



Your Reliable Partner

BG-72
Intel Pentium 4 System Board
Socket 478

User's Manual

Copyright and Warranty Notice

The information in this document is subject to change without notice and does not represent a commitment on part of the vendor, who assumes no liability or responsibility for any errors that may appear in this manual.

No warranty or representation, either expressed or implied, is made with respect to the quality, accuracy or fitness for any particular part of this document. In no event shall the manufacturer be liable for direct, indirect, special, incidental or consequential damages arising from any defect or error in this manual or product.

Product names appearing in this manual are for identification purpose only and trademarks and product names or brand names appearing in this document are property of their respective owners.

This document contains materials protected under International Copyright Laws. All rights reserved. No part of this manual may be reproduced, transmitted or transcribed without the expressed written permission of the manufacturer and authors of this manual.

Table of Contents

Chapter 1. Introduction	1-1
1.1. Features & Specifications.....	1-1
1.2. Layout Diagram.....	1-3
1.3. Jumpers & Connectors Description.....	1-4
Chapter 2. Hardware Setup.....	2-1
2.1. CPU Socket	2-1
2.2. System Memory	2-2
2.3. Connectors, Headers, and Switches.....	2-3
2.3.1. ATX Power Connectors.....	2-3
2.3.2. FAN Connectors	2-4
2.3.3. CMOS Memory Clearing Header	2-5
2.3.4. Front Panel Switches & Indicators Connection Headers	2-6
2.3.5. Additional USB Port Connection Header	2-7
2.3.6. Front Panel Audio Connection Header	2-8
2.3.7. Internal Audio Source Connectors.....	2-9
2.3.8. Floppy Disk Drive Connector.....	2-10
2.3.9. IDE Disk Drive Connectors	2-11
2.3.10. External I/O Panel.....	2-12
Chapter 3. BIOS Setup.....	3-1
3.1. About the Setup Utility	3-1
3.1.1. The Standard Configuration.....	3-2
3.1.2. Entering the Setup Utility	3-3
3.1.3. Updating the BIOS.....	3-4
3.2. Using BIOS	3-5
3.2.1. Standard CMOS Features	3-5
3.2.2. Advanced BIOS Features.....	3-9
3.2.3. Advanced Chipset Features	3-13
3.2.4. Integrated Peripherals	3-16

3.2.5.	Power Management Setup	3-20
3.2.6.	PnP/PCI Configurations.....	3-23
3.2.7.	PC Health Status	3-26
3.2.8.	Frequency/Voltage Control.....	3-27
3.2.9.	Load Fail-Safe Defaults Option	3-28
3.2.10.	Load Optimized Defaults Option.....	3-28
3.2.11.	Set Supervisor Password/Set User Password.....	3-28
3.2.12.	Save & Exit Setup.....	3-29
3.2.13.	Exit Without Saving.....	3-29

Chapter 4. Driver Installation 4-1

4.1.	Setup Items.....	4-2
------	------------------	-----

Appendix A. How to Get Technical Support A-1

Chapter 1. Introduction

1.1. Features & Specifications

CPU

- Supports Intel® Pentium 4 Prescott 533/Celeron D/Celeron Socket 478 processors with 400/533 MHz FSB

Chipset

- Intel® 845GV
- Intel® ICH4

Memory

- Two 184-pin DIMM slots
- Supports DDR 200/266/333 non-ECC un-buffered memory
- Supports maximum memory capacity up to 2GB

Graphic

- Integrated Graphic Architecture yields higher 2D/3D performance

LAN

- Onboard 10/100M PCI controller

Audio

- Onboard 5.1-channel Audio CODEC

Internal I/O Connectors

- 3x PCI slots
- 1x Floppy Port supports up to 2.88MB
- 2x Ultra DMA 100/66/33 Connectors
- 2x USB 2.0 headers (Each header support two USB 2.0 devices)
- 1x FP-Audio header, 1x CD-IN connector

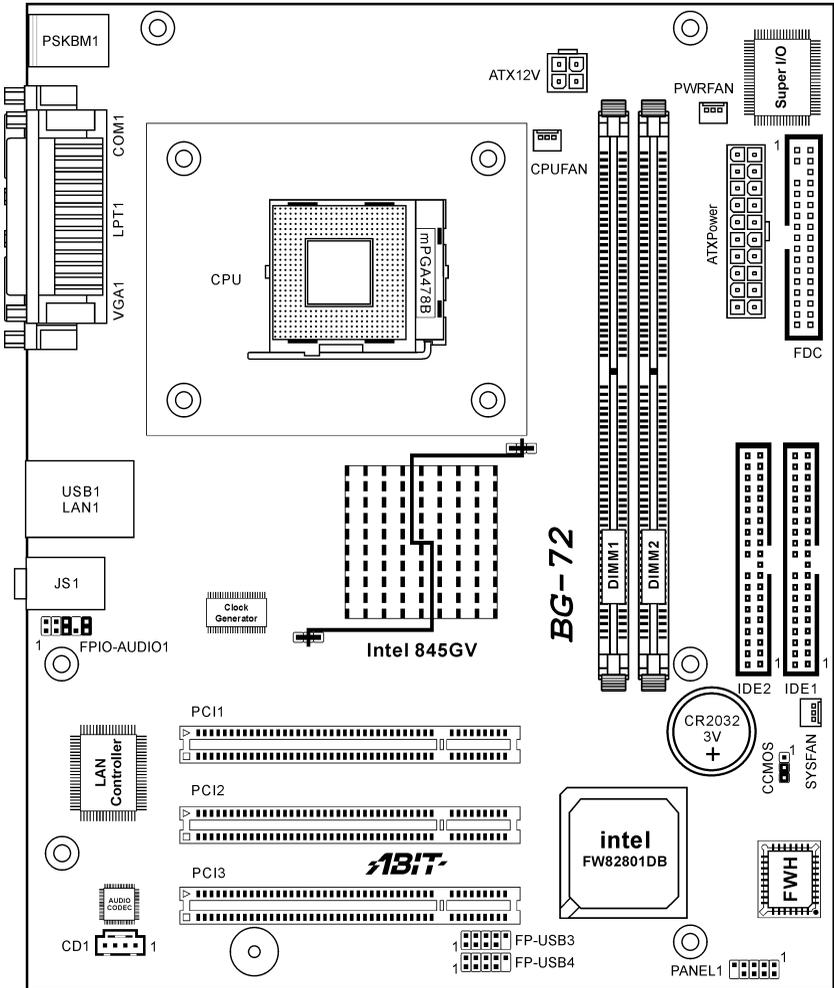
Back Panel I/O

- 1x PS/2 Keyboard, 1x PS/2 Mouse
- 1x Serial Port, 1x Parallel Port, 1x VGA connector
- 2x USB 2.0, 1x RJ-45 LAN Connector
- 1x Audio connector (Line-in, Line-out, Mic-in)

Miscellaneous

- Micro ATX form factor (244mm x 200mm)
- * **All brand names and trademarks are the property of their respective owners.**
- * **This motherboard is customized for certain system configurations; and may not fit system integration in all DIY ways. Before integrating this product, please check ABIT web site for recommended device listings, or contact sales/tech. support people.**
- * **Specifications and information contained herein are subject to change without notice.**

1.2. Layout Diagram



1.3. Jumpers & Connectors Description

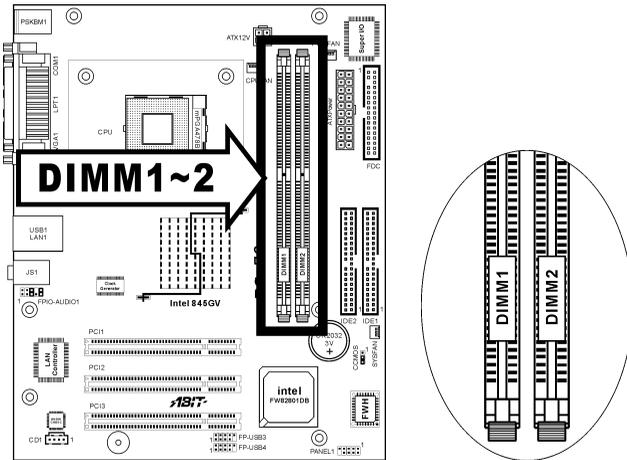
Jumpers	Description	Default Setting
CCMOS	CMOS Memory Clearing Header	Pins 2-3 Closed (Normal)

Connectors	Description
ATXPower ATX12V	ATX Power Connectors
CD1	Internal Audio Connector
CPUFAN SYSFAN PWRFAN	CPU Fan Power Connector System Fan Power Connector Power Fan Power Connector
DIMM1/DIMM2	DDR DIMM Slots
FDC	Floppy Disk Drive Connector
FPIO-AUDIO1	Front Panel Audio Connection Header
IDE1/IDE2	Hard Disk Drive Connectors
PANEL1	Front Panel Switch Connection Header
PCI1/PCI2/PCI3	32bit/33MHz PCI Slots
FP-USB3/FP-USB4	Additional USB Port Connection Headers

2.2. System Memory

This system board provides two 184-pin DDR DIMM slots for un-buffered and non-ECC modules with memory size expandible up to 2GB (DDR333).

