

Motherboard 4GL533M(N) V1.0

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Chapter 1

Specification

1. 4GL533M(N) V1.0 Specifications

1.1 Introduction

The 4GL533M(N) V1.0 motherboard is an integration of Intel P4 CPUs in Socket-478 packaging and the North Bridge i845GL supporting 400 MHz Front Side Bus with DDR200/266 bandwidth and could overclock support 533MHz FSB with DDR 266/333 bandwidth, while the South Bridge ICH4 provides stable supports of ULTRA ATA 100, 2-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.

* Please note FSB 533 and DDR 333 are overclock supporting, and overclock were not guaranty.

1.2 Package Contents

- ◆HDD UDMA66/100 Cable.
- ◆FDD Cable.
- ◆Flash Memory with BIOS.
- ◆USB2/3 Cable (Optional).
- ◆Fully Setup Driver CD with built in utilities.
- ◆User Manual.

1.3 Specifications and Features

CPU Processor

- | Support 400MHz System Interface speed or overclock to FSB533MHz.
- | Single Socket 478 for Intel P4™ 1.5 to 2.4GHz or higher (Northwood & Celeron Processor).
- | Support Intel Netburst™ Micro-architecture.

Chipset

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

PCI

- | Supports 33MHz PCI Bus speed.

DDR SDRAM Memory

- | Supporting 64/128/256/512....MB DDR module
- | Supporting Synchronous DRAM(2.5V)
- | Supporting a maximum memory size of 2GB with DDR SDRAM.

VGA On Board

- | 2D/3D Graphics display supported on board
- | 15-pin Connector on board for VGA CRT display

Bus Slots

- | 3 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

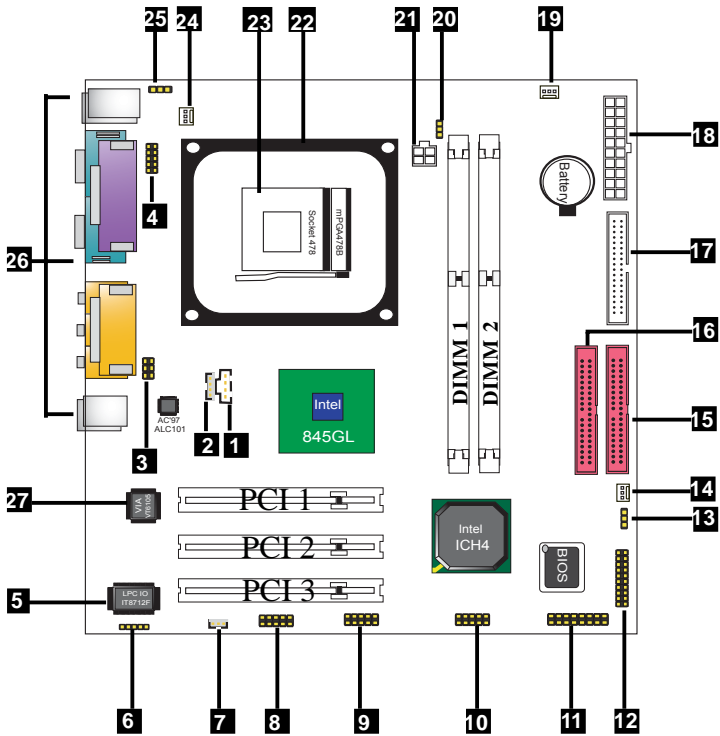
ATA 100 On Board

- | Supporting four IDE devices.
- | Supporting PIO Mode 5, Master Mode, high performance hard disk drives.
- | Supporting Ultra DMA 33/66/100 Bus Master Mode.
- | Supporting IDE interface with CD-ROM.
- | Supporting high capacity hard disk drives.
- | Supporting LBA mode.

PCI-Based AC 97 Digital Audio Processor

- | AC 97 2.1 Audio specifications, 2-channel compatible
- | 16-bit Stereo Full-Duplex Codec with independent and variable sampling rate up to 48 KHz
- | 4 Analog Line-level Stereo inputs for connection from Line, CD, Video and AUX
- | 2 Analog Line-level:
 - Mono Input -- PC-beep and Phone-in;
 - Stereo input -- Speakerphone and PC-beep

1.4 4GL533M(N) V1.0 Layout Diagram



4GL533M(N) V1.0 Component Layout Description:

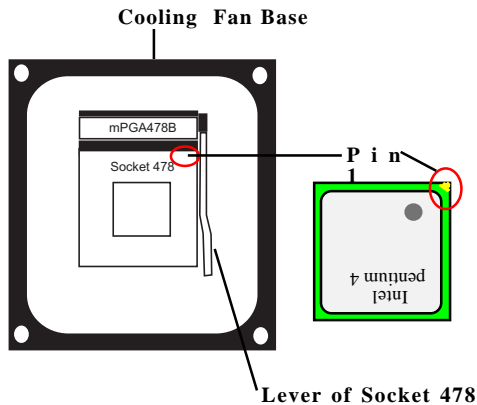
1. CDIN2: CD Audio-in Connector
2. CDIN1: CD Audio-in Connector
3. Jp3: Audio Selector
4. Smart Panel Connector: Connector for expansion of 1 COM Port with a Smart Panel
5. LPC I/O Chip: Chip for Input/Output control
6. IR1: IR connector for Infrared signal transmission
7. CN2: Wake On LAN connector
8. COM2: Connector for Serial Port
9. USB1: USB Header for 2 USB ports
10. USB2: USB Header for 2 USB ports
11. Jp6: Connector for connection with Second BIOS
12. Panel 1: Front Panel Connector
13. Jp5: Jumper for clearing CMOS
14. Fan 3: Cooling fan connector
15. IDE1: Primary IDE connector
16. IDE2: Secondary IDE connector
17. FD1: Floppy Drive connector
18. PW2: ATX Main Power connector
19. Fan 1: Cooling Fan Connector
20. Jp2: Jumper for CPU Clock Selection
21. PW1: +12 Power Connector
22. CPU Fan Base
23. Socket 478 for P4 CPUs
24. FAN 2: Cooling Fan Connector
25. Jp1: Jumper for Keyboard/Mouse Power On
26. Back Panel: Back Panel I/O Connectors (Mouse, Keyboard, USB1, COM1, VGA, Printer, MIC in, Line in, Speaker-out, Game stick)
27. Chipset VIA VT6105: Chip for LAN (optional)

1.5 CPU and CPU Fan Installation

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

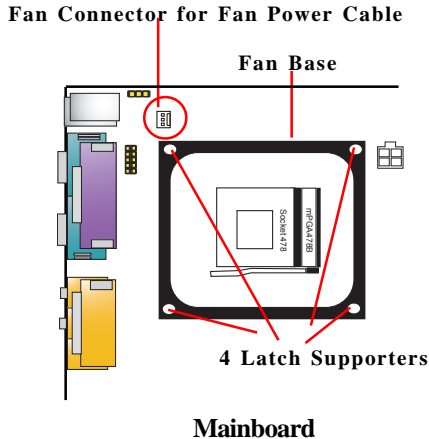
1.5.1 CPU Installation with Socket 478

1. Pull the lever sideways away from the socket and then pull it up to a 90-degree.
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.



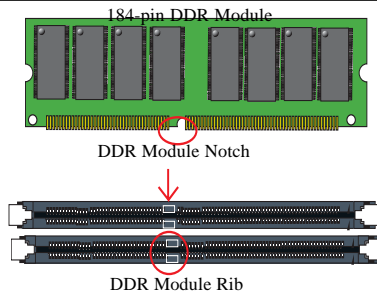
1.6 DDR SDRAM Installation

This motherboard supports a maximized 2GB DDR 266/200 SDRAM. It provides two 184-pin DDR sockets supporting 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 way.
2. Push the tabs sideways. Insert the DDR memory modules into the socket at a 90-degree angle and then push down the module vertically to fit it into place.
3. The plastic tabs should click into the edge of the memory module to 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
	Total System Memory (Max 2GB)

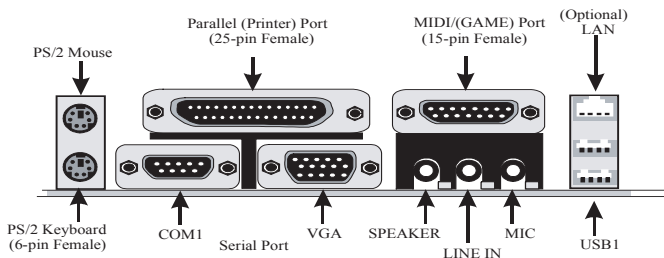


Warning: Be sure to turn off system power whenever to insert or remove a Memory Module. Otherwise, the power will damage the module or even the system.

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 Connector.

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 USB Connectors: USB0/USB1

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

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.



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 MIDI/Game(Joystick) Connector

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


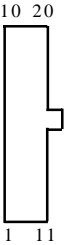
1.7.1.7 Audio Port Connectors

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 Power Connectors: PW1/PW2

PW2 connector is the Main Power Connector supporting the power button on-board. Functions such as Wake On LAN and Soft Power Off are supported on motherboard with ATX Power Supply.

PW1 is ATX 4-pin power connector supporting only +12V voltage.

	Pin PW1 Signal		Pin PW1 Signal	
	1	GND	2	GND
	3	+12V	4	+12V
	Pin PW2 Signal		Pin PW2 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

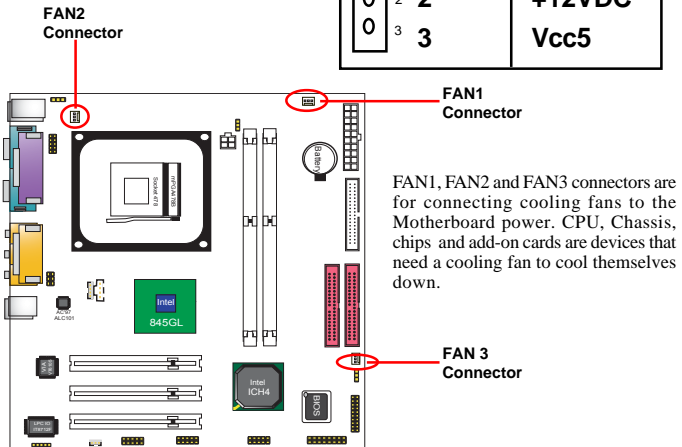
This connector supports the floppy drive ribbon cable. After connecting the single end to the board, connect the other end with the two plugs to the floppy drives.

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: FAN1~3

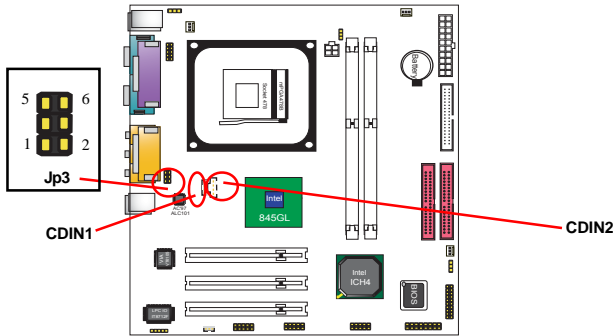
Pin	Definition
1	Ground
2	+12VDC
3	Vcc5



These Fan connectors support cooling fans of 1Amp or less. Depending on the fan manufacturer, the wiring and fan cable connector may be different. The red wire is positive voltage, while the black is ground. When connect the fan cable connector to the Fan connector on-board, take into consideration the polarity of the connector.

1.7.6 CD Audio-In Connectors: CDIN1/CDIN2

CDIN1 and CDIN2 are the connectors for CD-Audio Input signal. CDIN2 is of larger pin-pitch than CDIN1. When connecting them to CD-ROM CD-Audio output connector, take care to choose the one with same pin pitch.



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

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

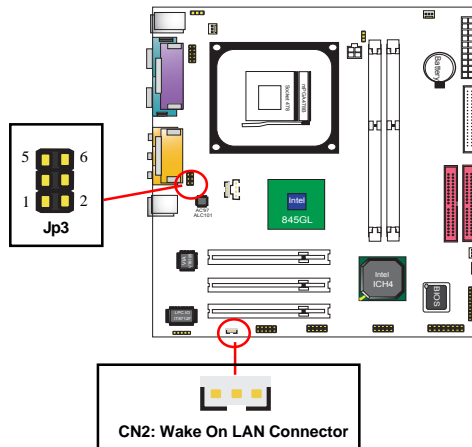
1.7.7 Audio-out Connectors: Jp3

Jp3 is an Audio-out connector for connecting additional speakers.

Jp3 Audio-out Connector	
1 Front R	2 Front L
3 Line L	4 Line R
5 Mic 1	6 Mic 2

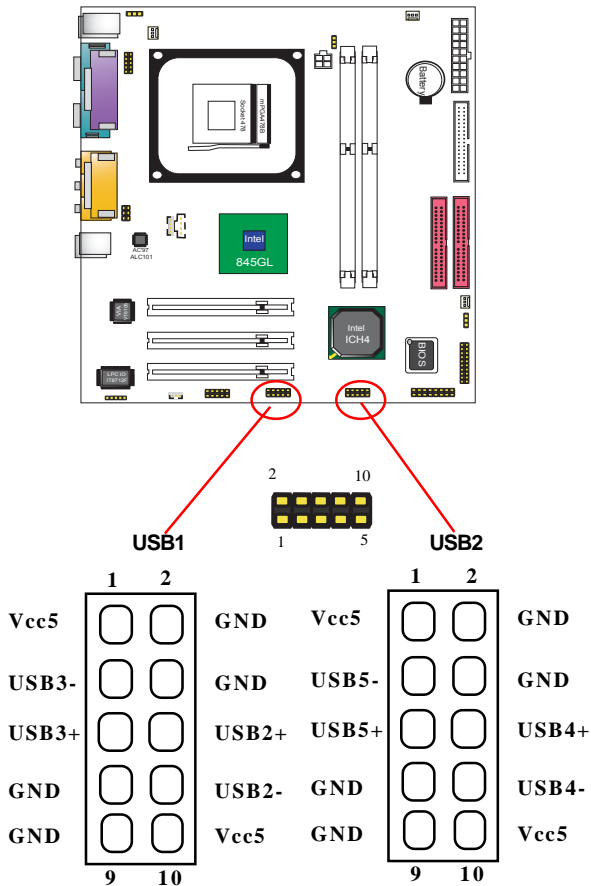
1.7.8 Wake On LAN Connector: CN2

CN2 is an Wake On LAN (WOL) connector for transmitting the Ring signal from a PCI LAN card to wake up system. If you use a PCI LAN card for system networking, you can connect this Wake On LAN connector with the PCI LAN card on board for Wake On LAN function.

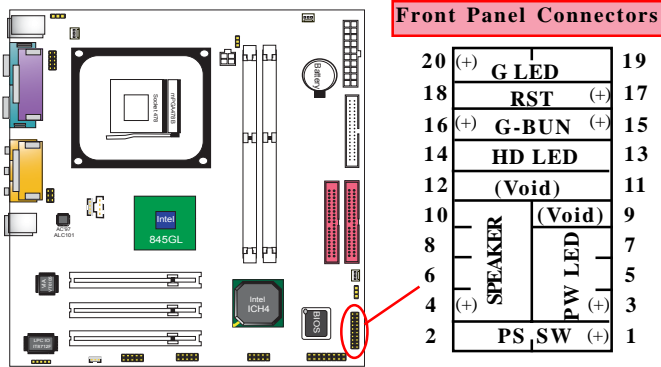


1.7.9 USB Pin Headers: USB1 & USB2

USB1 and USB2 are 2x5 Pin Headers for support of external USB ports. Each USB pin header requires a USB cable for expansion of two USB ports. This optional USB cable is available from your motherboard dealer or vendor.



1.7.10 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.

PowerLEDLead (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 (G-BUN) (Disabled)

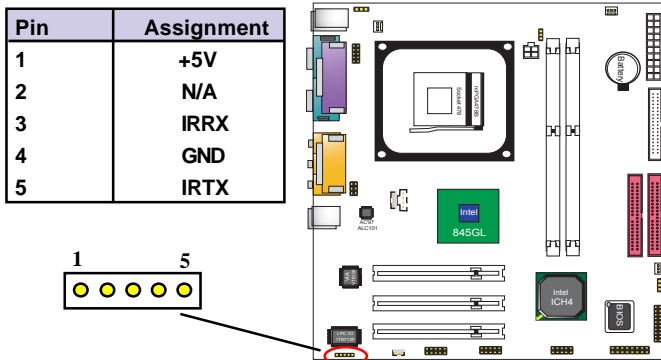
This allows the user to manually place the system into a suspend mode of Green mode. System activity will be instantly decreased to save electricity and extend the life of certain components when the system is not in use. This 2-pin connector (see the figure) connects to the case-mounted suspend switch. 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.

1.7.11 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.



1.7.12 Smart COM Connector

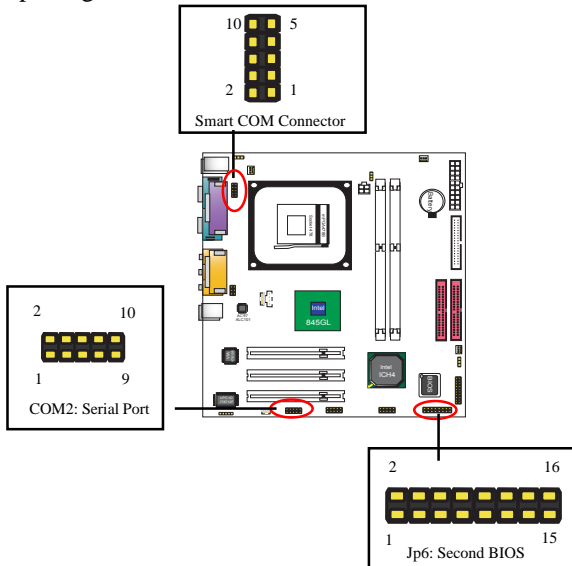
This connector supports another serial Port on a smart Panel. Insert the Smart Panel which is enclosed with this Motherboard to this Smart COM Connector so as to gain one additional serial port support.

1.7.13 COM2 Pin Header

COM2 is a 2x5 pin-header to support another external serial Port on a Serial Cable. The serial cable has a 2x5 female header at one end and a serial connector at the other. When inserting the female header to this COM2 Header, take care to match Pin1 of the cable.

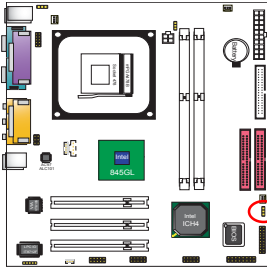
1.7.14 Second BIOS Connector: Jp6

Jp6 is a 2x8 pin-header supporting the Second BIOS provided in the BIOS Card (optional) enclosed with this Motherboard package.



1.7.15 CMOS Function Selector: Jp5

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

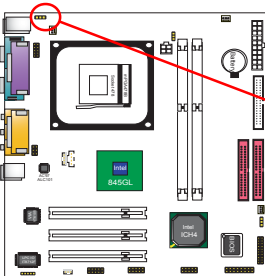


Pin Jp5	Function
1-2 closed	Normal (Default)
2-3 closed	Clear CMOS

1. Remove the Jumper cap of Jp5 from 1-2.
2. After 1 or two seconds, set Jp5 to 2-3 closed with the jumper cap.
3. After 1 or two seconds, restore the Jp5 to 1-2 closed.
Now, the CMOS RAM has restored to the optimum default setting.

1.7.16 Keyboard/Mouse Power On: Jp1

Jp1 is designed to enable or disable the use of Keyboard/Mouse Power On function. .



Pin Jp1	Function
1-2 1	Disabled
2-3 1	Enabled (default)




1.7.17 CPU Clock Frequency Selector: Jp2

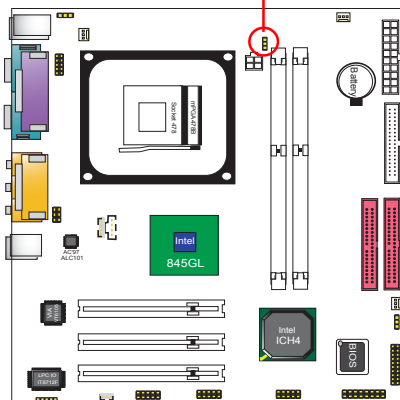
Overclocking is to operate a CPU with a frequency which surpass the default CPU clock. Jp2 jumper is designed to offer a chance for CPU overclocking when starting system.

If a 100MHz CPU is used on board, setting Jp2 to 1-2 closed or 2-3 closed will not offer a chance of overclocking from 100MHz to 133MHz. Only if Jp2 is set at all pins open, there will be a chance of starting the system with 133MHz.

NOTE:

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

Jp2 Setting	 1 1-2 (Default)	 1 2-3 closed	 1 Open
CPU(MHz)	Auto-detect	100 MHz	133 MHz



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

SDRAM (Synchronous DRAM) 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.)

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 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

2.2 Main Menu

Once you enter AWARD BIOS CMOS Set up Utility, the Main Menu will appear on the screen and allows you to select from several setup function. Use the arrow keys to select the items and press<Enter> to enter the sub-menu.

Attention:

The information about BIOS defaults in this manual is just for reference, please refer to the BIOS installed on board for default BIOS confirmation.

Phoenix - AwardBIOS CMOS Setup Utility

<ul style="list-style-type: none"> ▶ Standard CMOS Features ▶ Advanced BIOS Features ▶ Advanced Chipset Features ▶ Integrated Peripherals ▶ Power Management Setup ▶ PNP/PCI Configurations ▶ PC Health Status 	<ul style="list-style-type: none"> ▶ Frequency/Voltage Control Load Fail-safe Defaults Load Optimized Defaults Set Supervisor Password Set User Password Save & Exit Setup Exit without Saving
Esc : Quit F9 : Menu in BIOS : Select Item F10 : Save & Exit Setup	
Time , Date , Hard Disk Type ...	

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	Menu Level Change the day, month,year and century.
IDE Primary Master	None	
IDE Primary Slave		
IDE Secondary Master		
IDE Secondary Master	None	
Drive A	1.44M,3.5 in	
Drive B	None	
Floppy 3	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	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	N/A	The amount of conventional memory detected during boot up.
Extended Memory	N/A	The amount of conventional memory detected during boot up.
Total Memory	N/A	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 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	LS-120	
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	
OS Select For DRAM >64MB	Non-OS2	
HDD S.M.A.R.T. Capability	Disabled	
Report No FDD For WIN 95	No	

: 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; 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; 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): Disabled.

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.

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; Enabled

Report No FDD For Window 95

Assign IRQ6 For FDD.FDD Detect IRQ6 Automatically.

The choices: Yes; No

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
CAS Latency Time	Auto	
Active to Precharge Delay	Auto	
DRAM RAS# to CAS# Delay	Auto	
DRAM RAS# Precharge	Auto	
Memory Frequency for	Auto	
System BIOS Cacheable	Enabled	
Video BIOS Cacheable	Enabled	
Memory Hole At 15M-16M	Disabled	
Delayed Transaction	Enabled	
Delay Prior to Thermal	16 Min	
AGP Aperture Size (MB)	64MB	
On-Chip Video Window Size	128MB	
On-Chip Frame Buffer Size	8MB	

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

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

Memory Frequency For

This item is to set the DRAM frequency.

The Choices: Auto; DDR200; DDR266

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; 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;64MB(default);,32MB; 16MB; 8MB; 4MB; 256MB

On-Chip Video Window Size

This item is to set the Video Window size.

The Choices: 128MB; 64MB; 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

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 Keyboard Support	Disabled	
AC97 Audio	Auto	
AC97 Modem	Auto	
Init Display First	PCI Slot	
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	
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 onboard USB controller.
The Choices: Enabled (default); Disabled

USB Keyboard Support

Use this item to enable or disable the USB Keyboard Support.
The Choices: Enabled; Disabled

AC97 Audio

Use this item to enable or disable the onboard AC97 Audio.
The Choices: Auto(Automatically enabled); Disabled

AC97 Modem

Use this item to choose the initial display.
The Choices: Auto(Automatically enabled); Disabled

Init Display First

Use this item to enable or disable the onboard USB controller.
The Choices: PCI Slot; Onboard/ AGP

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; 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 Extended Capabilities Port.

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

ECP Mode Use DMA

The Choices: 3(default), 1.

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:
290:300; 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 ACPI Suspend Type Power Management Option HDD Power Down Suspend Mode Video Off Method Video Off In Suspend Modem Use IRQ Soft-off by PWR-BTTN Power On by Keyboard Mouse Password Hot Key Power On by USB Power On by PME Power On by Modem Ring Power On by WOL RTC Alarm Resume X Date (of Month) Alarm X Time(hh:mm:ss) Alarm ** Reload Global Timer Events ** Primary IDE 0 Primary IDE 1 Secondary IDE 0 Secondary IDE 1 FDD.COM, LPT Port PCI PIRQ [A-D]#	Enabled S1(POS) User Define Disabled Disabled V/H Sync+Blank Suspend => Off 3 Instant-off Disabled Enter Ctrl-F1 Disabled Disabled Disabled Enabled Disabled 0 0 : 0 : 0 Disabled Disabled Disabled Disabled Disabled Disabled	Item Help <hr/>
---	--	--------------------

: 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 suspend type under ACPI operating system.

S1(POS) (default): Power on Suspend.

S3(STR): Suspend to RAM.

Auto (S1&S3): Auto-select when S1 & S3 are on board.

Power Management Option

The choices are for setting the Power management mode:

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

HDD Power Down

Use this item to set the HDD Power Down time.

The choices: Disabled; 1~15 min..

Suspend Mode

Use this item to set the HDD Power Down time.

The choices: Disabled; 1~60 min.

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: Suspend =>off (default); Always on;

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

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 Keyboard Mouse

Use this item to set the Power On by Keyboard Mouse Mode.

The Choices: Disabled; Keyboard 98; Password; Hot Key; Mouse Move; Mouse Click; Any Key

Password

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

HotKey

Enables you to set the Hot Key for Power On.

The Choices: Ctrl-F1 ~ Ctrl-F12

Power On By USB

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

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.

RTC Alarm Resume

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.

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

IRQ-3 assigned to	: PCI Device	Item Help
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
Shutdown Temperature	Disabled	
Vccp	()	
Vcc 1.5V	()	
Vcc 3.3V	()	
Vcc 5.0V	()	
Vcc 12.0V	()	
Vcc -12.0V	()	
Vcc -5.0V	()	
Vsb +5.0V	()	
Voltage Battery	()	
System Temp.	()	
CPU 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.

Shutdown Temperature

Use this item to set the shutdown temperature of the system.

The choices: Disabled; 60°C/140°F; 65°C/149°F; 70°C/158°F

Vcc 1.5V/+3.3V/+5V/12V/-12V/-5V/5Vsb

These items show the respective voltage running on board.

Voltage Battery

These items show the battery voltage used on board.

System/CPU Temp

This item shows the current System/CPU temperature.

FAN1/CPUFAN2Speed

This item shows the fan speed running on board.

2.10 Frequency/Voltage Control

Phoenix - AwardBIOS CMOS Setup Utility Frequency/Voltage Control

CPU Clock Ratio	8 X	Item Help
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

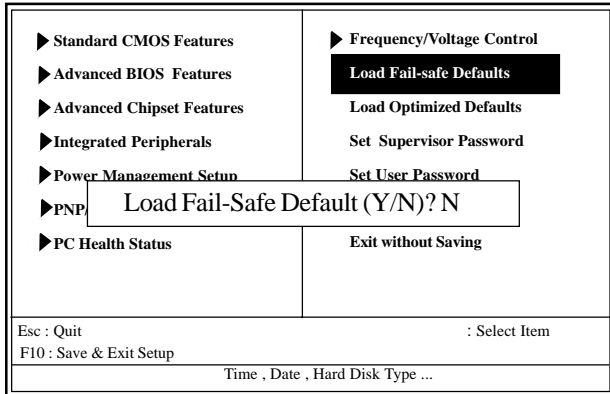
Allows you to set the CPU clock for next boot..

The Choices: 100MHz ~165MHz in 1MHz stepping

2.11 Load Fail-Safe Defaults

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

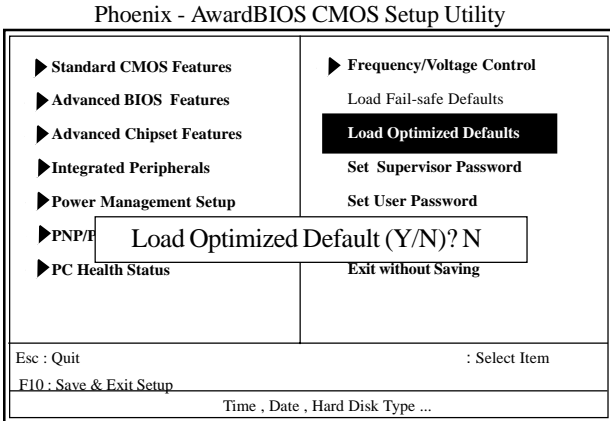
Phoenix - AwardBIOS CMOS Setup Utility



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

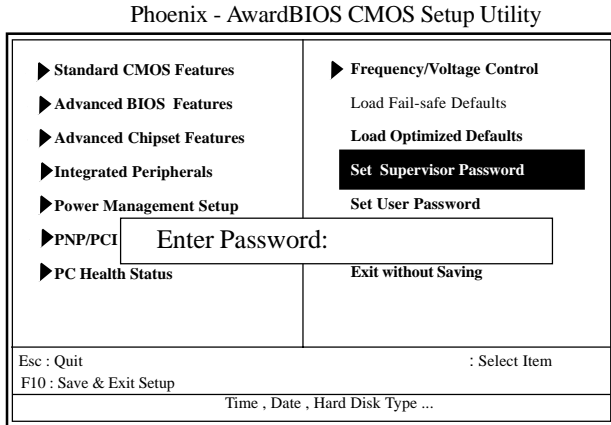
2.12 Load Optimized Defaults

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.

2.13 Set Supervisor / User Password



When you select this function, the following message will appear at the center of the screen to assist you in creating a password.

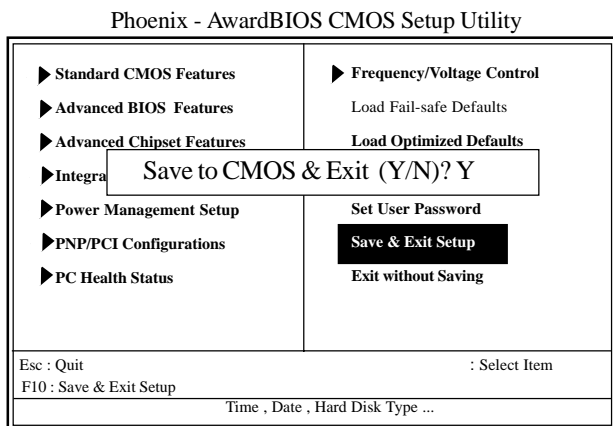
Enter Password

Type a password, up to eight characters, and press <Enter>. The password you type now will clear any previously entered password from CMOS memory. You will be asked to confirm the password. Type the password again and press <Enter>. You may also press <ESC> to abort the selection and not enter a password. To disable the password, just press <Enter> when you are prompted to enter a password. A message will confirm that you wish to disable the password. Once the password is disabled, the system will boot without asking user to enter a password.

Password for System or BIOS Setup

If you select “System” at the Security Option of BIOS Features Setup Menu, you will be prompted for the password every time when the system is rebooted, or any time when you try to enter Setup. If you select “Setup” at the Security Option of BIOS Features Setup Menu, you will be prompted only when you try to enter Setup.

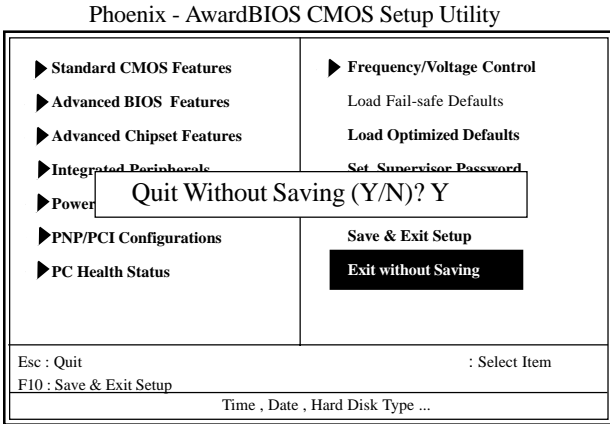
2.14 Save & Exit Setup



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 98) 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

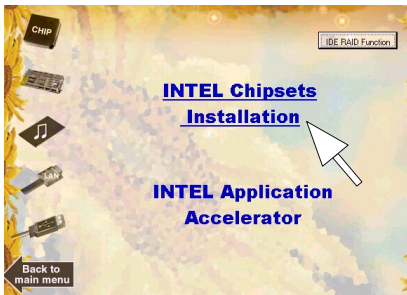
Enter the item "INTEL CHIPSET INSTALLATION" of the Autorun program and install Intelinf for Intel Chipsets support and Plug-n-Play INF support. Follow the illustrations below :



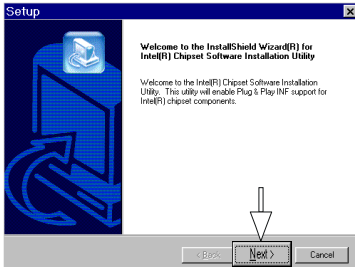
(1)
Click "Driver" Item.



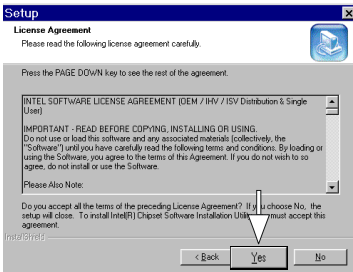
(2)
Click "Chipset" Item.



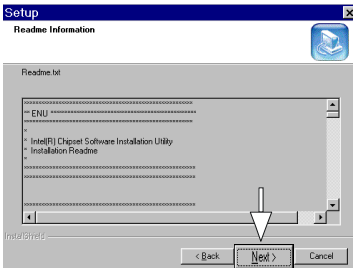
(3)
Click "Intel Chipsets Installation" Item.



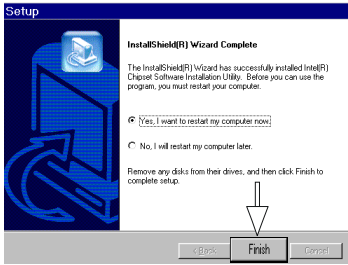
(4)
Click "Next".



(5)
Click "Yes".



(6)
Click "Next".



(7)
Click "Finish".

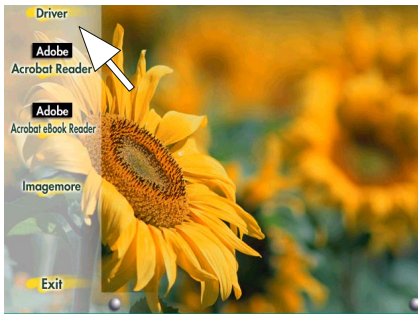
Note: Install the Intel INF Driver before the Intel Application accelerator Driver.

3.3 Installing Application Accelerator

Install the Intel Application Accelerator for Microsoft Windows 98/98SE/ME/NT4.0/2000/XP. The program is designed to improve performance of the storage sub-system and overall system performance.

We recommend that:

If your operating system is Windows 98, 98SE or NT4.0, please install the Ultra Driver. Also, please do not install the IAA and Ultra Driver together.



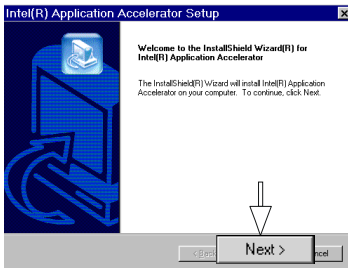
(1)
Click "Driver" Item.



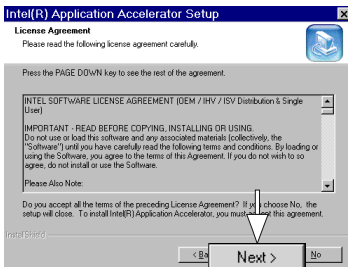
(2)
Click "Chipset" Item.



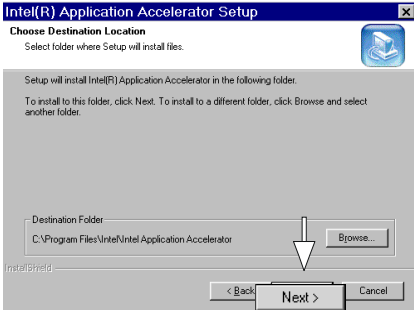
(3)
Click "Intel Application Accelerator" Item.



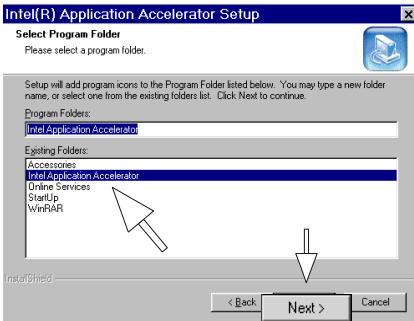
(4)
You will see a pop-up
dialogue of IAA
installation.



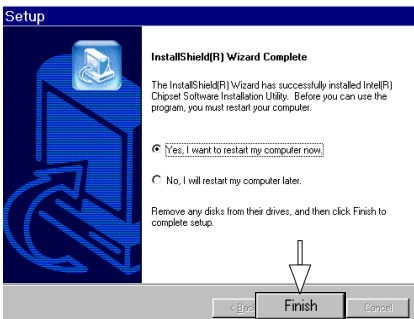
(5)
Click "Next".



(6)
Click "Yes".



(7)
Click "Next".



(8)
Click "Finish".

3.4 Installing Audio Driver

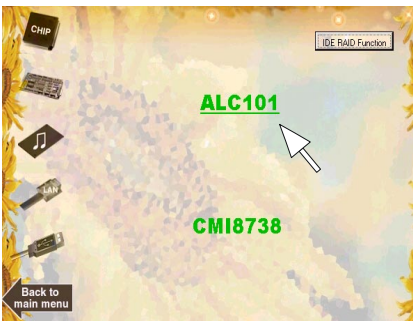
This motherboard comes with an AC97 CODEC and the sound controller is in Intel South Bridge chipset. You can find the sound driver from this Auto-run menu.



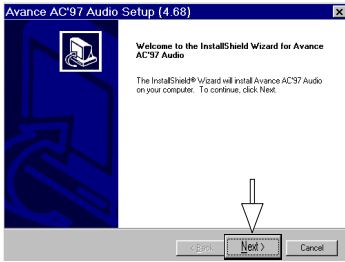
(1)
Click "Driver" Item.



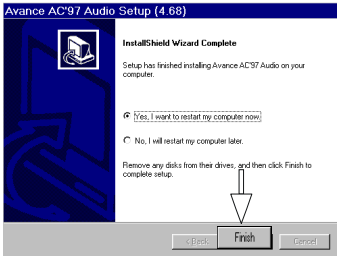
(2)
Click "Audio" Item.



(3)
Click "ALC101" Item.



(4)
Click "Next".



(5)
Click "Finish".

3.5 Installing VGA Driver

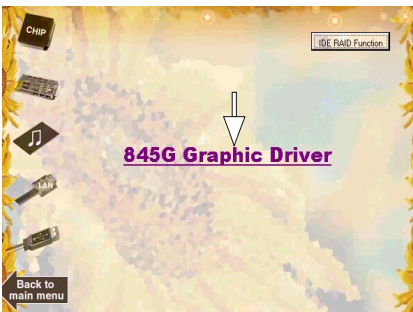
A 2D/3D graphics interface is already integrated into Intel 845GL chipset. Follow the illustration below to install the integrated VGA driver:



(1)
Click "Driver" Item.



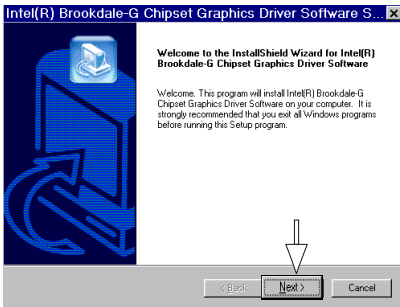
(2)
Click "VGA" Item.



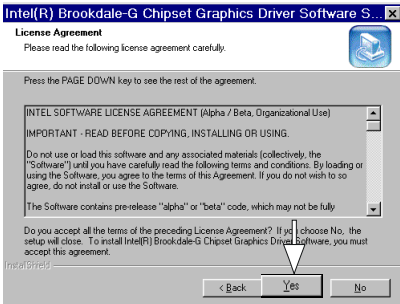
(3)
Click "845G Graphic"
Item.



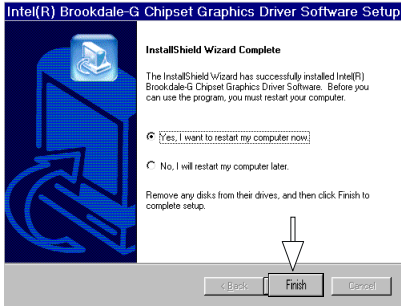
(4)
Select your O.S.



(5)
Click "Next".



(6)
Click "Yes".



(5)
Click "Finish".

3.6 Installing USB 2.0 Device

Please read carefully the pop-up text file after click the above item. 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 is only available in Win 2000 and Win XP.

3.6.1 Install USB2.0 driver for Win 2000

檔案(F) 編輯(E) 格式(O) 說明(H)
Install USB2.0 Driver windows 2000 Driver Manually
<ol style="list-style-type: none"> 1. Right click the "My Computer" icon on the desktop. When the menu appears click "Properties" item. 2. Select "Hardware" page and then click [Device Manager] button. 3. View device by type and find "PCI Universal Serial Bus" node. 4. Right click the "PCI Universal Serial Bus" node. 5. When the menu appears, click the "Properties" item. 6. Please select [Driver] page and click "Update Driver..." button. 7. When the "Upgrade Device Driver Wizard" window appears, click Next to continue. 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. 9. Type or browse the path {CD-ROM Drive};\HW\USB2.0\USB2 to the driver. 10. Follow the instruction to complete the installation.
=====

3.6.2 Install USB2.0 driver for Win XP

檔案(F) 編輯(E) 格式(O) 說明(H)
Install USB2.0 Driver windows XP Driver Manually
<ol style="list-style-type: none"> 1. Click the "Start" button. 2. Right click the "My Computer". When the menu appears click "Properties" item. 3. Select "Hardware" page and then click [Device Manager] button. 4. View device by type and find "PCI Universal Serial Bus" node. 5. Right click the "PCI Universal Serial Bus" node. 6. When the menu appears, click the "Properties" item. 7. Please select [Driver] page and click "Update Driver..." button. 8. When the "Upgrade Device Driver Wizard" window appears, click Next to continue. 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. 10. Type or browse the path {CD-ROM Drive};\HW\USB2.0\USB2 to the driver.
=====

3.7 Installing LAN driver

Please read carefully the pop-up text file after click the above item. The text file will notify you how to install your LAN devices in your O.S. completely.



(1)
Click the "LAN " item.



(1)
Click the "VT 6105 LAN" item.

3.7.1 Install LAN driver for Windows 95/95OSR2/ 98SE/ME/NT4/2000/XP

```

**
**
** Via Rhine Family Fast Ethernet Adapter
**
** Windows Setup Program for Windows 95/95OSR2/98SE/ME/NT4/2000/XP
**
** v2.06   May. 2002
**
**
Introduction:
-----

This document shows you how to use the Windows setup programs. These programs
run under Windows 95/95OSR2/98SE/ME/NT4/2000/XP respectively. You may use
these programs to install/update/remove network adapter driver.

Structure of the directory:
-----

WINSETUP.TXT           This file.
W9X/W9XSETUP.EXE      The setup program for Windows 95/98/ME.
W2KXP/W2KSETUP.EXE    The setup program for Windows 2000/XP.
NT4B/NTSETUP.EXE      The setup program for Windows NT.
NT4B/NTSETUP.INF       The information file for Windows NT setup program.

Usage:
-----

The Windows setup program will search the information file (the default file name
is "NETLFEI.inf" in Windows 95/95OSR2/98SE/ME/2000/XP, "WSETUP.INF" in Windows NT4), and
then automatically install/update driver according to the information file. The
information file search paths are current directory, upper directory and root directory
by order.

Command line usage
-----

Usage:
W9XSetup/W2KSetup/NTSetup [option]
option:
  -?                This help.
  -i                Install/update driver (could be omitted).
  -r                Remove driver.
  -f [INF file]     Specify INF filename.
                   (if no INF file is specified, the setup program will
                   automatically search the correct inf file)
  -d [Source Dir]  Specify directory containing all driver files.
                   (if no source directory is specified, the setup program will
                   automatically search the driver from current directory,
                   upper directory and upper 2 layers directory)
  -b                Reboot without prompt user.
  -w [Windows source CD] Specify path of Windows source CD path.
                   (For Windows 98SE later, and NT40 platform only)
  -u                Show version of this program.
  -s                Prevent to show processing dialog (For W9XSetup only)

Examples:
1. INSTALL or UPDATE

If you placed all driver files on C:\FETWIN\ and Windows 9X sources CD on C:\WIN9X\ directory,
you may use following instructions to install network adapter driver on Windows 9X platforms
and reboot without any prompts.

A:\>cd W9X
A:\>\W9XSetup -d A:\ -w C:\WIN9X\ -b

2. REMOVE

The following instruction try to remove all adapters under all Windows platforms.



A:\>\W9XSetup -r

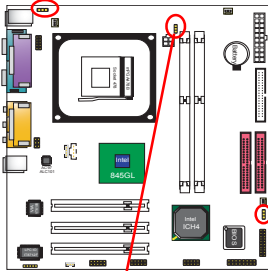
Notice:
1. Please close all running applications during the driver installation processing,
especially the network applet in control panel and properties of network.
2. The program will not process long filename and directory, please convert
Windows long filenames to MSDOS filename.



```




Appendices

1. Quick Jumper Setup

Jp1: Keyboard/Mouse Power On	
Pin Jp1	Function
1-2 	Disabled
2-3 	Enabled (default)



Pin Jp5	Function
1-2 closed 	Normal (Default)
2-3 closed 	Clear CMOS

Jp2: CPU Clock Select			
Jp2 Setting	 1-2 (Default)	 2-3 closed	 Open
CPU(MHz)	Auto-detect	100 MHz	133 MHz

Appendices

2. Test Report

4845GLM 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

CPU TYPE		MEMORY TYPE					
Nucleus	Model	Module Vendor	IC_Vendor & IC_NO	CAPACITY SIDE	DRAM CLK	Location	WS 2001 Business
CELERON	1.7G	SILAN	SAMSUNG K4H280838B-TCB0	266	256M(D)	DIMM 1,2	PASS
		KINSTON	HYUNDAI HY5DU28822T-H	266	128M(S)	DIMM 1,2	PASS
		NANYA	NANYA NT5DS16M8AT-75B	266	256M(D)	DIMM 1,2	PASS
		TRANSCEND	MOSEL V58C21228804SAT7	266	128M(S)	DIMM 1,2	PASS
WILLAMETTE	1.5G	MOSEL	MOSEL V58C2125504SAT7	266	256M(D)	DIMM 1,2	PASS
		APACER	NANYA NT5DSM8AT-7K	266	256M(D)	DIMM 1,2	PASS
		NANYA	NANYA NT5DS16M8AT-7K	266	256M(D)	DIMM 1,2	PASS
		TRANSCEND	SAMSUNG K4H280838B-TCB0	266	128M(S)	DIMM 1,2	PASS
WILLAMETTE	2.0G	SILAN	SAMSUNG K4H280838B-TCB0	266	128M(S)	DIMM 1,2	PASS
		*	SAMSUNG K4H280838B-TCB0	266	256M(D)	DIMM 1,2	PASS
		TRANSCEND	SAMSUNG K4H280838B-TCB0	266	128M(S)	DIMM 1,2	PASS
		ELXIR	ELXIR N2DS12880AT-75B	266	256M(D)	DIMM 1,2	PASS
NORTHWOOD	1.6AG	TRANSCEND	SAMSUNG K4H280838C-TCB3	333	512M(D)	DIMM 1,2	PASS
		ARMAS	SAMSUNG K4H280838B-TCB0	266	256M(D)	DIMM 1,2	PASS
		TRANSCEND	SAMSUNG K4H280838B-TCB0	266	128M(S)	DIMM 1,2	PASS
		HYNIX	HYNIX HY5DU56822AT-L	266	256M(S)	DIMM 1,2	PASS
NORTHWOOD	2.0AG	HYNIX	HYNIX HUSDU56822AT-L	266	256M(S)	DIMM 1,2	PASS
		ARMAS	SAMSUNG K4H280838B-TCB0	266	256M(D)	DIMM 1,2	PASS
		NANYA	NANYA NT5DS16M8AT-7K	266	256M(D)	DIMM 1,2	PASS
		KING MAX	KINGMAX KDL684T4AA-60	333	256M(D)	DIMM 1,2	PASS
Willamette	1.7G	Apacer	NANYA NT5DS16M8AT-7K	128MB	266	DIMM 1	PASS
		HYNIX	HYNIX HY5DU28822AT-H	128MB	266	DIMM 1	PASS
		SILAN	NANYA NT5DS16M8AT-7K	256MB	266	DIMM 1	PASS
		Apacer	ELXIR N2DS12880AT-75B	256MB	266	DIMM 1	PASS
Northwood	1.6AG	KINGMAX	KINGMAX KDL684T4AA-50	256MB	400	DIMM 1	PASS
		Transcend	SAMSUNG K4H560838C-TCB3	512MB	333	DIMM 1	PASS
		KINGSTON	HYUNDAI HY5DU28822T-H	128MB	266	DIMM 1	PASS
		SILAN	SAMSUNG K4H280838B-TCB0	256MB	266	DIMM 1	PASS
Celeron	1.7G	ARMAS	SAMSUNG K4H280838B-TCB0	128MB	266	DIMM 1	PASS
		Transcend	MOSEL V58C2128804SAT7	128MB	266	DIMM 1	PASS
		KINGSTON	NANYA NT5DS16M8AT-7K	256MB	266	DIMM 1	PASS
		KINGMAX	KINGMAX KDL684T4AA-60	256MB	333	DIMM 1	PASS
Willamette	1.8G	Transcend	SAMSUNG K4H280838B-TCB0	128MB	266	DIMM 1	PASS
		ARMAS	SAMSUNG K4H280838B-TCB0	256MB	266	DIMM 1	PASS
		Apacer	NANYA NT5DS16M8AT-7K	256MB	266	DIMM 1	PASS
		*	SAMSUNG K4H200030B-TCB0	128MB	266	DIMM 1	PASS
Willamette	2.4AG	SILAN	SAMSUNG K4H280838B-TCB0	128MB	266	DIMM 1	PASS
		Transcend	SAMSUNG K4H560838C-TCB3	256MB	333	DIMM 1	PASS
		ARMAS	SAMSUNG K4H280838B-TCB0	128MB	266	DIMM 1	PASS

Appendices

B. BIOS Function Test

ITEM	Description	Result
BIOS Basic Function	CPU / Memory / H.D.D Type	PASS
	CMOS (Save and Exit)	PASS
	Clean C-MOS , Check C-MOS default data	PASS
	Memory Quick test	PASS
	User password	PASS
	Supervisor password	PASS
Boot From Device Setting	Boot from A	PASS
	Boot from C	PASS
	Boot from D	PASS
	Boot from CD-ROM	PASS
	Boot from ZIP	PASS
	Boot from USB ZIP	PASS
Init Display First	On-Board VGA	PASS
	PCI	PASS
Wake up Events	Resume by Alarm (BIOS)	PASS
	Power by Ring (MODEM)	PASS
PnP Function Test	Insert PCI/ISA PnP under Win98 SE/WinME/Win2000/Win XP Function	PASS
Power ON Function	Button Only	PASS
	Password	PASS
	Hot Key	PASS
	Keyboard 98	PASS
PC Health Status Function	CPU warning Temperature (50 ° ~ / 122 ° ~)	PASS
	Current CPU Temperature	51 ° ~ ~52 ° ~
	Current CPUFAN 1 Speed (CPU Temperature)	2960 RPM
	Current CPUFAN 2 Speed (System Temperature)	3068 RPM
	Current CPUFAN 3 Speed	3013RPM