XP-P4IM533GV

Intel® Pentium® 4 Processor Motherboard

User's Manual

M-040402

Copyright Declaration

Legal Disclaimer

The information and content of this document is provided "as is", without warranty of any kind, express or implied, including but not limited to the warranties of merchantability, fitness for a particular purpose and non-infringement. Gigatrend Technology assumes no responsibility for errors or omissions in this document or other documents which are referenced by or linked to this document. The content of this document are subject to change without prior notice. Gigatrend Technology may make improvements and/or changes in the product described in this publication at any time and without prior notice. In no event shall Gigatrend Technology be liable for any special, incidental, indirect or consequential damages of any kind arising out of or in connection with the use or performance of this document. If you are uncertain about any installation procedures, please consult a qualified computer technician.

Terms of Use

To avoid unnecessary errors of operation, please consult the user manual prior to hardware installation. For more up-to-date information, please link to our company website at http://www.axper.com.tw

Prior to beginning installation procedures, please make sure that your computer turned off and is connected to a grounded power outlet. If your system is not turned off during installation, this could result in harm or damage to the motherboard, the components as well as to the user.

Declaration of Conformity

We, Manufacturer/Importer
(full address)

Gigatrend Technology Co., Ltd.
Ausschlager Weg 41, 1F 20537 Hamburg, Gemany

declare that the product
(description of the apparatus, system, installation to which it refers)

Motherboard
XP-P4IM533GV

is in conformity with
(reference to the specification under which conformity is declared)
in accordance with 89/336 EEC-EMC Directive

☐ EN 55011	Limits and methods of measurement of radio disturbance characteristics of industrial, scientific and medical (ISM) high frequency equipment	☒ EN 61000-3-2	Disturbances in supply systems caused
		☒ EN 61000-3-3	Disturbances in supply systems caused by household appliances and similar electrical equipment "Voltage fluctuations"
☐ EN 55013	Limits and methods of measurement of radio disturbance characteristics of broadcast receivers and associated equipment	☒ EN 55024	Information Technology equipment-Immunity characteristics-Limits and methods of measurement
☐ EN 55014-1	Limits and methods of measurement of radio disturbance characteristics of household electrical appliances, portable tools and similar electrical apparatus	☐ EN 50082-1	Generic immunity standard Part 1: Residual, commercial and light industry
		☐ EN 50082-2	Generic immunity standard Part 2: Industrial environment
☐ EN 55015	Limits and methods of measurement of radio disturbance characteristics of fluorescent lamps and luminaries	☐ EN 55014-2	Immunity requirements for household appliances tools and similar apparatus
☐ EN 55020	Immunity from radio interference of broadcast receivers and associated equipment	☐ EN 50091- 2	EMC requirements for uninterruptible power systems (UPS)
☒ EN 55022	Limits and methods of measurement of radio disturbance characteristics of information technology equipment		
☐ DIN VDE 0855 ☐ part 10 ☐ part 12	Cabled distribution systems; Equipment for receiving and/or distribution from sound and television signals		

☒ CE marking — CE (EC conformity marking)

The manufacturer also declares the conformity of above mentioned product with the actual required safety standards in accordance with LVD 73/23 EEC

☐ EN 60065	Safety requirements for mains operated electronic and related apparatus for household and similar general use	☐ EN 60950	Safety for information technology equipment including electrical business equipment
☐ EN 60335	Safety of household and similar electrical appliances	☐ EN 50091-1	General and Safety requirements for uninterruptible power systems (UPS)

Manufacturer/Importer

(Stamp)

Date : May 11, 2004

Signature : Timmy Huang

Name : Timmy Huang

DECLARATION OF CONFORMITY

Per FCC Part 2 Section 2.1077(a)

Responsible Party Name: **Gigatrend Technology Co., Ltd.**

Address: **17358 Railroad Street**
City of Industry, CA 91748(U.S.A.)

Phone/Fax No: (818) 854-9338/ (818) 854-9339

hereby declares that the product

Product Name: Motherboard

Model Number: XP-P4IM533GV

Conforms to the following specifications:

FCC Part 15, Subpart B, Section 15.107(a) and Section 15.109(a), Class B Digital Device

Supplementary Information:

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful and (2) this device must accept any inference received, including that may cause undesired operation.

Representative Person's Name: ERIC LU

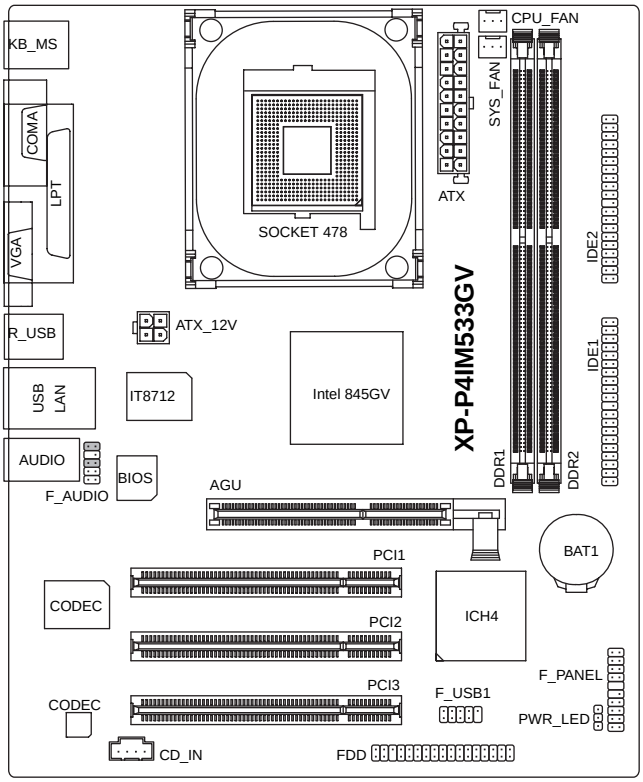
Signature: ERIC LU

Date: May 11, 2004

Contents

English

Motherboard Layout



English

1. Production Introduction

The user manual provides steps related to quick installation. If you wish to view complete product information, please select the "  ",Open User Manual button located on the driver CD or link to our website at http://www.axper.com to received the most up-to-date information.

1.1. Feature Summary

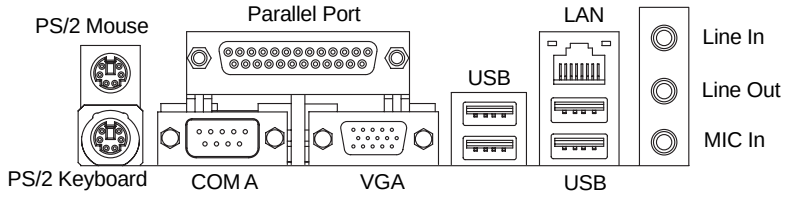
CPU	Socket 478 for Intel®Pentium®4 (Northwood) with HT Technology Intel®Pentium®4 400/533MHz FSB 2nd cache depends on CPU
Chipset	North Bridge: Intel® 845GV South Bridge: Intel® ICH4
Memory	2 184-pin DDR DIMM sockets, supports up to 2GB DRAM (Max) Supports DDR333*/DDR266 DIMM Supports only 2.5V DDR SDRAM
Slots	1 AGU slot device support 3 PCI slots support 33MHz & PCI 2.2 compliant
On-Board IDE	2 IDE controller provide IDE HDD/CD-ROM(IDE1, IDE2) with PIO, Bus Master (Ultra DMA33/ATA66/ATA100) operation modes Can connect up to 4 IDE devices
On-Board Floppy	1 Floppy port supports 2 FDD with 360K, 720K,1.2M, 1.44M and 2.88M bytes
On-Board Peripherals	1 Parallel port supports Normal/EPP/ECP mode 1 Serial port (COMA), 1 VGA port 6 USB 2.0/1.1 ports (4 x Rear, 2 x Front by cable) 1 Front Audio connector 1 PS/2 Keyboard 1 PS/2 Mouse
On-Board LAN	Builit-in RTL8100C chipset 1 RJ45 port
On-Board VGA	Builit-in Intel® 845GV chipset
On-Board Sound	AD 1885 CODEC Support 2 channel Line Out / Line In / Mic In CD In
BIOS	Licensed AWARD BIOS Supports Expert Flash
I/O Control	IT8712
Hardware Monitor	CPU Fan Revolution detect CPU temperature detect System Voltage detect
Form Factor	Micro ATX size form factor, 24.3cm x 19cm

* Only for Intel® 845GV B-Stepping chipset.

English

1.2. I/O Back Panel and Connectors&Jumper Setting

1.2.1. I/O Back Panel

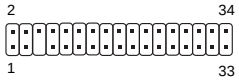


PS/2 Keyboard PS/2 Mouse connector	Connects PS/2 standard keyboard and PS/2 standard mouse
USB (Universal Serial Bus Port)	Prior to use, please make sure that your system as well as the connected attachments support the USB interface. If driver installation is required, please consult the USB section of the user manual.
LAN (RJ45 LAN Port)	Internet connection with speed of up to10/100Mbps
Parallel port (LPT)	Connects to printer
COMA (Serial port)	Connects to serial-based mouse or data processing devices
VGA port	Connects to 15pin D-Sub device such as a monitor
LineOut	Connects to speakers or headphones
Line In	Connects to optical devices, CD players and other audio input devices
Mic In	Connects to microphone

1.2.2. Connectors&Jumper Setting

FDD (Floppy Disk Drive Connector)

The FDD connector is able to connect a single floppy disk drive via a FDD cable. Usually one edge of the FDD cable is marked in red, please attach this marked edge to position 1 on the connector.



IDE1 / IDE2 (IDE1 and IDE2 Connector)

The IDE connector is able to connect two IDE devices via an IDE cable and requires checking of the IDE jumper setting. It is recommended that the hard drive be connected to the first IDE connector while the optical drive be connected to the second IDE connector.

CPU_FAN (CPU Fan Power Connector); SYS_FAN (System Fan Power Connector)

The cooler fan power connector supplies a +12V power voltage via a 3-pin power connector and possesses a ful-proof connection design.

Most coolers are designed with color-coded power connector wires. A red power connector wire indicates a positive connection and requires a +12V power voltage. The black connector wire is the ground wire (GND).

Please remember to connect the power to the cooler to prevent system overheating and failure.

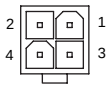
Caution!

Please remember to connect the power to the CPU fan to prevent CPU overheating and failure.

PIN	SIGNAL
1	GND
2	+12V
3	Sense

ATX_12V (+12V Power Connector)

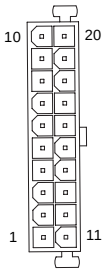
The ATX_12V power connector provides power to the CPU. If this connector is not Attached, the system will not start.



PIN	SIGNAL
1	GND
2	GND
3	+12V
4	+12V

ATX (ATX Power Connector)

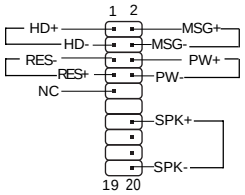
The ATX power connector provides power to the motherboard. Prior to connection, please make sure that the power supply is disconnected.



PIN	SIGNAL	PIN	SIGNAL
1	3.3V	11	3.3V
2	3.3V	12	-12V
3	GND	13	GND
4	VCC	14	PS_ON (soft on/off)
5	GND	15	GND
6	VCC	16	GND
7	GND	17	GND
8	Power Good	18	-5V
9	5VSB (stand by +5V)	19	VCC
10	+12V	20	VCC

F_PANEL (Front Panel Control Connector)

The F_Panel Control Connector connects to certain connectors on the front panel of the system casing such as IDE Hard Disk Active LED, speaker, reset, and power on/off connectors. You can use the schematic diagram below as the basis for connection.



PIN	SIGNAL
HD	IDE Hard Disk Active LED
SPK	Speaker Connector
RES	Reset Switch
PW	Soft Power Connector
MSG	Message LED/Power/Sleep LED
NC	NC

English

PWR_LED

Connects to the system power LED indicator whereby the power is indicated as ON or OFF. However, the indicator will flash when the system is suspended.

PIN	SIGNAL
1	MPD+
2	MPD-
3	MPD-

F_AUDIO (Front Audio Connector)

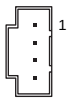
Connects to the audio connector located on the front panel of the system casing (dependent on case design). When use of the front panel audio connector is required, please remove the 5-6 pin, 9-10pin jumper.

Please note that use of only the front panel audio connector or the rear panel audio connector is permitted.

PIN	SIGNAL	PIN	SIGNAL
1	MIC	6	Rear Audio (R)
2	GND	7	Reserved
3	MIC_BIAS	8	NO PIN
4	POWER	9	Front Audio (L)
5	Front Audio (R)	10	Rear Audio (L)

CD_IN (Optical Drive Audio Connector)

Connects CD-ROM or DVD-ROM audio connector.



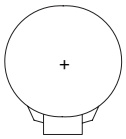
PIN	SIGNAL
1	CD_L
2	GND
3	GND
4	CD_R

F_USB1 (Front USB Connector)

Connects to the USB connector located on the front panel of the system casing (dependent on case design). Note: Please make sure that each USB connection matches its designated position. If connections are made incorrectly, the result can lead to inability to use the function or even damage.

PIN	SIGNAL	PIN	SIGNAL
1	POWER	6	USB Dy+
2	POWER	7	GND
3	USB Dx-	8	GND
4	USB Dy-	9	NO PIN
5	USB Dx+	10	NC

BAT1(Battery)



The improper removal of the battery can result in harm. When replacing a battery, please make sure you use one that is of similar brand and model number.
For information related to battery specifications and precautions, please refer to the manufacturer instructions.
If you wish to delete the data stored in the CMOS, please follow the steps below:

1. Please turn off your computer and unplug the power.
2. Remove the battery from the motherboard.
3. Wait 30 seconds and then replace the battery onto the motherboard.
4. Plug in the power supply and turn on your system.

2. Hardware Installation

1. Please make sure that the CPU used is supported by your motherboard.
2. Please be aware of the placement position of the CPU. If the CPU does not insert properly, do not apply force but check the placement position.
3. Please make sure that an even layer of heat sink paste is added between the CPU and the fan sink.
4. Please do not turn on the power prior to installing the fan sink. Doing so can result in overheating and lead to permanent damage to the CPU.
5. Please follow the CPU specifications when setting the frequency. It is not recommended that system speed settings exceed that of hardware specifications. If you wish to set your system speed to exceed the recom mended specifications, please check your hardware specifications eg: CPU, graphics card, memory, hard drive

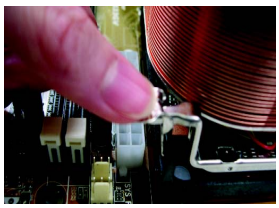
The following must be supported to allow the use of Hyper-Threading Technology:

- an Intel Pentium 4 CPU with HT
- a motherboard supporting HT
- HT selection feature within BIOS
- an operating system supporting HT

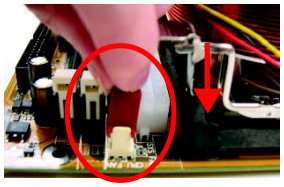
2.1. Installation of a Pentium 4 CPU and Fan Sink

1
Note the small gold colored triangle on one corner of the CPU. Place the triangle in the corner closest to the metal lever and gently insert the CPU into its position.

2
When the CPU is inserted into its position, gently press the metal lever downwards until a click is heard. Then add an even layer of heat sink paste between the CPU and fan sink for heat dissipation.



3
Position and attach the clips on one end of the fan sink firmly atop the CPU. Please do the same for the clips on the other end of the fan sink.



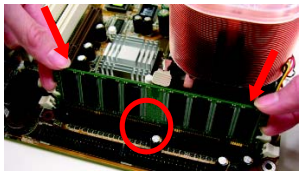
4
Connect the 3-pin cooler power connector to the CPU Fan connector located on the motherboard.

2.2. Installation of Memory

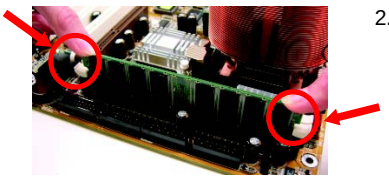
CAUTION

1. Before installing or removing memory, please make sure that the computer power is turned off to prevent hardware damage.
2. Please make sure that the memory used is supported by the motherboard.
3. Memory modules have a foolproof insertion design. The memory can be in stalled only when facing the correct position. If you cannot insert the module, please switch directions.
4. It is recommended that memory of similar capacity, specifications and brand be used.

The motherboard supports DIMM memory modules, whereby BIOS will automatically detect memory capacity and specifications. Memory modules are designed so that they can be inserted only in one direction.



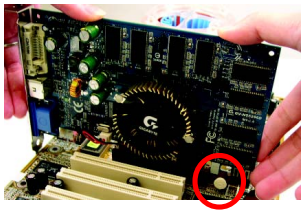
1. Unfasten the clips on each end of the memory slots. Correctly align the memory module in the slot and push downwards..



2. Once the memory module is correctly inserted, the clips will automatically refasten. If the memory mod ule is positioned in the wrong direction, it will not insert. If this occurs, please switch directions.

2.3. Installation of the Graphics Card

1. Before installing the graphics card, please carefully read the accompanying user manual. As well, make sure the computer power is turned off.
2. When installing or removing the graphics card, first pull out the white AGU knob before insertion or removal. Releasing the AGU knob will hold the graphics card firmly in place.



2.4. What is Axper's A.G.U.?

Axper's Advanced Graphics Upgrade (A.G.U.) is a unique feature on 845GV motherboards that includes an added AGP graphics interface. Axper's A.G.U. allows the addition of a graphics card for high-performance graphics for multimedia and gaming applications. Axper's A.G.U. is both AGP 4X and 8X compatible and supports the new Microsoft DirectX 9.0 standard.

The Advantages of Axper's A.G.U.

1) Performance

Axper's 845GV motherboards offers better graphics output than other 845GV platforms due to the extra addition of a dedicated AGP graphics interface

2) Flexibility

With the Axper A.G.U., users have the flexibility in choice of a wide range of AGP4X and AGP8X-based graphics cards (please refer to support list on manual or website) for their 845GV chipset platforms.

3) Value

Axper's 845GV motherboards provide superior value by offering performance nearing to that of 845GV chipset platforms but at a noticeably lower cost for great performance at unbelievable savings!

2.4.1. Graphics Card Support List

(The items below are all supported under the Windows XP operating system. When using an add-on graphics card, please first delete the onboard graphics driver before installing the driver for the add-on graphics card.)

Figure 1-1. 4X AGP Card

Graphics Chip	Maker	Model Name
Nvidia	Gigabyte	GA-620
	Gigabyte	GA-622
	Gigabyte	GA-660 Plus
	Gigabyte	GA-GF2560

To be continued...

Figure 1-2. 4X AGP Card

Graphics Chip	Maker	Model Name
Nvidia	Gigabyte	GA-GF2000
	Gigabyte	GA-GF1280
	Gigabyte	GV-GF2010D
	Gigabyte	GA-GF3000D
	Gigabyte	GV-GF1280-32E
	Gigabyte	GV-GF1280T-32P
	Gigabyte	GV-GF3200TF
	Gigabyte	GV-GF3500TF-GH
	ELSA	Gladiac Ultra
	ELSA	Gladiac 517
	ELSA	Gladiac 517vivo
	ELSA	Gladiac 525 A128
	Leadtek	WinFast A170 TH
	Leadtek	WinFast A250 TO
	Leadtek	WinFast A250 Ultra
ATi	Gigabyte	GV-AR64DL-T-SI
	Gigabyte	GV-AR64S-H
	Gigabyte	GV-AP64D
	Gigabyte	GV-AP64DH
	Gigabyte	GV-AP128DG-H
	Gigabyte	GV-AF128D-GH
SiS	Prolink	SiS315 64MB
Savage	ASUS	V3500

Figure 2. 8X AGP Card

Graphics Chip	Maker	Model Name
Nvidia	ASUS	V9180TD
	ASUS	V9480-TVD
	ASUS	V9520
	MSI	MX440-VTD8X MS-8888
	MSI	Ti4600-TD-8X
	Leadtek	WinFast A280LE TD
	Leadtek	WinFast A310 TD
	Albatron	NVIDIA 5950
ATi	Gigabyte	GV-R9700 Pro
	Gigabyte	GV-R9700
	Gigabyte	GV-R9500
	Gigabyte	GV-R9200C3
	Gigabyte	GV-R98P128D
	Gigabyte	GV-R92P128VH
SiS	Triplex	Xabre Pro
	Power Color	Xabre 600 Pro

For the most up-to-date information related to graphics card support, please link to our website at http://www.axper.com

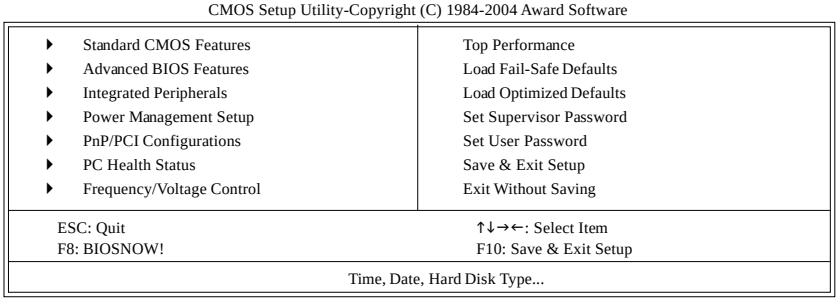
English

3. BIOS Setup

BIOS (Basic Input and Output System) stores all the information of the motherboard settings that is needed for system initiation within the CMOS. The CMOS SETUP utility allows the user to make changes in BIOS configurations that are required or to activate certain features.
The CMOS SETUP saves each item configuration in the CMOS SRAM of the motherboard. When the power is turned off, the battery on the motherboard supplies the required power to the CMOS SRAM.
When the power is turned on, pushing the <Del> button during the BIOS POST (Power-On Self Test) will bring up the CMOS SETUP screen. If you wish to enter the BIOS setup, please press "Ctrl + F1" at the BIOS setup screen.
When using BIOS setup for the first time, it is recommended that you save the present BIOS onto a disk in case you need to reset the BIOS back to its original settings. If you wish to update to a new BIOS, the "BIOSNOW!" can be used.
The user can select "BIOSNOW!" as a way to quickly and easily update or back up BIOS without entering the operating system.

3.1. Setup Screen Features (BIOS version:F1)

※ When you enter the CMOS SETUP screen, you will see the following screen and setting selections as shown below.



Instructions

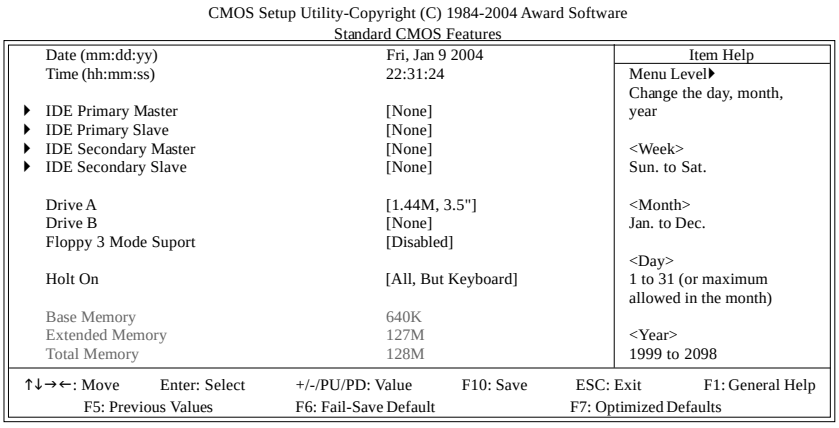
<↑,↓,←,→ ,Enter>	Movement in all four directions to highlight a desired option, pressing <Enter> will select the option and take you to its appropriate screen
<Page Up,Page Down>	Used to toggle up and down the available options for a particular item, whereby <Page Up> can also be used to increase value option and <Page Down> to decrease value option
<Esc>	Return to main setup screen or exit setup
<F1>	Gives the list of options available for each item
<F2>	Gives the list of options available for the current item
<F5>	Returns settings to previous values (not applicable to main setup screen)

English

<F6>	Gives the list of options available for each item
<F7>	Return to Optimized default values (not applicable to main setup screen)
<F8>	Enters Expert-Flash feature
<F9>	Displays system information
<F10>	Saves settings and exits setup

3.2. Standard CMOS Features

※ Includes the settings for items such as date, time, floppy disk drive specifications, and hard drives connected to the IDE interface.



- **Date (mm:dd:yy)**

  Allows you to setup the date in the mm:dd:yy fashion.

- **Time (hh:mm:ss)**

  Allows you to set up the date in the hh:mm:ss fashion. The time must be entered in the 24-hour format.

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

  [IDE Device Setup]

  IDE HDD Auto-Detection Press "Enter" to select this option for automatic device detection.

  IDE Primary Master(Slave) / IDE Secondary Master(Slave) IDE Device Setup. You can use one of three methods:

Auto	Allows BIOS to automatically detect IDE devices during POST(default)
None	Select this if no IDE devices are used and the system will skip the automatic detection step and allow for faster system start up.
Manual	User can manually input the correct settings
Access Mode	Use this to set the access mode for the hard drive. The four options are: HB/LBA/Large/Auto(default:Auto)

  Hard drive information should be labeled on the outside drive casing. Enter the appropriate option based on this information.

- **Floppy 3 Mode Support**

  Allows user to configure a Japanese standard 3 Mode floppy drive.

  Options: Disabled (No 3 Mode drive installed)
  Drive A (3 Mode Drive installed in A:)
  Drive B (3 Mode Drive installed in B:)
  Both (3 Mode Drive installed in A: and B:)

- **Halt on**

  Tells the BIOS specifically which types of errors will halt the computer during the power-on self test (POST) section of the boot.

  Options: No Errors (Never halt when an error is detected)
  All Errors (Halt whenever an error is detected)
  All, But Keyboard (Halt whenever an error is detected with the exception of the keyboard)
  All, But Diskette (Halt whenever an error is detected with the ex ception of the diskette)
  All, But Disk/Key (Halt whenever an error is detected with the exception of the diskette and keyboard) (default:All, But Keyboard)

- **Memory**

  When BIOS is displayed during POST, memory capacity is also displayed as shown below:

  Base Memory, Extended Memory, Total Memory (the user can verify the accuracy of these values)

English

3.3. Advanced BIOS Features

※ Allows the configuration of advanced settings such as boot sequence, password check, etc.

CMOS Setup Utility-Copyright (C) 1984-2004 Award Software
Advanced BIOS Features

First Boot Device	[Floppy]	Item Help
Second Boot Device	[HDD-0]	Menu Level▸
Third Boot Device	[CDROM]	Select Boot Device priority
Boot Up Floppy Seek	[Disabled]	
Password Check	[Setup]	
CPU Hyper-Threading#	[Enabled]	[Floppy] Boot from floppy
Init Display First	[AGU]	
Graphics Aperture Size	[128MB]	
Graphics Share Memory	[8MB]	[LS120] Boot from LS120
		[HDD-0] Boot from First HDD
		[HDD-1] Boot from Second HDD

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

" # " If the installed CPU is an Intel Pentium 4 CPU supporting Hyper-Threading Technology, the system will automatically provide this option.

- **First / Second / Third Boot Device**

  The user can select the order in which the system will boot.

  Options: Floppy, LS120,HDD-0~HDD3, SCSI, CDROM, ZIP,USB-FDD, USB-ZIP, USB-CDROM, USB-HDD, LAN, Disabled

- **Boot Up Floppy Seek**

  This feature controls whether the BIOS checks for a floppy drive while booting up. (default:Disabled)

- **Password Check**

  Allows user to set a password. To remove the password entry requirement, enter SETUP and make sure there is no entry and then press <Enter>.

  Options: System (Password entry is required during system start up and to enter CMOS SETUP)
  Setup (Password entry is required to enter CMOS SETUP)(default:Setup)

- **CPU Hyper-Threading #**

  Allows user to enable the CPU Hyper-Threading function, of which must also be sup ported by the operating system. (default: Enabled)

- **Init Display First**

  Allows you to select whether to boot the system using the AGP graphics card or the PCI graphics card.

  Options: AGU (boot using AGU graphics card)
  Onboard/AGP (boot using onboard AGP)
  PCI (boot using PCI graphics card). (default: AGU)

- **Graphics Memory Size**

  Allows user to set the size of the graphics memory for improved memory performance.
  Options: 128MB/Disabled (default:128MB)

- **Graphics Share Memory**

  Allows user to set the amount of memory given for the graphics card frame buffer.
  Options: 8MB/1MB (default:8MB)

3.4. Integrated Peripherals

※ This menu allows you to control the various ports of the computer such as IDE, SATA, USB, IEEE1394, COM port, LPT port, AC97 audio, etc.

CMOS Setup Utility-Copyright (C) 1984-2004 Award Software
Integrated Peripherals

			Item Help
	On-Chip Primary PCI IDE	[Enabled]	Menu Level▸
	On-Chip Secondary PCI IDE	[Enabled]	If a hard disk
	IDE1 Conductor Cable	[Auto]	controller card is
	IDE2 Conductor Cable	[Auto]	used, set at Disabled
	USB Controller	[Enabled]	
	USB Keyboard Support	[Disabled]	[Enabled]
	USB Mouse Support	[Disabled]	Enable onboard IDE
	AC97 Audio	[Auto]	PORT
	Onboard H/W LAN	[Enabled]	
	Onboard Serial Port 1	[3F8/IRQ4]	[Disabled]
	Onboard Parallel Port	[378/IRQ7]	Disable onboard IDE
	Parallel Port Mode	[SPP]	PORT
x	ECP Mode Use DMA	3	
	Game Port Address	[201]	
	Midi Port Address	[Disabled]	
	Midi Port IRQ	[10]	

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

- **On-Chip Primary PCI IDE**

  Allows the user to enable or disable the first onboard IDE channel.
  (default:Enabled)

- **On-Chip Secondary PCI IDE**

  Allows the user to enable or disable the second onboard IDE channel.
  (default:Enabled)

- **IDE1 Conductor Cable**

  Allows user to select the type of IDE1 conductor cable. Prior to selecting the setting, please make sure that the IDE device and cables support the desired setting.
  Options: Auto, ATA66/100, ATA33 (default:Auto)

- **IDE2 Conductor Cable**

  Allows user to select the type of IDE2 conductor cable. Prior to selecting the setting, please make sure that the IDE device and cables support the desired setting.
  Options: Auto, ATA66/100, ATA33 (default:Auto)

- **USB Controller**
  Allows the user to enable or disable the onboard USB2.0 controller. (default:Enabled)
- **USB Keyboard Support**
  Allows user to use a USB-based keyboard (Enable if you are using a USB keyboard, otherwise Disable) (default:Disabled)
- **USB Mouse Support**
  Allows user to use a USB-based mouse (Enable if you are using a USB mouse, otherwise Disable) (default:Disabled)
- **AC97 Audio**
  Allows the user to use the onboard AC97 audio (default:Auto)
- **Onboard H/W LAN**
  Allows the user to enable or disable the onboard LAN (default:Enabled)
- **Onboard Serial Port 1**
  Allows the user to enable or disable the first onboard serial port
  Options: Auto, 3F8/IRQ4, 2F8/IRQ3, 3E8/IRQ4, 2E8/IRQ3, Disabled (default:3F8/IRQ4)
- **Onboard Parallel Port**
  Allows the user to enable or disable the onboard parallel port.
  Options: 378/IRQ7, 278/IRQ5, 3BC/IRQ7, Disabled (default:378/IRQ7)
- **Parallel Mode**
  Use this to select the operation mode for the parallel port.
  Options: SPP (normal)
  EPP (Enhanced Parallel Port)
  ECP (Extended Capabilities Port)
  ECP+EPP (both ECP and EPP) (default:SPP)
- **Game Port Address**
  Allows the user to select the Game Port Address
  Options: 201, 209, Disabled (default:201)
- **Midi Port Address**
  Allows the user to select the Midi Port Address
  Options: 300, 330, Disabled (default:Disabled)
- **Midi Port IRQ**
  Allows the user to select the Midi Port IRQ
  Options: 5, 10 (default:10)

3.5. Power Management Setup

※ This is used to control the various power saving features of the PC.

CMOS Setup Utility-Copyright (C) 1984-2004 Award Software
Power Management Setup

			Item Help
	ACPI Suspend Type	[S1(POS)]	Menu Level▸
	Soft-Off by PWR-BTTN	[Instant-Off]	[S1]
	PME Event Wake Up	[Enabled]	Set suspend type to
	Resume by Alarm	[Disabled]	Power On Suspend under
x	Date (of Month) Alarm	Everyday	ACPI OS
x	Time (hh:mm:ss) Alarm	0 : 0 : 0	
	Power On by Mouse	[Disabled]	
	Power On by Keyboard	[Disabled]	[S3]
x	KB Power ON Password	Enter	Set suspend type to
	AC Back Function	[Soft-Off]	Suspend to RAM under ACPI OS

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

- **ACPI Suspend Type**

  Allows user to select the Advanced Configuration and Power Interface(ACPI) as S1/POS (Power On Suspend) or S3/STR(Suspend To RAM) (default:S1/POS)

- **Soft-off by PWR-BTTN**

  Controls whether the PC shuts off immediately after hitting the power button or delaying a few seconds. (default:Instant-off)

  Options: Instant-off (PC shuts off immediately)
  Delay 4 Sec. (PC shuts off after a 4sec. delay)

- **PME Event Wake Up**

  Allows user to select the Power Management Event (PME) wake up function which requires the system to have a +5VSB power supply using a rate of 1A or less. (default:Enabled)

- **Resume by Alarm**

  If set to Enabled, the user can set the date and time for automatic system power-on. (default:Disabled)

  Settings:
  Date (of Month) Alarm : Everyday, 1~31
  Time (hh: mm: ss) Alarm : (0~23) : (0~59) : (0~59)

- **Power On Mouse**

  Allows user to turn on system using the mouse. (default:Disabled)

- **Power On Keyboard**

  Allows user to turn on system using the keyboard.

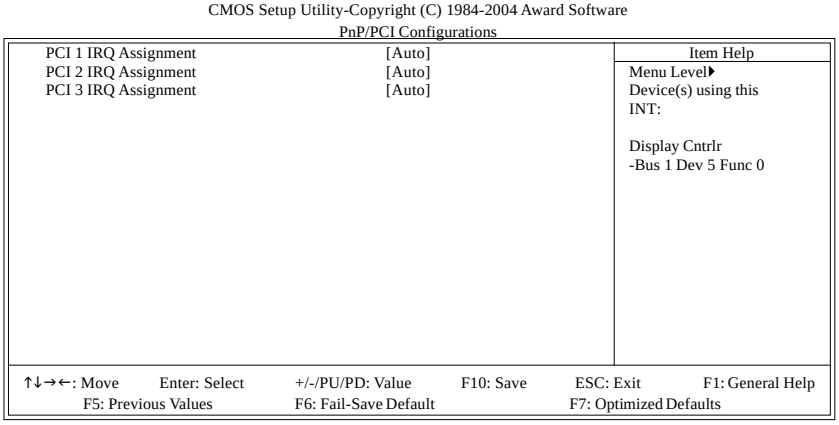
  Options: Password (input an 8 character long password)
  Keyboard 98 (the power button on Windows 98 keyboard)
  Disabled (default:Disabled)

English

- **KB Power ON Password**
  Allows user to set a 1-5 character long password for powering on the keyboard. Select Enter to complete setting.
- **AC Back Function**
  Allows user to select system status when power is removed and returned.
  Options: Memory (return prior to power removal)
  Full-On (return to full system power)
  Soft-Off (use of Soft PWR button to power on system)(default:Soft-Off)

3.6. PnP/PCI Configuration

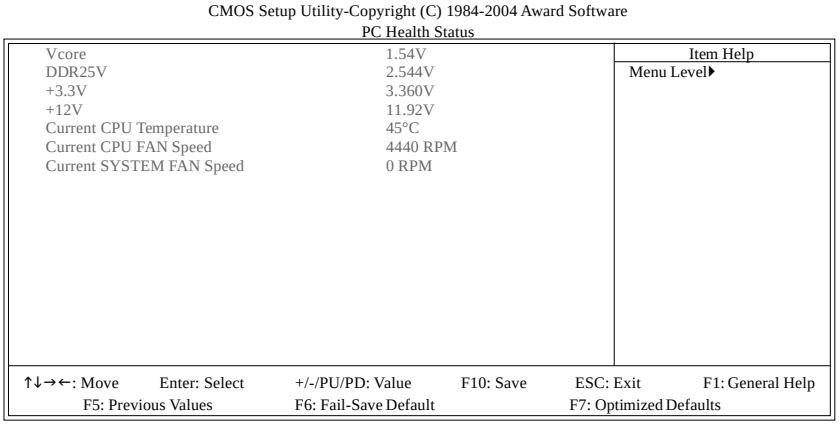
※ This menu allows you to configure your PCI slots. You can assign IRQ's for various PCI slots.



- **PCI 1 IRQ Assignment**
  Allows you to assign an IRQ for the first PCI slot. Options: Auto,3,4,5,7,9,10,11,12,14, 15 (default:Auto)
- **PCI 2 IRQ Assignment**
  Allows you to assign an IRQ for the second PCI slot. Options: Auto,3,4,5,7,9,10,11,12, 14,15 (default:Auto)
- **PCI 3 IRQ Assignment**
  Allows you to assign an IRQ for the third PCI slot. Options: Auto,3,4,5,7,9,10,11,12,14, 15 (default:Auto)

3.7. PC Health Status

※ This menu displays the current CPU temperature, the fan speeds, voltages etc.

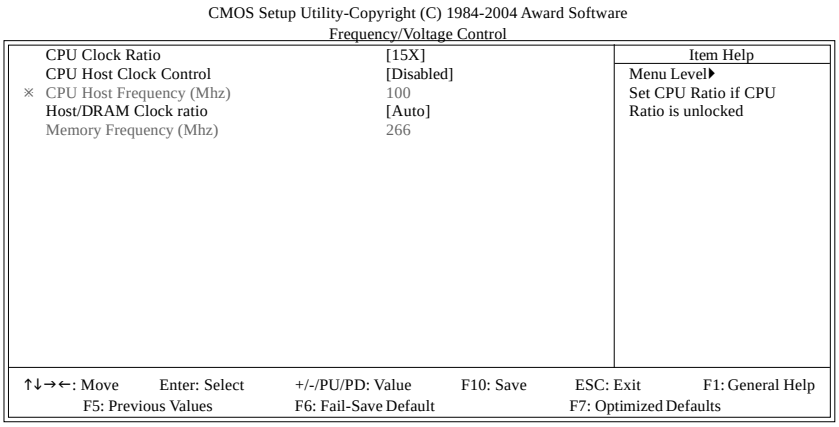


- **Current Voltage(V) Vcore / DDR25V / +3.3V / +12V**
  Automatically checks system voltage
- **Current CPU Temperature**
  Automatically checks CPU temperature
- **Current CPU / SYSTEM FAN Speed (RPM)**
  Automatically checks CPU/SYSTEM fan speed

English

3.8. Frequency/Voltage Control

※ This allows user to configure CPU frequency and voltage settings.



※ This section is very dangerous for inexperienced users, and therefore it is not recom mended that these settings be altered. An incorrect setting can result in system instability, corrupt data, or permanent hardware damage.

■ CPU Clock Ratio

Allows user to set the CPU Clock Ratio.
If the CPU used locks this feature, then it will not be displayed or will not function. (based on CPU type)
For Willamette CPU: 8X~23X default: 14X
For C-Stepping P4: 8X,10X~24X default: 15X
For Northwood CPU: 12X~24X default: 16X

■ CPU Host Clock Control

Allows user to use CPU Host Clock Control (default:Disabled)
Please note that if your system is overclocked and cannot restart, please wait 20secs. for automatic system restart or clear the CMOS setup data and perform a safe restart.

■ CPU Host Frequency (MHz)

If you wish to use this feature, please set the "CPU Host Clock Control" to Enabled. If this feature is disabled, the currently CPU frequency will be displayed.
The CPU Host Clock can be input between 100MHz to 355MHz.
If you have a FSB400 Pentium 4 CPU, please set the "CPU Clock" to 100MHz.
If you have a FSB533 Pentium 4 CPU, please set the "CPU Clock" to 133MHz.

- **Host/DRAM Clock Ratio**

  Allows the user to set the Host/DRAM Clock Ratio.
  If the FSB(Front Side Bus) is at 400MHz.
  2.66 Memory Frequency = Host clock x 2.66.
  Auto Automatically sets memory frequency. (default:Auto)
  If the FSB(Front Side Bus) is at 533MHz.
  2.0 Memory Frequency = Host clock x 2.0.
  2.5 Memory Frequency = Host clock x 2.5.
  Auto Automatically sets memory frequency. (default:Auto)

- **Memory Frequency (Mhz)**

  The memory frequency is based on the CPU Host Frequency (Mhz) setting.

3.9. Top Performance

※ "Top Performance" allows faster system start. However, the result may differ depending on system specifications (includes hardware and OS). For example, certain hardware may become unstable under Windows XP but work reliably under the Windows NT operating system. Thus, select Disabled under "Top Performance" if system hardware is affected.

3.10. Load Fail-Safe Defaults

※ Use this option to reset your BIOS settings to the system defaults. You should only use this if you are encountering serious problems.
Please select <Y> and <Enter> to load Fail-Safe defaults. Once this is loaded, your system may be slowed since this uses a minimal performance setting to allow stable system running.

3.11. Load Optimized Defaults

※ Like the Fail-Safe mode above, this option loads the BIOS default settings, but runs the system at optimal performance.
Please select <Y> and <Enter> to load optimized defaults.

3.12. Set User Password

※ Use this to set the password that is needed to either enter into the BIOS or to boot the system. Entering in a blank field will disable the password.
Please input an 8 character long password and then select Enter. You will be required to re-enter the password for confirmation. If you wish to remove the need for password entry, leave the entry blank and then select Enter. BIOS will then display "PASSWORD DISABLED". Once you have completed the password setting, you will need to go to "Advanced BIOS Features" and select "Password Check" for setup of password check.

3.13. Save & Exit Setup

※ To save any changes you made to the BIOS you must choose this option. The system will automatically exit setup and perform a system restart. Pushing <F10> will have the same effect.
Push <Y> and <Enter> to save and exit setup. If you do not wish to save, select <N> or <Esc> to return to the main menu.

3.14. Exit Without Saving

※ Use this option instead of the one above if you wish to exit the BIOS without saving the changes you have made. Pushing <ESC> will have the same effect.
Push <Y> and <Enter> to exit setup. You can return to the main menu by pushing <N>or <Esc>.

4. Driver Installation

Driver installation for the Windows 98/98SE/200/ME/XP operating systems is simple. Once you insert the provided driver disks into your optical drive, the AUTORUN screen will appear. If this screen does not appear, you can use "D:\setup.exe" (with "D" being the specified drive) to bring up the screen shown below. Just follow the screen instructions to easily complete driver installation.