DIMM	DIMM Module	Total Memory
1	256MB, 512MB, 1GB	256MB ~ 1GB
2	256MB, 512MB, 1GB	256MB ~ 1GB
Total System Memory		256MB ~ 2GB



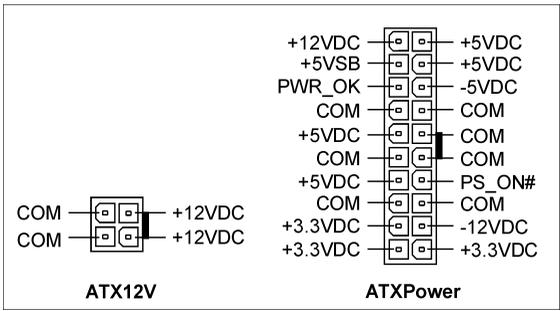
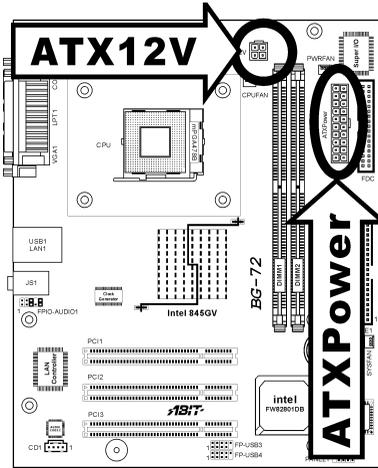
2.3. Connectors, Headers, and Switches

All the connectors, headers and switches mentioned here are depending on your system configuration. Some features you may (or may not) have to connect or to configure depending on the peripherals you have connected.

WARNING: Always power off the computer and unplug the AC power cord before adding or removing any peripheral or component. Failing to do so may cause severe damage to your system board and/or peripherals. Plug in the AC power cord only after you have carefully checked everything.

2.3.1. ATX Power Connectors

This connector provides the connection to ATX12V power supply.

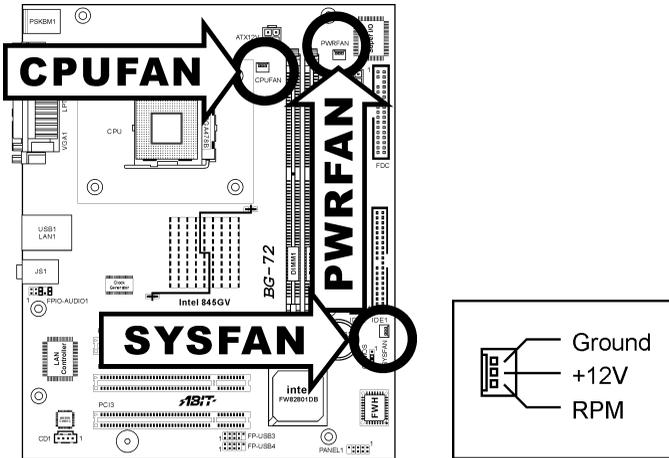


2.3.2. FAN Connectors

These connectors each provide power to the cooling fans installed in your system.

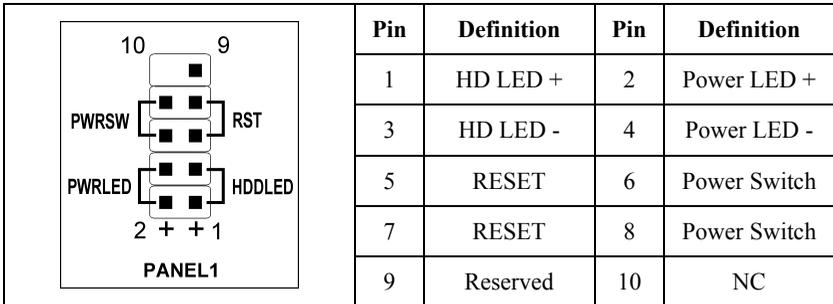
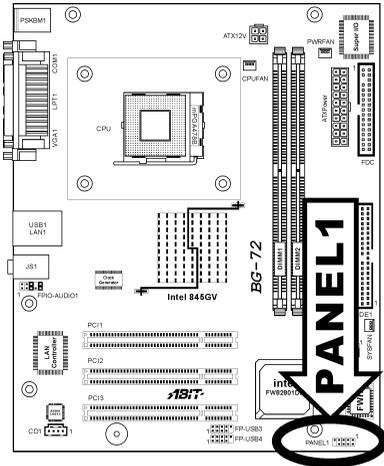
- **CPUFAN:** CPU Fan Power Connector
- **SYSFAN:** System Fan Power Connector
- **PWRFAN:** Power Fan Power Connector

WARNING: These fan connectors are not jumpers. DO NOT place jumper caps on these connectors.



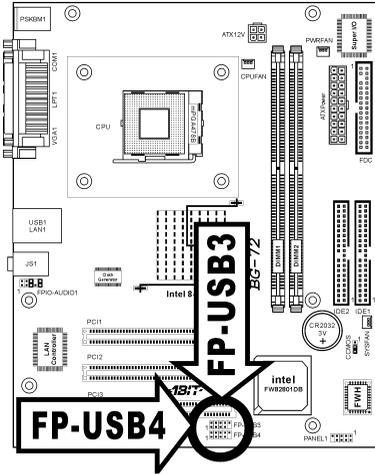
2.3.4. Front Panel Switches & Indicators Connection Headers

These headers are used for connecting switches and LED indicators on the chassis front panel. The mark “+” align to the pin in the figure below stands for positive polarity for the LED connection.

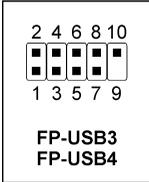


2.3.5. Additional USB Port Connection Header

These headers each provide 2 additional USB 2.0 ports connection through an USB cable designed for USB 2.0 specifications.



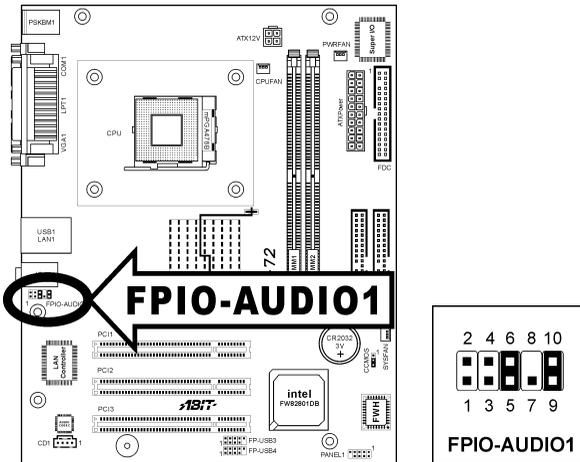
Pin	Signal Name	Function
1	USBPWR	Front Panel USB Power
2	USBPWR	Front Panel USB Power
3	USB_FP_P0-	USB Port 0 Negative Signal
4	USB_FP_P1-	USB Port 1 Negative Signal
5	USB_FP_P0+	USB Port 0 Positive Signal
6	USB_FP_P1+	USB Port 1 Positive Signal
7	GND	Ground
8	GND	Ground
9	Key	No pin
10	NC	NC



2.3.6. Front Panel Audio Connection Header

This header provides the connection to audio connector at front panel.

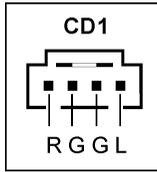
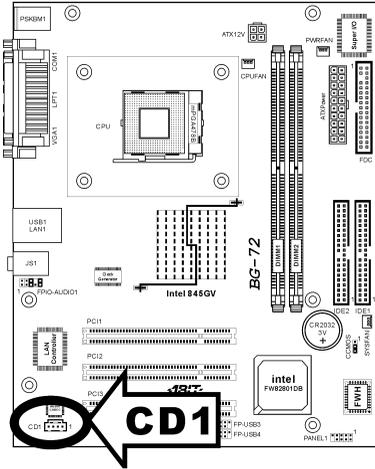
- To use the audio connector at front panel, remove all the jumpers on this header, and then connect to front panel by the extension cable provided with the chassis.
- To use the audio connector at rear panel, disconnect the extension cable, attach the jumpers back at pin 5-6, and pin 9-10 (default setting).



