

A350M-LSV

A350M-LSVF

MAINBOARD

MANUAL

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Overview

This microATX-sized mainboard is based on the ATI® RADEON 9000-Pro-IGP chipset (RC350L + IXP 150), which support the high performance of Intel® CPUs. Its superb graphics come from the integration of a DX8.1-level Radeon ® 9200 GPU core in the North bridge and is designed for the latest 478-pin Pentium® 4 processors.

Two onboard DDR memory sockets allow DDR266/333/400 SDRAM for up to 2 GB of memory capacity. Support for ATA-100 protocol and its high-speed interface further ensures that data transfer speeds are improved, especially for the long sequential transfers required by audio/visual applications. The board features onboard SPDIF output and LAN functions. It is completely software compatible with your operating system. For more details, please read the help file in the included CD.

The board comes with an extensive range of I/O features such as 2 serial ports, 1 VGA port, 1 parallel port, 1 LAN, 1 PS/2 mouse and 1 PS/2 keyboard connector, 6 USB 2.0 ports, 2 1394 ports (optional) , 1 media connector (front audio, Line-in, Line-out and Mic-in). In addition, the board is equipped with 2 IDE connectors. Ample expansion is available through 3 PCI and 1AGP 8X slots, allowing for enjoyment of the P4 CPU's benefits in internet applications and video/3D graphics performance.

Other key features are Remote On/Off, Auto Power Failure Recovery, integrated temperature monitoring, and system fan control.

Package Checklist

If you discover any item below was damaged or lost, please contact your vendor.



Mainboard



**Floppy Drive
Cable**



**80-Pin IDE
Ribbon Cable**



**USB Bracket
with Cable
(optional)**



I/O Shielding



Manual



Drivers

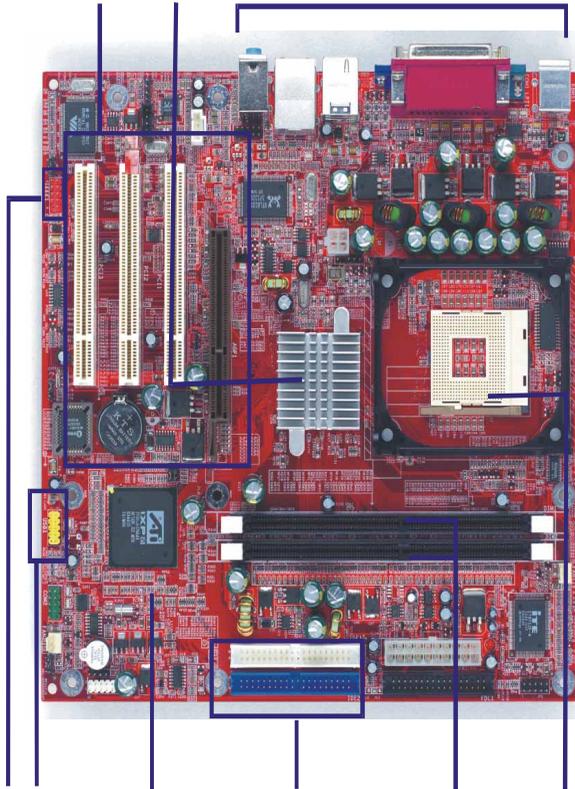


NOTE: The driver CD, which contains patch files, onboard video/ audio chip drivers, related online help and other useful information, can be found in your mainboard package.

*Please install it immediately after your Windows operating system installation is complete. Place driver CD in the drive and an operating menu will appear on your monitor. Please select **Auto Installation**. It will automatically detect which software tools (patch files, drivers) the mainboard needs. Press **OK** to go through the whole installation procedure in a very straight forward and easy way. It will also provide you with a custom installation feature to select the patch files and software drivers you want for the onboard chip's use.*

The A350M-LSV/ LSVF Mainboard

3 PCI's RADEON
& 1 AGP RC350L Integrated I/O
Connectors



1394 Port (A350M-LSVF MODEL ONLY)
Extra USB Ports for Front Panel
RADEON IXP 150
2 IDE Connectors
2 DDR SDRAM DIMMs
478-Pin Socket for Intel CPUs

Main Features

■ CPU

- Intel® Pentium® 4 (Prescott and Northwood) processor up to 3.2GHz
 - Intel Hyper-Threading Technology
 - FSB: 533MHz (over clocking 800MHz)
- Intel® Celeron® processor
 - 400MHz system data bus

■ CPU Socket

Socket 478

■ Chipset

North Bridge: *ATI® Radeon RC350L*
South Bridge: *ATI® IXP 150*

■ Memory

2 memory sockets:
Support Single channel DDR266/333/400
SDRAM memory size totally up to 2 GBs

■ Expansion Slots

1 AGP Slot: support 4X/8X (1.5V)
3 PCI Slots: Rev. 2.2 32-bit (3.3V/5V PCI bus interface) slots

■ LAN

RTL8100C™ 10/100 Fast Ethernet

■ Audio Features

Realtek 6 channel AC97 codec
LINE_IN, LINE_OUT, MICROPHONE_IN Jack
Front audio pinheaders
5.1 channel audio

■ **I/O Ports**

- 2 IDE connectors -
Ultra DMA 66/100 up to 4 devices
- COM1 and COM2 (pinheader)
- 1 VGA port
- 1 Parallel port
- 1 PS/2 mouse and PS/2 keyboard
- 6 USB ports

■ **Mounting Holes**

- 9 Holes

■ **Mainboard Size**

- 9.6 x 9.6 (unit: inch)

■ **IEEE 1394 Ports** (*IEEE 1394 model only*)

- VT6307
- 2 Ports
- 1 Bracket with cable (*optional*)

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Installation Procedures

This mainboard has several user-adjustable jumpers that allow you to configure the system to suit your requirements. This chapter contains information on the various jumper settings on your mainboard.

To set up your computer, you must complete the following steps:

- Step 1 - **Set system jumpers.**
- Step 2 - **Install memory modules.**
- Step 3 - **Install the Central Processing Unit (CPU).**
- Step 4 - **Install expansion cards.**
- Step 5 - **Connect ribbon cables, cabinet wires and power supply.**
- Step 6 - **Set up BIOS software.**
- Step 7 - **Install supporting software tools.**



WARNING: *Excessive torque may damage the mainboard. When using an electric screwdriver on the mainboard, make sure that the torque is set to the allowable range of 5.0 ~ 8.0kg/cm.*

Mainboard components contain very delicate Integrated Circuit (IC) chips. To prevent static electricity from harming any of the sensitive components, you should follow the following precautions whenever working on the computer:

1. *Unplug the computer when working on the inside.*
2. *Hold components by the edges and try not to touch the IC chips, leads or circuitry.*
3. *Wear an anti-static wrist strap.*
4. *Place components on a grounded anti-static pad, or on the bag that came with the component, whenever the components are separated from the system.*

1.) Set System Jumpers

Jumpers are used to select the operation modes for your system. Some jumpers on the board have three metal pins with each pin representing a different function. A **1** is written besides pin 1 on jumpers with three pins. To **set** a jumper, a black cap containing metal contacts is placed over the jumper pin(s) according to the required configuration. A jumper is said to be **shorted** when the black cap has been placed on one or two of its pins.



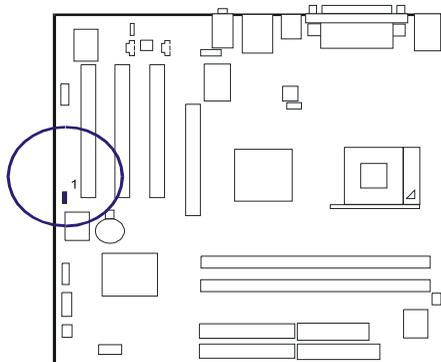
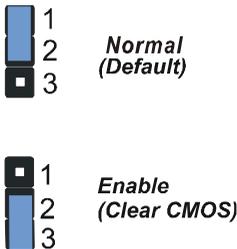
NOTE: Users are not encouraged to change to jumper settings not listed in this manual. Changing the jumper settings improperly may adversely affect system performance.

Clear CMOS

The CMOS RAM is powered by the onboard button battery.

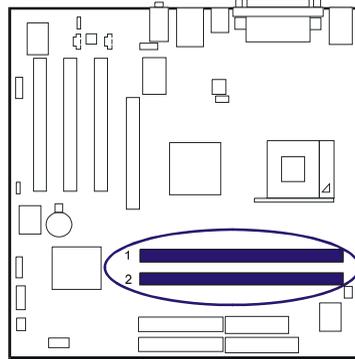
To clear the RTC data:

- (1) Turn off your computer;
- (2) Open the system case and disconnect the ATX power cable;
- (3) Place the jumper cap onto the pinpair 2-3 for at least 6 seconds to enable CMOS clearance;
- (4) Place the jumper cap onto the pinpair 1-2 to disable the effect of CMOS clearance;
- (5) Connect the ATX power cable and close the system case;
- (6) Turn on your computer until *CMOS checksum error* appears;
- (7) Hold down the *Delete* key as it boots;
- (8) Enter the BIOS Setup to re-enter user preferences.



2.) Install Memory Modules

1. Locate DDR DIMM sockets on the mainboard.



2. Install DDR DIMM straight down into socket 1, using both hands, then socket 2, and so forth.

3. The clip on both ends of the socket will close to hold the DDR DIMM in place when the DDR DIMM reaches the bottom of the socket.



NOTE:

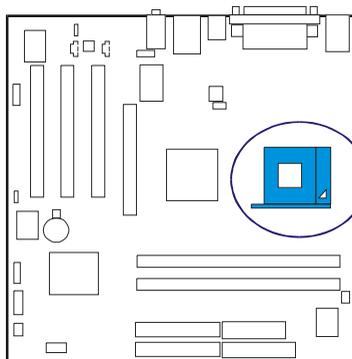
If you use dual channel memory modules, they must be identical.

4. Press the clips outward with both hands to remove the DIMM.

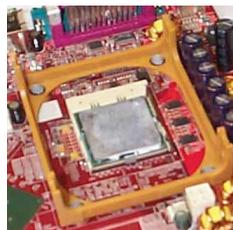
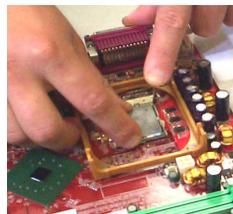
3.) Install the CPU

The mainboard has a built-in Switching Voltage Regulator to support CPU Vcore autodetection. That is, it has the ability to detect and recognize the CPU's condition from the BIOS Setup Screen.

The procedure below shows you how to install your CPU, its fan and heatsink. Before you begin, locate the CPU socket on the mainboard.



1. Swing the lever upward to 90 degrees.
2. Install the CPU and make sure of the pin 1 orientation by aligning the socket corner marking with the socket corner closest to the lever tip. Do not insert the CPU by force. Make sure the processor is fully inserted into the socket on all sides. Apply some thermal material, such as paste or tape, on the CPU top.



Affix the CPU by pressing the lever downward and locking it beside the socket.

3. Place the fan with heatsink on top of the CPU and press down on the two plastic clips, them of with the holes on two sides the retention module.



NOTE:

Be sure to install a fan with a heatsink that is approved by the CPU manufacturer to avoid CPU damage. For detail information, please refer to the CPU manufacturer's website.

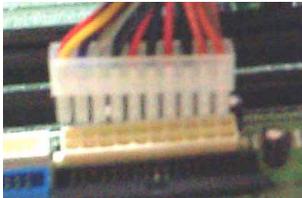
4. Press down the white bar on each clip to fasten the fan set on the retention module.



Connect ATX Power

The 20-hole power plug (top right) is connected to the ATX power 20-pin pinheaders. The 4-hole 12V power plug (bottom right) is inserted in the ATX_12V power connector.

The plug from the power supply can only be inserted in one orientation because of the different hole sizes. Find the proper orientation and push down firmly, making sure that the pins are aligned.



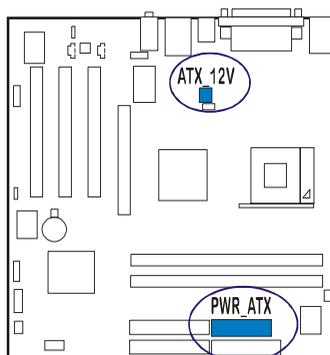


NOTE:

The CPU installing procedures should be:

1. Insert the CPU (with its fansink and retention module) on the socket.
2. Connect the 4-pin plug of the power supply
3. Connect the 20-pin plug of the power supply.

To remove the processor, please do it in reverse order.



4). Install Expansion Cards

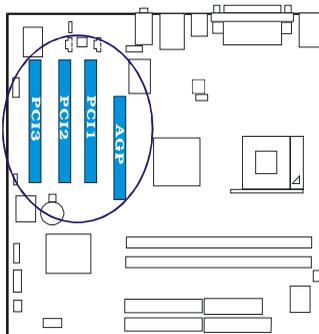
This section describes how to connect an expansion card to one of your system expansion slots. Expansion cards are printed circuit boards that, when connected to the mainboard, increase the capabilities of your system. For example, expansion cards can provide video and sound capabilities. The mainboard features one AGP and three PCI bus expansion slots.



CAUTION:

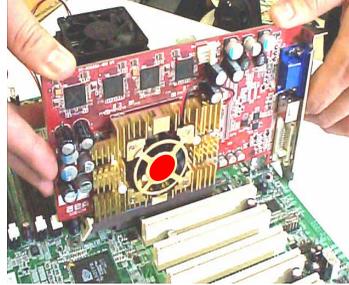
1. Make sure to unplug the power supply when adding or removing expansion cards or other system components. Failure to do so may cause severe damage to both the mainboard and expansion cards.
2. Always observe static electricity precautions.
3. Please read Handling Precautions at the start of this manual.

1. Select an available expansion slot.



2. Remove the corresponding slot cover from the computer chassis. Unscrew the mounting screw that secures the slot cover and pull the slot cover out from the computer chassis. Keep the slot cover mounting screw nearby.

3. Push the card firmly into the slot. Push down on one end of the expansion card, then the other. Use this rocking motion until card is firmly seated inside the expansion slot. Secure the card with the screw removed in Step 2.



5). Connect Devices

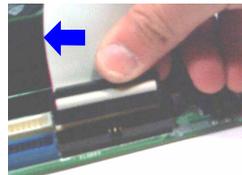
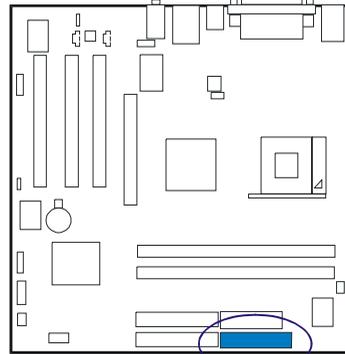
Floppy Diskette Drive Connector

This connector provides the connection with your floppy disk drive.

Insert the floppy ribbon cable (below) onto the floppy connector.

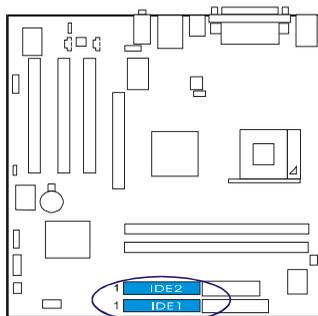


The colored stripe (indicated by the arrow, right) of the ribbon cable must be on the same side as Pin 1.

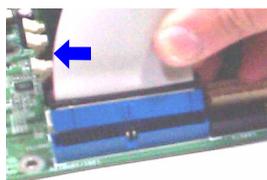


IDE Device Connectors

The two connectors, IDE1 (PRIMARY) and IDE2 (SECONDARY), are used for your IDE hard disk drives, CD drives, LS-120 drives, or IDE ZIP drives.



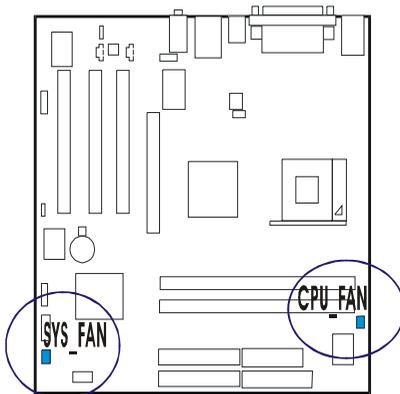
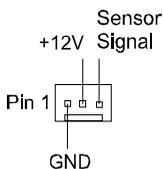
Insert the floppy ribbon cable (below) onto the floppy connector.



The colored stripe (indicated by the arrow, right) of the ribbon cable must be on the same side as Pin 1.

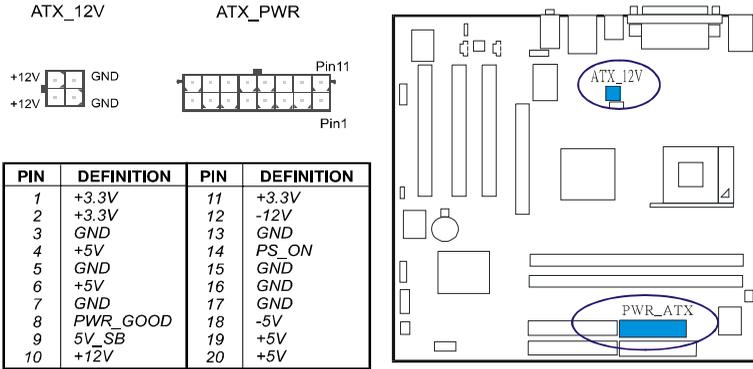
Fan Connectors

The two connectors, CPU_FAN and SYS_FAN, are linked to the CPU fan and case fan, respectively. PWR_FAN can be used with the power supply cooling fan.



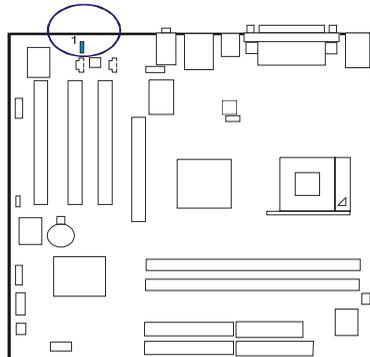
Power Connectors

The 20-pin male block connector is connected to the ATX power supply. The 4-pin male block connector is for the ATX_12V power supply. Both connectors are linked with your ATX power supply. The plug from the power supply can only be inserted in one orientation because of the different hole sizes. Find the proper orientation and push down firmly making sure that the pins are aligned.



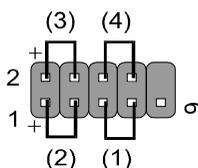
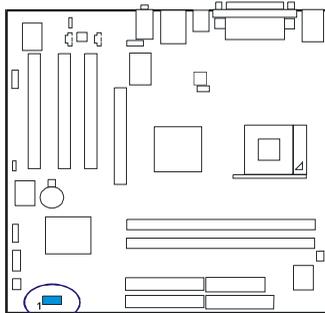
SPDIF Connector

It is used for audio output with SPDIF spec. Pin definitions: Pin1 is SPDIF, Pin2 is +5V signal, Pin4 is GND.



Front Panel Block Connector

This block connector includes the connectors for linking with the Power LED (2-pin), HDD LED, power button, power/sleep/message waiting button, and the reset button on the front panel of the system case. Please identify polarities of plug wires for the case speaker and LEDs. Please ask the vendor about this information when you buy and install the system by yourself. The plug wire polarities of these buttons will not affect their function.



(1) Reset Switch is connected to the reset button. Push this switch to reboot the system instead of turning the power button off and on.

(2) HDD LED is connected to the IDE device indicator. This LED will blink when the hard disk drives are activated.

(3) Power/Sleep LED

Please refer to the tables below for the representations of LED states.

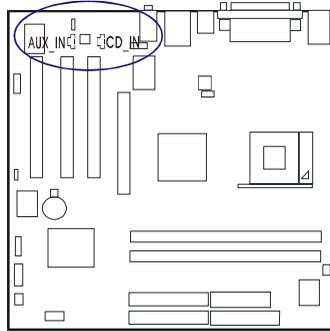
There is also 3-Pin Power LED connector on board for those cases that have a 3-pin plug.

| LED | Meaning | State |
|-------|---------|-------|
| Off | Off | S4/S5 |
| On | Full On | S0 |
| Flash | Sleep | S1/S3 |

(4) Power Button is connected with the power button. Pushing this switch allows the system to be turned on and off rather than using the power supply button.

CD Audio-In Connectors

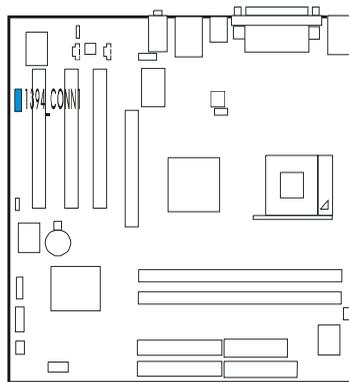
The connectors, CD_IN and AUX_IN, are for CD-ROM drive audio analog input use. Pin definitions: Pin1 is Left, Pin2 and 3 are GND, P4 is RIGHT.



1394 Connectors (IEEE 1394 model only)

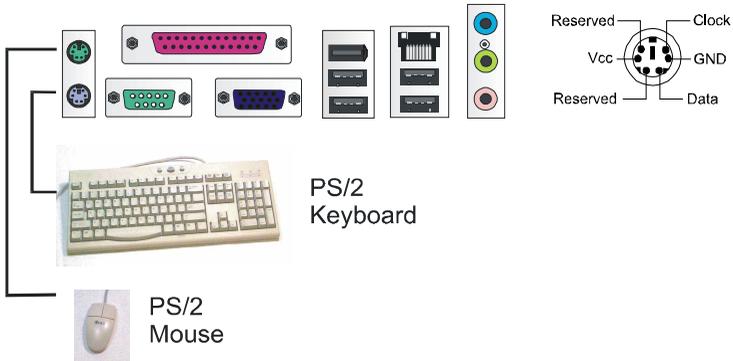
The mainboard has two 1394 Connectors; one 1394 Connector integrated on the edge of the board, and the others use 1394 pinheader on the board. The one optional 1394 pinheader on the board provide you with one connection to peripherals which have 1394 connector through an optional bracket with cable (see the figure below). The pin definitions of the 1394 pinheaders are listed below. The 1394_26 port may be integrated on rear panel for some system cases.

| PIN | DEFINITION |
|-----|------------|
| 1 | TA1+ |
| 2 | TA1- |
| 3 | GND |
| 4 | GND |
| 5 | TB1+ |
| 6 | TB1- |
| 7 | VCC |
| 8 | VCC |
| 9 | GND |
| 10 | NC |



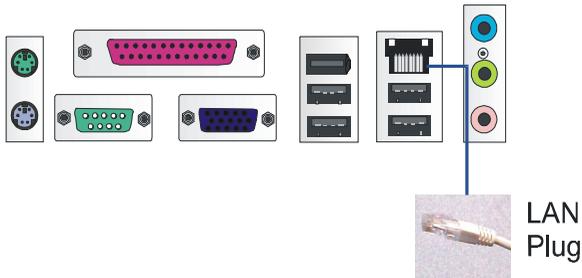
PS/2 Keyboard and Mouse Connector

These two 6-pin female connectors (keyboard is purple and mouse is green) are used for your PS/2 keyboard and PS/2 mouse.



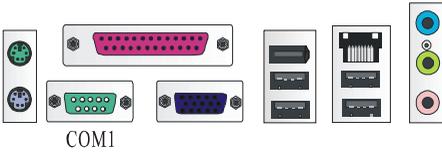
RJ45 LAN Connector

The RJ45 jack of the LAN port is used for the LAN cable plug.

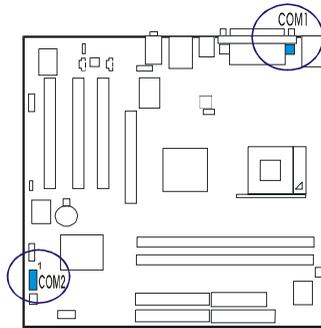


Serial Port Connectors

COM1 is teal colored 9-pin D-sub male connector and COM2 is a 9-pin male connector, allowing you to connect with devices that use serial ports, such as a serial mouse or an external modem.



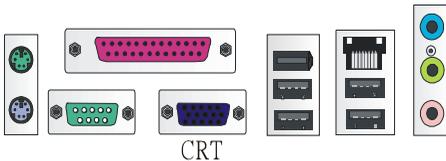
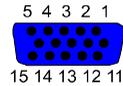
| PIN | DEFINITION |
|-----|------------|
| 1 | DCD |
| 2 | SIN |
| 3 | SOUT |
| 4 | DTR |
| 5 | GND |
| 6 | DSR |
| 7 | RTS |
| 8 | CTS |
| 9 | RI |



Chapter 2
Installation
Procedures

VGA Connector

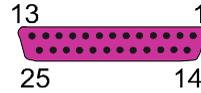
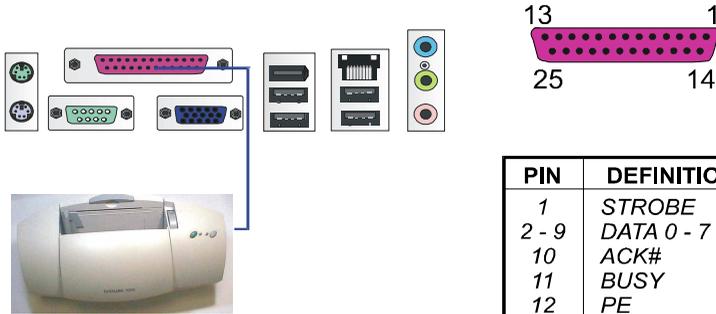
This connector is linked to your monitor. The pinheaders pin assignments are shown at right side.



| PIN | DEFINITION |
|-----|------------|
| 1 | RED |
| 2 | GREEN |
| 3 | BLUE |
| 4 | VCC |
| 5 | GND |
| 6 | GND |
| 7 | GND |
| 8 | GND |
| 9 | VCC |
| 10 | GND |
| 11 | VCC |
| 12 | DDC DATA |
| 13 | HSYNC |
| 14 | VSYNC |
| 15 | DDC CLK |

Printer Connector

This burgundy-colored 25-pin D-Sub female connector is attached to your printer.

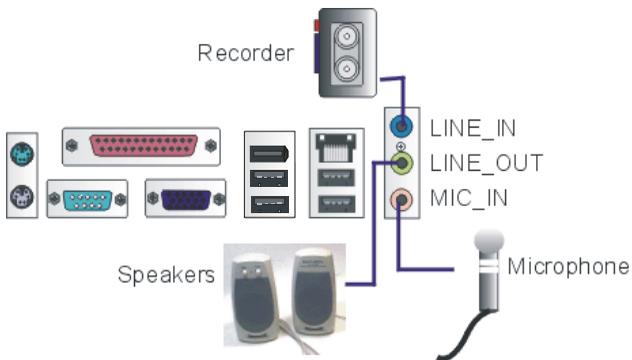


| PIN | DEFINITION |
|-------|------------|
| 1 | STROBE |
| 2 - 9 | DATA 0 - 7 |
| 10 | ACK# |
| 11 | BUSY |
| 12 | PE |
| 13 | SELECT |
| 14 | AUTO FEED# |
| 15 | ERR# |
| 16 | INIT# |
| 17 | SLIN# |
| 18-25 | GND |

Printer

Audio I/O Jacks

LINE_OUT (lime) can be connected to headphones or preferably powered speakers. LINE_IN (light blue) allows tape players or other audio sources to be recorded by your computer or played through the LINE_OUT. MIC_IN (pink) allows microphones to be connected for audio input.

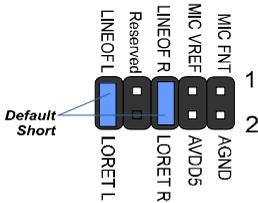
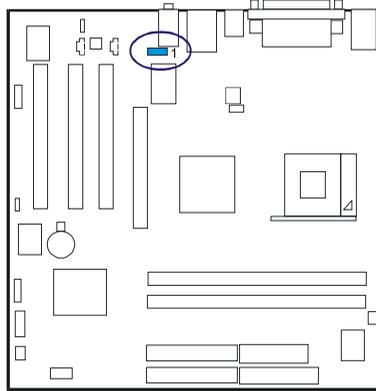




NOTE: The *LINE_IN*, *LINE_OUT*, *MICROPHONE* jacks can be used the 5.1-channel audio output with its software tool.
For details, please read the FAQ on the web site www.fic.com.tw.

Front Audio Connector

The mainboard has a front panel audio, *F_AUDIO*, connector (Intel spec.). It allows you to attach an audio device via the front panel (instead of rear panel) by a ribbon cable. Its pin definitions are presented below.



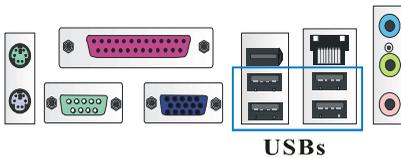
Chapter 2
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NOTE: If you do not use *F_AUDIO*, please keep the pinpair 5-6, 9-10 short as default; also, when the front headphone is plugged in, the rear audio output will be disabled.

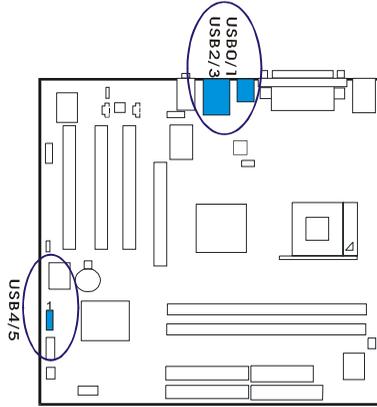
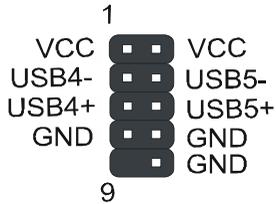
Universal Serial Bus Connectors

The mainboard has five USB ports; some USB black jacks that are integrated on the edge of the board, and some others use USB ports (pinheaders) on the board.



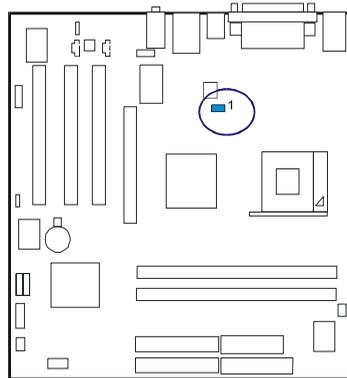
* The above back panel is for IEEE 1394 model

The figure below show the pin assignments of the USB pinheaders.



TV_OUT Connector (optional)

The connector is used to link your computer system with your TV set through an optional small card.



BIOS Setup

This chapter describes the basic navigation of the BIOS setup screens.

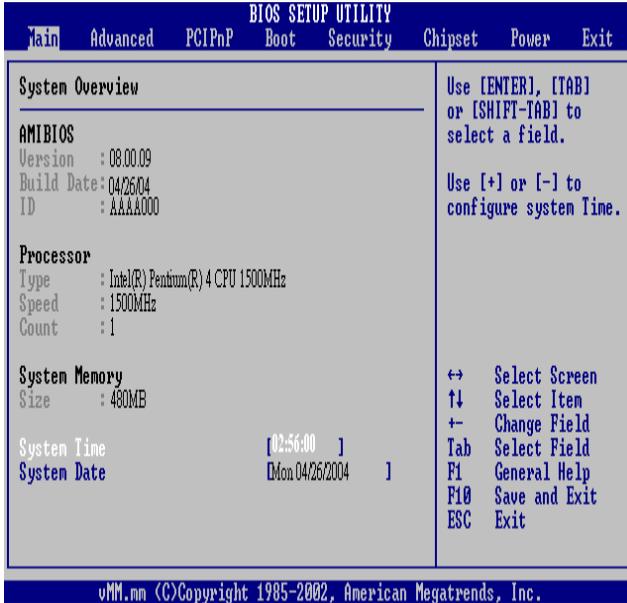
Note: This manual describes the standard look of the BIOS setup screen. The motherboard manufacturer has the ability to change any and all of the settings described in this manual. This means that some of the options described in this manual do not exist in your motherboard's AMIBIOS.

Note: In most cases, the <Delete> key is used to invoke the BIOS setup screen. There are a few cases that other keys are used, such as <F1>, <F2>, and so on.

The BIOS setup/utility uses a key-based navigation system called hot keys. Most of the BIOS setup utility hot keys can be used at any time during the setup navigation process. These keys include <F1>, <F10>, <Enter>, <ESC>, <Arrow> keys, and so on.

3.1 Main Setup

When user first enter the BIOS Setup Utility, you will enter the Main setup screen. User can always return to the Main setup screen by selecting the *Main* tab. There are two Main Setup options. They are described in this section. The Main BIOS Setup screen is shown below.



1. Use [Enter], [Tab] or [Shift-Tab] to select a field. Use [+] or [-] to configure System Time.
2. Press <ESC> to return to the Main Menu when you finish setting up Time and date. The following descriptions are provided as a quick guide to your setup.

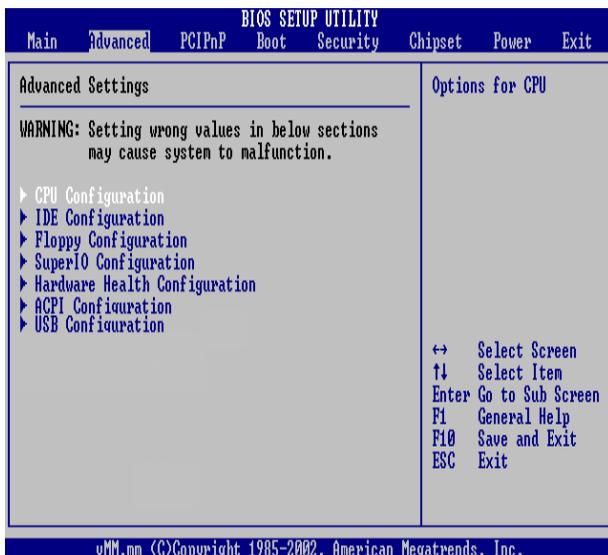
AMIBIOS/Processor/ System memory: These three items only show the respective current statuses. They cannot be changed in the BIOS Setup.

System Time: The BIOS shows the system time of the day in the format: hh:mm:ss. Choose the field with the Arrow keys and change the time with the Page Up/Page Down +/- keys.

System Date: The BIOS shows the system date of the day in the format: mm:dd:yy :day of the Week. Choose the field with the Arrow keys and change the value with the Page Up/Page Down +/- keys.

3.2 Advanced Setup

Select the *Advanced* tab from the BIOS setup screen to enter the Advanced BIOS Setup screen. You can select any of the items in the left frame of the screen, such as SuperIO Configuration, to go to the sub menu for that item.



1. Use one of the arrow keys to move between options and modify the selected options by using + / - keys. An explanation of the <F> keys follow (The option marked with a triangle by the left consists of sub- options):
2. Press <ESC> to return to the Main Menu when you finish setting up all items. The following descriptions are provided as a quick guide.

3.2.1 CPU CONFIGURATION



Manufacturer: BIOS shows the current manufacturer of onboard CPU.

Brand String: BIOS shows the current brand of onboard CPU.

Frequency: BIOS shows the current onboard CPU frequency.

Ratio Status: BIOS shows the current ratio (multiplier) status of on-board CPU. For P4 CPUs, the ratio is usually locked.

Ratio Actual Value: BIOS shows the actual CPU ratio.

Ratio CMOS Setting: BIOS shows the CPU Ratio in CMOS. If an invalid ratio is set in CMOS, then actual and setting values may differ.

VID CMOS Setting: Select VID at which CPU is to run.

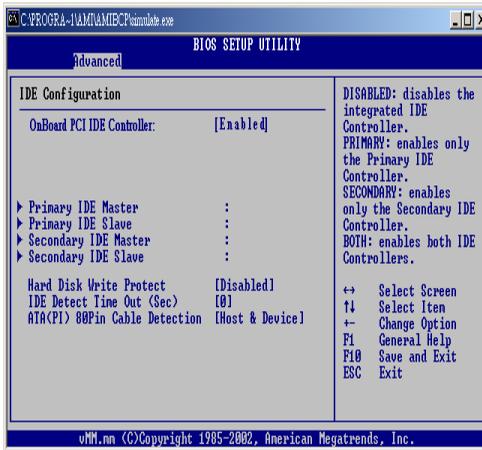
L3 Cache:To enable/disable L3 cache.

Max CPUID Value Limit: To enable CPU Value limit if booting legacy OS that cannot support CPU with extended CPUID functions.

Hyper-Threading Technology: BIOS shows the current status of Hyper-threading Technology. If a Hyper-threading CPU is running on board, this item will show “Enabled” status. Otherwise this item shows ”Disabled”.

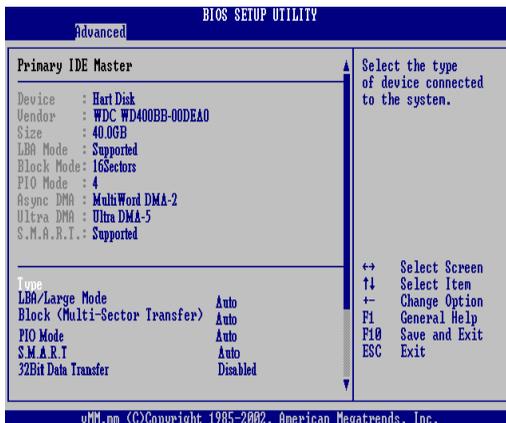
Note: Do not enable this option as CPU or Operation system(e.g. Windows 2000 and XP) does not support Hyper-Threading function.

3.2.2 IDE CONFIGURATION



OnBoard PCI IDE Controller: To enable / disable onboard IDE controller
Setting: Enable; Primary; Secondary; Both

PRIMARY/SECONDARY IDE MASTER/ SLAVE & THIRD/FOURTH IDE MASTER



Primary/Secondary IDE Master/Slave: Press <Enter> To show the detected information of the Primary / Secondary IDE Master/Slave device (s).

Third/Fourth IDE Master: Press <Enter> to show the detected information of Third/ Fourth IDE Master device(s).

Type: To select the types of the IDE devices:
Not Installed; Auto: Setting type automatically
CD-ROM: ATAPI (Packet Interface) CD-ROM drive
ARMD: ATAPI Removable Media Device

LBA/Large mode: To auto-select (default) or disable LBA/Large mode.

Block (Multi-Sector Transfer): To auto-select (default) or disable Block Mode. If disabled, the data transfer from and to the device occurs one sector at a time; if enabled, the data transfer from and to the device occurs multiple sectors at a time.

PIO Mode: To auto-select (default) or disable PIO Mode. Settings: Auto; 0, 1, 2, 3, 4

DMA Mode: To auto-select (default) or disable DMA Mode. Settings: Auto; SWDMA(0-2); MWDMA(0-2); UDMA(0-4)

S.M.A.R.T: Allows user to enable / disable the Self Monitoring Analysis and Reporting Technology for the hard disk.
Settings: Auto(default); Enabled; Disabled

32Bit Data Transfer:To auto-select (default) or disable 32Bit Data Transfer.

Hard Disk Write Protect: Allows user to Enabled / Disable(default) Hard Disk Write Protection

IDE Detect Time Out (Sec): Allows user to set time out for IDE Detection.
Settings: 0 - 35 seconds in 5 seconds stepping

ATA(PI) 80Pin Cable Detection: Allows user to select ATA(PI) devices for 80Pin Cable Detection. To set Host & Device allows onboard IDE controller and IDE disk drive to detect the type of IDE cable used.
Settings: Host & Device, Host, Device

3.2.3 FLOPPY CONFIGURATION

Floppy Drive A: and B: Press Enter on “Floppy A/B” will let you select this field to the type(s) of floppy disk drive(s) installed in your system. Settings :

360KB 5.25 in.

1.2MB, 5.25 in.

720KB, 3.5 in.

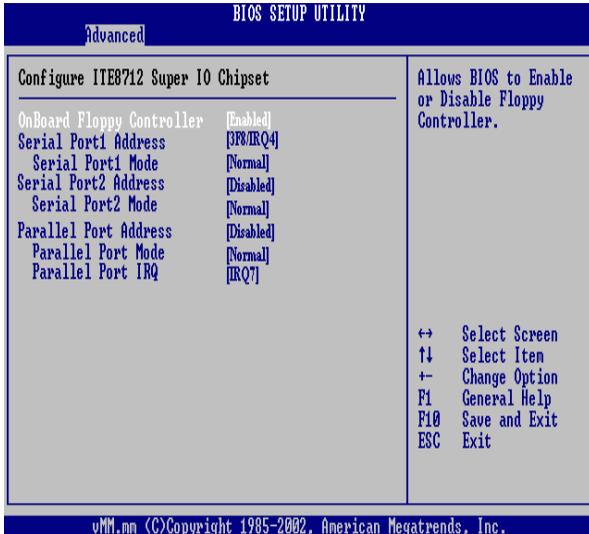
1.44MB, 3.5 in.

2.88MB, 3.5 in.

Disabled

3.2.4 SUPER I/O CONFIGURATION

User can use this screen to select options for the Super I/O settings. Use the up and down <Arrow> keys to select an item. Use the <Plus> and <Minus> keys to change the value of the selected option. The settings are described on the following pages.



Onboard Floppy Controller: Allows user to enable / disable the onboard Floppy Controller. Settings: Enabled; Disabled

Serial Port1 Address: Allows user to set the Onboard Serial Port1 Address and corresponding interrupt. Settings: Disabled; 3F8/IRQ4; 3E8/IRQ4; 2E8/IRQ3

Serial Port 2 Address: Allows user to set the Onboard Serial Port2 Address and corresponding interrupt. Settings: Disabled; 2F8/IRQ3; 3E8/IRQ4; 2E8/IRQ3

Serial Port 1/ 2 Mode: If Serial Port1/ 2 Address is not disabled, it allows user to set the Serial Port Mode.

Settings:

Normal;

IrDA: Providing 2 items for configuration: IR Duplex Mode: Half Duplex; Full Duplex

ASK IR: Providing 2 items for configuration: IR Duplex Mode: Half Duplex; Full Duplex

Parallel Port Address: Allows you to configure Parallel Port Address. Settings: Disabled;378; 278; 3BC;

Parallel Port Mode:

Normal;

EPP: Enhanced Parallel Port. User can assign EPP version to this mode. Setting: 1.7 or 1.9

ECP: Extended Capability Port. User can assign DMA channel to this mode. Settings: DMA0; DMA1; DMA3

EPP+ECP: Both ECP and EPP function are supported.

Parallel Port IRQ: This specifies the IRQ of the onboard parallel port. Settings: IRQ5; IRQ7

3.2.5 HARDWARE HEALTH CONFIGURATION

| BIOS SETUP UTILITY | |
|--|------------|
| Advanced | |
| Hardware Health Configuration | |
| H/W Health Function | [Disabled] |
| Hardware Health Event Monitoring | |
| System Temperature | :34°C/93°F |
| CPU Temperature | :32°C/90°F |
| Fan1 Speed | :3125 RPM |
| Fan2 Speed | :3169 RPM |
| Vcore | |
| Vcc3 | |
| Vcc | |
| +12Vin | |
| S3V | |
| VBAT | |
| ↔ Select Screen ↑↓ Select Item + - Change Option F1 General Help F10 Save and Exit ESC Exit | |
| vMM.mm (C)Copyright 1985-2002, American Megatrends, Inc. | |

This section shows the status of CPU, Fan and overall system status.

System Temperature: Showing current system temperature

CPU Temperature: Showing current CPU inside temperature

Fan 1/2 Speed: Displaying the current speed of CPU/Power Fan

Vcore: Showing CPU core voltage value

3.3V/+12V/+5.00V/3VSB/Battery: Showing current voltage against the 3.3V/+12V/+5.00V/3VSB/Battery

3.2.6 ACPI CONFIGURATION



General ACPI Configuration: To press <Enter> on General ACPI Configuration will reveal the following items.

Suspend mode: This item allows you to select the Suspend mode.

You can select S3(STR) for suspending to DRAM if your system supports this mode. Or you can select S1 (POS) for Power on Suspend under ACPI mode. Choices: S1(POS); S1&S3(STR)

Repost Video at S3 Resume: If STR mode or Auto mode is selected, this item allows you to set No / Yes

Advanced ACPI Configuration: To press <Enter> on Advanced ACPI configuration will display the following items:

ACPI 2.0 Support: Allows user to enable / disable ACPI (Advanced Configuration and Power Interface) 2.0 Support function.

Settings: Yes; No

ACPI APIC Support: Allows user to enable / disable ACPI APIC (Advanced Programmable Interrupt Controller) Support function.

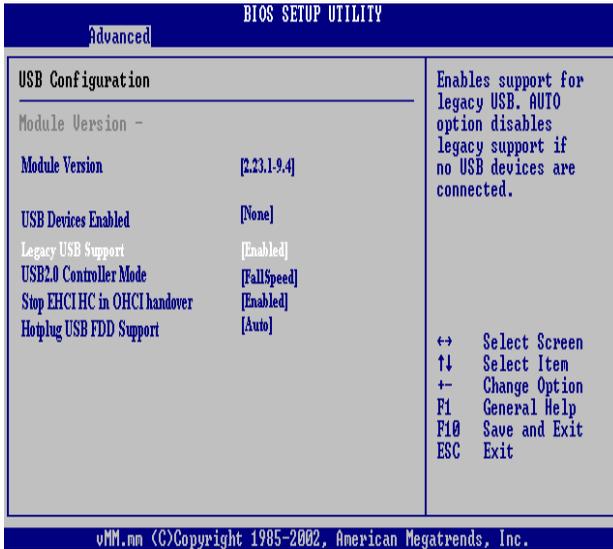
Settings: Disabled / Enabled

AMI OEMB table: Use default setting

Headless mode: Allows use to enable / disable Headless operation mode through ACPI.

Settings: Disabled / Enabled

3.2.7 USB CONFIGURATION



Legacy USB Support: Allows user to enable(default) / disable the Legacy USB support.

Settings: Enabled(default); Disabled; Auto

USB 2.0 Controller Mode: Allows user to configure the USB 2.0 Controller Mode.

Settings: FullSpeed(12Mbps); HiSpeed(480Mbps)

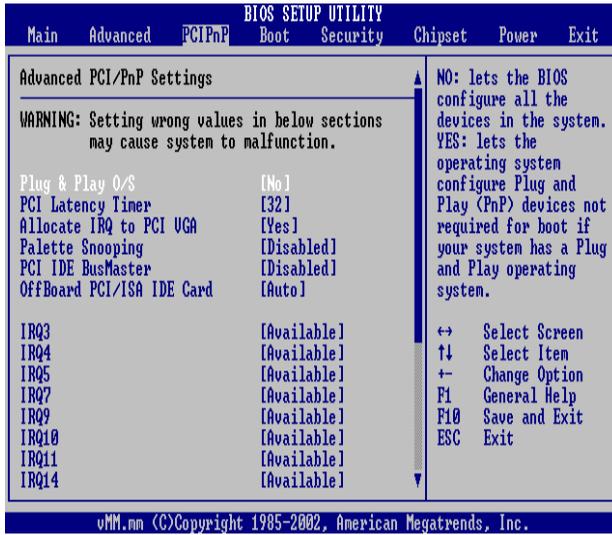
Stop EHCI HC in OHCI handover: Allows user can stop the EHCI host controller during OHCI OS handover call.

Settings: Disabled / Enabled(default)

Hotplug USB FDD Support: A dummy FDD device is created that will be associated with the hotplugged FDD later. Auto option creates this dummy device only if there is no USB FDD present.

Settings: Disabled / Auto(default)

3.4 PCI/PnP Setup



Plug & Play O/S: Allows user to configure the PNP devices by BIOS or O/S. Settings: No(by BIOS) (default); Yes(by O/S)

PCI Latency Timer (PCI Clocks): Allows user to set the PCI Latency Time. Settings: 32(default); 64; 96; 192; 128; 160; 192; 224; 248;

Allocate IRQ to PCI VGA: Allows user to assign IRQ to PCI VGA card if card requests IRQ. Settings: Yes(default); No

Palette Snooping: This option allows the BIOS to preview VGA status, and to modify the information delivered from the feature Connector of the VGA card to MPEG card. This option can solve the display inversion to black after you have used a MPEG card. Settings: Disabled / Enabled

PCI IDE BusMaster: Allows user to enable / disable(default) the PCI IDE Bus Master function. Settings: Disabled / Enabled

OffBoard PCI/ISA IDE Card: Some PCI IDE cards may require this to be set to the PCI slot number that is holding the card.

Settings: Auto; PCI Slot1; PCI Slot2; PCI Slot3; PCI Slot4; PCI Slot5;

IRQ 3/4/5/7/9/10/11/14/15: Allows user to specify available IRQs to be used by PCI/PNP devices.

Settings: Available(default); Reserved

DMA 0/1/3/5/6/7: Allows user to specify available DMAs to be used by PCI/ PNP devices. Settings: Available(default); Reserved

Reserved Memory Size: Allows user to specify memory size to reserve for legacy ISA devices.

Settings: Disabled(default); 16K; 32K; 64K

3.5 Boot Setup

| BIOS SETUP UTILITY | | | | | | | |
|--|----------|--------|------|---|---------|-------|------|
| Main | Advanced | PCIPnP | Boot | Security | Chipset | Power | Exit |
| Boot Settings | | | | Configure Settings during System Boot. | | | |
| ▶ Boot Settings Configuration | | | | | | | |
| ▶ Boot Device Priority | | | | | | | |
| ▶ Hard Disk Drives | | | | | | | |
| ▶ Removable Drives | | | | | | | |
| ▶ ATAPI CDROM Drives | | | | | | | |
| ▶ BIOS Boot Configuration Options | | | | | | | |
| | | | | ↔ Select Screen ↑↓ Select Item Enter Go to Sub Screen F1 General Help F10 Save and Exit ESC Exit | | | |
| vMM.mm (C)Copyright 1985-2002, American Megatrends, Inc. | | | | | | | |

Chapter 3
BIOS Setup

3.5.1 BOOT SETTINGS CONFIGURATION

| BIOS SETUP UTILITY | | |
|--|------------|---|
| Boot | | |
| Boot Settings Configuration | | Allows BIOS to skip certain tests while booting. This will decrease the time needed to boot the system. |
| Quick Boot | [Enabled] | |
| Quiet Boot | [Disabled] | |
| AddOn ROM Display Mode | [Enabled] | |
| Bootup Num-Lock | [Off] | |
| PS/2 Mouse Support | [Disabled] | |
| Wait For 'F1' If Error | [Disabled] | |
| Hit 'DEL' Message Display | [Disabled] | |
| Interrupt 19 Capture | [Disabled] | |
| | | ↔ Select Screen ↑↓ Select Item +- Change Option F1 General Help F10 Save and Exit ESC Exit |
| vMM.mm (C)Copyright 1985-2002, American Megatrends, Inc. | | |

Quick Boot: Allows user to enable (default)/ disable quick boot of your system. If enabled, BIOS will skip certain tests while booting. This will decrease the time needed to boot the system.

Settings: Disabled / Enabled

Quiet Boot: The bootup screen displays normal POST messages with Disabled selected; the bootup screen displays OEM Logo instead of POST messages with Enabled selected.

Settings: Disabled / Enabled

AddOn ROM Display Mode: If “Force BIOS” (default) is selected, the vendor’s logo screen will be followed by the “AddOn ROM” initial screen (the screen showing the add-on card BIOS message). If “Keep Current” is chosen, no “Add-On ROM” screen is followed.

Settings: Force BIOS/ Keep current

Bootup Num-lock: Allows user to toggle between On (default) or Off to control the state of the NumLock keys when the system boots. If On, the numeric keypad is in numeric mode. If off, the numeric keypad is in cursor control mode.

Settings: On / Off

PS/2 Mouse Support: Enabled (default), PS/2 mouse is supported. Disabled, PS/2 Mouse is not supported. If “Auto” is set, the system will auto detect the PS/2 Mouse.

Settings: Disabled / Enabled / Auto

Wait For ‘F1’ If Error: Allows user to hit F1 key when errors occur.

Settings: Disabled / Enabled

Hit ‘DEL’ Message Display: The system will show “Press DEL key to run Setup when enabled”.

Settings: Disabled / Enabled

Interrupt 19 Capture: Allows option ROMs to trap interrupt 19.

Settings: Disabled / Enabled

3.5.2 BOOT DEVICE PRIORITY



1st Boot Device

2nd Boot Device

3rd Boot Device

The settings are *Removable Dev.*, *Hard Drive*, or *ATAPI CDROM*. The Optimal and Fail-Safe settings are:

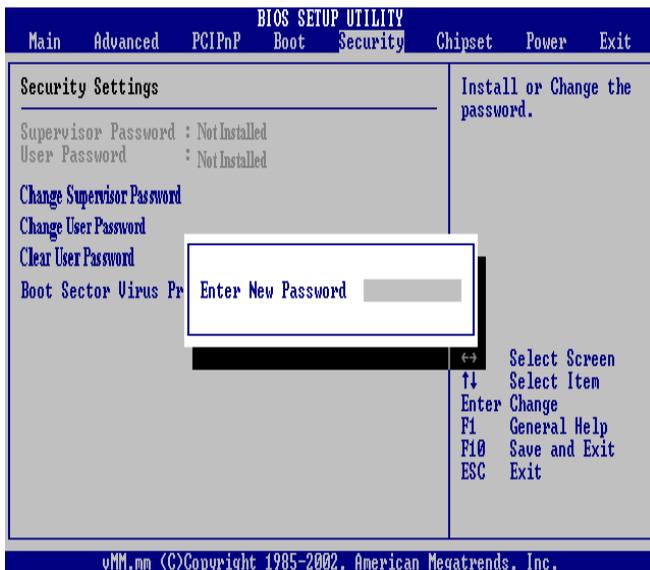
1st boot device - Removable Device

2nd boot device - Hard Drive

3rd boot device - ATAPI CDROM

To change the boot order, select a boot category type such as Hard disk drives, Removable media, or ATAPI CD ROM devices from the boot menu.

3.6 Security Setup



The BIOS provides both a Supervisor and a User password. If you use both passwords, the Supervisor password must be set first.

If you select password support, you are prompted for a one to six character password.

Remember the Password

Keep a record of the new password when the password is changed. If you forget the password, you must erase the system configuration information in NVRAM. See (Deleting a Password) for information about erasing system configuration information.

Change Supervisor Password

Change User Password

Clear User Password

If you forget the passwords you set up through BIOS Setup, the only way you can reset the password is to erase the system configuration information where the passwords are stored. System configuration data is stored in CMOS RAM, a type of memory that consumes very little power.

Erase Old Password: You can drain CMOS RAM power by using the CMOS drain jumper on the motherboard, or by removing the battery. CMOS RAM loses its content including the password when it is drained.

Note: For more information on draining CMOS using the drain jumper, see the motherboard user's manual.

Supervisor Password

Indicates whether a supervisor password has been set. If the password has been installed, Installed displays. If not, Not Installed displays.

User Password

Indicates whether a user password has been set. If the password has been installed, Installed displays. If not, Not Installed displays.

Change Supervisor Password

Select this option and press <Enter> to access the sub menu. User can use the sub menu to change the supervisor password.

Change User Password

User can use the sub menu to change the user password.

Clear User Password

User can use the sub menu to clear the user password.

Boot Sector Virus Protection

This item is to set the virus warning for IDE Hard Drive boot sector protection. Any writing action into this sector is mode, BIOS will show a warning message on screen.

Settings: Disabled / Enabled

3.7 Chipset Setup

3.7.1 NORTH BRIDGE CHIPSET CONFIGURATION

| NorthBridge Chipset Configuration | | Chipset |
|-----------------------------------|------------|---|
| Init. Graphic Adapter Priority | [AGP/PCI] | Select which graphics controller to use as the primary boot device. |
| HyperThreading Function | [Disabled] | |
| Memory Frequency | [Auto] | |
| FSB Over Clock | [0 MHz] | |
| DRAM Over Clock | [N/A] | |
| Spread Spectrum Amount | [Disabled] | |
| Memory Timing Parameter | [Auto] | |
| CAS Latency | [1 Clock] | |
| Memory TRP | [1 Clock] | |
| Memory TRCD | [1 Clock] | |
| Memory TRAS | [1 Clock] | ↔ Select Screen |
| AGP Aperture Size | [32MB] | ↑↓ Select Item |
| Surround View Function | [Disabled] | + - Change Option |
| UMA Frame Buffer Size | [8MB] | F1 General Help |
| Video Display Devices | [Auto] | F10 Save and Exit |
| TU Standard | [NTSC] | ESC Exit |
| Expansion Mode | [Disabled] | |

vMM.nm (C)Copyright 1985-2002, American Megatrends, Inc.

Init Graphic Adapter Priority: This option assigns which VGA card is system's primary graphics adapter.

Settings: PCI Slot and OnChip VGA/AGP

HyperThreading Function: Allows user to enable / disable CPU HyperThreading function.

Settings: Disabled / Enabled

Note: This function depends on CPU type and Operating System support. (See Page. 3-6)

Memory Frequency: Allows user to set memory clock. "Auto" setting is strongly recommend.

Settings: Auto; SYNC; DDR-100; DDR-133; DDR-166; DDR-200;

FSB Over Clock: Allows user to overclock the CPU's clock. Wrong setting may cause a disaster to user's system and data.

Settings: 0MHz - 15MHz

DRAM Over Clock: Allows user to overclock memory's clock. Wrong setting may cause a disaster to user's data.

Settings: 0MHz - 15MHz

Spread Spectrum Amount: The spread spectrum function can reduce the EMI. If user has not any EMI problem, keep this setting at Disabled for system stability. Do not enable it when you are using overclock function.
Settings: Enabled / Disabled

DRAM Timing Parameter: Selects whether DRAM timing is controlled by the SPD (Serial Presence Detect) on the DRAM module. Setting to By SPD enables DRAM timings to be determined by BIOS based on the configurations on the SPD. Selecting Manual allows users to configure the DRAM timings manually.
Settings: Auto (default) / Disabled

CAS Latency: The item controls the CAS latency, which decides the timing delay before RAM starts a read command after receiving it.
Settings: 1 clock, 1.5 clocks, 2 clocks, 2.5 clocks, 3 clocks, 3.5 clocks, 4 clocks.

Memory TRP: This item allows user to control the number of SDRAM clocks used for the SDRAM parameters Trp. Trp specifies the minimum clock cycles needed for the precharge command to be transferred to the active command.
Settings: 1 clock, 2 clocks, 3 clocks, 4 clocks.

Memory TRCD: This item allows user to control the number of SDRAM clocks used for SDRAM parameters Trcd. Trcd specifies the minimum clock cycles needed for the active command to be transferred to the re-active command.
Settings: 1 clock, 2 clocks, 3 clocks, 4 clocks.

Memory TRAS: This item allows user to control the number of SDRAM clocks used for SDRAM parameters Tras. Tras specifies the minimum clock cycles needed for the active command to be transferred to the precharge command.
Settings: 1 clock, 2 clocks, 3 clocks, 4 clocks.

Memory I/F Timing: Using default setting

Memory Dynamic CKE: Using default setting

AGP Aperture Size: This setting controls just how much system RAM can be allocated to AGP for video purposes. The aperture is a portion of the PCI memory address range dedicated to graphics memory address space.

Settings: 32MB, 64MB, 128MB, 256MB, 512MB, None

Surround View Function: Using Surroundview, ATI's RC350L IGP in combination with an external ATI AGP graphics card, can support up to three, independent monitors.

Settings: Disabled / Enabled

UMA Frame Buffer Size: Frame Buffer is the video memory that stores data for video display . This field is used to determine the memory size for Frame Buffer. The larger size, the better video performance.

Settings: 8M, 16M, 32M, 64M, 128MB and None

Video Display Device: Use the item to select the type of device user wants to use as the display(s) of the system.

Settings: Auto, CRT Only, CLD Only, DFP Only, TV Only, CRT Force Other Auto, TV Force Other Auto, CRT Force TV Force.

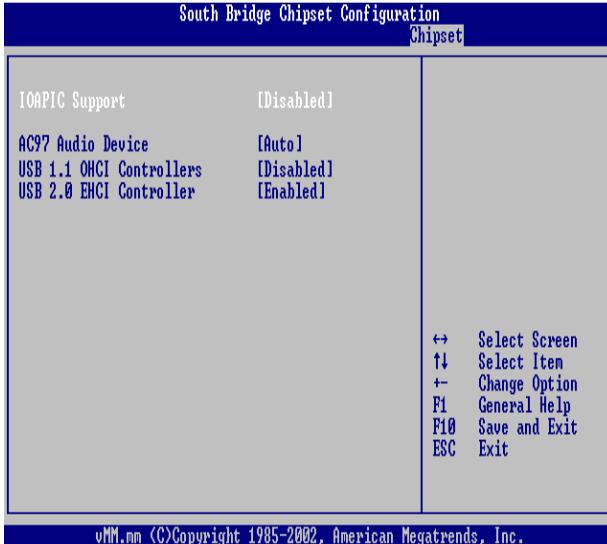
TV Standard: Select the TV standard which is used as the video signal format of user's TV if user has connected a TV to the system.

Settings: NTSC, PAL, PAL-M, PAL-60, NTSC-JAP, PAL-CN, PAL-N, SCART_RGB.

Expansion Mode: Text and Graphics expansion / central mode selection.

Settings: Disabled / Enabled

3.7.2 SOUTH BRIDGE CHIPSET CONFIGURATION



IOAPIC Support: The system supports APIC mode to compliance with PC2001 design guide. Enabling IOAPIC Support function will expand available IRQ resources for the system.
Settings: Enabled and Disabled.

AC97 Audio Device: Allow user to enable / disable AC'97 Audio device. Disable this controller if user wants to use other audio controller card.
Settings: Auto, Disabled.

USB 1.1 OHCI Controller: Allows user to enable / disable USB 1.1 OHCI (Open Host Controller Interface) controller.
Settings: Disabled; USB 1 Only; USB 2 Only; Both

USB 2.0 EHCI Controller: Allows user to enable / disable USB 2.0 EHCI (Echo Host Controller Interface) controller.
Settings: Enabled / Disabled

3.8 Power Setup



Power Management/ APM: Allows user to enable (default)/ disable the Power management / Advanced Power Management function.

Suspend Time Out (Minute): To set the duration of Suspend Time Out.

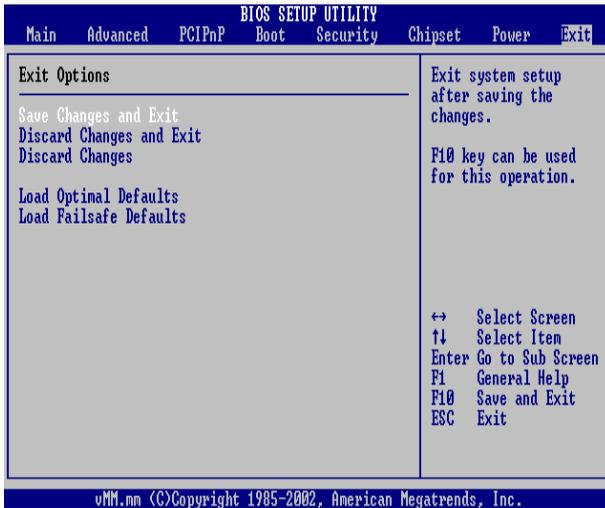
Power Button Mode: Allows user to set power Button function.
Settings: On/ Off

Video Power Down Mode: Allows user to set video device power saving
Settings: Disabled; Standby; Suspend

Hard Disk Power Down Mode: All user to set hard drive power
Settings: Disabled; Standby; Suspend

Hard disk Time Out (Minute): Allows user to select time length to turn off hard drive power.
Settings: Disabled; 1-15 minute

3.9 Exit Setup



Saving Changes and Exit : When user have completed the system configuration changes, select this option to leave. Setup and reboot the computer so the new system configuration parameters can take effect.

Discard Changes and Exit: Select this option to quit. Setup without making any permanent changes to the system configuration.

Discard Changes: Select *OK* to discard changes and exit.

Load Optimal Defaults: The BIOS automatically sets all Setup options to a complete set of default settings when user select this option. The Optimal settings are designed for maximum system performance, but may not work best for all computer applications.

Select Load Optimal Defaults from the Exit menu and press <Enter>.

Load Fail-Safe Defaults: The BIOS automatically sets all Setup options to a complete set of default settings when you Select this option. The Fail-Safe settings are designed for maximum system stability, but not maximum performance.

Select Load Fail-Safe Defaults from the Exit menu and press <Enter>.

(This page was intentionally blank.)

Utilities and Software Installation

Support CD: This series of mainboards will be shipped with a Support CD which contains those necessary driver files, Application Softwares and some helpful utilities. It is a auto-run CD which will open itself up in a CD-ROM automatically.

Users are recommended to take the following installation orders :

Step 1 To Open up the Support CD

Step 2 To Install ATi Chipset Drivers Installation

Step 3 To Install AC'97 Audio Drivers

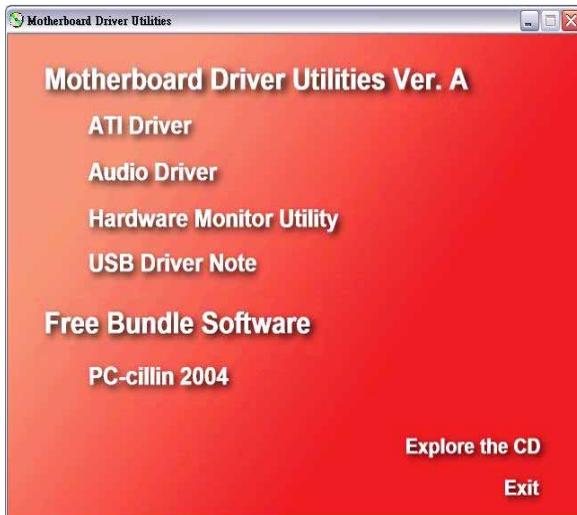
Step 4 To Install Hardware Monitor Utility

Step 5 To Install USB V2.0 Drivers

Step 6 To Insatll Free Bundle Software (optional)

Step 1 To Open up the Support CD

1-1. Please put the Support CD enclosed in your mainboard package into the CD-ROM drive.



1-2. In case user's system does not open the Support CD automatically, please click to the following path to enter the Main Installation Menu: D:\autorun.exe (assuming that user CD-ROM drive is Drive D)

1-3. If user is installing a newer driver than the one used as illustration hereby, please note that the pictures shown in the illustration might be different from those of the newer driver.

Step 2 To Install ATi Chipset Drivers

Following the procedures of opening the Support CD, click to "ATI Drivers" to proceed. User can follow the screen instructions to complete the installation.

Step 3 To Install AC'97 Drivers

Following the procedures of opening the Support CD, click to "Audio Drivers" to proceed. User can follow the screen instructions to complete the installation.

Step 4 To Install Hardware Monitor Utility

Following the procedures of opening the Support CD, click to "Hardware Monitor Utility" to proceed. User can follow the screen instructions to complete the installation.

Step 5 To Install USB 2.0 Drivers

Microsoft Win XP USB 2.0 drivers are included in Service Pack 1 or later. Service Pack 1 which includes USB 2.0 support for Windows XP is available at the Windows Update Site: <http://v4.windowsupdate.microsoft.com/en/default.asp>

Microsoft Windows 2000 USB 2.0 drivers are included in Service Pack 4. Service Pack 4 is available at the Windows Update Site: <http://v4.windowsupdate.microsoft.com/en/default.asp>.

How To update USB 2.0 drivers for Windows 2000

5-1. After user install Windows 2000 SP4, open Device Manager. To do so, click Start, point to Settings, click Control Panel, double-click System, click the Hardware tab, and then click Device Manager.

5-2. Click Universal Serial Bus controllers.

5-3. If Enhanced Host Controller appears under Universal Serial Bus controllers, you have USB 2.0 drivers installed. If Enhanced Host Controller does not appear under Universal Serial Bus Controllers, but USB Controller appears under Other devices (with a yellow question mark), you do not have USB 2.0 drivers installed.

5-4. Right-click Enhanced Host Controller (or USB Controller under Other devices), and then click Update Driver.

Follow the instructions that appear in the Hardware Update Wizard.

Step 6 To Install Free Bundle Software

Following the procedures of opening the Support CD, click to “PC-cillin 2004” to proceed.

User can follow the screen instructions to complete the installation.