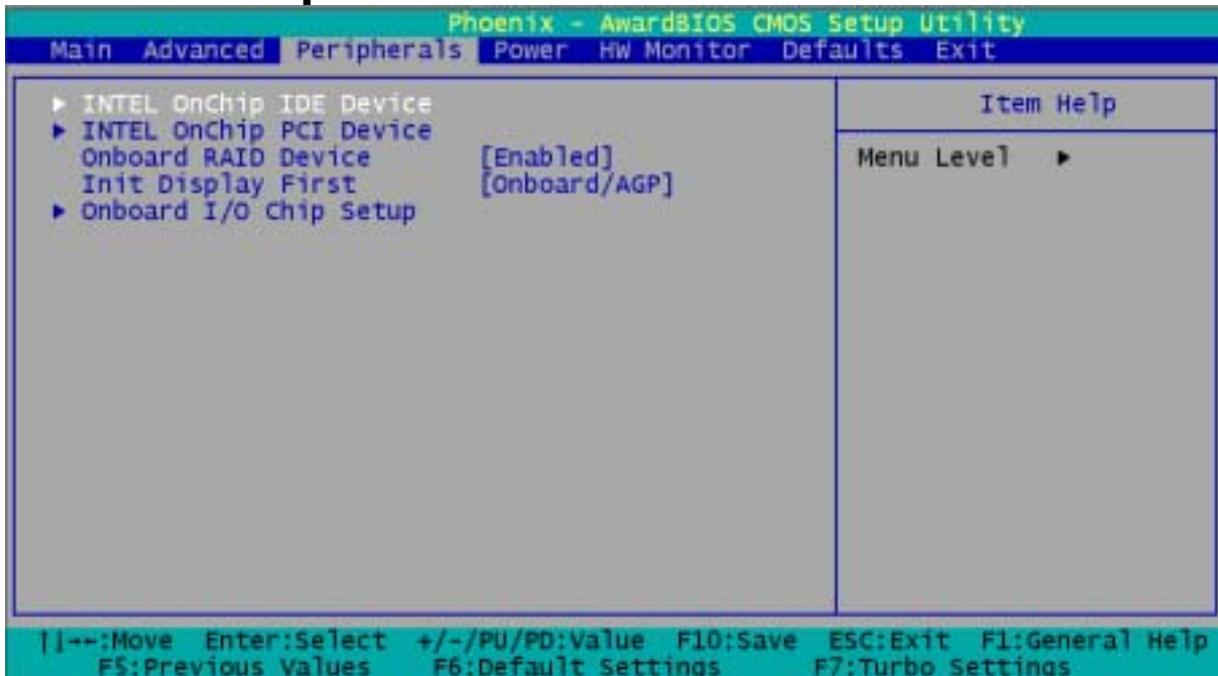
INTEL OnChip IDE Device

If you highlight the literal "Press Enter" next to the "INTEL OnChip IDE Device" label and then press the enter key, it will take you a submenu with the following options:

IDE Primary / Secondary /Master / Slave PIO

The IDE PIO (Programmed Input / Output) fields let you set a PIO mode (0-4) for each of the IDE devices that the onboard IDE interface supports. Modes 0 to 4 will increase performance progressively. In Auto mode, the system automatically determines the best mode for each device.

The Choices: Auto (default), Mode0, Mode1, Mode2, Mode3, Mode4.

Primary / Secondary /Master / Slave Ultra DMA

Ultra DMA functionality can be implemented if it is supported by the IDE hard drives in your system. As well, your operating environment requires a DMA driver (Windows 95 OSR2 or a third party IDE bus master driver). If your hard drive and your system software both support Ultra DMA/100, select Auto to enable BIOS support.

The Choices: Auto (default), Disabled.

On-Chip Primary / Secondary PCI IDE
This item allows you to enable / disable the on-chip primary / secondary PCI IDE.

IDE HDD Block Mode
Block mode is otherwise known as block transfer, multiple commands, or multiple sector read/write. Select the "Enabled" option if your IDE hard drive supports block mode (most new drives do). The system will automatically determine the optimal number of blocks to read and write per sector.
The Choices: Enabled (default), Disabled.

INTEL OnChip PCI Device

If you highlight the literal "Press Enter" next to the "Intel On-Chip PCI Device" label and then press the enter key, it will take you a submenu with the following options:

USB Controller
This option should be enabled if your system has a USB installed on the system board. You will need to disable this feature if you add a higher performance controller.

USB Keyboard Support
Enables support for USB attached keyboards.

Onboard Audio codec
This option allows you to enable (default) / disable the onboard Audio codec.

AC97 Audio / AC97 Modem
This option allows you to control the onboard AC97 audio /modem. The Choices: Auto (default), Disabled.

Onboard LAN Device
This option allows you to enable (default) / disable the onboard LAN Device.

Onboard RAID Device

This option allows you to enable (default) / disable the onboard RAID Device.

Init Display First

With systems that have multiple video cards, this option determines whether the primary display uses a PCI Slot or onboard/AGP. The Choices: PCI Slot, Onboard/AGP (default).

Onboard I/O Chip Setup

Power On Function

This option allows you to select how to power on your computer. Choices: Password, Hot KEY, Mouse Left, Mouse Right, Any KEY, BUTTON ONLY, and Keyboard 98

KB Power ON Password

Fill the password in the blank.

HOT Key Power ON

Choices: Ctrl – F1, Ctrl – F2, Ctrl – F3, ... to Ctrl – F12.

Onboard FDC Controller

Choices: Enabled, 3F8/IRQ4, 2F8/IRQ3.

Onboard Serial Port 1

Select an address and corresponding interrupt for the first serial ports. The Choices: Disabled, 3F8/IRQ4 (default), 2F8/IRQ3, 3E8/IRQ4, 2E8/IRQ3, Auto.

Onboard Serial Port 2

Select an address and corresponding interrupt for the second serial ports.
The Choices: Disabled, 2F8/IRQ3 (default), 3F8/IRQ4, 3E8/IRQ4, 2E8/IRQ3, Auto.

UART Mode Select

This item allows you to determine which Infra Red (IR) function of onboard I/O chip.
The Choices: IrDA, ASKIR, Normal (default).

RxD, TxD Active

This item allows you to determine which Infrared (IR) function of onboard I/O chip.

The Choices: Hi / Lo (default), Hi / Hi, Lo / Hi, Lo / Lo.

IR Transmission Delay

This item allows you to enable/disable IR transmission delay.

UR2 Duplex Mode

Select the value required by the IR device connected to the IR port. Full-duplex mode permits simultaneous two-direction transmission. Half-duplex mode permits transmission in one direction only at a time. The Choices: Half (default), Full.

Use IR Pins

Select one of the two options to function.

Choices: RxD2.Txd2, IR-Rx2Tx2 (default).

Onboard Parallel Port

This item allows you to determine access onboard parallel port controller with which I/O Address.

The Choices: Disabled, 378/IRQ7 (default), 278/IRQ5, 3BC/IRQ7.

Parallel Port Mode

The default value is ECP. ECP means that using Parallel port as Extended Capabilities Port.

EPP   Using Parallel Port as Enhanced Parallel Port.
SPP   Using Parallel port as Standard Printer Port.
ECP+EPP   Using Parallel port as ECP & EPP mode.

EPP Mode Select

Select EPP port type 1.7 or 1.9 (default).

ECP Mode Use DMA

Select a DMA Channel for the port. The Choices: 3 (default), 1.

PWRON After PWR-Fail

Set if restart the system after power fail. Choose On, the system will start whether the system was on before power failed. Choose Former-Sts, the system will restore to the status before the power failed. The Choices: Off (default), On, Former-Sts.

Game Port Address

Set the Game Port I/O Address.

The Choices: Disabled, 201 (default), 209.

Midi Port Address
Set Midi Port Base I/O Address.
The Choices: Disabled, 330 (default), 300, 290.

Midi Port IRQ
This determines the IRQ in which the Midi Port can use.
The Choices: 5, 10(default).

SCR Port Address
Set the smart card address.
The Choices: Disabled, 800(default), 700, 248, 240.

SCR Port IRQ
Set the smart card IRQ. The Choices: 5 (default), 3, 4, 11.

MS Port Address
Set the memory stick address.
The Choices: Disabled (default), 240, 248, 700, 800.

MS Port IRQ
Set the memory stick IRQ.
The Choices: 11 (default), 5, 3, 4.

8.4 Power Menu

```
              Phoenix - AwardBIOS CMOS Setup Utility
   Main  Advanced  Peripherals  Power  HW Monitor  Defaults  Exit

     ACPI Suspend Type            [S1(POS)]                Item Help
   X Run VGABIOS if S3 Resume     Auto
     Power Management             [User Define]       Menu Level   ►
     Video Off Method             [Blank Screen]
     Video Off In Suspend         [NO]
     Suspend Type                 [Stop Grant]
     MODEM Use IRQ                [3]
     Suspend Mode                 [Disabled]
     HDD Power Down               [Disabled]
     Soft-Off by PWR-BTTN         [Instant-Off]
   ► Wake Up Control


   ↑↓→←:Move  Enter:Select  +/-/PU/PD:Value  F10:Save  ESC:Exit  F1:General Help
       F5:Previous Values     F6:Default Settings     F7:Turbo Settings
```

The Power Management Setup Menu allows you to configure your system to utilize energy conservation and power up/power down features.

ACPI Suspend Type

The item allows you to select the suspend type under the ACPI operating system.

The Choices: S1 (POS) (default)   Power on Suspend
            S3 (STR)   Suspend to RAM
            S1 & S3   POS+STR

Run VGA BIOS if S3 Resume

Set whether you want to run VGA BIOS when the system wakes up from S3.
The Choices: Auto, yes, no.

Power Management

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

User Defined (default)
Allow you to set each mode individually.
When not disabled, each of the ranges is from 1 min. to 1 hr.

Min. Saving
Minimum power management.
Suspend Mode = 1 hr.

Max. Saving
Maximum power management only available for sl CPU's.
Suspend Mode = 1 min.

Video Off Method

This option determines the manner in which the monitor is goes blank.

The Choices:

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 (default)

This option only writes blanks to the video buffer.

DPMS Support

Initial display power management signaling.

Video Off In Suspend

Set if the monitor will be on when the system suspend.
Choices: No (default), yes.

Suspend Type

The item allows you to select the suspend type under ACPI operating system.
The Choices: Stop grant (default), PWROn Suspend.

Modem Use IRQ

This determines the IRQ, which can be applied in MODEM use.
The Choices: NA, 3 (default), 4, 5, 7, 9, 10, 11.

Suspend Mode

The item allows you to select the suspend type under ACPI operating system.
The Choices: Disabled (default), 1 Min, 2 Min, 4 Min, 6 Min, 8 Min, 10 Min, 20 Min, 30 Min, 40 Min, 1 Hour.

HDD Power Down

This item allows you to adjust the time for HDD Off.
The Choices: Disabled (default), 1Min ~ 15Min.

Software-Off by PWR-BTTN

When you select Enabled, pressing the power button for more than 4 seconds forces the system to enter the Soft-Off state when the system has "hung."
The Choices: Instant Off (default), Delay 4 Sec.

Wake Up Control

If you highlight the literal "Press Enter" next to the "Wake Up Control" label and then press the enter key, it will take you a submenu with the following options:

PCI PME Wake Up

This item allows you to control the PCI PME Wake Up.
The Choices: Disabled (default), Enabled.

RTC Wake Up

When "Enabled", you can set the date and time at which the RTC (real-time clock) alarm awakens the system from Suspend mode. The Choices: Enabled, Disabled (default).

Day (of Month) Alarm

Select a date of month. Set 0 if you prefer to set a weekly alarm.

Time (hh:mm:ss) Alarm

Set the time you want the alarm to go off.

USB KB Wake Up From S3

This item allows you to select USB devices to awake the system from suspend mode.

LAN Wake up

This item allows you to select LAN devices to awaken the system from suspend mode.

Ring Wake up

This item allows you to select modem devices to awaken the system from suspend mode.

Reload Global Timer Events

The events can prevent the system from entering a power saving mode or can awaken the system from such a mode. In effect, the system remains alert for anything, which occurs to a device, which is configured as Enabled, even when it is in a power down mode.

Primary/Secondary IDE / FDD, COM, LPT Port / PCI PIRQ [A-D]#

The Choices: Enabled, Disabled (default).

8.5 HW Monitoring

```
            Phoenix - AwardBIOS CMOS Setup Utility
   Main  Advanced  Peripherals  Power  HW Monitor  Defaults  Exit

   Case Open Warning          [Disabled]              Item Help
   System Temperature
   CPU Temperature                               Menu Level  ▶
   CPU Fan Speed(CPUFAN)
   Chassis Fan Speed(CHASFAN)
   Vcore
   +3.3 V
   +5 V
   +12 V
   VBAT (V)
   5VSB (V)


 ↑↓→←:Move  Enter:Select  +/-/PU/PD:Value  F10:Save  ESC:Exit  F1:General Help
     F5:Previous Values    F6:Default Settings    F7:Turbo Settings
```

Case Open Warning

If this function is set to "Enabled" and someone open the case, the system will automatically show alert messages on the screen when you power on your computer. On the contrary, if this function is disabled, the system will not show alert messages when you power on your computer even if the case is opened.
The Choices: Disabled (default), Enabled.

8.6 Defaults

Load System Defaults settings

Use this menu to load the BIOS default values for the minimal/stable performance for your system to operate.

Load System Turbo Settings

This selection allows you to use the best settings for your system.

Load CMOS From BIOS

With this function, you can load defaults from flash ROM for battery less or power shortage.

Save CMOS From BIOS

With this function, you can save defaults from flash ROM to battery less or power shortage.

8.7 Exit Menu

```
           Phoenix - AwardBIOS CMOS Setup Utility
 Main  Advanced  Peripherals  Power  HW Monitor  Defaults  Exit

     Save & Exit Setup                          │        Item Help
     Exit Without Saving                        ├────────────────────
                                                │  Menu Level    ►
                                                │
                                                │  Save Data to CMOS
                                                │
                                                │
                                                │
                                                │
                                                │
                                                │
                                                │
                                                │
                                                │
                                                │
                                                │
 ↑↓→←:Move  Enter:Select  +/-/PU/PD:Value  F10:Save  ESC:Exit  F1:General Help
    F5:Previous Values      F6:Default Settings      F7:Turbo Settings
```
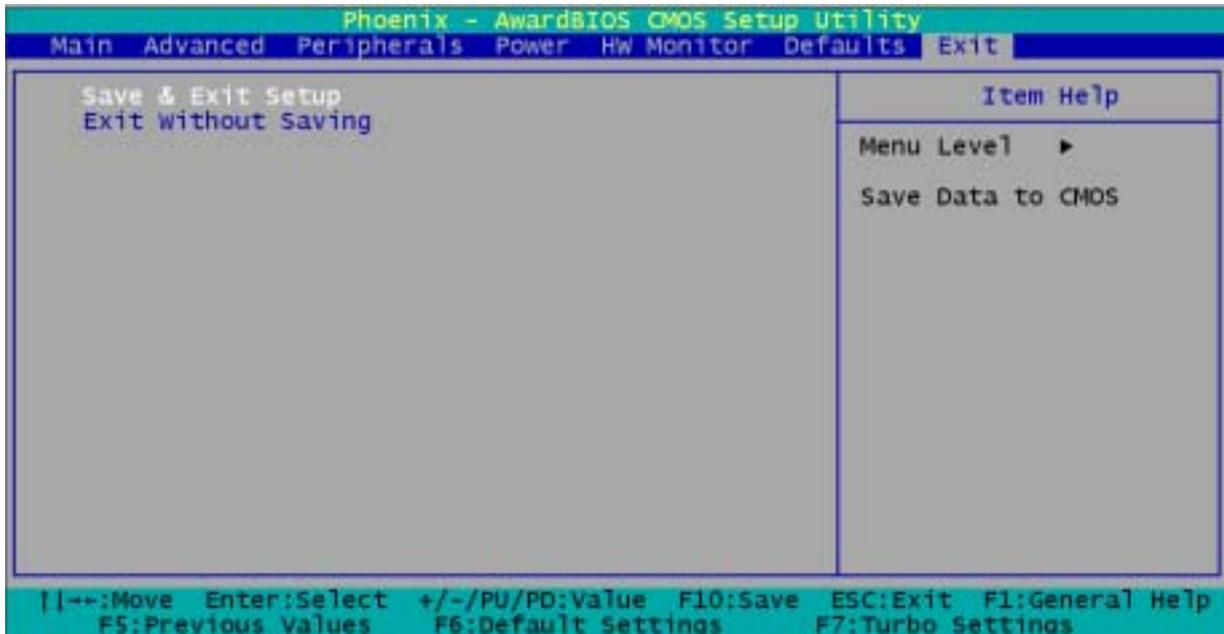
Save & Exit Setup

Save all configuration changes to CMOS(memory) and exit setup. Confirmation message will be displayed before proceeding.

Exit Without Saving

Abandon all changes made during the current session and exit setup. Confirmation message will be displayed before proceeding.

Chapter 9: Software Setup

## 9.1 Software List

Category	Platform	Location in CD
Intel Onboard Audio Driver	Windows 95 /98 /2000 /XP /NT4	\Intel\Driver\Audio \Realtec\a3.13_alc650\
Promise RAID Driver		\Intel\Driver\Promise \Pdc20276\2.00.1240B26
Onboard LAN Driver		\Intel\Driver\Intel\Lan\v6.2
Smart Card & Memory Stick Driver		\Intel\Driver\ \Smart Card&Memory Stick \Winbond\R1.01
WinXP USB Wake from S3 Driver		\Intel\Driver \WinXP USB Wake from S3
Intel Inf Driver		\Intel\Driver\Intel \Inf\V4.00.1011
Intel IDE tool		\Intel\Driver\Intel \Iaa\2.2.0.2128
BIOS files		\Intel\BIOS\
PC-cillin 2002		\Intel\UTILITY \PC-Cillin2002
Acrobat Reader		\Intel\UTILITY \PC-Cillin2002\Acrobat

9.2 Software Installation

Simply put Driver CD into CD-ROM drive and the Installation Utility will auto-run or you can launch the Driver CD Installation Utility manually. The steps shown below are for reference:

   1. Once the Driver CD auto-runs, you will see the screen at first, there are three buttons optional.
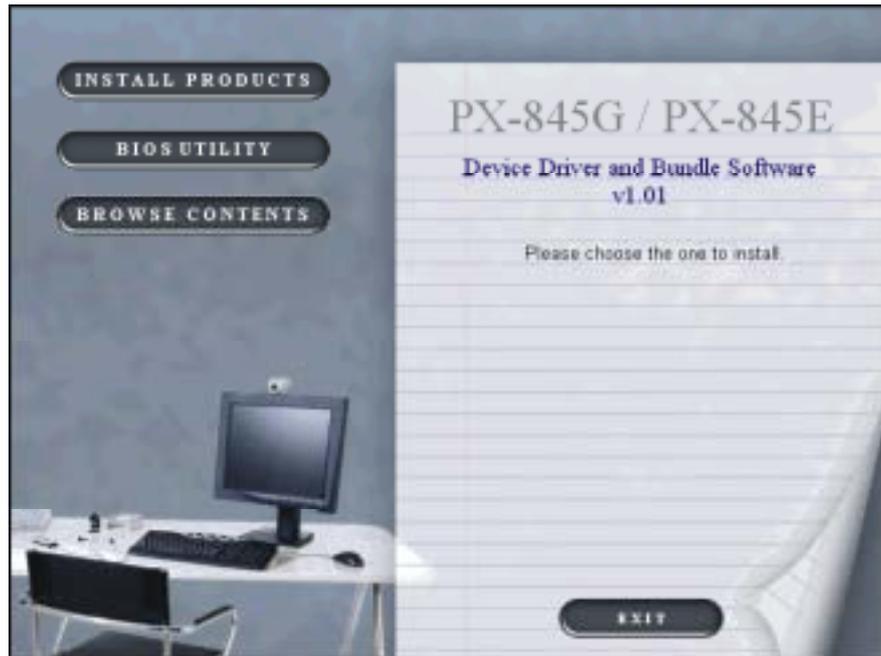

   2. Click **INSTALL PRODUCTS** on the first picture, and then you can see the screen like the picture below.

3. Click **DRIVER INSTALL** on the second picture, you can choose to install the drivers of AGP, AUDIO, RAID, LAN, Smart Card, Memory Stick and IDE busmaster. Click the driver you need to install.

4. By clicking **UTILITY INSTALL** on the second picture, you will have two programs to choose and install. Follow the description after clicking the button.

5. If you click the [BIOS UTILITY] button on the first page, you will see this screen. To repair bios, if you need to, the files are in this folder.

6. Clicking the third button [BROWSE CONTENTS], we can browse all the files in the Drive CD.
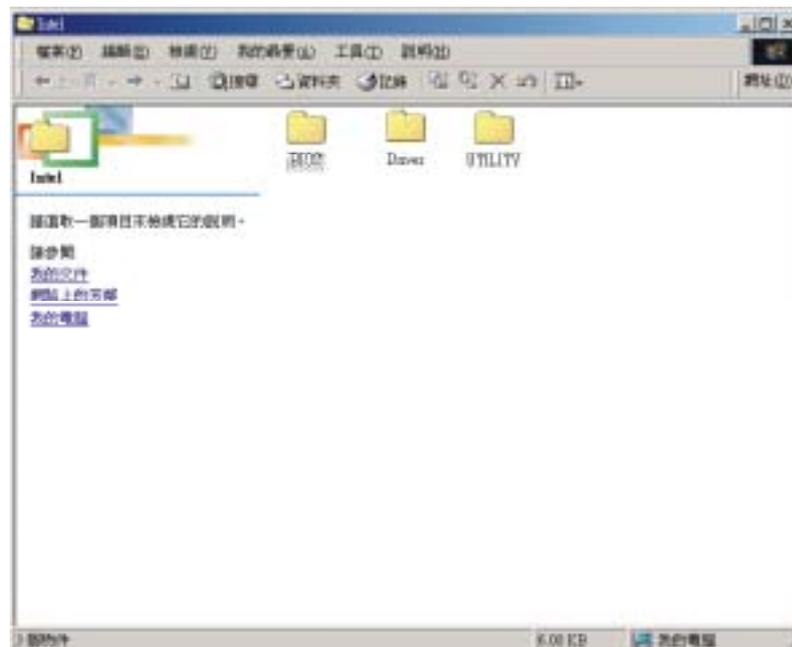
7. You can click [EXIT] to finish using the Drive CD.

Chapter 10: Troubleshooting

Problem 1:

No power to the system at all. Power light does not illuminate, fan inside power supply does not turn on. Indicator light on keyboard does not turn on.

Causes:
1. Power cable is unplugged.
2. Defective power cable.
3. Power supply failure.
4. Faulty wall outlet; circuit breaker or fuse blown.

Solutions:
1. Make sure power cable is securely plugged in.
2. Replace cable.
3. Contact technical support.
4. Use a different socket, repair outlet, reset circuit breaker or replace fuse.

Problem 2:

System inoperative. Keyboard lights are on, power indicator lights are lit, and hard drive is spinning.

Causes:
Memory DIMM is partially dislodged from the slot on the mainboard.

Solutions:
Using even pressure on both ends of the DIMM, press down firmly until the module snaps into place.

Problem 3:

System does not boot from hard disk drive, can be booted from CD-ROM drive.

Causes:
1. Connector between hard drive and system board unplugged.
2. Damaged hard disk or disk controller.
3. Hard disk directory or FAT is scrambled.

Solutions:
1. Check cable running from disk to disk controller board. Make sure both ends are securely plugged in; check the drive type in the standard CMOS setup.
2. Contact technical support.
3. Backing up the hard drive is extremely important. All hard disks are capable of breaking down at any time.

Problem 4:

System only boots from CD-ROM. Hard disk can be read and applications can be used but booting from hard disk is impossible.

Cause:
Hard Disk boot program has been destroyed.

Solution:
Back up data and applications files. Reformat the hard drive. Re-install applications and data using backup disks.

Problem 5:

Error message reading "SECTOR NOT FOUND" or other error messages not allowing certain data to be retrieved.

Cause:
A number of causes could be behind this.

Solution:
Back up any salvageable data. Then low-level format, partition, and high-level format the hard drive. Re-install all saved data when completed.

Problem 6:

Screen message says "Invalid Configuration" or "CMOS Failure."

Cause:
Incorrect information entered into the configuration (setup) program.

Solution:
Review the equipment of your system. Make sure correct information is in setup.

Problem 7:

The Screen is blank.

Cause:
No power to monitor.

Solution:
Check the power connectors to monitor and to system.

Problem 8:

No screen.

Causes:
1. Memory problem.
2. Computer virus.

Solutions:
1. Reboot your computer. Reinstall the memory, make sure that all memory modules are installed in correct sockets.
2. Use anti-virus programs to detect and clean viruses.

Problem 9:

Screen goes blank periodically.

Cause:
Screen saver is enabled.

Solution:
Disable screen saver.

Problem 10:

Keyboard failure.

Cause:
Keyboard is disconnected.

Solution:
Reconnect keyboard. Check keys again, if no improvement, replace keyboard.

Problem 11:

No color on screen.

Causes:
1. Faulty Monitor.
2. CMOS incorrectly set up.

Solutions:
1. If possible, connect monitor to another system. If still no color, replace the monitor.
2. Call technical support.

Problem 12:

The screen shows "C: drive failure."

Cause:
Hard drive cable not connected properly.

Solution:
Check the hard drive cable.

Problem 13:

Cannot boot system after installing second hard drive.

Causes:
1. Master/slave jumpers not set correctly.
2. Hard drives not compatible / different manufacturers.

Solutions:
1. Set master/slave jumpers correctly.
2. Run SETUP program and select correct drive types. You're your drive manufacturers for compatibility with other drives.

Problem 14:

Missing operating system on hard drive.

Cause:
CMOS setup has been changed.

Solution:
Run setup and select correct drive type.

Problem 15:

Certain keys do not function.

Cause:
Keys jammed or defective.

Solution:
Replace keyboard.

§If you still require assistance after reading this section, please contact your local distributer for more technical support.