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SI-2Ps

Dual Xeon Server Board
Socket 604

User's Manual

4200-0395-01
Rev. 1.00

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Chapter 1. Introduction

1.1. Specifications

Processor

- Supports dual Intel Xeon processor with 512K L2 cache FSB 533/400 MHz up to 3.2GHz and higher

Chipset

- Intel E7501 Chipset Memory Controller Hub (MCH)
- 2x 82870P2 64-bit PCI/PCI-X Controller Hub 2 (P64H2)
- 82801CA I/O Controller Hub 3-S (ICH3-S)

Memory

- Four 184-pin DIMM sockets
- Supports 144-bit wide dual channel DDR 266/200 memory
- Up to 8GB, ECC Registered memory capacity

AGP

- Onboard ATi RAGE XL PCI interface VGA

System BIOS

- Supports Plug-and-Play (PNP)
- Supports Advanced Configuration Power Interface (ACPI)
- Write-Protect Anti-Virus function by AWARD BIOS
- 4MB Flash ROM

LAN

- 3x Intel 82546EB dual ports 64-bit Gigabit Ethernet Controllers
- Front panel LAN Active/Link LED

Networking Security

- Cavium CN-1120

Extension Slot

- 1x PCI-X, 64bit/133MHz (3.3V)

Internal I/O Connectors

- 1x 44-pin IDE connector
- 1x VGA Port

- 1x COM port header (COM2)
- 1x USB 1.1 header (Each header supports two USB 1.1 devices)
- 1x SM Bus header (For SM Bus and I^2C)

Front Panel I/O

- 2x USB 1.1 ports
- 1x COM port (COM1)
- 6x RJ-45 w/Transformer and LED single port LAN connector (GbE)

Back Panel I/O

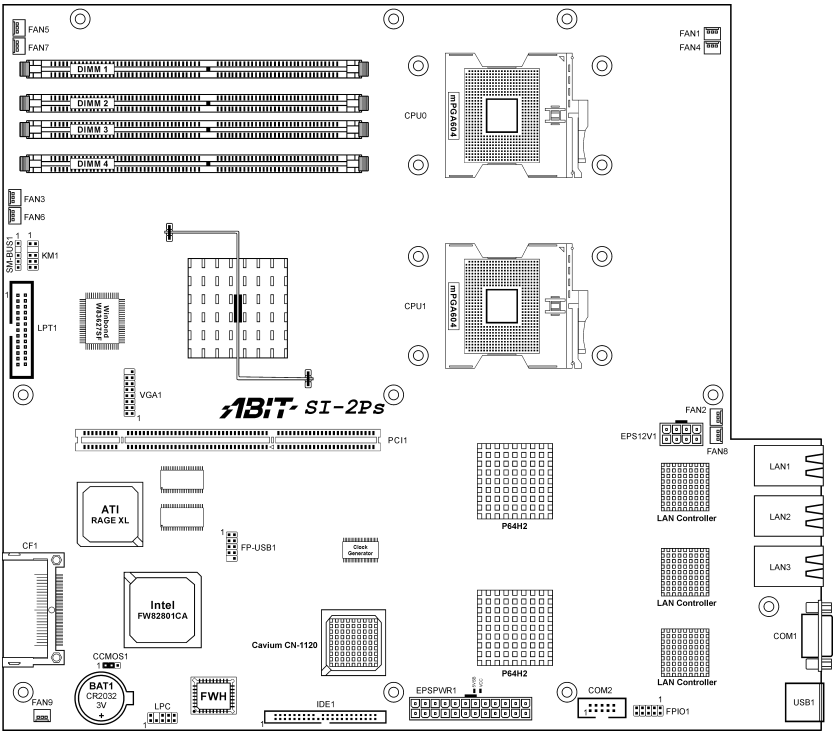
- 1x 50-pin IDE interface Compact Flash Type II socket

Miscellaneous

- EEB 3.0 form factor (12" x 13")
- Hardware monitoring – Including Fan speeds, Voltages, System environment temperature
- Chassis intrusion detector header
- 3.3V 64-bit riser card supported (option)

❋ **Specifications and information contained herein are subject to change without notice.**

1.2. Layout


FAN5
FAN7
FAN1
FAN4
DIMM 1
DIMM 2
DIMM 3
DIMM 4
CPU0
mPGA604
FAN3
FAN6
SM-BUS1
KM1
LPT1
W83627HF
CPU1
mPGA604
VGA1
SI-2Ps
FAN2
EPS12V1
FAN8
PCI1
P64H2
LAN1
LAN2
LAN3
LAN Controller
LAN Controller
LAN Controller
ATI
RAGE XL
CF1
FP-USB1
Clock Generator
Intel
FW82801CA
Cavium CN-1120
P64H2
COM1
CCMOS1
BAT1
CR2032
3V
FWH
LPC
IDE1
EPSPWR1
COM2
FPIO1
USB1
FAN9

1.3. Jumpers & Connectors Description

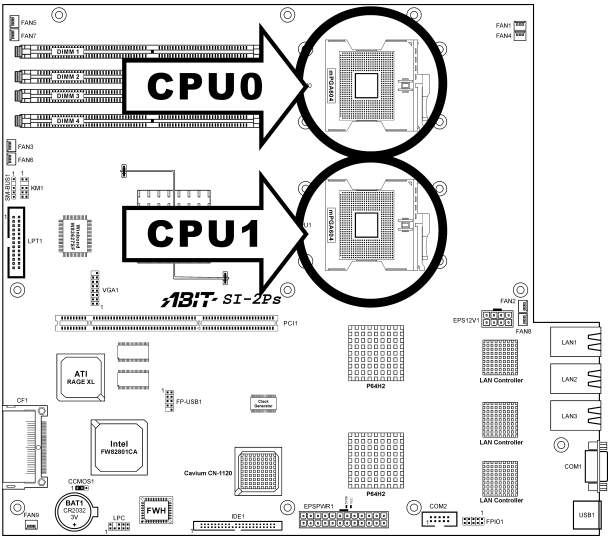
Jumpers	Description	Default Setting
CCMOS1	CMOS Memory Clearing Header	Pins 1-2 Closed (Normal)

Connectors	Description
CF1	Compact Flash Memory Card Reader Slot
COM2	Additional COM2 Port Connection Header
DIMM 1~4	DDR DIMM Slots
EPS12V1	8-Pin EPS12V Power Connector
EPSPWR1	24-Pin EPS12V Power Connector
FAN1~9	Fan Power Connectors
FPIO1	Front Panel Switches & Indicators Connection Headers
FP-USB1	Additional USB Port Connection Header
IDE1	2.5” Hard Disk Drive Connector
KM1	Keyboard/Mouse Connection Header
LPC	Debug Card Connection Header ***(Reserved for internal testing)***
LPT1	Parallel Port Connection Header
PCI1	64bit/133MHz PCI-X Slot
SM-BUS1	System Management Bus Connection Header
VGA1	VGA Output Connection Header

Chapter 2. Hardware Setup

2.1. CPU Socket

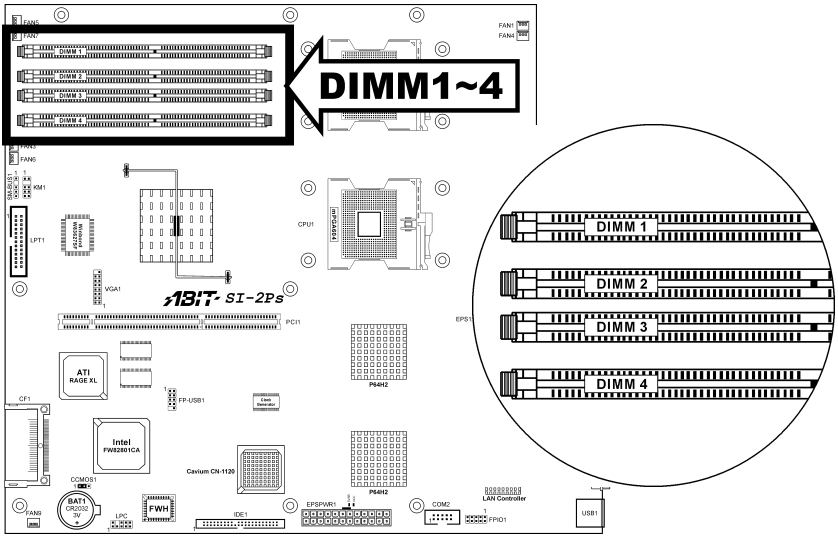
This server board provides dual 604-pin Zero Insertion Force (ZIF) sockets to install the Intel Xeon CPU. You may install either one or two CPUs, but to set up system with only one CPU, it MUST be installed in the primary socket (socket **"CPU0"** in this model). To install a second processor, you must verify that the second processor is identical to the first processor with same voltage and speed. Using non-identical processors could cause system failure.



2.2. System Memory

This server board provides six 184-pin Double Data Rate (DDR) Dual Inline Memory Module (DIMM) slots for Registered ECC DIMM modules with memory expansion size up to 8GB (DDR266/DDR200).

DIMM	Registered ECC DIMM Module	Total Memory
1	128MB, 256MB, 512MB, 1GB, 2GB	128MB ~ 2GB
2	128MB, 256MB, 512MB, 1GB, 2GB	128MB ~ 2GB
3	128MB, 256MB, 512MB, 1GB, 2GB	128MB ~ 2GB
4	128MB, 256MB, 512MB, 1GB, 2GB	128MB ~ 2GB
Total System Memory		256MB ~ 8GB

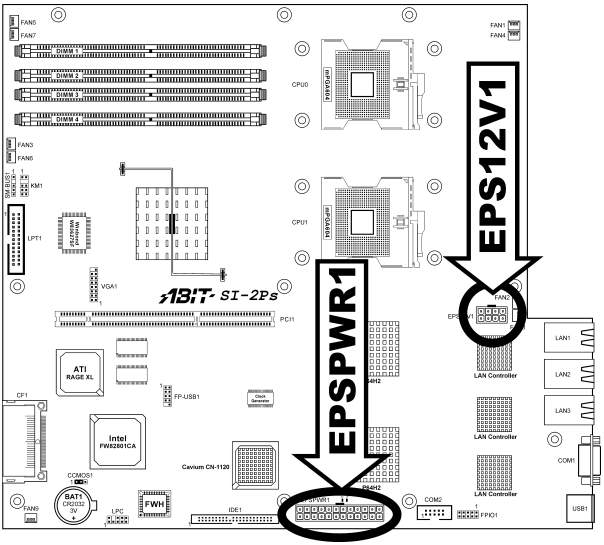


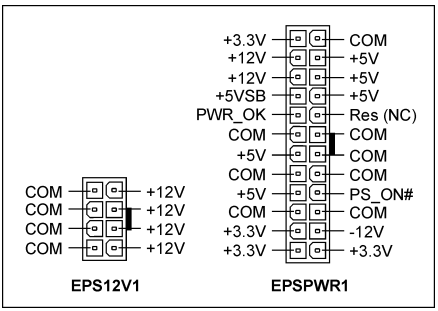
ATTENTION: Populate the DDR DIMMs **in-order** and **in-pair** (of the same type and size) by starting from ***DIMM1+DIMM2*** to ***DIMM3+DIMM4***.

2.3. EPS12V Power Connectors

These two connectors connect to EPS12V power supply.

WARNING: This server board requires an EPS12V power supplier with 460W capacity at least for Intel Xeon CPU system. DO NOT use ATX 2.x, ATX12V or dual AMD power supplies.



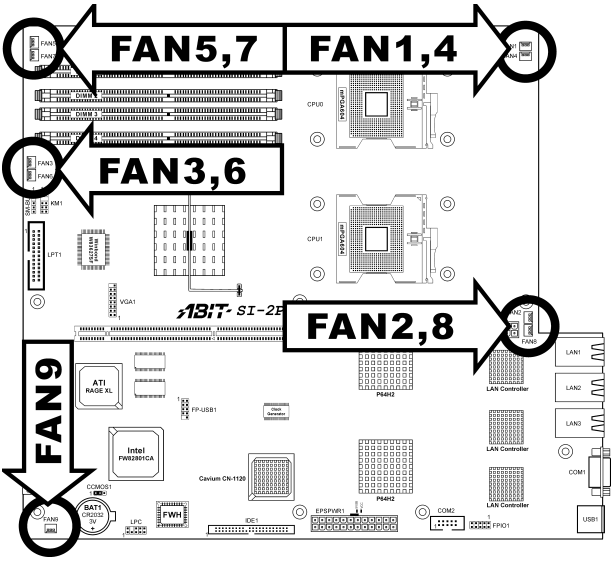


NOTE: The auxiliary 12V power (EPS12V1) is necessary to support Intel Xeon CPUs. Failing to provide such extra power will result in the system's booting failure.

2.4. FAN Power Connectors

These 3-pin connectors each provide power to the cooling fans installed in your system.

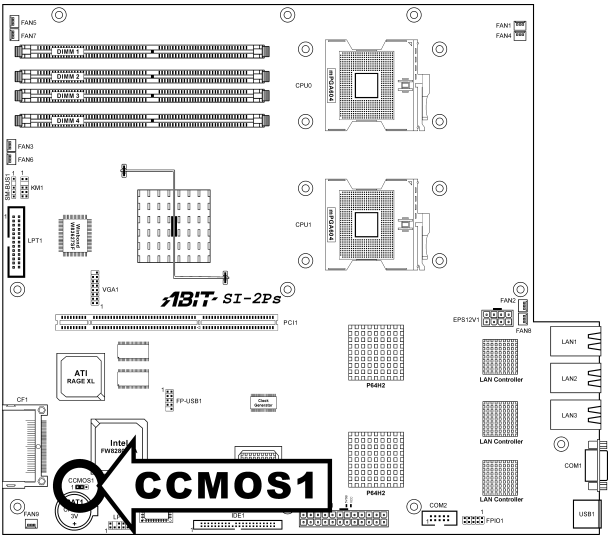
WARNING: These fan connectors are not jumpers. DO NOT place jumper caps on these connectors.

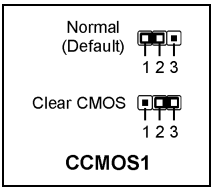


2.5. CMOS Memory Clearing Header

This header uses a jumper cap to clear the CMOS memory.

- **Pin 1-2 shorted (default):** Normal operation.
- **Pin 2-3 shorted:** Clear CMOS memory.

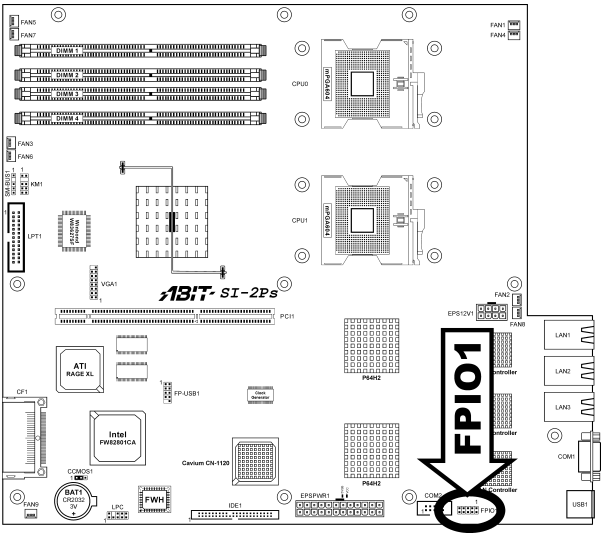


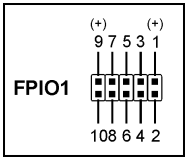


ATTENTION: Turn the system power off first (including the +5V standby power) before clearing the CMOS memory.

2.6. Front Panel Switches & Indicators Connection Headers

This header provides connection to external switches and indicators.

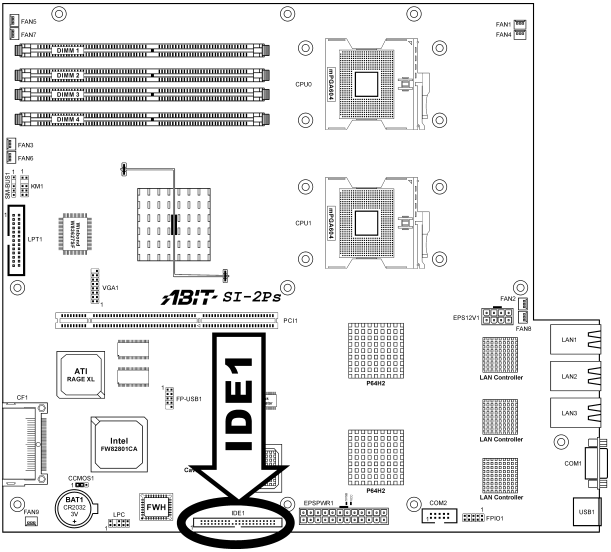


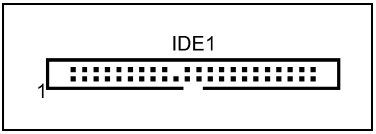


Pin	Definition
1-2	Power LED
3-4	Power On
5-6	Reset
7-8	Case Intrusion
9-10	HD LED

2.7. IDE Disk Drive Connector

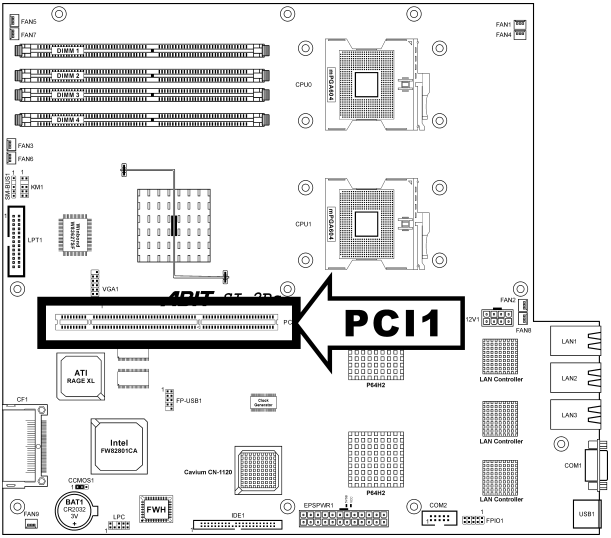
This connector provides two 2.5” IDE hard drives connection.

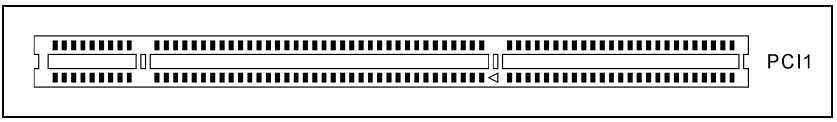




2.8. PCI Expansion Slot

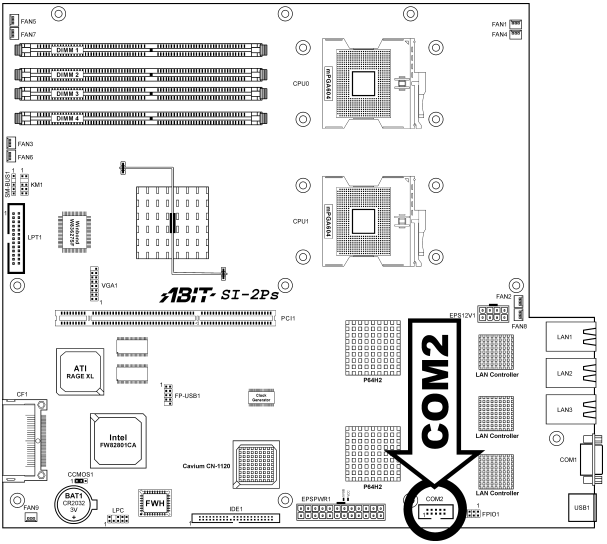
This slot provides one 64bit/133MHz PCI add-on-card connection.

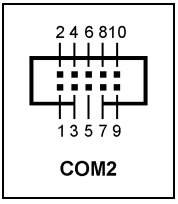




2.9. Additional COM2 Port Connection Header

This header provides an additional COM2 connection.

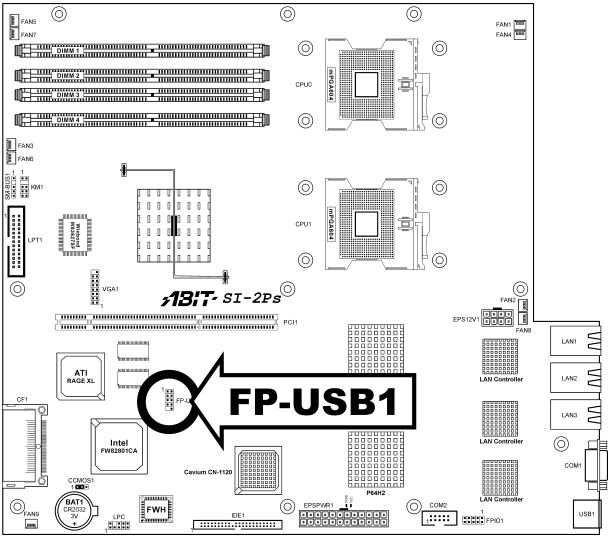


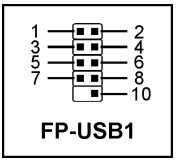


Pin	Definition	Pin	Definition
1	DCDA	2	SINA
3	SOUTA	4	DTRA
5	Ground	6	DSRA
7	RTSA	8	CTSA
9	RIA	10	VCC

2.10. Additional USB Port Connection Header

This header provides two additional USB port connections.

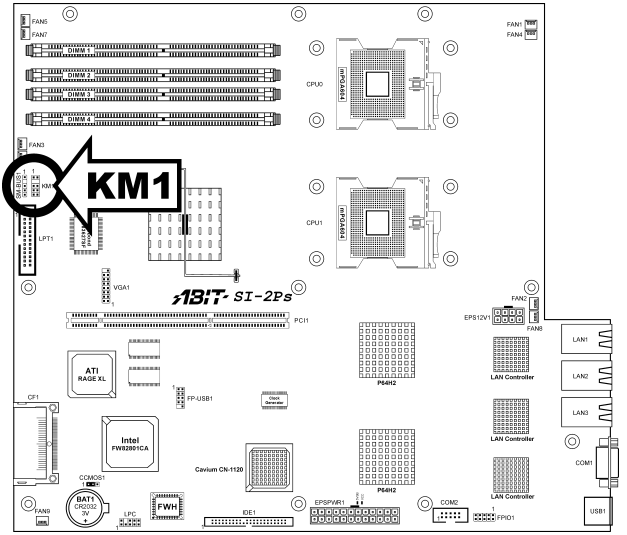


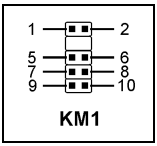


Pin	Definition	Pin	Definition
1	VCC	2	VCC
3	- Data 0	4	- Data 1
5	+ Data 0	6	+ Data 1
7	Ground	8	Ground
		10	NC

2.11. External Keyboard/Mouse Connection Header

This header provides external Keyboard and Mouse connection.

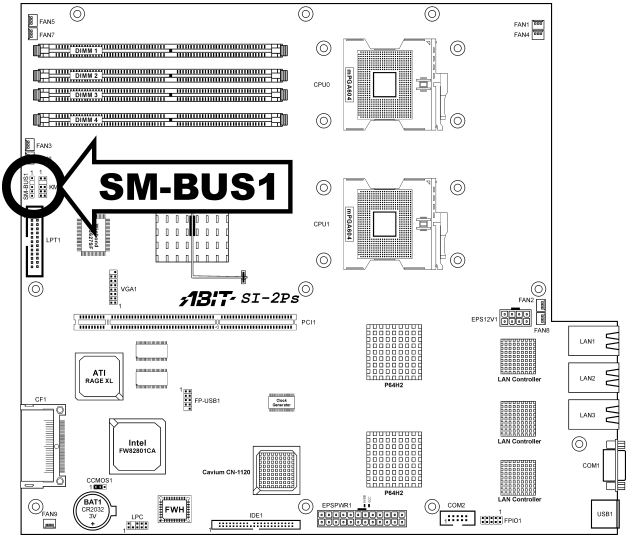




Pin	Definition	Pin	Definition
1	VCC	2	VCC
3	NC	4	NC
5	KB Data	6	Mouse Data
7	Ground	8	Ground
9	KB Clock	10	Mouse Clock

2.12. System Management Bus Connection Header

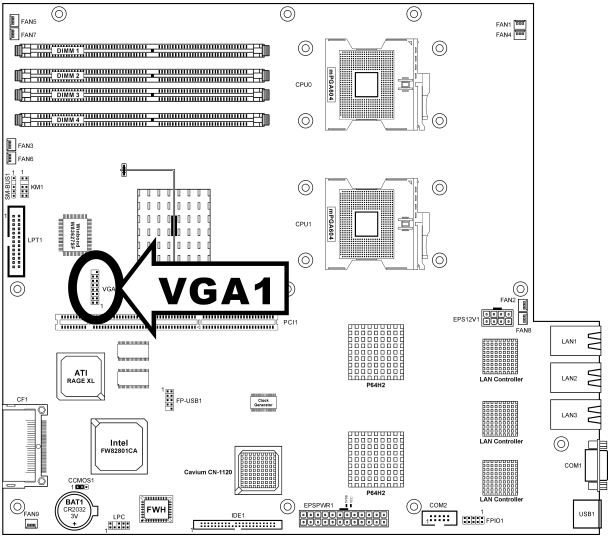
This header provides one system management bus (SMBus) connection.



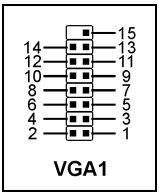
	Pin	Definition	Pin	Definition
5 4 3 1 SMBUS1	1	SMBCLK	2	NC
	3	Ground	4	SMBDATA
	5	VCC		

2.13. VGA Output Connection Header

This header provides one external VGA output connection.

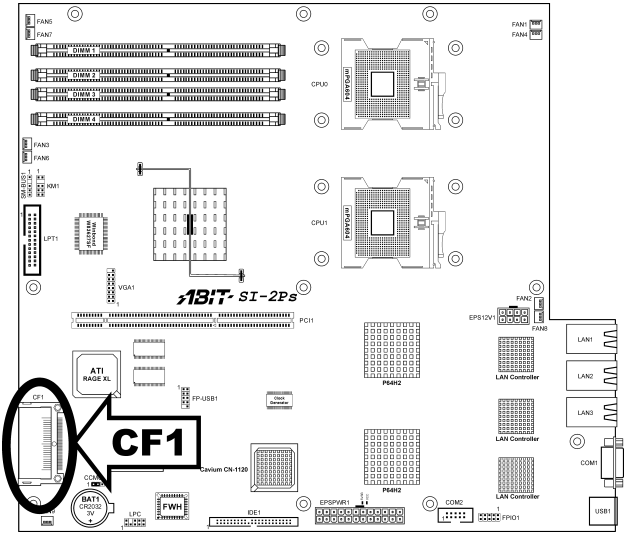


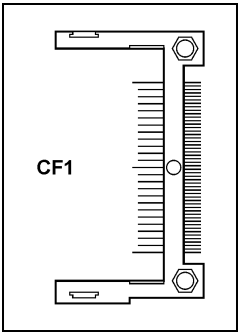
Pin	Definition	Pin	Definition
1	Red	2	Green
3	Blue	4	NC
5	Ground	6	Ground
7	Ground	8	Ground
9	VCC	10	Ground
11	NC	12	DDC Data
13	H.SYNC	14	V.SYNC
15	DDC Clock		



2.14. Compact Flash Memory Card Reader Slot

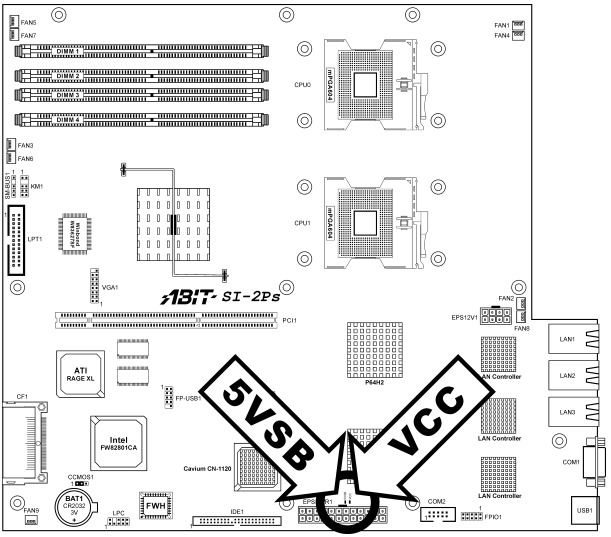
This slot provides the connection to Compact Flash memory card reader.

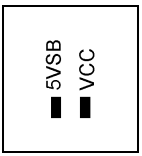




2.15. Status Indicators

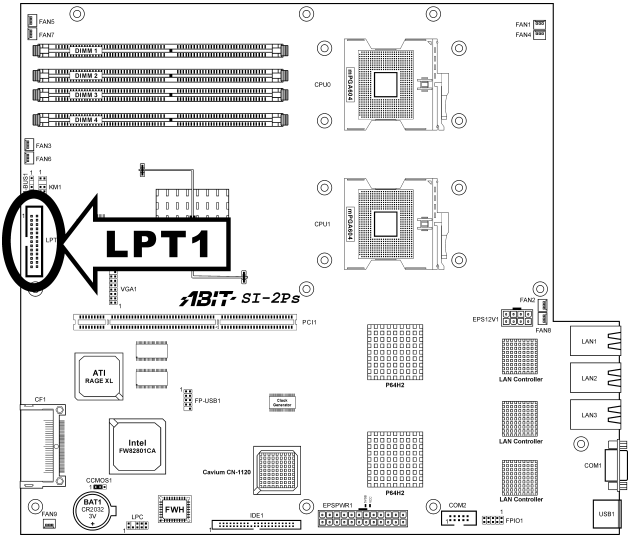
- **5VSB**: This LED lights up when the power supply is connected with power source.
- **VCC:** This LED lights up when the system power is on.

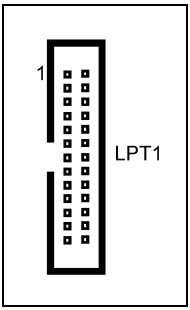




2.16. Parallel Port Header

This connector provides one parallel port connection.

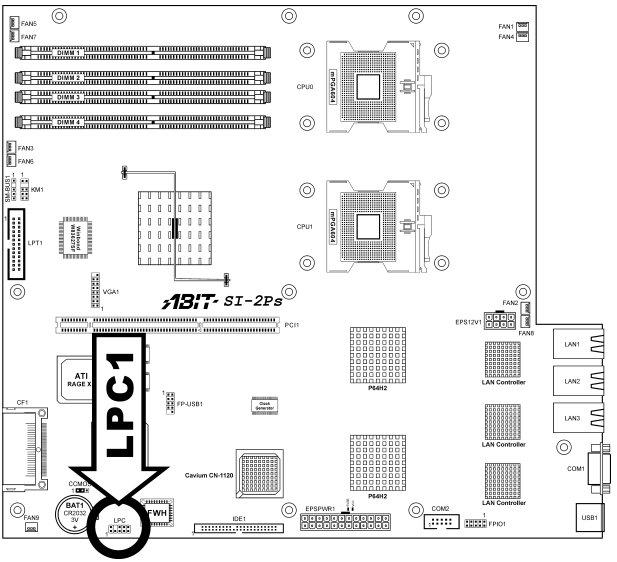


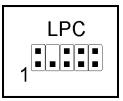


Pin	Definition	Pin	Definition
1	STB#	2	AFD#
3	PD0	4	ERR#
5	PD1	6	INIT#
7	PD2	8	SLIN#
9	PD3	10	GND
11	PD4	12	GND
13	PD5	14	GND
15	PD6	16	GND
17	PD7	18	GND
19	ACK#	20	GND
21	BUSY	22	GND
23	PE	24	GND
25	SLCT	26	GND

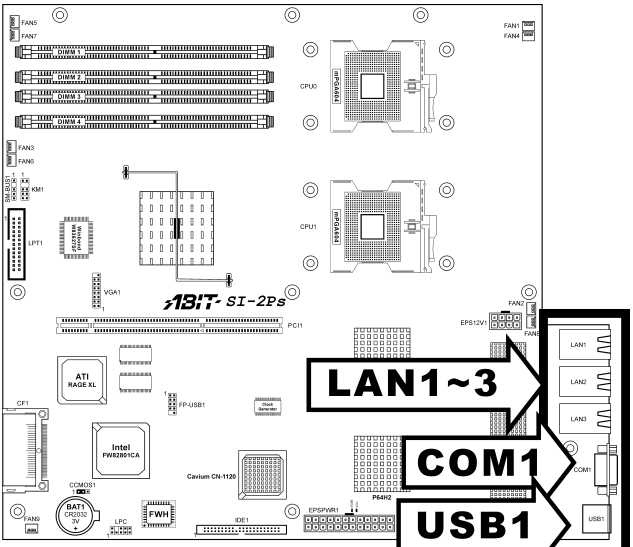
2.17. Debug Card Connection Header *(Reserved for internal testing)*

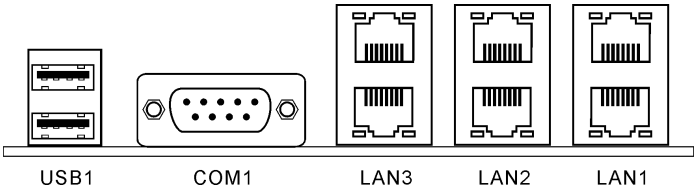
This header provides an optional connection to debug card.





2.18. External I/O Panel Connectors





- **USB1:** Universal Serial Bus connector.
- **COM1:** Serial port connector
- **LAN1, LAN2, LAN3:** Local Area Network connectors.

Chapter 3. BIOS Setup

This motherboard provides a programmable EEPROM that you can update the BIOS utility. The BIOS (Basic Input/Output System) is a program that deals with the basic level of communication between processor and peripherals. Use the BIOS Setup program only when installing motherboard, reconfiguring system, or prompted to "Run Setup". This chapter explains the Setup Utility of BIOS utility.

After powering up the system, the BIOS message appears on the screen, the memory count begins, and then the following message appears on the screen:

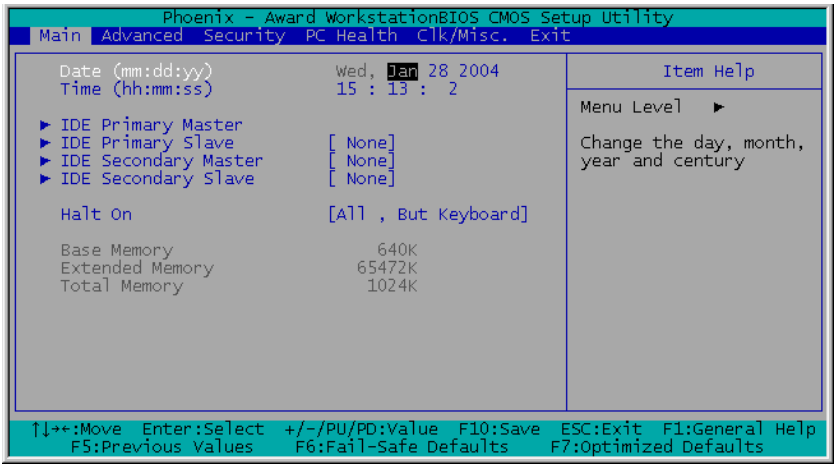
```
Press DEL to run setup
```

If this message disappears before you respond, restart the system by pressing <Ctrl> + <Alt> + <Del> keys, or by pressing the Reset button on computer chassis. Only when it failed by these two methods can you restart the system by powering it off and then back on.

NOTE: In order to increase system stability and performance, our engineering staffs are constantly improving the BIOS menu. The BIOS setup screens and descriptions illustrated in this manual are for your reference only, may not completely match what you see on your screen.

After pressing <Del> key, the main menu screen appears.

3.1. Main Menu



Date (mm:dd:yy)

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

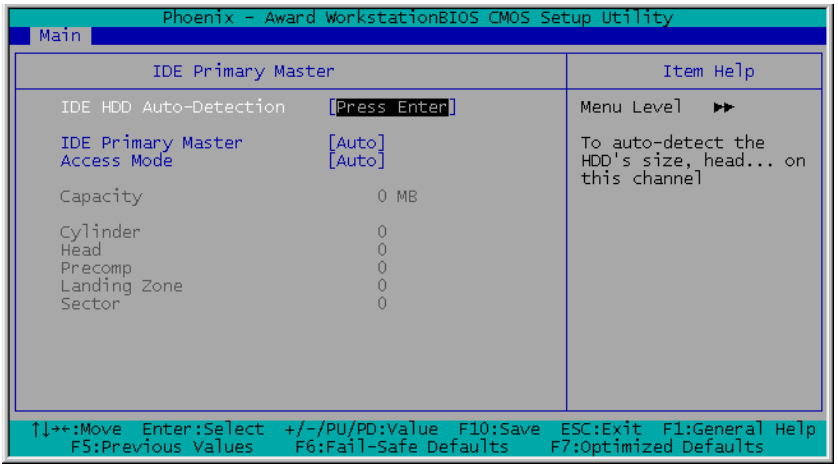
Time (hh:mm:ss)

This item sets the time you specify (usually the current time) in the format of [Hour], [Minute], and [Second].

IDE Primary Master, IDE Primary Slave, IDE Secondary Master, and IDE Secondary Slave

Move cursor to item “IDE Primary Master”, “IDE Primary Slave”, “IDE Secondary Master” or “IDE Secondary Slave”, and then press <Enter> key to enter a sub-menu.

IDE Primary/Secondary Master/Slave



IDE HDD Auto-Detection

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

IDE Primary Master

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. Refer to the manual provided by the device manufacturer to get the settings right.

Access Mode

This item selects the mode to access your IDE devices. Leave this item to its default [Auto] settings to let BIOS detects the access mode of your HDD and makes decision 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.

NOTE: The following [Cylinder], [Head], [Precomp], [Landing Zone], and [Sector] items are available when you set the item “IDE Primary Master” to “Manual”.

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.

Halt On

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

[All Errors]: The system-boot will stop whenever the BIOS detect a non-fatal error.

[No Errors]: The system-boot will not stop for any error detected.

[All, But Keyboard]: The system-boot will stop for all errors but keyboard error.

[All, But Diskette]: The system-boot will stop for all errors but disk error.

[All, But Disk/Key]: The system boot will stop for all errors but disk or keyboard error.

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.

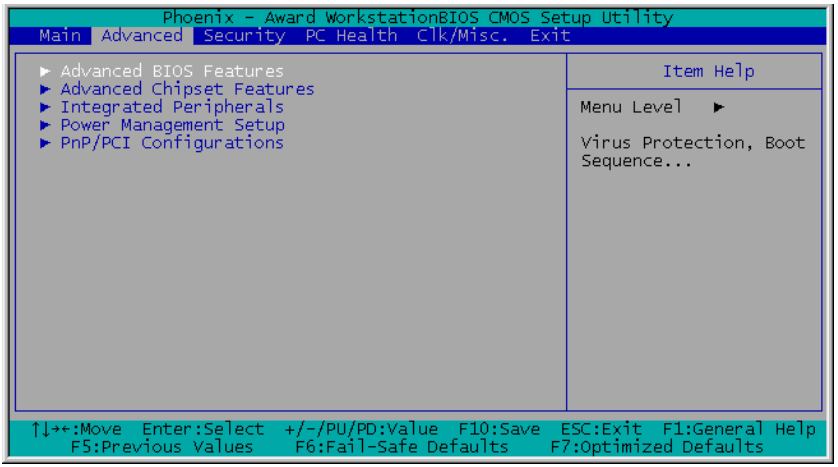
Extended Memory

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

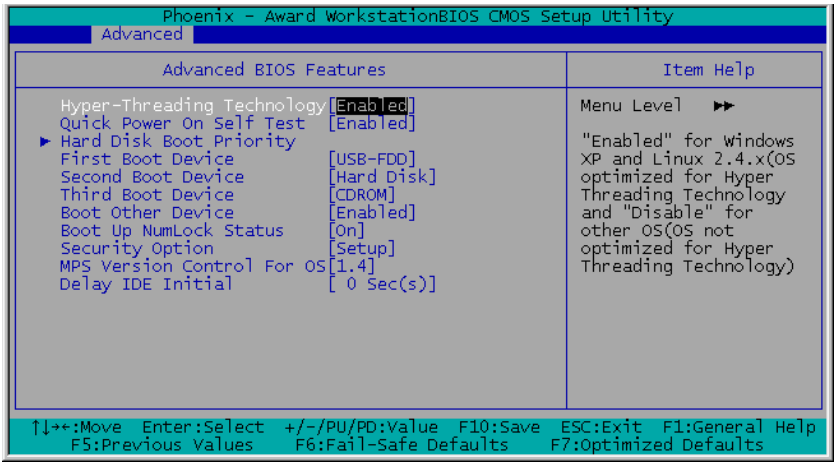
Total Memory

This item displays the total memory available in the system.

3.2. Advanced Menu



3.2.1. Advanced BIOS Features



Hyper-Threading Technology

This item is used to enable the functionality of the processor with Hyper-Threading Technology and will appear only when using such processor.

The Hyper-Threading Technology helps your PC work more efficiently by maximizing processor resources and enabling a single processor to run two separate threads of software simultaneously, bringing forth greater performance and system responsiveness when running multiple applications at once.

Quick Power On Self Test

When set to [Enabled], this item speeds up the Power On Self Test (POST) after powering on the system. The BIOS shorten or skip some check during the POST.

Hard Disk Boot Priority

This item selects the hard disks booting priority. By pressing <Enter> key, you can enter its submenu where the hard disks detected can be selected for the booting sequence to boot up system.

This item functions only when there is the option of [Hard Disk] in any one of the First/Second/Third Boot Device items.

First Boot Device / Second Boot Device / Third Boot Device / Boot Other Device

Select the drive to boot first, second and third in the [First Boot Device], [Second Boot Device], and [Third Boot Device] fields respectively. The BIOS will boot the operating system according to the sequence of the drive selected. Set [Boot Other Device] to [Enabled] if you wish to boot from another device other than these three items.

Boot Up NumLock Status:

This item determines the default state of the numeric keypad at system booting up.

[On]: The numeric keypad functions as number keys.

[Off]: The numeric keypad functions as arrow keys.

Security Option

This item determines when the system will prompt for password - every time the system boots or only when enters the BIOS setup.

[Setup]: The password is required only when accessing the BIOS Setup.

[System]: The password is required each time the computer boots up.

NOTE: Don't forget your password. If you forget the password, you will have to open the computer case and clear all information in the CMOS before you can start up the system. But by doing this, you will have to reset all previously set options.

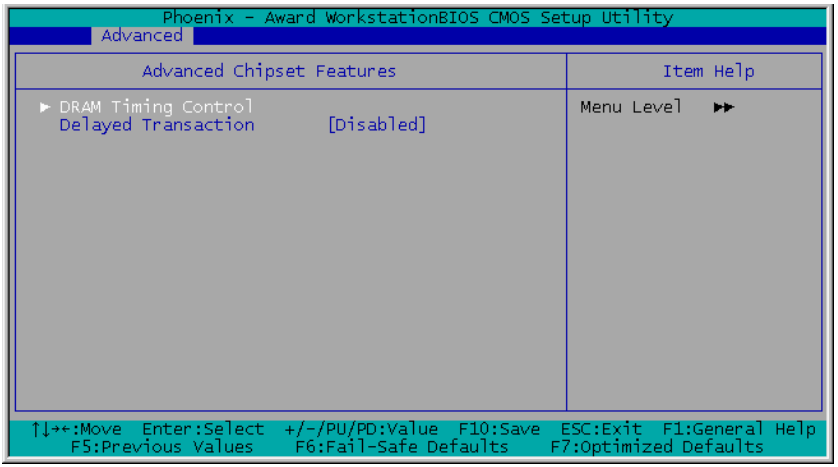
MPS Version Control For OS

This item specifies which version of MPS (Multi-Processor Specification) this motherboard will use. Leave this item to its default setting.

Delay IDE Initial

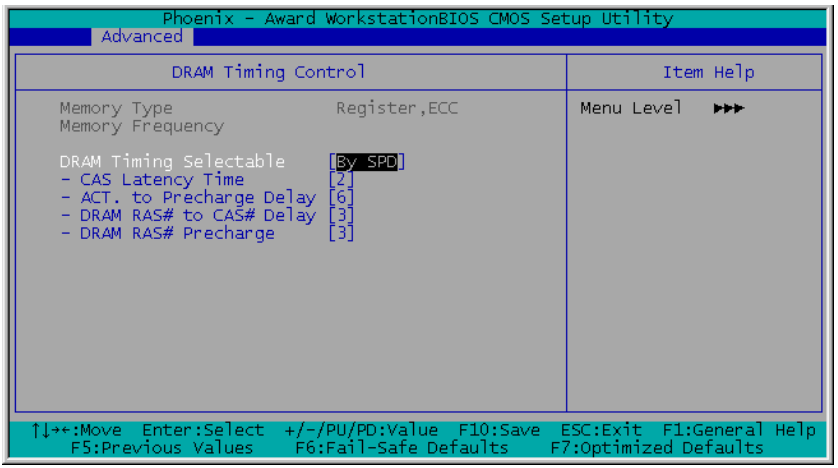
This item allows the BIOS to support some old or special IDE devices by prolonging this delay time. A larger value will give more delay time to the device for which to initialize and to prepare for activation.

3.2.2. Advanced Chipset Features



DRAM Timing Control

This item controls the DRAM timing. Press <Enter> key to enter its menu.



Memory Type

This item displays the type of memory module you are using.

Memory Frequency

This item displays the frequency of memory module you are using.

DRAM Timing Selectable

This item sets the optimal timings for the following four items, depending on the memory module you are using. The default setting "By SPD" configures these four items by reading the contents in the SPD (Serial Presence Detect) device. The EEPROM on the memory module stores critical parameter information about the module, such as memory type, size, speed, voltage interface, and module banks.

❋ **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 DRAM parameters.

❋ **DRAM RAS# to CAS# Delay**

This item controls the latency between the DRAM active command and the read/write command.

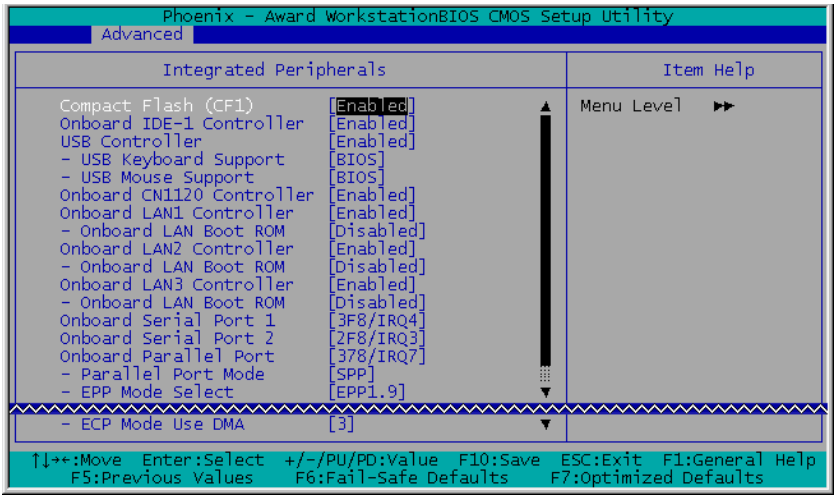
❋ **DRAM RAS# Precharge**

This item controls the idle clocks after issuing a precharge command to the DRAM.

❋ **Delayed Transaction**

When set to [Enabled], the PCI bus will be freed up when the CPU is accessing 8-bit ISA cards. This will allow PCI and ISA buses to be used more efficiently and prevents performance dropping on the PCI bus. This process normally consumes about 50-60 PCI clocks without PCI delayed transaction. Leave this item to its default [Disabled] setting when using ISA cards that are not PCI 2.1 compliant.

3.2.3. Integrated Peripherals



Compact Flash (CF1)

This item enables or disables the onboard CF1 controller.

Onboard IDE-1 Controller

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

USB Controller

This option enables or disables the USB controller.

❋ **USB Keyboard Support**

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

❋ **USB Mouse Support**

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

Onboard CN1120 Controller

This item enables or disables the onboard security processor.

Onboard LAN1 Controller

This item enables or disables the onboard LAN1 controller.

❋ **Onboard LAN Boot ROM**

This item allows you to use the boot ROM (instead of a disk drive) to boot-up the system and access the local area network directly.

Onboard LAN2 Controller

This item enables or disables the onboard LAN2 controller.

❋ **Onboard LAN Boot ROM**

This item allows you to use the boot ROM (instead of a disk drive) to boot-up the system and access the local area network directly.

Onboard LAN3 Controller

This item enables or disables the onboard LAN3 controller.

❋ **Onboard LAN Boot ROM**

This item allows you to use the boot ROM (instead of a disk drive) to boot-up the system and access the local area network directly.

Onboard Serial Port 1

This item determines which I/O addresses the onboard Serial Port 1 controller will access.

[Auto]: The system automatically select an I/O address for the onboard Serial Port 1.

[3F8/IRQ4, 2F8/IRQ3, 3E8/IRQ4, 2E8/IRQ3]: Allows you to manually select an I/O address for the onboard Serial Port 1.

[Disabled]: Disables the onboard Serial Port 1.

Onboard Serial Port 2

This item determines which I/O addresses the onboard Serial Port 2 controller will access.

[Auto]: The system automatically select an I/O address for the onboard Serial Port 2.

[3F8/IRQ4, 2F8/IRQ3, 3E8/IRQ4, 2E8/IRQ3]: Allows you to manually select an I/O address for the onboard Serial Port 2.

[Disabled]: Disables the onboard Serial Port 2.

Onboard Parallel Port

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

[Disabled]: This option prevents the parallel port from accessing any system resources. When the value of this option is set to [Disabled], the printer port becomes unavailable.

[378]: This option allows the parallel port to use [378] as its I/O port address. The majority of parallel ports on computer systems use IRQ7 and I/O Port 378H as the standard setting.

[278]: This option allows the parallel port to use [278] as its I/O port address.

[3BC]: This option allows the parallel port to use [3BC] as its I/O port address.

❋ **Parallel Port Mode**

This item specifies the parallel port mode.

[SPP]: (Standard Parallel Port) Allows bi-directional parallel port operation at normal speed.

[EPP]: (Enhanced Parallel Port) Allows bi-directional parallel port operation at maximum speed.

[ECP]: (Extended Capabilities Port) Allows bi-directional parallel port operation at a speed faster than the normal mode's data transfer rate.

[EPP+ECP]: Using parallel port as EPP & ECP mode.

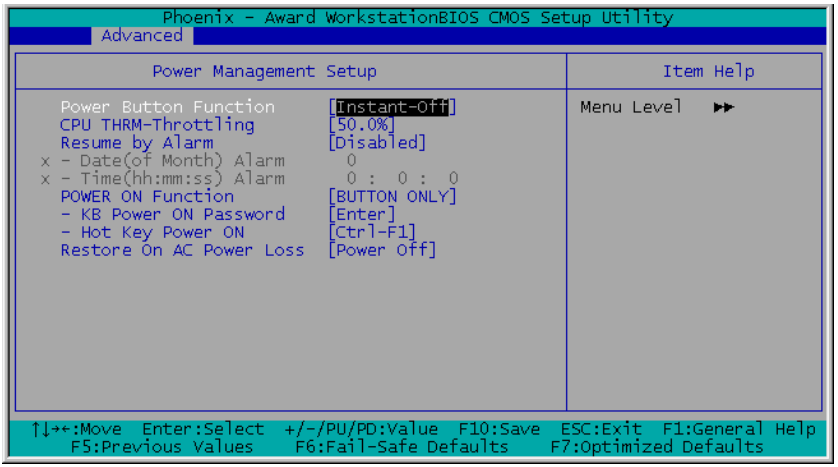
❋ **EPP Mode Select**

This item selects the EPP mode.

❋ **ECP Mode Use DMA**

This item selects the DMA channel of the parallel port.

3.2.4. Power Management Setup



Power Button Function

This item selects the method of powering off your system:

[Delay 4 Sec.]: Pushing the power button for more than 4 seconds will power off the system. This will prevent the system from powering off in case you accidentally hit or pushed the power button.

[Instant-Off]: Pressing and then releasing the power button at once will immediately power off the system.

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.

Resume by Alarm

When set to [**Enabled**], you can set the date and time you would like the Soft-Off PC to power-on in the "**Date (of Month) Alarm**" and "**Time (hh:mm:ss) Alarm**" items. However, if the system is being accessed by incoming calls or the network (Resume On Ring/LAN) prior to the date and time set in these items, the system will give priority to the incoming calls or network instead.

❋ **Date (of Month) Alarm**

[**0**]: This option power-on the system everyday according to the time set in the "Time (hh:mm:ss) Alarm" item.

[**1-31**]: This option selects a date you would like the system to power-on. The system will power-on on the date set, and the time set in the "Time (hh:mm:ss) Alarm" item.

❋ **Time (hh:mm:ss) Alarm**

This item sets the time you would like the system to power-on.

POWER ON Function

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

[Password]: Use a password to power on the system, select this option then press <Enter>. Enter your password. You can enter up to 5 characters. Type in exactly the same password to confirm, and then press <Enter>.

[Hot KEY]: Use any of the function keys between <F1> to <F12> to power on the system.

[Mouse Left]: Double click the mouse left button to power on the system.

[Mouse Right]: Double click the mouse right button to power on the system.

[Any KEY]: Use any keyboard keys to power on the system.

[BUTTON ONLY]: Use only the power button to power on the system.

[Keyboard 98]: Use the power-on button on the "Keyboard 98" compatible keyboard to power on the system.

NOTE: The mouse wake up function can only be used with the PS/2 mouse, not with the COM port or USB type. Some PS/2 mice cannot wake up the system because of compatible problems. If the specs of your keyboard are too old, it may fail to power on.

❋ **KB Power ON Password**

This item sets the password required in order to power on your computer.

NOTE: Do not forget your password, or you will have to clear the CMOS and reset all parameters in order to utilize this function again.

❋ **Hot Key Power ON**

This item powers on the system by pressing <Ctrl> key plus one of each function key (<F1> ~ <F12>) simultaneously.

Restore On AC Power Loss

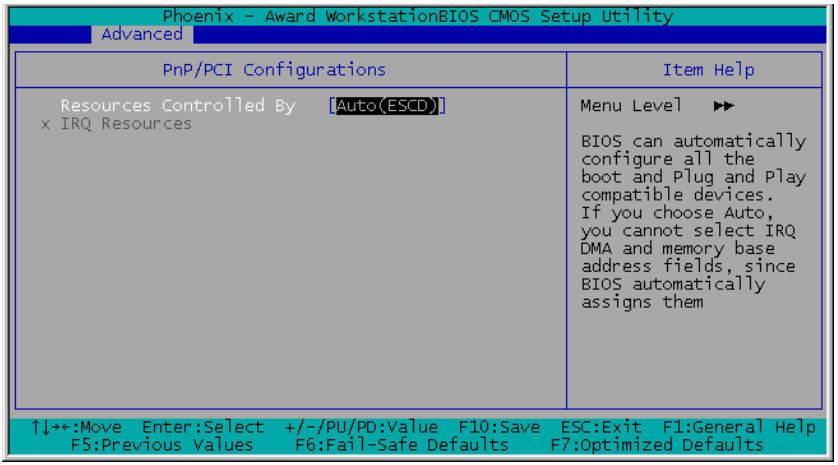
This item selects the system action after an AC power failure.

[Power Off]: When power returns after an AC power failure, the system's power remains off. You must press the Power button to power-on the system.

[Power On]: When power returns after an AC power failure, the system's power will be powered on automatically.

[Last State]: When power returns after an AC power failure, the system will return to the state where you left off before power failure occurs. If the system's power is off when AC power failure occurs, it will remain off when power returns. If the system's power is on when AC power failure occurs, the system will power-on when power returns.

3.2.5. PnP/PCI Configurations



Resources Controlled By

This item configures all of the boot and Plug-and-Play compatible devices.

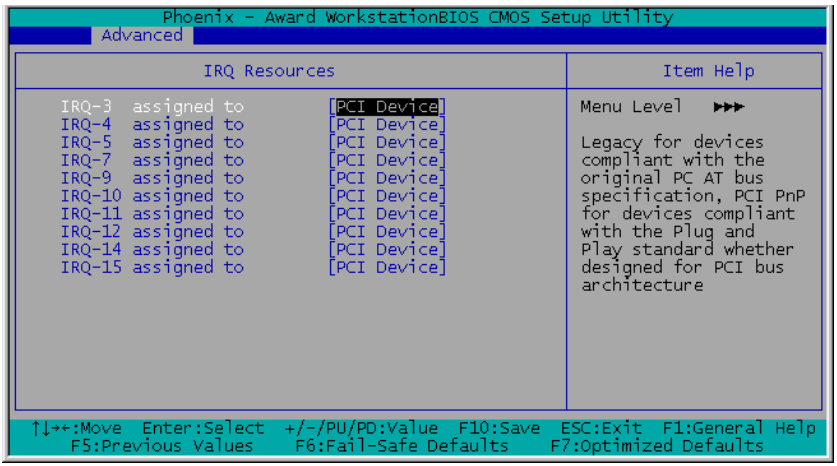
[Auto(ESCD)]: The system will automatically detect the settings.

[Manual]: Choose the specific IRQ resources in the "IRQ Resources" menu.

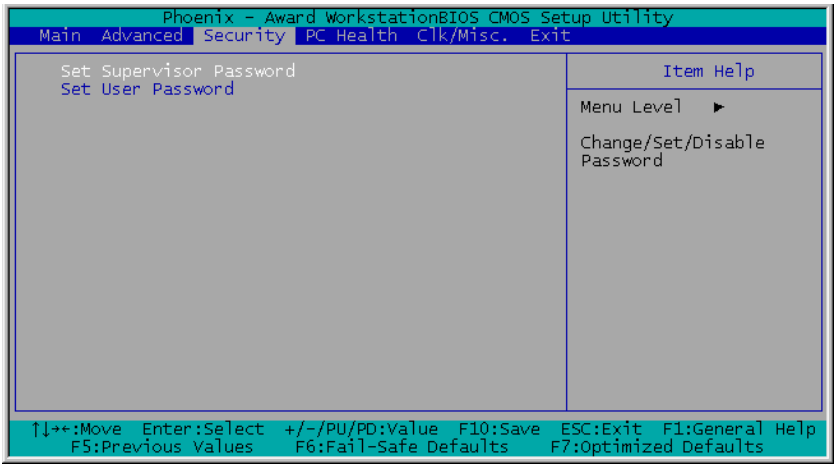
IRQ Resources

Click <Enter> key to enter its submenu:

This item sets each system interrupt to either [PCI Device] or [Reserved].



3.3. Security Menu



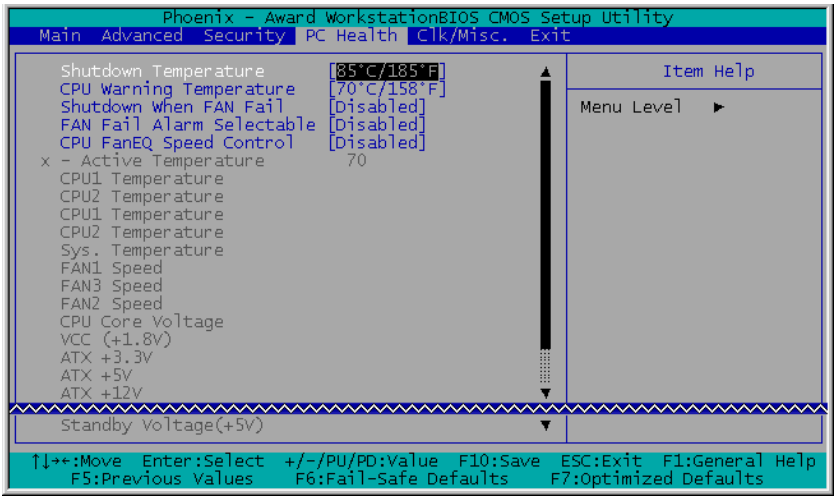
Set Supervisor Password

This option protects the BIOS configuration or restricts access to the computer itself. The Supervisor Password is used to protect the stored CMOS options from being changed by unauthorized users.

Set User Password

This option protects the BIOS configuration or restricts access to the computer itself. The User Password requires all users to enter a password in order to use the system, and/or enter the BIOS setup (but can't change its contents).

3.4. PC Health Menu



Shutdown Temperature

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

CPU Warning Temperature

This item selects the CPU's warning temperature limit. Once the system has detected that the CPU's temperature exceeded the limit, warning beeps will sound.

NOTE: The onboard hardware monitor function is capable of detecting these system health conditions. If you want a warning message to pop-up or a warning alarm to sound when an abnormal condition occurs, you must install the "Hardware Doctor" utility. This utility is included in the "Driver & Utility CD" that came packed with this motherboard.

Shutdown When Fan Fail

When set to [Enabled], the system will be shut down if the fan is not running.

FAN Fail Alarm Selectable

This item selects the fan that will be monitored for malfunction.

CPU FanEQ Speed Control

This item allows you to control the CPU fan speed down to a specific percentage.

When set to a specific percentage, the CPU fan speed will run at the percentage you set in this item if the temperature limit set in the item "Active Temperature" is not exceeded.

The CPU fan speed will run at 100% regardless of what the percentage you set in this item if the temperature limit set in the item "Active Temperature" is exceeded.

❋ **Active Temperature**

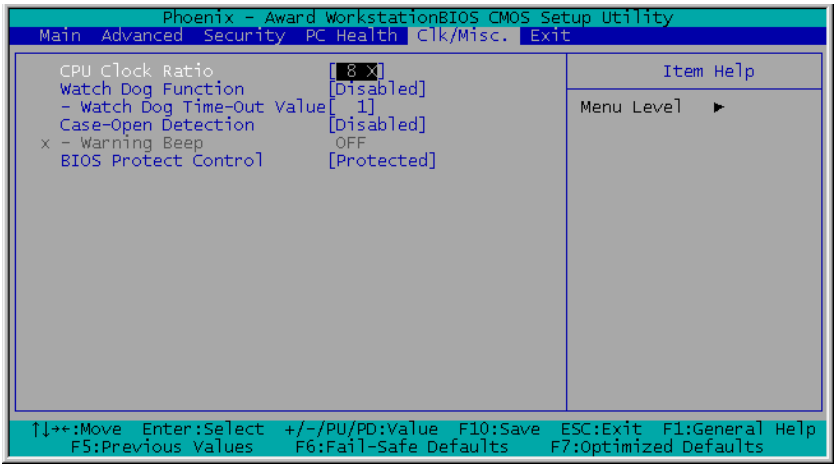
This item sets the temperature limit that would activate the function of "CPU FanEQ Speed Control" option.

All Voltages, Fans Speed and Thermal Monitoring

These unchangeable items list the current status of the CPU and environment temperatures, fan speeds, and system power voltage.

NOTE: The hardware monitoring features for temperatures, fans and voltages will occupy the I/O address from 294H to 297H. If you have a network adapter, sound card or other add-on cards that might use those I/O addresses, please adjust your add-on card I/O address to avoid using these addresses.

3.5. Clk/Misc. Menu



CPU Clock Ratio

This option selects the CPU clock ratio. Please type in the correct multiple for your CPU.

Watch Dog Function

This option controls the function for Watch Dog.

[Disabled]: Disable the Watch Dog function.

[Enabled/Sec.]: Enable the Watch Dog function by the timer based on seconds.

[Enabled/Min.]: Enable the Watch Dog function by the timer based on minutes.

❋ **Watch Dog Time-Out Value**

Type in the Time-Out value for your Watch Dog function.

Case-Open Detection

This option controls the function for case-opening detection device connected at pin-7 and pin-8 at FPIO1 header.

[Disabled]: Disable the Case-Open Detection.

[Enabled]: Enable the Case-Open Detection.

[Cleared]: Clear the warning message when the case-opening situation is detected.

❋ **Warning Beep**

This option controls the onboard buzzer to beep when the case-opening situation is detected.

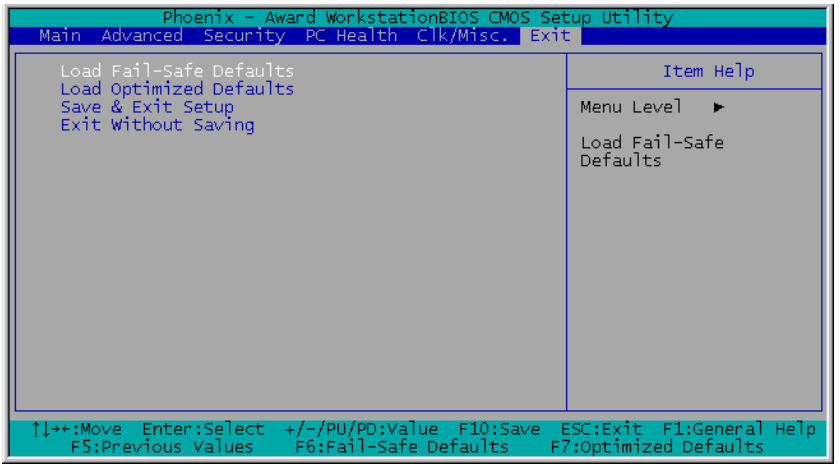
BIOS Protect Control

This option protects the BIOS contents from accidentally writing attempt.

NOTE: Make sure to set this item to "Non-Protected" when flashing the BIOS.

3.6. Exit Menu

Once you have made all your selections in the previous BIOS setup menu, you have to save the settings and exit the setup menu. Select the Exit Menu in the menu bar to show the following menu:



NOTE: Pressing <ESC> does not exit this menu. You have to select one of the options in this menu, such as "Exit Without Saving" to exit the menu without saving your previous settings.

Load Fail-Safe Defaults

This option loads the BIOS default values for the most stable, minimal-performance system operations.

Load Optimized Defaults

This option loads the BIOS default values that are factory settings for optimal-performance system operations.

Save & Exit Setup

This option saves your selections and exits the setup menu.

Exit Without Saving

This option exits the setup menu without saving any change.

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

- **Intel Chipset Software Utility**
  Install Intel chipset driver for Windows Operating System.
- **ATI VGA Driver**
  Install ATI VGA graphic driver for Windows Operating System.
- **Intel LAN Driver**
  Install the drivers needed to run Fast Ethernet controller.
- **Manual**
  View the user's manual in PDF.
- **Utility**
  Click to enter the sub-screen for installing software like Award Flash and LoFormat, Microsoft DirectX, and Acrobat Reader.
- **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 fixes 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.periphs.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.periphs.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:

North America and South America:

ABIT Computer (U.S.A.) Corporation
45531 Northport Loop West,
Fremont, California 94538, U.S.A.
Tel: 1-510-623-0500
Fax: 1-510-623-1092
sales@abit-usa.com
technical@abit-usa.com
http://www.abit-usa.com

U.K. and Ireland:

ABIT Computer (U.K.) Corporation Ltd.
Unit 3, 24-26 Boulton Road,
Stevenage, Herts SG1 4QX, U.K.
Tel: 44-1438-228888
Fax: 44-1438-226333
sales@abitcomputer.co.uk
technical@abitcomputer.co.uk

Germany, Benelux (Belgium, Netherlands, Luxembourg), Denmark, Norway, Sweden, Finland, and Switzerland:

AMOR Computer B.V. (ABIT's European Office)
Van Coehoornstraat 7,
5916 PH Venlo, The Netherlands
Tel: 31-77-3204428
Fax: 31-77-3204420
sales@abit.nl
technical@abit.nl
http://www.abit.nl

Austria, Czech, Romania, Bulgaria, Yugoslavia, Slovakia, Slovenia, 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
asguard@asguard.at

Japan:

ABIT Computer (Japan) Co. Ltd.
Fax: 81-3-5396-5110
http://www.abit4u.jp

Shanghai:

ABIT Computer (Shanghai) Co. Ltd.
Tel: 86-21-6235-1829
Fax: 86-21-6235-1832
http://www.abit.com.cn

Russia:

ABIT Computer (Russia) Co. Ltd.
Fax: 7-095-937-2837
techrussia@abit.com.tw
http://www.abit.ru

France, Italy, Spain, Portugal, and Greece:

ABIT Computer France SARL
Tel: 33-1-5858-0043
Fax: 33-1-5858-0047
http://www.abit.fr

All other territories not covered above please contact Taiwan Head Office:

When contacting our headquarters please Note we are located in Taiwan and we are 8+ GMT time. In addition, we have holidays that may be different from those in your country.

ABIT Computer Corporation
No.323, Yang Guang St., Neihu,
Taipei, 114, Taiwan
Tel: 886-2-8751-8888
Fax: 886-2-8751-3382
server_sales@abit.com.tw
market@abit.com.tw
technical@abit.com.tw
http://www.abit.com.tw

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.

Thank You

ABIT Computer Corporation

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 ☐IDE1 ☐IDE2			
CD-ROM-Drive ☐IDE1 ☐IDE2			
System Memory			
ADD-ON CARD			

Problem Description: