A350A-V
A350A-VF
A350A-VGF

MAINBOARD
MANUAL

Overview

This ATX-sized mainboard is based on the ATI® RADEON 9100-Pro-IGP chipset (RS350 + IXP 300), 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.

Four onboard DDR memory sockets allow DDR266/333/400 SDRAM for up to 4 GB of memory capacity. Support for ATA-133 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, 8 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 and 2 SATA connectors. Ample expansion is available through 5 PCI and 1 AGP 8X slots, allowing for enjoyment of the P4 CPU's benefits in internet applicatons 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)
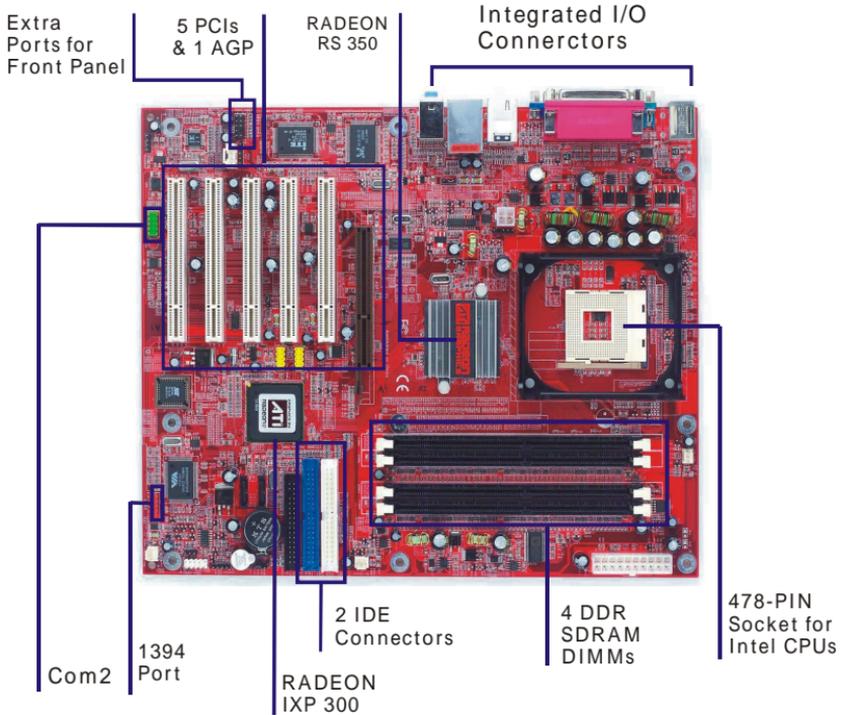
I/O Shielding

Manual

Drivers

SATA Cable

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 A350A-V/VF/VGF Mainboard

Extra
Ports for
Front Panel

5 PCIs
& 1 AGP

RADEON
RS 350

Integrated I/O
Connerctors

Com 2

1394
Port

RADEON
IXP 300

2 IDE
Connectors

4 DDR
SDRAM
DIMMs

478-PIN
Socket for
Intel CPUs

Main Features

■ **CPU**
Intel® Pentium® 4 (Prescott and Northwood) processor up to 3.4GHz
    - Intel Hyper-Threading Technology
    - FSB: 533MHz /800MHz
Intel® Celeron® processor
    - 400MHz system data bus

■ **CPU Socket**
Socket 478

■ **Chipset**
North Bridge: *ATI® Radeon RS350*
South Bridge: *ATI® IXP 300*

■ **Memory**
4 memory sockets:
Support dual channel DDR266/333/400
SDRAM memory size totally up to 4 GBs

■ **Expansion Slots**
1 AGP Slot: support 4X/8X (1.5V)
5 PCI Slots: Rev. 2.3 32-bit (3.3V/5V PCI bus interface) slots

■ **LAN**
RTL8100C™ 10/100 Fast Ethernet
RTL 8110S™ Gigabit Ethernet (A350A-VGF model)

■ **Audio Features**
Realtek 6 channel AC97 codec
LINE_IN, LINE_OUT, MICROPHONE_IN Jack
Front audio pinheaders
5.1 channel audio

■ **SATA IDE/RAID**

   Serial ATA is a storage interface that is compliant with
   SATA 1.0 specification (speed up to 1.5G bps) sup-
ports
   RAID 0 and 1 Two SATA connectors.

■ **I/O Ports**
   2 IDE connectors
   Ultra DMA 66/100/133 up to 4 devices
   1 Floppy connector
   2 Serial ATA connector
   1 Internal audio connector (CD-in)
   1 SPDIF out connector
   1 connector for IrDA
   1 connector for consumer IR
   2 connector for 4 additional external USB 2.0/1.1 ports
   1 Front audio connector for external line-out and mic-in jacks
   1 1394 connector (IEEE 1394 model only)
   1 Serial connector (COM2)
   1 TV-out Connector

■ **Rear Panel I/O Ports**
   4 USB 2.0/1.1 ports
   1 RJ45 LAN port
   1 1394 port (IEEE 1394 model only)
   1 Serial port (COM1)
   1 Parallel port
   1 PS/2 mouse and PS/2 keyboard
   3 Audio jacks: Line-in, Line-out, Mic-in

■ **Mounting Holes**
   9 Holes

■ **Mainboard Size**
12 x 9.6 (unit: inch)

■ **IEEE 1394 Ports** *(IEEE 1394 model only)*
VT6307
2 Ports
1 Bracket with cable *(optional)*

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 cell 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.
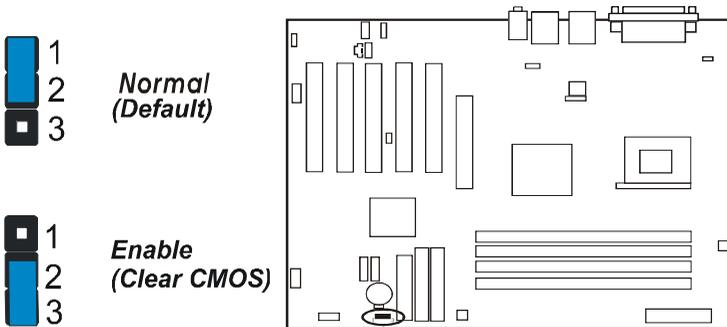
Jumper Settings for Wake-On-Keyboard/Wake-On-Mouse

This Wake-On-Keyboard/Mouse function allows you to use the PS/2 keyboard or PS/2 mouse to wake up a system form the S3/S4/S5 state. To enable this function, set JP1 pins 2 and 3 to On.
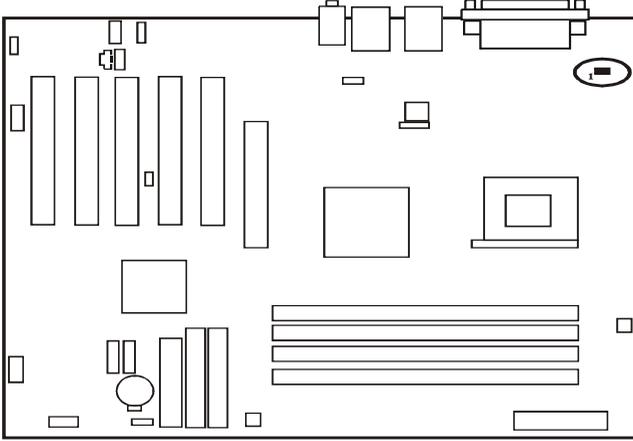
1-2 On: Disabled
(Default)

3 2 1

2-3 On: Enabled

3 2 1

NOTE : The 5VSB power source of your power supply must suppart $\geq$ 720mA.

Jumper Settings for Wake-On-USB Keyboard

This Wake-On-USB Keyboard function allows you to use the USB keyboard to wake up a system form the S3 (STR- Suspend To RAM) state. To enable this function, set JP2,JP5 pins 2 and 3 to On.
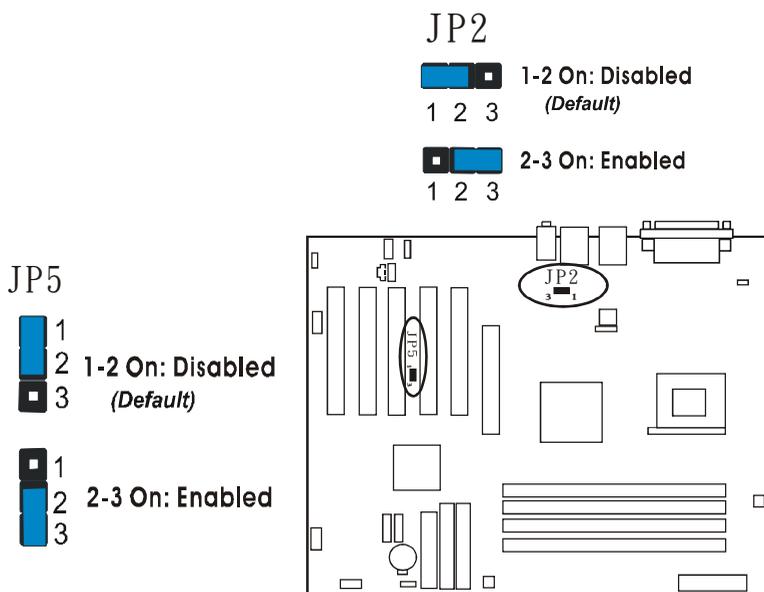
NOTE:
1. *If you using the Wake-On-USB Keyboard function for 2 USB ports, the 5VSB power source of your power supply must support ≥ 1.5A.*
2. *If you are using the Wake-On-USB Keyboard function for 3 of more USB ports, the 5VSB power source of your power supply must support ≥ 2A.*

2.) Install Memory Modules

1. Locate DDR DIMM sockets on the mainboard.
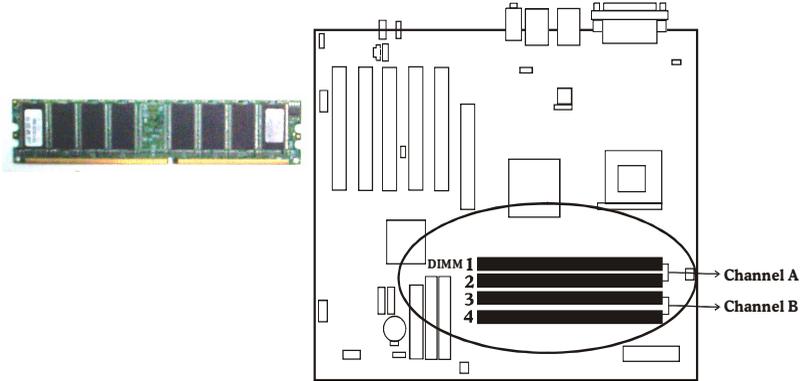
2. Install DDR DIMM straight down into socket 1, using both hands, then socket 2, and so forth.

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. The four DDR DIMM sockets on the system board are divided into 2 channels.*
>   *Channel A - DIMM1, DIMM2*
>   *Channel B - DIMM3, DIMM4*

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.
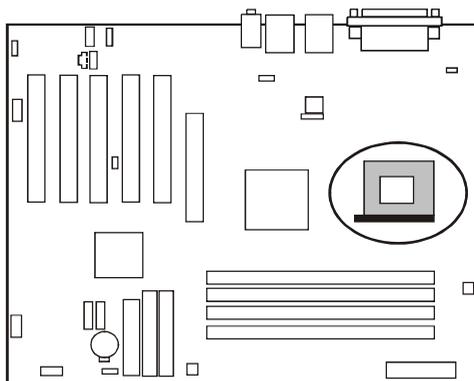
1. Swing the lever upward to 90 degrees.

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.
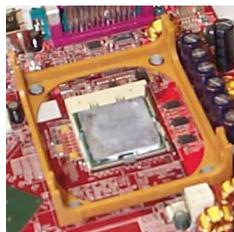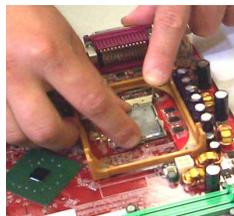
Affix the CPU by pressing the lever downward and locking it beside the socket.1

3. Place the fan with heatsink on top of the CPU and press down on the two plastic clips,, them of swith 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.
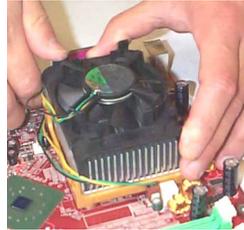
Connect ATX Power

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.
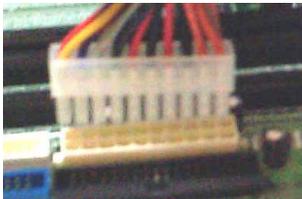
NOTE:
The CPU installing proce-
dures should be:
1. Insert the CPU (with
 its fansink and retention
 module) on the socket.
2. Connect the 4-pin plug of
 the power supply
3. Connect the 20-pin plug
 of the power supply.
To remove the processor,
please do it in reverse order.
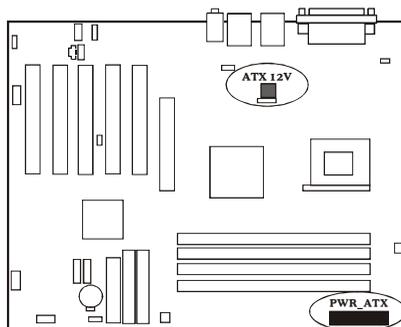
4). Install Expansion Cards

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 remov-*
ing 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.

Chapter 2
Installation
Procedures
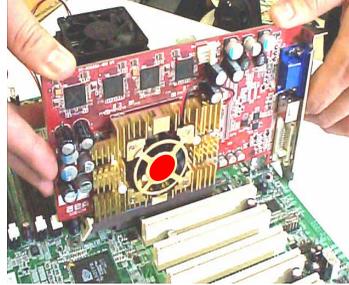
5). Connect Devices

Floppy Diskette Drive Connector
This connector provides the connection with your floppy disk drive.

Insert the floppy ribbon cable (below) onto the floppy connector.
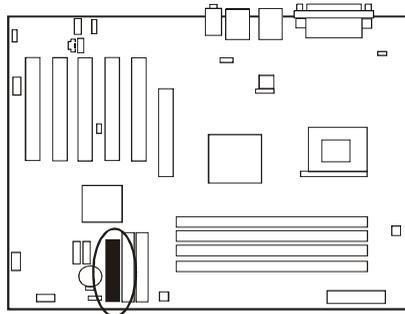
The colored stripe (indicated by the arrow, right) of the ribbon cable must be on the same side as Pin 1.
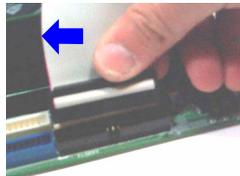
IDE Device Connectors

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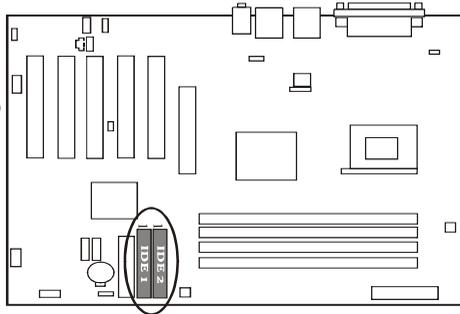
Insert the floppy ribbon cable (below) onto the floppy connector.
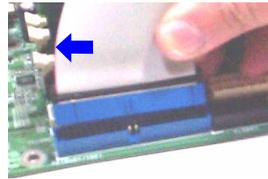
The colored stripe (indicated by the arrow, right) of the ribbon cable must be on the same side as Pin 1.

Serial ATA Connectors

Two Serial ATA cables are provided with the system board. Connect one end of the cable to J11 (SATA 0) or J12 (SATA 1) and the other end to your serial ATA device.

```
1        7
□000000   J11
1        7
□000000   J12
GND TXP TXN GND RXN RXP GND
```
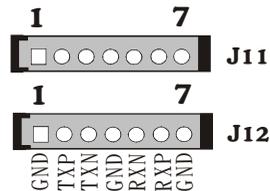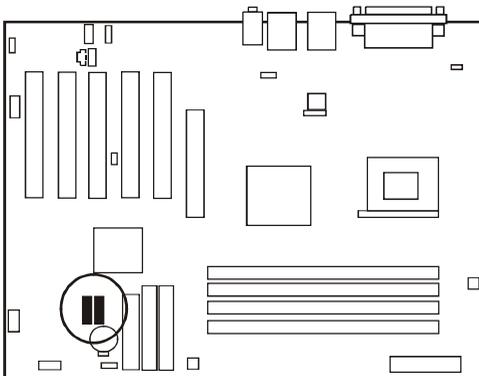
Fan Connectors

The three connectors, CPU_FAN and Chassis_FAN, are linked to the CPU fan and case fan, respectively. SYS_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.

ATX_12V   ATX_PWR

+12V   GND
+12V   GND

Pin11
Pin1

ATX 12V

PWR_ATX
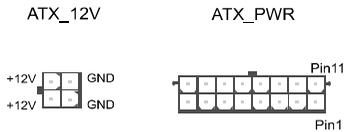
PIN	DEFINITION	PIN	DEFINITION
1	+3.3V	11	+3.3V
2	+3.3V	12	-12V
3	GND	13	GND
4	+5V	14	PS_ON
5	GND	15	GND
6	+5V	16	GND
7	GND	17	GND
8	PWR_GOOD	18	-5V
9	5V_SB	19	+5V
10	+12V	20	+5V
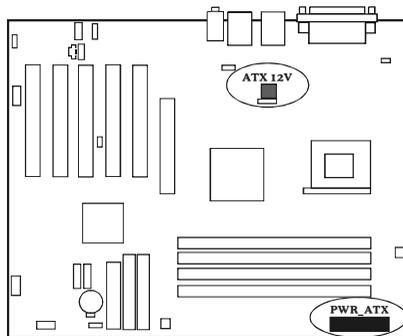
SPDIF Connector

It is used for audio output with SPDIF spec. Pin definitions: Pin1 is SPDIF, Pin2 is +5V signal, Pin4 is GND.
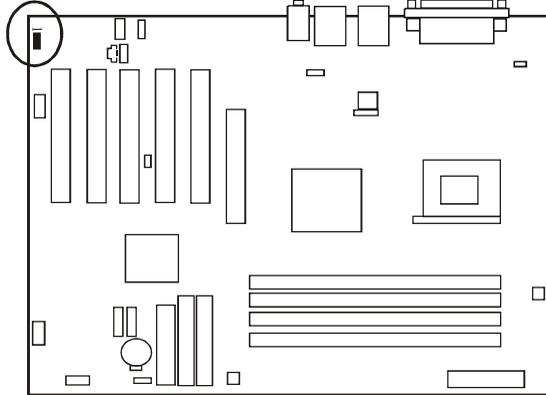
IrDA Connector
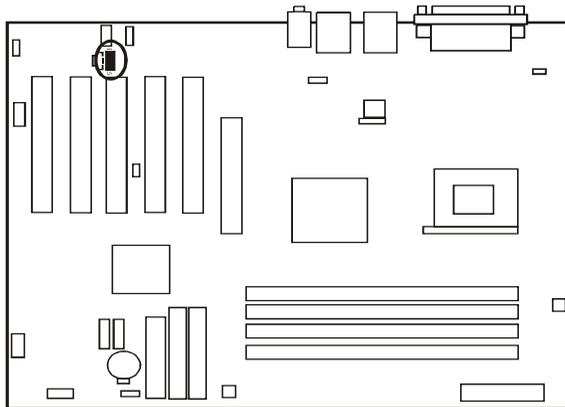
Connect your IrDA cable to connector J13 on the system board.

NOTE:

The sequence of the pin functions on some IrDA cable may be reversed from the pin function defined on the system board. Make sure to connect the cable to the IrDA connector according to their pin functions.

CIR (Consumer IR)

J10
1
- VCC
- N.C.
- CIRRX
- GROUND
- CIRTX
5
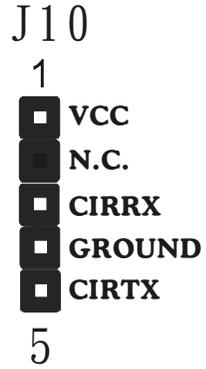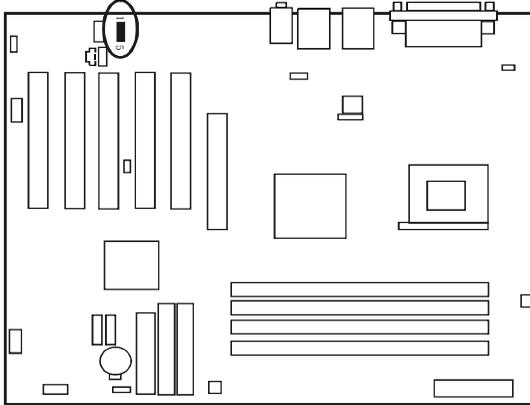
Connect your CIR cable to connector J10 on the system board.

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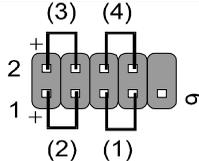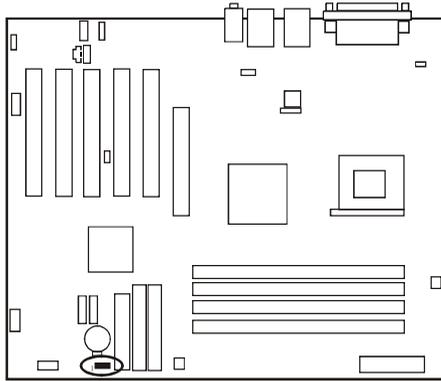
(1) Reset Switch is connected to the reset button. Push this switch to reboot the system instead of turning the power button off and on.

(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 , are for CD-ROM drive audio analog input use. Pin definitions: Pin1 is Left, Pin2 and 3 are GND, P4 is RIGHT.
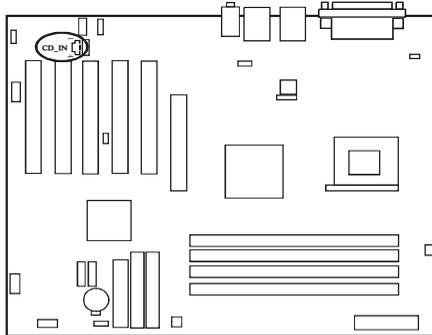
1394 Connectors (IEEE 1394 model only)

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
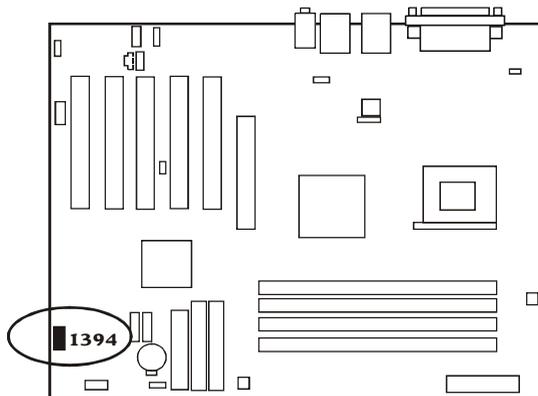
PS/2 Keyboard and Mouse Connector

These two 6-pin female connectors (keyboard is purple and mouse is green) are used for your PS/2 keyboard and PS/2 mouse.
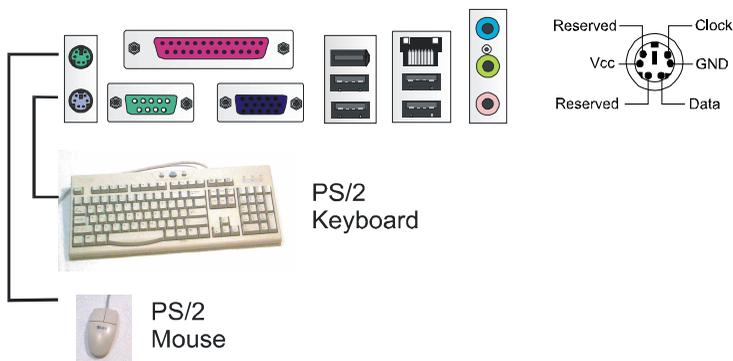
RJ45 LAN Connector

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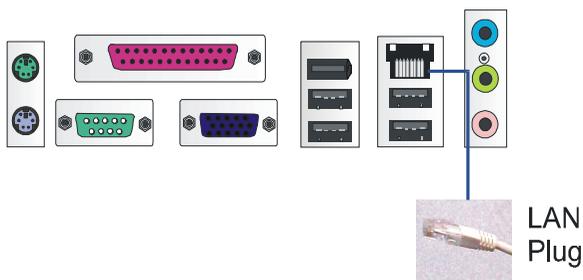
Serial Port Connectors

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
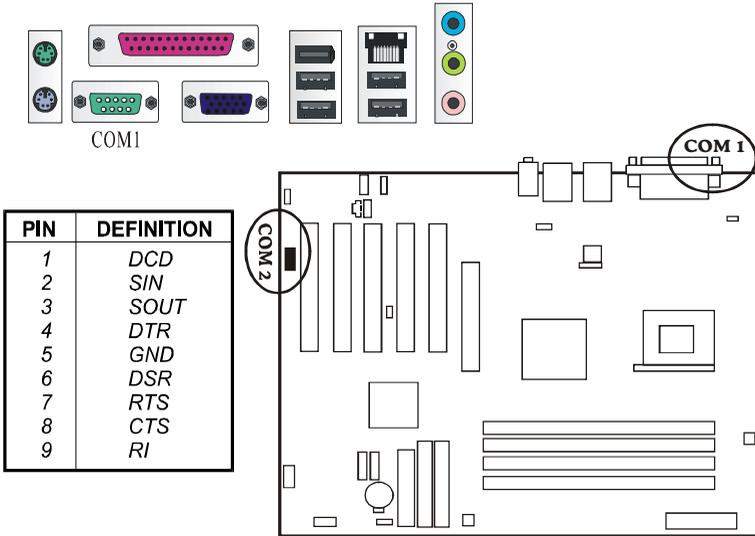
VGA Connector

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

5 4 3 2 1

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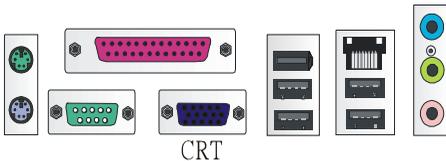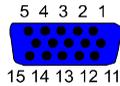
PIN	DEFINITION
1	RED
2	GREEN
3	BLUE
4	VCC
5	GND
6	GND
7	GND
8	GND
9	VCC
10	GND
11	VCC
12	DDC DATA
13	HSYNC
14	VSYNC
15	DDC CLK

Printer Connector

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

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*
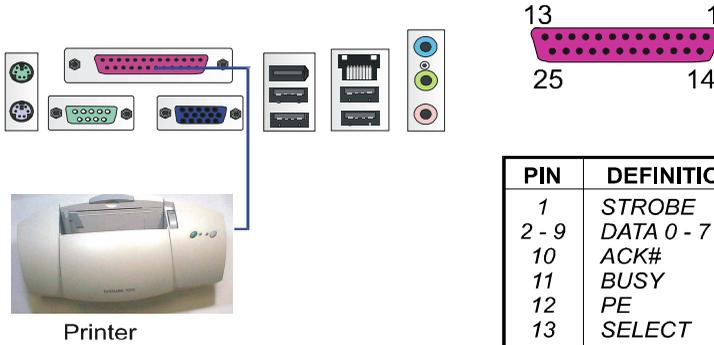
Audio I/O Jacks

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.

Recorder

LINE_IN
LINE_OUT
MIC_IN

Speakers
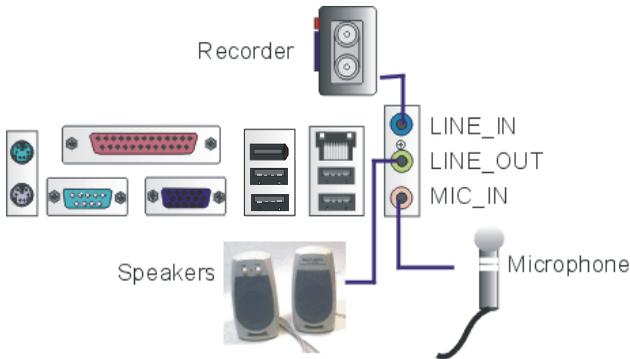
Microphone

> **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.

	1	2	
MIC FNT			AGND
MIC VREF			AVDD5
LINEOF R			LORET R
Reserved			
LINEOF L			LORET L
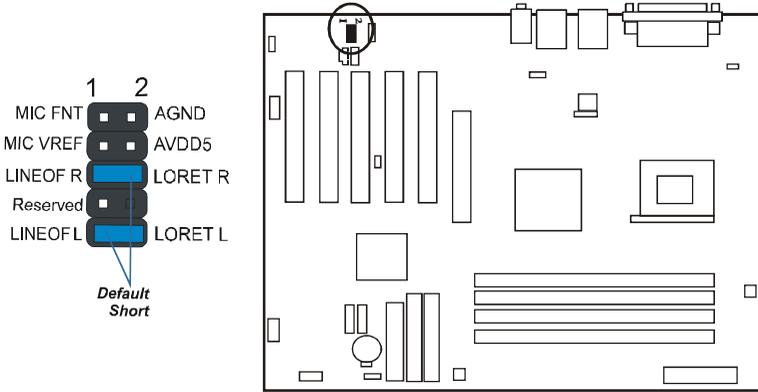
Default Short

> **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.

USBs
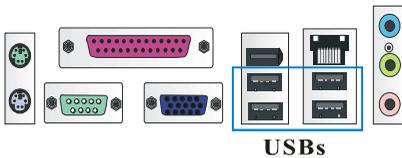
* The above back panel is for IEEE 1394 model

The figure below show the pin assignments of the USB pinheaders.
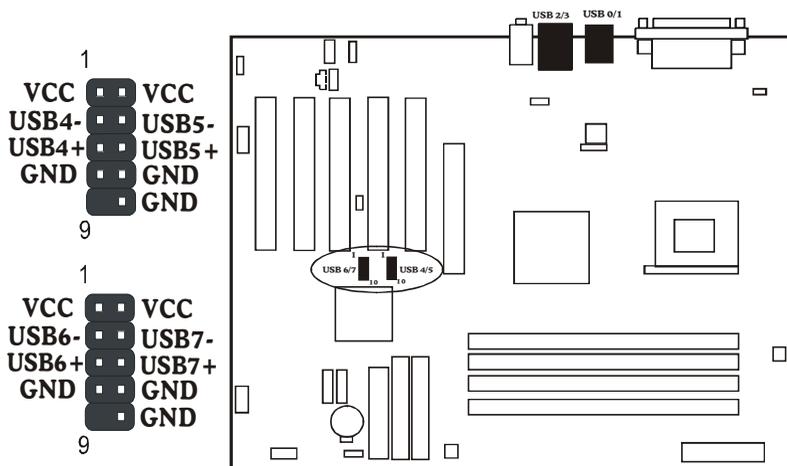
TV_OUT Connector (optional)

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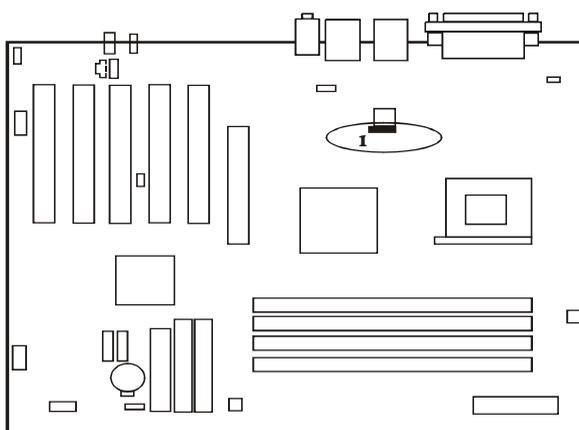
BIOS Setup

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.

**Chapter 3
BIOS Setup**

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.
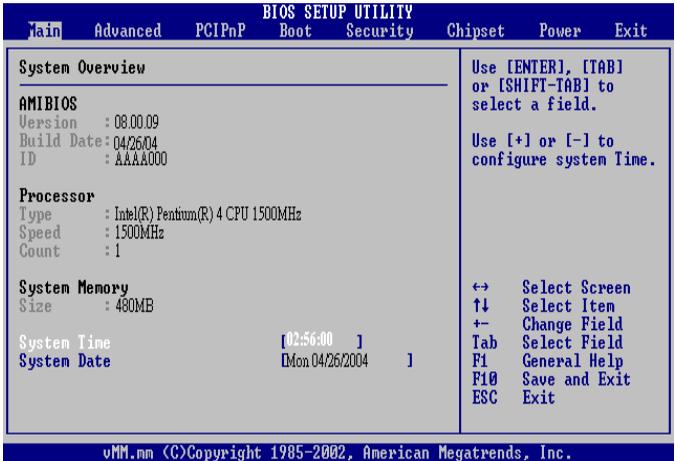
1. Use [Enter], [Tab] or [Shift-Tab] to select a field.Use [+] or [-] to configure System Time.

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.

```
                        BIOS SETUP UTILITY
 Main    Advanced    PCIPnP    Boot    Security    Chipset    Power    Exit

 Advanced Settings                               Options for CPU

 WARNING: Setting wrong values in below sections
          may cause system to malfunction.

 ▸ CPU Configuration
 ▸ IDE Configuration
 ▸ Floppy Configuration
 ▸ SuperIO Configuration
 ▸ Hardware Health Configuration
 ▸ ACPI Configuration
 ▸ Clock Generator Configuration
 ▸ Event Log Configuration         ↔     Select Screen
 ▸ Smbios Configuration            ↕     Select Item
 ▸ USB Configuration               Enter Go to Sub Screen
 ▸ Voltage Control                 F1    General Help
                                   F10   Save and Exit
                                   ESC   Exit

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```

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

```
                        BIOS SETUP UTILITY
      Advanced

Configure advanced CPU settings              This should be enabled
Module Version - 3C.04                       order to boot legacy
                                             OSes that cannot
Manufacturer: Intel                          support CPUs with
Brand String: Intel(R) Pentium(R) 4 CPU 3.00GHz   extended CPUID
Frequency   : 3.01GHz                        functions.
FSB Speed   : 804MHz
Cache L1    : 16 KB
Cache L2    : 1024 KB

Max CPUID Value Limit:          [Disabled]
Hardware Prefetcher:            [Disabled]
Adjacent Cache Line Prefetch:   [Disabled]   ↔    Select Screen
                                             ↑↓   Select Item
                                             +-   Change Option
                                             F1   General Help
                                             F10  Save and Exit
                                             ESC  Exit

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```

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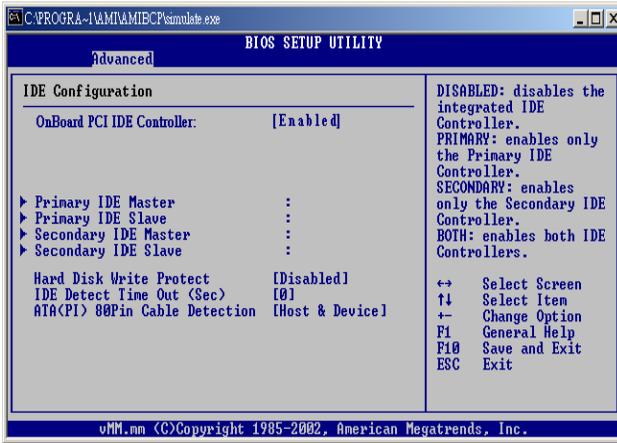
OnBoard PCI IDE Controller: To enable / disable onboard IDE controller
Setting: Enable; Primary; Secondary; Both

PRIMARY/ SECONDARY IDE MASTER/ SLAVE & THIRD/ FOUTH IDE MASTER
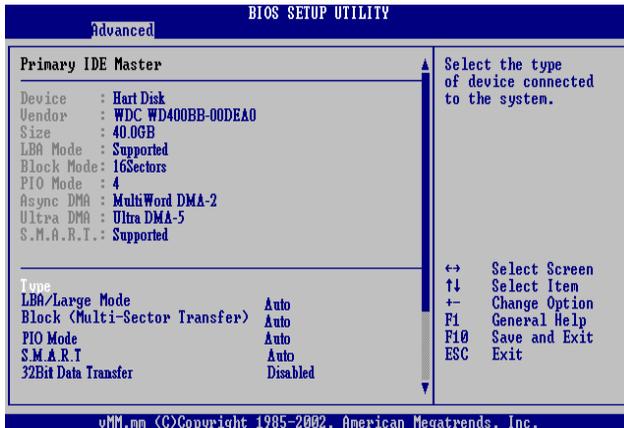
Primary/Secondary IDE Master/Slave: Press <Enter> To show the detected
information of the Primary / Secondary IDE Master/Slave device (s).

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

**Chapter 3
BIOS Setup**

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 IO 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.

```
                         BIOS SETUP UTILITY
        Advanced

    Configure ITE8712 Super IO Chipset              Allows BIOS to Enable
                                                    or Disable Floppy
    OnBoard Floppy Controller      [Enabled]        Controller.
    Serial Port1 Address           [3F8/IRQ4]
       Serial Port1 Mode           [Normal]
    Serial Port2 Address           [2F8/IRQ3]
       Serial Port2 Mode           [Normal]
    OnBoard CIR Port               [Disabled]
    Parallel Port Address          [378]
       Parallel Port Mode          [Normal]
       Parallel Port IRQ           [IRQ7]

                                                    ↔    Select Screen
                                                    ↑↓   Select Item
                                                    +-   Change Option
                                                    F1   General Help
                                                    F10  Save and Exit
                                                    ESC  Exit

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```

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

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

Seriel 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

Onboard CIR Port : Allows users to configsure CIR functions setting: Disabled;3E0;2E0;298;

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

Parallel Port Mode:
Normal;
EPP: Ehanced 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 suppported.

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              ▲   Enables Hardware
                                                 Health Monitoring
  H/W Health Function         [Enabled]          Device.

  Hardware Health Event Monitoring

  CPU Temperature             :56°C/132°F
  North Bridge Temperature    :24°C/75°F
  System Temperature          :38°C/100°F

  Fan1 Speed                  :2766 RPM
  Fan2 Speed                  :N/A

   VcoreA                     :1.312 V          ↔    Select Screen
   V2.5                       :2.608 V          ↑↓   Select Item
   Vcc3                       :3.280 V          +-   Change Option
   Vcc                        :4.999 V          F1   General Help
   +12Vin                     :11.648 V         F10  Save and Exit
   NorthBridge Vcc            :1.552 V          ESC  Exit
   AGP Vcc                    :+1.552 V      ▼
━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━━
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```

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

System Temperature: Showing current systerm temperature

CPU Temperature: Showing current CPU inside temperature

North Bridge Temperature: Showing North Bridge chipset inside temperature

Fan 1/2/3 Speed: Displaying the current speed of CPU/Power Fan

VcoreA: Showing CPU core voltage value

Voltage Monitor: Showing current voltage against the
3.3V/+12V/+5.00V/5VSB/AGP/NorthBridge/DIMM

3.2.6 ACPI CONFIGURATION

```
                         BIOS SETUP UTILITY
              Advanced

 ACPI Settings                            General ACPI
                                          Configuration settings

 ▶ General ACPI Configuration
 ▶ Advanced ACPI Configuration




                                          ↔    Select Screen
                                          ↑↓   Select Item
                                          Enter Go to Sub Screen
                                          F1   General Help
                                          F10  Save and Exit
                                          ESC  Exit

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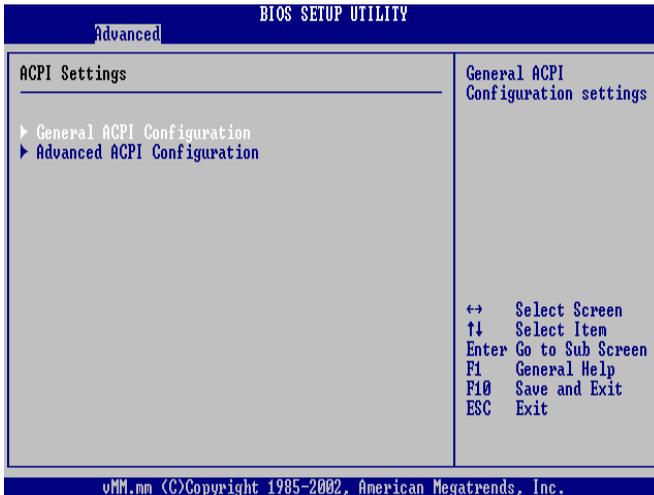
General ACPI Configuration: To press< Enter > on General ACPI Configuration will reveal the following items.

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: Diabled / Enabled

AMI OEMB table: Use default setting

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

3.2.7 USB CONFIGURATION

```
                    BIOS SETUP UTILITY
 Advanced

 USB Configuration                           Enables support for
                                             legacy USB. AUTO
 Module Version - 2.23.2-10.4                option disables
                                             legacy support if
 USB Devices Enabled :                       no USB devices are
         None                                connected.

 Legacy USB Support           [Enabled]
 USB 2.0 Controller Mode      [HiSpeed]
 BIOS EHCI Hand-Off           [Enabled]
 Hotplug USB FDD Support      [Auto]

                                             ↔    Select Screen
                                             ↑↓   Select Item
                                             +-   Change Option
                                             F1   General Help
                                             F10  Save and Exit
                                             ESC  Exit

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```

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)

BIOS EHCI Hand-Off: 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 optiont creates this dummy device only if there is no USB FDD present.
Settings: Disabled / Auto(default)

3.2.8 Voltage Control

```
                          Voltage Control
       Advanced

Voltage Configuration                              Options

CPU  Voltage Control        [Auto]          Auto
DIMM Voltage Control        [2.6V]          1.6750V
AGP  Voltage Control        [1.5V]          1.7000V
                                            1.7250V
                                            1.7500V
                                            1.7750V
                                            1.8000V
                                            1.8250V
                                            1.8500V

                                            ↔   Select Screen
                                            ↑↓  Select Item
                                            +-  Change Option
                                            F1  General Help
                                            F10 Save and Exit
                                            ESC Exit


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```
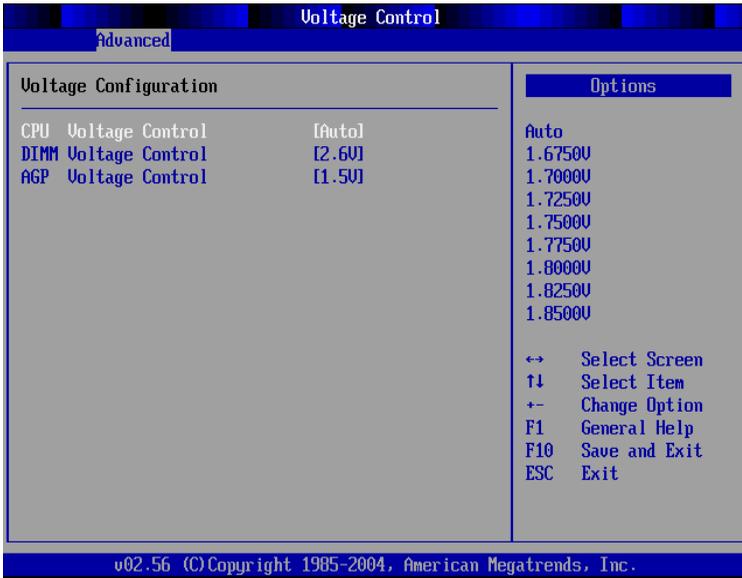
CPU Voltage Control: Allows user to change CPU Vcore voltage. The Vcore range can be adjusted from current Vcore to 1.975V.

DIMM Voltage Control: Allows user to change DIMM working voltage. Settings: 2.6V, 2.7V, 2.8V, 2.9V and 3.0V

AGP Voltage Control: Allows user to change AGP working voltage. Setting: 1.5V, 1.6V and 1.7V

Note: The mainboard components such as CPU, memory module and AGP card may be damaged due to overvoltage. Using default settings on above items is strongly recommended.

3.4 PCI/PnP Setup

```
                        BIOS SETUP UTILITY
   Main    Advanced    PCIPnP    Boot    Security    Chipset    Power    Exit

  Advanced PCI/PnP Settings                    ▲    NO: lets the BIOS
                                                    configure all the
  WARNING: Setting wrong values in below sections   devices in the system.
           may cause system to malfunction.         YES: lets the
                                                    operating system
  Plug & Play O/S               [No]                configure Plug and
  PCI Latency Timer             [32]                Play (PnP) devices not
  Allocate IRQ to PCI VGA       [Yes]               required for boot if
  Palette Snooping              [Disabled]          your system has a Plug
  PCI IDE BusMaster             [Disabled]          and Play operating
  OffBoard PCI/ISA IDE Card     [Auto]              system.

  IRQ3                          [Available]    ↔    Select Screen
  IRQ4                          [Available]    ↑↓   Select Item
  IRQ5                          [Available]    +-   Change Option
  IRQ7                          [Available]    F1   General Help
  IRQ9                          [Available]    F10  Save and Exit
  IRQ10                         [Available]    ESC  Exit
  IRQ11                         [Available]
  IRQ14                         [Available]    ▼

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```

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

**Chapter 3
BIOS Setup**

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


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```

3.5.1 BOOT SETTINGS CONFIGURATION

```
                    BIOS SETUP UTILITY
                         Boot

  Boot Settings Configuration            Allows BIOS to skip
 ───────────────────────────────────    certain tests while
  Quick Boot              [Enabled ]     booting. This will
  Quiet Boot              [Disabled]     decrease the time
  AddOn ROM Display Mode  [Enabled ]     needed to boot the
  Bootup Num-Lock         [Off]          system.
  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


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```

Quick Boot: Allows user to enable (default)/ disable quick boot of your system. If enabled, BIOS will skip certain tests whle 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 currect

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 nu- meric 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

```
                    BIOS SETUP UTILITY
                        Boot

 Boot Device Priority                    Specifies the boot
 ─────────────────────────               sequence from the
 1st Boot Device    Removable Dev.       available devices.
 2nd Boot Device    ATAPI CDROM
 3rd Boot Device    Hard Drive           A device enclosed in
                                         parenthesis has been
                                         disabled in the
                                         corresponding type
                                         menu.


                                         ↔    Select Screen
                                         ↑↓   Select Item
                                         +-   Change Option
                                         F1   General Help
                                         F10  Save and Exit
                                         ESC  Exit


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```

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
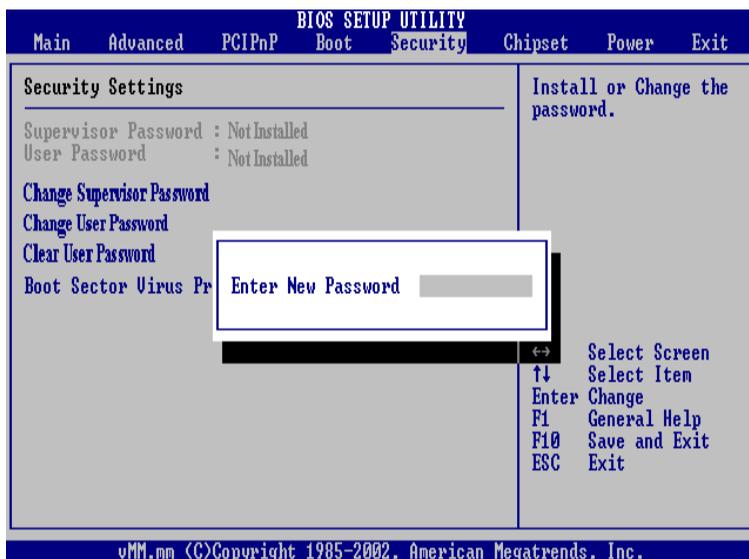
The BIOS provides both a Supervisor and a User password. If you use both passwords, the Supervisor password must be set first.
If you select password support, you are prompted for a one to six character password.

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

BIOS Setup

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 looses it 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 warining message on screan.
Settings: Disabled / Enabled

3.7 Chipset Setup
3.7.1 NORTH BRIDGE CHIPSET CONFIGURATION

```
                   NorthBridge Chipset Configuration
                                              Chipset

 Init. Graphic Adapter Priority [PCI/AGP]          Select which graphics
 HyperThreading Function       [Enabled]           controller to use as
                                                   the primary boot
 Memory Frequency              [Auto]              device.
 Memory Timing Parameter       [Auto]
 CAS Latency                   [3    Clocks]
 Memory TRP                    [3    Clocks]
 Memory TRCD                   [3    Clocks]
 Memory TRAS                   [3    Clocks]
 Memory I/F Timing             [Auto]
 Memory Dynamic CKE            [Disabled]
 Dual Channel Interleave       [System Optimal ]   ↔    Select Screen
 AGP Aperture Size             [64MB]              ↑↓   Select Item
 Surround View Function        [Disabled]          +-   Change Option
 UMA Frame Buffer Size         [32MB]              F1   General Help
 Video Display Devices         [Auto]              F10  Save and Exit
 TV Standard                   [NTSC]              ESC  Exit
 Expansion Mode                [Disabled]

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```

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. 3-5)

Memory Frequency: Allows user to set memory clock. "Auto" setting is strongly recommend.
Settings: Auto; SYNC; DDR-100; DDR-133; DDR-166; DDR-200;

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

Dual Channel Interleave: Use this item to select optimal mode of dual channel .
Settings: systim optimal and Graphics optimal.

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.
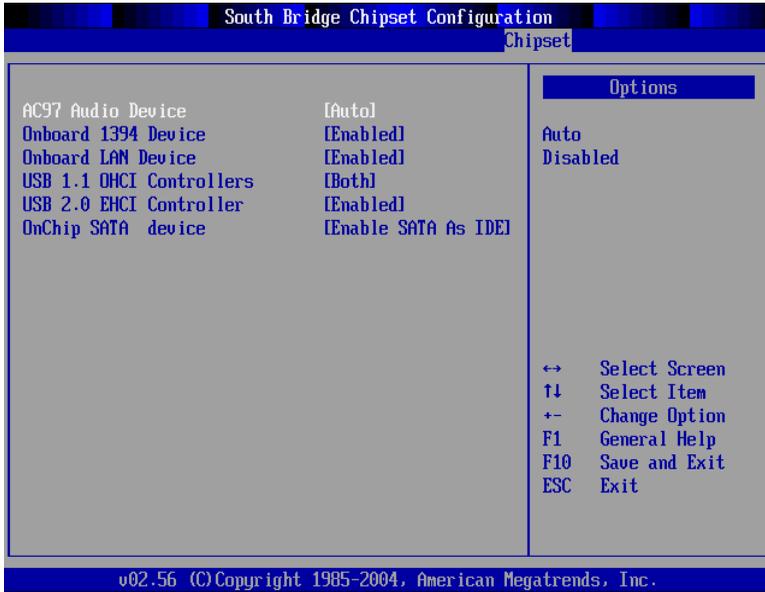
TV Standard: Select the TV standard which is used as the video signal format of user's TV if user has connected a TV to the system.
Settings: NTSC, PAL, PAL-M, PAL-60, NTSC-JAP, PAL-CN, PAL-N, SCART_RGB.

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

3.7.2 SOUTH BRIDGE CHIPSET CONFIGURATION

```
┌─────────────────────────────────────────────────────────────────┐
│              South Bridge Chipset Configuration                   │
│                                          Chipset                  │
├───────────────────────────────────────┬───────────────────────── │
│                                        │        Options           │
│ AC97 Audio Device          [Auto]      │                          │
│ Onboard 1394 Device        [Enabled]   │  Auto                    │
│ Onboard LAN Device         [Enabled]   │  Disabled                │
│ USB 1.1 OHCI Controllers   [Both]      │                          │
│ USB 2.0 EHCI Controller    [Enabled]   │                          │
│ OnChip SATA  device    [Enable SATA As IDE]                       │
│                                        │                          │
│                                        │  ↔    Select Screen      │
│                                        │  ↑↓   Select Item        │
│                                        │  +-   Change Option      │
│                                        │  F1   General Help       │
│                                        │  F10  Save and Exit      │
│                                        │  ESC  Exit               │
│                                        │                          │
├────────────────────────────────────────────────────────────────  │
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└─────────────────────────────────────────────────────────────────┘
```

SB300 Debug Configuration: Use default setting.

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.

Onboard 1394 Device: Allow user to enable /disable 1394 controller.
Settings: Enabled and Disabled

Onboard LAN Device: Allow user to enable /disable LAN controller.
Settings: Enabled and Disabled

Onchip SATA device: Allow user to enable/disable SATA controller.
Settings: Disabled, Enable SATA As IDE, SATA As Storage, SATA As RAID.

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

```
 Main    Advanced   PCIPnP    Boot    Security   Chipset   Power    Exit

 Power Management/ APM           [Enabled]          Enable/Disable SMI
 Suspend Time Out                [Disabled]         based power management
 Power Button Mode               [On/Off]           and APM support.
 Video Power Down Mode           [Suspend]
 Hard Disk Power Down Mode       [Suspend]
 Hard disk Time Out (Minute)     [Disabled]



                                                 ↔      Select Screen
                                                 ↑↓     Select Item
                                                 +-     Change Option
                                                 F1     General Help
                                                 F10    Save and Exit
                                                 ESC    Exit

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```

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

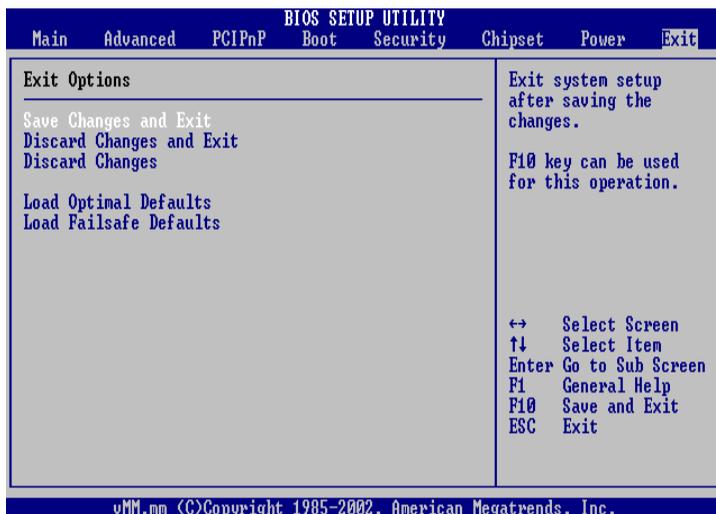**Suspend Time Out (Minute):** To set the duration of Suspend Time Out.

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

```
                    BIOS SETUP UTILITY
 Main   Advanced   PCIPnP   Boot   Security   Chipset   Power   Exit

 Exit Options                                Exit system setup
                                             after saving the
 Save Changes and Exit                       changes.
 Discard Changes and Exit
 Discard Changes                             F10 key can be used
                                             for this operation.
 Load Optimal Defaults
 Load Failsafe Defaults




                                             ↔    Select Screen
                                             ↑↓   Select Item
                                             Enter Go to Sub Screen
                                             F1   General Help
                                             F10  Save and Exit
                                             ESC  Exit

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```

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>.

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
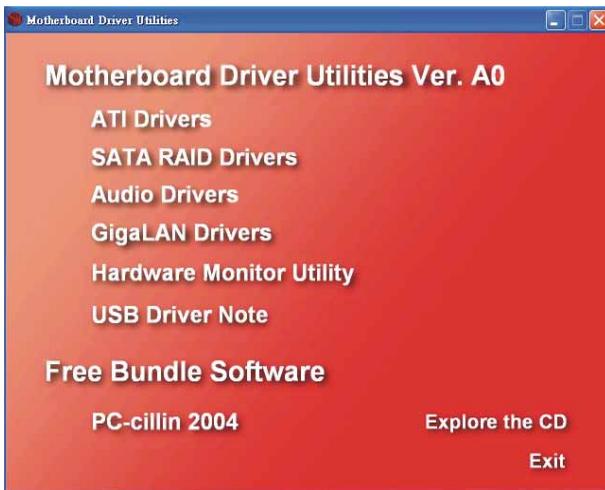**Step 2 To Install ATi Chipset Drivers Installation**
Step 3 To Install AC' 97 Audio Drivers
Step 4 To Install Hardware Monitor Utility
Step 5 To Install USB V2.0 Drivers
Step 6 To Insatll Free Bundle Software (optional)

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

Step 4 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 5 Click to " GigaLAN Drivers"
Following the procedures of opening the Support CD, click to "**GigaLAN Drivers**" to proceed. User can follow the screen instructions to complete the installation.

Step 6 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 7 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
7-1. 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.

7-2. Click Universal Serial Bus controllers.

7-3. 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.

7-4. 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 8 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.