Pin	Signal Name	Function
1	AUD_MIC	Front Panel Microphone input signal
2	AUD_GND	Ground used by Analog Audio Circuits
3	AUD_MIC_BIAS	Microphone Power
4	AUD_VCC Filtered	+5V used by Analog Audio Circuits
5	AUD_F_R	Right Channel audio signal to Front Panel
6	AUD_RET_R	Right Channel Audio signal to Return from Front Panel
7	REVD	Reserved
8	Key	No Pin
9	AUD_F_L	Left Channel Audio signal to Front Panel
10	AUD_RET_L	Left Channel Audio signal to Return from Front Panel

2.3.7. Internal Audio Source Connectors

This connector connects to the audio output of internal CD-ROM drive or add-on card.

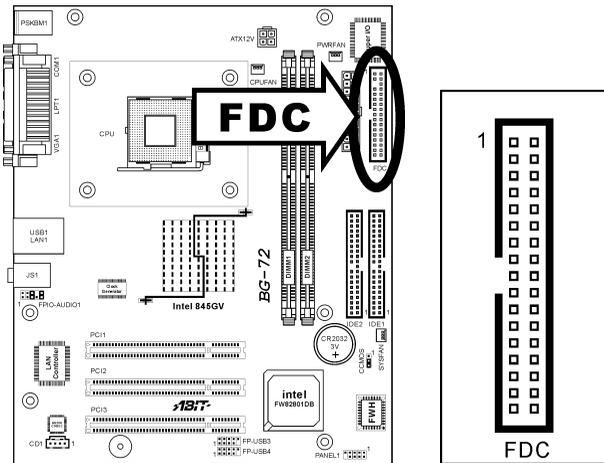


2.3.8. Floppy Disk Drive Connector

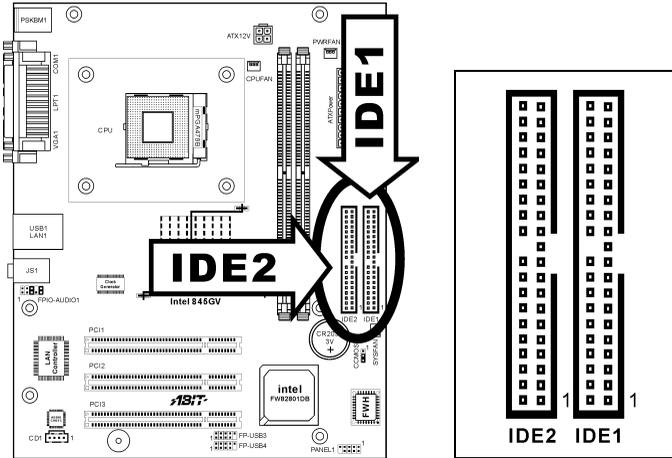
This connector supports two standard floppy disk drives via a 34-pin 34-conductor ribbon cable.

Connecting the Floppy Disk Drive Cable:

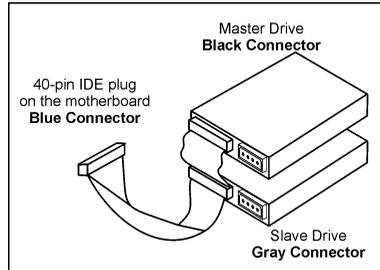
1. Install one end of the ribbon cable into the FDC connector. The colored edge of the ribbon cable should be aligned with pin-1 of FDC connector.
2. Install the other end(s) of ribbon cable into the disk drive connector(s). The colored edge of the ribbon cable should be also aligned with pin-1 of disk drive connector. The endmost connector should be attached to the drive designated as Drive A.



2.3.9. IDE Disk Drive Connectors

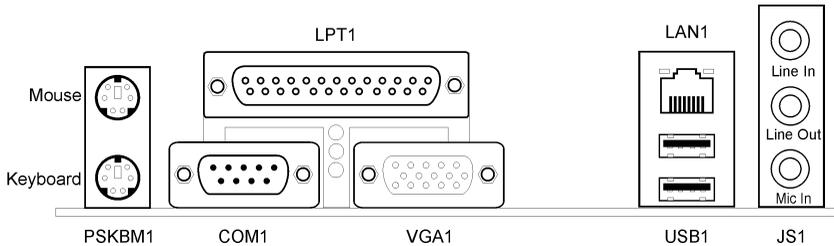


These IDE ports each connects up to two IDE drives at Ultra ATA/100 mode by one 40-pin, 80-conductor, and 3-connector Ultra ATA/66 ribbon cables. Connect the single end (blue connector) at the longer length of ribbon cable to the IDE port on system board, and the other two ends (gray and black connector) at the shorter length of the ribbon cable to the connectors on hard drives.



NOTE: The red line on the ribbon cable should be aligned with pin-1 on this connector.

2.3.10. External I/O Panel



- **Mouse:** PS/2 mouse connector.
- **Keyboard:** PS/2 keyboard connector.
- **LPT1:** Connects to printer or other devices that support this communication protocol.
- **COM1:** Connects to external modem, mouse or other devices that support this communication protocol.
- **VGA1:** Monitor signal connector.
- **USB1:** Connects to USB devices
- **LAN1:** Connects to Local Area Network.
- **JS1:**
 - Line In:** Connects to the line out from external audio sources.
 - Line Out:** Connects to the front left and front right channel in the 5.1-channel or regular 2-channel audio system.
 - Mic In:** Connects to the plug from external microphone.

Chapter 3. BIOS Setup

3.1. About the Setup Utility

The computer uses the latest Award BIOS with support for Windows Plug and Play. The CMOS chip on the motherboard contains the ROM setup instructions for configuring the motherboard BIOS.

The BIOS (Basic Input and Output System) Setup Utility displays the system's configuration status and provides you with options to set system parameters. The parameters are stored in battery-backed-up CMOS RAM that saves this information when the power is turned off. When the system is turned back on, the system is configured with the values you stored in CMOS.

The BIOS Setup Utility enables you to configure:

- Hard drives, diskette drives and peripherals
- Video display type and display options
- Password protection from unauthorized use
- Power Management features

The settings made in the Setup Utility affect how the computer performs. Before using the Setup Utility, ensure that you understand the Setup Utility options.

This chapter provides explanations for Setup Utility options.

3.1.1. The Standard Configuration

A standard configuration has already been set in the Setup Utility. However, we recommend that you read this chapter in case you need to make any changes in the future.

This Setup Utility should be used:

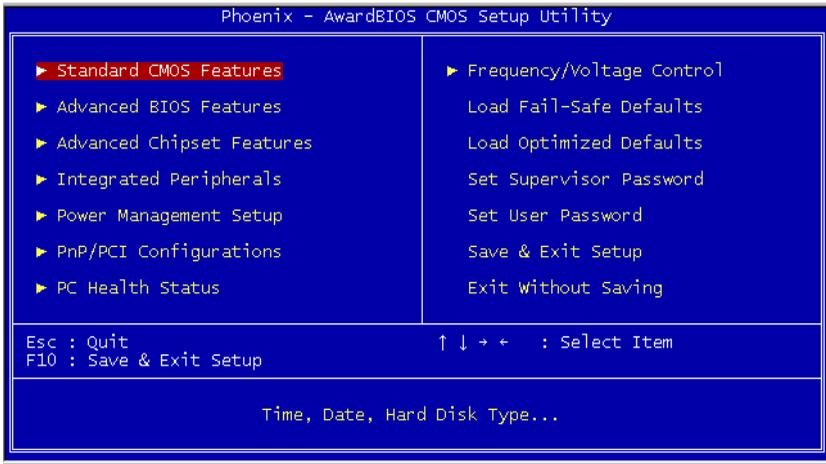
- when changing the system configuration
- when a configuration error is detected and you are prompted to make changes to the Setup Utility
- when trying to resolve IRQ conflicts
- when making changes to the Power Management configuration
- when changing the password or making other changes to the Security Setup

3.1.2. Entering the Setup Utility

When you power on the system, BIOS enters the Power-On Self Test (POST) routines. POST is a series of built-in diagnostics performed by the BIOS. After the POST routines are completed, the following message appears:

Press to enter *SETUP*

Pressing the <Delete> key accesses the BIOS Setup Utility:



BIOS Navigation Keys

The BIOS navigation keys are listed below:

KEY	FUNCTION
ESC	Exits the current menu
←↑↓→	Scrolls through the items on a menu
+/-/PU/PD	Modifies the selected field's values
F10	Saves the current configuration and exits setup
F1	Displays a screen that describes all key functions
F5	Loads previously saved values to CMOS
F6	Loads a minimum configuration for troubleshooting
F7	Loads an optimum set of values for peak performance

3.1.3. Updating the BIOS

You can download and install updated BIOS for this motherboard from the manufacturer's Web site. New BIOS provides support for new peripherals, improvements in performance, or fixes for known bugs.

Install new BIOS as follows:

1. If your motherboard has a BIOS protection jumper, change the setting to allow BIOS flashing.
2. If your motherboard has an item called Firmware Write Protect in Advanced BIOS features, disable it. (Firmware Write Protect prevents BIOS from being overwritten.)
3. Create a bootable system disk. (Refer to Windows online help for information on creating a bootable system disk.)
4. Download the Flash Utility and new BIOS file from the manufacturer's Web site. Copy these files to the system diskette you created in Step 3.
5. Turn off your computer and insert the system diskette in your computer's diskette drive. (You might need to run the Setup Utility and change the boot priority items on the Advanced BIOS Features Setup page, to force your computer to boot from the floppy diskette drive first.)
6. At the A:\ prompt, type the Flash Utility program name and press <Enter>.
7. Type the filename of the new BIOS in the "File Name to Program" text box. Follow the onscreen directions to update the motherboard BIOS.
8. When the installation is complete, remove the floppy diskette from the diskette drive and restart your computer. If your motherboard has a Flash BIOS jumper, reset the jumper to protect the newly installed BIOS from being overwritten.

3.2. Using BIOS

When you start the Setup Utility, the main menu appears. The main menu of the Setup Utility displays a list of the options that are available. A highlight indicates which option is currently selected. Use the cursor arrow keys to move the highlight to other options. When an option is highlighted, execute the option by pressing <Enter>.

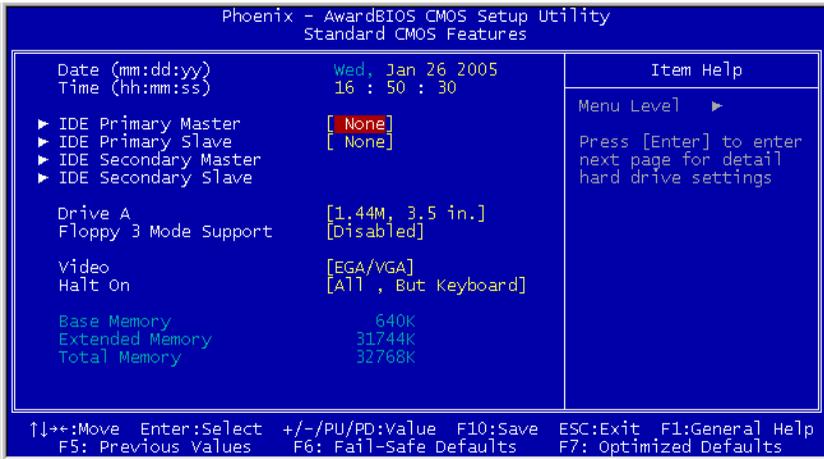
Some options lead to pop-up dialog boxes that prompt you to verify that you wish to execute that option. Other options lead to dialog boxes that prompt you for information.

Some options (marked with a triangle ►) lead to submenus that enable you to change the values for the option. Use the cursor arrow keys to scroll through the items in the submenu.

In this manual, default values are enclosed in parenthesis. Submenu items are denoted by a triangle ►.

3.2.1. Standard CMOS Features

This option displays basic information about your system.

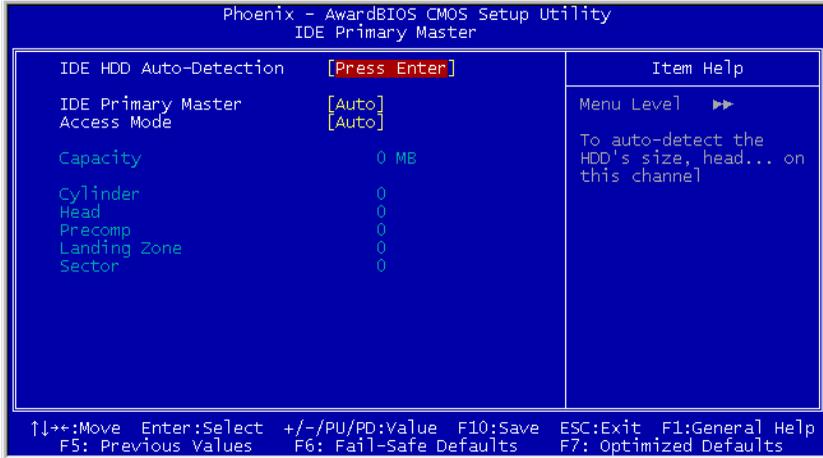


Date and Time

This item sets the date you specify (usually the current date) in the format of [Month], [Date], and [Year].

☛ IDE Primary Master/Slave, IDE Secondary Master/Slave

Click <Enter> key to enter its submenu:



IDE HDD Auto-Detection

This item allows you to detect the parameters of IDE drives by pressing <Enter> key. The parameters will be shown on the screen automatically.

IDE Primary/Secondary Master/Slave

When set to [Auto], the BIOS will automatically check what kind of IDE drive you are using. If you want to define your own drive by yourself, set it to [Manual] and make sure you fully understand the meaning of the parameters. Please refer to the instruction manual provided by the device's manufacturer to get the setting right.

Access Mode

This item selects the mode to access your IDE devices. Leave this item to its default [Auto] setting to detect the access mode of your HDD automatically.

Capacity

This item automatically displays your HDD size. Note that this size is usually slightly greater than the size given by a disk-checking program of a formatted disk.

Cylinder

This item configures the numbers of cylinders.

Head

This item configures the numbers of read/write heads.

Precomp

This item displays the number of cylinders at which to change the write timing.

Landing Zone

This item displays the number of cylinders specified as the landing zone for the read/write heads.

Sector

This item configures the numbers of sectors per track.

 Back to Standard CMOS Features Setup Menu

Drive A

This item sets the type of floppy drives (usually only Drive A) installed.

Floppy 3 Mode Support

This item allows you to use “3 Mode Floppy Drive” in Japanese computer system by selecting drive A, B, or both. Leave this item to its default [Disabled] setting if you are not using this Japanese standard floppy drive.

Video

This item defines the video mode of the system. This motherboard has a built-in VGA graphics system; you must leave this item at the default value.

Halt On

This item determines whether the system stops if an error is detected during system boot-up.

Base Memory

This item displays the amount of base memory installed in the system. The value of the base memory is typically 640K for system with 640K or more memory size installed on the motherboard.

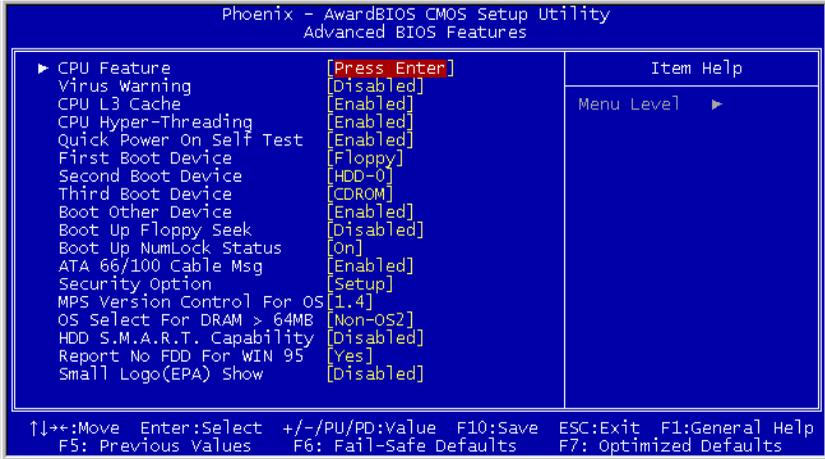
Extended Memory

This item displays the amount of extended memory detected during system boot-up.

Total Memory

This item displays the total memory available in the system.

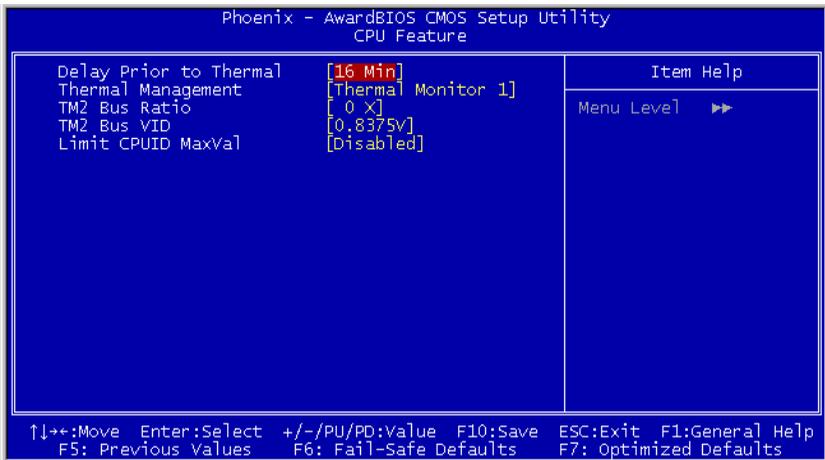
3.2.2. Advanced BIOS Features



☞ CPU Feature

Click <Enter> key to enter its submenu:

NOTE: This function is only available for Prescott CPUs.



Delay Prior to Thermal

Enables you to set the delay time before the CPU enters auto thermal mode.

Thermal Management

This item displays CPU's temperature and enables you to set a safe temperature to protect CPU.

TM2 Bus Ratio

This item represents the frequency (bus ratio) of the throttled performance state that will be initiated when the on-die sensor goes from not hot to hot).

TM2 Bus VID

This item represents the voltage of the throttled performance state that will be initiated when the on-die sensor goes from not hot to hot.

Limit CPUID MaxVal

This item can support Prescott CPUs for old OS. Users please note that under NT 4.0, it must be set "Enabled", while under WinXP, it must be set "Disabled".

 Back to Advanced BIOS Features Setup Menu

Virus Warning

When this feature is enabled, if there is any attempt from a software or an application to access the boot sector or the partition table, the BIOS will warn you that a boot virus is attempting to access the hard disk.

CPU L3 Cache

This item is only available when processors support L3. Some high-end processors support L3. If the CPU do support L3, you may set this item to enable or disable. Leave this item at the default value for better performance.

CPU Hyper-Threading

This item is only available when the chipset supports Hyper-Threading and you are using a Hyper-Threading CPU.

Quick Power On Self Test

Enable this item to shorten the power on testing (POST) and have your system start up faster. You might like to enable this item after you are confident that your system hardware is operating smoothly.

First/Second/Third Boot Device

Use these three items to select the priority and order of the devices that your system searches for an operating system at start-up time.

Boot Other Device

When enabled, the system searches all other possible locations for an operating system if it fails to find one in the devices specified under the First, Second, and Third boot devices.

Boot Up Floppy Seek

If this item is enabled, it checks the size of the floppy disk drives at start-up time. You don't need to enable this item unless you have a legacy diskette drive with 360K capacity.

Boot Up NumLock Status

This item defines if the keyboard Num Lock key is active when your system is started.

ATA 66/100 Cable Msg

This item enables or disables the display of the ATA 66/100 Cable MSG.

Security Option

If you have installed password protection, this item defines if the password is required at system start up, or if it is only required when a user tries to enter the Setup Utility.

MPS Version control For OS

The BIOS supports versions 1.1 and 1.4 of the Intel multiprocessor specification. Select the version supported by the operation system running on the computer.

OS Select For DRAM > 64MB

This item is only required if you have installed more than 64 MB of memory and you are running the OS/2 operating system. Otherwise, leave this item at the default.

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

The S.M.A.R.T. (Self-Monitoring, Analysis, and Reporting Technology) system is a diagnostics technology that monitors and predicts device performance. S.M.A.R.T. software resides on both the disk drive and the host computer.

Report No FDD For WIN 95

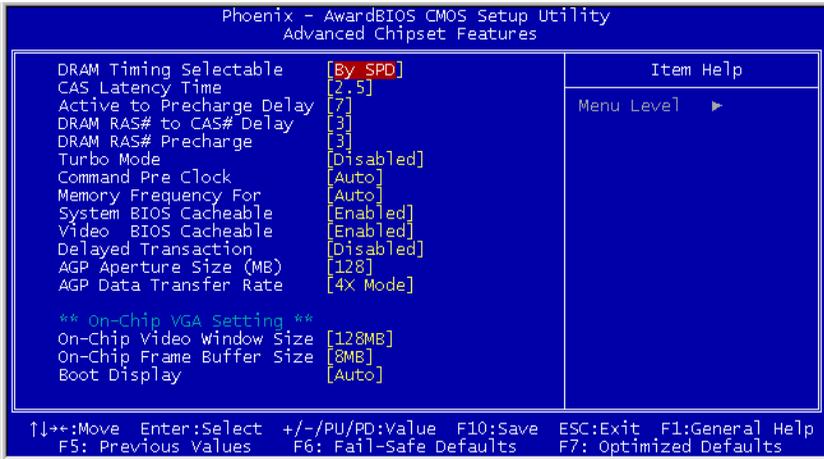
Set this item to the default if you are running a system with no floppy drive and using Windows 95; this ensures compatibility with the Windows 95 logo certification.

Small Logo(EPA) Show

This item determines to show the EPA logo when booting.

3.2.3. Advanced Chipset Features

These items define critical timing parameters of the motherboard. You should leave the items on this page at their default values unless you are very familiar with the technical specifications of your system hardware. If you change the values incorrectly, you may introduce fatal errors or recurring instability into your system.



DRAM Timing Selectable

The value in this field depends on performance parameters of the installed memory chips (DRAM). Do not change the value from the factory setting unless you install new memory that has a different performance rating than the original DRAMs.

CAS Latency Time

This item controls the latency between the DRAM read command and the time that the data becomes actually available.

Active to Precharge Delay

This item controls the number of DRAM clocks used for the DRAM parameters.

DRAM RAS# to CAS# Delay

This field lets you insert a timing delay between the CAS and RAS strobe signals, used when DRAM is written to, read from, or refreshed. Disabled gives faster performance; and Enabled gives more stable performance.

DRAM RAS# Precharge

Select the number of CPU clocks allocated for the Row Address Strobe (RAS#) signal to accumulate its charge before the DRAM is refreshed. If insufficient time is allowed, refresh may be incomplete and data lost.

Turbo Mode

This item allows you to speed up the external clock by approximately 2.5%. This feature is used to verify the design flexibility. It is a very important tool for test units to verify CPU stability.

Command Pre Clock

Leave this item at Auto to enhance the system performance.

Memory Frequency For

This item allows you to set the frequency for memory modules.

System BIOS Cacheable

This item allows the system to be cached in memory for faster execution. Enable this item for better performance.

Video BIOS Cacheable

These items allow the video BIOS and RAM to be cached in memory for faster execution. Enable these items for better performance.

Delayed Transaction

The chipset has an embedded 32-bit posted write buffer to support delayed transaction cycles. Enable this item to support compliance with PCI specification version 2.1.

AGP Aperture Size (MB)

This item defines the size of the aperture if you use an AGP graphics adapter. The AGP aperture refers to a section of the PCI memory address range used for graphics memory. We recommend that you leave this item at the default value.

AGP Data Transfer Rate

You can select the AGP device data transfer rate capability.

On-Chip Video Window Size

This allows you to set the Graphics Aperture size.

On-Chip Frame Buffer Size

This allows you to set the VGA frame buffer size.

Boot Display

This item is for Intel define ADD card only.

3.2.4. Integrated Peripherals

These options display items that define the operation of peripheral components on the system's input/output ports.



Onboard IDE-1 Controller /IDE2 Controller

This item enables or disables the onboard IDE-1/IDE2 controller.

*** Master/Slave Drive PIO Mode**

Each IDE channel supports a master device and a slave device. These four items let you assign which kind of PIO (Programmed Input/Output) is used by IDE devices. Choose Auto to let the system auto detect which PIO mode is best, or select a PIO mode from 0-4.

*** Master/Slave Drive Ultra DMA**

Each IDE channel supports a master device and a slave device. This motherboard supports Ultra DMA technology, which provides faster access to IDE devices. If you install a device that supports Ultra DMA, change the appropriate item on this list to Auto. You may have to install the Ultra DMA driver supplied with this motherboard in order to use an Ultra DMA device.

USB Controller

This option enables or disables the USB controller.

*** USB 2.0 Controller**

This option enables or disables the USB 2.0 controller.

*** USB Keyboard Support Via**

This item allows you to select [**BIOS**] for using USB keyboard in DOS environment, or [**OS**] in OS environment.

*** USB Mouse Support Via**

This item allows you to select [**BIOS**] for using USB mouse in DOS environment, or [**OS**] in OS environment.

AC97 Audio

Enables or disables the onboard AC97 audio function. Disable this item if you are going to install a PCI audio add-on card.

Onboard LAN Device

Enables and disables the onboard LAN chip.

Onboard LAN Boot ROM

Use this item to enable and disable the booting from the onboard LAN or a network add-in card with a remote boot ROM installed.

Init Display First

Use this item to specify whether your graphics adapter is installed in one of the PCI slots or is integrated on the motherboard.

IDE HDD Block Mode

Enable this field if your IDE hard drive supports block mode. Block mode enables BIOS to automatically detect the optimal number of block read and writes per sector that the drive can support and improves the speed of access to IDE devices.

POWER ON Function

This item selects the way you want your system to power on.

*** KB Power ON Password**

Use a password to power on the system, select this option then press <Enter>.

*** Hot Key Power ON**

Use any of the function keys to power on the system.

Onboard FDC Controller

This option enables the onboard floppy disk drive controller.

Onboard Serial Port 1

This option is used to assign the I/O address and interrupt request (IRQ) for onboard serial port 1 (COM1).

Onboard Serial Port 2

This option is used to assign the I/O address and interrupt request (IRQ) for onboard serial port 2 (COM2).

*** UART Mode Select**

This field is available if the Onboard Serial Port 2 field is set to any option but Disabled. UART Mode Select enables you to select the infrared communication protocol-Normal (default), IrDA, or ASKIR. IrDA is an infrared communication protocol with a maximum baud rate up to 115.2K bps. ASKIR is Sharp's infrared communication protocol with a maximum baud rate up to 57.6K bps.

*** Rx/D, Tx/D Active**

This feature enables you to set the IR reception/transmission polarity as High or Low.

*** IR Transmission Delay**

This field enables you to set the whether the IR transmission rate will be delayed while converting to receiving mode.

*** UR2 Duplex Mode**

This field is available when UART 2 Mode is set to either ASKIR or IrDA. This item enables you to determine the infrared function of the onboard infrared chip. The options are Full and Half (default).

Full-duplex means that you can transmit and send information simultaneously. Half-duplex is the transmission of data in both directions, but only one direction at a time.

*** Use IR Pins**

Please consult your IR peripheral documentation to select the correct setting of the TxD and RxD signals.

Onboard Parallel Port

This item specifies the I/O address used by the parallel port.

*** Parallel Port Mode**

Allows parallel port operation at ECP and EPP mode.

*** EPP Mode Select**

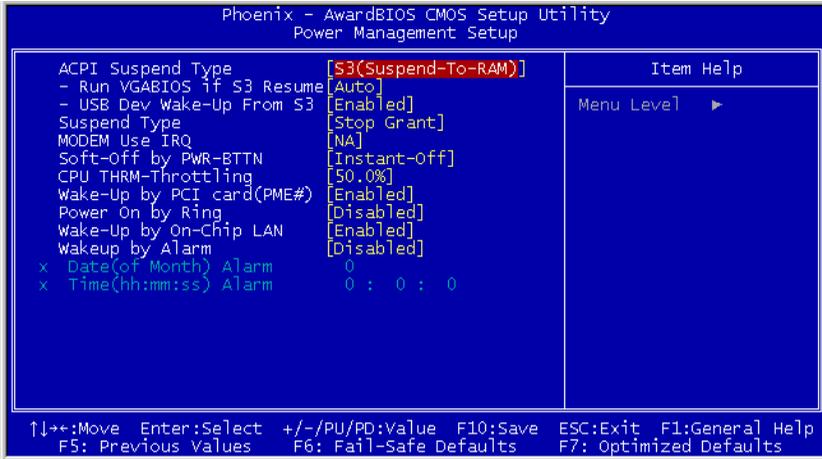
This item selects the EPP mode.

*** ECP Mode Use DMA**

This item selects the DMA channel of the parallel port.

3.2.5. Power Management Setup

This option lets you control system power management. The system has various power-saving modes including powering down the hard disk, turning off the video, suspending to RAM, and software power down that allows the system to be automatically resumed by certain events.



ACPI Suspend Type

Use this item to define how your system suspends. In the default, S1(POS), the suspend mode is equivalent to a software power down. If you select S3 (STR), the suspend mode is a suspend to RAM, i.e., the system shuts down with the exception of a refresh current to the system memory.

* Run VGABIOS if S3 Resume

This item allows the system to initialize the VGA BIOS from S3 (Suspend to RAM) sleep state.

* USB Dev Wake-Up From S3

When set to Enabled, the system power will resume the system from a power saving mode if there is any USB port activity.

Suspend Type

If this item is set to the default Stop Grant, the CPU will go into Idle Mode during power saving mode.

MODEM Use IRQ

If you want an incoming call on a modem to automatically resume the system from a power-saving mode, use this item to specify the interrupt request line (IRQ) that is used by the modem. You might have to connect the fax/modem to the motherboard Wake On Modem connector for this feature to work.

Soft-off by PWR-BTTN

Under ACPI (Advanced Configuration and Power management Interface) you can create a software power down. In a software power down, the system can be resumed by Wake Up Alarms. This item lets you install a software power down that is controlled by the power button on your system. If the item is set to Instant-Off, then the power button causes a software power down. If the item is set to Delay 4 Sec. then you have to hold the power button down for four seconds to cause a software power down.

CPU THRM-Throttling

This item controls the CPU speed by cutting down its regular power to a percentage during the STR (Suspend To RAM) state.

Wake-Up by PCI card(PME#)

This item allows users to enable or disable PCI activity to wakeup the system from a power saving mode.

Power On by Ring

Use this item to enable LAN or modem activity to wakeup the system from a power saving mode.

Wake-Up by On-Chip LAN

When set to [Enabled], you can remotely wake up a PC in Soft-Off condition via a LAN card that supports the wake up function.

Wakeup by Alarm

When set to Enabled, the following three fields become available: Month Alarm, Day of Month Alarm, and Time Alarm Upon arrival of the alarm time, it will instruct the system to wake up.

When set to 0 (zero) for the day of the month, the alarm will power on your system every day at the specified time.

*** Date (of Month) Alarm**

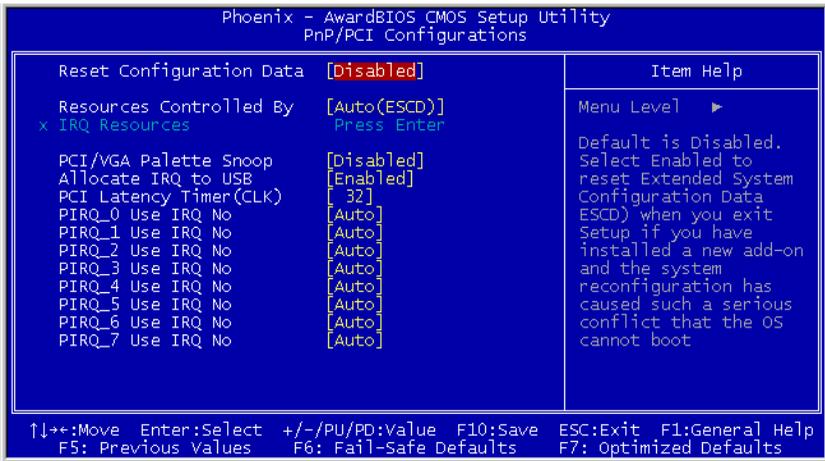
Date (of Month) Alarm lets you select a day from 1 to 31.

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

Time Alarm lets you select a time for the alarm in hours, minutes, and seconds.

3.2.6. PnP/PCI Configurations

These options configure how PnP (Plug and Play) and PCI expansion cards operate in your system. Both the ISA and PCI buses on the motherboard use system IRQs (Interrupt ReQuests) and DMAs (Direct Memory Access). You must set up the IRQ and DMA assignments correctly through the PnP/PCI Configurations Setup utility for the motherboard to work properly. Selecting PnP/PCI Configurations on the main program screen displays this menu:



Reset Configuration Data

If you enable this item and restart the system, any Plug and Play configuration data stored in the BIOS setup is cleared from memory. New updated data is created.

Resources Controlled By

You should leave this item at the default Auto(ESCD). Under this setting, the system dynamically allocates resources to Plug and Play devices as they are required.

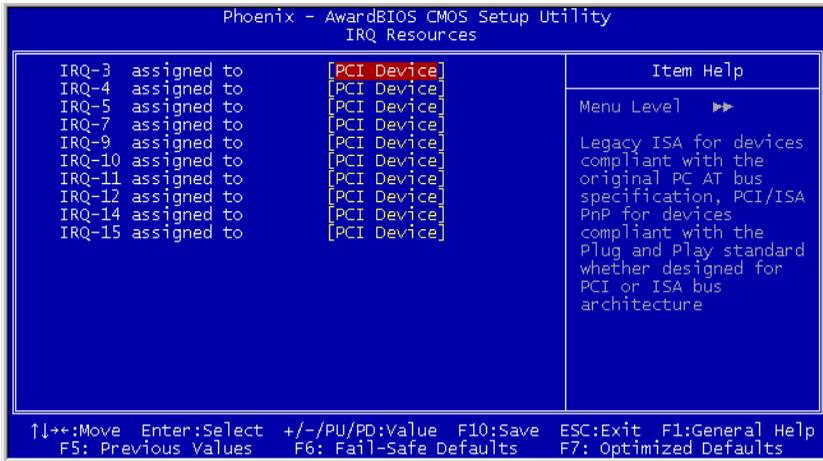
If you cannot get a legacy ISA (Industry Standard Architecture) expansion card to work properly, you might be able to solve the problem by changing this item to Manual, and then opening up the IRQ Resources submenu.

In the IRQ Resources submenu, if you assign an IRQ to Legacy ISA, then that Interrupt Request Line is reserved for a legacy ISA expansion card. Press <Esc> to close the IRQ Resources submenu.

★ IRQ Resources

Click <Enter> key to enter its submenu:

The submenu allows you to individually assign an interrupt type for interrupts IRQ-3 to IRQ-15.



In the IRQ Resources submenu, if you assign an IRQ to Legacy ISA, then that Interrupt Request Line is reserved for a legacy ISA expansion card. Press <Esc> to close the IRQ Resources submenu.

In the Memory Resources submenu, use the first item Reserved Memory Base to set the start address of the memory you want to reserve for the ISA expansion card. Use the second item Reserved Memory Length to set the amount of reserved memory. Press <Esc> to close the Memory Resources submenu.

PCI/VGA Palette Snoop

This item is designed to overcome problems that can be caused by some non-standard VGA cards. This board includes a built-in VGA system that does not require palette snooping so you must leave this item disabled.

Allocate IRQ to USB

Names the interrupt request (IRQ) line assigned to the USB on your system. Activity of the selected IRQ always awakens the system.

PCI Latency Timer(CLK)

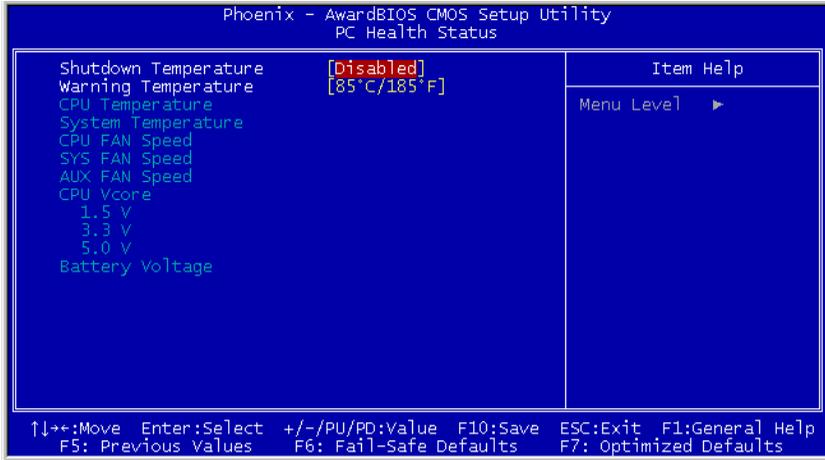
This item controls how long each PCI device can hold the bus before another takes over. When set to higher values, every PCI device can conduct transactions for a longer time and thus improve the effective PCI bandwidth. For better PCI performance, you should set the item to higher values.

PIRQ 0 Use IRQ No. ~ PIRQ 7 Use IRQ No.

This item specifies the IRQ number manually or automatically for the devices installed on PCI slots.

3.2.7. PC Health Status

On motherboards that support hardware monitoring, this item lets you monitor the parameters for critical voltages, critical temperatures, and fan speeds.



Shutdown Temperature

This item sets the temperature that would shutdown the system automatically in order to prevent system overheats.

Warning Temperature

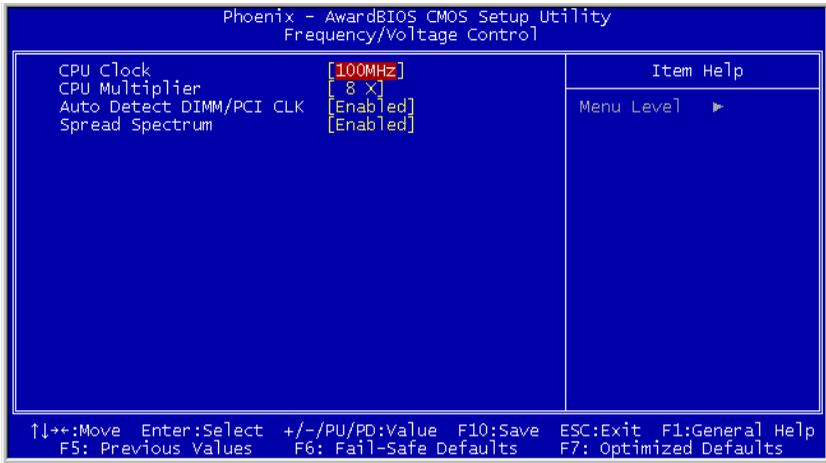
Use this item to set the warning temperature level for the processor.

System Component Characteristics

These items allow end users and technicians to monitor data provided by the BIOS on this motherboard. You cannot make changes to these fields.

3.2.8. Frequency/Voltage Control

This item enables you to set the clock speed and system bus for your system. The clock speed and system bus are determined by the kind of processor you have installed in your system.



CPU Clock

Use the CPU Host/SDRAM/PCI Clock to set the frontside bus frequency for the installed processor (usually 133 MHz, 100 MHz or 66 MHz). Then use *CPU Clock Ratio Jumpless* to set a multiple. The multiple times the frontside bus must equal the core speed of the installed processor e.g., **3.5 (multiple) x 100 MHz (frontside bus) = 350 MHz (installed processor clock speed)**.

CPU Multiplier

This item displays the multiplier factors for your CPU.

Auto Detect DIMM/PCI CLK

When this item is enabled, BIOS will disable the clock signal of free DIMM/PCI slots.

Spread Spectrum

If you enable spread spectrum, it can significantly reduce the EMI (Electro-Magnetic Interference) generated by the system.

3.2.9. Load Fail-Safe Defaults Option

This option opens a dialog box that lets you install fail-safe defaults for all appropriate items in the Setup Utility:

Press <Y> and then <Enter> to install the defaults. Press <N> and then <Enter> to not install the defaults. The fail-safe defaults place no great demands on the system and are generally stable. If your system is not functioning correctly, try installing the fail-safe defaults as a first step in getting your system working properly again. If you only want to install fail-safe defaults for a specific option, select and display that option, and then press <F6>.

3.2.10. Load Optimized Defaults Option

This option opens a dialog box that lets you install optimized defaults for all appropriate items in the Setup Utility. Press <Y> and then <Enter> to install the defaults. Press <N> and then <Enter> to not install the defaults. The optimized defaults place demands on the system that may be greater than the performance level of the components, such as the CPU and the memory. You can cause fatal errors or instability if you install the optimized defaults when your hardware does not support them. If you only want to install setup defaults for a specific option, select and display that option, and then press <F7>.

3.2.11. Set Supervisor Password/Set User Password

When this function is selected, the following message appears at the center of the screen to assist you in creating a password.

ENTER PASSWORD

Type the password, up to eight characters, and press <Enter>. The password typed now will clear any previously entered password from CMOS memory. You will be asked to confirm the password. Type the password again and press <Enter>. You may also press <Esc> to abort the selection.

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

PASSWORD DISABLED

If you have selected “System” in “Security Option” of “BIOS Features Setup” menu, you will be prompted for the password every time the system reboots or any time you try to enter BIOS Setup.

If you have selected “Setup” at “Security Option” from “BIOS Features Setup” menu, you will be prompted for the password only when you enter BIOS Setup.

Supervisor Password has higher priority than User Password. You can use Supervisor Password when booting the system or entering BIOS Setup to modify all settings. Also you can use User Password when booting the system or entering BIOS Setup but can not modify any setting if Supervisor Password is enabled.

3.2.12. Save & Exit Setup

Highlight this item and press <Enter> to save the changes that you have made in the Setup Utility and exit the Setup Utility. When the Save and Exit dialog box appears, press <Y> to save and exit, or press <N> to return to the main menu:

3.2.13. Exit Without Saving

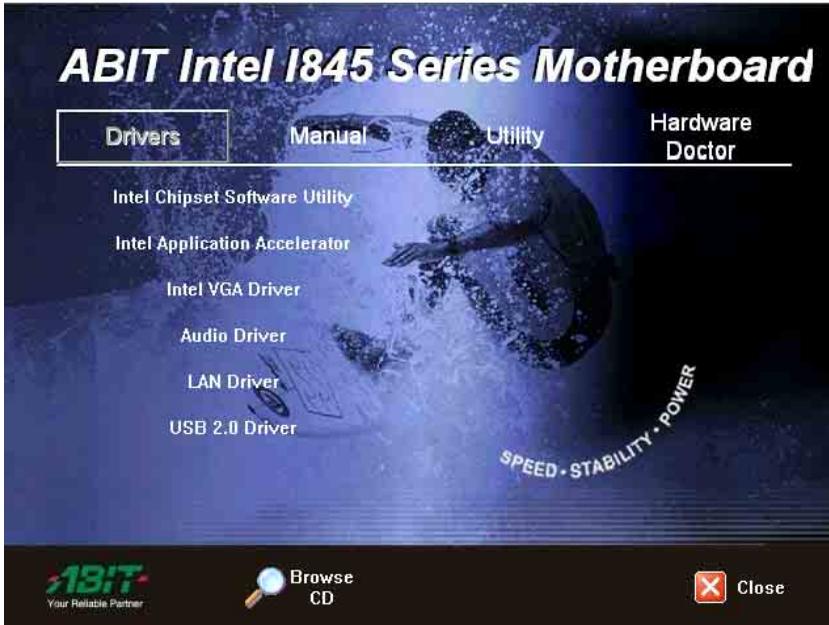
Highlight this item and press <Enter> to discard any changes that you have made in the Setup Utility and exit the Setup Utility. When the Exit Without Saving dialog box appears, press <Y> to discard changes and exit, or press <N> to return to the main menu.

NOTE: If you have made settings that you do not want to save, use the “Exit Without Saving” item and press <Y> to discard any changes you have made.



Chapter 4. Driver Installation

All the necessary drivers are included within the Drivers & Utilities CD that came packaged with your board. The display shown in the following figure should appear after inserting this CD into your CD-ROM drive, if not, enter → [My Computer] → [CD-ROM] Drive → double click [autorun.exe]. Please follow the on-screen instruction.



4.1. Setup Items

- **Drivers**
Install the drivers for Windows Operating System.
- **Manual**
View the user's manual in PDF file.
- **Utility**
Click to enter the sub-screen for installing software.
- **Hardware Doctor**
Install the Hardware Doctor program for monitoring the system health.
- **Browse CD**
Browse the contents of this CD-ROM.
- **Close**
Exit the CD setup Items Menu.

Appendix A. How to Get Technical Support

(From our website) <http://www.abit.com.tw>

(In North America) <http://www.abit-usa.com>

(In Europe) <http://www.abit.nl>

Thank you for choosing ABIT products. ABIT sells all our products through distributors, resellers and system integrators; we have no direct sales to end-users. Before sending email for tech support please check with your resellers or integrators if you need any services, they are the ones who sold you your system and they should know best as to what can be done, how they serve you is a good reference for future purchases.

We appreciate every customer and would like to provide the best service to you. Providing fast service to our customers is our top priority. However we receive many phone calls and a huge amount of email from all over the world. At the present time it is impossible for us to respond to every single inquiry. Therefore it is quite possible that if you send an email to us that you may not receive a response.

We have done many compatibility tests and reliability tests to make sure our products have the best quality and compatibility. In case you need service or technical support, please understand the constraint we have and **always check with the reseller who sold the product to you first.**

To expedite service, we recommend that you follow the procedures outlined below before contacting us. With your help, we can meet our commitment to provide the best service to the **greatest number of ABIT customers:**

- 1. Check the Manual.** It sounds simple but we have taken a lot of care in making a well-written and thorough manual. It is full of information that doesn't only pertain to motherboards. The CD-ROM included with your board will have the manual as well as drivers. If you don't have either one, go to our Program Download Area of the Website or FTP server.
- 2. Download latest BIOS, software or drivers.** Please go to our Program Download area on our Website to check to see if you have the latest BIOS. They are developed over periods of time to fix bugs or incompatibilities. **Also please make sure you have the latest drivers from your peripheral cards makers!**
- 3. Check the ABIT Technical Terms Guide and FAQ on our Website.** We are trying to expand and make the FAQs more helpful and information rich. Let us know if you have any suggestions. For hot topics check out our HOT FAQ!

- 4. Internet Newsgroups.** They are a great source of information and many people there can offer help. ABIT's Internet News group, alt.comp.peripherals.mainboard.abit, is an ideal forum for the public to exchange information and discuss experiences they have had with ABIT products. Many times you will see that your question has already been asked before. This is a public Internet news group and it is reserved for free discussions. Here is a list of some of the more popular ones:

alt.comp.peripherals.mainboard.abit
comp.sys.ibm.pc.hardware.chips
alt.comp.hardware.overclocking
alt.comp.hardware.homebuilt
alt.comp.hardware.pc-homebuilt

- 5. Ask your reseller.** Your ABIT authorized distributor should be able to provide the fastest solution to your technical problem. We sell our products through distributors who sell to resellers and stores. Your reseller should be very familiar with your system configuration and should be able to solve your problem much more efficiently than we could. After all, your reseller regards you as an important customer who may purchase more products and who can urge your friends to buy from him or her as well. They integrated and sold the system to you. They should know best what your system configuration is and your problem. They should have reasonable return or refund policies. How they serve you is also a good reference for your next purchase.
- 6. Contacting ABIT.** If you feel that you need to contact ABIT directly you can send email to the ABIT technical support department. First, please contact the support team for the branch office closest to you. They will be more familiar with local conditions and problems and will have better insight as to which resellers offer what products and services. Due to the huge number of emails coming in every day and other reasons, such as the time required for problem reproduction, we will not be able to reply to every email. Please understand that we are selling through distribution channels and don't have the resources to serve every end-user. However, we will try to do our best to help every customer. Please also remember that for many of our technical support team English is a second language, you will have a better chance of getting a helpful answer if your question can be understood in the first place. Be sure to use very, simple, concise language that clearly states the problem, avoid rambling or flowery language and always list your system components. Here is the contact information for our branch offices:
- 7. RMA Service.** If your system has been working but it just stopped, but you have not installed any new software or hardware recently, it is likely that you have a defective component. Please contact the reseller from whom you bought the product. You should be able to get RMA service there.
- 8. Reporting Compatibility Problems to ABIT.** Because of tremendous number of email messages we receive every day, we are forced to give greater weight to certain types of messages than to others. For this reason, any compatibility problem that is reported to us, giving detailed system configuration information and error symptoms will receive the highest priority. For the other questions, we regret that we may not be able to reply directly. But your questions may be posted to the Internet news group in order that a larger number of users can have the benefit of the information. Please check the news group from time to time.

North America and South America	ABIT Computer (U.S.A.) Corporation 45531 Northport Loop West, Fremont CA, 94538, U.S.A. Tel: 1-510-623-0500 Fax: 1-510-623-1092 Sales: sales@abit-usa.com Latin America Sales: ventas@abit-usa.com Marketing: marketing@abit-usa.com Web Site: http://www.abit-usa.com
RMA Center	46808 Lakeview Blvd. Fremont, CA 94538, U.S.A.
UK and Ireland	ABIT Computer (U.K.) Corporation Ltd. Unit 3, 24-26 Boulton Road, Stevenage, Herts SG1 4QX, UK Tel: 44-1438-228888 Fax: 44-1438-226333 E-mail: sales@abitcomputer.co.uk
Germany and Benelux (Belgium, Netherlands, Luxembourg), France, Italy, Spain, Portugal, Greece, Denmark, Norway, Sweden, Finland, and Switzerland	AMOR Computer B.V. (ABIT's European Office) Jan van Riebeeckweg 15, 5928LG, Venlo, The Netherlands Tel: 31-77-3204428 Fax: 31-77-3204420 Sales: sales@abit.nl Web Site: http://www.abit.nl
Austria, Czech, Romania, Bulgaria, Slovakia, Croatia, Bosnia, Serbia, and Macedonia	Asguard Computer Ges.m.b.H Schmalbachstrasse 5, A-2201 Gerasdorf / Wien, Austria Tel: 43-1-7346709 Fax: 43-1-7346713 E-mail: asguard@asguard.at
Shanghai	ABIT Computer (Shanghai) Co. Ltd. Tel: 86-21-6235-1829 Fax: 86-21-6235-1832 Web Site: http://www.abit.com.cn
Russia and CIS	ABIT Computer (Russia) Co. Ltd. Sales: sales@abit.ru Info: info@abit.ru Web Site: http://www.abit.ru
Poland	ABIT Computer (Poland) Co. Ltd. Przedstawicielstwo w Polsce ul. Wita Stwosza 28, 50-149 Wroclaw Tel: 48 71 780 78 65 / 66 Fax: 48 71 372 30 87
Japan	Web Site: http://www.abit4u.jp
Taiwan Head Office <i>(Serving all other territories not listed above. Taiwan is 8+ GMT time, and may have different holiday calendar from yours.)</i>	ABIT Computer Corporation No. 323, Yang Guang St., Neihu, Taipei, 114, Taiwan Tel: 886-2-8751-8888 Fax: 886-2-8751-3382 Sales: sales@abit.com.tw Marketing: market@abit.com.tw Web Site: http://www.abit.com.tw

Technical Support Form

 **Company Name:**

 **Phone Number:**

 **Contact Person:**

 **Fax Number:**

 **E-mail Address:**

Model	*	BIOS ID #	*
Motherboard Model No.		DRIVER REV	
OS/Application	*		
Hardware Name	Brand	Specifications	
CPU	*		
HDD <input type="checkbox"/> IDE1 <input type="checkbox"/> IDE2			
CD-ROM-Drive <input type="checkbox"/> IDE1 <input type="checkbox"/> IDE2			
System Memory			
ADD-ON CARD			

Problem Description:

