

# Motherboard 4845GLQ

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# *Memo*

# Chapter 1

## Motherboard 4845GLQ

### 1. 4845GLQ Specifications

#### 1.1 Introduction

The 4845GLQ motherboard is an integration of Intel P4 CPU in Socket-478 packaging and the North Bridge i845GL supporting 400 MHz Front Side Bus.

North Bridge i845GL on board also supports DDR 266/200 SDRAMs in DDR 266MHz main bandwidth, while the South Bridge ICH4 provides stable supports of ULTRA ATA 100, 6-channel Audio playback and USB 2.0/1.1 interface.

The resulting architecture will provide an ideal multi-task environment to support operating systems such as MS-DOS, Windows, Windows NT, Windows ME, Windows 2000, Novell, OS/2, Windows 95/98, Windows 98SE, Windows XP, UNIX, Liunx, SCO UNIX etc. This user-friendly manual is to describe in detail how to install, configure and use this motherboard with drivers and BIOS setup illustrations.

**This manual is a general reference of the first release of this motherboard which is subject to update without notice. If any difference is found between this manual and the motherboard you are using, please visit our Web Site provided on the cover of this manual.**

## 1.2 Package Contents

- ◆HDD UDMA66/100 Cable x2.
- ◆FDD Cable.
- ◆Flash Memory with BIOS.
- ◆I/O Shielding and Sticker
- ◆Fully Setup Driver CD with built in utilities.
- ◆User Manual.

## 1.3 Specifications and Features

### CPU Processor

- | Support 400MHz System Interface speed
- | Single Socket 478 for Intel P4™ 1.5 to 2.4GHz or higher\*, and Intel Celeron 1.7 to 2GHz or higher\*

\* The higher frequency CPU should be compatible with Intel CPU specification and the motherboard latest BIOS version which will be released in our Web Site shown on the cover page.

### Chipset

- | Intel 845GL North Bridge
- | Intel ICH4 South Bridge

### PCI

- | Supports 33MHz PCI Bus speed.

### DDR SDRAM Memory

- | Supporting 64/128/256/512/1G...MB DDR module
- | Supporting Synchronous 266/200MHz DDR SDRAM
- | Supporting a maximum memory size of 2GB with DDR SDRAM

### Bus Slots

- | 2 x 32-bit PCI slots.

### Universal Serial Bus

- | Supporting two on-board Universal Serial Bus(USB)Ports and four external Universal serial Bus(USB)Ports.
- | Supporting USB 2.0/1.1

### WOL (Wake On LAN)

- | Supporting system power-on by LAN Ring-up signal.

**Award BIOS**

- | Supporting Plug & Play specification which detects the peripheral devices and expansion cards automatically
- | Supporting CD-ROM, SCSI, LAN BOOT, Temperature sensor, LAN, Alarm Bus CLK setup
- | Supporting Desktop Management Interface (DMI) function for recording mainboard specification

**ATA 100 On Board**

- | Supporting PIO Mode 5, Master Mode, high performance hard disk drives.
- | Supporting Ultra DMA 33/66/100 Bus Master Mode.
- | Supporting 4xIDE devices, including CD-ROM, CD-R, CD-RW, LS-120 and high capacity hard disk drives with LBA mode

**PCI-Based AC 97 Digital Audio Processor**

- | AC 97 2.2 compatible Codec, 6-channel Audio interface.
- | 18-bit Stereo Full-Duplex Codec with up to 48 KHz sampling rate
- | 2 Analog Line-level Stereo inputs for connection from Line, CD
- | 2 Analog Line-level Stereo inputs for speakerphone and PC beep

**Intel Extreme Graphics in i845GL**

- | Rapid pixel and texel rendering.
- | Zone Rendering
- | Dynamic Video Memory
- | Intelligent Memory Management
- | Providing stunning graphics without the expense of an add-in graphic card

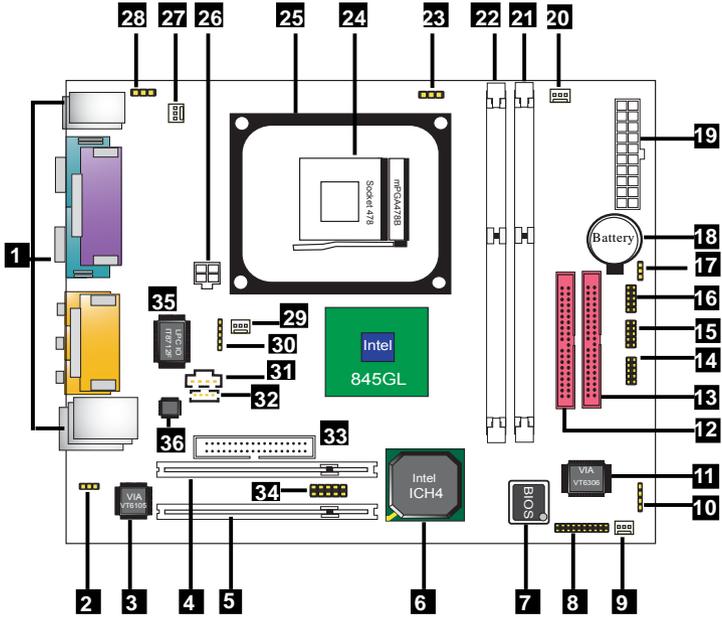
**Hardware Monitoring in Chip IT8712F**

- | Core voltage, CPU temperature and Fan speed monitoring

**LAN Chip on board**

- | VIA VT6105 LAN Chip on board for 10/100 MB LAN transmission.

# 1.4 4845GLQ Layout Diagram



**4845GLQ Component Layout :**

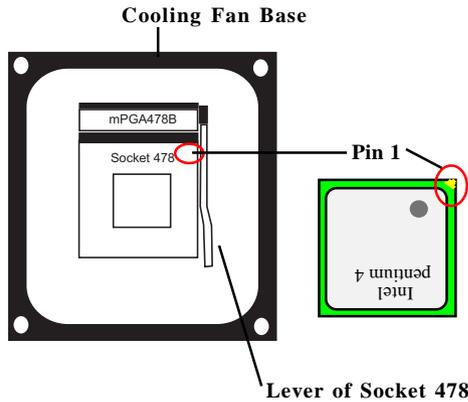
1. Back Panel: Back Panel I/O Connectors ( Mouse, Keyboard, COM1, VGA, Printer, Mic in, Line in, Speaker-out, Game Stick, USB0/1, Optional RJ45)
2. JP5: USB0/1 Wake-up Function Selector
3. Chip VT6105: Optional LAN Controller
4. PCI1: PCI Slot
5. PCI2: PCI Slot
6. Intel ICH4: South Bridge
7. Flash ROM: Award BIOS
8. Panel1: Front Panel Connectors
9. Fan2: Cooling Fan Connector with sensor function
10. (Default connector)
11. Chip VT6306: Optional IEEE 1394 high speed Serial Bus chip
12. IDE2: IDE Connector
13. IDE1: IDE Connector
14. USB1: USB Pin-header for 2 USB ports
15. JP7: Front Audio Connector
16. COM2: Serial Pin-header for one serial port
17. JP3: Clear CMOS Selector
18. Battery
19. PW1: ATX Main Power Connector
20. Fan3: Cooling Fan Connector with sensor function
21. DIMM2: DDR SDRAM Slot
22. DIMM1: DDR SDRAM Slot
23. JP1: CPU Frequency Selector
24. Socket 478: Pentium 4 CPU socket
25. P4 CPU Fan Base
26. PW2: +12V Power Connector
27. Fan1: Cooling Fan Connector with sensor function
28. JP2: Keyboard & Mouse Wake-up Selector
29. Fan4: Cooling Fan Connector without sensor function
30. IR1: Infrared Signal Transmission/Reception Connector
31. CDIN1: CD Audio-in Connector
32. CDIN2: CD Audio-in Connector
33. FD1: Floppy Disk Drive Connector
34. USB2: USB Pin-header for 2 USB ports
35. IT8712F: LPC I/O chip with Hardware Monitor function
36. ALC650: AC'97 Audio Codec, 6-channel compliant

## 1.5 CPU and CPU Fan Installation

This motherboard is designed with Socket 478 for Intel P4™ processor.

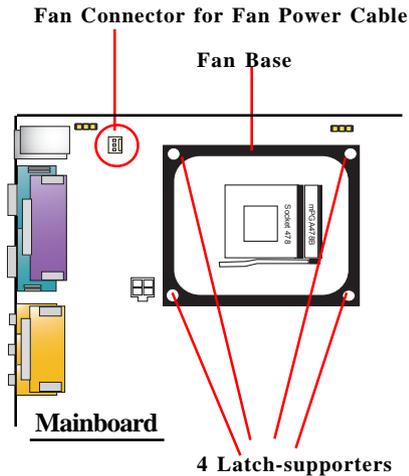
### 1.5.1 CPU Installation with Socket 478

1. Pull the lever sideways away from the socket then raise the lever to a 90-degree angle.
2. Locate Pin 1 in the socket. Pin 1 of CPU is marked by the yellow corner or cut edge on the CPU. Match Pin 1 of Socket 478 and Pin 1 of CPU.
3. Pull up the lever of Socket 478 to let the CPU in and press the lever down to lock the CPU.
4. Make sure that Pin 1 of Socket 478 is matching with Pin 1 of CPU.
5. Make sure that all CPU pins are completely in socket before pressing down the socket lever.



## 1.5.2 CPU Fan Installation with P4 Fan Base

1. P4 CPU Fan is typically designed with 4 latches and mounted with a thick heatsink. Please do not use other type of CPU fan which cannot match the P4 Fan base on board.
2. Install the P4 CPU fan into the Fan base in such a way that the 4 latches of the CPU Fan match with the 4 Supporters of the CPU Fan Base.
3. Press down the latches to lock CPU Fan to the Fan Base.
4. Then connect the Fan Power Cable to one of the Fan connectors on board.
5. Make sure that the Fan Power Cable is correctly connected to Fan Connector.



## 1.6 DDR SDRAM Installation

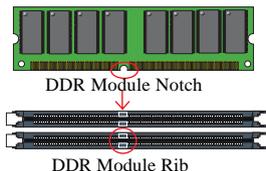
This motherboard supports a maximized 2GB DDR SDRAM. It provides two 184-pin unbuffered DDR sockets. It supports 64MB to 1GB DDR memory module.

### DDR SDRAM Installation Procedures:

1. The DDR socket has a “Plastic Safety Tab” and the DDR memory module has an asymmetrical notch”, so the DDR memory module can only fit into the slot in one direction.
2. Push the tabs out. Insert the DDR memory modules into the socket at a 90-degree angle then push down the module vertically to fit it into place.
3. The Mounting Holes and plastic tabs should fit over the edge and hold the DDR memory modules in place.

Bank	Memory module
DIMM 1	64MB, 128MB, 256MB, 512MB, 1GB
	184 pin, 2.5V DDR SDRAM
DIMM 2	64MB, 128MB, 256MB, 512MB, 1GB
	184 pin , 2.5V DDR SDRAM
	<b>Total System Memory (Max 2GB)</b>

184-pin DDR Module

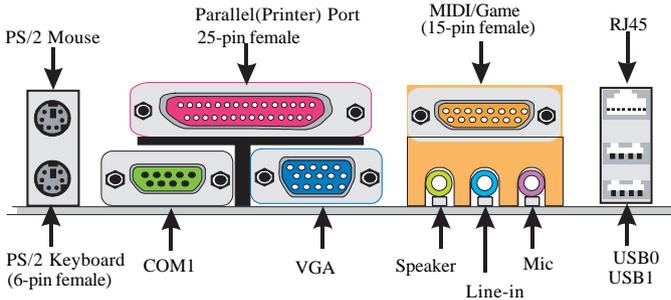


**Warning:** Be sure to turn off system power whenever to insert or remove a Memory Module. Otherwise, the power will damage the module or even the system.

## 1.7 Connectors & Jumpers Setting

### 1.7.1 Back Panel I/O Connectors

This motherboard provides the following back panel connectors:



#### 1.7.1.1 PS/2 Mouse / Keyboard CONN:

The motherboard 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.

#### 1.7.1.2 USB0/1 and RJ45

The motherboard provides a OHCI(Universal Host Controller Interface) & EHCI(Enhance Host Controller Interface) Universal Serial Bus Roots for connecting USB devices such as a keyboard, mouse and other USB devices.

The RJ-45 connector is located on top of the USB connectors. The connector allows the motherboard to connect to a Local Area Network (LAN) through a network hub .

	<b>RJ-45</b>	<b>10/100MLAN Port</b>
	<b>USB Pin</b>	<b>Signal</b>
	<b>1</b>	<b>+5V_SB</b>
	<b>2</b>	<b>USBP0-(USBP1-)</b>
<b>3</b>	<b>USBP0+(USBP1+)</b>	
<b>4</b>	<b>GND</b>	

### 1.7.1.3 Serial Interface Port: 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 computer systems together. If you like to transfer the contents of your hard disk to another system, it can be accomplished with serial port.



### 1.7.1.4 VGA Interface Connector: VGA(15 Pin)

This connector is for output to CRT display devices. For example, connect this connector directly to a CRT monitor for CRT display.



### 1.7.1.5 Parallel Interface Port

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

### 1.7.1.6 Joystick / Midi Connector

You can connect a joystick or game pad to this connector.

### 1.7.1.7 Audio Port Connectors

Speaker out is a connector for Speakers or Headphones. Line in is used for external CD player, Tape player, or other audio devices. Mic is a connector for the microphones.

### 1.7.2 ATX Main Power Connectors: PW1/PW2

This connector supports the power button on-board. Using the ATX power supply, functions such as Modem Ring Wake-Up and Soft Power Off are supported on this motherboard. This power connector supports instant power-on functionality, which means that the system will boot up instantly when the power connector is inserted on the board. ATX 4-pin power connector only support +12V voltage.



Pin PW2 Signal		Pin PW2 Signal	
1	GND	2	GND
3	+12V	4	+12V



Pin PW1 Signal		Pin PW1 Signal	
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	PW-OK	18	-5V
9	5V_SB	19	5V
10	12V	20	5V

**Note:**

When you set up P4 power supply, both PW1 and PW2 must be connected to power.

**Important:**

To switch on your power supply, please make sure:

1. Memory Module is properly installed.
2. Power supply setup is OK.

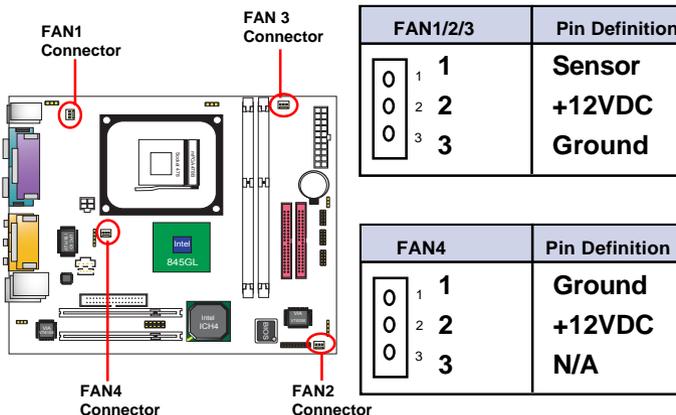
### 1.7.3 Floppy Disk Connector: FDD

This connector supports the provided floppy drive ribbon cable. After connecting the single end of the cable to the board, connect the two plugs on the other end to the floppy drives.

### 1.7.4 Hard Disk Connectors: IDE1/IDE2

These connectors are provided with IDE hard disk ribbon cable into the package. After connecting the end of cable with single connector to the mainboard, connect the other two connectors at the other end to your hard disk. If you install two hard disks, you must configure the second drive to Slave mode by setting its jumper settings. BIOS now supports SCSI device or IDE CD-ROM boot up (see "HDD Sequence SCSI/IDE First" & "Boot Sequence" in the BIOS Features Setup of the BIOS SOFTWARE).

### 1.7.5 Fan Connectors: FAN1~4



### 1.7.6 CD Audio-In Connectors: CDIN1/CDIN2

CDIN1 and CDIN2 are the connectors for CD-Audio Input signal. Please connect them to CD-ROM CD-Audio output connector. CDIN1 and CDIN2 have the same pin assignment but different pin pitch.

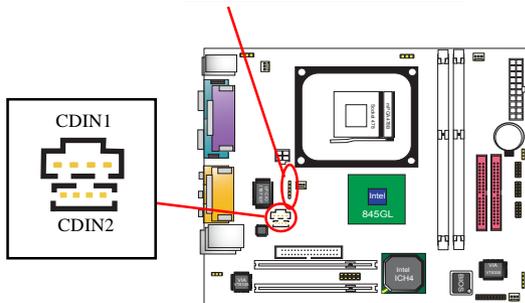
Pin	CDIN1	Definition
1		CD-L
2		GND
3		GND
4		CD-R

Pin	CDIN2	Definition
1		GND
2		CD-L
3		GND
4		CD-R

### 1.7.7 IR infrared module: IR1 Connector

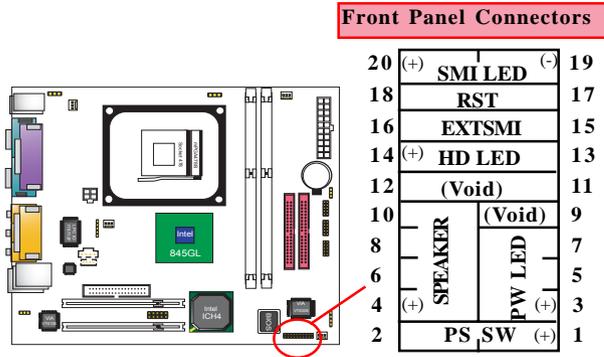
This connector supports the optional wireless transmission and reception infrared module. You must configure the setting through the BIOS setup to use the IR function.

IR1 Pin	Assignment
1	+5V
2	N/A
3	IRRX
4	GND
5	IRTX





## 1.7.9 Front Panel Connectors: PANEL1



### PSSW

The system power is controlled by a momentary switch connected to this lead. Pushing the button once will switch the system ON.

### Power LED Lead (PW\_LED)

The system power LED lights when the system power is on.

### Speaker Connector (SPEAKER)

The speaker (onboard or offboard) provides error beep code information during the Power 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.

### Hard Drive LED Connector (HD\_LED)

This connector supplies power to the cabinet IDE activity LED. Read and write activity by devices connected to the Primary or Secondary IDE connectors will cause the LED to light up.

**SMI Suspend Switch Lead**

This allows the user to manually place the system into the Suspend Green mode . System activity will be instantly decreased to save electricity and expand the life of certain components when the system is not in use. This 2-pin connector (see the figure) connects to the case-mounted suspend switch. If you do not have a switch for the connector, you may use the "Turbo Switch" instead since it does not have a function. If you want to use this connector, the "Suspend Switch" in the Power Management Setup of the BIOS SOFTWARE section should be enabled.

**Reset Switch Lead (RST)**

The connector can be connected to a reset switch. Press this reset switch to restart system.

### 1.7.10 COM2 Header : COM2

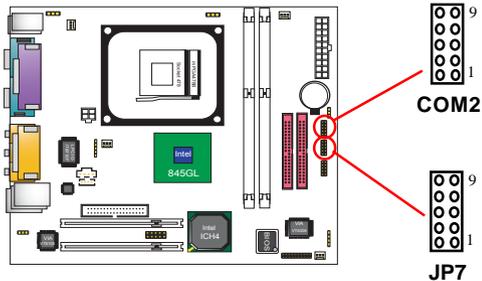
COM2 supports an external serial port with a RS232 serial cable. External serial devices can be connected to mainboard with this COM2 Header and the cable.

COM2 Pin Assignment		COM2 Pin Assignment	
1	NDCD2	2	NSIN2
3	NTXD2	4	NTDR2
5	GND	6	NDSR2
7	NRTS2	8	NCTS2
9	NR12		

### 1.7.11 Front Audio Connector: JP7

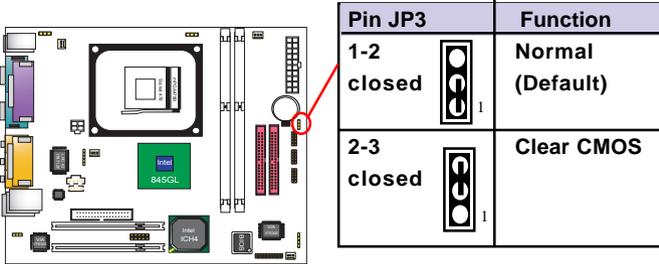
JP7 is the Front Audio Connector which can be connected to a Front Audio Panel to support various external audio devices.

JP7 Pin Assignment		JP7 Pin Assignment	
1	AUD_MIC	2	AUD_GROUND
3	AUD_MIC_BIOS	4	AUD_VCC
5	GNDAUD_FRONT_R	6	AUD_RET_R
7	HP_ON	8	KEY
9	AUD_FRONT_L	10	AUD_RET_L



### 1.7.12 CMOS Function Selector: JP3

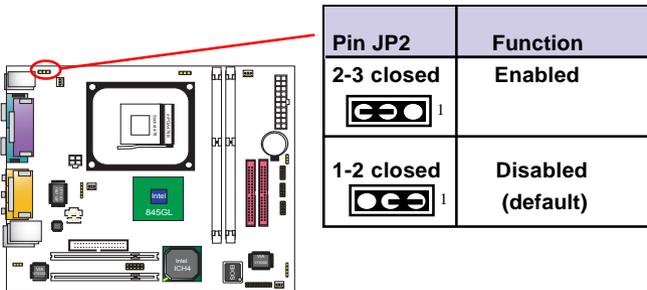
When you have problem with booting system, you may clear CMOS to restore the optimum default BIOS data.



1. Remove the Jumper cap of JP3 from 1-2.
2. After 1 or two seconds, set JP3 to 2-3 closed with the jumper cap.
3. After 1 or two seconds, restore the JP3 to 1-2 closed.  
Now, the CMOS RAM has restored to the optimum default setting.

### 1.7.13 Keyboard/Mouse Wake-up selector: JP2

JP2 is designed to wake up system (under ACPI S3 Suspend Mode) by Keyboard/Mouse:



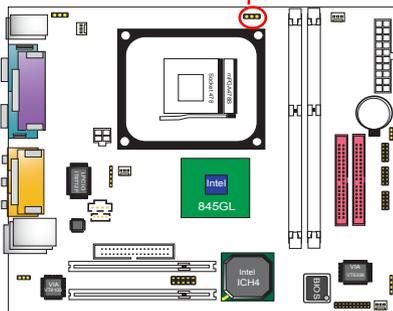
### 1.7.14 CPU Clock Frequency Selector: JP1

JP1 is designed to detect the CPU Frequency on board. Setting JP1 to 2-3 closed (default) will only offer 100MHz CPU clock to run on board, which will provide a 400MHz Front Side Bus. If JP1 is set to 1-2 closed, the CPU clock will be auto-detected.

**NOTE:**

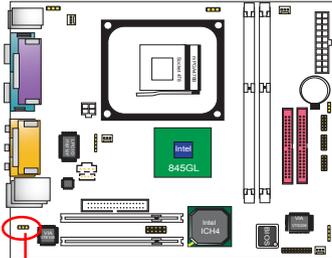
Intel usually provides CPUs with locked CPU frequency so as to forbid CPU overclock. We therefore don't recommend users to do CPU overclocking on Intel CPU because you may risk CPU damage.

JP1 Setting	 1	 1
	1-2 closed	2-3 closed
CPU(MHz)	Auto-detect	100 MHz (default)



### 1.7.15 Ports USB0/1 Wake-up Selector : JP5

JP5 is designed to select the USB1 wake up function of system from ACPI S3 Suspend Mode.



Pin JP5	Function
1-2 	Disabled (default)
2-3 	Enabled

# Chapter 2

## BIOS Setup

## 2. BIOS Setup

### 2.1 BIOS Support

This chapter discusses the Award BIOS Setup program built in the ROM BIOS. The Setup program allows the user to modify the basic system configuration. The modification is then stored in battery-backed RAM so that it can retain the setup information after the power is turned off. The Award BIOS installed in your computer system ROM (Read Only Memory) is a custom version of an industry standard BIOS. The BIOS provides critical low-level support for standard devices such as disk drives and serial and parallel ports. This chapter is intended for guiding you through the process of configuring your system BIOS.

#### **Plug and Play Support**

This AWARD BIOS supports the Plug and Play Version 1.0A specification. ESCD(Extended System Configuration Data) write is also supported.

#### **EPA Green PC Support**

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

#### **PCI Bus Support**

This AWARD BIOS also supports Version 2.1 of the Intel PCI (Peripheral Component Interconnect) local bus specification.

### **APM Support**

This 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 AWARD BIOS.

### **DRAM Support**

DDR (Double Data Rate) are supported.

### **CPU Support**

This AWARD BIOS supports the Intel P4 Processor.

### **Setup Menu**

In general, you use the arrow keys to highlight items of the Main BIOS Setup Menu, 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.

*Note:*

**BIOS version 1.0 is for reference only. If there is a change in BIOS version, please use the actual version on the BIOS.**

<b>Keystroke</b>	<b>Function</b>
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 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



**Standard CMOS Features**

This setup page includes all the items in standard compatible BIOS.

**Advanced BIOS Features**

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

**Advanced Chipset Features**

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

**Integrated Peripherals**

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

**Power Management Setup**

This setup page includes all the items of the power management features.

**PnP/PCI Configurations**

This setup page includes the user defined or default IRQ Setting.

**PC Health Status**

This page shows the hardware Monitor information of the system.

**Frequency/Voltage Control**

This setup page controls the CPU's clock and frequency ratio.

**Load Fail-safe Defaults**

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

**Load Optimized Defaults**

These settings are for configuring a workable computer when something is wrong. If you cannot boot the computer successfully, select the BIOS Setup options and try to diagnose the problem after the computer boots. These settings do not provide optional performance.

**Set Supervisor/User Password**

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

**Save & Exit Setup**

Save CMOS value changes to CMOS and exit setup.

**Exit Without Saving**

Abandon all CMOS value changes and exit setup.

## 2.3 Standard CMOS Features

This main option in the Standard CMOS Setup Menu is divided into 10 fields or items. Each field provides one or more setup choices. Use the arrow keys to highlight the field and then use the <PgUp> or <PgDn> keys to select the value or choice.

### Phoenix - AwardBIOS CMOS Setup Utility Standard CMOS Features

Date(mm:dd:yy)	Tue,Jun 6 2002	Item Help
Time (hh:mm:ss)	11:26:10	
IDE Primary Master	None	Menu Level
IDE Primary Slave		
IDE Secondary Master		Change the day, month,year and century.
IDE Secondary Master	None	
Drive A	1.44M,3.5 in	
Drive B	None	
Floppy 3 Mode Support	Disabled	
Video	EGA/VGA	
Halt On	All,But Keyboard	
Base Memory	640K	
Extended Memory	65472K	
Total	1024K	

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

## Main Menu Selections

Item	Options	Description
Date (mm : dd :yy)	Month Day Year	Set the system,date. Note that the 'Day' automatically changes when you set the data.
Time (hh : mm : SS)	Hour Minute Second	Select the hour, minute and second of the time.
IDE Primary Master	Options are in its sub menu.	Press<Enter> to enter sub menu.
IDE Primary/ Slave	Options are in its sub menu.	Press<Enter> to enter sub menu.
IDE Second- ary Master	Options are in its sub menu.	Press<Enter> to enter sub menu.
IDE Second- ary Slave	Options are in its sub menu.	Press<Enter> to enter sub menu
Drive A Drive B	None 360K,5.25in, 1.2M,5.25in 720K,3.5M 1.44M,3.5in 2.88M,3.5in	Select the type of floppy disk drive installed in your system.
Floppy 3 Mode Support	Disabled Driver A Driver B Both	Disable or support the 3rd floppy mode in Drive A, or Drive B or both.
Video	EGA/VGA CGA 40 CGA 80 MONO	Select the default video device.

Item	Options	Description
Halt On	All Errors No Errors All, but Keyboard All, but Diskette All, but Disk/Key	Select the situation in which you want the BIOS to stop the POST process and notify.
Base Memory	(640K)	The amount of conventional memory detected during boot up.
Extended Memory	( 65472K )	The amount of conventional memory detected during boot up.
Total Memory	( 1024K )	The total memory available in system.

### IDE Primary(Master/Slave)/Secondary(Master/Slave)

Press Enter on these items to show the following sub-menu:

#### Primary Master/Secondary

IDE HDD Auto-Detection	Press Enter	Item Help
IDE Primary Master	Auto	Menu Level
Access Mode	Auto	
Capacity	13022MB	
Cylinder	25232	
Head	16	
Precomp	0	
Landing Zone	25231	
Sector	61	

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

**IDE HDD Auto-Detection**

Press Enter on this item to let BIOS auto-detect your Hard Disk and show all the Primary Hard Disk Parameters ( Capacity, Cylinder, Head, Precomp, Landing Zone, Sector) on the menu.

**IDE Primary(Master/Slave)/Secondary(Master/Slave)**

This item allows you to detect the Hard Disk in 3 ways.

- The Choices: Auto: BIOS Auto-detect HDD;
- None: No Hard Disk detected;
- Manual: Manually detect HDD

**Access Mode**

This item allows you to select the Access mode to the Hard Disk..

The Choices:

- CHS: Select the Cylinder, Head, Sector addressing mode to access Hard Disk;
- LBA: Select the Logical Block Addressing mode to access Hard Disk.
- Large: Select Large Mode to access Hard Disk;
- Auto: Allow BIOS to auto-access Hard Disk;

**Capacity**

Showing the capacity of Hard Disk in MB.

**Cylinder**

Showing the number of cylinder in the Hard Disk.

**Head**

Showing the number of heads in the Hard Disk.

**Precomp**

The number of Pre-compensation.

**Landing Zone**

Number of Landing zone in the Hard Disk.

**Sector**

The number of Sector in the Hard Disk.

## 2.4 Advanced BIOS Features

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

Virus Warning	Disabled	Item Help
CPU L1 & L2 Cache	Enabled	
Quick Power On Self Test	Enabled	
First Boot Device	Floppy	
Second Boot Device	HDD-0	
Third Boot Device	CD-ROM	
Boot Other Device	Enabled	
Swap Floppy Drive	Disabled	
Boot Up Floppy Seek	Disabled	
Boot Up NumLock Status	On	
Gate A20 Option	Fast	
Typematic Rate Setting	Disabled	
X Typematic Rate (Chars/Sec)	6	
X Typematic Delay (Msec)	250	
Security Option	Setup	
APIC Mode	Disabled	
MPS Version Control For OS	1.4	
OS Select For DRAM >64MB	Non-OS2	
HDD S.M.A.R.T. Capability	Disabled	
EPA / (H/W Monitor) Show	H/W Monitor	

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

### 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 attempts to write data into this area, BIOS will show a warning message on screen and alarm beep.

The Choices:

Disabled(default), Enabled.

**CPU L1 & L2 Cache**

These fields allow you to Enable or Disable the CPU's L1(Internal) / L2(External) cache to provide better performance.

The choices:

Enabled(default); Disabled

**Quick Power On Self Test**

This category speeds up Power on self-Test(POST) after you power up the computer. If it is set to Enabled, BIOS will shorten or skip some check items during POST.

The choices:

Enabled(default); Disabled

**First/Secondary/Third Boot Device**

This BIOS attempts 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, LAN, USB-FDD, USB-Zip, USB-CDROM, USB-HDD, Disabled.

**Boot Other Device**

Allows user to set booting from other devices.

The Choices:

Enabled(default), Disabled.

**Swap Floppy Drive**

If the system has two floppy drives, you can swap the logical drive name assignments.

The Choices:

Disabled(default), Enabled.

**Boot Up Floppy Seek**

If enabled, this item allows BIOS to test floppy drives to determine whether they have 40 or 80 tracks.

The Choices:

Disabled(default), Enabled.

**Boot Up NumLock Status**

Select power on state for Numlock..

The Choices

On (default): Numpad is number keys;

Off: Numpad is arrow keys;

**Gate A20 Option**

Select if chipset or keyboard controller should control Gate A20.

The choices:

Normal: A pin in the keyboard controller controls Gate A20.

Fast (default): Lets chipset control Gate A20.

**Typematic Rate Setting**

Allows user to adjust the key stroke repeat rate.

The choices:

Enabled: Enabled this option to adjust the keystroke repeat rate; Disabled (default): Enabled.

**Typematic Rate (Char/Sec)**

Range between 6(**default**) and 30 characters per second. This option controls the speed of repeating keystrokes.

**Typematic Delay (Msec)**

This option sets the time interval for displaying the first and the second characters.

The Choices: 250(default), 500, 750, 1000.

**Security Option**

This category allows you to determine whether to use password access the system and Setup, or just Setup.

The choices:

System: To access system and BIOS Setup with correct password.

Setup (default): To access BIOS Setup with correct password.

**APIC Mode**

Use this item to enable/disable the APIC Mode.

The Choices: Enabled; Disabled

**MPS Version Control for OS**

Use this item to select the MPS Version Control for OS.

The Choices: 1.4(default); 1.1

**OS Select For DRAM >64MB**

Select the operating system that is running with greater than 64MB of RAM on the system.

The Choices: Non-OS2(default), OS2.

**HDDS.M.A.R.T. Capability**

Allows user to choose the Self-monitoring Analysis and Reporting Technology for Hard Disk Drive.

The choices: Disabled(default); Enabled

**EPA / (H/W Monitor) Show**

Use this item to enable/disable the Environmental Protection Association (EPA) / Hardware Monitor logo on initiating screen..

The choices: H/W Monitor; EPA Logo

## 2.5 Advanced Chipset Features

This section allows you to configure the system based features of the installed chipset. This chipset manages bus speeds and access to system memory resources, such as DRAM and external cache. It also coordinates communications of the PCI bus. It must be stated that these items should never be altered. The default settings are set up to provide the best operating conditions for your system. The time you might need to make any changes would be if you discover that data is lost while using your system.

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

		Item Help
DRAM Timing Selectable	By SPD	
CAS Latency Time	2	
Active to Precharge Delay	6	
DRAM RAS# to CAS# Delay	3	
DRAM RAS# Precharge	3	
Turbo Mode	Disabled	
Memory Frequency for	Auto	
System BIOS Cacheable	Enabled	
Video BIOS Cacheable	Disabled	
Memory Hole At 15M-16M	Disabled	
Delayed Transaction	Enabled	
Delay Prior to Thermal	16 Min	
AGP Aperture Size (MB)	128MB	
** On-Chip VGA Setting **		
On-Chip VGA	Enabled	
On-Chip Frame Buffer Size	8MB	
Boot Display	Auto	

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

**DRAM Timing Selectable**

Use this item to select the DRAM Timing mode.

The Choices:

By SPD: DRAM Timing is by Serial Presence Detect (SPD) which is located on the memory module itself.

Manual: DRAM Timing is set manually with the options following this item below.

**CAS Latency Time**

This item is to set CAS (Column Access Stroke) Latency time.

The Choices: Auto; 1.5; 2; 2.5;

**Active to Precharge Delay**

This item is to set Active to Precharge Delay cycle.

The Choices: Auto; 7; 6; 5

**DRAM RAS# to CAS# Delay**

This item is to set the DRAM RAS (Row Access Stroke) to CAS (Column Access Stroke) Delay cycle.

The Choices: Auto; 3; 2

**DRAM RAS# Precharge**

This item is to set the DRAM RAS Precharge cycle.

The Choices: Auto; 3; 2

**Turbo Mode**

Use this item to disable/enable the Turbo Mode .

The Choices: Disabled(default); Enabled.

**Memory Frequency For**

This item is to set the DRAM frequency.

The Choices: Auto(default); DDR266; DDR200

**System BIOS Cacheable**

When enabled, the access to the system BIOS ROM address at F0000H-FFFFFFH is cached.

The Choices: Enabled(default), Disabled.

**Video BIOS Cacheable**

Enabled: Enable Video BIOS Cacheable.

Disabled (default): Disable Video BIOS Cacheable.

**Memory Hole At 15-16M**

In order to improve performance, certain space in memory can be reserved for ISA cards. This memory must be mapped into the memory's space below 16MB.

The Choices: Disabled(default); Enabled.

**Delayed Transaction**

This item is to enable/disable the Delayed Transaction function.

The Choices: Enabled (default), Disabled.

**Delay Prior to Thermal**

This item is to set the Delay Prior to Thermal cycle.

The Choices: 4min; 8min; 16min(default); 32min.

**AGP Aperture Size**

Select the size of the Accelerated Graphic Port(AGP) aperture . The aperture is a portion of the PCI memory address range dedicated for graphics memory address space. Host cycle that hit the aperture range are forwarded to the AGP without any translation.

The Choices: 128MB(default); 64MB; 32MB; 16MB; 8MB; 4MB; 256MB

**On-Chip VGA**

Enable or disable the On-chip VGA.

The Choices: Enabled (default); Disabled.

**On-Chip Frame Buffer Size**

If the Window Size is not disabled, this item is to set the Frame Buffer size.

The Choices: 1MB; 8MB(default)

**Boot Display**

Select the Boot Display mode

The Choices: Auto (default); CRT; TV; EFP .

## 2.6 Integrated Peripherals

### Phoenix - AwardBIOS CMOS Setup Utility Integrated Peripherals

		Item Help
Onchip Primary PCI IDE	Enabled	
IDE Primary Master PIO	Auto	
IDE Primary Slave PIO	Auto	
IDE Primary Master UDMA	Auto	
IDE Primary Slave UDMA	Auto	
On-Chip Secondary PCI IDE	Enabled	
IDE Secondary Master PIO	Auto	
IDE Secondary Slave PIO	Auto	
IDE Secondary Master UDMA	Auto	
IDE Secondary Slave UDMA	Auto	
USB Controller	Enabled	
USB 2.0 Controller	Enabled	
USB Keyboard Support	Enabled	
AC97 Audio	Auto	
AC97 Modem	Auto	
VT6105 LAN Chip	Enabled	
Init Display First	Onboard	
Onboard AC97 Codec	Enabled	
IDE HDD Block Mode	Enabled	
Onboard FDC Controller	Enabled	
Onboard Serial Port 1	3F8/IRQ4	
Onboard Serial Port 2	2F8/IRQ3	
UART Mode Select	Normal	
UR2 Duplex Mode	Half	
Onboard Parallel Port	378/IRQ7	
Parallel Port Mode	ECP	
ECP Mode Use DMA	3	
PWRON After PWR-Fail	Off	
Game Port Address	201	
MIDI Port Address	330	
MIDI Port IRQ	10	

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

**On-Chip Primary PCIIDE**

Use this item to enable or disable the primary IDE channels that are integrated on the mainboard.

The Choices: Enabled (default); Disabled

**IDE Primary Master/Slave PIO**

Auto (default):BIOS will automatically detect the IDE HDD Accessing mode.

Mode 0~4: Manually set the IDE Accessing mode.

**IDE Primary Master/Slave UDMA**

Auto (default):BIOS will automatically enable Ultra DMA mode of the IDE HDD Accessing .

Disabled: UDMA mode is disabled

**On-Chip Secondary PCIIDE**

Use this item to enable or disable the secondary IDE channels that are integrated on the mainboard.

The Choices: Enabled (default); Disabled

**IDE Secondary Master/Slave PIO**

Auto (default):BIOS will automatically detect the IDE HDD Accessing mode.

Mode 0~4: Manually set the IDE Accessing mode.

**IDE Secondary Master/Slave UDMA**

Auto (default):BIOS will automatically enable the Ultra DMA mode of the IDE HDD Accessing mode.

Disabled: Ultra DMA disabled.

**USB Controller**

Use this item to enable or disable the USB Controller.

The Choices: Enabled (default); Disabled

**USB 2.0 Controller**

If USB Controller is enabled, use this item to enable or disable USB 2.0 controller.

The Choices: Enabled (default); Disabled

**USB Keyboard Support**

If USB Controller is enabled, use this item to enable or disable the USB Keyboard Support.

The Choices: Enabled (default); Disabled

**AC97 Audio/Modem**

Use this item to enable/disable the AC97 Audio/Modem.

The Choices: Auto(Automatically enabled); Disabled

**VT6105 LAN Chip**

Use this item to enable/disable the onboard VT6105 LAN chip.

The Choices: Enabled; Disabled

**Init Display First**

Use this item to enable or disable the onboard USB controller.

The Choices: PCI Slot; Onboard(default)

**Onboard AC'97 Codec**

Use this item to enable or disable the onboard AC'97 Codec.

The Choices: Enabled(default); Disabled

**IDE HDD Block Mode**

If your IDE HDD supports block mode select, enabled is for automatic detection of the optimal number of block read/write per sector the drive can support..

The Choices: Enabled(default); Disabled

**Onboard FDC Controller**

The choices: Enabled (default) Disabled

**Onboard Serial Port 1/2**

Select an address and corresponding interrupt for the first and second serial ports.

The Choices: Auto; 3F8/IRQ4; 2F8/IRQ3; 3E8/IRQ4; 2E8/IRQ3; Disabled.

**UART Mode Select**

This item allows you to select which Infra Red(IR) function of the onboard I/O chip you wish to use.

The Choices: Normal(default), IrDA, SCR, ASKIR.

**UR2DuplexMode**

This item allows you to select which Infra Red(IR) function of the onboard I/O chip you wish to use.

The Choices: Half (default), Full.

**Onboard Parallel Port**

This item allows you to select the onboard parallel port and IRQ.

The Choices: 378/IRQ7; 278/IRQ5; 3BC/IRQ7; Disabled

**Parallel Port Mode**

The choices are for Parallel Port Mode select:

SPP: Using Parallel port as Standard Parallel Port.

EPP: Using Parallel port as Enhanced Parallel Port.

ECP (default): Using Parallel port as ExtendedCapabilites Port.

ECP+EPP: Using Parallel port as ECP+EPP mode.

**ECPModeUseDMA**

The Choices: 3(default), 1.

**PWRON After PWR-Fail**

Set the Power-on mode when power resumes after power fails.:

The choices: Off (default); On; Former-Sts (former status)

**Game Port Address**

The choices are for setting Game Port Address:

201 (default); 209; Disabled

**MIDI Port Address**

The choices are for setting MIDI Port Address:

300; 330 (default); Disabled.

**MIDI Port IRQ**

The choices are for setting MIDI Port IRQ:

10 (default); 5

## 2.7 Power Management Setup

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

ACPI Function	Enabled	Item Help
ACPI Suspend Type	S1(POS)	
Power Management	User Define	
Video Off Method	V/H Sync+Blank	
Video Off In Suspend	Yes	
Suspend Type	Stop Grant	
Modem Use IRQ	3	
Suspend Mode	Disabled	
HDD Power Down	Disabled	
Soft-off by PWR-BTTN	Instant-off	
Power On By PME	Disabled	
Power On By Modem Ring	Disabled	
Power On By WOL	Disabled	
Power On By USB	Disabled	
Resume by Alarm	Disabled	
X Date (of Month) Alarm	0	
X Time(hh:mm:ss) Alarm	0 : 0 : 0	
Power ON Function	Button Only	
KB Power On Passward	Enter	
Hot Key Power On	Ctrl-F1	
** Reload Global Timer Events **		
Primary IDE 0	Disabled	
Primary IDE 1	Disabled	
Secondary IDE 0	Disabled	
Secondary IDE 1	Disabled	
FDD,COM, LPT Port	Disabled	
PCI PIRQ [A-D]#	Disabled	

←→↑↓: 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

The choices are for enabling or disabling the Advanced Configuration and Power Management (ACPI).

**ACPI Suspend Type**

The choices are for setting the ACPI Suspend Type.

S1(Power On Suspend)(default); S3(Suspend To RAM); S1&S3

**Power Management**

The choices are for setting the Power management mode:

User Define (default); Min Saving; Max Saving.

**Video Off Method**

The choices are for determining the manner in which the monitor is blanked.

The choices:

V/H SYNC+Blank (default): Turn off the vertical and horizontal synchronization ports and write blanks to the video buffer.

Blank Screen: Writes blanks to the video buffer.

DPMS Supported: Initial display power management signaling.

**Video Off in Suspend**

This field determines when to activate the video off feature for monitor power management.

The Choices: Always on; No; Yes(default)

**Suspend type**

Use this item to select the Suspend Type.

The choices: Stop Grant(default); Power On Suspend

**Modem Use IRQ**

This determines the IRQ, which can be applied in Modem use.

The choices: 3 (default); 4;5; 7; 9; 10; 11; NA

**Suspend Mode**

Use this item to set the Suspend time.

The choices: Disabled(default); 1~60 min.

**HDD Power Down**

Use this item to set the HDD Power Down time.

The choices: Disabled(default); 1~15 min..

**Soft-off by PWR-BTTN**

Enables you to set the power button function in DOS.  
The Choices: Instant off(default); Delay 4 Sec.

**Power On By PME**

Use this item to enable/disable the Power On by PME function.

**Power On By Modem Ring**

Use this item to enable/disable the Power On by Modem Ring signal.

**Power On By WOL**

Use this item to enable/disable the Power On by WOL function.

**Power On By USB**

Use this item to enable/disable the Power On by USB function..

**Resume by Alarm**

Use this item to enable/disable the RTC Alarm Resume function.  
Date: If RTC Alarm Resume is enabled, set the date with this item.  
Time: If RTC Alarm Resume is enabled, set the time with this item.

**Power On Function**

Use this item to select the Power On Mode.  
The Choices: Button Only; Keyboard 98; Password; Hot Key; Mouse Click; Any Key

**KB Power On Password**

Enables you to set the Password by keyboard for Power On.

**Hot Key Power On**

Enables you to set the Hot Key for Power On.  
The Choices: Ctrl-F1 ~ Ctrl-F12

**Reload Global Timer Events:**

When enabled, the following devices listed below will restart the global timer for Standby mode.

**Primary IDE 0/1**

The choices: Disabled (default); Enabled

**Secondary IDE 0/1**

The choices: Disabled (default); Enabled.

**FDD, COM, LPT Port**

The choices: Disabled (default); Enabled

**PCIPIRQ[A-D]#**

The choices: Disabled (default); Enabled

## 2.8 PnP/PCI Configurations

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

### Phoenix - AwardBIOS CMOS Setup Utility PnP/PCI Configurations

Reset Configuration Data	Disabled	Item Help
Resources Controlled By x IRQ Resources	Auto(ESCD) Press Enter	
PCI/VGA Palette Snoop	Disabled	

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

**Reset Configuration Data**

The system BIOS supports the PnP feature so the system needs to record which resource is assigned and proceeds to get rid of resource conflict. Every peripheral device has a node, which is called ESCD (Extended System Configuration Data). This node records which resources are assigned to it. If Disabled (Default) is chosen, the system ESCD will update only when the new configuration varies from the last one. If Enabled is chosen, the system is forced to update ESCDs and then is automatically reset to the “Disabled” mode.

**Resources Controlled By**

By Choosing “Auto”(default), the system BIOS will detect the system resources and automatically assign the relative IRQ and DMA channel for each peripheral. By choosing “Manual”, the user will need to assign IRQ & DMA for add-on cards. Be sure that no IRQ/DMA and I/O port conflict exists.

**IRQ Resources :**

Press Enter to configure the following Submenus

**IRQ Resources**

		Item Help
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	

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

**IRQ Resources**

When resources are controlled manually, assign each system interrupt a type, depending on the type of device using the interrupt.

**PCI/VGA Palette Snoop**

Choose Disabled or Enabled. Some graphic controllers which 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.

However, the color information coming from the VGA controller is drawn from the palette table inside the VGA controller to generate the proper colors, and the graphic controller needs to know what is in the palette of the VGA controller. To do this, the non-VGA graphic controller watches for the write access to the VGA palette and registers the snoop data. In PCI based systems, the Write Access to the palette will not show up on the ISA bus if the PCI VGA controller responds to the Write.

In this case, the PCI VGA controller should not respond to the Write, it should only snoop the data and permit the access to be forwarded to the ISA bus. The non-VGA ISA graphic controller can then snoop the data on the ISA bus. Unless you have the above situation, you should disable this option.

The choices: Disabled (default); Enabled

## 2.9 PC Health Status

### Phoenix - AwardBIOS CMOS Setup Utility PC Health Status

	Item Help
Vccp	
Vcc 1.5V	
Vcc 3.3V	
Vcc 5.0V	
Vcc 12.0V	
Vsb 5.0V	
Voltage Battery	
CPU Temp	
System Temp	
Fan 1 Speed	
Fan 2 Speed	
Fan 3 Speed	

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

This menu shows the current status of the system, CPU and CPU Fan. No value in this menu can be changed manually.

#### **Vcc 1.5V/+3.3V/+5V/12V/5Vsb**

These items show the respective voltage running on board.

#### **Voltage Battery**

These items show the battery voltage used on board.

#### **CPU/System Temp**

This item shows the current CPU/System temperature.

#### **FAN1/2/3 Speed**

This item shows the fan speed running on board.

## 2.10 Frequency/Voltage Control

### Phoenix - AwardBIOS CMOS Setup Utility Frequency/Voltage Control

		Item Help
CPU Clock Ratio	8 X	
Auto Detect PCI CLK	Enabled	
Spread Spectrum	Disabled	
CPU Clock	100MHz	

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

#### CPU Clock Ratio

Use this item to set CPU Clock Ratio..

The Choices: 8X to 50X in 1X stepping

#### Auto Detect PCI CLK

This item allows you to enable/disable auto detect PCI CLOCK.

The Choices: Disabled; Enabled (default)

#### Spread Spectrum

This function is designed for the EMI test only.

The Choices: Disabled(default); +/- 0.25; +/- 0.35; +/- 0.45; -0.5

#### CPU Clock

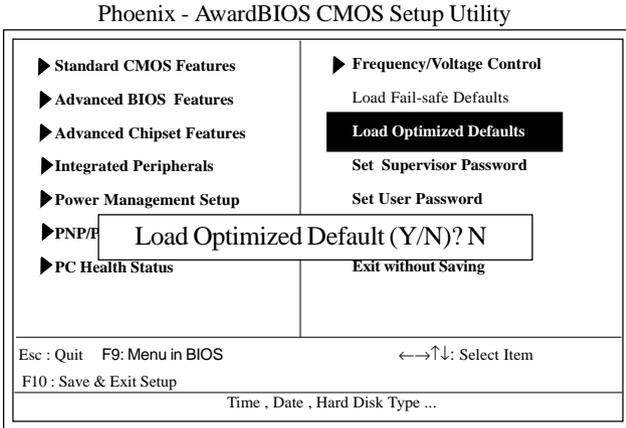
Allows you to set the CPU clock for next boot..

The Choices: 100MHz ~132MHz in 1MHz stepping



## 2.12 Load Optimized Defaults

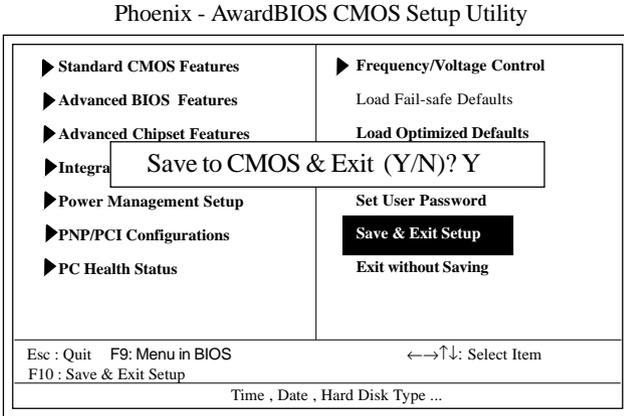
When you press <Enter> on this item, you get a confirmation dialog box with a message similar to:



Pressing ‘Y’ loads the default values that are factory settings for optimal performance of system operations.



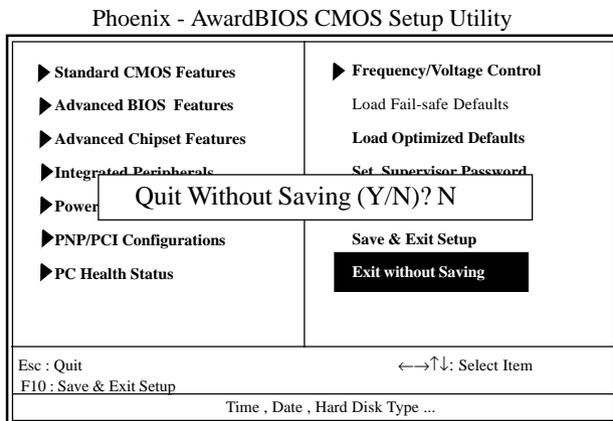
## 2.14 Save & Exit Setup



Typing “Y” will quit the Setup Utility and save the user setup value to RTC CMOS RAM.

Typing “N” will return to the Setup Utility.

## 2.15 Exit Without Saving



Typing “Y” will quit the Setup Utility without saving to RTC CMOS RAM.

Typing “N” will return to the Setup Utility.

# Chapter 3

## Drivers & Utilities

### 3. Drivers & Utilities

There are motherboard drivers and utilities included in the disc attached in this motherboard package. You don't have to install all of them for booting your system. But after you have finished the hardware installation, you have to install an operation system (such as windows XP) before you are able to install any drivers or utilities.

**Note: Please be aware of the different Procedures for installing drivers for Windows 98/ME/XP/2000 .**

#### 3.1 Auto-run Menu

You can use the auto-run menu in the driver CD attached in the motherboard package. Then choose the utility or driver and select model name. The autorun starting screen looks like below:



## 3.2 Installing Intelinf

Enter the item "INTEL CHIPSET INSTALLATION" of the Autorun program and install Intelinf for Intel Chipsets support and Plug-n-Play INF support. Follow the illustrations below :



(1)  
Click "Driver" Item.



(2)  
Click "Chipset" Item.



(3)  
Click "Intel Chipsets Installation" Item.





(7)  
Click "Finish".

**Note: Install the Intel INF Driver before the Intel Application accelerator Driver.**

### 3.3 Install Intel Application Accelerator

Install the Intel Application Accelerator for Microsoft Windows 98SE/ME/2000/XP. The program is designed to improve performance of the storage sub-system and overall system performance.



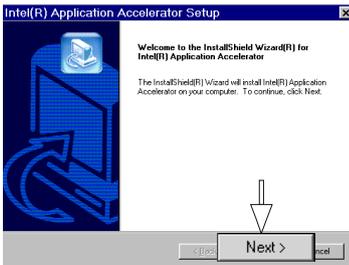
(1)  
Click "Driver" Item.



(2)  
Click "Chipset" Item.



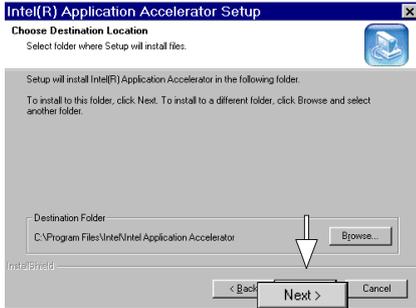
(3)  
Click "Intel Application Accelerator" Item.



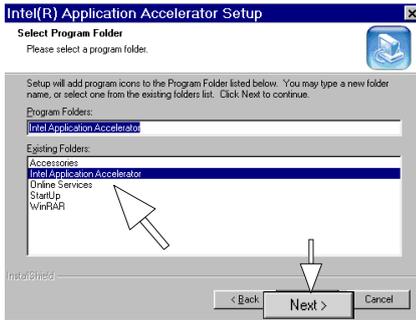
(4)  
You will see a pop-up dialogue of IAA installation.



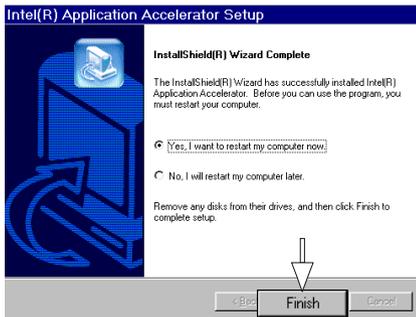
(5)  
Click "Next".



(6)  
Click "Yes".



(7)  
Click "Next".



(8)  
Click "Finish".

## 3.4 Installing VGA Driver

A 2D/3D graphics interface is already integrated into North Bridge. Follow the illustration below to install the integrated VGA driver:



(1)  
Click "Driver" Item.



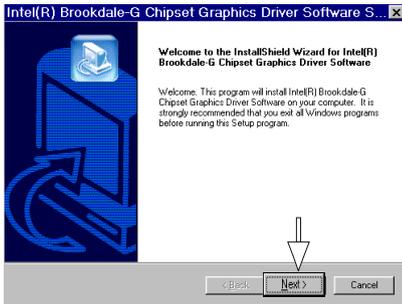
(2)  
Click "VGA" Item.



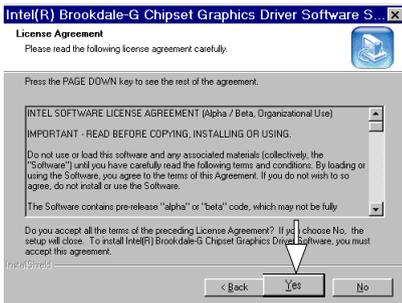
(3)  
Click "845G Graphic"  
Item.



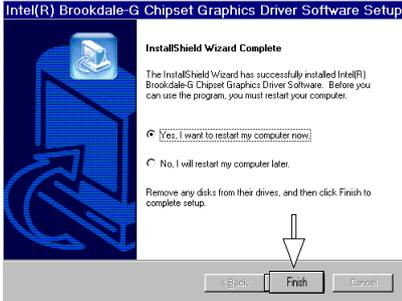
(4)  
Select your O.S.



(5)  
Click "Next".



(6)  
Click "Yes".



(5)  
Click "Finish".

### 3.5 Installing Audio Driver

This motherboard comes with an AC97 CODEC V2.2, 6-channel compatible. You can find the Audio driver from this Auto-run menu.



(1)  
Click "Driver" Item.



(2)  
Click "Audio" Item.



(3)  
Click "Avance Logic Codec" Item.



(4)  
Click "Next".



(5)  
Click "Finish".

## 3.6 Installing USB 2.0 Device

Please read carefully the pop-up text file after clicking the item shown on the screen. The text file will notify you how to install your USB devices in your O.S. completely.



(1)  
Click the "USB " item.



(1)  
Click the "USB 2.0  
ICH4 INF Package".

**Note:** Please note that this USB 2.0 only supports Win 2000 and Win XP.

### 3.6.1 Install USB2.0 driver for Win 2000

檔案(E) 編輯(E) 格式(O) 說明(H)
Install USB2.0 Driver windows 2000 Driver Manually
<ol style="list-style-type: none"> <li>1. Right click the "My Computer" icon on the desktop. When the menu appears click "Properties" item.</li> <li>2. Select "Hardware" page and then click [Device Manager] button.</li> <li>3. View device by type and find "PCI Universal Serial Bus" node.</li> <li>4. Right click the "PCI Universal Serial Bus" node.</li> <li>5. When the menu appears, click the "Properties" item.</li> <li>6. Please select [Driver] page and click "Update Driver..." button.</li> <li>7. When the "Upgrade Device Driver Wizard" window appears, click Next to continue.</li> <li>8. Select "Search for a suitable driver for my device(recommended)" option and click Next. Choose "Specify a location" check box and then click Next. or you can also select "Display a list of the known drivers for this device so that I can choose a specific driver" option and click Next. Click "Have Disk..." button.</li> <li>9. Type or browse the path {CD-ROM Drive}:\\HB\USB2.0\USB2 to the driver.</li> <li>10. Follow the instruction to complete the installation.</li> </ol>

### 3.6.2 Install USB2.0 driver for Win XP

檔案(E) 編輯(E) 格式(O) 說明(H)
Install USB2.0 Driver windows XP Driver Manually
<ol style="list-style-type: none"> <li>1. Click the "Start" button.</li> <li>2. Right click the "My Computer". When the menu appears click "Properties" item.</li> <li>3. Select "Hardware" page and then click [Device Manager] button.</li> <li>4. View device by type and find "PCI Universal Serial Bus" node.</li> <li>5. Right click the "PCI Universal Serial Bus" node.</li> <li>6. When the menu appears, click the "Properties" item.</li> <li>7. Please select [Driver] page and click "Update Driver..." button.</li> <li>8. When the "Upgrade Device Driver Wizard" window appears, click Next to continue.</li> <li>9. Select "Search for a suitable driver for my device(recommended)" option and click Next. Choose "Specify a location" check box and then click Next. or you can also select "Display a list of the known drivers for this device so that I can choose a specific driver" option and click Next. Click "Have Disk..." button.</li> <li>10. Type or browse the path {CD-ROM Drive}:\\HB\USB2.0\USB2 to the driver.</li> </ol>

## 3.7 Installing LAN Driver

To install VT6105 LAN driver, please quit the Driver CD provided with the Motherboard, and follow the procedures stated below (Windows 9X is taken for illustration of LAN driver setup herewith):

- (1) On the "Start" screen of Win9X, please click the mouse to the following path:

\My Computer\properties\Device Manager

- (2) In the "Device Manager screen, point to the "Ethernet Controller" item with the mouse and double click on it (or click on the "Properties" button).

- (3) Click to the "General" bar.

- (4) Click to the "Reinstall Driver" button to continue.

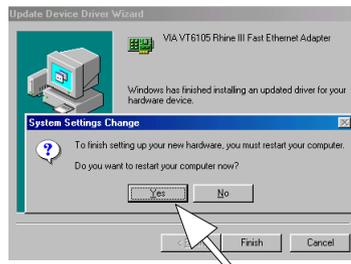
- (5) When the screen on the left pops out, insert the Drivers CD into CD-ROM and key in the correct path for LAN driver setup and then click to "Next" button:

E:\MB\Lan\_driver\vt6105

(supposing the CD-ROM drive is E.)



- (6) The Setup program will then guide you through the rest of the installation until the screen on the left pops out to prompt you to restart system. Only if the system is restarted will the LAN driver be able to take effect.



# Chapter 4

## Cabinet - Barebone Q4-2

### 4. Install Peripherals into Cabinet

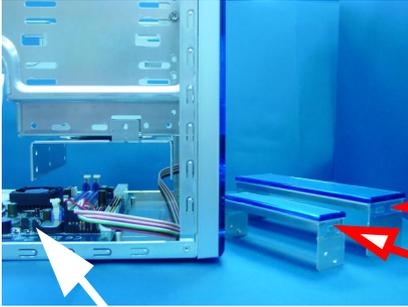
Barebone Q4-2 is the cabinet dedicated for system of Motherboard 4845GLQ. To install main peripherals with 4845GLQ in the cabinet Barebone Q4-2, please follow the principal procedures illustrated below:

1. Open the cabinet (Barebone Q4-2) of 4845GLQ
2. Remove the FDD Bay-panel and HDD Bay-panel
3. Remove the HDD Bay .
4. Connect Power Cord to on-board Power Connector
5. Connect IDE/FDD Cable to on-board connector
6. Install RAM Modules to Memory Slots
7. Install CPU and then CPU Fan
8. Install Floppy Disk Drive to Bay
9. Install CD-ROM to Bay
10. Connect Audio Cable to CD-In1 and CD-ROM
11. Install Hard Disk Drive
12. Install System Fan
13. Close the Cabinet

1. Open the Cabinet (Q4-2) by removing the three screws with a screw-driver.



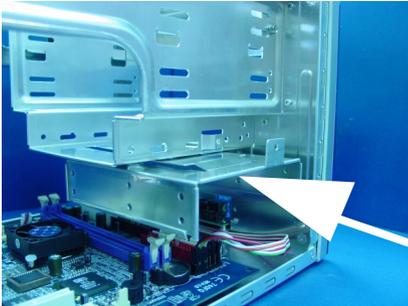
Barebone Q4-2



2. The Motherboard is on chassis. Remove the Floppy Disk Drive Bay-panel and Hard Disk Drive Bay-panel so that you can install FDD and HDD later.

(The FDD and HDD Bay-panels removed.)

(Motherboard on Chassis.)



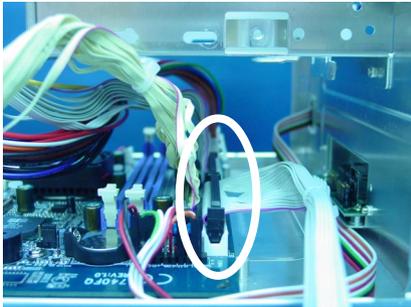
3. Remove the HDD Bay so that you can install the HDD into it easily.

(HDD Bay)



4. Connect the Power Cord of the Power Supply to the on-board Power Connector. Yet do not connect the Power Supply to the electric power now.

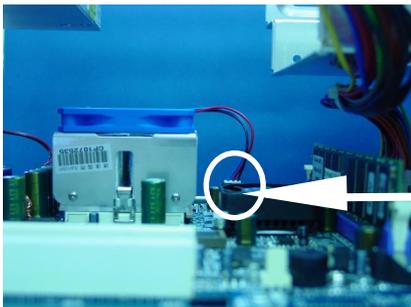
(Power Connector)



5. Connect the IDE Cable and FDD Cable to the IDE Connector and FDD Connector on-board.



6. Install the Memory Module to the Memory Slot (DIMM).



7. Install CPU and CPU Fan. Do not forget to connect the Fan Power Cord to the Fan Connector on-board.

(Fan Connector)



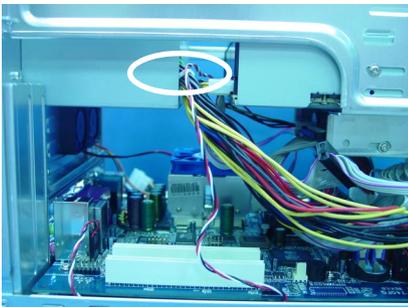
8. Install the Floppy Disk Drive to the FDD Bay. Connect the FDD Cable to the FDD with Pin1 to Pin1. Connect FDD Power Connector to FDD.

(Floppy Disk Drive)



9. Install CD-ROM to the CD-ROM Bay. Connect the IDE Cable to CD-ROM with Pin1 to Pin1. Connect the Power Connector of the Power Supply to the CD-ROM Power Connector.

(CD-ROM)



10. Connect the Audio Cord to CD-ROM and the CD-In1 Connector on-board.



11. Install the HDD into the HDD Bay and assemble the Bay back to the cabinet. Do not forget to connect the IDE cable to HDD with Pin1 to Pin1. Connect Power Connector of Power Supply to the HDD Power Connector.



12. Install System Fan and connect the Fan Cord to the Fan Connector on-board.



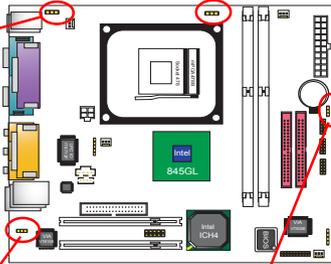
13. Restore the Cabinet cover to the cabinet and installation is complete now.

# Appendices

## Appendix I Quick Jumper Setup

JP1: CPU Clock Selector		
JP1 Setting	 1	 1
	1-2 closed	2-3 closed
CPU(MHz)	Auto-detect	100 MHz (default)

JP2: Keyboard/Mouse Wake-up Selector	
1-2 closed	Disabled
 1	
2-3 closed	Enabled (default)
 1	



JP5: USB0/1 Wake-up Selector	
1-2	Disabled (default)
 1	
2-3	Enabled
 1	

JP3: Clear CMOS	
1-2 closed	Normal (Default)
 1	
2-3 closed	Clear CMOS
 1	

## Appendices

# Appendix II Test Report

## Appendix II 4845GLQ System Compatibility Test Report

Note: This test report is for your reference, we would like to suggest you to use these devices which we had approved.

### A. CPU & Memory Compatibility Test

Nucleus	Model	CLK	Voltage	Bus Speed	CPU S.P.E.C	RESET 10 Time	PW On/Off 10 Time	CC WS 2002 Test
Northwood	2.60G	26		100	QMT6ES	PASS	PASS	28
Northwood	2.40G	24	1.50V	100	SL67R	PASS	PASS	33.5
Northwood	2.20G	20	1.5V	100	SL5YS	PASS	PASS	30.8
Northwood	2.00AG	20	1.5V	100	SL5YR	PASS	PASS	30
Northwood	1.80AG	18	1.5V	100	SL680	PASS	PASS	28
Northwood	1.60AG	16	1.5V	100	SL668	PASS	PASS	27.7
Willamette	2.00G	20	1.75V	100	SL5TL	PASS	PASS	28
Willamette	1.90G	19	1.75V	100	SL5WG	PASS	PASS	28.4
Willamette	1.80G	18	1.75V	100	SL5UK	PASS	PASS	26.6
Willamette	1.70G	17	1.75V	100	SL5N9	PASS	PASS	25.2
Willamette	1.50G	15	1.75V	100	SL5N8	PASS	PASS	23.6
Celeron	2.00G	20	1.252V	100	SL6HY	PASS	PASS	23.7
Celeron	1.80G	18	1.75V	100	SL6A2	PASS	PASS	23.1
Celeron	1.70G	17	1.75V	100	SL68C	PASS	PASS	21.9

Module Vendor	IC_Vendor	IC_Serial Numbers	CAPACITY	SIDE	DRAM CLK	Location	Memtest 1.04	WS 2001 Business	
1	Kingmax	KINGMAX	KDL684T4AA-50	256M	D	400	DIMM 1	PASS	34.0
1	Tramcend	SAMSUNG	K4H560838C-TCB3	512M	D	333	DIMM 1	PASS	36.9
1	TwisMos	WINBOND	W942508AH-6	512M	D	333	DIMM 1	PASS	32.7
1	Kingmax	KINGMAX	KDL684T4A2A-05	256M	D	333	DIMM 1	PASS	33.2
1	China	KINGMAX	KDL684T4AA-60	256M	D	333	DIMM 1	PASS	29.6
1	Kingston	HYUNDAI	HY5DU28822AT-H	256M	D	266	DIMM 1	PASS	28.0
1	Armas	SAMSUNG	K4H280838C-TCB0	256M	D	266	DIMM 1	PASS	30.8
1	Retail	NANYA	NTSDS16M8AT-7K	512M	D	266	DIMM 1	PASS	36.7
1	Weblink	ELIXIR	N2DS12880AT-75B	256M	D	266	DIMM 1	PASS	34.0
1	Apacer	INFINEON	HYB25D256800AT-7	256M	D	266	DIMM 1	PASS	29.2
2	Kingmax	KINGMAX	KDL684T4AA-50	256M	D	400	DIMM 2	PASS	33.7
2	Tramcend	SAMSUNG	K4H560838C-TCB3	512M	D	333	DIMM 2	PASS	34.4
2	TwisMos	WINBOND	W942508AH-6	512M	D	333	DIMM 2	PASS	35.5
2	Kingmax	KINGMAX	KDL684T4A2A-05	256M	D	333	DIMM 2	PASS	47.7
2	China	KINGMAX	KDL684T4AA-60	256M	D	333	DIMM 2	PASS	48.2
2	Kingston	HYUNDAI	HY5DU28822AT-H	256M	D	266	DIMM 2	PASS	33.4
2	Armas	SAMSUNG	K4H280838C-TCB0	256M	D	266	DIMM 2	PASS	47.0
2	Retail	NANYA	NTSDS16M8AT-7K	512M	D	266	DIMM 2	PASS	36.2
2	Weblink	ELIXIR	N2DS12880AT-75B	256M	D	266	DIMM 2	PASS	47.8

# Appendices

## B. PCI/ISA Device Compatibility Test

Vendor Model	BUS	O.S Environment	Description	Result
D-Link 530 TX	PCI	Windows XP	LAN PnP Function test	PASS
			NetWare Link test	PASS
			NetWare file copy test	PASS
			TCP/IP Link test	PASS
	ISA		LAN PnP Function test	PASS
S3 775 Trio 64 V2/DX	PCI	Windows XP	VGA PnP Function test	PASS
A-HA 29160 UW	PCI	Windows XP	SCSI Card PnP Function test	PASS
Creative VIBRA 128	PCI	Windows XP	Sound Card PnP Function test	PASS
			MP3 Player 5 min test	PASS
			CD Player 5 min test	PASS

## C. Operation System Compatibility Test

Operation System	Version	File System	AP		Result
			Utility	Version	
Win 98SE English	4.10.2222 A	FAT32	Office 2000 Install	9.0.2812	PASS
			Adobe Reader Install	5.0	PASS
			Winbench 99 High-End Graphics TEST	1.2	PASS
			Final Reality TEST	1.01	PASS
Win98 SE Traditional Chinese	4.10.2222 A	FAT32	Office 2000 ( Chinese ) Install	9.0.2812	PASS
			PhotoImpact ( Chinese ) Install	6.0	PASS
			Photoshop Install	5.5	PASS
			WinZIP Install	8.0	PASS
Win98 SE Simplified Chinese	4.10.2222 A	FAT32	Device Driver Install		PASS
Win 98 SE Korean	4.10.2222 A	FAT32	Device Driver Install		PASS
Win ME English	4.90.3000	FAT32	Office 2000 Install	9.0.2812	PASS
			Acrobat Reader Install	5.0	PASS
			WinBench99 High-End Graphic TEST	1.2	PASS
			Final Reality TEST	1.01	PASS
			3D Quake III Demo TEST	1.0	PASS
			3D Mark 2001 SE Bench Mark TEST	1.0	PASS
			3D Mark 2001 SE Demo Mode TEST	1.0	PASS
Win ME Traditional Chinese	4.90.3000	FAT32	Office 2000 ( Chinese ) Install	9.0.2812	PASS
			PhotoImpact ( Chinese ) Install	6.0	PASS
			Photoshop Install	5.5	PASS
			WinZIP Install	8.0	PASS
Win NT Server English	4.00.1381	FAT16	Service Pack 6 Install	6.0	PASS

# Appendices

## D. Power Supply Compatibility Test

	Vendor	Model	Voltage	RESET	PW On/Off	Operation	Result
				10 Time	10 Time	System	
1	CWT	CWT-300ATX12	110V	PASS	PASS	Win XP English	PASS
2	SHARK	HPS300-101	110V	PASS	PASS	WIN98SE English	PASS
3	Seventeam	ST-301HR(110V)	110V	PASS	PASS	Win XP English	PASS
4	High Power	HPC-300-101	110V	PASS	PASS	WIN98SE Simpchin	PASS
1	Enhance	SFX-2015A	110V	PASS	PASS	WIN NT Server English	PASS
2	High Power	HPC-400-101	110V	PASS	PASS	WIN 2000 Server English	PASS
3	Enlight	HPC-340-101	110V	PASS	PASS	WIN 2000 Tradchin	PASS
1	Enhance	ENP-0730	110V	PASS	PASS	Linux English	PASS
4	Enhance	ATX-1125BTA	110V	PASS	PASS	WIN98SE Korean	PASS
4	SHARK	TC-300P	220V	PASS	PASS	WIN NT Server Tradchin	PASS