# USER' S MANUAL

# BOOK PC 3000 SERIES

(B64 M.B.)

48200470

**BOOK PC 3000 User' s Manual**

This Manual was written for installation purposes. It is to provide the information about the Book PC 3000 series with B64 all-in-one motherboard for users.

1.Bookmarks

The words and phrases showing on the left side of this screen are the bookmarks (subject of an operation) covering all topics in this manual.

2.Choosing a topic

Select and find any desired topic by using the scroll bar next to the bookmarks. Click a bookmark to jump instantly to its topic that you wish to read. (If you wish, you can also increase the size of the bookmark area by dragging the dividing bar to the right.)

3.Magnifying the Page display

Select and use the Zoom tools to magnify or reduce the page display.

4.Finding a term

Click the Find button if you want to search for a particular term. (However, using the bookmarks is usually quicker.)

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November 2001, V1.0
Part No. 48200470

## FEDERAL COMMUNICATIONS COMMISSION NOTICE

This equipment has been tested and found to comply with the limits for a Class A computing device, pursuant to Subpart B of Part 15 of FCC Rules. Only peripherals (computer input/output devices, monitors, printers, etc.) certified to comply with the Class A limits may be attached to this computer. Operation with non-certified peripherals is likely to result in interference to radio and TV reception.

NOTICE: This equipment generates and uses radio frequency energy and if not installed and used properly, that is, in strict accordance with this user's manual, may cause interference to radio and television reception. It has been type tested and found to comply with the limits for a Class A computing device, pursuant to Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference in a residential installation. However there is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment on and off, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient the receiving antenna
- Relocate the computer with respect to the receiver
- Move the computer away from the receiver
- Plug the computer into a different outlet so that computer and receiver are on different branch circuits.

If necessary, the user should consult the supplier or an experienced radio/television technician for additional suggestions.

The user may find the following booklet prepared by the Federal Communications Commission helpful :

"How to identify and Resolve Radio-TV Interference Problems". This book is available from the US Government Printing Office, Washington, D.C. 20402

## CE

☞ **WARNING:**

This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

## BATTERY REPLACEMENT

☞ WARNING:

Your computer is provided with a battery-powered Real-Time Clock circuit. There is a danger of explosion and risk of personal injury if the battery is incorrectly replaced or mistreated. Do not attempt to disassemble the battery, immerse it in water or dispose of it in fire.

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# Chapter 1. Precaution

This section is written to protect both user and the system. In order to lengthen the service life of the system, please read this section carefully.

## 1.1 Check the Line Voltage

The operating voltage for the 3000 series (B64) use an internal micro ATX power supply FT-8015 should cover the range of 115V / 230V AC, otherwise the system may be damaged.

| Rating | Line Voltage | Frequency |
|---|---|---|
| 115 / 230V AC | 90~132 / 180 ~ 264V AC | 47/63 Hz |

△ Caution:

The power supply use a voltage selector switch to select AC input voltage of 115V or 230V. The switch will be set to the customer required voltage position before being shipped.

## 1.2 Environmental Conditions

Place your 3000 series on a solid, level surface. Be sure to allow enough space on each side so that you can have an easy access.

Avoid installing this system in an extremely hot or cold environment. Avoid putting this system in a place exposed to direct sunlight, in a closed car in the summer time, or near a heating device such as a stove.

Temperature: Operating Temperature: 5 °C ~ 35 °C.
Storage Temperature: -10 °C ~ 60 °C.

Do not use the system that has been left outdoors on a cold winter day.

The operating lowest ambient temperature is 5 °C.
Avoid moving the system rapidly from a hot place to a cold place or vice versa. Otherwise, condensation may be caused form inside the system.

Keep the system away from damp air, water and dust. The operating ambient humidity is 20 ~ 80% (non - condensing). The Non - operating Relative Humidity is 20% ~ 80% (non-condensing). Avoid putting a water-filled container such as a vase on or near the system.

Do not put the system in a place of strong vibration which may cause serious damage to the hard disk inside the system( if a hard disk is installed inside).

Do not place the system too close to a radio, television, or other communication systems to avoid interference.

### 1.3. Handle the System Carefully

Do not put heavy objects on the system except a small light monitor.

Do not turn the system upside down. Otherwise, the disk drive may not work properly.

When transport the system outdoors, it is always advisable to protect it from damage by inserting a protective diskette into the disk drive.

When the system is not in use, remember to cover the system and store it with care.

When the system is not in use, remember to cover the system and store it with care.

When Operation is faulty, double check the operation procedure, if the problem persists, contact your supplier.

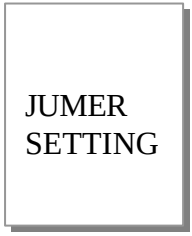
# Chapter 2. Getting Started

This chapter explains how to set up your new Book PC. It helps you unpack the computer, identify all the parts, and put it all together.

## 2.1. Unpacking the package

Upon unpacking the 3000 series (B64) system, make sure that you have the following items in good condition:

- Accessory Bag




- 3000 Series System Unit

- AC Power Cord


- CD Driver Bank

If any of the above items are damaged or missing, please contact your supplier immediately.

After you have removed all items, put the packing material and plastic wraps into the packing box and move it to a storage area. Save them for use when moving or shipping the computer.

## 2.2. Introduction

The main board used in the 3000 series Book PC is an B64 all-in-one motherboard which contains CPU, RAM, ROM BIOS, floppy disk drive controller, IDE hard disk controller, VGA chip, etc. The Dimension for Book PC 3000 series is 300 (W) x320 (L) x90(H)mm.

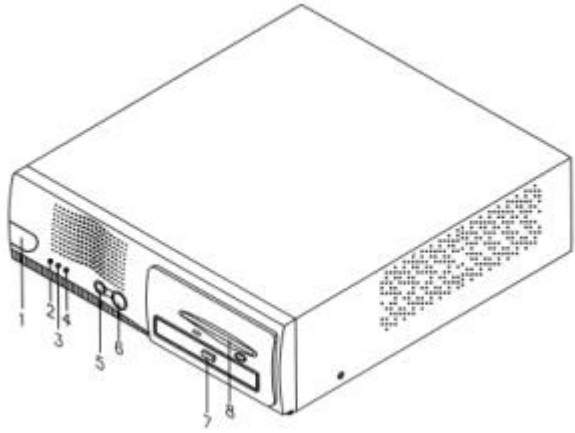
- Outside the System Unit

The system unit is the main body of a PC system. Its equipment and structures define almost all of the features & functions of the PC system. It is a box-like structure with a metal casing enclosing all its electronic components.

The outside of the system unit has LED indicating lights and input /output connectors on it. The casing is made of metal so as to help with heat dissipation to assure the proper function of the inside components.

## 2.3. Book PC 3000 Series Outlooking

### 2.3.1. The Front View




1. IR Port (option)
This infrared port complies with IrDA 1.0, IrDA 1.1 (SIR), and ASK Standards which allow you to use wirelessly communication peripherals such as a keyboard or mouse that comply with the standards Floppy Disk Drive

2. Power indicator
When this green LED is lit, it indicates that system power is on.
When the LED is blinking, it indicates in suspend mode.

3.Hard Disk Drive Access LED
This glows when the computer is accessing the hard disk

4.LAN LED indicator
When lit this green LED indicates that the system is currently online or connected to the Network.

5.Reset button
Press this button to reset your computer

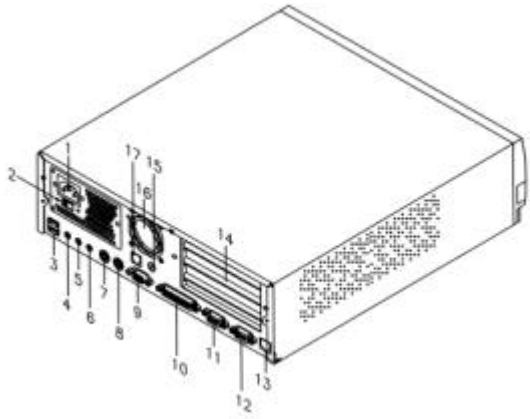
6.Power /Suspend button

- When the computer is in soft-off mode, pressing this button turns on the computer power.
- When the computer power is fully on, pressing this button briskly (less than 4 seconds) puts the system into Suspend mode and pressing it briskly again ends Suspend mode.
- When the computer power is on, pressing this button for more than 4 seconds turns the computer power OFF (soft-off).

7.Slim CD-ROM Drive
This is the CD-ROM drive of your computer, often configured as drive D. The indicator on the drive glows when the system is accessing the CD-ROM drive.

8.Floppy disk drive
This is the 3.5-inch floppy disk drive (FDD) of your computer, refereed to as driver A. The indicator on the FDD glows when the system is accessing the floppy disk drive.

2.3.2. The Back View




1. Power Connector
This is for connection the AC power cord

2. AC Input Selection
This is switch for selection 115 / 230V AC voltage.

3.USB Port
The Universal Serial Bus Port is for connecting the USB devices.

4. Microphone Connector
This can be connected to an external microphone

5. Line-In Connector (Audio Input Connector )
This can be connected to the line-out connector of any Hi-Fi set, radio set, CD player, synthesizer, walkman, etc.

6. Line-Out Connector (Audio Output Connector )
This can be connected to a set of headphones, external speakers with amplifier or an audio recording device.

7.PS2 Keyboard Port
This 6-pin mini-Din port is for connecting a PS2 keyboard.

8. PS2 Mouse Port
This 6-pin mini-Din port is for connecting a PS2 mouse.

9. VGA Port
This 15-pin analog port is for connecting a display monitor

10. Parallel Port
This 25-pin port is for connecting a parallel port device such as parallel printer.

11.Serial Port (COM2)
This 9-pin port is for connecting a serial device.

12. Serial Port (COM1)
This 9-pin port is for connecting a serial device.

13. RJ-45 LAN Connector (option)
This is for plugging the LAN cable into the connector.

14. Expansion slots
Behind this cover are three (3) expansion slots for installing expansion cards.

15.TV Composite Port (option)
This port is for connecting to the AV terminal of TV

16. System Cooling Fan (option)
This is a 50mm x 50mm x 15 (height)mm DC fan built-in system.

17.Modem Port (option)
This is a RJ11 phone jack for connecting a internal modem.

## 2.4 Setup Book PC 3000 Series

Setup the Book PC 3000 Series according to the following steps as listed below. If you don't use the specified options, skip that step.

| Step |
|---|
| 2.4.1 Removing a Case |
| 2.4.2 Setting the Jumpers and DIP Switches |
| 2.4.3 Installing a CPU |
| 2.4.4 Installing DIMMs |
| 2.4.5 Installing a HDD/FDD/CD-ROM Drive |
| 2.4.6 Installing a ISA/PCI Board |
| 2.4.7 Installing Other Peripherals |
| 2.4.7.1. Installing a Game Cable |
| 2.4.7.2. Installing a Modem Daughter Card |
| 2.4.7.3. Installing a TV Function |

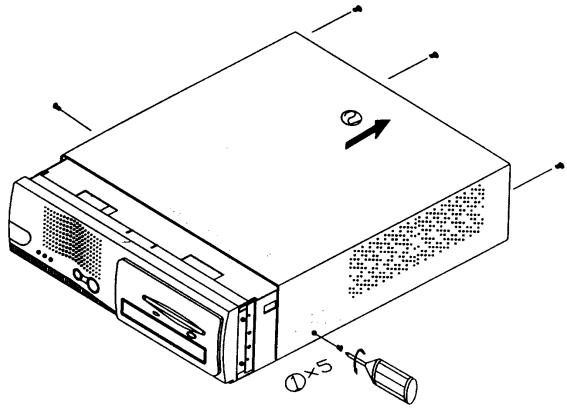
△ Caution :

Whenever you connect or disconnect any component, be sure that your computer turned off and that your computer is disconnected from its power sources. Plugging or unplugging any item when the computer is receiving power can cause power surges and damage your computer.

### 2.4.1 Removing the System Case

Before installing any component, you would have to remove the case of the system unit. The procedures are illustrated below:

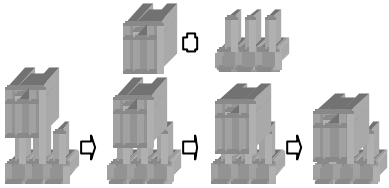
1.Use a screw driver to remove the two screws on both sides of the system unit and three screws on the rear panel side of the system unit.
2. Slide off the system casing. ( See below figure )




When finish disassembly, reverse the steps. to secure the support chassis to main system and slid back the system case.

### 2.4.2 Setting Jumpers and DIP Switches

There are jumpers and DIP switches on the board of Book PC 3000. You can set them to control how the system operates.



For three-pin jumpers, the jumper setting is 1-2 when the jumper connects pins 1 and 2. The setting is 2-3 when pins 2 and 3 are connected. You see a 1 and a 3 printed on the circuit board to identify these pins. Also, one of the lines surrounding jumpers is thick, which indicates pin NO.1.

To move a jumper from one position to another, use needle-nose pliers or tweezers to pull it off the pins and move it to the desired position.

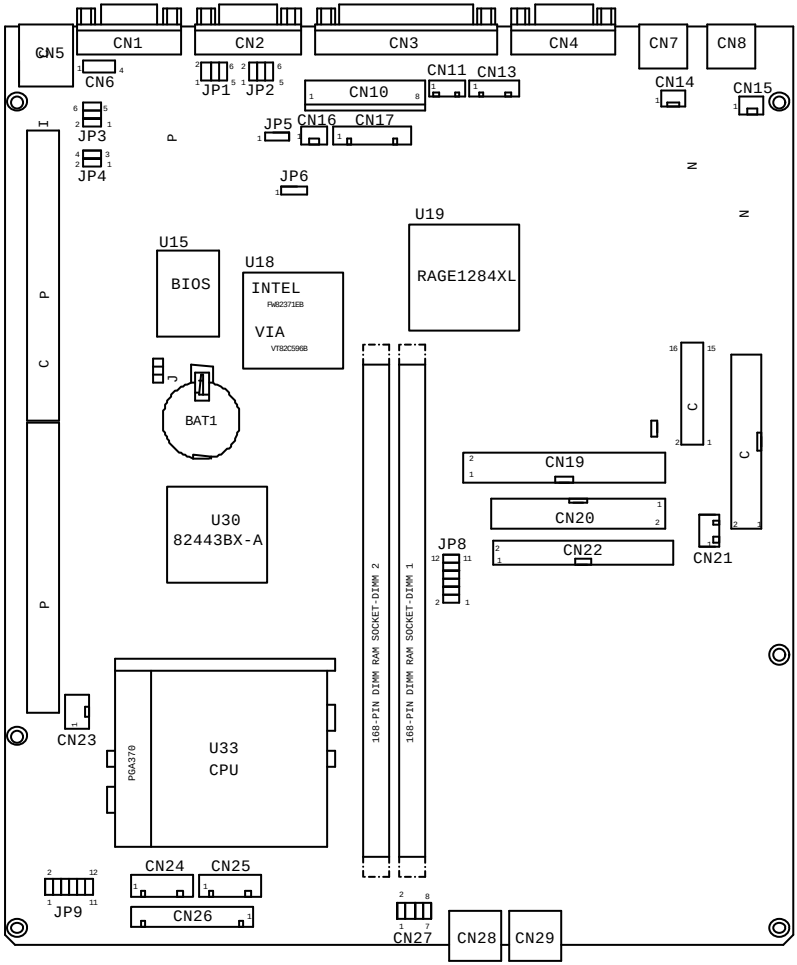
△ Caution

Be careful not to bend the jumper pins or damage any components on the board.

Do not change settings for jumpers and DIP switches not covered in this manual.

- Jumpers and DIP Switches Locations

  The figure below shows the location of jumpers and the DIP switches on the Book PC 3000 main board - B64 version 1.x.




* Jumper and Connector (Black area indicates pin 1).

● Table for Jumper Location Description:

Use the information in the following table to change the jumpers and the DIP switches.

| Jumpers | Functions |
|---|---|
| JP3, JP4 | M-System DiskOnChip |
| JP5,JP6 | AT/ATX Power Mode |
| JP7 | CMOS Operation Mode |
| JP8, | CPU Frequency Selection |
| U20,U23,U26,U28 | 8MB VGA RAM Configuration |
| U16,U22,,U25,U27 | 32MB VGA RAM Configuration |
| DIMM1,DIMM2 | System RAM Configuration |
| JP1,JP2 | COM port pin1, power selection |

• .M-System DiskOnChip: JP3, JP4

| Address | JP 3 | JP 4 |
|---|---|---|
| 0C800-0C9FF | 1-2 | 1-2 |
| 0CC00 - 0CDFF | 1-2 | 3-4 |
| 0D000 - 0D1FF | 3-4 | 1-2 |
| 0D400 - 0D5FF | 3-4 | 3-4 |
| 0D800 - 0D9FF | 5-6 | 1-2 |
| 0DC00 - 0DDFF (Default) | 5-6 | 3-4 |

• .ATX / AT Power Mode: JP5, JP6

| Function | JP5 | JP6 |
|---|---|---|
| FT-8065 AT Internal power supply | 1-2 | Close |
| ATX power supply (default) | 2-3 | Open |

• .CMOS Operation Mode: JP7

| Function | JP7 |
|---|---|
| CMOS Normal (Default) | 2-3 |
| CMOS Reset | 1-2 |

• CPU Frequency Selection: JP8

| CPU Clock | PCI Clock | JP8 | | | |
|---|---|---|---|---|---|
| | | FS0 | FS1 | FS2 | FS3 |
| 133 | 33.3(/4) | 1-3 | 7-9 | 2-4 | 8-10 |
| 133 | 44.33( /3) | 3-5 | 7-9 | 2-4 | 10-12 |
| 100.3 | 33.43( /3) | 1-3 | 7-9 | 2-4 | 10-12 |
| 66.8 | 33.4( /2) | 1-3 | 7-9 | 4-6 | 10-12 |
| 83.3 | 41.65( /2) | 3-5 | 7-9 | 4-6 | 10-12 |
| 75 | 37.5( /2) | 1-3 | 9-11 | 4-6 | 10-12 |
| 150 | 37.5(/4) | 1-3 | 9-11 | 2-4 | 8-10 |
| 103 | 34.33( /2) | 3-5 | 9-11 | 2-4 | 10-12 |
| 120 | 40.00 ( /3) | 3-5 | 9-11 | 4-6 | 8-10 |
| 105 | 35( /3 ) | 1-3 | 7-9 | 4-6 | 8-10 |
| 110 | 36.67 (/3) | 3-5 | 7-9 | 4-6 | 8-10 |
| 124 | 41.33( /3) | 3-5 | 9-11 | 4-6 | 10-12 |
| 140 | 35 (/4) | 3-5 | 9-11 | 2-4 | 8-10 |

*Intel Pentium II /III PPGA/FC-PGA CPU will detect jumper automatically

• VGA Memory Configuration

| Capacity | U20 | U23 | U26 | U28 | Video SDRAM Type |
|---|---|---|---|---|---|
| 8MB | Close | Close | Close | Close | 1M*16 TSOP |

| Capacity | U16 | U22 | U25 | U27 | Video SDRAM Type |
|---|---|---|---|---|---|
| 32MB | Close | Close | Close | Close | 4M*16 TSOP |

- System Memory Configuration

| Capacity | DIMM 1 | DIMM 2 |
|---|---|---|
| 16MB | 16MB | None |
| 32MB | 16MB | 16MB |
| 32MB | 32MB | None |
| 32MB | None | 32MB |
| 64MB | 32MB | 32MB |
| 64MB | 64MB | None |
| 64MB | None | 64MB |
| 80MB | 16MB | 64MB |
| 80MB | 64MB | 16MB |
| 128MB | 64MB | 64MB |
| 128MB | 128MB | None |
| 128MB | None | 128MB |
| 256MB | 128MB | 128MB |
| 256MB | 256MB | None |
| 256MB | None | 256MB |
| 512MB | 256MB | 256MB |

### 2.4.3 Installing a CPU

The Book PC 3000 Series (B64) contains a Socket 370, which can accept the following CPU types.

- Intel® PPGA / FC-PGA processor.

Be sure to attach a CPU cooling fan to the CPU included in the package after you install the CPU. It prevents the CPU from overheating.

△ Caution

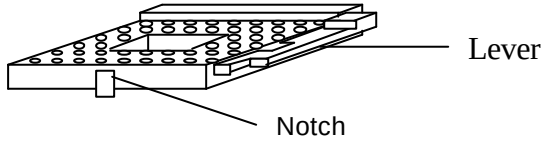
To avoid generating static electricity and damaging the CPU, ground yourself by touching a grounded metal surface before you touch the CPU.

Do not remove the heat dissipation under the CPU cooling fan.
Do not touch the pins of the CPU. Dirt may cause a malfunction.

Follow these steps to install the CPU:

1.Check and confirm that the jumpers are correctly set for the CPU you are going to install.
2.Lift the release lever of the Socket 370.

3.Align the pins of the CPU to the pin holes of the Socket 370. Be sure to pay attention to the orientation of the CPU.




4.Push down the CPU into the Socket 370.

5.Push down the release lever and lock it.

6.Hook the hole in EIF clip for the CPU cooling fan onto the notch on the socket 370.

7. Place the CPU cooling fan atop the CPU surface.

8.Push down the opposite side of the ZIF clip and hook it.

9. Slide the head of the clip to left and lock it.

10. Connect the cooling fan cable to the socket. Be careful not to place the cable on the CPU cooling fan.

Removing a CPU:

△ Caution

Before removing the CPU, turn off the system power; then wait for about 20 minutes until the heat radiation plate of the cooling fan and the CPU cools down.

The CPU and the heat radiation plate are hot. They may cause burns.

To remove the CPU, reverse the installation steps.

### 2.4.4 Installing a DIMM

The main board contains two DIMM sockets. You can insert one DIMM or two DIMMs. However, it is recommended that you use two DIMMs of the same type and same access speed.

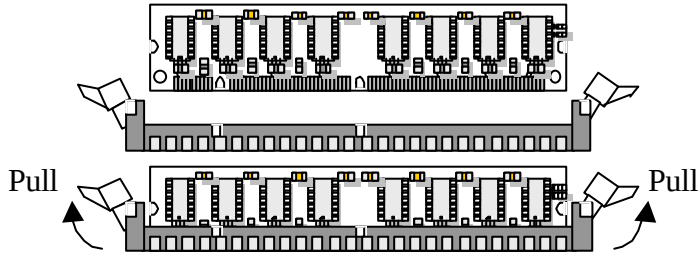
△ Caution

To avoid generating static electricity and damaging the DIMM, ground yourself by touching a grounded metal surface or using a ground scrap before you touch the DIMM.

Do not touch the connector of the DIMM. Dirt may cause a malfunction.

Follow these steps to install the DIMMs:

1. Hold the DIMM with its notch to the front side of the Book PC and insert it completely into the socket. A DIMM should be inserted into the inner socket first. Guiding the hole at each end of the DIMM over the retaining post at each end of the DIMM socket.




2. If you install two DIMMs, install the second DIMM using the same procedure as above.

Note:

If DIMM does not go in smoothly, do not force it. Pull it all the way out and try again.

△ Caution

Make sure the DIMM is properly installed and locked by the tabs on both sides of the socket.

Removing a DIMM:

To remove the DIMM, use your fingers or a small screwdriver to carefully push away the plastic tabs that secure the DIMM at each end. Lift it out of the socket.

### 2.4.5 Installing HDD/FDD /CD-ROM Drive

You can install a 3.5 inches hard disk drive, a 3.5" Floppy disk and a slim type CD-ROM in the Book PC 3000 series (B64) system.

△ Caution

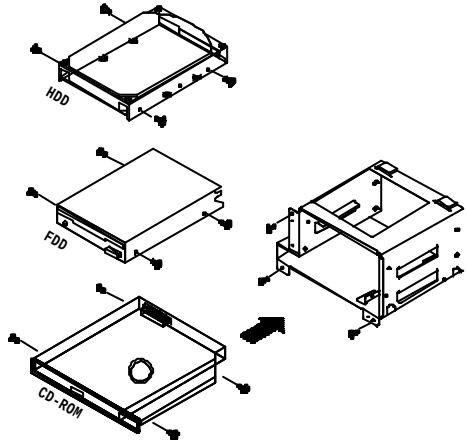
Handle the HDD/FDD/CD-ROM drive gently. Do not bump or drop them. Small shocks or vibrations could damage the drive.

- Follow these steps for the installation.

1.Remove four screws on both sides of Front Panel from the Book PC 3000.

2.Remove HDD/FDD/CD-ROM metal frame by loosen three screws on front side bracket and one screw on right side of system bracket.

3.Fit the hard disk drive, floppy disk drive and CD-ROM into metal frame and secure them with retaining screws.




4.Slide the metal frame with HDD/FDD/CD-ROM back to Book PC 3000. Fix the CD-ROM function board to back side of CD-ROM drive with two screws.

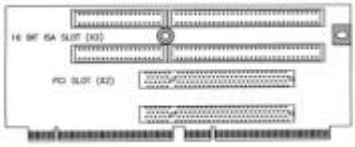
5. Connect the HDD/FDD/CD-ROM flat cable and its corresponding power cable.

Removing a HDD/FDD/CD-ROM drive
To remove the hard disk drive, reverse the installation steps.

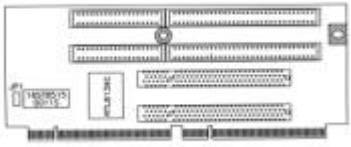
2.4.6 Installing an ISA/PCI Board

The Book PC 3000 supports three expansion slots; one PCI, one ISA/PCI, and one ISA slot. The manufacture provides following three Riser card for selection. .

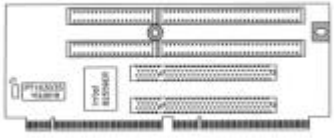
1. Riser Card without LAN: (standard bundled from manufacture )



2. Riser Card with RTL8139 LAN :(option)



3.Riser Card with Intel 82559 LAN: (option)



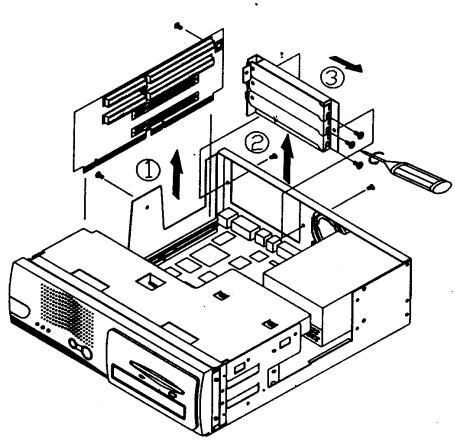
## △ Caution

Before installation, please note the maximum dimension of the interface card to be fixed in the system housing is that : upper ISA – 120x185mm,
lower ISA – 120 x 155mm, upper PCI – 75 x 155mm, lower PCI-75x155mm.

- Follow the steps on how to install an ISA/PCI board.

1. Please remove screws which fixed the expansion slot card on the chassis and lift up the expansion slot card.

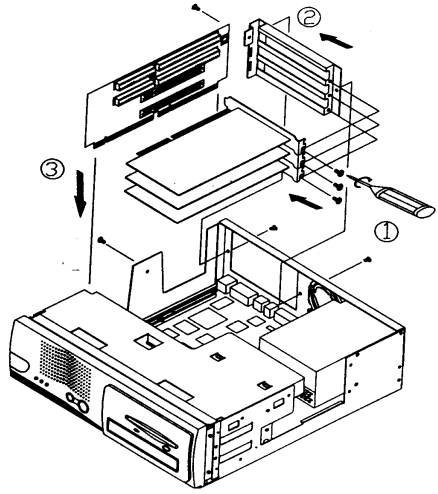
2. Lift up the expansion bracket next to the rear panel and take the metal strips off by unfastening the screws.



3.Replace metal stripe and fasten all the screws back to its proper position . ( See below figure )

4.Press the expansion bracket which with new interface card back to the system unit.

5.Press the expansion slot card back to the EISA slot on the main board and insert the interface card into the expansion slot card.



### 2.4.7. Installing Other Peripherals

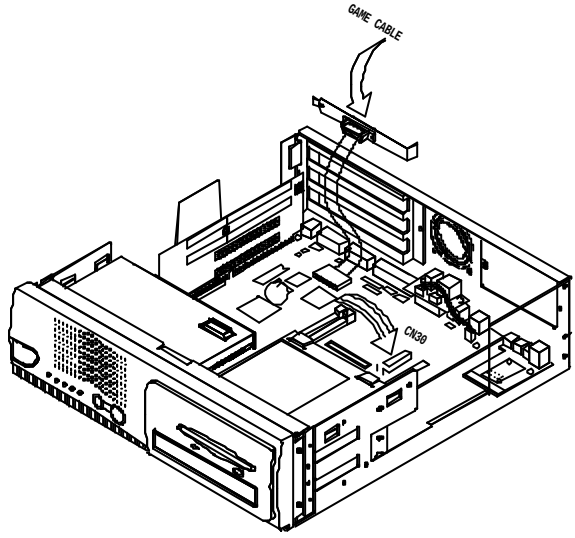
The Book PC 3000 series (B64) system supports Game, Modem, and TV functions. You can expand the functions by contacting your supplier.

2.4.7.1. Installing a Game Cable

1.Lift up metal strips off from rear panel by unfastening the screws.

2.Replace metal strip to bracket of the Game cable' s and fasten with two screws

3. Connect Game cable to main board CN30 of the system unit.



2.4.7.2. Installing a Modem Daughter Card

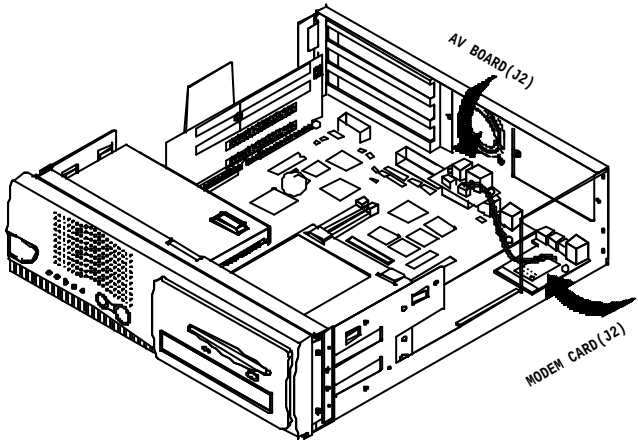
Remove internal power supply by loosen 3pcs screws on rear panel of the system unit.

2. Remove 2pcs screws fixed the Audio/USB/MDC board and system.

3. Connect phone cable to modem daughter card and fix modem daughter card to Audio/USB/MDC board by fastening 2pcs copper stud and retaining screws

4. Fix AV board with one bracket and connect to rear panel.

5. Connect phone cable from modem daughter card to AV board J2, secure the retaining screws for the power supply unit.

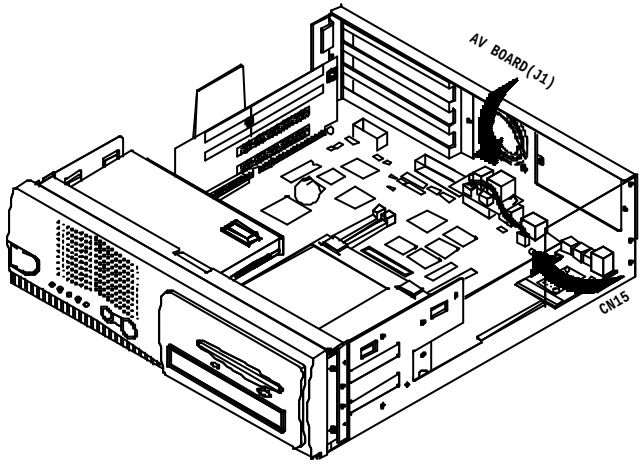


2.4.7.3. Installing a TV function

1. First ensure the system main board bundled with TV chipset.

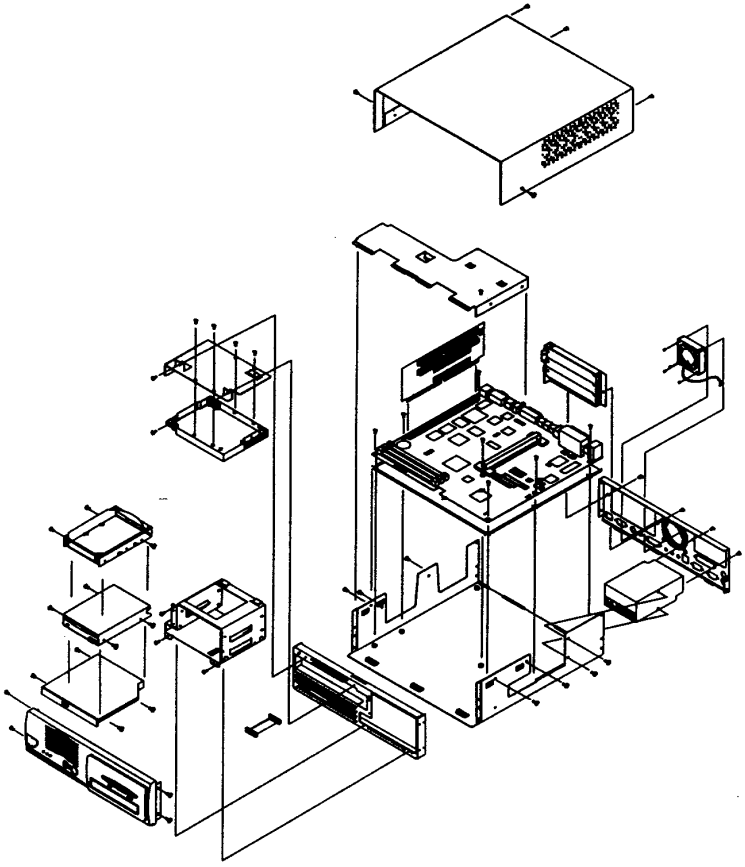
2. Fasten the AV board with metal bracket and fix to rear panel.

3. Connect AV cable from AV board J1 to system main board CN15.



## 2.5 System Assemblies

Following figure shows the various components of Book PC 3000 Series. .



# Chapter 3. Technical Specification

## 3.1. Specification

The Book PC 3000 Series was installed with a "B64" Socket 370 all-in-one main board. Following is the technical detail of the "B64" main board.

Technical Specification for "B64" Main Board

| | |
|---|---|
| Main Board | "B64" all-in-one M/B |
| CPU | Intel PPGA/ FC-PGA Processor |
| Co-processor | Built-in CPU |
| Internal Cache | Built-in CPU |
| External Cache | Built-in CPU |
| System RAM | 2 x 168pin DIMM sockets, support up to 512 MB |
| BIOS | AWARD PnP BIOS |
| Core Logic | Intel FW82443BX 66/100MHz FSB /<br>VIA VT82C693 66/100/133MHz FSB |
| Video Display | On Board ATI Rage Pro 128, AGP 4X |
| Video RAM | 8MB/32MB SDRAM |
| Audio | ESS1989 3D support sound and software modem |
| I/O Controller | SMSC37C602 |
| HDD Controller | Support one 40-pin 2.54 pitch IDE pin-header |
| FDD Controller | SMSC37C602 support one 40-pin 2.54mm<br>pitch pin-header with power |
| I/O Port | 2 xSerial Port (FIFO) / 1 x Parallel Port<br>(EPP/ECP/SPP) |
| Keyboard &<br>Mouse Port | 1 x PS2 Keyboard / 1x PS2 Mouse Port |
| LAN port | 1x RJ-45 LAN Jack / LAN Riser Card option :<br>FT-7365 Intel 82559C support WOL<br>FT-7366 Intel GD82559ER<br>FT-7329 RTL8139 |
| USB port | 2 x USB ports |
| ROM disk | DiskOnChip Socket supported |
| TV-Out Port | Option |
| Modem Port | Option |
| Expansion Slot<br>on board | FT standard on board 1xPCI/ISA |
| Power Supply | Internal ATX 150W (FT-8015) |

The content of this specification is subject to change without notice.

3.2. Connector Pin Assignments

Use the information in the following table to change the connector.

| Connectors | Functions |
|---|---|
| JP1 | COM1 VCC & 12V Selection: |
| JP2 | COM2 VCC & 12V Selection |
| CN1,CN2 | COM Port Power 5V/12V Selection (pin1) |
| CN3 | Print Connector |
| CN4 | VGA Connector |
| CN5 | LAN |
| CN6 | EXT-LAN Connector |
| CN7 | PS2-Mouse |
| CN9 | PS2 Keyboard |
| CN10,CN17 | Power Connector |
| CN11 | HDD Power Header |
| CN13 | FDD Power Header |
| CN14 | Power Push Button |
| CN15 | AV Board Connector |
| CN18 | MDC & Audio & USB Board Connector |
| CN16,CN23 | System Fan Connector |
| CN19,CN22 | IDE Connector |
| CN20 | Floppy Disk Connector |
| CN21 | CD-IN |
| CN27 | Ext. USB Connector |
| CN28,CN29 | USB Connector |
| CN24,CN25,CN26 | LED Connector (CN26 Supports Book PC 3000 W M/B64) |
| CN30 | EXT-GAME Port |

- COM1 VCC & 12V Selection: JP1

| Assignment | JP1 |
|---|---|
| Default | 1-2 |
| VCC | 3-4 |
| +12V | 5-6 |

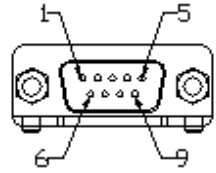
- COM2 VCC & 12V Selection: JP2

| Assignment | JP2 |
|---|---|
| Default | 1-2 |
| VCC | 3-4 |
| +12V | 5-6 |

- Serial Port 1: CN1 /Serial Port 2: CN2

| Pin # | Assignment |
|---|---|
| 1 | Data carrier detect |
| 2 | Receive data |
| 3 | Transmit data |
| 4 | Data Terminal ready |
| 5 | Signal Ground |
| 6 | Data set ready |
| 7 | Request to send |
| 8 | Clear to send |
| 9 | Ring indicator |
| 10 | NC |

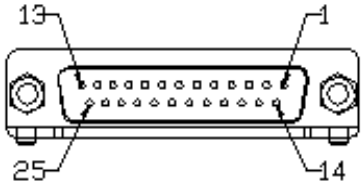
Figure



• Parallel Port (D-SUB 25pin Female Connector): CN3

| Pin # | Assignment | Pin # | Assignment |
|---|---|---|---|
| 1 | Strobe (-) | 14 | Auto feed (-) |
| 2 | Data bit 0 | 15 | Error (-) |
| 3 | Data bit 1 | 16 | INIT (-) |
| 4 | Data bit 2 | 17 | SLCT IN (-) |
| 5 | Data bit 3 | 18 | Signal Ground |
| 6 | Data bit 4 | 19 | Signal Ground |
| 7 | Data bit 5 | 20 | Signal Ground |
| 8 | Data bit 6 | 21 | Signal Ground |
| 9 | Data bit 7 | 22 | Signal Ground |
| 10 | ACK (-) | 23 | Signal Ground |
| 11 | Busy | 24 | Signal Ground |
| 12 | Paper empty | 25 | Signal Ground |
| 13 | SLCT | | |

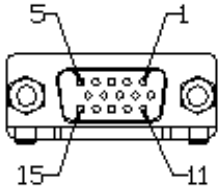
Figure



- VGA Connector (D-SUB 15-pin Female Connector): CN4

| Pin # | Assignment |
|---|---|
| 1 | Red signal |
| 2 | Green signal |
| 3 | Blue signal |
| 4 | NC |
| 5 | Ground |
| 6 | Red Ground |
| 7 | Green Ground |
| 8 | Blue Ground |
| 9 | +5V (via polyfuse) |
| 10 | Ground |
| 11 | NC |
| 12 | Data of monitor ID (with 10KΩ pull high) |
| 13 | H Sync. |
| 14 | V Sync. |
| 15 | Clock of monitor ID (with 10KΩ pull high) |

Figure

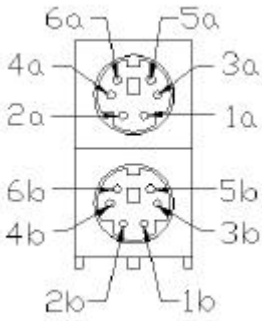



- PS2 Mouse /PS2 Keyboard (Mini Din 6 Pin): CN8, CN9

| Pin # | Assignment |
|---|---|
| 1a | Mouse data |
| 2a | NC |
| 3a | Ground |
| 4a | +5V via Poly-fuse |
| 5a | Mouse clock |
| 6a | NC |
| 1b | Keyboard data |
| 2b | NC |
| 3b | Ground |
| 4b | +5V via Poly-fuse |
| 5b | Keyboard clock |
| 6b | NC |

Figure

Mouse



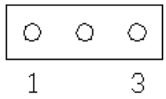

Keyboard

• Power Connector: CN10 for ATX Power ( FT-8015 ),3000
CN17 for AT Power (FT-8065 ),4000

• .HDD Power Header: CN11

| Pin # | Assignment |
|---|---|
| 1 | VCC |
| 2 | +12V |
| 3 | Ground |

Figure

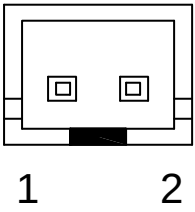



• FDD Power Header: CN13

| Pin # | Assignment |
|---|---|
| 1 | VCC |
| 2 | Ground |
| 3 | Ground |
| 4 | +12V |

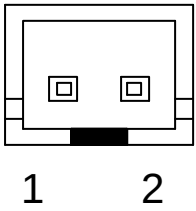
Figure


. • Power Push Button: CN14




| Pin # | Assignment |
|---|---|
| 1 | Ground |
| 2 | PWRBT# |

• AV Board Connector: CN15

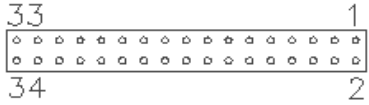



| Pin # | Assignment |
|---|---|
| 1 | COMP |
| 2 | Ground |

- MDC & Audio & USB Board Connector: CN18

| Pin # | Assignment | Pin # | Assignment | Pin # | Assignment |
|---|---|---|---|---|---|
| 1 | LOULT | 13 | USB1GB | 25 | MONO OUT |
| 2 | LINL | 14 | USBP1-R | 26 | SDFS2 |
| 3 | ADGND | 15 | OC#0B | 27 | 1988V3.3 |
| 4 | LINR | 16 | USB2GB | 28 | GND |
| 5 | LOUTR | 17 | GND | 29 | SDO2 |
| 6 | ADGND | 18 | OC#1B | 30 | MC97_DI |
| 7 | GND | 19 | 1988_AVDD | 31 | ADGND |
| 8 | LMIC1 | 20 | GND | 32 | ADGND |
| 9 | USBP0+R | 21 | SCLK2 | 33 | PCIRST# |
| 10 | GND | 22 | PHONE | 34 | SDI2 |
| 11 | USBP0-R | 23 | 3VSB | | |
| 12 | USBP1+R | 24 | GND | | |

Figure

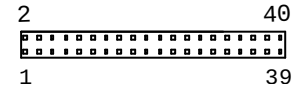


• IDE Connector

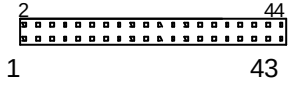
Primary：CN19 40pin 2.54mm, Primary: CN22 44pin 2.0mm

| Pin # | Assignment | Pin # | Assignment | Pin # | Assignment |
|---|---|---|---|---|---|
| 1 | Reset | 16 | Data bit 14 | 31 | IRQ 14 |
| 2 | Ground | 17 | Data bit 0 | 32 | NC |
| 3 | Data bit 7 | 18 | Data bit 15 | 33 | Disk address 1 |
| 4 | Data bit 8 | 19 | Ground | 34 | NC |
| 5 | Data bit 6 | 20 | NC | 35 | Disk address 0 |
| 6 | Data bit 9 | 21 | IDE DRQ | 36 | Disk address 2 |
| 7 | Data bit 5 | 22 | Ground | 37 | Disk chip select 0 |
| 8 | Data bit 10 | 23 | Disk Write | 38 | Disk chip select 1 |
| 9 | Data bit 4 | 24 | Ground | 39 | Disk LED |
| 10 | Data bit 11 | 25 | Disk read | 40 | Ground |
| 11 | Data bit 3 | 26 | Ground | 41 | VCC |
| 12 | Data bit 12 | 27 | Disk ready | 42 | VCC |
| 13 | Data bit 2 | 28 | NC | 43 | Ground |
| 14 | Data bit 13 | 29 | IDE DACK | 44 | Ground |
| 15 | Data bit 1 | 30 | Ground | | |

Figure




CN19

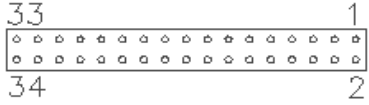



CN22

- Floppy Disk Connector (34pin 2.54mm Pitch Pin-Header with Housing): CN20

| Pin # | Assignment | Pin # | Assignment | Pin # | Assignment |
|---|---|---|---|---|---|
| 1 | Ground | 13 | Ground | 25 | Ground |
| 2 | Density select | 14 | Driver select 2 | 26 | Track 00 |
| 3 | Ground | 15 | Ground | 27 | Ground |
| 4 | Vcc | 16 | Motor on 1 | 28 | Write protected |
| 5 | Ground | 17 | Ground | 29 | Ground |
| 6 | Vcc | 18 | Data direction | 30 | Read data |
| 7 | Ground | 19 | Ground | 31 | Ground |
| 8 | Index | 20 | Step motor active | 32 | Head select |
| 9 | Ground | 21 | Ground | 33 | Ground |
| 10 | Motor on 0 | 22 | Write data | 34 | Disk change |
| 11 | Ground | 23 | Ground | | |
| 12 | Driver select 1 | 24 | Write gate | | |

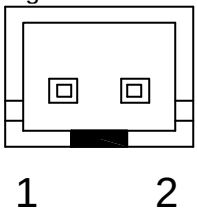
Figure




- Fan Connector: CN16, CN23

| Pin # | Assignment |
|---|---|
| 1 | +12V (Default) |
| 2 | Ground |

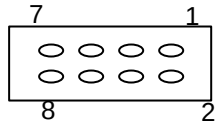
Figure



• Ext. USB Port Connector (Pin-Header 8 Pin): CN27

| Pin | Assignment | Pin | Assignment |
|---|---|---|---|
| 1 | Vcc via Ploy-fuse | 2 | Vcc via Poly-fuse |
| 3 | USBPO - | 4 | USBP1 - |
| 5 | USBP0 + | 6 | USBP1 + |
| 7 | Signal ground | 8 | Signal ground |

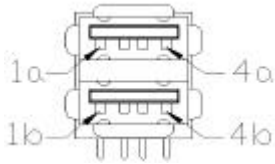
Figure



- USB Port Connector: CN28, CN29

| Pin | Assignment | Pin | Assignment |
|---|---|---|---|
| 1a | Vcc via Ploy-fuse | 1b | Vcc via Poly-fuse |
| 2a | USBPO | 2b | USBP1 |
| 3a | USBP0 + | 3b | USBP1 + |
| 4a | Signal ground | 4b | Signal ground |

Figure



# Chapter 4. System Utility Setup

## 4.1.System Utility

This product provides following utility programs in system ROM and in the CD disk driver bank.

BIOS Setup, for defining the configuration of the system

RTL8139 LAN configuration utility

DiskOnChip Configuration Utility

## 4.2.BIOS Setup– Intel 815EB Chipset

Remark: We select the following model as sample to analysis how to setup System BIOS. For other model or updated BIOS information, please check with your supplier.

| MODEL | NET PC NC1 Series |
|---|---|
| CPU | Intel Pentium II /III / SOCKET 370 |
| M / B | B61 supports Intel 815EB |
| BIOS | AWARD |

For above models of the NET PC NC1 computer's BIOS is supplied by AWARD SOFTWARE, INC. AWARD'S BIOS Flash ROM has a built-in Setup program that allows users to modify the basic system configuration. This type of information is stored in battery-backed RAM of CMOS chipset so that it retains the Setup information when the power is turned off.

### 4.2.1 Starting the BIOS Setup

Power on the computer and press <Del> immediately will allow you to enter Setup. The other way to enter Setup is to power on the computer, when the below message appears briefly at the bottom of the screen during the POST (Power On Self Test), press <Del> key or simultaneously press <Ctrl>, <Alt>, and <Esc> keys.

TO ENTER SETUP BEFORE BOOT PRESS <CTRL-ALT-ESC> OR <DEL> KEY

If the message disappears before you respond and you still wish to enter Setup, restart the system to try again by turning it OFF then ON pressing the "RESET" button on the system case. You may also restart by simultaneously pressing <Ctrl>, <Alt>, and <Delete> keys. If you do not press the keys at the correct time and the system does not boot, an error message will be displayed and you will again be asked to,

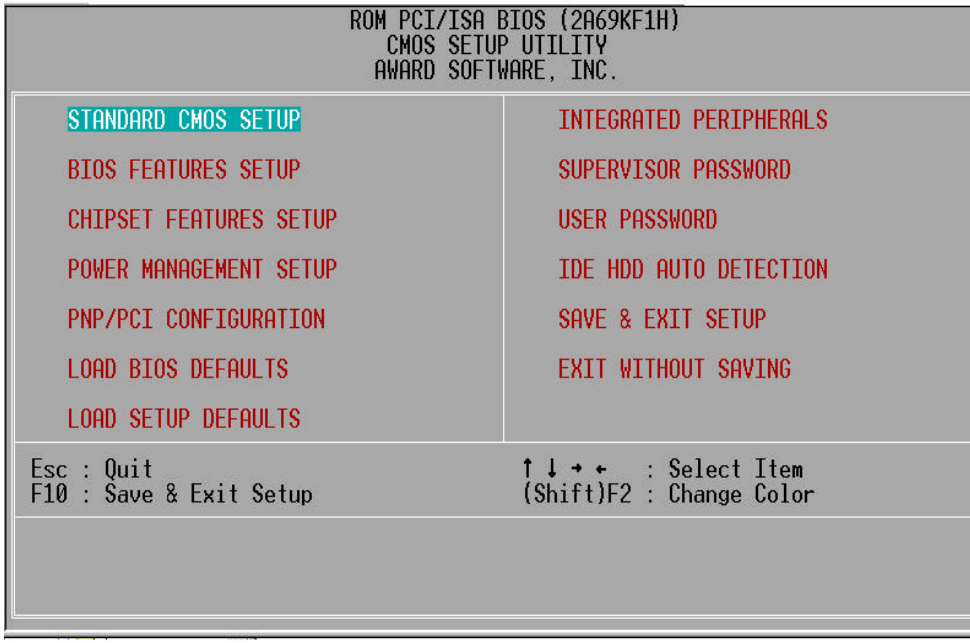
PRESS <F1> TO CONTINUE, <CTRL-ALT-ESC> OR <DEL> TO ENTER SETUP

4.2.2.Control Keys

| Control Keys | **Description** |
|---|---|
| Up arrow | Move to previous item |
| Down arrow | Move to next item |
| Left arrow | Move to the item to the left side |
| Right arrow | Move to the item to the right side |
| Esc key | Main Menu: Quit and do not save changes to CMOS.<br>Except Main Menu:<br>Exit current BIOS screen and return to Main Menu. |
| PgUp / "+" key | Increase the numeric value or make changes |
| PgDn / "–" key | Decrease the numeric value or make changes |
| F1 key | General help, only for Status Page Setup Menu and Option Page Setup Menu |
| F2,(Shift+F2) key | Change color from total 16 colors. F2 to select color forward, (Shift + F2) to select color backward |
| F3 key | Reserved |
| F4 key | Reserved |
| F5 key | Restore the previous CMOS value from CMOS, only for Option Page Setup Menu |
| F6 key | Load the default CMOS value from BIOS default table, only for Option Page Setup Menu |
| F7 key | Load the Setup default, only for Option Page Setup Menu |
| F8 key | Reserved |
| F9 key | Reserved |
| F10 key | Save all the CMOS value changes, only for Main Menu |

4.2.3 Main Menu

When the Main Menu is displayed, the following items can be selected. Use arrow keys to select items and the Enter key to accept and enter the sub-menu.




Standard CMOS setup
This setup page includes all the items in standard compatible BIOS.

BIOS features setup
This setup page includes all the items of AWARD special enhanced features.

Chipset features setup
This setup page includes all the items of chipset special features.

Power Management setup
This category determines how much power consumption for system after selecting below items. Default value is Disable.

PNP/PCI Configuration
This category specifies the value (in units of PCI bus clocks) of the latency timer for this PCI bus master and the IRQ level for PCI device.

Load BIOS defaults
BIOS defaults indicates the most appropriate value of the system parameter which the system would be in minimum performance.

Load setup defaults
Setup defaults indicates the values required by the system for the maximum performance.

Integrated Peripherals
Change, set, or disable on board supers I/O function.

Supervisor password & Password setting
Change, set, or disable password. It allows you to limit access to the system and Setup, or just to Setup.

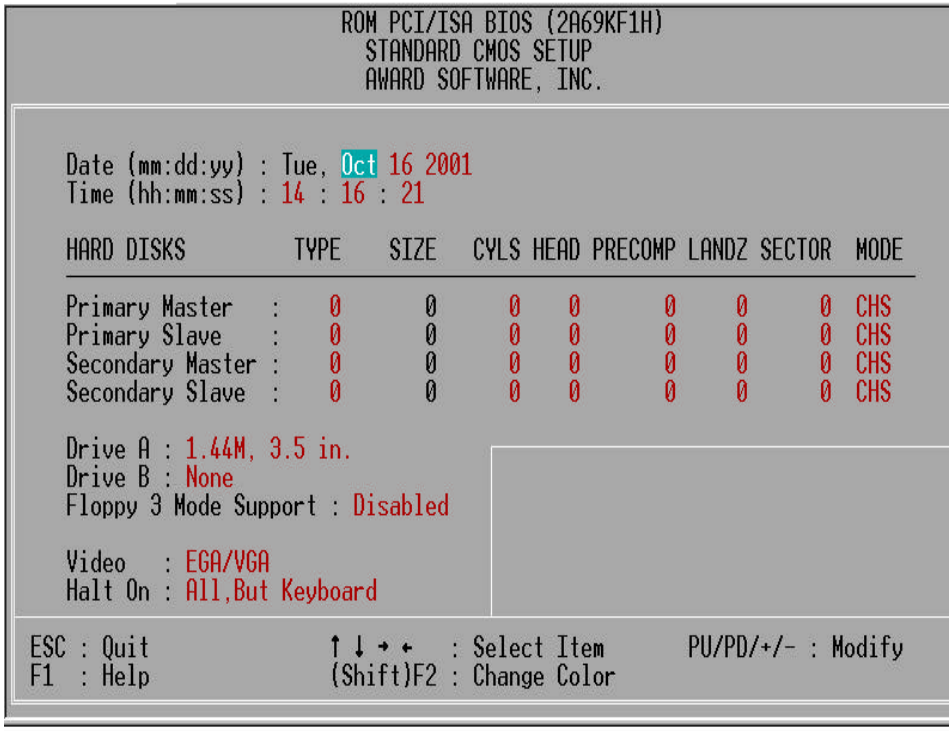
IDE HDD auto detection
Automatically configure hard disk parameters.

Save & exit setup
Save CMOS value changes to CMOS and exit setup.

Exit without save
Abandon all CMOS value changes and exit setup.

### 4.2.4 Standard CMOS Setup

In the standard CMOS menu, you can set the system clock and calendar, record disk drive parameters and the video subsystem type, and select the type of errors that stop the POST ( Power On Self Test).




Date
The date format is <day>, <date> <month> <year>. Press <F3> to show the calendar.

| Item | Description |
|---|---|
| Day | The day of week, from Sun to Sat, determined by the BIOS is read only |
| Date | The date, from 1 to 31 (or the maximum allowed in the month), can key in the numerical / function key |
| Month | The month, Jan. through Dec. |
| Year | The year, depend on the year of BIOS |

Time
The time format is <hour> <minute> <second>. Which accepts both function keys or numerical keys The time is calculated based on the 24-hour military-time clock. For example, 1 p.m. is 13:00:00.

Primary master / Primary slave / Secondary master / Secondary slave
The categories identify the types of hard disk drive C or drive D that has been installed in the computer. There are 45 predefined types and 1 user definable types and 1 automatic type for Normal BIOS. Type 1 to Type 45 are predefined. Type User is user-definable. Type Auto is auto-definition by your computer.

Press PgUp/<+> or PgDn/<–> to select a numbered hard disk type or type the number and press <Enter>. Note that the specifications of your drive must match with the drive table. The hard disk will not work properly if you enter improper information for this category. If your hard disk drive type is not matched or listed in 1 to 45, you can use Type User or Auto to define your own drive type manually or automatically.

If you select Type User, related information is asked to be entered to the following items. Enter the information directly from the keyboard and press <Enter>. This information should be provided in the documentation from your hard disk vendor or the system manufacturer.

If the controller of HDD interface is ESDI, the selection shall be "Type 1". If the controller of HDD interface is SCSI, the selection shall be "None". If the controller of HDD interface is CD-ROM, the selection shall be "None".

| Item | Description |
|---|---|
| CYLS. | number of cylinders |
| HEADS | number of heads |
| PRECOMP | write precom |
| LANDZONE | landing zone |
| SECTORS | number of sectors |
| MODE | HDD access mode |

If a hard disk has not been installed select NONE or Auto and press <Enter>.

Drive A / Drive B
The category identifies the types of floppy disk drive A or drive B that have been installed in the computer.

| Item | Description |
|---|---|
| None | No floppy drive installed |
| 360K, 5.25 in | 5-1/4 inch PC-type standard drive; 360 kilobyte capacity |
| 1.2M, 5.25 in | 5-1/4 inch AT-type high-density drive; 1.2 megabyte capacity |
| 720K, 3.5 in | 3-1/2 inch double-sided drive; 720 kilobyte capacity |
| 1.44M, 3.5 in | 3-1/2 inch double-sided drive; 1.44 megabyte capacity |
| 2.88M, 3.5 in | 3-1/2 inch double-sided drive; 2.88 megabyte capacity |

Video
The category selects the type of adapter used for the primary system monitor that must match your video display interface and monitor.

| Item | Description |
|---|---|
| EGA/VGA | Enhanced Graphics Adapter/video Graphics Array. For EGA, VGA, SVGA, or 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
The category determines whether the computer will stop if an error is detected during power up.

| Item | Description |
|---|---|
| No errors | Whenever the BIOS detects a non-fatal error the system will stop and you will be prompted. |
| All errors | The system boot will stop for any error that may be detected. |
| All, But Keyboard | The system boot will not stop for a keyboard error; it will stop for all other errors. |
| All, But Diskette | The system boot will not stop for a disk error; it will stop for all other errors. |
| All, But Disk/Key | The system boot will not stop for a keyboard or disk error; it will stop for all other errors. |

Memory
The category is display-only which is determined by POST (Power On Self Test) of the BIOS.

Base Memory
The POST of the BIOS will determine the amount of base (or conventional) memory installed in the system. The value of the base memory is typically 512K for systems with 512K memory installed on the motherboard, or 640K for systems with 640K or more memory installed on the motherboard.

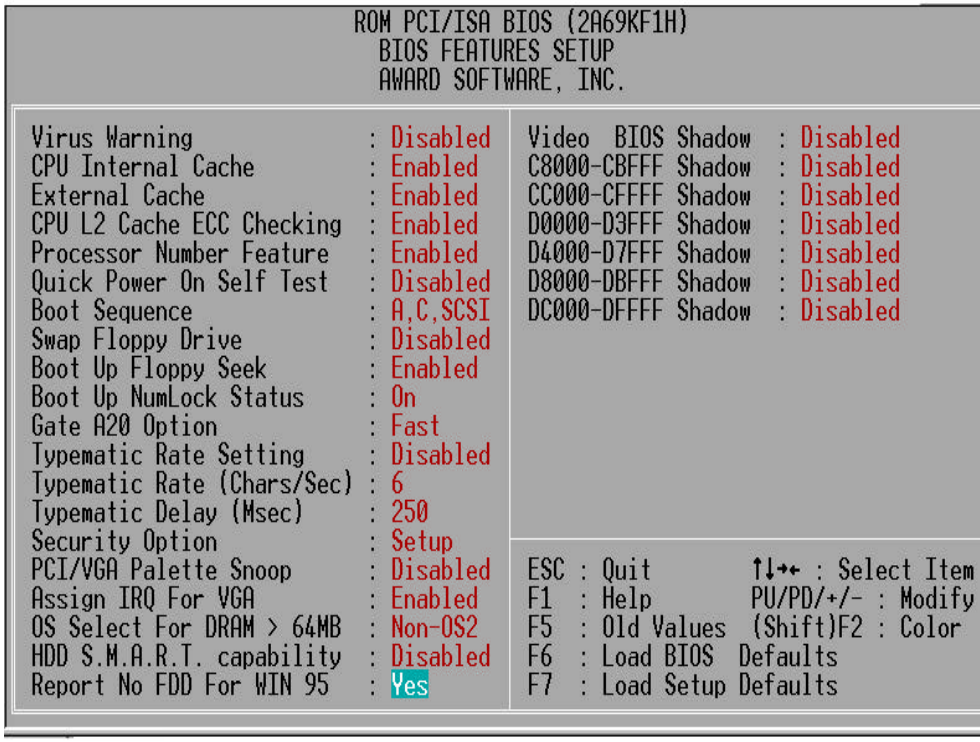
Extended Memory
The BIOS determines how much extended memory is present during the POST. This is the amount of memory located above 1MB in the CPU's memory address map.

Other Memory
This refers to the memory located in the 640K to 1024K address space. This is memory that can be used for different applications. DOS uses this area to load device drivers to keep as much base memory free for application programs. Most use for this area is Shadow RAM.

Total Memory
System total memory is the sum of basic memory, extended memory, and other memory.

### 4.2.5 BIOS Features Setup

This menu sets up the BIOS feature.




Virus Warning
This category flashes on the screen. During and after the system boots up, any attempt to write to the boot sector or partition table of the hard disk drive will halt the system and the following error message will appear, in the mean time, you can run an anti-virus program to locate the problem.

WRNING !

Disk boot sector is to be modified
Type "Y" to accept write or "N" to abort write AWARD Software, Inc.

| Item | Description |
|---|---|
| Enabled | Activates automatically when the system boots up causing a warning message to appear when anything attempts to access the boot sector or hard disk partition table. |
| Disabled | No warning message to appear when anything attempts to access the boot sector or hard disk partition table. |

✎ Note:
This function is available only for DOS and other OSes that do not trap INT13.

CPU Internal Cache / External Cache
These two categories speed up memory access. However, it depends on CPU/chipset design. The default value is Enable. If your CPU is without Internal Cache then this item "CPU Internal Cache" will not appear.

| Item | Description |
|---|---|
| Enabled | Enable cache |
| Disabled | Disable cache |

Quick Power On Self Test
This category speeds up Power On Self Test (POST) after you power on the computer. If it is set to Enable, BIOS will shorten or skip some check items during POST.

| Item | Description |
|---|---|
| Enabled | Enable quick POST |
| Disabled | Normal POST |

Boot Sequence
This category determines which drive computer searches first for the disk operating system (i.e., DOS). Default value is A, C.

| Item | Description |
|---|---|
| A, C, SCSI | System will first search the floppy disk drive then hard disk drive for booting purpose |
| C, A, SCSI | System will first search the hard disk drive then floppy disk drive for booting purpose |
| C, CDROM, A | System will first search the harddisk drive then CDROM drive and the next is floppy disk drive for booting purpose |
| CDROM, C, A | System will first search the CDROM drive then harddisk drive and the next is floppy disk drive for booting purpose |
| D, A, SCSI | System will first search the hard disk D drive then floppy disk drive for booting purpose |
| E, A, SCSI | System will first search the hard disk E drive then floppy disk drive for booting purpose |
| F, A, SCSI | System will first search the hard disk F drive then floppy disk drive for booting purpose |
| SCSI, A, C | System will first search the SCSI hard disk drive then floppy disk drive for booting purpose |
| SCSI, C, A | System will first search the SCSI hard disk drive then hard disk drive for booting purpose |
| C only | System only search the hard disk drive for booting purpose |
| LS/ZIP, C | System will first search the LS120 drive then hard disk drive for booting purpose |

Swap Floppy Drive

| Item | Description |
|---|---|
| Enabled | Enable Floppy Drives A and B Swap function |
| Disabled | Disable Floppy Drives A and B Swap function |

Boot Up Floppy Seek
During POST, BIOS will determine if the floppy disk drive installed is 40 or 80 tracks. 360K type is 40 tracks while 720K, 1.2M and 1.44M are all 80 tracks.

| Item | Description |
|---|---|
| Enabled | BIOS searches for floppy disk drive to determine if it is 40 or 80 tracks. Note that BIOS can not tell from 720K, 1.2M or 1.44M drive type as they are all 80 tracks. |
| Disabled | BIOS will not search for the type of floppy disk drive by track number. Note that there will be no warning message if the drive installed is 360K. |

Boot Up NumLock Status
The default value is On.

| Item | Description |
|---|---|
| On | Keypad is number keys after boot-up |
| Off | Keypad is arrow keys after boot-up |

Gate A20 Option
This entry allows you to select how the gate A20 is handled. The gate A20 is a device used to address memory above 1 Mbytes. Initially, the gate A20 was support, it is more common, and much faster, for the chipset to provide support for A20.

| Item | Description |
|---|---|
| Normal | Handling gate A20 by keyboard |
| Fast | Handling gate A20 by chipset |

Typematic Rate Setting
This determines the typematic rate .

| Item | Description |
|---|---|
| Enabled | Enable typematic rate and typematic delay programming |
| Disabled | Disable typematic rate and typematic delay programming. The system BIOS will use default value of this 2 items and the default is controlled by keyboard. |

Typematic Rate (Chars/Sec)
When the typematic rate setting is enabled, this selection allows you select the rate at which the key is accelerated.

| Item | Description |
|---|---|
| 6 | 6 characters per second |
| 8 | 8 characters per second |
| 10 | 10 characters per second |
| 12 | 12 characters per second |
| 15 | 15 characters per second |
| 20 | 20 characters per second |
| 24 | 24 characters per second |
| 30 | 30 characters per second |

Typematic Delay (Msec)
When the typematic rate setting is enabled, this selection allows you to select the delay between when the key was first depressed and when the acceleration begins.

| Item | Description |
|---|---|
| 250 | 250 msec |
| 500 | 500 msec |
| 750 | 750 msec |
| 1000 | 1000 msec |

Security Option
This category allows you to limit access to the system and Setup, or just to Setup.

| Item | Description |
|---|---|
| System | The system will not boot and access to Setup will be denied if the correct password is not entered at the prompt. |
| Setup | The system will boot, but access to Setup will be denied if the correct password is not entered at the prompt. |

✎ Note:
To disable security, select PASSWORD SETTING at Main Menu and then you will be asked to enter password. Do not type anything and just press <Enter>, it will disable security. Once the security is disabled, the system will boot and you can enter Setup freely.

PCI/VGA Palette Snoop
It determines whether the MPEG ISA/VESA VGA cards can work with PCI/VGA or not.

| Item | Description |
|---|---|
| Enable | When PCI/GA works with MPEG ISA/VESA VGA card |
| Disable | When PCI/VGA doesn‘ t work with MPEG ISA/VESA card |

Assign IRQ For VGA
This item allows you to assign an IRQ for VGA use.

| Item | Description |
|---|---|
| Enabled | Allowed |
| Disabled | Restricited |

OS Select For DRAM > 64MB
This item allows you to access the memory that over 64MB in OS2.

| Item | Description |
|---|---|
| Non-OS2 | OS2 cannot access the memory address over 64MB |
| OS2 | OS2 can access the memory address over 64MB |

HDD S.M.A.R.T. Capability
Enable, support hard disk drive quick start up function when re-boot system.
The Choice: Enable, Disable

Report No FDD for WIN 95

| Item | Description |
|---|---|
| Yes | Release IRQ channel for system after disable FDD function |
| No | Without release IRQ channel for system after disable FDD function |

Video BIOS Shadow

BIOS Shadow

It determines whether system BIOS will be copied to RAM or the system BIOS is always shadow to support LBA HDD.

| Item | Description |
|---|---|
| Enabled | System shadow is enabled |
| Disabled | System shadow is disabled |

Video ROM Shadow

It determines whether video ROM will be copied to RAM, however, it is optional from chipset design. Video Shadow will increase the video speed.

| Item | Description |
|---|---|
| Enabled | Video shadow is enabled |
| Disabled | Video shadow is disabled |

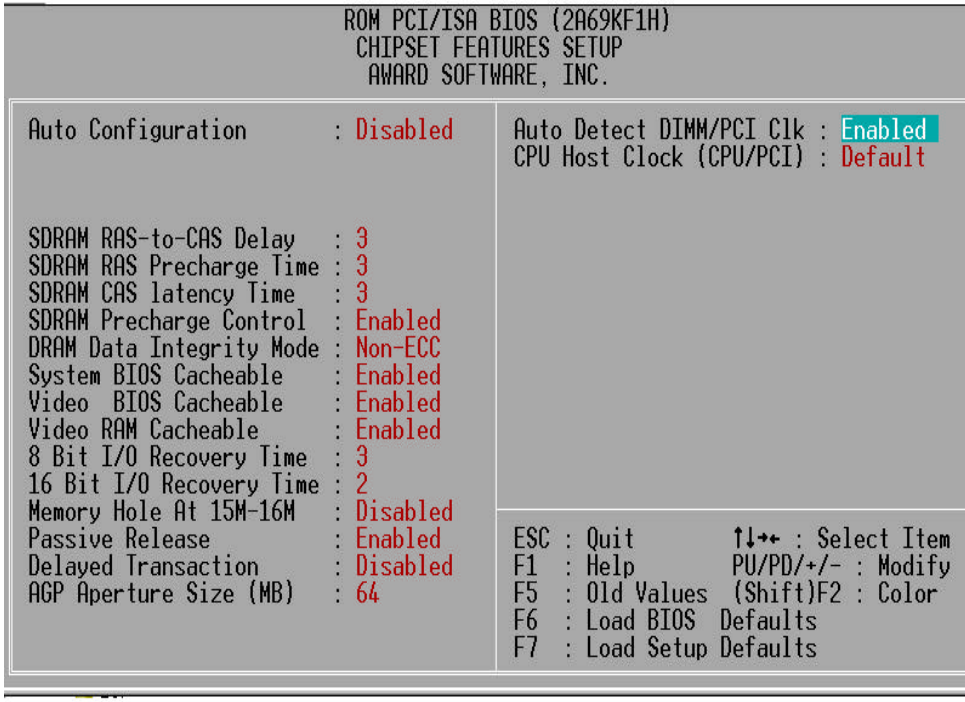
C8000 - CBFFF Shadow / CC000 - CFFFF Shadow / D0000 - D3FFF Shadow / D5000 - D7FF Shadow /D8000 - DBFFF Shadow / DC000 - DFFFF Shadow

These categories determine whether optional ROMs will be copied to RAM. An example of such option ROM would be support of SCSI add-on card.

| Item | Description |
|---|---|
| Enabled | Optional shadow is enabled |
| Disabled | Optional shadow is disabled |

### 4.2.6 Chipset Feature Setup

In the chipset feature setup menu, you can set the following items for chipset feature.




Auto Configuration
Auto Configuration selects predetermined optimal values of chipset parameters.

When Disabled, chipset parameters revert to setup information stored in CMOS.
Many fields in this screen are not available when Auto Configuration is Enabled.

The Choice: Enabled, Disabled.

EDO DRAM Speed Selection

| Item | Description |
|---|---|
| 50ns | DRAM Timing Type. |
| 60ns | DRAM Timing Type. |

EDO CASx# MA Wait State
You could select the wait state timing control type of EDO DRAM CAS MA (memory address bus).

The choice: 1, 2.

EDO RASx# Wait State
You could select the wait state timing control type of EDO DRAM CAS MA (memory address bus).

The choice: 1, 2.

SDRAM RAS-to-CAS Delay
You can select RAS to CAS Delay time in HCLKs of 2/2 or 3/3. The system board designer should set the values in this field, depending on the SDRAM installed. Do not change the values in this field unless you change specifications of the installed SDRAM or the installed CPU.

The Choice: 2, 3.

SDRAM RAS Precharge Time
Defines the length of time for SDRAM Row Address Strobe is allowed to precharge.

The Choice: 2, 3.

SDRAM CAS latency Time
Define the length of time for SDRAM CAS latency time.

The Choice: 2, 3.

SDRAM Precharge Control
Defines the length of time for Row Address Strobe is allowed to precharge.

The Choice: Disable, Enable.

DRAM Data Integrity Mode
Select Parity or ECC (error-correcting code), according to the type of installed DRAM.

The Choice: Non-ECC, ECC.

System BIOS Cacheable
Select Enabled allows caching of the system BIOS ROM at F000h-FFFFFh,
resulting in better system performance. However, if any program writes to this memory area, a system error may result.

| Item | Description |
|---|---|
| Enabled | BIOS access cached |
| Disabled | BIOS access not cached |

Video BIOS Cacheable
Select Enabled allows caching of the video BIOS ROM at C0000h-F7FFFh, resulting in better video performance. However, if any program writes to this memory area, a system error may result.

| Item | Description |
|---|---|
| Enabled | Video BIOS access cached |
| Disabled | Video BIOS access not cached |

Video RAM Cacheable
Select Enabled allows caching of the video RAM, resulting in better system performance. However, if any program writes to this memory area, a system error may result.

8 Bit I/O Recovery Time
The recovery time is the length of time, measured in CPU clocks, which the system will delay after the completion of an input/output request.

This delay takes place because the CPU is operating so much faster than the input/output bus that the CPU must be delayed to allow for the completion of the I/O.

This item allows you to determine the recovery time allowed for 8 bit I/O. Choices are from NA, 1 to 8 CPU clocks.

16 Bit I/O Recovery Time
This item allows you to determine the recovery time allowed for 16 bit I/O. Choices are from NA, 1 to 4 CPU clocks.

Memory Hole At 15M-16M
In order to improve performance, certain space in memory can be reserved for ISA cards. This memory must be mapped into the memory space location 15-16MB.

| Item | Description |
|---|---|
| Enabled | Memory hole supported. |
| Disabled | Memory hole not supported. |

Passive Release
When Enabled, CPU to PCI bus accesses is allowed during passive release. Otherwise, the arbiter only accepts another PCI master access to local DRAM.

The Choice: Enabled, Disabled.

Delay Transaction
The chipset has an embedded 32-bit posted write buffer to support delay transactions cycles. Select Enabled to support compliance with PCI specification version 2.1.

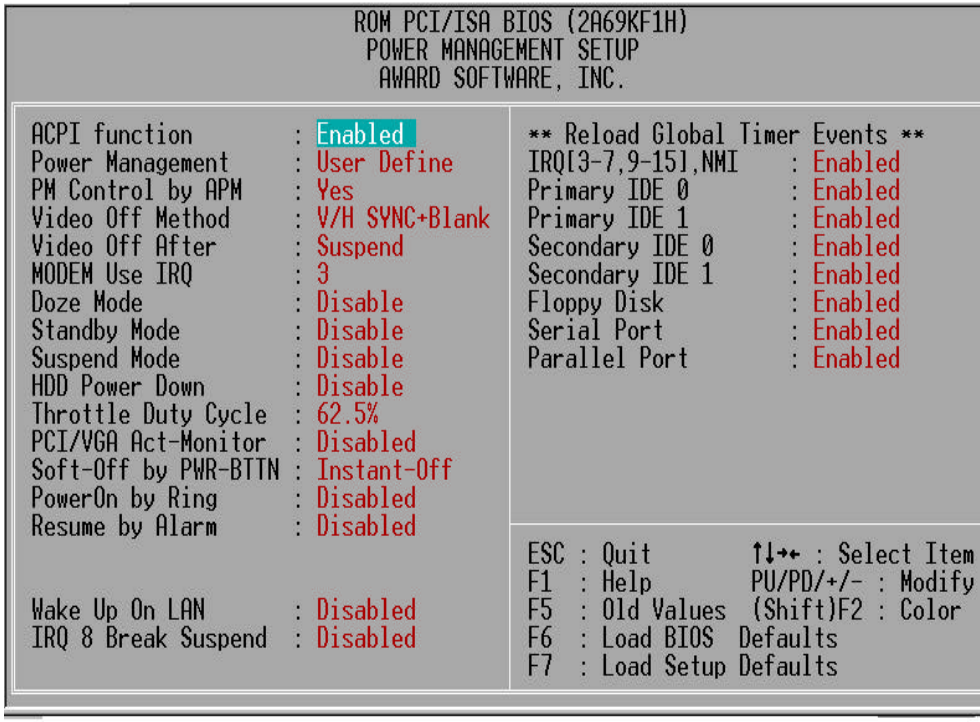
The Choice: Enabled, Disabled.

AGP Aperture Size (MB)
Select the size of the Accelerated Graphics Port (AGP) aperture. The aperture is a portion of the PCI memory address range dedicated for graphics memory address space. Host cycles that hit the aperture range are forwarded to the AGP without any translation. See www.agpforum.org for AGP information.

The Choice: 4, 8, 16, 32, 64, 128, 256

### 4.2.7 Power Management Setup

In the power management menu, you can set the following items for power management.




Power Management
This category allows you to select the type (or degree) of power saving and is directly related to the following modes:

1. Doze Mode
2. Standby Mode
3. Suspend Mode
4. HDD Power Down

There are four selections for Power Management, three of which have fixed mode settings.

| Item | Description |
|---|---|
| Disable (default) | No power management. Disables all four modes |
| Min. Power Saving | Minimum power management. Doze Mode = 1 hr. Standby Mode = 1 hr., Suspend Mode = 1 hr., and HDD Power Down = 15 min. |
| Max. Power Saving | Maximum power management -- **ONLY AVAILABLE FOR SL CPU' S**. Doze Mode = 1 min., Standby Mode = 1 min., Suspend Mode = 1 min., and HDD Power Down = 1 min. |
| User Defined | Allows you to set each mode individually. When not disabled, each of the ranges are from 1 min. to 1 hr. except for HDD Power Down which ranges from 1 min. to 15 min. and disable. |

PM Control By APM
The option of power management is subject to the operation system which supports APM (Advanced Power Management ) function; e.g. WIN 95 /WIN 98.

When enabled, an Advanced Power Management device will be activated To enhance the Max. Power Saving mode and stop the CPU internal clock. If the Max. Power Saving is not enabled, this will be preset to No.

Video Off Method
This determines the manner in which the monitor is blanked.

| Item | Description |
|---|---|
| V/H SYNC+Blank | This selection will cause the system to turn off the vertical and horizontal synchronization ports and write blanks to the video buffer. |
| Blank Screen | This option only writes blanks to the video buffer. |
| DPMS | Initial display power management signaling. |

Video Off After
When enabled, this feature allows the VGA adapter to operate in a power saving mode.

| Item | Description |
|---|---|
| N/A | Monitor will remain on during power saving modes. |
| Suspend | Monitor blanked when the system enters the Suspend mode. |
| Standby | Monitor blanked when the system enters Standby mode. |
| Doze | Monitor blanked when the system enters any power saving mode. |

MODEM Use IRQ
Name the interrupt request (IRQ) line assigned to the modem (if any) on your system. Activity of the selected IRQ always awakens the system.

The choices: NA, 3, 4, 5, 7, 9, 10, 11

Doze Mode
When enabled and after the set time of system inactivity, the CPU clock will run at slower speed while all other devices still operate at full speed.

Standby Mode
When enabled and after the set time of system inactivity, the CPU clock will run at lower speed and the video would be shut off while all other devices still operate at full speed.

Suspend Mode
When enabled and after the set time of system inactivity, all devices except the CPU will be shut off.

HDD Power Down
When enabled and after the set time of system inactivity, the hard disk drive will be powered down while all other devices remain active.

Throttle Duty Cycle
When the system enters Doze mode, the CPU clock runs only part of the time. You may select the percent of time that the clock runs.
The Choice: 12.5%, 25.0%, 37.5%, 50.0%, 62.5%, 75.0%

PCI/VGA Act Monitor
When Enabled, any video activity restarts the global timer for Standby mode.

The Choice: Enabled, Disabled.

Soft-Off by PWR-BTTN
When Enabled, turning the system off with the on/off button places the system in a very low-power-usage state, with only enough circuitry receiving power to detect power button activity or Resume by Ring activity.

The Choice: Instant-Off, Delay 4 Sec.

PowerOn by Ring
An input signal on the serial Ring Indicator (RI) line (in other words, an incoming call on the modem) awakens the system from power off state.

The Choice: Enabled, Disabled.

Resume by Alarm
To set Date and Time to resume the system.

Wake Up On LAN
An input signal on the mainboard control by LAN chip awakens the system from power off state. The W-O-L will function when this system connected to ATX power supply.

The Choice: Enabled, Disabled.

IRQ 8 Break Suspend
You can Enable or Disable monitoring of IRQ8 so it does not awaken the system from Suspend mode.

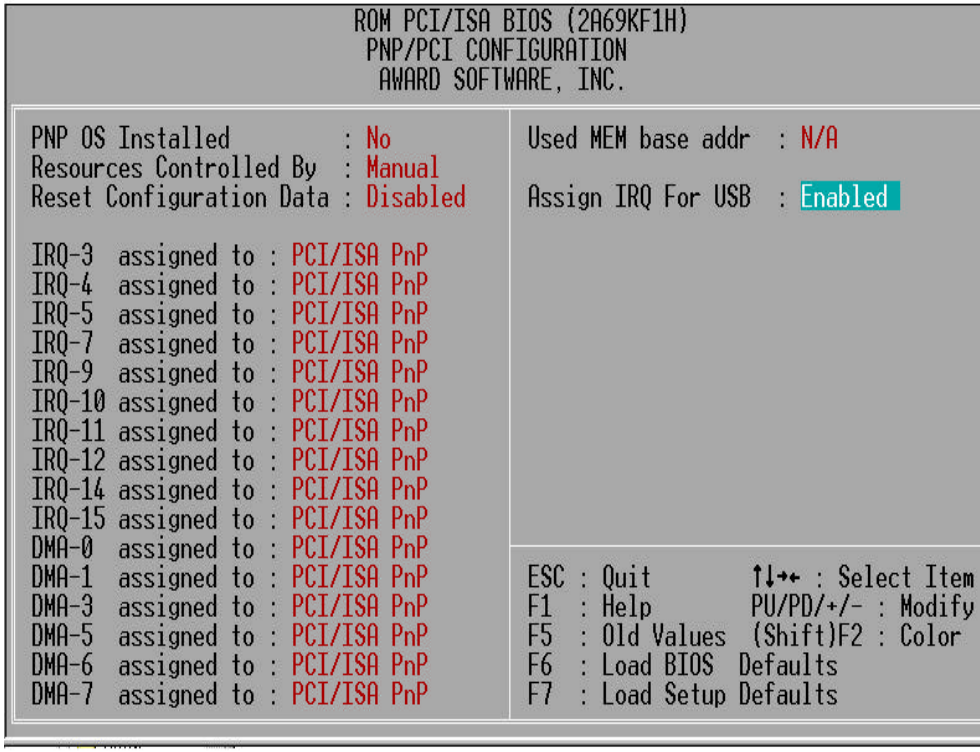
The Choice: Enabled, Disabled.

Reload Global Timer Events
When Enabled, an event occurring on each device listed below restarts the
global time for Standby mode.

IRQ[3 -7, 9-15], NMI
Primary IDE 0
Primary IDE 1
Secondary IDE 0
Secondary IDE 1
Floppy Disk
Serial Port
Parallel Port

4.2.8. PnP/PCI Configuration

This section describes configuring the PCI bus system. PCI, or Personal Computer Interconnect, is a system which allows I/O devices to operate at speed nearing the speed the CPU itself uses when communicating with its own special components. This section covers some very technical items and it is strongly recommended that only experienced users should make any changes to the default settings.



PnP OS Installed
Select "Yes" if the system-operating environment is Plug-and-Play aware (e.g., Windows 95).

The Choice: Yes and No.

Resource Controlled by
The Award Plug and Play BIOS can automatically configure all the boot and Plug and Play-compatible devices. If you select Auto, all the interrupt request (IRQ) and DMA assignment fields disappear, as the BIOS automatically assign them.

The choice: Auto and Manual.

Reset Configuration Data
Normally, you leave this field Disabled. Select Enabled to reset Extended System Configuration Data (ESCD) when you exit Setup if you have installed a new add-on and the system reconfiguration has caused such a serious conflict that the operating system cannot boot.

The choice: Enabled and Disabled.

IRQ n Assigned to
When resources are controlled manually, assign each system interrupt as one of the following types, depending on the type of device using the interrupt:

Legacy ISA Devices compliant with the original PC AT bus specification, requiring a specific interrupt (such as IRQ4 for serial port 1).

PCI/ISA PnP Devices compliant with the Plug and Play standard, whether designed for PCI or ISA bus architecture.

DMA n Assigned to
PCI/ISA PnP Devices compliant with the Plug and Play standard, whether designed for PCI or ISA bus architecture. When resources are controlled manually, assign each system DMA channel as one of the following types, depending on the type of device using the interrupt:

Legacy ISA Devices compliant with the original PC AT bus specification, requiring a specific DMA channel.

PCI/ISA PnP Devices compliant with the Plug and Play standard, whether designed for PCI or ISA bus architecture.

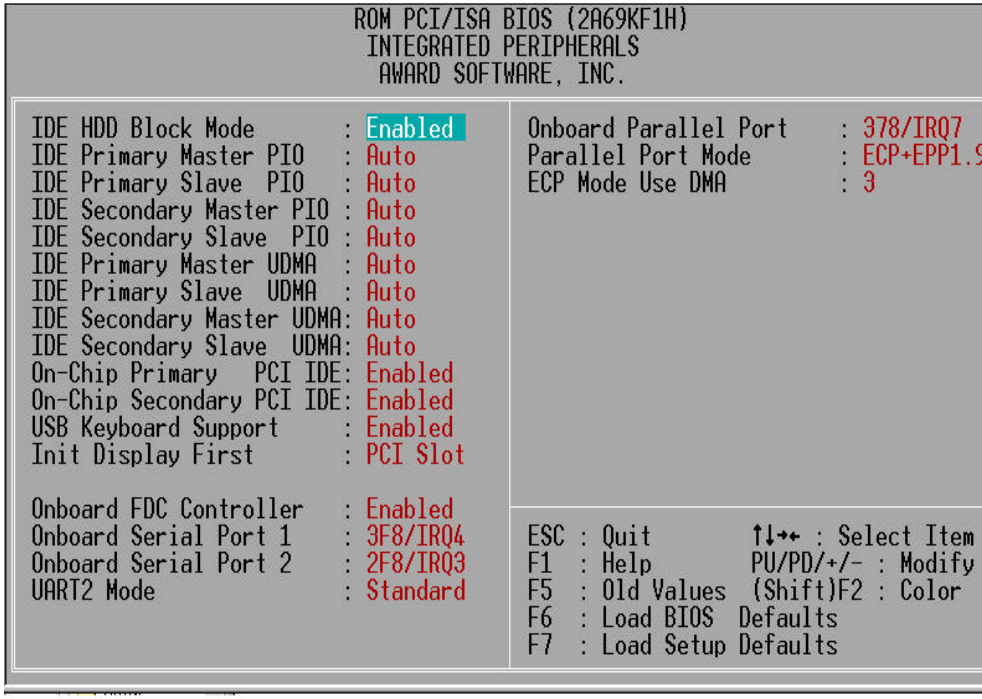
Used MEM base addr
Select a base address for the memory area used by any peripheral that requires high memory.

The Choice: C800, CC00, D000, D500, D800, DC00, N/A.

Assign IRQ for USB
Enable / Disable system to assign IRQ channel to USB devices.

4.2.9.Integrated Peripherals

The menu sets up the connections between the CPU and the I/O ports and the hard disk controllers.
The printer unit specialized for the POS 500 uses COM3 and is assigned to 3E8h/IRQ 11.
The touch panel uses COM4 and is assigned to 2E8h/IRQ 10.




IDE HDD Block Mode
This allows your hard disk controller to use the fast block mode to transfer data to and from your hard disk drive (HDD).

| Item | Description |
|---|---|
| Enabled | IDE controller uses block mode. |
| Disabled | IDE controller uses standard mode. |

IDE Primary/Secondary Master/Slave PIO
The four IDE PIO (Programmed Input / Output) fields let you set a PIO mode (0-4) for each of the four IDE devices that the onboard IDE interface supports.
Modes 0 through 4 provide successively increased performance. In Auto mode, the system automatically determines the best mode for each device.

IDE Primary/Secondary Master/Slave UDMA
Ultra DMA/33 implementation is possible only if your IDE hard drive supports it and the operating environment includes a DMA driver (Windows 95 OSR2 or a third-party IDE bus master driver). If your hard drive and your system software both support Ultra DMA/33, select Auto to enable BIOS support.

The Choice: Auto, Disabled

On-Chip Primary/Secondary PCI IDE
The integrated peripheral controller contains an IDE interface with support for two IDE channels. Select Enabled to activate each channel separately.

USB Keyboard support
Select Enabled if your system contains a Universal Serial Bus (USB) controller and you have a USB keyboard.

The Choice: Enabled, Disabled.

Onboard FDD Controller
This should be enabled if your system has a floppy disk drive (FDD) installed on the system board and you wish to use it. Even when so equipped, if you add a higher performance controller, you will need to disable this feature.

The Choice: Enabled, Disabled.

Onboard Serial Port 1/Port 2
This item allows you to determine access onboard serial port 1/port 2 controller with which I/O addresses.

The Choice: 3F8/IRQ4, 2F8/IRQ3, 3E8/IRQ4, 2F8/IRQ3, Disabled, Auto.

Onboard Parallel Port
Select a logical LPT port name and matching address for the physical parallel (printer) port.

The choice: 378H/IRQ7, 278H/IRQ5, 3BCH/IRQ7, Disabled.

Parallel Port Mode
Select an operating mode for the onboard parallel port. Select Compatible or Extended unless you are certain both your hardware and software support EPP or ECP mode.

The choice: SPP, ECP + EPP1.7, EPP1.7 + SPP, EPP1.9 + SPP, ECP, ECP + EPP1.9, and Normal.

ECP Mode Use DMA
Select a DMA channel for the port. Choices are 3, 1.

### 4.2.10 Password Setting

When you select this function, a message appears at the center of the screen:

ENTER PASSWORD:

Type a password, up to eight characters, and press the Enter key.
Typing a password clears any previously entered password from CMOS.

Now the message changes:

CONFIRM PASSWORD:

Again, type the password and press the Enter key.
To clear the password, simply press the Enter key when asked to enter a password. Then the password function is disabled.

To abort the process at any time, press the Esc key.
In the Security Option item in the BIOS Features Setup screen, select System or Setup:

| Item | Description |
|---|---|
| System | Enter a password each time the system boots and whenever you enter setup. |
| Setup | IDE controller uses standard mode. |

## 4.3.BIOS Setup – VIA VT82C693 Chipset

Remark: We select the following model as sample to analysis how to setup System BIOS. For other model or updated BIOS information, please check with your supplier.

| MODEL | BOOK PC 3000 (B64) Series |
|---|---|
| CPU | Intel Pentium II /III SOCKET 370 |
| M / B | B64 support VT82C693 |
| BIOS | AWARD |

For above models of the 3000 series computer's BIOS is supplied by AWARD SOFTWARE, INC. AWARD'S BIOS Flash ROM has a built-in Setup program that allows users to modify the basic system configuration. This type of information is stored in battery-backed RAM of CMOS chipset so that it retains the Setup information when the power is turned off.

### 4.3.1 Starting the BIOS Setup

Power on the computer and press <Del> immediately will allow you to enter Setup. The other way to enter Setup is to power on the computer, when the below message appears briefly at the bottom of the screen during the POST (Power On Self Test), press <Del> key or simultaneously press <Ctrl>, <Alt>, and <Esc> keys.

TO ENTER SETUP BEFORE BOOT PRESS <CTRL-ALT-ESC> OR <DEL> KEY

If the message disappears before you respond and you still wish to enter Setup, restart the system to try again by turning it OFF then ON pressing the "RESET" button on the system case. You may also restart by simultaneously pressing <Ctrl>, <Alt>, and <Delete> keys. If you do not press the keys at the correct time and the system does not boot, an error message will be displayed and you will again be asked to,

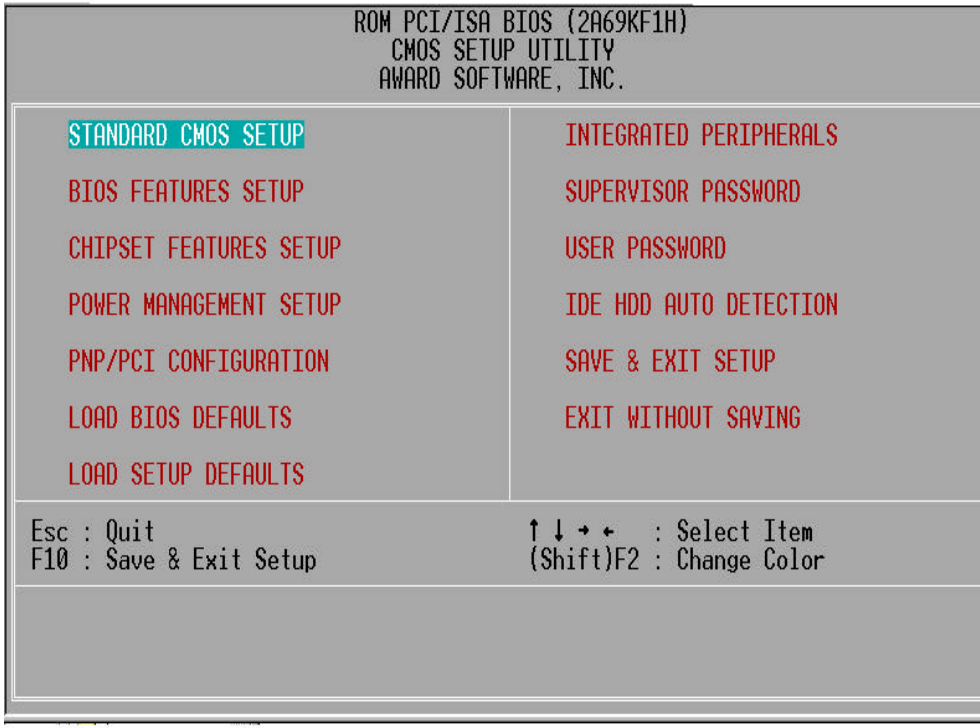
PRESS <F1> TO CONTINUE, <CTRL-ALT-ESC> OR <DEL> TO ENTER SETUP

4.3.2.Control Keys

| Control Keys | Description |
|---|---|
| Up arrow | Move to previous item |
| Down arrow | Move to next item |
| Left arrow | Move to the item to the left side |
| Right arrow | Move to the item to the right side |
| Esc key | Main Menu: Quit and do not save changes to CMOS.<br>Except Main Menu:<br>Exit current BIOS screen and return to Main Menu. |
| PgUp / "+" key | Increase the numeric value or make changes |
| PgDn / "–" key | Decrease the numeric value or make changes |
| F1 key | General help, only for Status Page Setup Menu and Option Page Setup Menu |
| F2,(Shift+F2) key | Change color from total 16 colors. F2 to select color forward, (Shift + F2) to select color backward |
| F3 key | Reserved |
| F4 key | Reserved |
| F5 key | Restore the previous CMOS value from CMOS, only for Option Page Setup Menu |
| F6 key | Load the default CMOS value from BIOS default table, only for Option Page Setup Menu |
| F7 key | Load the Setup default, only for Option Page Setup Menu |
| F8 key | Reserved |
| F9 key | Reserved |
| F10 key | Save all the CMOS value changes, only for Main Menu |

4.3.3 Main Menu

When the Main Menu is displayed, the following items can be selected. Use arrow keys to select items and the Enter key to accept and enter the sub-menu.




Standard CMOS setup
This setup page includes all the items in standard compatible BIOS.

BIOS features setup
This setup page includes all the items of AWARD special enhanced features.

Chipset features setup

This setup page includes all the items of chipset special features.

Power Management setup
This category determines how much power consumption for system after selecting below items. Default value is Disable.

PNP/PCI Configuration
This category specifies the value (in units of PCI bus clocks) of the latency timer for this PCI bus master and the IRQ level for PCI device.

Load BIOS defaults
BIOS defaults indicates the most appropriate value of the system parameter which the system would be in minimum performance.

Load setup defaults
Setup defaults indicates the values required by the system for the maximum performance.

Integrated Peripherals
Change, set, or disable on board supers I/O function.

Supervisor password & Password setting
Change, set, or disable password. It allows you to limit access to the system and Setup, or just to Setup.

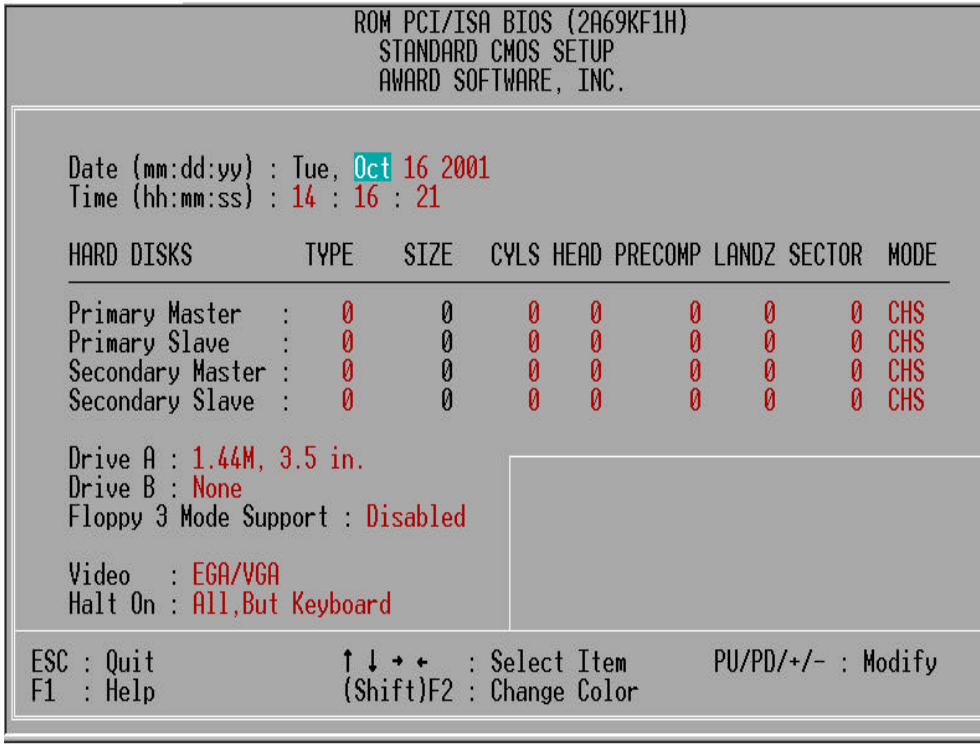
IDE HDD auto detection
Automatically configure hard disk parameters.

Save & exit setup
Save CMOS value changes to CMOS and exit setup.

Exit without save
Abandon all CMOS value changes and exit setup.

### 4.3.4 Standard CMOS Setup

In the standard CMOS menu, you can set the system clock and calendar, record disk drive parameters and the video subsystem type, and select the type of errors that stop the POST ( Power On Self Test).




Date

The date format is <day>, <date> <month> <year>. Press <F3> to show the calendar.

| Item | Description |
|---|---|
| Day | The day of week, from Sun to Sat, determined by the BIOS is read only |
| Date | The date, from 1 to 31 (or the maximum allowed in the month), can key in the numerical / function key |
| Month | The month, Jan. through Dec. |
| Year | The year, depend on the year of BIOS |

Time
The time format is <hour> <minute> <second>. Which accepts both function keys or numerical keys The time is calculated based on the 24-hour military-time clock. For example, 1 p.m. is 13:00:00.

Primary master / Primary slave / Secondary master / Secondary slave
The categories identify the types of hard disk drive C or drive D that has been installed in the computer. There are 45 predefined types and 1 user definable types and 1 automatic type for Normal BIOS. Type 1 to Type 45 are predefined. Type User is user-definable. Type Auto is auto-definition by your computer.

Press PgUp/<+> or PgDn/<–> to select a numbered hard disk type or type the number and press <Enter>. Note that the specifications of your drive must match with the drive table. The hard disk will not work properly if you enter improper information for this category. If your hard disk drive type is not matched or listed in 1 to 45, you can use Type User or Auto to define your own drive type manually or automatically.

If you select Type User, related information is asked to be entered to the following items. Enter the information directly from the keyboard and press <Enter>. This information should be provided in the documentation from your hard disk vendor or the system manufacturer.

If the controller of HDD interface is ESDI, the selection shall be "Type 1".
If the controller of HDD interface is SCSI, the selection shall be "None".
If the controller of HDD interface is CD-ROM, the selection shall be "None".

| Item | Description |
|---|---|
| CYLS. | number of cylinders |
| HEADS | number of heads |
| PRECOMP | write precom |
| LANDZONE | landing zone |
| SECTORS | number of sectors |
| MODE | HDD access mode |

If a hard disk has not been installed select NONE or Auto and press <Enter>.

Drive A / Drive B

The category identifies the types of floppy disk drive A or drive B that have been installed in the computer.

| Item | Description |
|---|---|
| None | No floppy drive installed |
| 360K, 5.25 in | 5-1/4 inch PC-type standard drive; 360 kilobyte capacity |
| 1.2M, 5.25 in | 5-1/4 inch AT-type high-density drive; 1.2 megabyte capacity |
| 720K, 3.5 in | 3-1/2 inch double-sided drive; 720 kilobyte capacity |
| 1.44M, 3.5 in | 3-1/2 inch double-sided drive; 1.44 megabyte capacity |
| 2.88M, 3.5 in | 3-1/2 inch double-sided drive; 2.88 megabyte capacity |

Video

The category selects the type of adapter used for the primary system monitor that must match your video display interface and monitor.

| Item | Description |
|---|---|
| EGA/VGA | Enhanced Graphics Adapter/video Graphics Array. For EGA, VGA, SVGA, or 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

The category determines whether the computer will stop if an error is detected during power up.

| Item | Description |
|---|---|
| No errors | Whenever the BIOS detects a non-fatal error the system will stop and you will be prompted. |
| All errors | The system boot will stop for any error that may be detected. |
| All, But Keyboard | The system boot will not stop for a keyboard error; it will stop for all other errors. |
| All, But Diskette | The system boot will not stop for a disk error; it will stop for all other errors. |
| All, But Disk/Key | The system boot will not stop for a keyboard or disk error; it will stop for all other errors. |

Memory

The category is display-only which is determined by POST (Power On Self Test) of the BIOS.

Base Memory

The POST of the BIOS will determine the amount of base (or conventional) memory installed in the system. The value of the base memory is typically 512K for systems with 512K memory installed on the motherboard, or 640K for systems with 640K or more memory installed on the motherboard.

Extended Memory

The BIOS determines how much extended memory is present during the POST. This is the amount of memory located above 1MB in the CPU's memory address map.

Other Memory

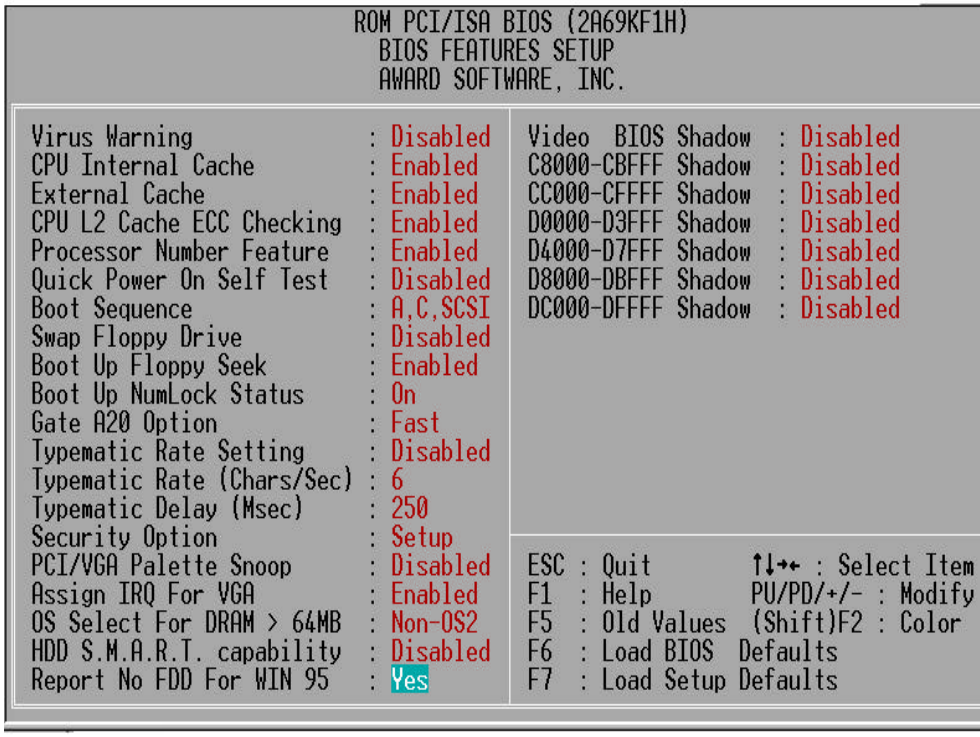
This refers to the memory located in the 640K to 1024K address space. This is memory that can be used for different applications. DOS uses this area to load device drivers to keep as much base memory free for application programs. Most use for this area is Shadow RAM.

Total Memory

System total memory is the sum of basic memory, extended memory, and other memory.

### 4.3.5 BIOS Features Setup

This menu sets up the BIOS feature.




Virus Warning

This category flashes on the screen. During and after the system boots up, any attempt to write to the boot sector or partition table of the hard disk drive will halt the system and the following error message will appear, in the mean time, you can run an anti-virus program to locate the problem.

WRNING !

Disk boot sector is to be modified
Type "Y" to accept write or "N" to abort write AWARD Software, Inc.

| Item | Description |
|---|---|
| Enabled | Activates automatically when the system boots up causing a warning message to appear when anything attempts to access the boot sector or hard disk partition table. |
| Disabled | No warning message to appear when anything attempts to access the boot sector or hard disk partition table. |

✎ Note:
This function is available only for DOS and other OSes that do not trap INT13.

CPU Internal Cache / External Cache

These two categories speed up memory access. However, it depends on CPU/chipset design. The default value is Enable. If your CPU is without Internal Cache then this item "CPU Internal Cache" will not appear.

| Item | Description |
|---|---|
| Enabled | Enable cache |
| Disabled | Disable cache |

Quick Power On Self Test

This category speeds up Power On Self Test (POST) after you power on the computer. If it is set to Enable, BIOS will shorten or skip some check items during POST.

| Item | Description |
|---|---|
| Enabled | Enable quick POST |
| Disabled | Normal POST |

Boot Sequence

This category determines which drive computer searches first for the disk operating system (i.e., DOS). Default value is A, C.

| Item | Description |
|---|---|
| A, C, SCSI | System will first search the floppy disk drive then hard disk drive for booting purpose |
| C, A, SCSI | System will first search the hard disk drive then floppy disk drive for booting purpose |
| C, CDROM, A | System will first search the harddisk drive then CDROM drive and the next is floppy disk drive for booting purpose |
| CDROM, C, A | System will first search the CDROM drive then harddisk drive and the next is floppy disk drive for booting purpose |
| D, A, SCSI | System will first search the hard disk D drive then floppy disk drive for booting purpose |
| E, A, SCSI | System will first search the hard disk E drive then floppy disk drive for booting purpose |
| F, A, SCSI | System will first search the hard disk F drive then floppy disk drive for booting purpose |
| SCSI, A, C | System will first search the SCSI hard disk drive then floppy disk drive for booting purpose |
| SCSI, C, A | System will first search the SCSI hard disk drive then hard disk drive for booting purpose |
| C only | System only search the hard disk drive for booting purpose |
| LS/ZIP, C | System will first search the LS120 drive then hard disk drive for booting purpose |

Swap Floppy Drive

| Item | Description |
|---|---|
| Enabled | Enable Floppy Drives A and B Swap function |
| Disabled | Disable Floppy Drives A and B Swap function |

Boot Up Floppy Seek

During POST, BIOS will determine if the floppy disk drive installed is 40 or 80 tracks. 360K type is 40 tracks while 720K, 1.2M and 1.44M are all 80 tracks.

| Item | Description |
|---|---|
| Enabled | BIOS searches for floppy disk drive to determine if it is 40 or 80 tracks. Note that BIOS can not tell from 720K, 1.2M or 1.44M drive type as they are all 80 tracks. |
| Disabled | BIOS will not search for the type of floppy disk drive by track number. Note that there will be no warning message if the drive installed is 360K. |

Boot Up NumLock Status

The default value is On.

| Item | Description |
|---|---|
| On | Keypad is number keys after boot-up |
| Off | Keypad is arrow keys after boot-up |

Gate A20 Option

This entry allows you to select how the gate A20 is handled. The gate A20 is a device used to address memory above 1 Mbytes. Initially, the gate A20 was support, it is more common, and much faster, for the chipset to provide support for A20.

| Item | Description |
|---|---|
| Normal | Handling gate A20 by keyboard |
| Fast | Handling gate A20 by chipset |

Typematic Rate Setting

This determines the typematic rate.

| Item | Description |
|---|---|
| Enabled | Enable typematic rate and typematic delay programming |
| Disabled | Disable typematic rate and typematic delay programming. The system BIOS will use default value of this 2 items and the default is controlled by keyboard. |

Typematic Rate (Chars/Sec)

When the typematic rate setting is enabled, this selection allows you select the rate at which the key is accelerated.

| Item | Description |
|---|---|
| 6 | 6 characters per second |
| 8 | 8 characters per second |
| 10 | 10 characters per second |
| 12 | 12 characters per second |
| 15 | 15 characters per second |
| 20 | 20 characters per second |
| 24 | 24 characters per second |
| 30 | 30 characters per second |

Typematic Delay (Msec)

When the typematic rate setting is enabled, this selection allows you to select the delay between when the key was first depressed and when the acceleration begins.

| Item | Description |
|---|---|
| 250 | 250 msec |
| 500 | 500 msec |
| 750 | 750 msec |
| 1000 | 1000 msec |

Security Option

This category allows you to limit access to the system and Setup, or just to Setup.

| Item | Description |
|---|---|
| System | The system will not boot and access to Setup will be denied if the correct password is not entered at the prompt. |
| Setup | The system will boot, but access to Setup will be denied if the correct password is not entered at the prompt. |

✎ Note:

To disable security, select PASSWORD SETTING at Main Menu and then you will be asked to enter password. Do not type anything and just press <Enter>, it will disable security. Once the security is disabled, the system will boot and you can enter Setup freely.

PCI/VGA Palette Snoop

It determines whether the MPEG ISA/VESA VGA cards can work with PCI/VGA or not.

| Item | Description |
|---|---|
| Enable | When PCI/GA works with MPEG ISA/VESA VGA card |
| Disable | When PCI/VGA doesn‘ t work with MPEG ISA/VESA card |

Assign IRQ For VGA

This item allows you to assign an IRQ for VGA use.

| Item | Description |
|---|---|
| Enabled | Allowed |
| Disabled | Restricited |

OS Select For DRAM > 64MB

This item allows you to access the memory that over 64MB in OS2.

| Item | Description |
|---|---|
| Non-OS2 | OS2 cannot access the memory address over 64MB |
| OS2 | OS2 can access the memory address over 64MB |

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

Enable, support hard disk drive quick start up function when re-boot system.

The Choice: Enable, Disable

Report No FDD for WIN 95

| Item | Description |
|---|---|
| Yes | Release IRQ channel for system after disable FDD function |
| No | Without release IRQ channel for system after disable FDD function |

Video BIOS Shadow

BIOS Shadow

It determines whether system BIOS will be copied to RAM or the system BIOS is always shadow to support LBA HDD.

| Item | Description |
|---|---|
| Enabled | System shadow is enabled |
| Disabled | System shadow is disabled |

Video ROM Shadow

It determines whether video ROM will be copied to RAM, however, it is optional from chipset design. Video Shadow will increase the video speed.

| Item | Description |
|---|---|
| Enabled | Video shadow is enabled |
| Disabled | Video shadow is disabled |

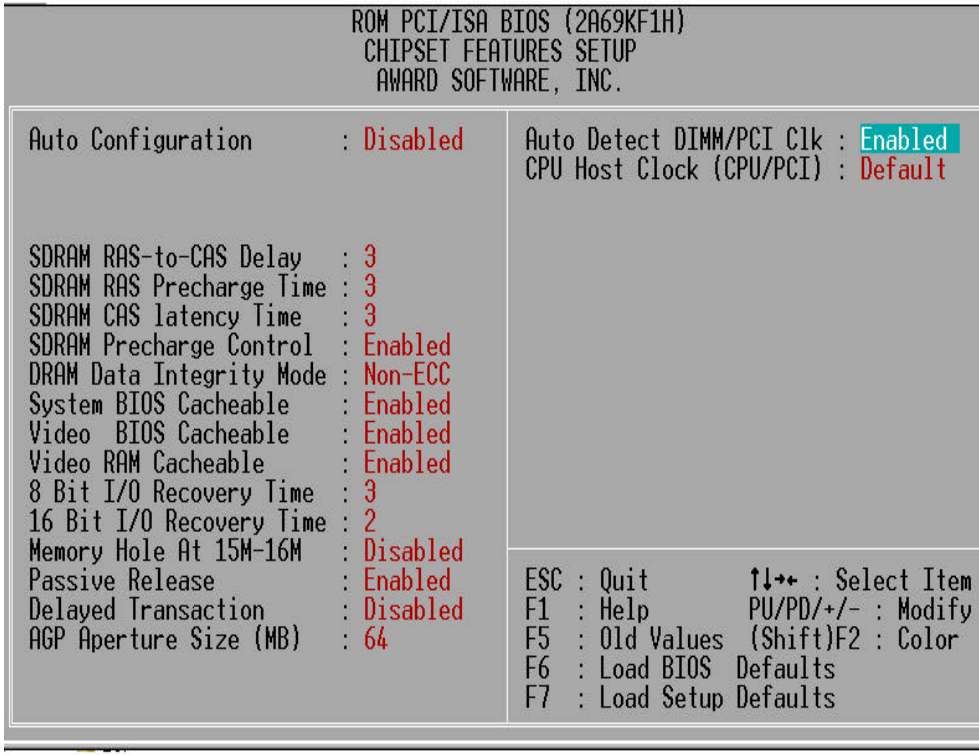
C8000 - CBFFF Shadow / CC000 - CFFFF Shadow / D0000 - D3FFF Shadow / D5000 - D7FF Shadow /D8000 - DBFFF Shadow / DC000 - DFFFF Shadow

These categories determine whether optional ROMs will be copied to RAM. An example of such option ROM would be support of SCSI add-on card.

| Item | Description |
|---|---|
| Enabled | Optional shadow is enabled |
| Disabled | Optional shadow is disabled |

4.3.6 Chipset Feature Setup

In the chipset feature setup menu, you can set the following items for chipset feature.




The parameters in this screen are to configure the system based on the specific features of the installed chipset. This chipset manages bus speeds and access to system memory resources, such as DRAM and the external cache. It also coordinates communications between the conventional ISA bus and the PCI bus. Do not reset these values unless you understand the consequences of your changes.

Auto Configuration

Auto Configuration selects predetermined optimal values of chipset parameters.

When Disabled, chipset parameters revert to setup information stored in CMOS.
Many fields in this screen are not available when Auto Configuration is Enabled.

The Choice: Enabled, Disabled.

EDO DRAM Speed Selection

| Item | Description |
|---|---|
| 50ns | DRAM Timing Type. |
| 60ns | DRAM Timing Type. |

EDO CASx# MA Wait State

You could select the wait state timing control type of EDO DRAM CAS MA (memory address bus).

The choice: 1, 2.

EDO RASx# Wait State

You could select the wait state timing control type of EDO DRAM CAS MA (memory address bus).

The choice: 1, 2.

SDRAM RAS-to-CAS Delay

You can select RAS to CAS Delay time in HCLKs of 2/2 or 3/3. The system board designer should set the values in this field, depending on the SDRAM installed. Do not change the values in this field unless you change specifications of the installed SDRAM or the installed CPU.

The Choice: 2, 3.

SDRAM RAS Precharge Time

Defines the length of time for SDRAM Row Address Strobe is allowed to precharge.

The Choice: 2, 3.

SDRAM CAS latency Time

Define the length of time for SDRAM CAS latency time.

The Choice: 2, 3.

SDRAM Precharge Control

Defines the length of time for Row Address Strobe is allowed to precharge.

The Choice: Disable, Enable.

DRAM Data Integrity Mode

Select Parity or ECC (error-correcting code), according to the type of installed DRAM.

The Choice: Non-ECC, ECC.

System BIOS Cacheable

Select Enabled allows caching of the system BIOS ROM at F000h-FFFFFh,
resulting in better system performance. However, if any program writes to this memory area, a system error may result.

| Item | Description |
|---|---|
| Enabled | BIOS access cached |

Video BIOS Cacheable

Select Enabled allows caching of the video BIOS ROM at C0000h-F7FFFh, resulting in better video performance. However, if any program writes to this memory area, a system error may result.

| Item | Description |
|---|---|
| Enabled | Video BIOS access cached |
| Disabled | Video BIOS access not cached |

Video RAM Cacheable

Select Enabled allows caching of the video RAM, resulting in better system performance. However, if any program writes to this memory area, a system error may result.

8 Bit I/O Recovery Time

The recovery time is the length of time, measured in CPU clocks, which the system will delay after the completion of an input/output request. This delay takes place because the CPU is operating so much faster than the input/output bus that the CPU must be delayed to allow for the completion of the I/O.

This item allows you to determine the recovery time allowed for 8 bit I/O. Choices are from NA, 1 to 8 CPU clocks.

16 Bit I/O Recovery Time

This item allows you to determine the recovery time allowed for 16 bit I/O. Choices are from NA, 1 to 4 CPU clocks.

Memory Hole At 15M-16M

In order to improve performance, certain space in memory can be reserved for ISA cards. This memory must be mapped into the memory space location 15-16MB.

| Item | Description |
|---|---|
| Enabled | Memory hole supported. |
| Disabled | Memory hole not supported. |

Passive Release

When Enabled, CPU to PCI bus accesses is allowed during passive release. Otherwise, the arbiter only accepts another PCI master access to local DRAM.

The Choice: Enabled, Disabled.

Delay Transaction

The chipset has an embedded 32-bit posted write buffer to support delay transactions cycles. Select Enabled to support compliance with PCI specification version 2.1.

The Choice: Enabled, Disabled.

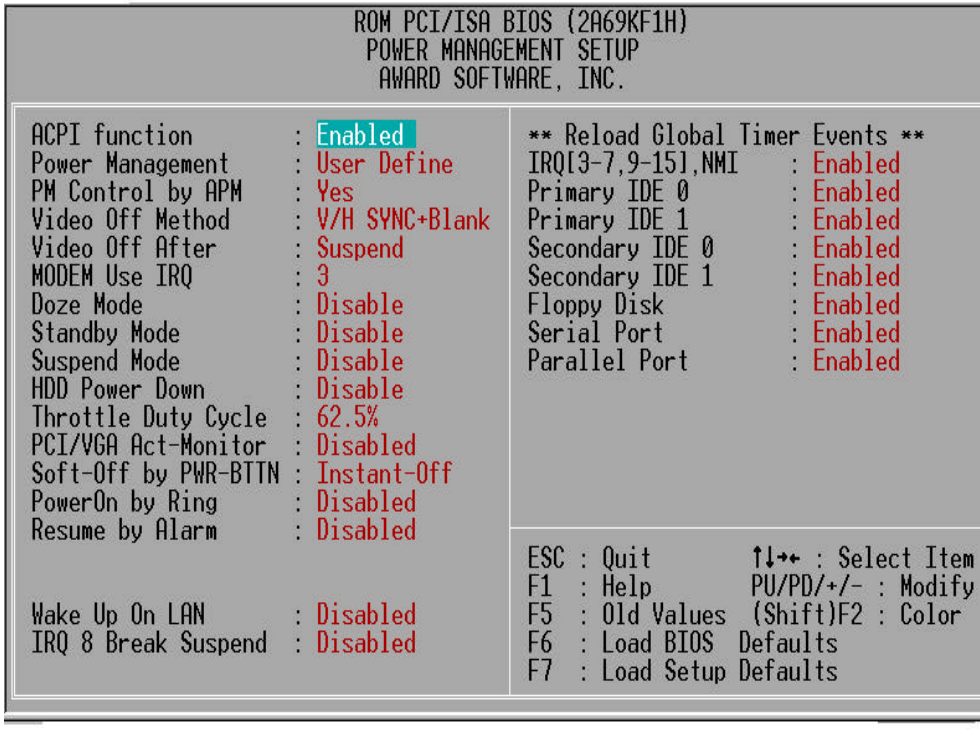
AGP Aperture Size (MB)

Select the size of the Accelerated Graphics Port (AGP) aperture. The aperture is a portion of the PCI memory address range dedicated for graphics memory address space. Host cycles that hit the aperture range are forwarded to the AGP without any translation. See www.agpforum.org for AGP information.

The Choice: 4, 8, 16, 32, 64, 128, 256

### 4.3.7 Power Management Setup

In the power management menu, you can set the following items for power management.




Power Management

This category allows you to select the type (or degree) of power saving and is directly related to the following modes:

1. Doze Mode
2. Standby Mode
3. Suspend Mode
4. HDD Power Down

There are four selections for Power Management, three of which have fixed mode settings.

| Item | Description |
|---|---|
| Disable (default) | No power management. Disables all four modes |
| Min. Power Saving | Minimum power management. Doze Mode = 1 hr. Standby Mode = 1 hr., Suspend Mode = 1 hr., and HDD Power Down = 15 min. |
| Max. Power Saving | Maximum power management -- **ONLY AVAILABLE FOR SL CPU' S**. Doze Mode = 1 min., Standby Mode = 1 min., Suspend Mode = 1 min., and HDD Power Down = 1 min. |
| User Defined | Allows you to set each mode individually. When not disabled, each of the ranges are from 1 min. to 1 hr. except for HDD Power Down which ranges from 1 min. to 15 min. and disable. |

PM Control By APM

The option of power management is subject to the operation system which supports APM (Advanced Power Management ) function; e.g. WIN 95 /WIN 98.

When enabled, an Advanced Power Management device will be activated To enhance the Max. Power Saving mode and stop the CPU internal clock. If the Max. Power Saving is not enabled, this will be preset to No.

Video Off Method

This determines the manner in which the monitor is blanked.

| Item | Description |
|---|---|
| V/H SYNC+Blank | This selection will cause the system to turn off the vertical and horizontal synchronization ports and write blanks to the video buffer. |
| Blank Screen | This option only writes blanks to the video buffer. |
| DPMS | Initial display power management signaling. |

Video Off After

When enabled, this feature allows the VGA adapter to operate in a power saving mode.

| Item | Description |
|---|---|
| N/A | Monitor will remain on during power saving modes. |
| Suspend | Monitor blanked when the system enters the Suspend mode. |
| Standby | Monitor blanked when the system enters Standby mode. |

| | |
|---|---|
| Doze | Monitor blanked when the system enters any power saving mode. |

MODEM Use IRQ

Name the interrupt request (IRQ) line assigned to the modem (if any) on your system. Activity of the selected IRQ always awakens the system.

The choices: NA, 3, 4, 5, 7, 9, 10, 11

Doze Mode

When enabled and after the set time of system inactivity, the CPU clock will run at slower speed while all other devices still operate at full speed.

Standby Mode

When enabled and after the set time of system inactivity, the CPU clock will run at lower speed and the video would be shut off while all other devices still operate at full speed.

Suspend Mode

When enabled and after the set time of system inactivity, all devices except the CPU will be shut off.

HDD Power Down

When enabled and after the set time of system inactivity, the hard disk drive will be powered down while all other devices remain active.

Throttle Duty Cycle

When the system enters Doze mode, the CPU clock runs only part of the time. You may select the percent of time that the clock runs.
The Choice: 12.5%, 25.0%, 37.5%, 50.0%, 62.5%, 75.0%

PCI/VGA Act Monitor

When Enabled, any video activity restarts the global timer for Standby mode.

The Choice: Enabled, Disabled.

Soft-Off by PWR-BTTN
When Enabled, turning the system off with the on/off button places the system in a very low-power-usage state, with only enough circuitry receiving power to detect power button activity or Resume by Ring activity.

The Choice: Instant-Off, Delay 4 Sec.

PowerOn by Ring
An input signal on the serial Ring Indicator (RI) line (in other words, an incoming call on the modem) awakens the system from power off state.

The Choice: Enabled, Disabled.

Resume by Alarm
To set Date and Time to resume the system.

Wake Up On LAN
An input signal on the mainboard control by LAN chip awakens the system from power off state. The W-O-L will function when this system connected to ATX power supply.

The Choice: Enabled, Disabled.

IRQ 8 Break Suspend
You can Enable or Disable monitoring of IRQ8 so it does not awaken the system from Suspend mode.

The Choice: Enabled, Disabled.

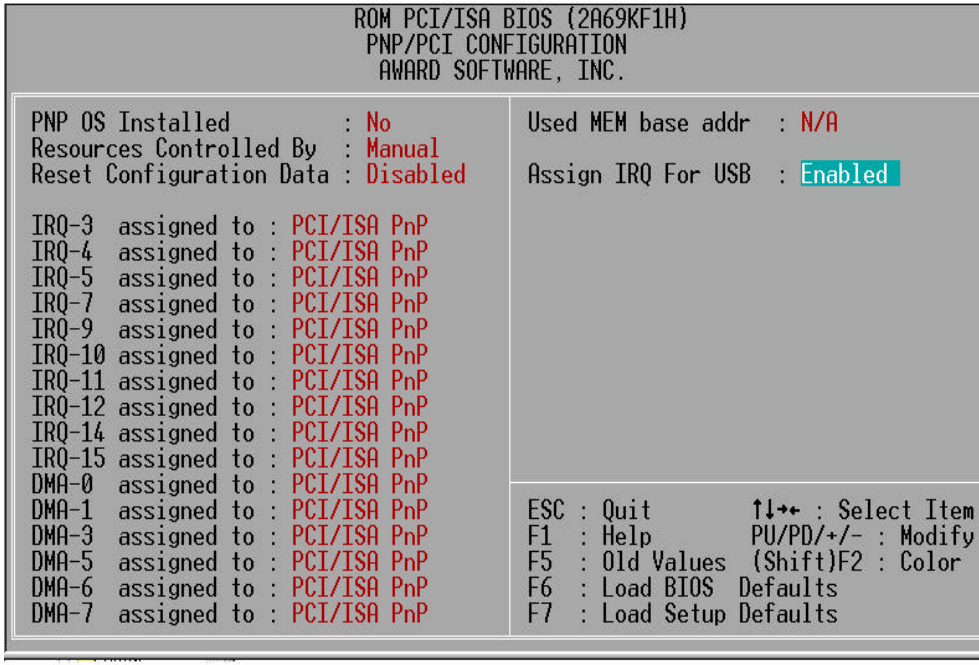
Reload Global Timer Events
When Enabled, an event occurring on each device listed below restarts the
global time for Standby mode.

IRQ[3 -7, 9-15], NMI
Primary IDE 0

Primary IDE 1
Secondary IDE 0
Secondary IDE 1
Floppy Disk
Serial Port
Parallel Port

### 4.3.8. PnP/PCI Configuration

This section describes configuring the PCI bus system. PCI, or Personal Computer Interconnect, is a system which allows I/O devices to operate at speed nearing the speed the CPU itself uses when communicating with its own special components. This section covers some very technical items and it is strongly recommended that only experienced users should make any changes to the default settings.



PnP OS Installed
Select "Yes" if the system-operating environment is Plug-and-Play aware (e.g., Windows 95).

The Choice: Yes and No.

Resource Controlled by
The Award Plug and Play BIOS can automatically configure all the boot and Plug and Play-compatible devices. If you select Auto, all the interrupt request (IRQ) and DMA assignment fields disappear, as the BIOS automatically assign them.

The choice: Auto and Manual.

Reset Configuration Data
Normally, you leave this field Disabled. Select Enabled to reset Extended System Configuration Data (ESCD) when you exit Setup if you have installed a new add-on and the system reconfiguration has caused such a serious conflict that the operating system cannot boot.

The choice: Enabled and Disabled.

IRQ n Assigned to
When resources are controlled manually, assign each system interrupt as one of the following types, depending on the type of device using the interrupt:

Legacy ISA Devices compliant with the original PC AT bus specification, requiring a specific interrupt (such as IRQ4 for serial port 1).

PCI/ISA PnP Devices compliant with the Plug and Play standard, whether designed for PCI or ISA bus architecture.

DMA n Assigned to
PCI/ISA PnP Devices compliant with the Plug and Play standard, whether designed for PCI or ISA bus architecture. When resources are controlled manually, assign each system DMA channel as one of the following types, depending on the type of device using the interrupt:

Legacy ISA Devices compliant with the original PC AT bus specification, requiring a specific DMA channel.

PCI/ISA PnP Devices compliant with the Plug and Play standard, whether designed for PCI or ISA bus architecture.

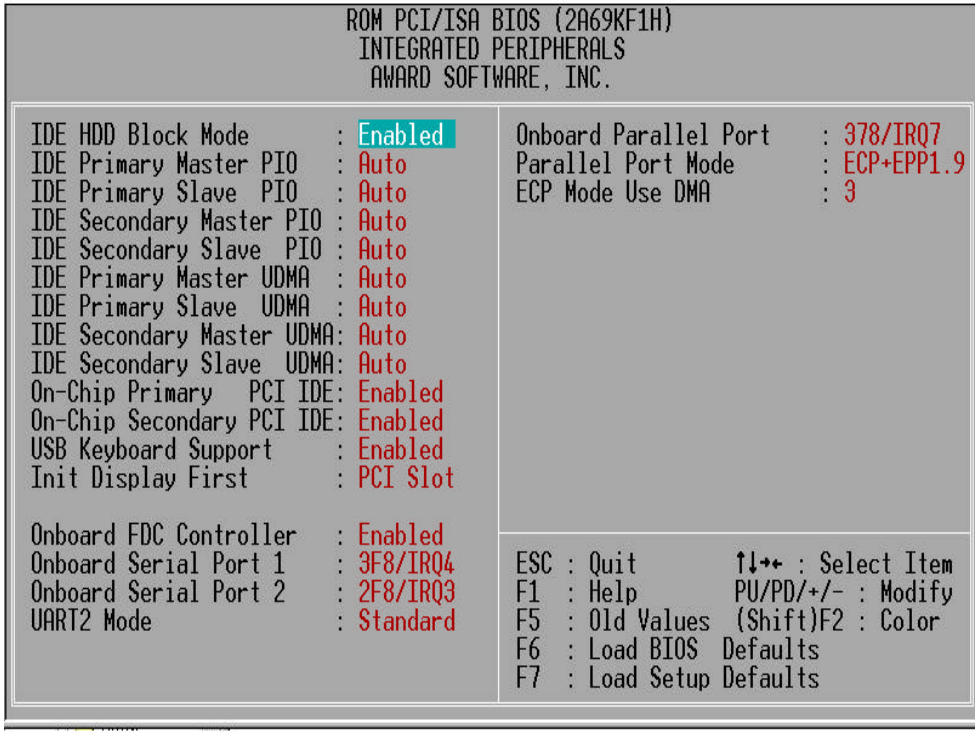
Used MEM base addr
Select a base address for the memory area used by any peripheral that requires high memory.

The Choice: C800, CC00, D000, D500, D800, DC00, N/A.

Assign IRQ for USB
Enable / Disable system to assign IRQ channel to USB devices.

4.3.9.Integrated Peripherals

The menu sets up the connections between the CPU and the I/O ports and the hard disk controllers.
The printer unit specialized for the POS 500 uses COM3 and is assigned to 3E8h/IRQ 11.
The touch panel uses COM4 and is assigned to 2E8h/IRQ 10.



IDE HDD Block Mode
This allows your hard disk controller to use the fast block mode to transfer data to and from your hard disk drive (HDD).

| Item | Description |
|---|---|
| Enabled | IDE controller uses block mode. |
| Disabled | IDE controller uses standard mode. |

IDE Primary/Secondary Master/Slave PIO
The four IDE PIO (Programmed Input / Output) fields let you set a PIO mode (0-4) for each of the four IDE devices that the onboard IDE interface supports.
Modes 0 through 4 provide successively increased performance. In Auto mode, the system automatically determines the best mode for each device.

IDE Primary/Secondary Master/Slave UDMA
Ultra DMA/33 implementation is possible only if your IDE hard drive supports it and the operating environment includes a DMA driver (Windows 95 OSR2 or a third-party IDE bus master driver). If your hard drive and your system software both support Ultra DMA/33, select Auto to enable BIOS support.

The Choice: Auto, Disabled

On-Chip Primary/Secondary PCI IDE
The integrated peripheral controller contains an IDE interface with support for two IDE channels. Select Enabled to activate each channel separately.

USB Keyboard support
Select Enabled if your system contains a Universal Serial Bus (USB) controller and you have a USB keyboard.

The Choice: Enabled, Disabled.

Onboard FDD Controller
This should be enabled if your system has a floppy disk drive (FDD) installed on the system board and you wish to use it. Even when so equipped, if you add a higher performance controller, you will need to

disable this feature.

The Choice: Enabled, Disabled.

Onboard Serial Port 1/Port 2
This item allows you to determine access onboard serial port 1/port 2 controller with which I/O addresses.

The Choice: 3F8/IRQ4, 2F8/IRQ3, 3E8/IRQ4, 2F8/IRQ3, Disabled, Auto.

Onboard Parallel Port
Select a logical LPT port name and matching address for the physical parallel (printer) port.

The choice: 378H/IRQ7, 278H/IRQ5, 3BCH/IRQ7, Disabled.

Parallel Port Mode
Select an operating mode for the onboard parallel port. Select Compatible or Extended unless you are certain both your hardware and software support EPP or ECP mode.

The choice: SPP, ECP + EPP1.7, EPP1.7 + SPP, EPP1.9 + SPP, ECP, ECP + EPP1.9, and Normal.

ECP Mode Use DMA
Select a DMA channel for the port. Choices are 3, 1.

### 4.3.10 Password Setting

When you select this function, a message appears at the center of the screen:

ENTER PASSWORD:

Type a password, up to eight characters, and press the Enter key.
Typing a password clears any previously entered password from CMOS.

Now the message changes:

CONFIRM PASSWORD:

Again, type the password and press the Enter key.
To clear the password, simply press the Enter key when asked to enter a password. Then the password function is disabled.

To abort the process at any time, press the Esc key.
In the Security Option item in the BIOS Features Setup screen, select System or Setup:

| Item | Description |
|---|---|
| System | Enter a password each time the system boots and whenever you enter setup. |
| Setup | IDE controller uses standard mode. |

# Appendix A. Fast Ethernet PCI Bus Controller

The Book PC 3000 series "B64" main board support the Riser Card integrated with Intel 82559ER or 82559C LAN chip, or Riser Integrated with 8139C LAN chip. Below illustrate basic feature about LAN chip.

1. The Feature of Intel 82559ER Fast Ethernet PCI Controller

- Integrated IEEE802.3 10BASE-T and 100BASET-TX compatible PHY
- ACPI and PCI Power Management
- Power management event on "interesting" packets and link status change support
- 3 Kbyte transmit and 3 Kbyte receive FIFO's
- Fast back-to-back transmission support with minimum interface spacing
- Efficient dynamic standby mode
- Deep power down support
- Clockrun protocol support

2. The Feature of Intel 82559 Fast Ethernet PCI Controller

- Integrated IEEE802.3 10BASE-T and 100BASET-TX compatible PHY
- Modem interface for combination solution in PCI, CardBus, and MiniPCI design
- PXE Support in Combo Design
- Integrated power management function
- ACPI and PCI Power Management
- Wake on "interesting" packets and link status charge support
- Magic Packet support
- Remote power up support
- 3 Kbyte transmit and 3 Kbyte receive FIFO's
- Fast back-to-back transmission support with minimum interface spacing
- Efficient dynamic standby mode
- Deep power down support
- Clockrun protocol support

3. The Feature of Reltek8139C Fast Ethernet PCI Controller

- Supports 10Mb's and 100MBb\s N-way Auto negotiation operation

- Supports Wake-On-LAN function and remote wake-up(Magic-Packet, LinkChg and Microsoft® wake-up frame)
- Supports 4 Wake-On-LAN (WOL) signals (active high, active low, active pulse, and negative pulse)
- Half/Full duplex capability
- Supports Full/Duplex Flow Control (IEEE 802.3x)