



Your Reliable Partner

VA-10/VA-11

Socket 462 System Board

User's Manual

4200-0376-23

Rev. 1.01

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. Precautions | 2-1 |
| 2.2. Installing the System Board | 2-2 |
| 2.3. Install CPU and Heatsink | 2-3 |
| 2.4. System Memory | 2-5 |
| 2.4.1. Memory Configuration Table..... | 2-5 |
| 2.4.2. Installing and Removing Memory Modules..... | 2-6 |
| 2.5. Connectors, Headers, and Switches | 2-7 |
| 2.5.1. ATX Power Connectors..... | 2-7 |
| 2.5.2. FAN Connectors | 2-8 |
| 2.5.3. CMOS Memory Clearing Header..... | 2-9 |
| 2.5.4. Accelerated Graphics Port Slot..... | 2-10 |
| 2.5.5. Front Panel Switches & Indicators Connection Headers | 2-11 |
| 2.5.6. Infrared Device Connection Header | 2-12 |
| 2.5.7. Additional USB Port Connection Header..... | 2-13 |
| 2.5.8. Additional IEEE1394 Port Headers..... | 2-14 |
| 2.5.9. Internal Audio Source Connectors | 2-15 |
| 2.5.10. Floppy Disk Drive Connector..... | 2-16 |
| 2.5.11. IDE Disk Drive Connectors..... | 2-17 |
| 2.5.12. External I/O Panel..... | 2-18 |
| | |
| Chapter 3. BIOS Setup..... | 3-1 |
| 3.1. Standard CMOS Features..... | 3-2 |
| 3.2. Advanced BIOS Features | 3-6 |
| 3.3. Advanced Chipset Features..... | 3-8 |

| | | |
|---|---------------------------------|------------|
| 3.4. | Integrated Peripherals..... | 3-13 |
| 3.5. | Power Management Setup..... | 3-19 |
| 3.6. | PnP/PCI Configurations | 3-21 |
| 3.7. | PC Health Status..... | 3-23 |
| 3.8. | Frequency/Voltage Control | 3-25 |
| 3.9. | Load Fail-Safe Defaults..... | 3-26 |
| 3.10. | Load Optimized Defaults | 3-26 |
| 3.11. | Set Supervisor Password | 3-26 |
| 3.12. | Set User Password..... | 3-26 |
| 3.13. | Save & Exit Setup | 3-26 |
| 3.14. | Exit Without Saving | 3-26 |
| 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

Processor

- Supports AMD Athlon XP Socket A Processors with 333/266 MHz Front Side Bus
- Supports AMD K7 Athlon™ XP FSB 333/266MHz Processors

Chipset

- VIA KM400 / VT8235 chipset
- Supports Hi-Speed Universal Serial Bus (USB 2.0)
- Int. S3 UniChrome™ 2D/3D Graphics with motion compensation
- Ext. Accelerated Graphics Port connector supports AGP 8X/4X (0.8V /1.5V)

Memory

- Two 184-pin DIMM sockets (Un-buffered Non-ECC DIMM)
- Supports 2 DIMM DDR 333/266/200 (Max. 2GB)

IEEE 1394 (For VA-11 only)

- Onboard VIA VT6307 IEEE 1394 Controller

Audio

- Onboard VIA VT1616 6-Channel AC 97 CODEC
- Professional digital audio interface supports Optical S/PDIF Out

LAN

- Onboard VIA VT6103 10/100Mbps LAN

Internal I/O Connectors

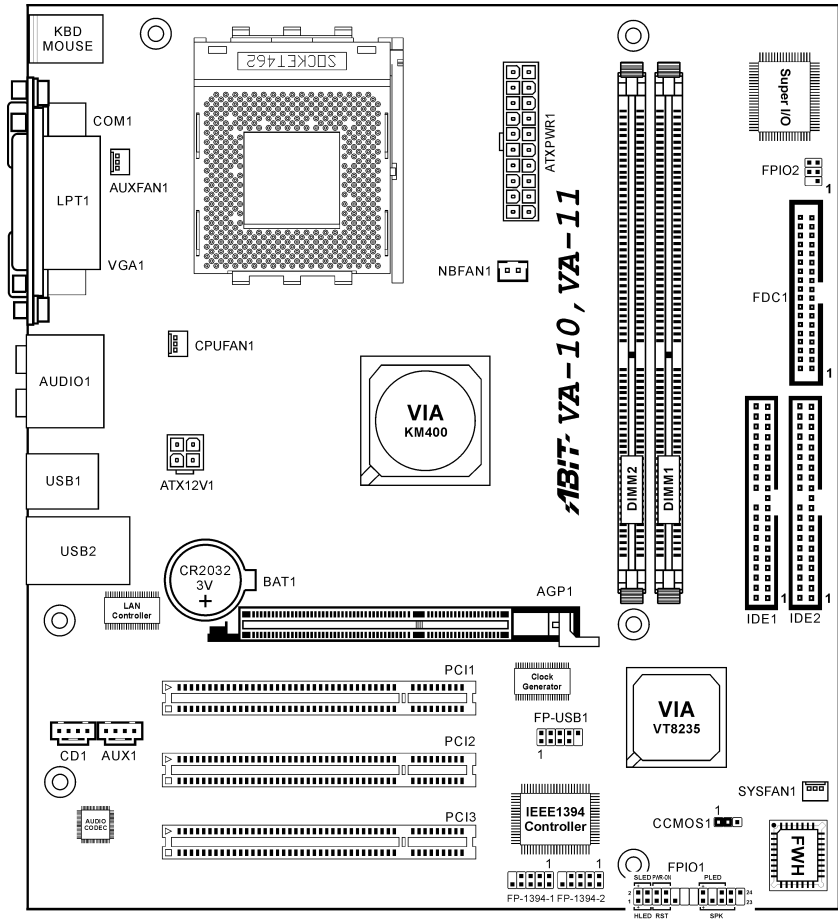
- 1x AGP slot
- 3x PCI slots
- 1x Floppy Port supports up to 2.88MB
- 2x Ultra ATA 133/100/66/33 Connectors
- 2x IEEE 1394 headers
- 1x USB 2.0 header
- 1x CD-IN, 1x AUX-IN
- 1x IrDA

Back Panel I/O

- 1x PS/2 Keyboard, 1x PS/2 Mouse
- 1x Serial Port connector
- 1x VGA Port connector
- 1x Parallel Port connector
- 1x Audio connector (S/PDIF Out, Center/Subwoofer, Surround Speaker) (Front Speaker, Line-in, MIC-in)
- 4x USB Connectors
- 1x RJ-45 LAN Connector

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

1.2. Layout Diagram



1.3. Jumpers & Connectors Description

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

| Connectors | Description |
|------------------------------------|---------------------------------------|
| AGPI | Accelerated Graphics Port Slot |
| ATX12V1 | 4-pin ATX12V Power Connector |
| ATXPWR1 | 20-pin ATX12V Power Connector |
| CD1/AUX1 | Internal Audio Connectors |
| CPUFAN1/SYSFAN1/ AUXFAN1/NBFAN1 | Fan Connectors |
| DIMM1/DIMM2 | DDR DIMM Slots |
| FDC1 | Floppy Disk Drive Connector |
| FPIO1 | Front Panel Switch Connection Headers |
| FPIO2 | Infrared Device Connection Header |
| FP-1394-1/FP-1394-2 | Additional IEEE1394 Port Headers |
| FP-USB1 | Additional USB Port Connection Header |
| IDE1/IDE2 | Hard Disk Drive Connectors |
| PCI1/PCI2/PCI3 | 32bit/33MHz PCI Slots |

Chapter 2. Hardware Setup

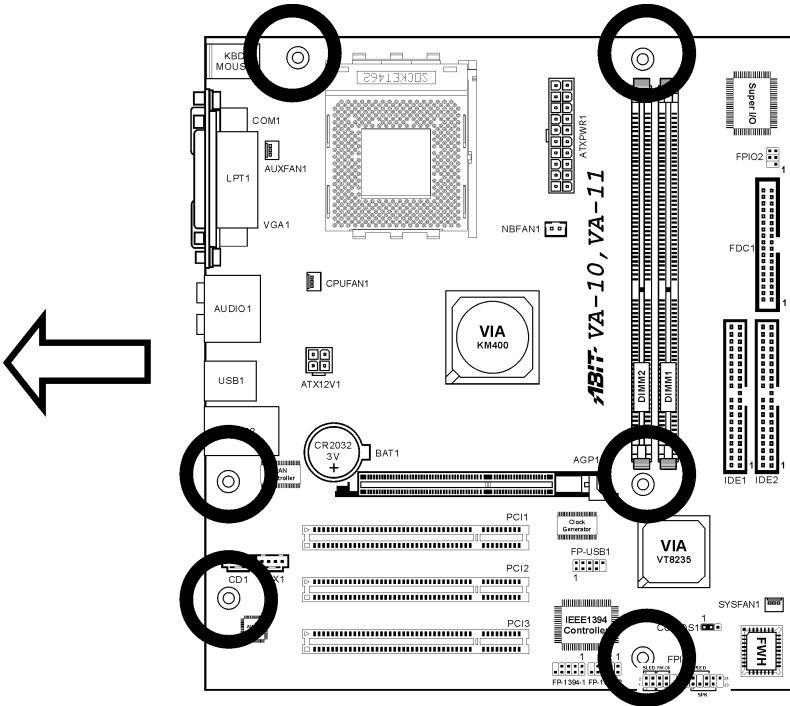
2.1. Precautions

Please pay attention to the following precautions before setting up any hardware.

1. Always switch off the power supply and unplug the power cord from the wall outlet before installing the board or changing any settings.
2. Ground yourself properly by wearing a static safety wrist strap before removing the board from the antistatic bag.
3. Hold the board by its edges. Avoid touching any component on it.
4. Avoid touching module contacts and IC chips
5. Place the board on a grounded antistatic surface or on the antistatic bag that came with the board.

2.2. Installing the System Board

Before installing the system board, exam your chassis to ensure this system board fits into it.



1. Face the side of the I/O ports toward the rear part of the chassis.
2. Locate the screw holes on the system board and the chassis base.
3. Place all the studs or spacers needed on the chassis base and have them tightened.
4. Line up all the screw holes on the board with those studs or spacers on the chassis.
5. Tightens all the screw holes.

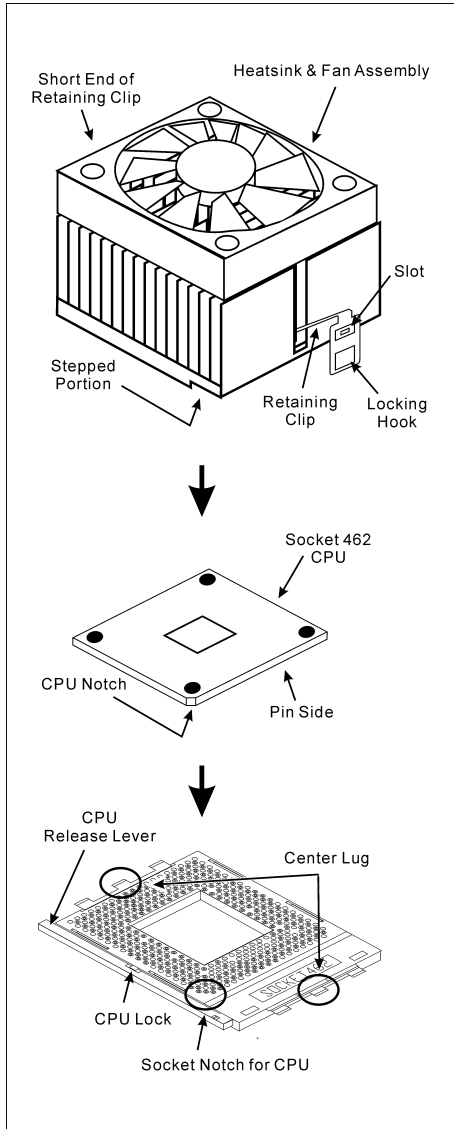
ATTENTION: To prevent shorting the PCB circuit, please REMOVE the metal studs or spacers if they are already secured on the chassis base and are without mounting-holes on the system board to align with.

2.3. Install CPU and Heatsink

- Installing a heatsink and cooling fan is necessary for heat to dissipate from your processor. Failing to install these items may result in overheating and processor damage.
- The AMD Socket A processor will produce a lot of heat while operating, so you need to use a large heat sink that is especially designed for the AMD socket A processor. Otherwise, it may result in overheating and processor damage.
- If your processor fan and its power cable are not installed properly, never plug the ATX power cable into the motherboard. This can prevent possible processor damage.
- Please refer to your processor installation manual or other documentation with your processor for detailed installation instructions.

This motherboard provides a ZIF (Zero Insertion Force) Socket 462 to install AMD Socket A CPU. The CPU you bought should have a kit of heatsink and cooling fan along with. If that's not the case, buy one specially designed for Socket A.

Please refer to the figure shown here to install CPU and heatsink. (For reference only. Your Heatsink & Fan Assembly may not be exactly the same as this one.)

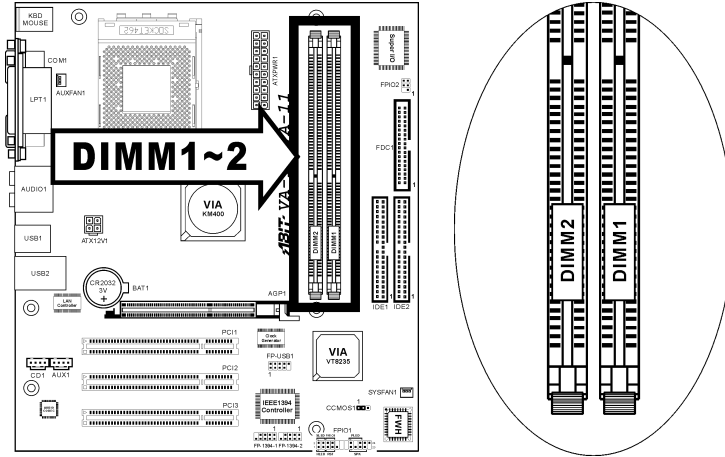


1. Locate the Socket 462 on this motherboard. Pull the CPU release lever sideways to unlatch and then raise it all the way up.
2. Align the CPU notch to the socket notch for CPU. Drop the processor with its pin side down into the CPU socket. Do not use extra force to insert CPU; it only fit in one direction. Close the CPU release lever.
3. Remove the plastic film adhesive on the heatsink. Make sure the stepped portion of the heatsink is facing toward the end of the socket that reads “Socket 462”. Put the heatsink faces down onto the processor until it covers the processor completely.
4. Push down the short end of the retaining clip first to lock up with the center lug at the bottom of the socket.
5. Use a screwdriver to insert into the slot at the long end of the retaining clip. Push the clip downward to lock up with the center lug at the top of the socket. The heatsink & fan assembly is now firmly attached on the CPU socket.
6. Attach the fan connector of Heatsink & Fan Assembly with the fan connector on the motherboard.

ATTENTION: Do not forget to set the correct bus frequency and multiple for your processor.

2.4. System Memory

This system board provides two 184-pin DDR DIMM slots for DDR 333 memory modules with memory expansion size up to 2GB.



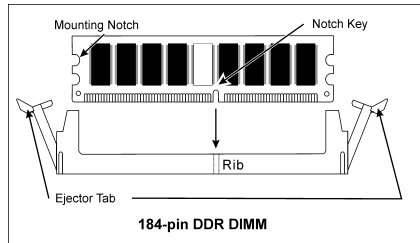
2.4.1. Memory Configuration Table

| DIMM | DIMM Module | Total Memory |
|----------------------------|--------------------------|--------------------|
| 1 | 128MB, 256MB, 512MB, 1GB | 128MB ~ 1GB |
| 2 | 128MB, 256MB, 512MB, 1GB | 128MB ~ 1GB |
| Total System Memory | | 128MB ~ 2GB |

2.4.2. Installing and Removing Memory Modules

Power off the computer and unplug the AC power cord before installing or removing memory modules.

1. Locate the DIMM slot on the board.
2. Hold two edges of the DIMM module carefully, keep away of touching its connectors.
3. Align the two notch keys on the module with the two ribs on the slot.
4. Firmly press the module into the slots until the ejector tabs at both sides of the slot automatically snaps into the mounting notch. Do not force the DIMM module in with extra force as the DIMM module only fit in one orientation.
5. To remove the DIMM modules, push the two ejector tabs on the slot outward simultaneously, and then pull out the DIMM module.



ATTENTION: As the static electricity can damage the electronic components of the computer or optional modules, make sure you are discharged of static electricity by touching a grounded metal object briefly before starting these procedures.

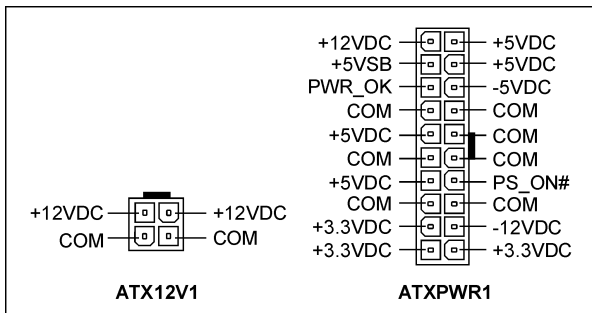
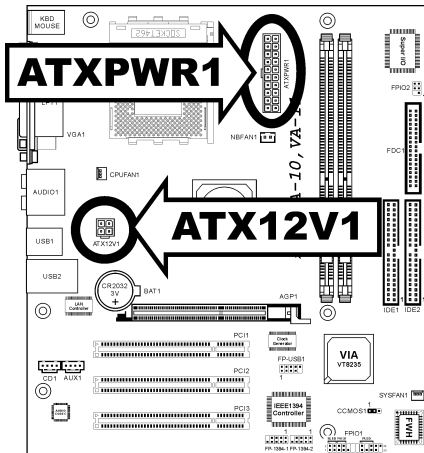
2.5. Connectors, Headers, and Switches

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.

2.5.1. ATX Power Connectors

It would be recommended to supply an ATX12V power with 300W, 20A +5VDC capacity at least for heavily loaded system, and 720mA +5VSB at least for supporting Wake-On-LAN feature.



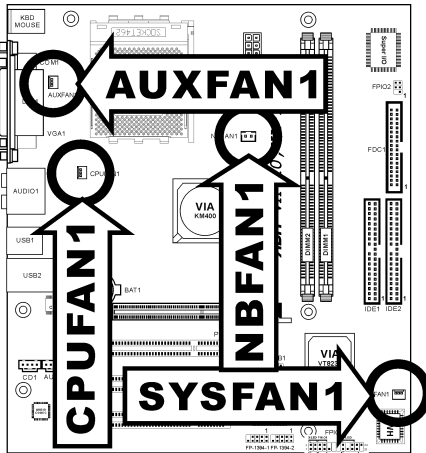
2.5.2. FAN Connectors

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

The CPU must be kept cool by using a powerful fan with heatsink. The system is capable of monitoring the speed of the CPU fan.

- **CPUFAN1:** CPU Fan
- **SYSFAN1:** System Fan 1
- **AUXFAN1:** Auxiliary Fan 1
- **NBFAN1:** N.B. Chipset Fan

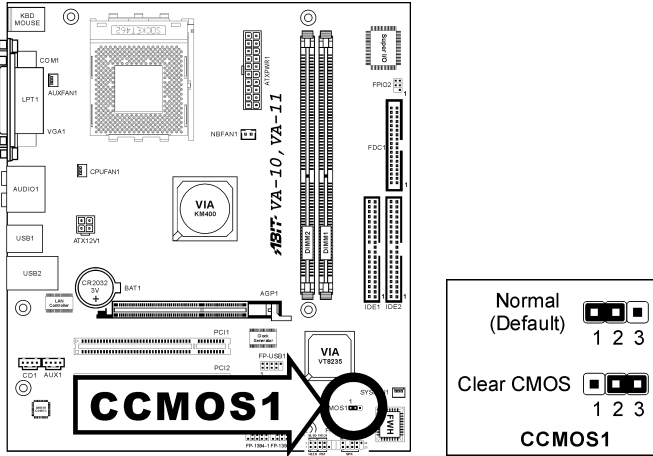
WARNING: These fan connectors are not jumpers. **DO NOT** place jumper caps on these connectors.



2.5.3. CMOS Memory Clearing Header

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

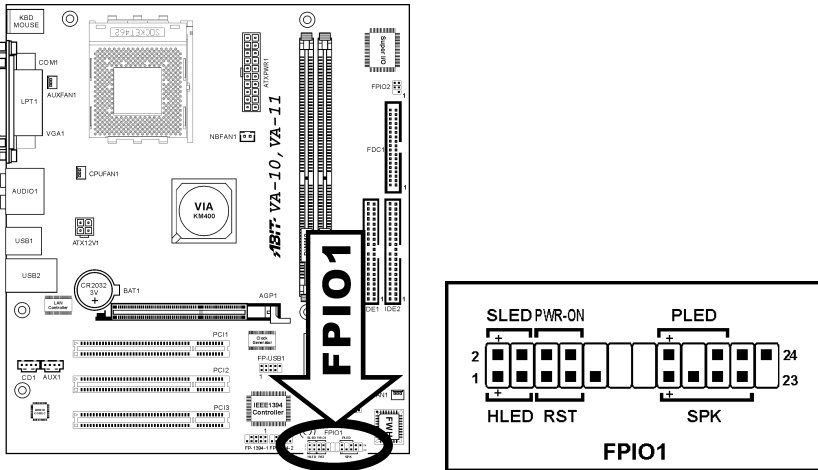
- **Pin 1-2 shorted (default):** Normal operation.
- **Pin 2-3 shorted:** Clear CMOS memory.



ATTENTION: Turn the system power off first (including the +5V standby power) before clearing the CMOS memory. Failing to do so may cause your system to work abnormally or malfunction.

2.5.5. Front Panel Switches & Indicators Connection Headers

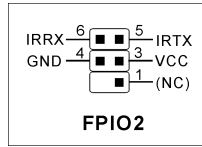
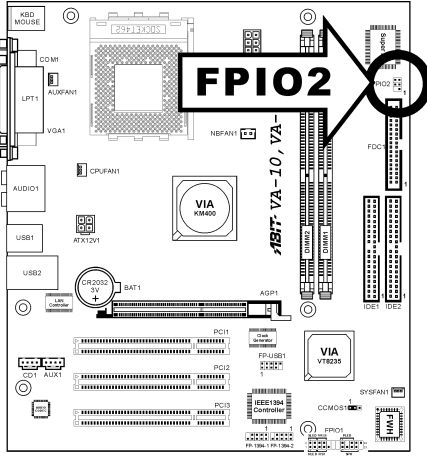
These headers are used for connecting switches and LED indicators on the chassis front panel. The mark “+” align to the pin in the figure below stands for positive polarity for the LED connection.



- **HLED (Pin 1, 3):**
Connects to the HDD LED cable of chassis front panel.
- **RST (Pin 5, 7):**
Connects to the Reset Switch cable of chassis front panel.
- **SPK (Pin 15, 17, 19, 21):**
Connects to the System Speaker cable of chassis.
- **SLED (Pin 2, 4):**
Connects to the Suspend LED cable (if there is one) of chassis front panel.
- **PWR-ON (Pin 6, 8):**
Connects to the Power Switch cable of chassis front panel.
- **PLED (Pin 16, 18, 20):**
Connects to the Power LED cable of chassis front panel.

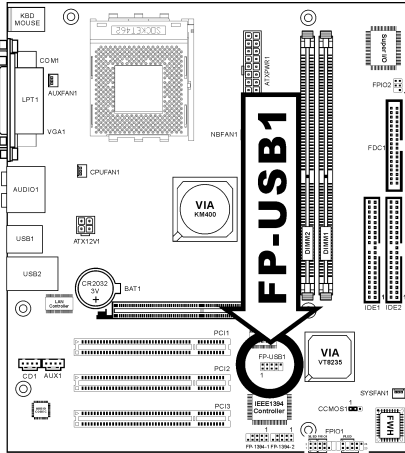
2.5.6. Infrared Device Connection Header

This header connects to an optional IR device attached to chassis. This motherboard supports standard IR transfer rates.



2.5.7. Additional USB Port Connection Header

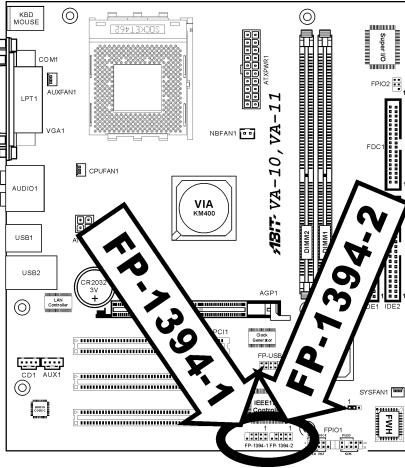
This header provides 2 additional USB 2.0 ports connection through an USB cable designed for USB 2.0 specifications.



| <p>FP-USB1</p> | | Pin | Pin Assignment | Pin | Pin Assignment |
|----------------|--|-----|----------------|-----|----------------|
| | | 1 | VCC | 2 | VCC |
| | | 3 | Data0 - | 4 | Data1 - |
| | | 5 | Data0 + | 6 | Data1 + |
| | | 7 | Ground | 8 | Ground |
| | | 9 | NC | 10 | NC |

2.5.8. Additional IEEE1394 Port Headers

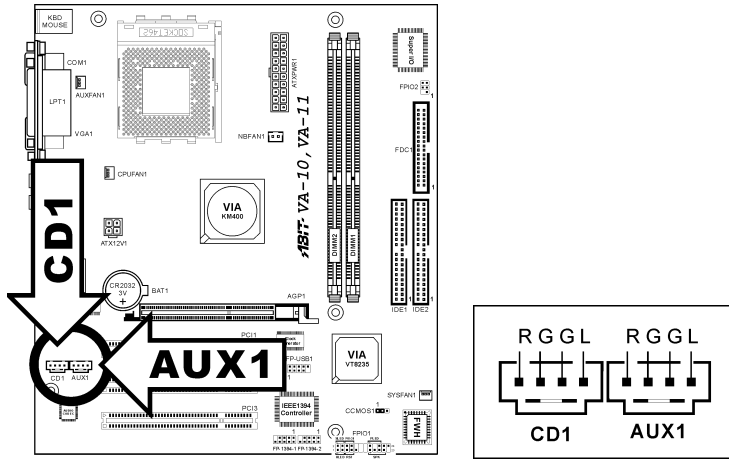
These headers each provide one additional IEEE1394 port connection through an extension cable and bracket.



| | | Pin | Pin Assignment | Pin | Pin Assignment | | |
|------------------|---|-----|----------------|-----|----------------|---|--------|
| 7 | 5 | 3 | 1 | 1 | TPA0 + | 2 | TPA0 - |
| 10 | 8 | 6 | 4 | 3 | GND | 4 | GND |
| FP-1394-1 | | 5 | TPB0 + | 6 | TPB0 - | | |
| FP-1394-2 | | 7 | +12V | 8 | +12V | | |
| | | 9 | NC | 10 | GND | | |

2.5.9. Internal Audio Source Connectors

These connectors connect to the audio output of internal CD-ROM drive or add-on card.

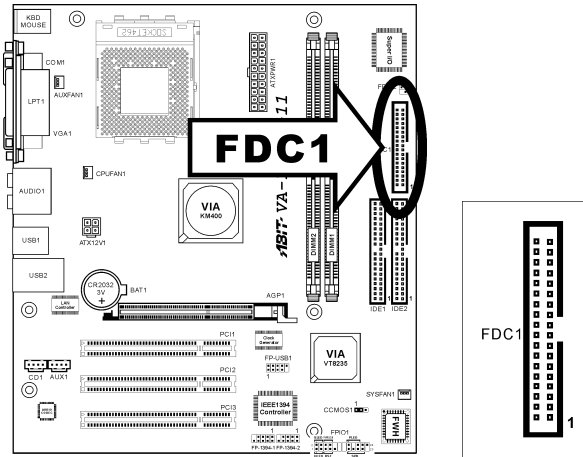


2.5.10. Floppy Disk Drive Connector

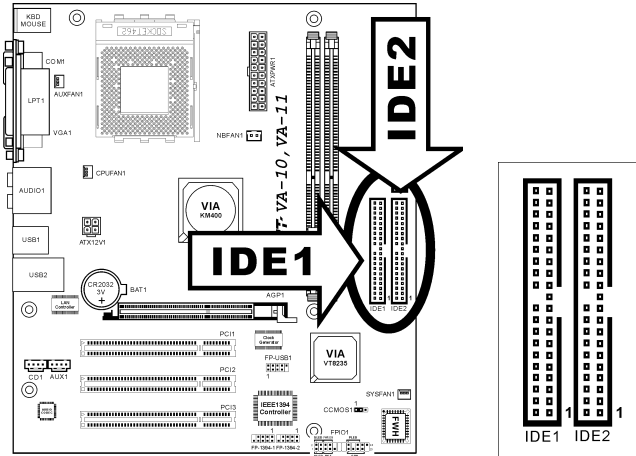
This connector supports two standard floppy disk drives via a 34-pin 34-conductor ribbon cable.

Connecting the Floppy Disk Drive Cable:

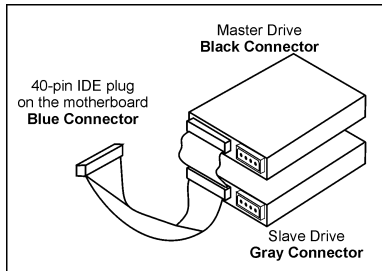
1. Install one end of the ribbon cable into the FDC1 connector. The colored edge of the ribbon cable should be aligned with pin-1 of FDC1 connector.
2. Install the other end(s) of ribbon cable into the disk drive connector(s). The colored edge of the ribbon cable should be also aligned with pin-1 of disk drive connector. The endmost connector should be attached to the drive designated as Drive A.



2.5.11. IDE Disk Drive Connectors

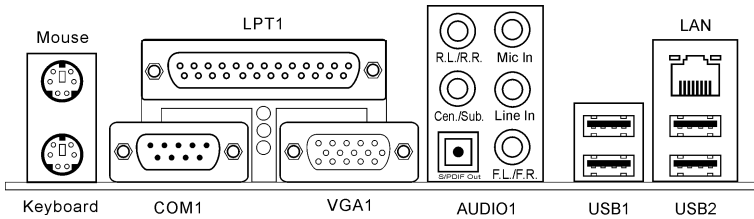


These IDE ports each connects up to two IDE drives at Ultra ATA/100 mode by one 40-pin, 80-conductor, and 3-connector Ultra ATA/66 ribbon cables. Connect the single end (blue connector) at the longer length of ribbon cable to the IDE port on system board, and the other two ends (gray and black connector)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

2.5.12. External I/O Panel



- **Mouse:** Connects to PS/2 mouse.
- **Keyboard:** Connects to PS/2 keyboard.
- **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:** Connects to monitor input.
- **AUDIO1:**
 - R.L./R.R. (Rear Left / Rear Right):** Connects to the rear left and rear right channel in the 5.1 channel audio system.
 - Cen./Sub. (Center / Subwoofer):** Connects to the center and subwoofer channel in the 5.1 channel audio system.
 - S/PDIF Out:** This connector provides an S/PDIF out connection through optical fiber to digital multimedia devices.
 - Mic In:** Connects to the plug from external microphone.
 - Line In:** Connects to the line out from external audio sources.
 - F.L./F.R. (Front Left / Front Right):** Connects to the front left and front right channel in the 5.1-channel or regular 2-channel audio system.
- **LAN:** Connects to Local Area Network.
- **USB1/USB2:** Connects to USB devices such as scanner, digital speakers, monitor, mouse, keyboard, hub, digital camera, joystick etc.

Chapter 3. BIOS Setup

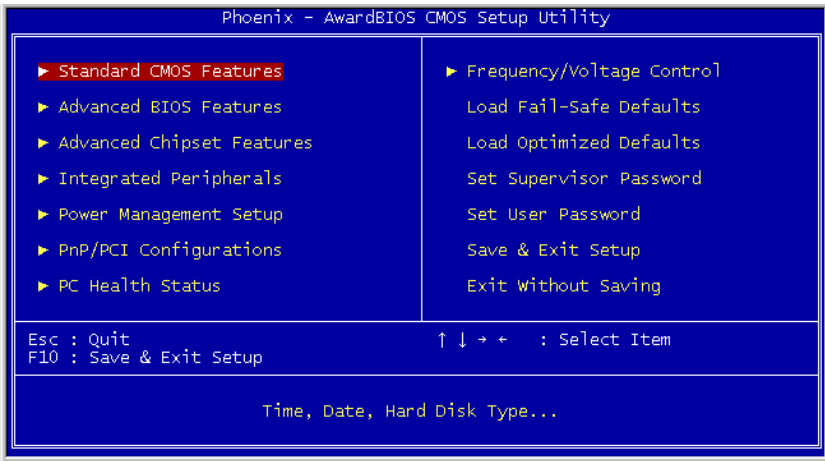
This motherboard provides a programmable EEPROM that you can update the BIOS utility. The BIOS (Basic Input/Output System) is a program that deals with the basic level of communication between processor and peripherals. Use the BIOS Setup program only when installing motherboard, reconfiguring system,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

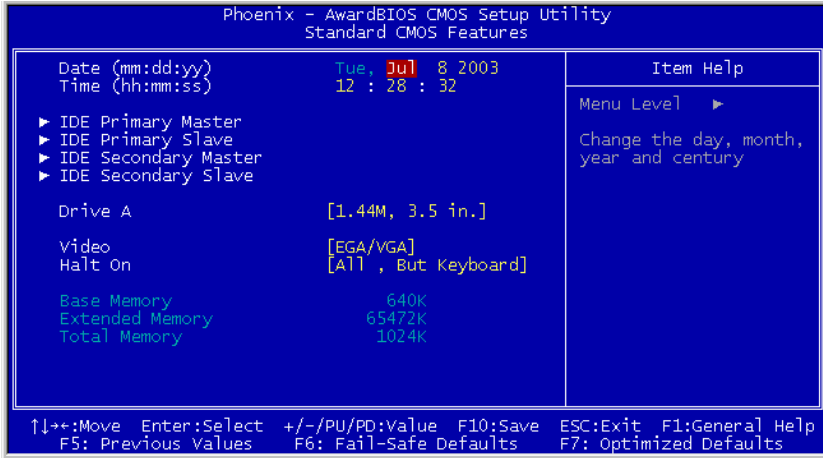
If this message disappears before you respond, restart the system by pressing <Ctrl> + <Alt> + keys, or by pressing the Reset button on computer chassis. Only when it failed by these two methods can you restart the system by powering it off and then back on.

After pressing key, the main menu screen appears.



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.

3.1. Standard CMOS Features



Date (mm:dd:yy)

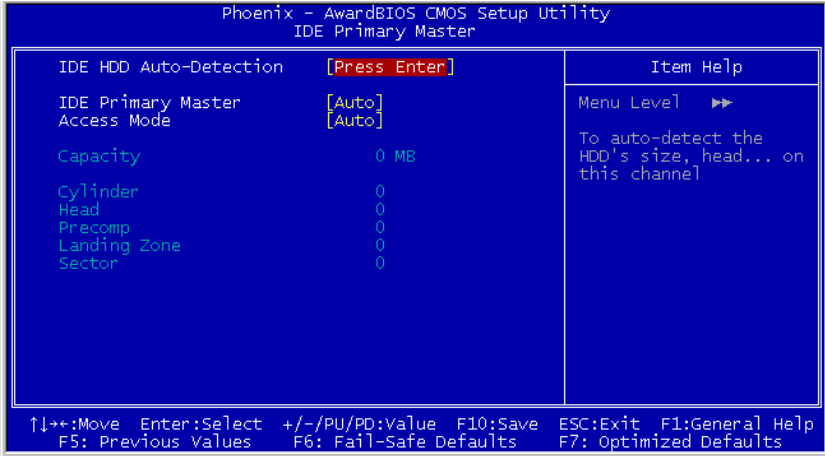
This item sets the date you specify (usually the current date) in the format of [Month], [Date], and [Year].

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/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 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 detect the access mode of your HDD and make 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.

Drive A

This item sets the type of floppy drives installed.

[None]: No floppy drive installed

[360K, 5.25 in.]: 5.25-inch standard drive; 360KB capacity

[1.2M, 5.25 in.]: 5.25-inch AT-type high-density drive; 1.2MB capacity

[720K, 3.5 in.]: 3.5-inch double-sided drive; 720KB capacity

[1.44M, 3.5 in.]: 3.5-inch double-sided drive; 1.44MB capacity

[2.88M, 3.5 in.]: 3.5-inch double-sided drive; 2.88MB capacity

Video

This item selects the type of video adapter used for the primary system monitor.

[EGA/VGA]: (Enhanced Graphics Adapter/Video Graphics Array) For EGA, VGA, SVGA and PGA monitor adapters.

[CGA 40]: (Color Graphics Adapter) Power up in 40-column mode.

[CGA 80]: (Color Graphics Adapter) Power up in 80-column mode.

[Mono]: (Monochrome adapter) Includes high-resolution monochrome adapters.

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.

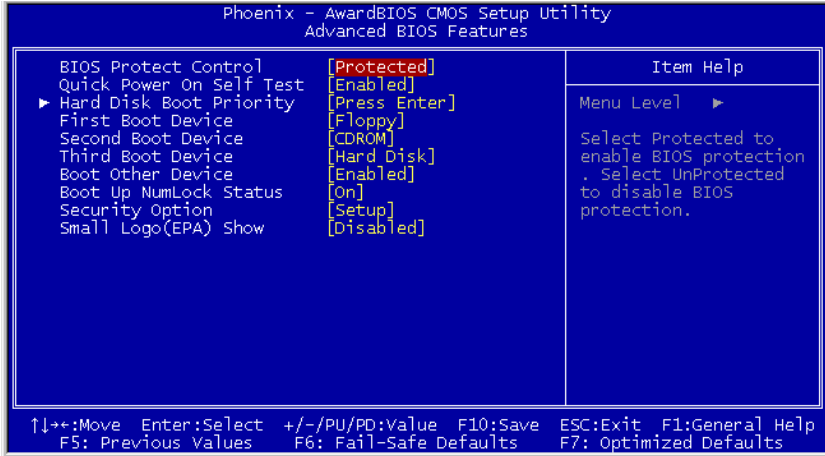
Extended Memory

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 BIOS Features



BIOS Protect Control

This option protects for accidentally BIOS writing attempt.

NOTE: Make sure to set this item to “Unprotected” when flashing the BIOS.

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

This item selects 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.

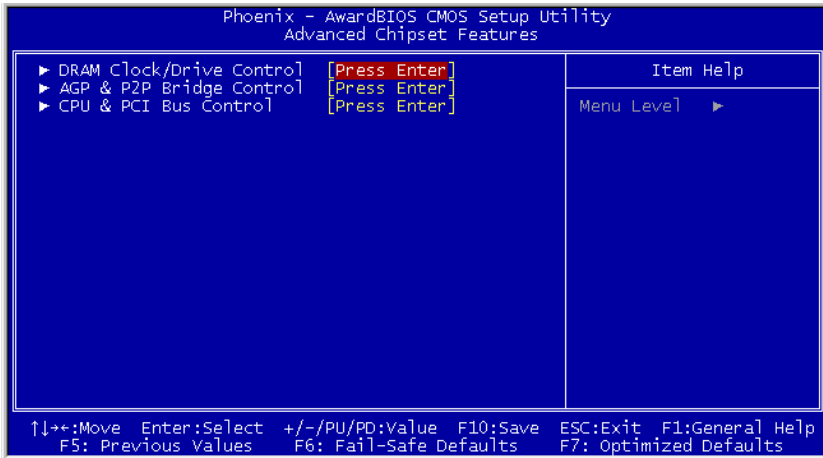
[System]: The password is required each time the computer boots up.

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.

Small Logo(EPA) Show

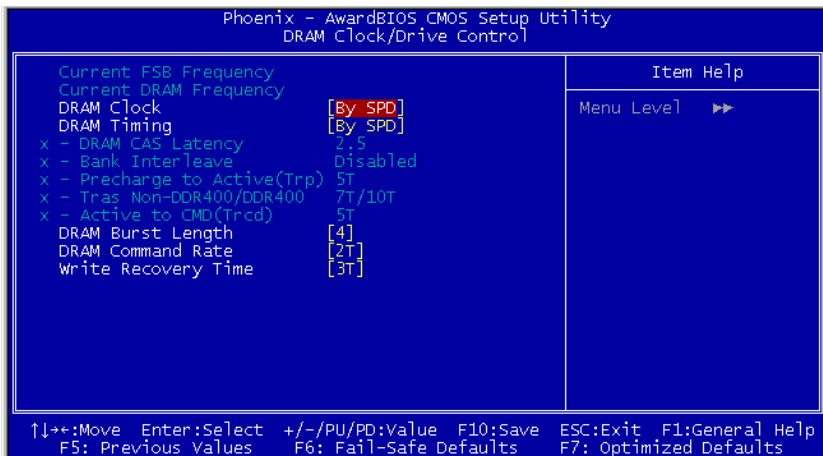
This item determines to show the EPA logo when booting.

3.3. Advanced Chipset Features



↩ DRAM Clock/Drive Control:

Click <Enter> key to enter its submenu:



Current FSB Frequency:

This item displays the current FSB (Front Side Bus) speed.

Current DRAM Frequency:

This item displays the current DRAM bus speed.

DRAM Clock:

This item selects the DRAM running speed, but if your DRAM modules do not support the speed you set, the system may be unstable or even unable to boot up!

When set to [By SPD], the BIOS will read the SPD data from DRAM modules and automatically set the DRAM running speed accordingly.

This item will be unchangeable if the CPU is operating at 333MHz FSB.

DRAM Timing:

When set to [By SPD], the BIOS will read the SPD data from DRAM modules and automatically set the DRAM timing accordingly.

When set to [Manual], the following items will be available to make adjustments.

✧ **DRAM CAS Latency:**

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

✧ **Bank Interleave:**

The options are [Disabled], [2 Bank], and [4 Bank].

✧ **Precharge to Active (Trp):**

The options are: [2T], [3T], [4T], and [5T].

✧ **Tras Non-DDR400/DDR400:**

The options are [6T/8T], [7T/10T], [5T/6T] and [8T/12T].

✧ **Active to CMD (Tcred):**

The options are: [2T], [3T], [4T], and [5T].

DRAM Burst Length:

The options are [4], and [8].

DRAM Command Rate:

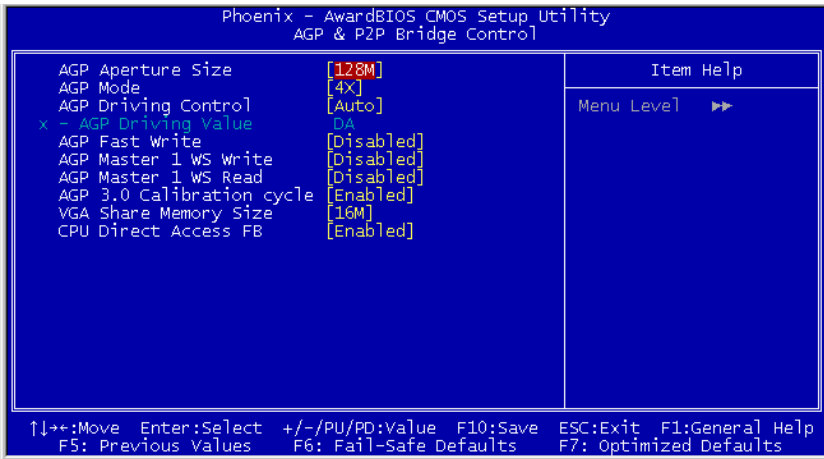
The options are [2T], and [1T].

Write Recovery time:

The options are [2T] and [3T].

AGP & P2P Bridge Control:

Click <Enter> key to enter its submenu:

**AGP Aperture Size**

This option specifies the amount of system memory that can be used by the AGP device. The aperture is a portion of the PCI memory address range dedicated for graphics memory address space.

AGP Mode

This item selects the data transfer rate of AGP device. A higher rate delivers faster and better graphics to your system. Make sure your graphics card supports the mode you select.

AGP Driving Control

Leave this item to its default setting. Set this item to [Manual] only if there are compatibility problems with some AGP cards.

* **AGP Driving Value**

This item selects a value for the AGP Driving control. Leave this item to its default setting.

AGP Fast Write:

Select [Enabled] to support the AGP Fast Write function if your AGP card supports this function.

AGP Master 1 WS Write:

This item implements a single delay when writing to the AGP Bus. When set to [Enabled], two-wait states are used by the system, allowing for greater stability.

AGP Master 1 WS Read:

This item implements a single delay when reading to the AGP Bus. When set to [Enabled], two-wait states are used by the system, allowing for greater stability.

AGP 3.0 Calibration cycle

Leave this item to its default [Enabled] setting to support AGP 3.0 calibration cycle operations.

VGA Share Memory Size

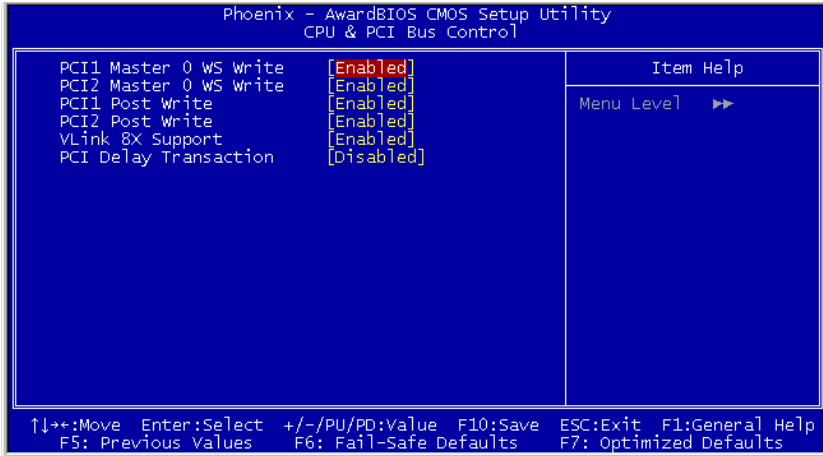
This item selects the amount of main memory that is pre-allocated to support the Internal Graphics device.

CPU Direct Access FB

Leave this item to its default [Enabled] setting to allow the CPU to access direct frame buffer for integrated AGP. This will help in increasing performance.

☞ CPU & PCI Bus Control:

Click <Enter> key to enter its submenu:



PCI1 Master 0 WS Write / PCI2 Master 0 WS Write:

When set to [Enabled], writes to the PCI1 or PCI2 bus are executed with zero wait state (immediately) when PCI bus is ready to receive data. If it is set to [Disabled], the system will wait one state before data is written to the PCI bus.

PCI1 Post Write / PCI2 Post Write:

The options are [Enabled] and [Disabled].

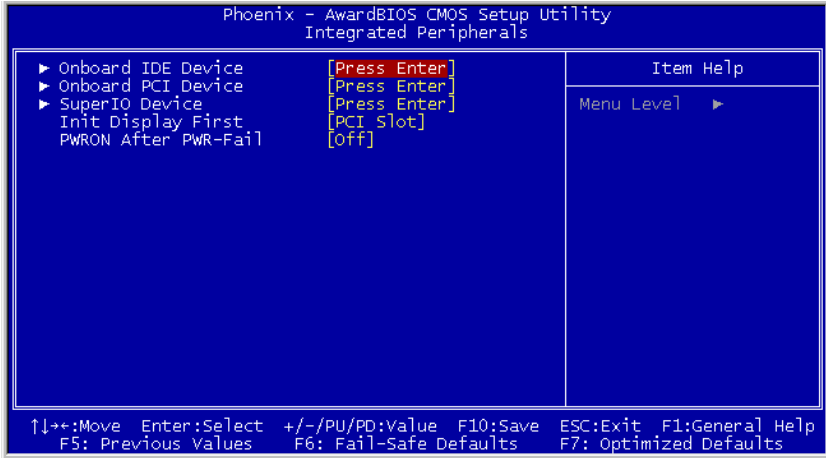
Vlink 8X Support:

This item enables the VLink 8X transfer speed between North Bridge and South Bridge.

PCI Delay Transaction:

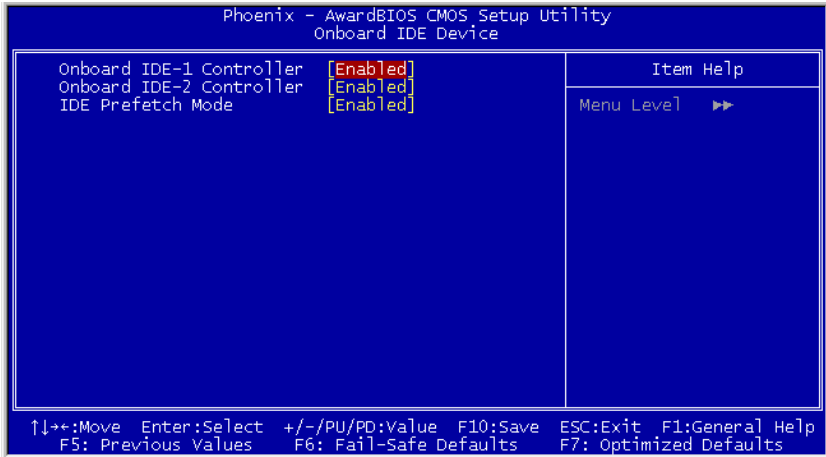
Leave this item to its default [Disabled] setting to support compliance with PCI specification version 2.2.

3.4. Integrated Peripherals



↩ Onboard IDE Device:

Click <Enter> key to enter its submenu:



Onboard IDE-1 Controller

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

Onboard IDE-2 Controller

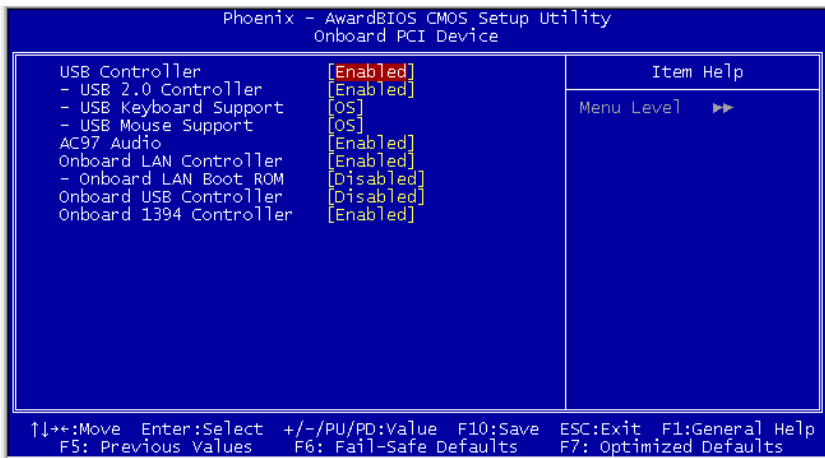
This item enables or disables the onboard IDE-2 controller.

IDE Prefetch Mode:

This item allows data and addresses to be stored in the internal buffer of the chip to reduce access time. Leave this item to its default [Enabled] setting to achieve better performance.

☞ Onboard PCI Device:

Click <Enter> key to enter its submenu:

**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**

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.

AC97 Audio

When set to [Enabled], the onboard audio codec will be detected and supported. IF you want to use audio adapter other than the one onboard, set this item to [Disabled]

Onboard LAN Device

This item enables or disables the onboard LAN controller.

*** Onboard LAN Boot ROM**

When set to [Enabled], this item allows the system to boot from network by the onboard LAN controller boot ROM.

Onboard USB Controller

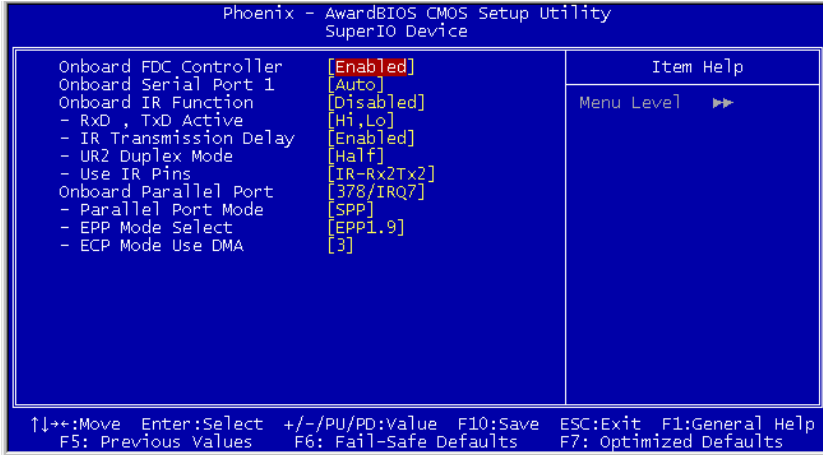
This option enables or disables the onboard USB controller.

Onboard 1394 Controller

This item enables or disables the onboard IEEE 1394 controller.

☞ SuperIO Device:

Click <Enter> key to enter its submenu:



Onboard FDC Controller

This item enables or disables the onboard FDC controller.

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 IR Function

This item selects the Infrared (IR) function mode.

* **RxD, TxD Active:**

This item sets the IR transmission/reception polarity.

*** IR Transmission Delay:**

This option enables or disables the IR transmission delay. When set to [Enabled], the transmission will be slower. This is recommended when transmission problem arise.

*** UR2 Duplex Mode:**

This item selects the duplex mode required by the IR device connected to the IR port. Full-duplex mode permits simultaneous two-direction transmission. Half-duplex mode permits transmission in one direction only at a time. Refer to your IR KIT user's guide to find out which setting is correct.

*** Use IR Pins**

Leave this item to its default [IR-Rx2Tx2] setting to use the IR header on your motherboard to connect your IR kit. Select [Rx/D2] or [Tx/D2] only if your motherboard supports a COM port IR kit connection.

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/IRQ7]: This option allows the parallel port to use [378/IRQ7] 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/IRQ5]: This option allows the parallel port to use [278/IRQ5] as its I/O port address.

[3BC/IRQ7]: This option allows the parallel port to use [3BC/IRQ7] 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.

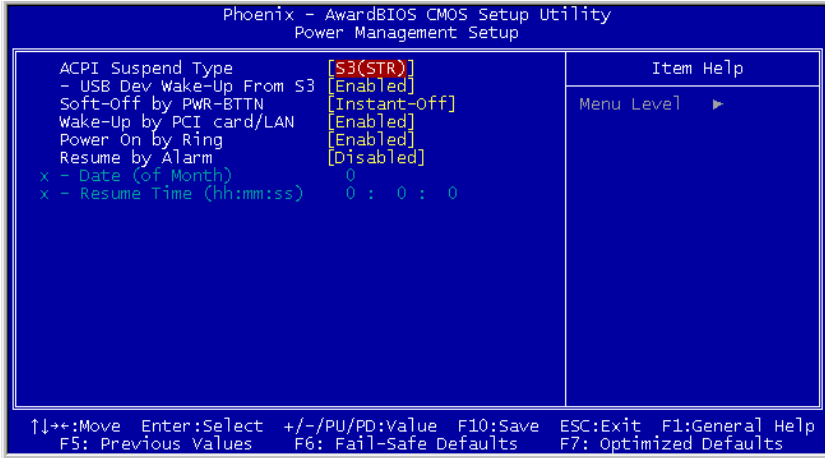
Init Display First

This item selects to initialize Onboard\AGP or PCI Slot first when the system boots.

PWRON After PWR-Fail

This item sets the system action after a power failure.

3.5. Power Management Setup



ACPI Suspend Type

This item selects the type of Suspend mode.

[S1(POS)]: Enables the Power On Suspend function.

[S3(STR)]: Enables the Suspend to RAM function.

USB Dev Wake-Up From S3

When set to [Enabled], this item allows you to use a USB device to wake up a system that is in the S3 (STR - Suspend To RAM) state. This item can only be configured if the [ACPI Suspend Type] field is set to [S3(STR)].

Soft-Off by PWR-BTTN

This item selects the method of powering off your system:

[Hold 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.

Wake-Up by PCI card/LAN

When set to [Enabled], access to the onboard LAN or a PCI card such as a modem or LAN card will cause the system to wake up. The PCI card must support the wake up function.

Power On by Ring

Two options are available: Enabled and Disabled. Default setting is *Enabled*. If you connect an external modem to the onboard serial port, the system will be turned on when a telephone ring-up occurs.

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)**

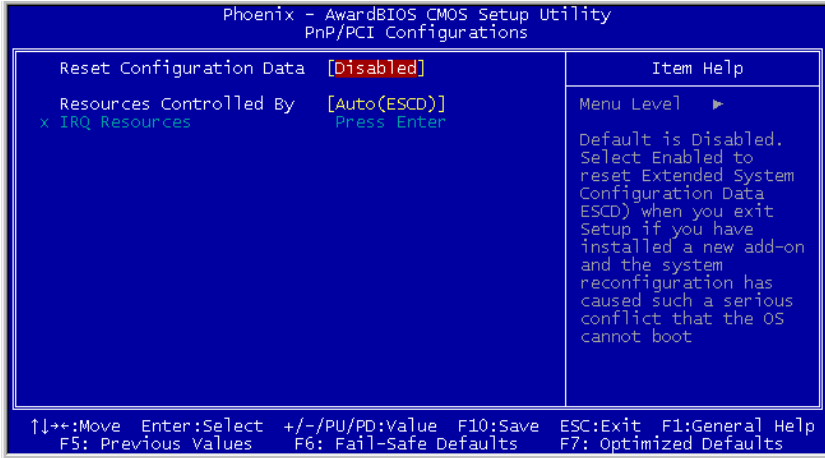
[0]: This option power-on the system everyday according to the time set in the “Time (hh:mm:ss) Alarm” item.

[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.

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

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

3.6. PnP/PCI Configurations



Reset Configuration Data

When set to [Enabled], the BIOS will reset the ESCD (Extended System Configuration Data) once automatically next time you boot up. It will then recreate a new set of configuration data. But the next time you boot up, this option will automatically be set as Disabled.

Resources Controlled By

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

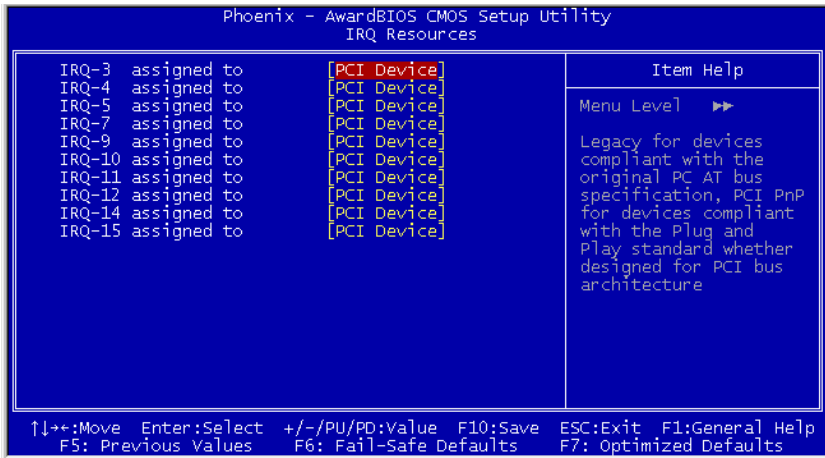
[Auto(ESCD)]: The system will automatically detect the settings.

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

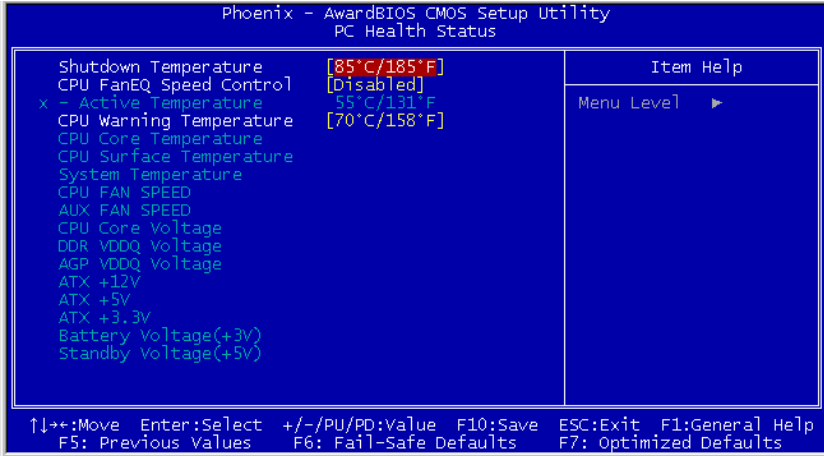
↩ IRQ Resources:

Click <Enter> key to enter its submenu:

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



3.7. PC Health Status



Shutdown Temperature

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

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.

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.

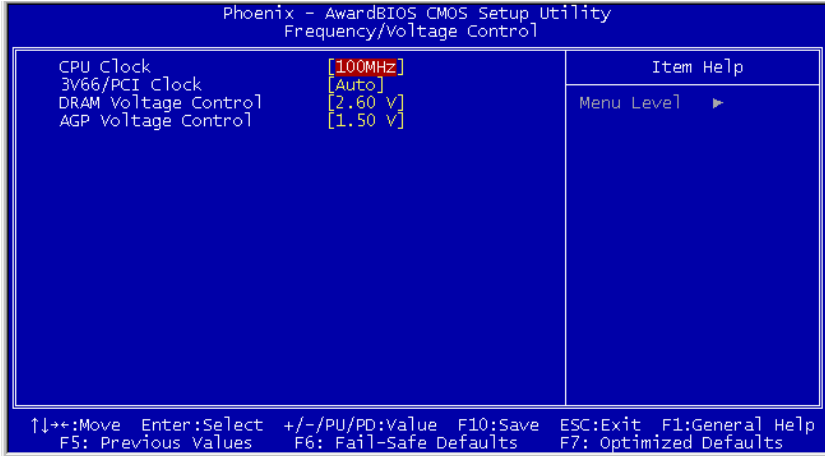
NOTE: The onboard hardware monitor function is capable of detecting these system health conditions. If you want a warning message to pop-up or a warning alarm to sound when an abnormal condition occurs, you must install the “Hardware Doctor” utility. This utility is included in the “Driver & Utility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

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.

3.8. Frequency/Voltage Control



CPU Clock

This item selects the external clock frequency for your CPU. The external clock frequency above the CPU's standard is supported but not guaranteed due to its specifications limit.

3V66/PCI Clock

This item determines the AGP/PCI bus frequency. This option allows you to keep your AGP/PCI clock at some fixed frequency to improve system stability.

DRAM Voltage Control

This item manually selects higher voltage supplied to the DRAM.

NOTE: A higher voltage might cause system damage. Please proceed with care.

AGP Voltage Control

This item manually selects higher voltage supplied to the AGP.

NOTE: A higher voltage might cause system damage. Please proceed with care.

3.9. Load Fail-Safe Defaults

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

3.10. Load Optimized Defaults

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

3.11. 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.

3.12. 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).

3.13. Save & Exit Setup

This option saves your selections and exits the setup menu.

3.14. 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

- **VIA 4in1 Driver**
Install the VIA 4-in-1 driver for Windows Operating System.
- **VIA VGA Driver**
Install the VIA VGA graphic driver for Windows Operating System.
- **Audio Driver**
Install the audio driver for Windows Operating System.
- **LAN Driver**
Install the LAN driver for Windows Operating System.
- **VIA USB 2.0 Driver**
Install the VIA USB 2.0 driver for Windows Operating System.
- **Manual**
View the user's manual in PDF file.
- **Utility**
Click to enter the sub-screen for installing software like Acrobat Reader, Award Flash, DirectX, and LoFormat utility.
- **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.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 | <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:

