LanParty NFII ULTRA

Rev. A+
System Board
User's Manual

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Caution

To avoid damage to the system:
• Use the correct AC input voltage range.

To reduce the risk of electric shock:
• Unplug the power cord before removing the system chassis cover for installation or servicing. After installation or servicing, cover the system chassis before plugging the power cord.

Battery:
- Danger of explosion if battery incorrectly replaced.
- Replace only with the same or equivalent type recommend by the manufacturer.
- Dispose of used batteries according to the battery manufacturer's instructions.

Joystick or MIDI port:
- Do not use any joystick or MIDI device that requires more than 10A current at 5V DC. There is a risk of fire for devices that exceed this limit.

FCC and DOC Statement on Class B

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio TV technician for help.

Notice:

1. The changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

2. Shielded interface cables must be used in order to comply with the emission limits.

Notice

This user's manual contains detailed information about the system board. If, in some cases, some information doesn't match those shown in the multilingual manual, the multilingual manual should always be regarded as the most updated version. The multilingual manual is included in the system board package.

To view the user's manual, insert the CD into a CD-ROM drive. The autorun screen (Mainboard Utility CD) will appear. Click the "Tools" icon then click "Manual" on the main menu.

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Chapter 1 - Introduction

1.1 Features and Specifications

1.1.1 Features

Chipset

- nVIDIA® nForce2™ Ultra 400 and nForce2™ MCP-T

Processor

The system board is equipped with Socket A for PGA processor. It is also equipped with a switching voltage regulator that automatically detects 1.100V to 1.850V.

- AMD Athlon™ XP 266/333/400MHz FSB
- AMD Athlon™ 200/266MHz FSB

> **Important:**
> *To ensure proper boot up and operation of your system, you must power-off the system then turn off the power supply's switch or unplug the AC power cord prior to replacing the CPU.*

System Memory

- Supports dual channel memory interface
- Supports up to 3GB memory (unbuffered DIMM)
- Uses PC1600 (DDR200), PC2100 (DDR266), PC2700 (DDR333) or PC 3200 (DDR 400) DDR SDRAM DIMM, 2.5V type
- Three184-pin DDR SDRAM DIMM sockets
- L2 cache memory
  - Athlon™ XP / Athlon™ processor: built-in 256KB Level 2 pipelined burst cache

DIMMs	Memory Size	DIMMs	Memory Size
2MBx64	16MB	16MBx64	128MB
4MBx64	32MB	32MBx64	256MB
8MBx64	64MB	64MBx64	512MB

Expansion Slots

The system board is equipped with 1 AGP slot and 5 PCI slots.

AGP (Accelerated Graphics Port)

AGP is an interface designed to support high performance 3D graphics cards. It utilizes a dedicated pipeline to access system memory for texturing, z-buffering and alpha blending. The AGP slot supports AGP 8x with up to 2132MB/sec. bandwidth and AGP 4x with up to 1066MB/sec. bandwidth for 3D graphics applications. AGP in this system board will deliver faster and better graphics to your PC.

Onboard Audio Features

- AC'97 2.2 S/PDIF extension compliant codec
- Supports Microsoft® DirectSound/DirectSound 3D
- AC'97 supported with full duplex, independent sample rate converter for audio recording and playback
- 6-channel audio output

Onboard Dual LAN Features

- Dual LAN chips
    - nVIDIA® nForce2™ MCP-T and ICS1893 Phy
    - Realtek RTL8101L
- Integrated IEEE 802.3, 10BASE-T and 100BASE-TX compatible PHY
- Integrated power management functions
- Full duplex support at both 10 and 100 Mbps
- Supports IEEE 802.3u auto-negotiation
- Supports wire for management

ATA RAID - Redundant Array of Inexpensive Disk

- RAID 0, 1, 0+1 and 1.5
- Two independent IDE channels support 4 hard disk drives (UDMA modes 33/66/100/133 or EIDE)
- Supports PIO modes 0/1/2/3/4, DMA modes 0/1/2 and UDMA modes 0/1/2/3/4/5/6

PCI Bus Master IDE Controller

- Two PCI IDE interfaces support up to four IDE devices
- Supports ATA/33, ATA/66, ATA/100 and ATA/133 hard drives
- UDMA Modes 3, 4, 5 and 6 Enhanced IDE (data transfer rate up to 133MB/sec.)
- Bus mastering reduces CPU utilization during disk transfer
- Supports ATAPI CD-ROM, LS-120 and ZIP

Serial ATA IDE Interface

- Uses Marvell 88i8030 chip
- Supports one SATA (Serial ATA) interface which is compliant with SATA 1.0 specification (1.5Gbps interface)

Serial ATA is a storage interface that is compliant with SATA 1.0 specification. With speed of up to 1.5Gbps, it improves hard drive performance even in data intensive environments such as audio/video, consumer electronics and entry-level servers.

IEEE 1394a Interface

- nVIDIA® nForce2™ MCP-T and Agere FW803 Phy chips
- Supports three 100/200/400 Mb/sec ports

IEEE 1394A is fully compliant with the 1394A OHCI (Open Host Controller Interface) 1.1 specification. It supports up to 63 devices that can run simultaneously on a system. 1394A is a fast external bus standard that supports data transfer rates of up to 400Mbps. In addition to its high speed, it also supports isochronous data transfer which is ideal for video devices that need to transfer high levels of data in real-time. 1394A supports both Plug-and-Play and hot plugging.

S/PDIF

S/PDIF is a standard audio file transfer format that transfers digital audio signals to a device without having to be converted first to an analog format. This prevents the quality of the audio signal from degrading whenever it is converted to analog. S/PDIF is usually found on digital audio equipment such as a DAT machine or audio processing device. The S/PDIF connector on the system board sends

surround sound and 3D audio signal outputs to amplifiers and speakers and to digital recording devices like CD recorders.

IrDA Interface

The system board is equipped with an IrDA connector for wireless connectivity between your computer and peripheral devices. The IRDA (Infrared Data Association) specification supports data transfers of 115K baud at a distance of 1 meter.

USB Ports

The system board supports USB 2.0 and USB 1.1 ports. USB 1.1 supports 12Mb/second bandwidth while USB 2.0 supports 480Mb/ second bandwidth providing a marked improvement in device transfer speeds between your computer and a wide range of simultaneously accessible external Plug and Play peripherals..

BIOS

- Award BIOS, Windows® 95/98/2000/ME/XP Plug and Play compatible
- Genie BIOS provides:
  - CPU/DRAM overclocking
  - CPU/AGP/DRAM/Chipset overvoltage
- Supports SCSI sequential boot-up
- Flash EPROM for easy BIOS upgrades
- Supports DMI 2.0 function
- 4Mbit flash memory

Desktop Management Interface (DMI)

The system board comes with a DMI 2.0 built into the BIOS. The DMI utility in the BIOS automatically records various information about your system configuration and stores these information in the DMI pool, which is a part of the system board's Plug and Play BIOS. DMI, along with the appropriately networked software, is designed to make inventory, maintenance and troubleshooting of computer systems easier.

Rear Panel I/O Ports (PC 99 color-coded connectors)

- Four USB 2.0/1.1 ports
- Two RJ45 LAN port
- Two NS16C550A-compatible DB-9 serial ports
- One SPP/ECP/EPP DB-25 parallel port
- One mini-DIN-6 PS/2 mouse port
- One mini-DIN-6 PS/2 keyboard port
- Three audio jacks: line-out, line-in and mic-in

I/O Connectors

- One connector for 2 additional external USB 2.0/1.1 ports
- Three connectors for 3 external IEEE 1394a ports
- One connector for 1 external game/MIDI port
- One front audio connector for external line-out and mic-in jacks
- Two internal audio connectors (AUX-in and CD-in)
- One 4-channel audio output connector
- One S/PDIF-in/out connector
- One connector for IrDA interface
- Two RAID IDE connectors
- One connector for serial ATA interface
- Two IDE connectors
- One floppy drive interface supports up to two 2.88MB floppy drives
- Two ATX power supply connectors
- One Wake-On-LAN connector
- CPU, chassis and second chassis fan connectors

1.1.2 System Health Monitor Functions

The system board is capable of monitoring the following "system health" conditions.

- Monitors CPU/system temperature
- Monitors ±12V/5V/3.3V/VBAT(V)/5VSB(V) voltages
- Monitors CPU/chassis fan speed
- Read back capability that displays temperature, voltage and fan speed

1.1.3 Intelligence

CPU Temperature Protection

The CPU Temperature Protection function has the capability of monitoring the CPU's temperature during system boot-up. Once the system has detected that the CPU's temperature is too high, the system will automatically power-off.

Over Voltage

The Over Voltage function allows you to manually adjust to a higher core voltage that is supplied to the CPU, AGP, DRAM and/or chipset. Although this function is supported, we do not recommend that you use a higher voltage because unstable current may be supplied to the system board causing damage.

CPU Overclocking

The CPU Overclocking function allows you to adjust the processor's bus clock. However, overclocking may result to the processor's or system's instability and are not guaranteed to provide better system performance.

Dual Function Power Button

Depending on the setting in the "Soft-Off By PBTN" field of the Power Management Setup, this switch will allow the system to enter the Soft-Off or Suspend mode.

Wake-On-Ring

This feature allows the system that is in the Suspend mode or Soft Power Off mode to wake-up/power-on to respond to calls coming from an external modem or respond to calls from a modem PCI card that uses the PCI PME (Power Management Event) signal to remotely wake up the PC.

Important:
If you are using a modem add-in card, the 5VSB power source of your power supply must support a minimum of ≥720mA.

Wake-On-LAN

This feature allows the network to remotely wake up a Soft Power Down (Soft-Off) PC. It is supported via the onboard LAN port, via a PCI LAN card that uses the PCI PME (Power Management Event) signal or via a LAN card that uses the Wake-On-LAN connector. However, if your system is in the Suspend mode, you can power-on the system only through an IRQ or DMA interrupt.

Important:
The 5VSB power source of your power supply must support ≥720mA.

Wake-On-Keyboard/Wake-On-Mouse

This function allows you to use the keyboard or PS/2 mouse to power-on the system.

Important:
The 5VSB power source of your power supply must support ≥720mA.

Wake-On-USB Keyboard/Mouse

This function allows you to use a USB keyboard or USB mouse to wake up a system from the S3 (STR - Suspend To RAM) state.

Important:
* *If you are using the Wake-On-USB Keyboard/Mouse function for 2 USB ports, the 5VSB power source of your power supply must support ≥1.5A.*
* *If you are using the Wake-On-USB Keyboard/Mouse function for 3 or more USB ports, the 5VSB power source of your power supply must support ≥2A.*

RTC Timer to Power-on the System

The RTC installed on the system board allows your system to automatically power-on on the set date and time.

ACPI STR

The system board is designed to meet the ACPI (Advanced Configuration and Power Interface) specification. ACPI has energy saving features that enables PCs to implement Power Management and Plug-and-Play with operating systems that support OS Direct Power Management. Currently, only Windows**®** 98SE/2000/ME/XP supports the ACPI function. ACPI when enabled in the Power Management Setup will allow you to use the Suspend to RAM function.

With the Suspend to RAM function enabled, you can power-off the system at once by pressing the power button or selecting "Standby" when you shut down Windows**®** 98SE/2000/ME/XP without having to go through the sometimes tiresome process of closing files, applications and operating system. This is because the system is capable of storing all programs and data files during the entire operating session into RAM (Random Access Memory) when it powers-off. The operating session will resume exactly where you left off the next time you power-on the system.

> **Important:**
> *The 5VSB power source of your power supply must support ≥1A.*

AC Power Failure Recovery

When power returns after an AC power failure, you may choose to either power-on the system manually, let the system power-on automatically or return to the state where you left off before power failure occurs.

Virus Protection

Most viruses today destroy data stored in hard drives. The system board is designed to protect the boot sector and partition table of your hard disk drive.

1.2 Package Checklist

The system board package contains the following items:

- ☑ The system board
- ☑ Two users manuals
- ☑ Two IDE round cables for ATA/33, ATA/66, ATA/100 or ATA/133 IDE drives
- ☑ One 34-pin floppy disk drive round cable
- ☑ One serial ATA data cable
- ☑ One serial ATA power cable
- ☑ One card-edge bracket mounted with a game/MIDI port
- ☑ One card-edge bracket mounted with one S/PDIF-in port and one S/PDIF-out port
- ☑ One card-edge bracket mounted with two 1394a ports
- ☑ One 1394a port on the FrontX device
- ☑ One line-out jack and one mic-in jack on the FrontX device
- ☑ Two USB 2.0/1.1 ports on the FrontX device
- ☐ One card-edge bracket mounted with a 4-channel audio output (optional)
- ☑ One PC Transpo kit
- ☑ One FrontX device
- ☑ One I/O shield
- ☑ One thermal paste
- ☑ One LANPARTY sticker
- ☑ One case badge
- ☑ One pack of jumper caps (five 2.54mm jumper caps)
- ☑ One "RAID Driver" floppy diskette
- ☑ One "Mainboard Utility" CD
- ☑ One "WinDVD/WinRIP Utility" CD

If any of these items are missing or damaged, please contact your dealer or sales representative for assistance.

Please refer to the LANPARTY Features manual for more information on the FrontX device.

Chapter 2 - Hardware Installation

2.1 System Board Layout
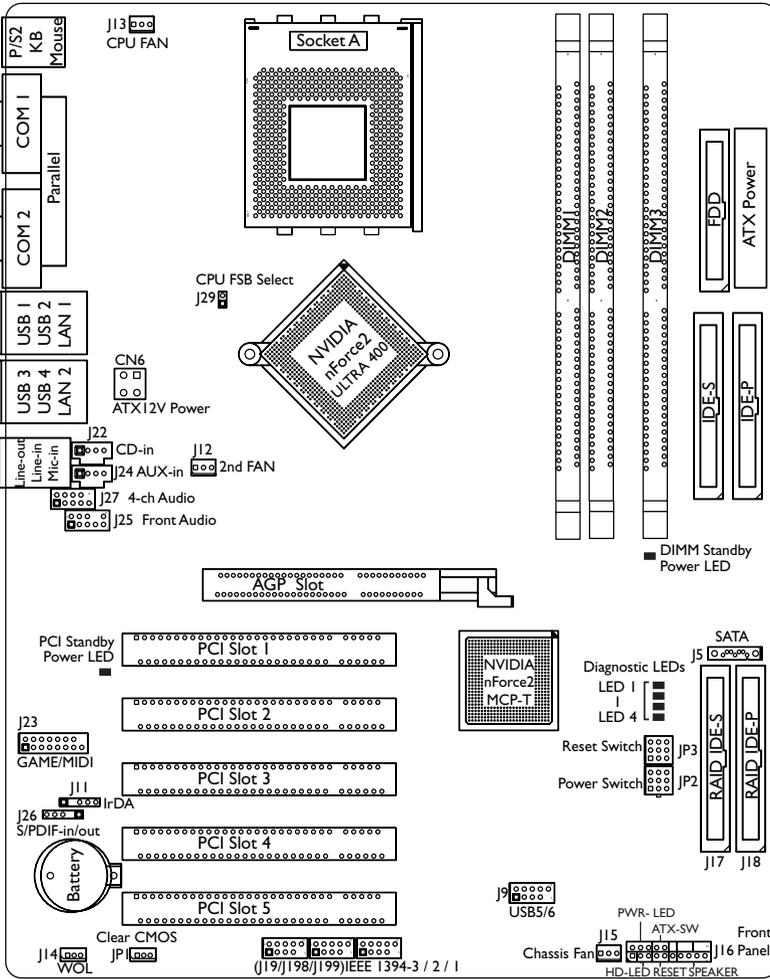
2.2 Installing the CPU

Warning:

*   *Before you install or remove any component, ensure that the power supply is switched off or the power cord is detached from the power supply. Failure to do so may cause severe damage to the system board, peripherals, and/or components.*
*   *Use a grounded wrist strap or touch a safely grounded object or any metal object before handling the CPU to avoid damage caused by static electricity.*

Open Up

90 degree angle
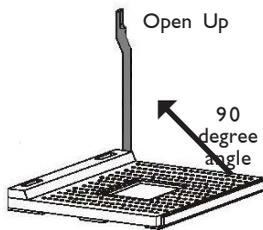
1. Push the lever sideways, away from the socket, then lift it up to a 90° angle.

Gold mark **Insert and press gently**
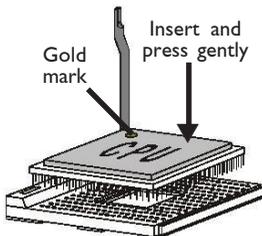
2. Position the CPU above the socket then align the gold mark on the corner of the CPU (designated as pin 1) with pin 1 of the socket.

Snap the lever back into place
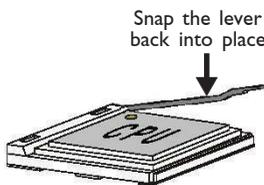
3. Insert the CPU into the socket until it is seated in place. The CPU will fit in only one orientation and can easily be inserted without exerting any force. Once the CPU is in place, push down the lever to lock the socket. The lever should click on the side tab to indicate that the CPU is completely secured in the socket.

Important:
Installing a heat sink with cooling fan is necessary for proper heat dissipation. Apply a thin layer of thermal paste on top of the CPU. Failure to do so may result in overheating the CPU.

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Warning:

- *To ensure proper boot up and operation of your system, you must power-off the system then turn off the power supply's switch or unplug the AC power cord prior to altering the setting of a jumper or replacing the CPU.*

- *Electrostatic discharge (ESD) can damage your system board, processor, disk drives, add-in boards, and other components. Perform the upgrade instruction procedures described at an ESD workstation only. If such a station is not available, you can provide some ESD protection by wearing an antistatic wrist strap and attaching it to a metal part of the system chassis. If a wrist strap is unavailable, establish and maintain contact with the system chassis throughout any procedures requiring ESD protection.*

2.3 System Memory

DIMM 1
DIMM 2
DIMM 3
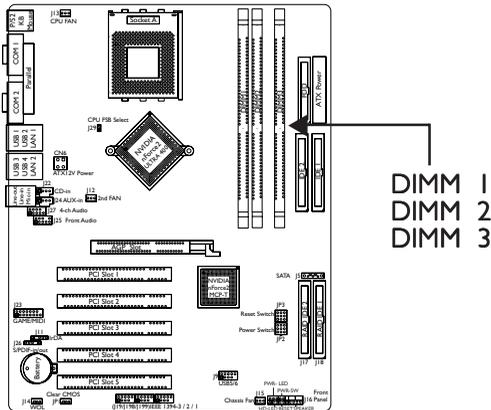
The system board is equipped with three 184-pin DDR SDRAM DIMM (Dual In-line Memory Module) sockets that support 2.5V DDR SDRAM DIMM. Double Data Rate SDRAM (DDR SDRAM) is a type of SDRAM that doubles the data rate through reading and writing at both the rising and falling edge of each clock. This effectively doubles the speed of operation therefore providing two times faster data transfer.

Refer to chapter 1 (System Memory section) for detailed specification of the memory supported by the system board.

The thee DDR DIMM sockets on the system board are divided into 2 channels:

> 1st channel - DDR 1 and DDR 2
> 2nd channel - DDR 3

The system board supports the following memory interface.

Single Channel (SC)
Data will be accessed in chunks of 64 bits (8B) from the memory channels.

Dual Channel (DC)
Dual channel provides better system performance because it doubles the data transfer rate.

Single Channel	DIMMs are on the same channel. DIMMs in a channel can be identical or completely different. Not all slots need to be populated.
Dual Channel	DIMMs of the same memory configuration are on different channels.

2.3.1 Installing the DIM Module

A DIM module simply snaps into a DIMM socket on the system board. Pin 1 of the DIM module must correspond with Pin 1 of the socket.

Notch

Key

Tab

Tab

Pin 1
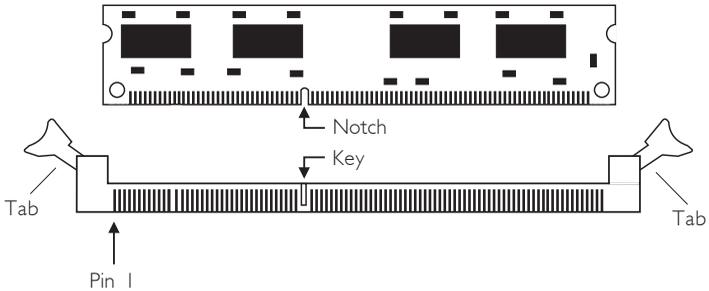
1. Pull the "tabs" which are at the ends of the socket to the side.

2. Position the DIMM above the socket with the "notch" in the module aligned with the "key" on the socket.

3. Seat the module vertically into the socket. Make sure it is completely seated. The tabs will hold the DIMM in place.

2.4 Jumper Settings

2.4.1 Jumper Settings for Clearing CMOS Data

(JP1)
Clear CMOS Data ◄—

1-2 On:
Normal (default)

2-3 On:
Clear CMOS Data
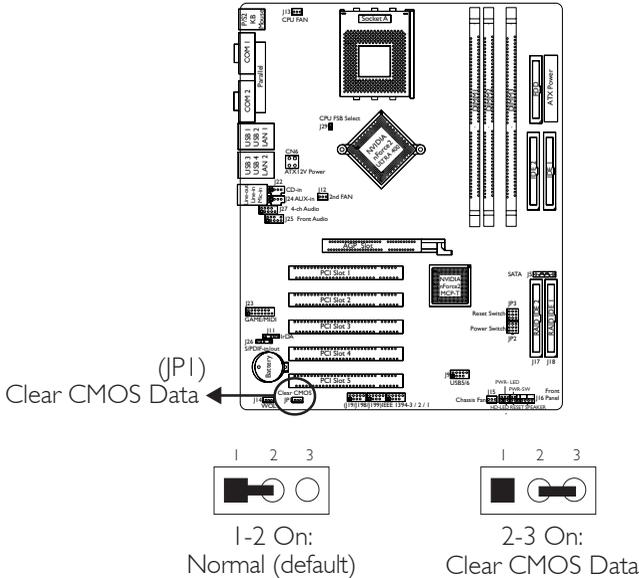
If you encounter the following,

a) *CMOS data becomes corrupted.*
b) *You forgot the supervisor or user password.*
c) *You are unable to boot-up the computer system because the processor's bus clock was incorrectly set in the BIOS.*

you can reconfigure the system with the default values stored in the ROM BIOS.

To load the default values stored in the ROM BIOS, please follow the steps below.

1. Power-off the system and unplug the power cord.

2. Set JP1 pins 2 and 3 to On. Wait for a few seconds and set JP1 back to its default setting, pins 1 and 2 On.

3. Plug the power cord and power-on the system.

If your reason for clearing the CMOS data is due to incorrect setting of the processor's bus clock in the BIOS, please proceed to step 4.

4. After powering-on the system, press <Del> to enter the main menu of the BIOS.

5. Select the "Genie BIOS Setting" submenu and press <Enter>.

6. Set the "CPU Clock Setting" field to its default setting or an appropriate bus clock. Refer to "CPU Clock Setting" in the "Genie BIOS Setting" section in chapter 3 for more information.

7. Press <Esc> to return to the main menu of the BIOS setup utility. Select "Save & Exit Setup" and press <Enter>.

8. Type <Y> and press <Enter>.

2

2.4.2 Jumper Settings for Selecting the CPU's Front Side Bus

(J29)
CPU FSB Select

On:
Other CPUs
(default)

2
1

Off:
100MHz

2
1
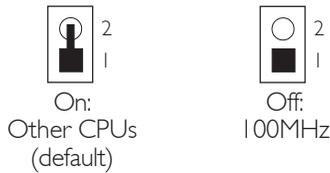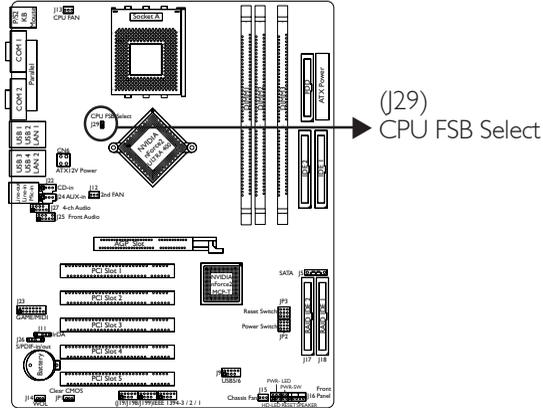
This Jumper is used to select the front side bus of the CPU installed on the system board.

Warning:

To ensure proper boot up and operation of your system, you must power-off the system then turn off the power supply's switch or unplug the AC power cord prior to altering the setting of the jumper.

2.5 Rear Panel I/O Ports

PS/2 Mouse — Parallel — LAN 1 — LAN 2 — Mic-in — Line-in — Line-out

PS/2 K/B — COM 1 — COM 2 — USB 1-2 — USB 3-4
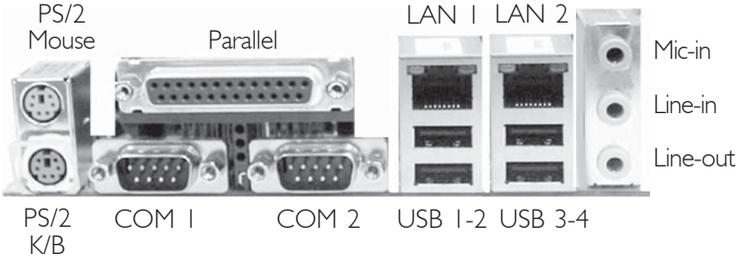
2.5.1 PS/2 Mouse and PS/2 Keyboard Ports

PS/2 Mouse
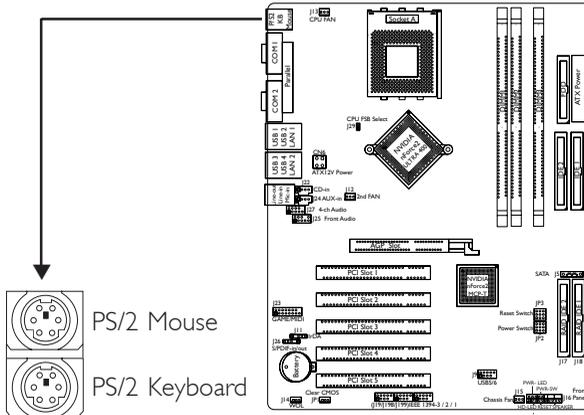
PS/2 Keyboard

The system board is equipped with an onboard PS/2 mouse (Green) and PS/2 keyboard (Purple) ports. The PS/2 mouse port uses IRQ12. If a mouse is not connected to this port, the system will reserve IRQ12 for other expansion cards.

Warning:
Make sure to turn off your computer prior to connecting or disconnecting a mouse or keyboard. Failure to do so may damage the system board.

2.5.2 Serial Ports

COM 1   COM 2
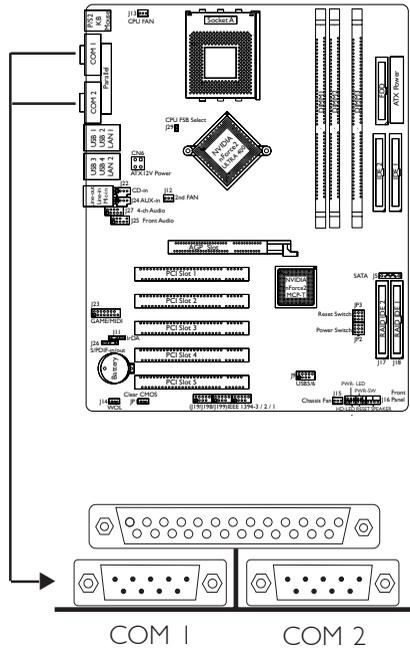
The system board is equipped with onboard serial ports (COM 1 and COM 2) - both in Teal/Turquoise color.

These ports are RS-232C asynchronous communication ports with 16C550A-compatible UARTs that can be used with modems, serial printers, remote display terminals, and other serial devices. You can set the serial ports' I/O address in the Integrated Peripherals submenu ("Super IO Device" field) of the BIOS.

2.5.3 Parallel Port
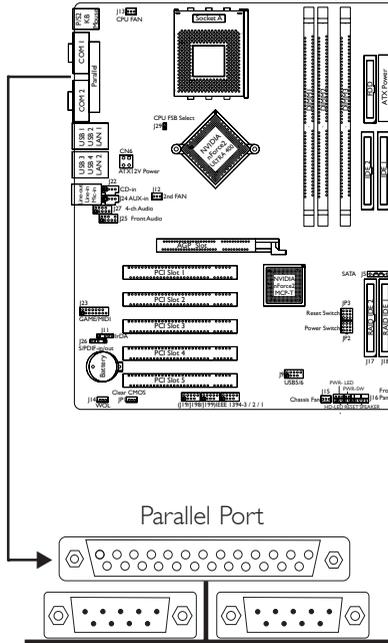
Parallel Port

The system board has a standard parallel port (Burgundy) for inter-facing your PC to a parallel printer. It supports SPP, ECP and EPP modes. You can set the port's mode in the Integrated Peripherals submenu ("Super IO Device" field) of the BIOS.

Setting	Function
SPP (Standard Parallel Port)	Allows normal speed operation but in one direction only.
ECP (Extended Capabilities Port)	Allows parallel port to operate in bidirectional mode and at a speed faster than the SPP's data transfer rate.
EPP (Enhanced Parallel Port)	Allows bidirectional parallel port operation at maximum speed.

2.5.4 Universal Serial Bus Ports

(J9) USB 5 and 6

USB 2   USB 4
USB 1   USB 3
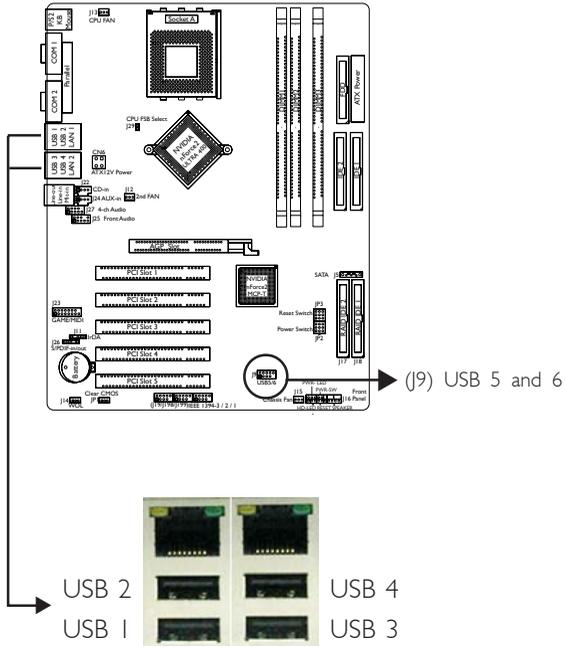
Additional USB Ports (USB 5-6)

Pin	Function	Pin	Function
1	VCC	2	VCC
3	-Data	4	-Data
5	+Data	6	+Data
7	Ground	8	Ground
9	Key	10	Key

The system board supports 6 USB ports. USB allows data exchange between your computer and a wide range of simultaneously accessible external Plug and Play peripherals. You must have the proper drivers installed in your operating system to use the USB ports. Refer to your operating system's manual or documentation.

The system board is equipped with four onboard USB ports (Black). The J9 connector on the system board allows you to connect to the 2 USB ports that are on the FrontX device. (The FrontX device, which comes with LANPARTY series products, is installed at the front panel of the chassis.) Connect the USB cable connector from FrontX to J9. Make sure pin 1 of the cable connector is aligned with pin 1 of J9.

2.5.5 RJ45 Fast-Ethernet Port

LAN 1   LAN 2
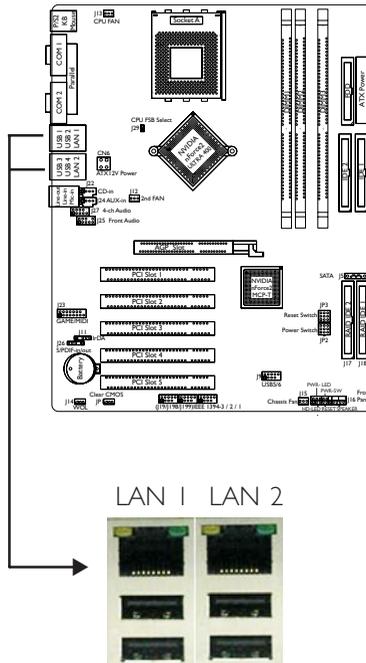
The system board is equipped with two onboard RJ45 fast-ethernet LAN ports. It allows the system board to connect to a local area network by means of a network hub.

The LAN 1 port is controlled by the nVIDIA® nForce2™ MCP-T and ICS1893 Phy chips. The LAN 2 port is controlled by the Realtek RTL8101L chip.

You can enable or disable these LAN ports in the Genie BIOS Setting submenu of the BIOS.

2.5.6 Audio Jacks and Connectors

Mic-in

Line-in

Line-out

Audio Jacks

4-ch Audio

(J27)

(J25)

Front Audio
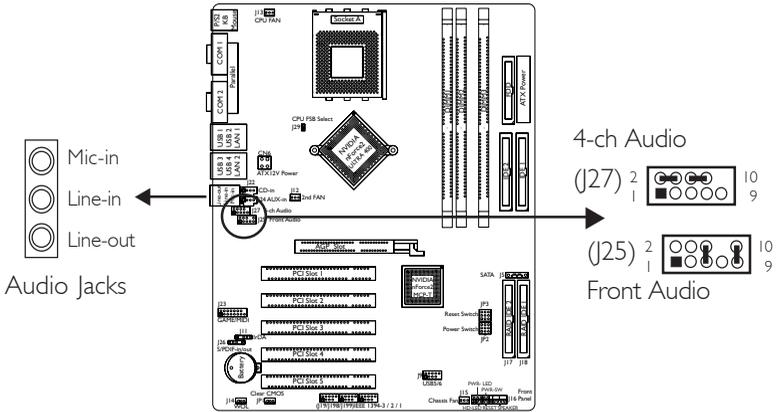
Audio Jacks

The system board is equipped with 3 audio jacks. A jack is a one-hole connecting interface for inserting a plug.

Line-out Jack (Lime)
This jack is used to connect external speakers for audio output from the system board.

Line-in Jack (Light Blue)
This jack can be connected to the line-out jack of any external audio devices such as Hi-fi set, CD player, AM/FM radio tuner, synthesizer, etc. Connect a stereo cable from the line-out jack of your external device to this line-in jack.

Mic-in Jack (Pink)
Connect a microphone to the mic-in jack.

Front Audio Connector

The front audio connector (J25) allows you to connect to the line-out and mic-in jacks that are on the FrontX device. Using the line-out and mic-in jacks will disable the rear audio's line-out and mic-in functions. (The FrontX device, which comes with LANPARTY series products, is installed at the front panel of the chassis.)

Remove the jumper caps from pins 5-6 and pins 9-10 of J25 prior to connecting the front audio cable connector. Connect the audio cable connector from FrontX to J25. Make sure pin 1 of the cable connector is aligned with pin 1 of J25. If you are not using this connector, make sure to replace the jumper caps back to their original pin locations.

Pin	Function	Pin	Function
1	Mic	2	Ground
3	Mic Power	4	AuD_Vcc
5	AuD_R_Out	6	AuD_R_Return
7	N. C.	8	Key
9	AuD_L_Out	10	AuD_L_Return

4-Channel Audio Connector

The 4-channel audio connector (J27) supports 4 audio output signals: center channel, subwoofer, rear right channel and rear left channel. The 4 audio output signals together with the line-out jack (at the rear panel) support 6-channel audio output.

One card-edge bracket, mounted with a rear jack and a center/subwoofer jack, will be provided as an option. Remove the jumper caps from pins 2-4 and pins 6-8 of J27 prior to connecting the audio cable connector. Make sure pin 1 of the cable connector is aligned with pin 1 of J27. If you are not using this connector, replace the jumper caps back to their original pin locations. Now install the card-edge bracket to the system chassis.

Pin	Function	Pin	Function
1	SL	2	Center Out
3	Ground	4	Center out Return
5	SR	6	LFE Out
7	Ground	8	LFE Out Return
9	Ground/JS	10	Key

Note:
The 6-channel audio output function can also be supported via software. Please refer to chapter 4 for more information.

2.6 I/O Connectors

2.6.1 Game/MIDI Connector


```
2  ⊙⊙⊙⊙⊙⊙⊙  16
1  ■⊙⊙⊙⊙⊙⊙⊙  15
```

(J23) Game/MIDI
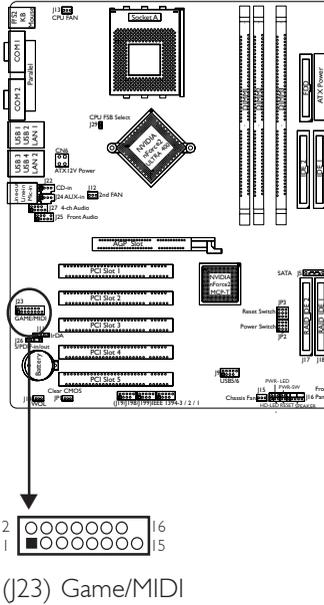
One card-edge bracket, mounted with a 15-pin D-sub port, is included in the system board package. Install the card-edge bracket to the system chassis then connect the cable connector to J23. Make sure pin 1 of the cable connector is aligned with pin 1 of J23. Now connect your analog joystick to the 15-pin D-sub port that is on the bracket.

This port works well with any application that is compatible with the standard PC joystick. You can configure the game port in the Integrated Peripherals submenu ("Super IO Device" field) of the BIOS.

2.6.2 Internal Audio Connectors

CD-in (J22)

Aux-in (J24)

Pin	Function
1	Left audio channel
2	Ground
3	Ground
4	Right audio channel
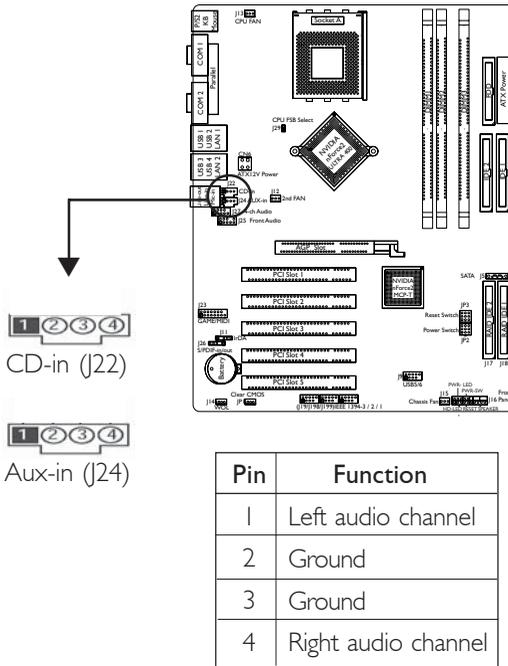
AUX-in and CD-in

These connectors are used to receive audio from a CD-ROM drive, TV tuner or MPEG card.

2.6.3 S/PDIF-in/out Connector

S/PDIF-in/out
(J26)
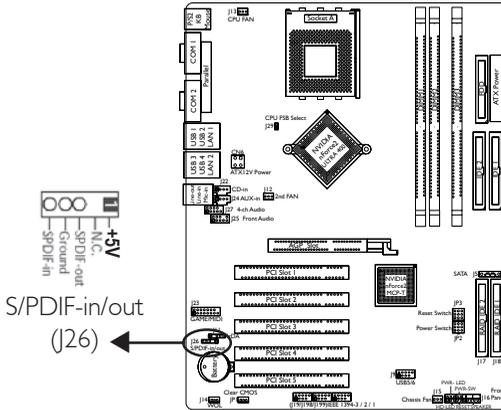
Pin	Function
1	+5V
2	N. C.
3	SPDIF-out
4	Ground
5	SPDIF-in

The system board is equipped with a S/PDIF connector. One card-edge bracket, mounted with S/PDIF ports, is provided with the system board. Install the card-edge bracket to the system chassis then connect the audio cable connector to J26. Make sure pin 1 of the audio cable connector is aligned with pin 1 of J26.

2.6.4 Floppy Disk Drive Connector

FDD
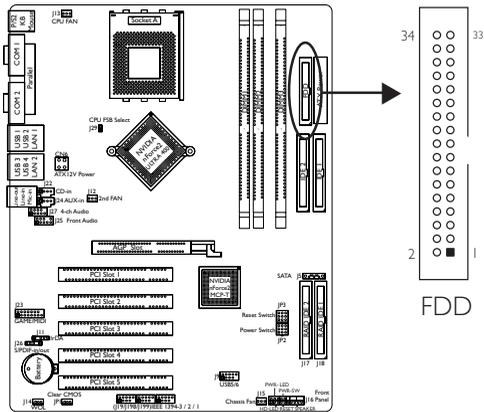
The system board is equipped with a shrouded floppy disk drive connector that supports two standard floppy disk drives. To prevent improper floppy cable installation, the shrouded floppy disk header has a keying mechanism. The 34-pin connector on the floppy cable can be placed into the header only if pin 1 of the connector is aligned with pin 1 of the header. You may enable or disable this function in the Integrated Peripherals submenu ("Super IO Device" field) of the BIOS.

Connecting the Floppy Disk Drive Cable

1. Install the 34-pin header connector of the floppy disk drive cable into the shrouded floppy disk header (FDD) on the system board. The colored edge of the ribbon should be aligned with pin 1 of FDD.

2. Install the other 34-pin header connector(s) into the disk drive(s). Align the colored edge of the daisy chained ribbon cable with pin 1 of the drive edge connector(s). The end-most connector should be attached to the drive you want to designate as Drive A.

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2.6.5 IDE Disk Drive Connectors
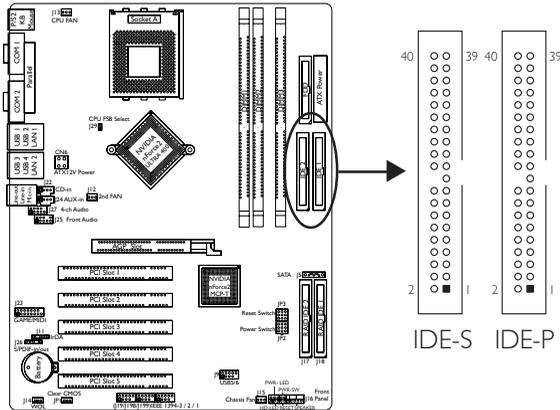
The system board is equipped with two shrouded PCI IDE headers that will interface four Enhanced IDE (Integrated Drive Electronics) disk drives. To prevent improper IDE cable installation, each shrouded PCI IDE header has a keying mechanism. The 40-pin connector on the IDE cable can be placed into the header only if pin 1 of the connector is aligned with pin 1 of the header. You may enable or disable the onboard primary or secondary IDE controller in the Integrated Peripherals submenu ("nVidia OnChip IDE Device" field) of the BIOS.

Connecting the IDE Disk Drive Cable

1. If you are connecting two IDE drives, install the 40-pin connector of the IDE cable into the primary shrouded IDE header (IDE-P). If you are adding a third or fourth IDE device, install the 40-pin connector of the other IDE cable into the secondary shrouded IDE header (IDE-S).

2. Install the other 40-pin header connector(s) into the device with the colored edge of the ribbon cable aligned with pin 1 of the drive edge connector(s).

Note:
Refer to your disk drive user's manual for information about selecting proper drive switch settings.

Adding a Second IDE Disk Drive

When using two IDE drives, one must be set as the master and the other as the slave. Follow the instructions provided by the drive manufacturer for setting the jumpers and/or switches on the drives.

The system board supports Enhanced IDE or ATA-2, ATA/33, ATA/66, ATA/100 and ATA/133 hard drives. We recommend that you use hard drives from the same manufacturer. In a few cases, drives from two different manufacturers will not function properly when used together. The problem lies in the hard drives, not the system board.

Important:
If you encountered problems while using an ATAPI CD-ROM drive that is set in Master mode, please set the CD-ROM drive to Slave mode. Some ATAPI CD-ROMs may not be recognized and cannot be used if incorrectly set in Master mode.

Important Notice on Using IDE Drives and a Serial ATA Drive

Serial ATA uses the primary IDE's master channel. Therefore, if a serial ATA drive is connected to the serial ATA connector, DO NOT connect an IDE device to IDE-P's Master channel. IDE drives can be connected to the primary slave, secondary master and secondary slave channels.

2.6.6   RAID IDE Disk Drive Connector
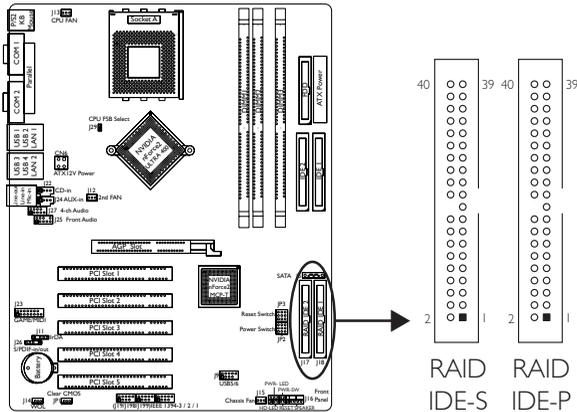
RAID   RAID
IDE-S   IDE-P

The HighPoint RAID controller allows configuring RAID on hard drives connected to the RAID IDE connectors. It supports RAID levels 0, 1, 0+1 and 1.5.

RAID Level	Minimum Number of Drives
RAID 0	2
RAID 1	2
RAID 0+1	4
RAID 1.5	2

The two shrouded RAID IDE headers can interface up to four Enhanced IDE (Integrated Drive Electronics) disk drives. To prevent improper IDE cable installation, the shrouded RAID IDE header has a keying mechanism. The 40-pin connector on the IDE cable can be placed into the header only if pin 1 of the connector is aligned with pin 1 of the header.

Hard drives must be Ultra ATA/133, Ultra ATA/100, Ultra ATA/66, Ultra ATA/33, EIDE and/or Fast ATA-2 compatible. For optimal performance, install identical drives of the same model and capacity. The drives' matched performance allows the RAID array to function better as a single drive.

Drives in an array must be identical. If striping for performance, use two new drives. If mirroring for protection, you can use two new drives or use an existing drive and a new drive (the new drive must be the same size or larger than the existing drive). Only two drives can be configured as RAID. Since both of these drives must be in Master mode, striping or mirroring must be done between 2 RAID IDE channels; not between 2 drives that are chained on the same channel.

Note:
Only connect IDE hard drives to the RAID IDE connectors.

BIOS Setting

1. Enable or disable the HighPoint RAID controller in the Genie BIOS Setting submenu of the Award BIOS. If the hard drives connected to the RAID IDE connectors will not be configured as RAID, make sure to set the "HP372N RAID Control" field in the Award BIOS to Disabled.

2. Configure and manage RAID in the HighPoint BIOS Configuration Utility. Refer to chapter 3 for more information.

Driver Installation

Install the HighPoint RAID drivers and utility. Refer to chapter 4 for more information.

2.6.7 IrDA Connector

(J11) IrDA
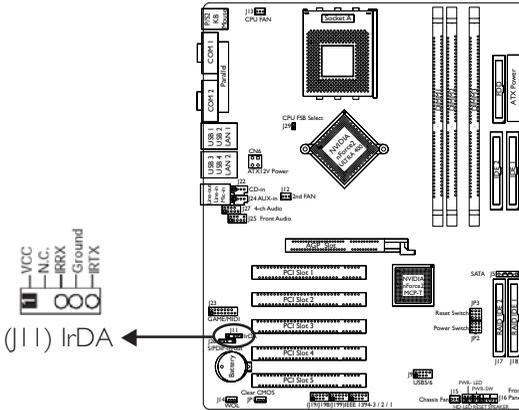
Connect your IrDA cable to connector J11 on the system board. Set "UART2 Mode Select" ("Super IO Device" field) in the Integrated Peripherals submenu of the BIOS to the type of IrDA standard supported by your device. You must have the proper drivers installed in your operating system to use this connector. Refer to your operating system's manual or documentation.

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.

2.6.8 Serial ATA IDE Connector

(J5) SATA
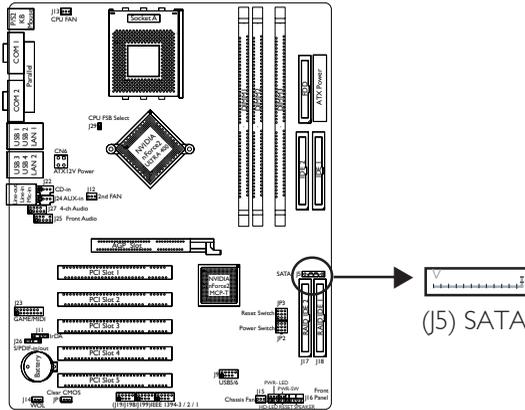
Connect one end of the Serial ATA data cable to J5 and the other end to your serial ATA device.

Important Notice on Using IDE Drives and a Serial ATA Drive

Serial ATA uses the primary IDE's master channel. Therefore, if a serial ATA drive is connected to the serial ATA connector, DO NOT connect an IDE device to IDE-P's Master channel. IDE drives can be connected to the primary slave, secondary master and secondary slave channels.

BIOS Setting

Enable or disable the Serial ATA function in the Genie BIOS Setting submenu of the Award BIOS.

2.6.9 IEEE 1394a Connectors

(J97) 1394 3
(J98) 1394 2
(J99) 1394 1
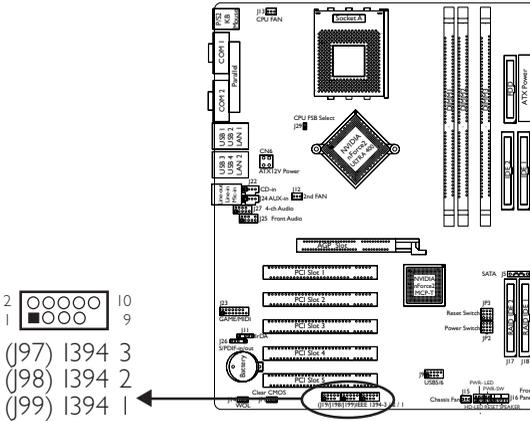
Pin	Function	Pin	Function
1	TPA+	2	TPA-
3	Ground	4	Ground
5	TPB+	6	TPB-
7	VCC	8	VCC
9	Key	10	Shield

The system board is equipped with 3 IEEE 1394a connectors. Use J97, J98 or J99 to connect to the IEEE 1394a port that is on the FrontX device. (The FrontX device, which comes with LANPARTY series products, is installed at the front panel of the chassis.) Connect the IEEE 1394a cable connector from FrontX to J97, J98 or J99. Make sure pin 1 of the cable connector is aligned with pin 1 of the IEEE 1394a connector.

One card-edge bracket, mounted with 2 IEEE 1394a ports, is included in the system board package. Install the card-edge bracket to the system chassis then connect the cable connectors to J97, J98 and/or J99. Make sure pin 1 of the cable connectors is aligned with pin 1 of J97, J98 and/or J99. Now connect your IEEE 1394a devices to the IEEE 1394a ports that are on the bracket.

2.6.10 CPU Fan Connector

(J13) CPU Fan
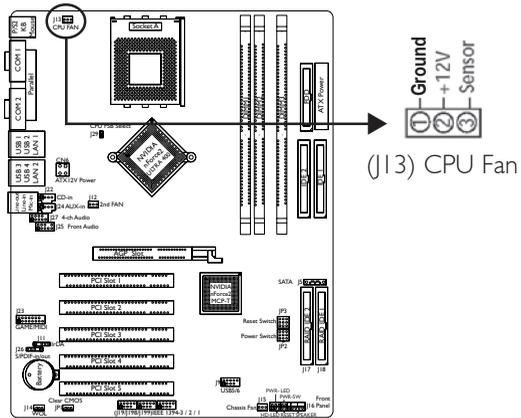
The CPU must be kept cool by using a fan with heatsink. Connect the CPU fan to the 3-pin fan connector at location J13 of the system board. The system is capable of monitoring the speed of the CPU fan.

2.6.11 Chassis Fan and 2nd Fan Connectors

(J12) 2nd Fan
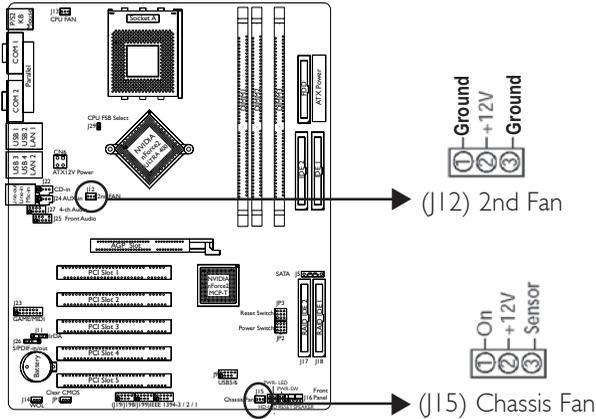
(J15) Chassis Fan

The chassis fan connector (J15) and 2nd fan connector (J12) are used to connect cooling fans. The cooling fans will provide adequate airflow throughout the chassis to prevent overheating the CPU and system board components. The system is capable of monitoring the speed of the chassis fan.

2.6.12   Wake-On-LAN Connector

(J14)
Wake-On-LAN

The Wake-On-LAN connector is used to connect to a LAN card that has the same connector. This function will allow the network to remotely power-on a Soft Power Down (Soft-Off) PC. However, if your system is in the Suspend mode, you can power-on the system only through an IRQ or DMA interrupt.

To use the Wake-On-LAN function, you must enable "Wake On LAN From Soft-Off" in the Power Management Setup of the BIOS. Your LAN card package should include a cable. Connect one end of the cable to the wakeup header on the card and the other end to location J14 on the system board. The network will detect Magic Packet and assert a wakeup signal to power-up the system. Refer to the add-in card's manual for details. Note: Your LAN card must support the remote wake up function.

Important:
The 5VSB power source of your power supply must support ≥720mA.

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2.6.13 Power Connectors

(CN6) ATX12V
Power
Connector

(J9K1) ATX Power
Connector

The pin assignment of the ATX power connectors are shown below.

CN6

Pin	Function	Wire
1	COM	BLK
2	COM	BLK
3	+12V	YEL
4	+12V	YEL

J9K1

Pin	Function	Pin	Function
1	3.3V	11	3.3V
2	3.3V	12	-12V
3	Ground	13	Ground
4	+5V	14	PS-ON
5	Ground	15	Ground
6	+5V	16	Ground
7	Ground	17	Ground
8	PW-OK	18	-5V
9	5VSB	19	+5V
10	+12V	20	+5V

Important:
The system board requires a minimum of 300W electric current.

2.6.14 Front Panel Connectors

Front Panel
Connector (J16)
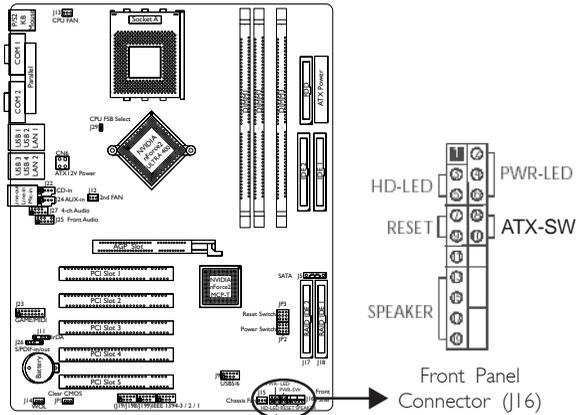
HD-LED: Primary/Secondary IDE LED
This LED will light when the hard drive is being accessed.

RESET: Reset Switch
This switch allows you to reboot without having to power off the system thus prolonging the life of the power supply or system.

SPEAKER: Speaker Connector
This connects to the speaker installed in the system chassis.

ATX-SW: ATX Power Switch
Depending on the setting in the BIOS setup, this switch is a "dual function power button" that will allow your system to enter the Soft-Off or Suspend mode. Refer to "Soft-Off By PBTN" in the Power Management Setup (chapter 3).

PWR-LED: Power/Standby LED
When the system's power is on, this LED will light. When the system is in the S1 (POS - Power On Suspend) state, it will blink every second. When the system is in the S3 (STR - Suspend To RAM) state, it will blink every 4 seconds.

Function	Pin	Pin Assignment
HD-LED (Primary/Secondary IDE LED)	3 5	HDD LED Power HDD
Reserved	14 16	N.C. N.C.
ATX-SW (ATX power switch)	8 10	PWRBT+ PWRBT-
Reserved	18 20	**N.C.** **N.C.**
RESET (Reset switch)	7 9	Ground H/W Reset
SPEAKER (Speaker connector)	13 15 17 19	Speaker Data N. C. Ground Speaker Power
PWR-LED (Power/Standby LED)	2 4 6	LED Power (+) LED Power (+) LED Power (-) or Standby Signal

Note:

If a system did not boot-up and the Power/Standby LED did not light after it was powered-on, it may indicate that the CPU or memory module was not installed properly. Please make sure they are properly inserted into their corresponding socket.

2.6.15 EZ Touch Switches (Power Switch and Reset Switch)

(JP3) Reset Switch
(JP2) Power Switch
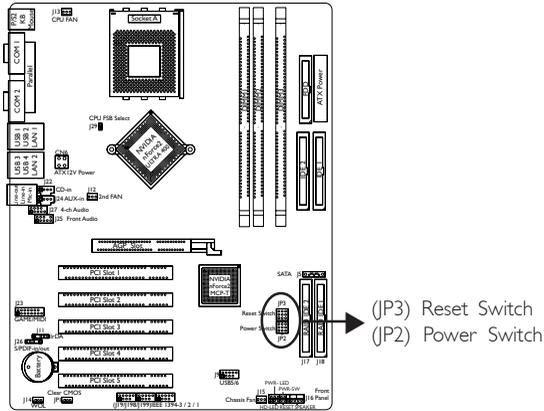
The presence of the power switch and reset switch on the system board are user-friendly especially to DIY users. They provide convenience in powering on and/or resetting the system while fine tuning the system board before it is installed into the system chassis.

2.6.16 LEDs

DIMM Standby Power LED

PCI Standby Power LED

Diagnostic LEDs
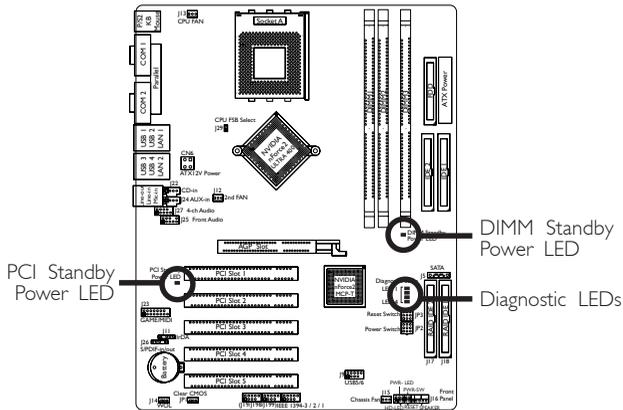
DIMM Standby Power LED

This LED will turn red when the system's power is on or when it is in the Suspend state (Power On Suspend or Suspend to RAM). It will not light when the system is in the Soft-Off state.

PCI Standby Power LED

This LED will turn red when the system is in the power-on, Soft-Off or Suspend (Power On Suspend or Suspend to RAM) state.

Important:
If the DIMM Standby Power LED or PCI Standby Power LED is lighted, you must power-off the system then turn off the power supply's switch or unplug the power cord prior to installing any memory modules or add-in cards.

Diagnostic LEDs

LED 1 to LED 4 are diagnostic LEDs. These LEDs will indicate the current condition of the system.

	LED 1	LED 2	LED 3	LED 4
Early program chipset register before POST.	On	Off	Off	Off
Testing memory presence.	Off	On	Off	Off
Initializing the DRAM controller (sizing).	On	On	Off	Off
Initializing the FSB frequency.	Off	Off	On	Off
Initializing the DRAM frequency.	On	Off	On	Off
Programming the DRAM timing.	Off	On	On	Off
Checking CMOS checksum and battery.	Off	Off	Off	On
Initializing the clock generator.	On	Off	Off	On
Initializing USB.	Off	On	Off	On
Testing all memory (cleared all extended memory to 0).	On	On	Off	On
Initializing the onboard Super IO.	Off	Off	On	On
Detecting and installing an IDE device.	On	Off	On	On
Final initialization.	Off	On	On	On
Booting the system.	On	On	On	On

Chapter 3 - Award BIOS Setup Utility

3.1 The Basic Input/Output System

The Basic Input/Output System (BIOS) is a program that takes care of the basic level of communication between the processor and peripherals. In addition, the BIOS also contains codes for various advanced features found in this system board. This chapter explains the Setup Utility for the Award BIOS.

After you power up the system, the BIOS message appears on the screen and the memory count begins. After the memory test, the following message will appear on the screen:

<div align="center">Press DEL to enter setup</div>

If the message disappears before you respond, restart the system or press the "Reset" button. You may also restart the system by pressing the <Ctrl> <Alt> and <Del> keys simultaneously.

When you press <Del>, the main menu screen will appear.

<div align="center">Phoenix - AwardBIOS CMOS Setup Utility</div>

Standard CMOS Features	Genie BIOS Setting
Advanced BIOS Features	Load Fail-Safe Defaults
Advanced Chipset Features	Load Optimized Defaults
Integrated Peripherals	Set Supervisor Password
Power Management Setup	Set User Password
PnP/PCI Configurations	Save & Exit Setup
PC Health Status	Exit Without Saving

Esc : Quit ↑↓→← : Select Item
F10 : Save & Exit Setup

Time, Date, Hard Disk Type...

3.1.1 Standard CMOS Features

Use the arrow keys to highlight "Standard CMOS Features" and press <Enter>. A screen similar to the one on the next page will appear.

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Phoenix - AwardBIOS CMOS Setup Utility
Standard CMOS Features

```
┌─────────────────────────────────────────────┬──────────────────────────┐
│                                             │       Item  Help         │
│  Date  (mm:dd:yy)       Thu, Apr  24 2003   ├──────────────────────────┤
│  Time  (hh:mm:ss)       14 : 35 : 25        │  Menu Level              │
│                                             │                          │
│ ▶ IDE Primary  Master   Press Enter None    │  Change the day, month,  │
│ ▶ IDE Primary  Slave    Press Enter None    │  year  and  century      │
│ ▶ IDE Secondary Master  Press Enter None    │                          │
│ ▶ IDE Secondary Slave   Press Enter None    │                          │
│                                             │                          │
│   Drive A               1.44M, 3.5 in.      │                          │
│   Drive B               None                │                          │
│                                             │                          │
│   Video                 EGA/VGA             │                          │
│   Halt On               All, But Keyboard   │                          │
│                                             │                          │
│   Base Memory                 640K          │                          │
│   Extended  Memory        129024K           │                          │
│   Total  Memory           130048K           │                          │
│                                             │                          │
│                                             │                          │
├─────────────────────────────────────────────┴──────────────────────────┤
│ ↑↓→← :Move  Enter:Select   +/-/PU/PD:Value  F10:Save  ESC:Exit  F1:General Help │
│        F5:Previous Values      F6:Fail-Safe Defaults    F7:Optimized Defaults   │
└─────────────────────────────────────────────────────────────────────────┘
```

The settings on the screen are for reference only. Your version may not be identical to this one.

3.1.1.1 Date

⌐month>, <date>, <year>. Day displays a day, from Sunday to Saturday. Month displays the month, from January to December. Date displays the date, from 1 to 31. Year displays the year, from 1994 to 2079.

3.1.1.2 Time

The time format is <hour>, <minute>, <second>. The time is based on the 24-hour military-time clock. For example, 1 p.m. is 13:00:00. Hour displays hours from 00 to 23. Minute displays minutes from 00 to 59. Second displays seconds from 00 to 59.

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

Move the cursor to the "IDE Primary Master", "IDE Primary Slave", "IDE Secondary Master" or "IDE Secondary Slave" field, then press <Enter>. The following screen will appear:

Award BIOS Setup Utility ▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪▪

```
                        Phoenix - AwardBIOS CMOS Setup Utility
                                  IDE  Primary  Master
   ┌─────────────────────────────────────────────────┬──────────────────────┐
   │                                                  │      Item  Help      │
   │   IDE HDD Auto Detection       Press  Enter      ├──────────────────────┤
   │                                                  │  Menu Level          │
   │   IDE  Primary  Master         Auto              │                      │
   │   Access  Mode                 Auto              │  Change the day, month,│
   │                                                  │  year  and  century  │
   │   Capacity                     0 M               │                      │
   │                                                  │                      │
   │   Cylinder                     0                 │                      │
   │   Head                         0                 │                      │
   │   Precomp                      0                 │                      │
   │   Landing Zone                 0                 │                      │
   │   Sector                                         │                      │
   │                                                  │                      │
   │                                                  │                      │
   │                                                  │                      │
   │                                                  │                      │
   ├──────────────────────────────────────────────────┴─────────────────────┤
   │  ↑↓→← :Move  Enter:Select   +/-/PU/PD:Value  F10:Save   ESC:Exit  F1:General Help │
   │       F5:Previous  Values        F6:Fail-Safe Defaults     F7:Optimized Defaults │
   └─────────────────────────────────────────────────────────────────────────┘
```

The settings on the screen are for reference only. Your version may not be identical to this one.

IDE HDD Auto Detection

Detects the parameters of the drive. The parameters will automatically be shown on the screen.

IDE Primary Master/Slave and IDE Secondary Master/Slave

If you wish to define your own drive type manually, select "Manual". The drive type information should be included in the documentation from your hard disk vendor. If you select "Auto", the BIOS will auto-detect the HDD & CD-ROM drive at the POST stage and show the IDE for the HDD & CD-ROM drive. If a hard disk has not been installed, select "None".

Access Mode

For hard drives larger than 528MB, you would typically select the LBA type. Certain operating systems require that you select Normal or Large. Please check your operating system's manual or Help desk on which one to select.

Capacity

Displays the approximate capacity of the disk drive. Usually the size is slightly greater than the size of a formatted disk given by a disk checking program.

Cylinder

This field displays the number of cylinders.

Head

This field displays the number of read/write heads.

Precomp

This field displays the number of cylinders at which to change the write timing.

Landing Zone

This field displays the number of cylinders specified as the landing zone for the read/write heads.

Sector

This field displays the number sectors per track.

3.1.1.4 Drive A and Drive B

These fields identify the types of floppy disk drives installed.

None	No floppy drive is installed
360K, 5.25 in.	5-1/4 in. standard drive; 360KB capacity
1.2M, 5.25 in.	5-1/4 in. AT-type high-density drive; 1.2MB capacity
720K, 3.5 in.	3-1/2 in. double-sided drive; 720KB capacity
1.44M, 3.5 in.	3-1/2 in. double-sided drive; 1.44MB capacity
2.88M, 3.5 in.	3-1/2 in. double-sided drive; 2.88MB capacity

3.1.1.5 Video

This field selects the type of video adapter used for the primary system monitor. Although secondary monitors are supported, you do not have to select the type. The default setting is EGA/VGA.

EGA/VGA	Enhanced Graphics Adapter/Video Graphics Array. For EGA, VGA, SVGA and PGA monitor adapters.
CGA 40	Color Graphics Adapter. Power up in 40-column mode.
CGA 80	Color Graphics Adapter. Power up in 80-column

mode.

Mono   Monochrome adapter. Includes high resolution mono-chrome adapters.

3.1.1.6 Halt On

This field determines whether the system will stop if an error is detected during power up. The default setting is All Errors.

No Errors The system boot will not stop for any errors detected.

All Errors The system boot will stop whenever the BIOS detects a non-fatal error.

All, But Keyboard The system boot will not stop for a keyboard error; it will stop for all other errors.

All, But Diskette The system boot will not stop for a disk error; it will stop for all other errors.

All, But Disk/Key The system boot will not stop for a disk or keyboard error; it will stop for all other errors.

3.1.1.7 Base Memory

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

3.1.1.8 Extended Memory

Displays the amount of extended memory detected during boot-up.

3.1.1.9 Total Memory

Displays the total memory available in the system.

3.1.2 Advanced BIOS Features

The Advanced BIOS Features allows you to configure your system for basic operation. Some entries are defaults required by the system board, while others, if enabled, will improve the performance of your system or let you set some features according to your preference.

```
                   Phoenix - AwardBIOS CMOS Setup Utility
                         Advanced BIOS Features

┌──────────────────────────────────────────────┬──────────────────────┐
│                                                │      Item Help       │
│  Virus Warning              Disabled           ├──────────────────────┤
│  CPU L1 Cache               Enabled            │ Menu Level           │
│  CPU L2 Cache               Enabled            │                      │
│  Quick Power On Self Test   Fast               │ Allows you to choose │
│  RAID or SCSI Card Boot     RAID               │ the VIRUS warning    │
│  First Boot Device          Floppy             │ feature for IDE Hard │
│  Second Boot Device         CDROM              │ Disk boot sector     │
│  Third Boot Device          HDD-0              │ protection. If this  │
│  Boot Other Device          Enabled            │ function is enabled and│
│  Swap Floppy Drive          Disabled           │ someone attempt to   │
│  Boot Up Floppy Seek        Disabled           │ write data into this │
│  Boot Up NumLock Status     On                 │ area, BIOS will show a│
│  Typematic Rate Setting     Disabled           │ warning message on   │
│ X Typematic Rate (Chars/Sec) 6                 │ screen and alarm beep│
│ X Typematic Delay (Msec)    250                │                      │
│  Security Option            Setup              │                      │
│  APIC Mode                  Enabled            │                      │
│  MPS Version Control For OS 1.4                │                      │
│  HDD S.M.A.R.T. Capability  Enabled            │                      │
│  Small Logo(EPA) Show       Enabled            │                      │
├────────────────────────────────────────────────┴──────────────────────┤
│ ↑↓→←  Move   Enter:Select  +/-/PU/PD:Value  F10:Save  ESC:Exit  F1:General Help│
│        F5:Previous Values   F6:Fail-Safe Defaults    F7:Optimized Defaults│
└────────────────────────────────────────────────────────────────────────┘
```

The screen above list all the fields available in the Advanced BIOS Features submenu, for ease of reference in this manual. In the actual CMOS setup, you have to use the scroll bar to view the fields. The settings on the screen are for reference only. Your version may not be identical to this one.

3.1.2.1 Virus Warning

This field protects the boot sector and partition table of your hard disk drive. When this field is enabled, the Award BIOS will monitor the boot sector and partition table of the hard disk drive. If an attempt is made to write to the boot sector or partition table of the hard disk drive, the BIOS will halt the system and an error message will appear.

After seeing the error message, if necessary, you will be able to run an anti-virus program to locate and remove the problem before any damage is done.

Many disk diagnostic programs which attempt to access the boot sector table will cause the warning message to appear. If you are running such a program, we recommend that you first disable this

field. Also, disable this field if you are installing or running certain operating systems like Windows® 95/98/2000/ME/XP or the operating system may not install nor work.

3.1.2.2 CPU L1 Cache and CPU L2 Cache

These fields speed up the memory access. The default value is enabled. Enable the external cache for better performance.

3.1.2.3 Quick Power On Self Test

This field speeds up Power On Self Test (POST) after you power on the system. When Enabled, the BIOS will shorten or skip some check items during POST.

3.1.2.4 RAID or SCSI Card Boot

If you want the system to boot from a drive that is connected to the RAID IDE connector or SCSI add-in card, you must first select "SCSI" in the "First Boot Device" field.

If there are drives connected to both the RAID IDE connector and SCSI add-in card, you must select which drive you want to boot.

>   *RAID*   The drive is connected to the RAID IDE connector that is on the system board.
>   *SCSI*   The drive is connected to the SCSI add-in card that is installed in a PCI slot.

If the drive is connected to either one of them only, you don't need to particularly select an option in this field because the system will automatically detect for the existing drive.

3.1.2.5 First Boot Device, Second Boot Device, Third Boot Device and Boot Other Device

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

3.1.2.6 Swap Floppy Drive

When this field is enabled and the system is booting from the floppy drive, the system will boot from drive B instead of drive A. When this option is disabled and the system is booting from the floppy drive, the system will boot from drive A. You must have two floppy drives to use this function.

3.1.2.7 Boot Up Floppy Seek

When enabled, the BIOS will check whether the floppy disk drive installed is 40 or 80 tracks. Note that the BIOS cannot distinguish between 720K, 1.2M, 1.44M and 2.88M drive types as they are all 80 tracks. When disabled, the BIOS will not search for the type of floppy disk drive by track number. Note that there will not be any warning message if the drive installed is 360KB.

3.1.2.8 Boot Up NumLock Status

This allows you to determine the default state of the numeric keypad. By default, the system boots up with NumLock on wherein the function of the numeric keypad is the number keys. When set to Off, the function of the numeric keypad is the arrow keys.

3.1.2.9 Typematic Rate Setting

Disabled   Continually holding down a key on your keyboard will cause the BIOS to report that the key is down.

Enabled   The BIOS will not only report that the key is down, but will first wait for a moment, and, if the key is still down, it will begin to report that the key has been depressed repeatedly. For example, you would use such a feature to accelerate cursor movements with the arrow keys. You can then select the typematic rate and typematic delay in the "Typematic Rate (Chars/Sec)" and "Typematic Delay (Msec)" fields below.

3.1.2.10 Typematic Rate (Chars/Sec)

This field allows you to select the rate at which the keys are accelerated.

3.1.2.11 Typematic Delay (Msec)

This field allows you to select the delay between when the key was first depressed and when the acceleration begins.

3.1.2.12 Security Option

This field determines when the system will prompt for the password - everytime the system boots or only when you enter the BIOS setup. Set the password in the Set Supervisor/User Password submenu.

System The system will not boot and access to Setup will be denied unless the correct password is entered at the prompt.

Setup The system will boot, but access to Setup will be denied unless the correct password is entered at the prompt.

3.1.2.13 APIC Mode

The default setting is "Disabled". Set this field to "Enabled" to configure the next field - MPS Version Control For OS.

3.1.2.14 MPS Version Control for OS

This field is used to select the MPS version used by the system.

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

The system board supports SMART (Self-Monitoring, Analysis and Reporting Technology) hard drives. SMART is a reliability prediction technology for ATA/IDE and SCSI drives. The drive will provide sufficient notice to the system or user to backup data prior to the drive's failure. The default is Disabled. If you are using hard drives that support S.M.A.R.T., set this field to Enabled. SMART is supported in ATA/33 or later hard drives.

3.1.2.16 Small Logo(EPA) Show

Enabled   The EPA logo will appear during system boot-up.
Disabled The EPA logo will not appear during system boot-up.

3.1.3 Advanced Chipset Features

```
                     Phoenix - AwardBIOS CMOS Setup Utility
                          Advanced Chipset Features
  ┌──────────────────────────────────────────────┬──────────────────────┐
  │                                               │      Item  Help       │
  │   System  Performance        Optimal          ├──────────────────────┤
  │   CPU  Interface             Optimal          │ Menu Level            │
  │   Memory  Timings            Optimal          │                       │
  │ X T(RAS)                     7                 │                       │
  │ X T(RCD)                     1                 │                       │
  │ X T(RP)                      1                 │                       │
  │ X CAS  Latency               2.5               │                       │
  │   AGP Aperture Size (MB)     128M              │                       │
  │   AGP 8X Support             Enabled           │                       │
  │   AGP Fast Write Capability  Enabled           │                       │
  │   CPU  Thermal-Throttling    50.0 %            │                       │
  │   System BIOS Cacheable      Disabled          │                       │
  │   Video RAM Cacheable        Disabled          │                       │
  │                                               │                       │
  │                                               │                       │
  │                                               │                       │
  │                                               │                       │
  ├───────────────────────────────────────────────┴──────────────────────┤
  │ ↑↓→←  Move   Enter:Select   +/-/PU/PD:Value  F10:Save  ESC:Exit  F1:General Help │
  │          F5:Previous Values      F6:Fail-Safe Defaults    F7:Optimized Defaults │
  └────────────────────────────────────────────────────────────────────────┘
```

The settings on the screen are for reference only. Your version may not be identical to this one.

This section gives you functions to configure the system based on the specific features of the chipset. The chipset manages bus speeds and access to system memory resources. **These items should not be altered unless necessary.** The default settings have been chosen because they provide the best operating conditions for your system. The only time you might consider making any changes would be if you discovered some incompatibility or that data was being lost while using your system.

3.1.3.1 System Performance

This field is used to configure the system's performance.

Optimal   This option provides the most stable system performance.

Aggressive   This option uses the overclock settings for higher performance but with higher risk of instability.

Turbo   This option uses the overclock setting for higher performance but with higher risk of instability.

Expert   This option allows you to manually configure the "CPU Interface" and "Memory Timings" fields.

3.1.3.2 CPU Interface

This field is used to configure the CPU's interface.

Optimal   Uses the most stable CPU/FSB parameters.
Aggressive   Uses the overclock CPU/FSB parameters.

3.1.3.3 Memory Timings

This field is used to select the memory timing of the DRAM. The options are Optimal, Aggressive, Turbo and Expert.. Select "Expert" to manually configure the following fields.

T(RAS) - Row-Active Delay
The options are 1 to 15.

T(RCD) - RAS-to-CAS Delay
The options are 1 to 7

T(RP) - Row-Precharge Delay
The options are 1 to 7

CAS Latency
This field is used to select the clock cycle of the SDRAM CAS latency time. The option selected specifies the time before SDRAM starts a read command after receiving it.

3.1.3.4 AGP Aperture Size (MB)

This field is relevant to the memory-mapped graphics data of the AGP card installed in your system. Leave this in its default setting.

3.1.3.5 AGP 8X Support

This field is used to enable or disable the AGP 8X mode.

3.1.3.6 AGP Fast Write Capability

Select Enabled to support the AGP Fast Write function.

3.1.3.7 CPU Thermal-Throttling

Thermal throttling regulates the thermal environment by alternating between running the processor at full speed and placing the processor in a sleep state whenever the upper limits of the thermal envelopE are reached.

3.1.3.8 System BIOS Cacheable

When this field is enabled, accesses to the system BIOS ROM addressed at F0000H-FFFFFH are cached, provided that the cache controller is enabled. The larger the range of the Cache RAM, the higher the efficiency of the system.

3.1.3.9 Video RAM Cacheable

When enabled, it allows the video RAM to be cacheable thus providing better video performance. If your graphics card does not support this function, leave this field in its default setting - Disabled.

3.1.4 Integrated Peripherals

Phoenix - AwardBIOS CMOS Setup Utility
Integrated Peripherals

```
▶ nVidia OnChip IDE Device      Press Enter          | Item Help
▶ nVidia OnChip PCI Device      Press Enter          |
▶ SuperIO Device                Press Enter          | Menu Level
  Init Display First            PCI Slot
  OnChip USB Control            V1.1+V2.0
  USB Keyboard Support          Disabled
  IDE HDD Block Mode            Disabled
```

↑↓→← Move   Enter:Select   +/-/PU/PD:Value   F10:Save   ESC:Exit   F1:General Help
F5:Previous Values   F6:Fail-Safe Defaults   F7:Optimized Defaults

The settings on the screen are for reference only. Your version may not be identical to this one.

3.1.4.1 nVidia OnChip IDE Device

Move the cursor to this field and press <Enter>. The following screen will appear.

Phoenix - AwardBIOS CMOS Setup Utility
nVidia OnChip IDE Device

```
On-Chip Primary         IDE    Enabled          | Item Help
IDE Primary Master      PIO    Auto             |
IDE Primary Slave       PIO    Auto             | Menu Level
IDE Primary Master      UDMA   Auto
IDE Primary Slave       UDMA   Auto
On-Chip Secondary       IDE    Enabled
IDE Secondary Master PIO       Auto
IDE Secondary Slave     PIO    Auto
IDE Secondary Master UDMA      Auto
IDE Secondary Slave     UDMA   Auto
IDE Prefetch Mode              Enabled
```

↑↓→← Move   Enter:Select   +/-/PU/PD:Value   F10:Save   ESC:Exit   F1:General Help
F5:Previous Values   F6:Fail-Safe Defaults   F7:Optimized Defaults

The settings on the screen are for reference only. Your version may not be identical to this one.

On-Chip Primary IDE and On-Chip Secondary IDE

These fields allow you to enable or disable the primary and secondary IDE controller. The default is Enabled. Select Disabled if you want to add a different hard drive controller.

IDE Primary Master/Slave PIO and IDE Secondary Master/Slave PIO

PIO means Programmed Input/Output. Rather than have the BIOS issue a series of commands to effect a transfer to or from the disk drive, PIO allows the BIOS to tell the controller what it wants and then let the controller and the CPU perform the complete task by themselves. Your system supports five modes, 0 (default) to 4, which primarily differ in timing. When Auto is selected, the BIOS will select the best available mode after checking your drive.

Auto   The BIOS will automatically set the system according to your hard disk drive's timing.

Mode 0-4   You can select a mode that matches your hard disk drive's timing. Caution: Do not use the wrong setting or you will have drive errors.

IDE Primary Master/Slave UDMA and IDE Secondary Master/Slave UDMA

These fields allow you to set the Ultra DMA in use. When Auto is selected, the BIOS will select the best available option after checking your hard drive or CD-ROM.

Auto   The BIOS will automatically detect the settings for you.

Disabled   The BIOS will not detect these categories.

IDE Prefetch Mode

This allows data and addresses to be stored in the internal buffer of the chip, thus reducing access time. Enable this field to achieve better performance.

3.1.4.2 nVidia OnChip PCI Device

Move the cursor to this field and press <Enter>. The following
screen will appear.

Phoenix - AwardBIOS CMOS Setup Utility
nVidia OnChip PCI Device

ALC-650 AC97 Audio	Auto	Item Help
		Menu Level

↑↓→← Move   Enter:Select   +/-/PU/PD:Value F10:Save   ESC:Exit   F1:General Help
F5:Previous Values   F6:Fail-Safe Defaults   F7:Optimized Defaults

The settings on the screen are for reference only. Your version may not be
identical to this one.

ALC-650 AC97 Audio

Auto   Select this option when using the onboard audio
            codec.

Disabled   Select this option when using a PCI sound card.

3.1.4.3 Super IO Device

Move the cursor to this field and press <Enter>. The following screen will appear.

```
                      Phoenix - AwardBIOS CMOS Setup Utility
                                 Super IO Device
 ┌─────────────────────────────────────────────────┬─────────────────────┐
 │  Onboard FDC Controller       Enabled            │      Item  Help     │
 │  Onboard Serial Port 1        3F8/IRQ4           ├─────────────────────┤
 │  Onboard Serial Port 2        2F8/IRQ3           │  Menu Level         │
 │  UART2 Mode Select            Normal             │                     │
 │  RxD, TxD Active              Hi, Lo             │                     │
 │  IR Transmission Delay        Enabled            │                     │
 │  Onboard Parallel Port        378/IRQ7           │                     │
 │  Parallel Port Mode           SPP                │                     │
 │  EPP Mode Select              EPP 1.7            │                     │
 │  ECP Mode Use DMA             3                  │                     │
 │  Game Port Address            201                │                     │
 │  Midi Port Address            Disabled           │                     │
 │ X Midi Port IRQ               10                 │                     │
 │                                                  │                     │
 │                                                  │                     │
 │                                                  │                     │
 ├──────────────────────────────────────────────────────────────────────┤
 │ ↑↓→←  Move   Enter:Select  +/-/PU/PD:Value  F10:Save   ESC:Exit  F1:General Help │
 │        F5:Previous Values       F6:Fail-Safe Defaults    F7:Optimized Defaults  │
 └──────────────────────────────────────────────────────────────────────┘
```

The settings on the screen are for reference only. Your version may not be identical to this one.

Onboard FDC Controller

Enabled   Enables the onboard floppy disk controller.
Disabled   Disables the onboard floppy disk controller.

Onboard Serial Port 1 and Onboard Serial Port 2

Auto   The system will automatically select an I/O address for the onboard serial port 1 and serial port 2.
3F8/IRQ4, 2F8/IRQ3, 3E8/IRQ4, 2E8/IRQ3   Allows you to manually select an I/O address for the onboard serial port 1 and serial port 2.
Disabled   Disables the onboard serial port 1 and/or serial port 2.

UART2 Mode Select

The system board supports IrDA function for wireless connectivity between your computer and peripheral devices. You may not use IrDA and the COM 2 serial port at the same time. If you are using the COM 2 serial port, make sure this field is set to Normal.

To use the IrDA function, follow the steps below.

1. Connect your IrDA cable to connector J11 on the system board.

2. Set the "UART2 Mode Select" field to the type of IrDA standard supported by your IrDA peripheral/device (IrDA or ASKIR). For better transmission of data, your IrDA peripheral device must be within a 30° angle and within a distance of 1 meter.

3. Set the "RxD TxD Active" and "IR Transmission Delay" fields appropriately.

RxD, TxD Active

The options are Hi, Lo; Lo, Hi; Lo, Lo; and Hi, Hi.

IR Transmission Delay

If this option is Enabled, transmission of data will be slower. This is recommended when you encounter transmission problem with your device. The options are: Enabled and Disabled.

Onboard Parallel Port

378/IRQ7, 3BC/IRQ7, 278/IRQ5   Selects the I/O address and IRQ for the onboard parallel port.
Disabled   Disables the onboard parallel port.

Parallel Port Mode

The options are Normal, SPP, EPP, ECP and ECP+EPP. These apply to standard specifications and will depend on the type and speed of your device. Refer to your peripheral's manual for the best option.

SPP
Allows normal speed operation but in one direction only.

"ECP (Extended Capabilities Port)"
Allows parallel port to operate in bidirectional mode and at a speed faster than the normal mode's data transfer rate.

"EPP (Enhanced Parallel Port)"
Allows bidirectional parallel port operation at maximum speed.

EPP Mode Select

This is used to select the EPP mode.

ECP Mode Use DMA

This is used to select the DMA channel used for the parallel port.

Game Port Address

This field is used to select the game port's address.

Midi Port Address

This field is used to select the MIDI port's address. If you have selected the MIDI port's address, you may select its IRQ in the "Midi Port IRQ" field.

Midi Port IRQ

This field is used to select the MIDI port's IRQ.

3.1.4.4 Init Display First

This field is used to select whether to initialize AGP or PCI first when the system boots.

AGP   When the system boots, it will first initialize AGP.
PCI Slot When the system boots, it will first initialize PCI.

3.1.4.5 OnChip USB Control

This field is used to set the USB ports to USB 1.1 or USB 2.0.

3.1.4.6 USB Keyboard Support

By default, USB Keyboard Support is Disabled. However, if you are using a USB keyboard under DOS, make sure to enable this function.

3.1.4.7 IDE HDD Block Mode

Enabled   The IDE HDD uses the block mode. The system BIOS will check the hard disk drive for the maximum block size the system can transfer. The block size will depend on the type of hard disk drive.

Disabled The IDE HDD uses the standard mode.

3.1.5 Power Management Setup

The Power Management Setup allows you to configure your system to most effectively save energy.

Phoenix - AwardBIOS CMOS Setup Utility
Power Management Setup

		Item Help
ACPI function	Enabled	
ACPI Suspend Type	S1(POS)	Menu Level
Power Management	User Define	
Video Off Method	DPMS Support	
HDD Power Down	Disabled	
Soft-Off by PBTN	Instant-Off	
Wake On LAN From Soft-Off	Enabled	
Wake On Ring From Soft-Off	Enabled	
USB Resume from S3	Disabled	
Keyboard/Mouse Power On	Disabled	
X KB Power ON Password	Enter	
X KB Power On Hot Key	Ctrl-F1	
PWR Lost Resume State	Keep Off	
Power-On by Alarm	Disabled	
X Time(dd:hh:mm) of Alarm	2 : 0 : 4	

↑↓→← Move   Enter:Select   +/-/PU/PD:Value   F10:Save   ESC:Exit   F1:General Help
F5:Previous Values   F6:Fail-Safe Defaults   F7:Optimized Defaults

The settings on the screen are for reference only. Your version may not be identical to this one.

3.1.5.1 ACPI Function

This function should be enabled only in operating systems that support ACPI. Currently, only Windows**®** 98/2000/ME/XP supports ACPI. If you want to use the Suspend to RAM function, make sure this field is enabled then select "S3(STR)" in the "ACPI Suspend Type" field.

3.1.5.2 ACPI Suspend Type

This field is used to select the type of Suspend mode.

S1(POS)   Enables the Power On Suspend function.
S3(STR)   Enables the Suspend to RAM function. If you are using the Windows**®** 98 operating system, refer to "Using the Suspend to RAM Function" in appendix A for more information.

3.1.5.3 Power Management

This field allows you to select the type (or degree) of power saving by changing the length of idle time that elapses before the "HDD Power Down" field is activated.

> *Min Saving*   Minimum power saving time for HDD Power Down = 15 min.
>
> *Max Saving*   Maximum power saving time for HDD Power Down = 1 min.
>
> *User Define*   Allows you to set the power saving time in the "HDD Power Down" field.

3.1.5.4 Video Off Method

This determines the manner in which the monitor is blanked.

> *V/H SYNC + Blank*   This will cause the system to turn off the vertical and horizontal synchronization ports and write blanks to the video buffer.
>
> *Blank Screen*   This only writes blanks to the video buffer.
>
> *DPMS Support*   Initializes display power management signaling. Select this if your video board supports it.

3.1.5.5 HDD Power Down

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

3.1.5.6 Soft-Off by PBTN

This field allows you to select the method of powering off your system.

> *Delay 4 Sec* Regardless of whether the Power Management field is enabled or disabled, if the power button is pushed and released in less than 4 sec, the system enters the Suspend mode. The purpose of this function is to prevent the system from powering off in case you accidentally "hit" or pushed the power button. Push and release again in less than 4 sec to restore. Pushing the power button for more than 4 seconds will power off the system.

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

3.1.5.7 Wake On LAN From Soft-Off

If you are using a LAN card that supports the remote wake up function, set this field to Enabled. The will allow the network to remotely wake up a Soft Power Down (Soft-Off) PC. However, if your system is in the Suspend mode, you can wake up the system only through an IRQ or DMA interrupt. Refer to "Wake-On-LAN Connector" in chapter 2 for more information.

3.1.5.8 Wake On Ring From Soft-Off

Set this field to Enabled to use the modem ring-on function. This will allow your system to power-on to respond to calls coming from an external modem.

3.1.5.9 USB Resume from S3

This field, when enabled, allows you to use a USB 2.0 or USB 1.1 device to wake up the system.

3.1.5.10 Keyboard/Mouse Power On

Disabled   Default setting. Uses the power button to power on the system.

Password   When this option is selected, set the password you would like to use to power-on the system in the "KB Power On Password" field.

Hot Key   When this option is selected, select the function key you would like to use to power-on the system in the "Hot Key Power On" field.

Mouse Left   When this option is selected, double-click the left button of the mouse to power-on the system.

Mouse Right   When this option is selected, double-click the right button of the mouse to power-on the system.

Any Key   Press any key to power-on the system.

Keyboard 98   When this option is selected, press the "wake up" key of the Windows® 98 compatible keyboard to power-on the system.

3.1.5.11 KB Power On Password

Move the cursor to this field and press <Enter>. Enter your password. You can enter up to 5 characters. Type in exactly the same password to confirm, then press <Enter>.

The power button will not function once a keyboard password has been set in this field. You must type the correct password to power-on the system. If you forgot the password, power-off the system and remove the battery. Wait for a few seconds and install it back before powering-on the system.

3.1.5.12 KB Power On Hot Key

This field is used to select a function key that you would like to use to power-on the system.

3.1.5.13 PWR Lost Resume State

Keep Off   When power returns after an AC power failure, the system's power is off. You must press the Power button to power-on the system.

Turn On   When power returns after an AC power failure, the system will automatically power-on.

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

3.1.5.14 Power-On by Alarm

Enabled   When Enabled, you can set the date and time you would like the Soft Power Down (Soft-Off) PC to power-on in the " Time (dd:hh:mm)" fields. However, if the system is being accessed by incoming calls or the network prior to the date and time set in these fields, the system will give priority to the incoming calls or network.

Disabled   Disables the automatic power- on function.(default)

3.1.5.15 Time (dd:hh:mm)

This is used to set the date and time you would like the system to power on.

3.1.6 PnP/PCI Configurations

This section describes configuring the PCI bus system. It covers some very technical items and it is strongly recommended that only experienced users should make any changes to the default settings.

```
                    Phoenix - AwardBIOS CMOS Setup Utility
                           PnP/PCI Configurations

  ┌────────────────────────────────────────────────┬────────────────────┐
  │                                                 │     Item  Help     │
  │  Reset Configuration Data      Disabled         ├────────────────────┤
  │                                                 │  Menu Level         │
  │  Resources Controlled By       Auto(ESCD)       │                     │
  │  X  IRQ Resources              Press Enter      │  Default is Disabled.│
  │                                                 │  Select Enabled to   │
  │  PCI/VGA Palette Snoop         Disabled         │  reset Extended System│
  │                                                 │  Configuration Data  │
  │  *  PCI IRQ Assignment  *                       │  (ESCD) when you exit│
  │     Slot 1,5                   Auto             │  Setup if you have   │
  │     Slot 2                     Auto             │  installed a new add-on│
  │     Slot 3                     Auto             │  and the system      │
  │     Onboard USB/Slot 4         Auto             │  reconfiguration has │
  │                                                 │  caused such a serious│
  │                                                 │  conflict that the OS│
  │                                                 │  cannot boot.        │
  │                                                 │                     │
  │                                                 │                     │
  ├────────────────────────────────────────────────┴────────────────────┤
  │  ↑↓→← Move  Enter:Select  +/-/PU/PD:Value  F10:Save  ESC:Exit  F1:General Help│
  │         F5:Previous Values     F6:Fail-Safe Defaults    F7:Optimized Defaults │
  └──────────────────────────────────────────────────────────────────────┘
```

The settings on the screen are for reference only. Your version may not be identical to this one.

3.1.6.1 Reset Configuration Data

Enabled The BIOS will reset the Extended System Configuration Data (ESCD) once automatically. It will then recreate a new set of configuration data.

Disabled The BIOS will not reset the configuration data.

3.1.6.2 Resources Controlled By

The Award Plug and Play BIOS has the capability to automatically configure all of the boot and Plug and Play compatible devices.

Auto(ESCD) The system will automatically detect the settings for you.

Manual Choose the specific IRQ resources in the "IRQ Resources" field.

3.1.6.3 IRQ Resources

Move the cursor to this field and press <Enter>. The "IRQ-3" to "IRQ-15" fields will appear. Set each system interrupt to either Legacy ISA or PCI/ISA PnP.

PCI/ISA PnP For devices compliant with the PCI bus architecture.
Legacy ISA For devices compliant with the original PC AT bus specification.

3.1.6.4 PCI/VGA Palette Snoop

This field determines whether the MPEG ISA/VESA VGA cards can work with PCI/VGA or not. The default value is Disabled.

Enabled MPEG ISA/VESA VGA cards work with PCI/VGA.
Disabled MPEG ISA/VESA VGA cards does not work with PCI/VGA.

3.1.6.5 PCI IRQ Assignment

By default, an IRQ is automatically assigned to the PCI devices that are installed in the PCI slots.

If a PCI device has not been assigned an IRQ, you must manually assign an IRQ for the device. During system boot-up, you will see "NA" for the device that does not have an IRQ assigned.

3.1.7 PC Health Status

Phoenix - AwardBIOS CMOS Setup Utility
PC Health Status

		Item Help
Show PC Health When POST	Enabled	
Current System Temp.	27C/80F	Menu Level
Current CPU Temperature	37C/98F	
Current CPU FAN Speed	4500 RPM	
Current Chassis FAN Speed	3800 RPM	
+ 3.3V	3.35 V	
+ 5 V	4.90 V	
+12 V	11.85 V	
-12 V	-11.85 V	
VBAT(V)	3.24 V	
5VSB(V)	5.37 V	
Shutdown Temperature	Disabled	

↑↓→← Move   Enter:Select   +/-/PU/PD:Value   F10:Save   ESC:Exit   F1:General Help
F5:Previous Values   F6:Fail-Safe Defaults   F7:Optimized Defaults

The settings on the screen are for reference only. Your version may not be identical to this one.

3.1.7.1 Show PC Health When POST

This field, when enabled, will display the temperature of the CPU and system, the fan speed of the CPU and chassis fans and ouput voltages when the system boots-up during POST.

3.1.7.2 Current System Temp., Current CPU Temperature, Current CPU Fan Speed and Current Chassis Fan Speed

These fields show the internal temperature of the system, current temperature of the CPU, and the current fan speed of the CPU and chassis fans in RPM (Revolutions Per Minute).

3.1.7.3   +3.3V, +5V, +12V, -12V, VBAT(V) and 5VSB(V)

These fields show the output voltage of the power supply.

3.1.7.4   Shutdown Temperature

You can prevent the system from overheating by selecting a temperature in this field. If the system detected that its temperature exceeded the one set in this field, it will automatically shutdown. This function will work only when you enable this function in the Winbond Hardware Monitor utility.

Note:
The onboard hardware monitor function is capable of detecting "system health" conditions but if you want a warning message to pop-up or a warning alarm to sound when an abnormal condition occurs, you must install the Winbond Hardware Monitor utility. This utility is included in the CD that came with the system board. Refer to the Winbond Hardware Monitor section in chapter 4 for more information.

3.1.8 Genie BIOS Setting

Phoenix - AwardBIOS CMOS Setup Utility
Genie BIOS Setting

```
Current  CPU  Frequency  is         0  MHz          │  Item  Help
Full Screen LOGO Show               Enabled         │
                                                    │  Menu  Level
======= CPU/DRAM Clock Setting =======              │
CPU  Clock  Spread  Spectrum    Disabled            │
AGP  Clock  Spread  Spectrum    Disabled            │
CPU  Clock  Setting             100  MHz            │
AGP  Clock  Setting               Auto             │
CPU Ratio                        Default            │
DDR  DRAM  Clock                 By  SPD            │
Current DDR Frequency is                            │
                                                    │
======= OverClocking Control =======                │
Current CPU Voltage is                              │
Current DIMM Voltage is                             │
CPU  Voltage  Control              Auto            │
AGP  Voltage  Control              Auto            │
Chipset  Voltage  Control          Auto            │
DIMM  Voltage  Control             Auto            │ve  ESC:Exit   F1:General Help
                                                    │s        F7:Optimized Defaults
======= Onboard Device Control =======              │
BIOS  Flash  Protect             Disabled           │
nVidia  Lan  Chip  Control        Enabled           │
nVidia  Lan  MAC  Address         Disabled          │
X MAC(NV)  Address  Input      Press Enter          │
IEEE1394  Chip  Control           Enabled           │
RTM  Lan  Device  Control         Enabled           │
RTM  Lan  Boot  ROM              Disabled           │
Serial ATA Control               Disabled           │
HP372N RAID Control               Enabled
```

The settings on the screen are for reference only. Your version may not be identical to this one.

3.1.8.1 Current CPU Frequency is

This field will show the current CPU frequency.

3.1.8.2 Full Screen LOGO Show

Enabled   The LANPARTY logo will appear in full screen during system boot-up.

Disabled The LANPARTY logo will not appear during system boot-up.

3.1.8.3 CPU Clock Spread Spectrum

Leave this field in its default setting. Do not alter this setting unless advised by an engineer or technician.

3.1.8.4 AGP Clock Spread Spectrum

Leave this field in its default setting. Do not alter this setting unless advised by an engineer or technician.

3.1.8.5 CPU Clock Setting

This field provides several options for selecting the external system bus clock of the processor. The available options allow you to adjust the processor's bus clock by 1MHz increment.

Important:
Selecting an external bus clock other than the default setting may result to the processor's or system's instability and are not guaranteed to provide better system performance.

3.1.8.6 AGP Clock Setting

This field is used to select the AGP clock.

3.1.8.7 CPU Ratio

This field is used to select the CPU's frequency ratio.

3.1.8.8 DDR DRAM Clock

This field is used to select the DRAM clock.

3.1.8.9 Current DDR Frenquency is

This field will show the current DDR frequency.

3.1.8.10 Current CPU Voltage is

This field will show the current CPU voltage.

3.1.8.11 Current DIMM Voltage is

This field will show the current DIMM voltage.

3.1.8.12 CPU Voltage Control

This field allows you to manually adjust to a higher core voltage that is supplied to the CPU. If you want to use the CPU's default core voltage, leave this field in its default setting. The CPU's Vcore will be generated according to the CPU VID configuration.

Important:
Although this function is supported, we do not recommend that you use a higher voltage because unstable current may be supplied to the system board causing damage.

3.1.8.13 AGP Voltage Control

This field allows you to manually select higher voltage supplied to the AGP. If you want to use the default voltage, leave this field in its default setting.

Important:
Although this function is supported, we do not recommend that you use a higher voltage because unstable current may be supplied to the system board causing damage.

3.1.8.14 Chipset Voltage Control

This field allows you to manually select higher voltage supplied to the chipset. If you want to use the default voltage, leave this field in its default setting.

Important:
Although this function is supported, we do not recommend that you use a higher voltage because unstable current may be supplied to the system board causing damage.

3.1.8.15 DIMM Voltage Control

This field allows you to manually select higher voltage supplied to the DRAM. If you want to use the DRAM's default voltage, leave this field in its default setting.

Important:
Although this function is supported, we do not recommend that you use a higher voltage because unstable current may be supplied to the system board causing damage.

3.1.8.16 BIOS Flash Protect

Enabled   This option will protect the system from unnecessary updating or flashing of the BIOS. When enabled, it secures the BIOS therefore any updates to the BIOS will not take effect.

Disabled Disables the "BIOS flash lock" function, allowing you to update or flash the BIOS any time needed.

3.1.8.17 nVidia Lan Chip Control

This field is used to enable or disable the LAN function of the nVIDIA® nForce2™ MCP-T and ICS1893 Phy chips that control the LAN 1 port.

3.1.8.18 nVidia Lan MAC Address

This field is used to select the MAC address of the nVIDIA® nForce2™ MCP-T chip.

3.1.8.19 MAC(NV) Address Input

Move the cursor to this field and press <Enter>, then enter the MAC address.

3.1.8.20 IEEE1394 Chip Control

This field is used to enable or disable the onboard IEEE 1394a function.

3.1.8.21 RTM Lan Device Control

This field is used to enable or disable the LAN function of the Realtek RTL8101L chip that controls the LAN 2 port.

3.1.8.22 RTM Lan Boot ROM

Enable this field if you wish to use the boot ROM (instead of a disk drive) to boot-up the system and access the local area network directly.

If you wish to change the boot ROM's settings, type the <Shift> and <F10> keys simultaneously when prompted during boot-up. Take note: you will be able to access the boot ROM's program (by typing <Shift> + <F10>) only when this field is enabled.

3.1.8.23 Serial ATA Control

This field is used to enable or disable the onboard serial ATA function.

3.1.8.24 HP372N RAID Control

This field is used to enable or disable the onboard RAID function.

3.1.9 Load Fail-Safe Defaults

The "Load Fail-Safe Defaults" option loads the troubleshooting default values permanently stored in the ROM chips. These settings are not optimal and turn off all high performance features. You should use these values only if you have hardware problems. Highlight this option in the main menu and press <Enter>. The message below will appear.

Load Fail-Safe Defaults (Y/N)? N

If you want to proceed, type <Y> and press <Enter>. The default settings will be loaded.

3.1.10 Load Optimized Defaults

The "Load Optimized Defaults" option loads optimized settings from the BIOS ROM. Use the default values as standard values for your system. Highlight this option in the main menu and press <Enter>. The message below will appear.

Load Optimized Defaults (Y/N)? N

Type <Y> and press <Enter> to load the Setup default values.

3.1.11 Set Supervisor Password

If you want to protect your system and setup from unauthorized entry, set a supervisor's password with the "System" option selected in the Advanced BIOS Features. If you want to protect access to setup only, but not your system, set a supervisor's password with the "Setup" option selected in the Advanced BIOS Features. You will not be prompted for a password when you cold boot the system.

Use the arrow keys to highlight "Set Supervisor Password" and press <Enter>. The message below will appear.

Enter Password:

Type in the password. You are limited to eight characters. When done, the message below will appear:

Confirm Password:

You are asked to verify the password. Type in exactly the same password. If you type in a wrong password, you will be prompted to enter the correct password again. To delete or disable the password function, highlight "Set Supervisor Password" and press <Enter>, instead of typing in a new password. Press the <Esc> key to return to the main menu.

3.1.12 Set User Password

If you want another user to have access only to your system but not to setup, set a user's password with the "System" option selected in the Advanced BIOS Features. If you want a user to enter a password when trying to access setup, set a user's password with the "Setup" option selected in the Advanced BIOS Features.

Using user's password to enter Setup allows a user to access only "Set User Password" that appears in the main menu screen. Access to all other options is denied. To set, confirm, verify, disable or delete a user's password, follow the procedures described in the section "Set Supervisor Password".

3.1.13 Save & Exit Setup

When all the changes have been made, highlight "Save & Exit Setup" and press <Enter>. The message below will appear:

Save to CMOS and Exit (Y/N)? N

Type "Y" and press <Enter>. The modifications you have made will be written into the CMOS memory, and the system will reboot. You will once again see the initial diagnostics on the screen. If you wish to make additional changes to the setup, press <Ctrl> <Alt> <Esc> simultaneously or <Del> after memory testing is done.

3.1.14 Exit Without Saving

When you do not want to save the changes you have made, highlight "Exit Without Saving" and press <Enter>. The message below will appear:

Quit Without Saving (Y/N)? N

Type "Y" and press <Enter>. The system will reboot and you will once again see the initial diagnostics on the screen. If you wish to make any changes to the setup, press <Ctrl> <Alt> <Esc> simultaneously or <Del> after memory testing is done.

3.2 HighPoint BIOS Configuration Utility

The HighPoint BIOS Configuration Utility is used to configure and manage RAID on drives connected to the RAID IDE connector.

Important:
Before you run the HighPoint BIOS Configuration Utility, make sure the "HP372N RAID Control" field in the Genie BIOS Setting submenu of the Award BIOS is set to Enabled.

After you power up the system and all hard disk drives have been detected, the boot ROM message screen will appear as shown below.

```
HighPoint Technologies, Inc. HPT370/372 BIOS Setting Utility v2.3
(c) 1999-2001. HighPoint Technologies, Inc. All rights reserved

Press <Ctrl><H> to run BIOS Setting Utility
Scan Devices. Please wait ...
```

Press the <Ctrl> and <H> keys simultaneously. The BIOS Configuration Utility screen will appear.

Note:
Refer to the "BIOS Configuration Utility" section in the HighPoint RAID User's Manual for information on using the utility. The manual is included in the CD.

3.3 Updating the BIOS

To update the BIOS, you will need the new BIOS file and a flash utility, AWDFLASH.EXE. You can download them from DFI's web site or contact technical support or your sales representative.

1. Save the new BIOS file along with the flash utility AWDFLASH.EXE to a floppy disk.

2. Reboot the system and enter the Award BIOS Setup Utility to set the first boot drive to "Floppy".

3. Save the setting and reboot the system.

4. After the system booted from the floppy disk, execute the flash utility by typing AWDFLASH.EXE. The following screen will appear.

```
┌─────────────────────────────────────────────────────────────┐
│          Award BIOS Flash Utility V.8.15B                    │
│        (C) Phoenix Technologies Ltd. All Rights Reserved.    │
├─────────────────────────────────────────────────────────────┤
│  (The current BIOS information will appear in this area.)    │
│  File Name to Program :  [                          ]        │
│                                                              │
│                                                              │
│                                                              │
│                                                              │
│                                                              │
│                                                              │
│                                                              │
│                                                              │
│                                                              │
└─────────────────────────────────────────────────────────────┘
```
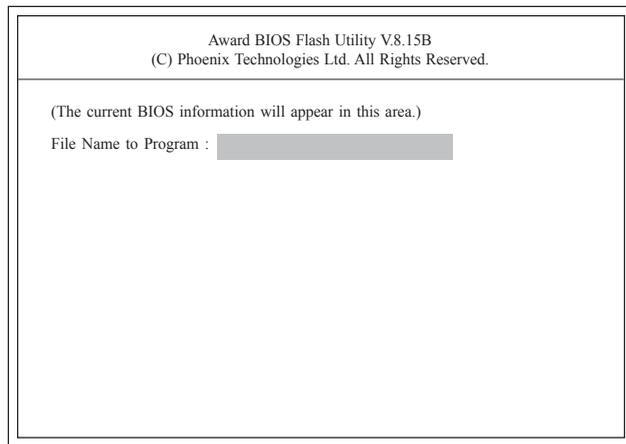
5. Type the new BIOS file name onto the gray area that is next to "File Name to Program" then press <Enter>.

6. The following will appear.

Do You Want to Save BIOS (Y/N)

This question refers to the current existing BIOS in your system. We recommend that you save the current BIOS and its flash utility; just in case you need to reinstall the BIOS. To save the current BIOS, press <Y> then enter the file name of the current BIOS. Otherwise, press <N>.

7. The following will then appear.

Press "Y" to Program or "N" to Exit

8. Press <Y> to flash the new BIOS.

Chapter 4 - Supported Software

4.1 Desktop Management Interface (DMI)

The mainboard comes with a DMI built into the BIOS. DMI, along with the appropriately networked software, is designed to make inventory, maintenance and troubleshooting of computer systems easier. With DMI, a network administrator or MIS engineer can remotely access some information about a particular computer system without physically going to it. Quite often a service call may be unnecessary as the problem can be solved remotely.

The DMI utility in the BIOS automatically records various information about your system configuration. Information about the type and speed of CPU, type and amount of memory for each memory slot, BIOS revision level, types of add-in PCI boards and components, certain revision numbers of hardware installed, etc. are automatically detected and stored in the DMI pool, which is a part of the mainboard's Plug and Play BIOS. Additional information, such as ISA based peripherals, which may not be automatically detected, can be manually recorded in the DMI pool by using the Add DMI menu. The DMI pool data is then verified or updated whenever the system hardware or setup is altered.

4.1.1 Running the DMI Utility

To run the DMI utility, type: DMICFG.EXE. You can download this utility from ftp.dfiusa.com - /utilities/DMI directory.

The DMI utility must run in real mode with at least 180K of base memory. Memory managers like HIMEM.SYS (required by Windows) must not be installed. You may do this by using one of the 3 methods listed below.

1. Boot up from a system diskette without the AUTOEXEC.BAT and CONFIG.SYS files,

2. "REM" HIMEM.SYS in the CONFIG.SYS, or

3. Press <F5> during bootup to bypass your AUTOEXEC.BAT and CONFIG.SYS files.

4.1.2 Using the DMI Utility

```
        Award DMI Configuration Utility Copyright Award Software Inc, 1996
     [Edit DMI]  [Add DMI]  [Load DMI File]  [Save DMI File]

  s        BIOS                    *** BIOS Auto Detect ***
  n       System
      Enclosure/Chassis      Type  :  BIOS Information
        Processor            Handle :  0000
     Memory Controller          Vendor Name  :
      Memory Module           BIOS Version  :
      Memory Module           BIOS Starting Address Segment  :  E000
      Memory Module           BIOS Build Date  :
      Memory Module           BIOS Characteristics  :
         Cache                Size of BIOS ROM  :  0256K
         Cache
      Port Connector
      Port Connector
      Port Connector
      Port Connector
      Port Connector
      Port Connector
      Port Connector
  s    System Slots

  ↑ ↓ ←  Move cursor   ENTER-Accept   DEL-Delete   ESC-Abort&Exit
```

The four menus located on top of the DMI Configuration Utility screen are Edit DMI, Add DMI, Load DMI File and Save DMI File. Use the ← or → (left or right) arrow keys to select a menu from the Menu bar.

On the left side of the screen is a list of the system configuration items. Use the ↑ or ↓ (up or down) arrow keys to select an item.

The commands at the bottom of the screen will allow you to navigate through the various setup menus.

Edit DMI

1. Use the ← or → arrow keys to select the Edit DMI menu.

2. Highlight the item on the left screen that you would like to edit by using the ↑ or ↓ arrow keys, then press <Enter>.

3. The cursor will move to the screen you select allowing you to edit information. The screen will also display the auto-detected information.

4. Press <F10> to update the edited information into the flash ROM.

Add DMI

1. Use the ← or → arrow keys to select the Add DMI menu.

2. Highlight the item on the left screen that you would like to add by using the ↑ or ↓ arrow keys, then press <Enter>.

3. The cursor will move to the screen you select allowing you to enter information about the added item.

4. Press <F10> to save information into the flash ROM.

To view information about the added items, go to the Edit DMI menu.

Load DMI File

1. Use the ← or → arrow keys to select the Load DMI File menu.

2. The following message will appear:

   Press [Enter] to select DMI file for load

   Press <Enter>.

3. The DMI files will appear on the screen. Select the file you would like to load and press <Enter>.

4. The following message will appear:

   Do you want to execute? (Y/N)

   Type <Y>. All previous DMI structures will be destroyed and the new file will be saved into the flash ROM.

Save DMI File

1. Use the ← or → arrow keys to select the Save DMI File menu.

2. The following message will appear:

   Press [Enter] to select DMI file for save

   Press <Enter>.

3. Enter the directory and filename under which you would like the DMI file saved.

4.2 Drivers, Utilities and Software Applications

The CD that came with the system board contains drivers, utilities and software applications required to enhance the performance of the system board.

Insert the CD into a CD-ROM drive. The autorun screen (Mainboard Utility CD) will appear. If after inserting the CD, "Autorun" did not automatically start (which is, the Mainboard Utility CD screen did not appear), please go directly to the root directory of the CD and double-click "Setup".
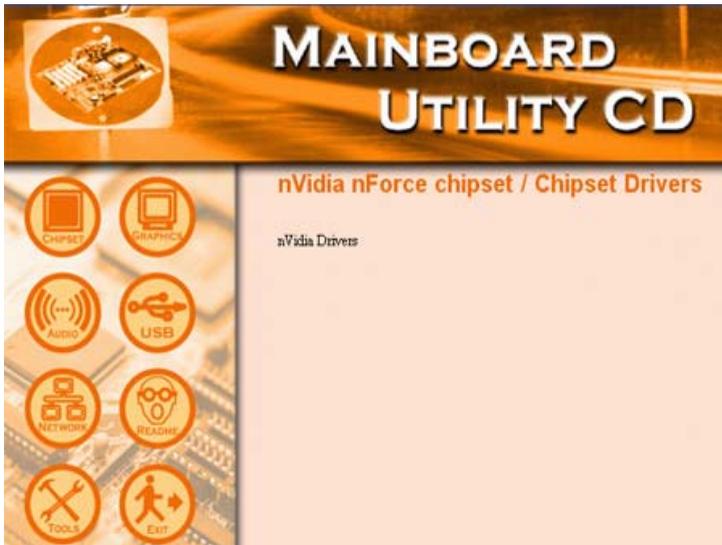
4.2.1   nVidia Drivers

nVidia Drivers contain the following.

- NVIDIA IDE SW Driver
- Ethernet Driver
- NV GART Driver
- NVIDIA Audio Driver

To install nVidia nForce drivers, please follow the steps below.

1. On the left side of the autorun screen, click the "CHIPSET" icon.

2. Click "nVidia Drivers" on the main menu. The following screen will appear.

3. Click "Next". Please read the "nVidia Drivers Readme" carefully before proceeding to step 4.

4. Follow the prompts on the screen to complete the installation.

5. Reboot the system for the drivers to take effect.

4.2.2 Audio Drivers

The audio drivers are supported in the following operating systems: Windows® 98, Windows® 98 SE, Windows® ME, Windows® 2000 and Windows® XP.

To install the audio driver, please follow the steps below.

1. On the left side of the autorun screen, click the "AUDIO" icon.

2. Click "Audio Drivers" on the main menu. The following screen will appear.
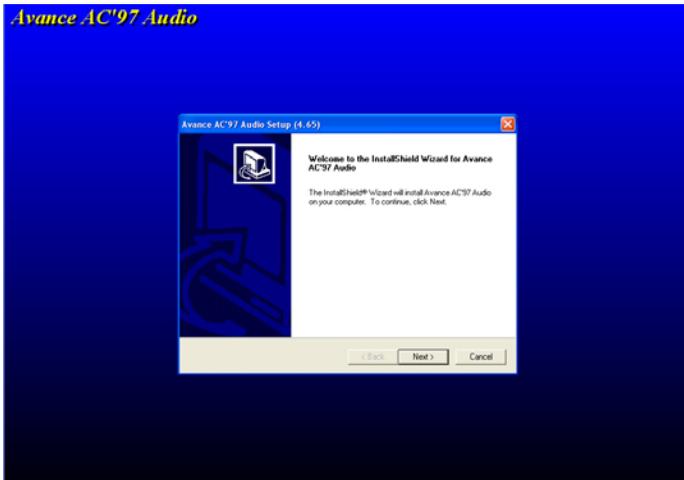
3. Follow the prompts on the screen to complete installation.

4. Reboot the system for the driver to take effect.

4.2.3 LAN Drivers

The LAN drivers for Windows® ME, Windows® 2000 and Windows® XP support "Autorun".

To install the LAN driver, please follow the steps below.

1. On the left side of the autorun screen, click the "NETWORK" icon.

2. Click "LAN Driver" on the main menu. The following screen will appear.
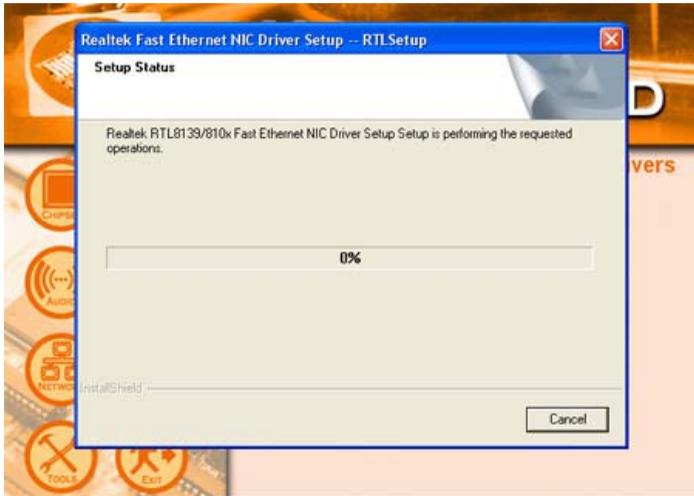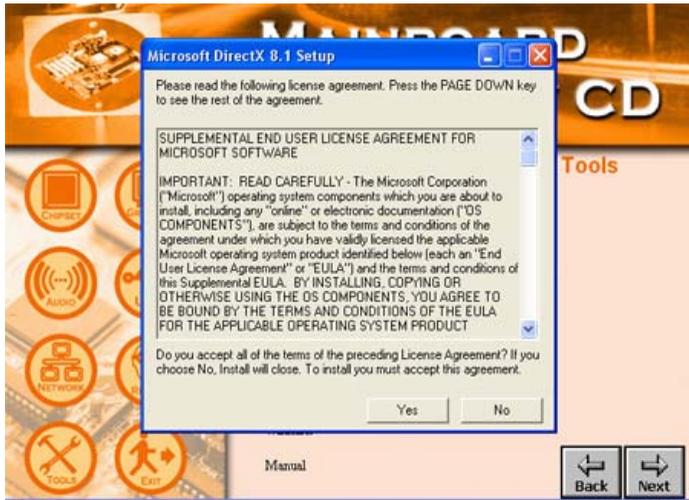

3. Follow the prompts on the screen to complete installation.

4. Reboot the system for the driver to take effect.

The LAN drivers for Windows® 98 and Windows® 98 SE does not support "Autorun". Once the system has detected the fast ethernet controller, it will prompt you to install the driver for the operating system you are using. The driver is in the "LANDRV" root directory of the CD. Please refer to README for the exact location of the drivers.

4.2.4 USB 2.0 Drivers

To install the USB 2.0 driver, please follow the steps below.

1.   On the left side of the autorun screen, click the "USB" icon.

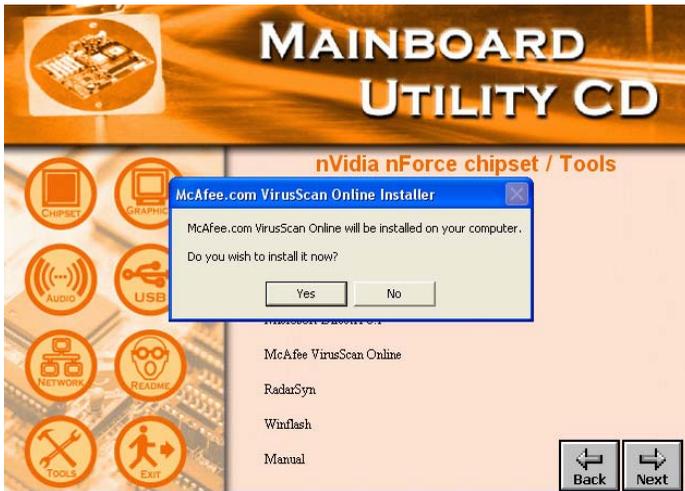2.   Click "USB 2.0 Drivers" on the main menu. The following screen will appear.
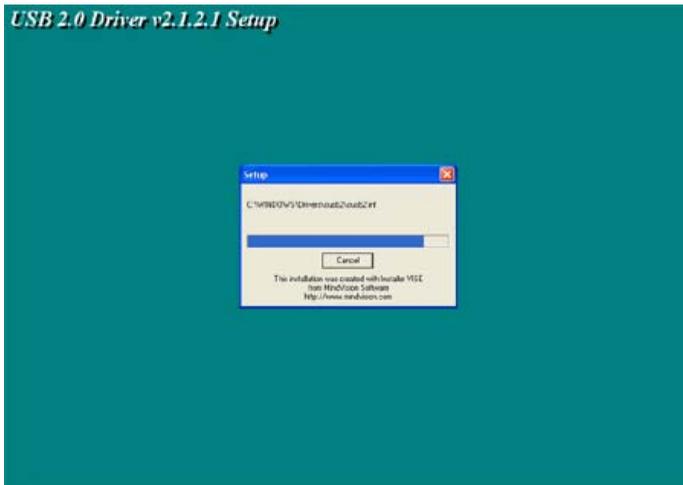
3.   Follow the prompts on the screen to complete installation.

4.   Restart the system.

4.2.5 HighPoint RAID Drivers

If the hard drives connected to the RAID IDE connectors will be configured as RAID, you must install the Highpoint RAID drivers.

1. On the left side of the autorun screen, click the "TOOLS" icon.

2. Click "HighPoint RAID Drivers" on the main menu. A "readme" screen which contains the RAID drivers installation instructions will appear.

    The installation procedure will lead you to install the driver from a diskette. The diskette is included in the system board package.

To install the RAID drivers:

1. Insert the "HighPoint 372 N RAID Drivers" diskette.

2. Follow the installation instructions shown on the screen.

3. Reboot the system for the driver to take effect.

> **Note:**
> *Refer to the HighPoint RAID User's Manual for more information about the RAID drivers. The manual is included in the CD.*

4.2.6 HighPoint RAID Utility

This utility is used to configure and manage RAID on drives connected to the RAID IDE connectors.

To install the utility, please follow the steps below.

1. On the left side of the autorun screen, click the "TOOLS" icon.

2. Click "HighPoint RAID Utility" on the main menu.

3. Follow the installation instructions shown on the screen.

4. Reboot the system for the driver to take effect.

> **Note:**
> *Refer to the HighPoint RAID User's Manual for more information about the utility. The manual is included in the CD.*

4.2.7 Winbond Hardware Monitor

The system board comes with the Winbond Hardware Monitor utility contained in the provided CD. It is capable of monitoring the system's hardware conditions such as the temperature of the CPU and system, voltage, and speed of the CPU and system fans. It also allows you to manually set a range to the items being monitored. If the values are over or under the set range, a warning message will pop-up. The utility can also be configured so that a beeping alarm will sound whenever an error occurs. We recommend that you use the "Default Setting" which is the ideal setting that would keep the system in good working condition.

Note:
Use this utility only in Windows® 98, Windows® 98 SE, Windows® ME, Windows® 2000 or Windows® XP operating system.

To install Winbond Hardware Monitor, please follow the steps below.

1. On the left side of the autorun screen, click the "TOOLS" icon.

2. Click "Winbond Hardware Monitor" on the main menu.

3. Follow the prompts on the screen to complete installation.

4. Restart the system.

4.2.8 Microsoft DirectX 8.1

To install Microsoft DirectX 8.1, please follow the steps below.

1. On the left side of the autorun screen, click the "TOOLS" icon.

2. Click "Microsoft DirectX 8.1" on the main menu. The following screen will appear:

3. Click "Yes" to continue.

4. Follow the prompts on the screen to complete installation.

5. Reboot the system for the driver to take effect.

4.2.9 McAfee VirusScan Online (English OS only)

The McAfee VirusScan Online is the most reliable and convenient way of protecting your PC from computer viruses. When you install McAfee VirusScan Online, your computer is safe because it automatically scans for viruses and checks for virus updates so that PC protection stays up-to-date.

To install, please follow the steps below.

1. On the left side of the autorun screen, click the "TOOLS" icon.

2. Click "McAfee VirusScan Online" on the main menu. The following screen will appear.

3. Click "Yes" to continue.

4. Follow the prompts on the screen to complete installation.

5. Restart the system.

4.2.10   RadarSync

RadarSync is a software utility that must be installed in your system to allow online updates of the system's BIOS. It provides an easy and fast way of accessing the website for downloading the latest version of the BIOS. Using your existing Internet connection, the utility can automatically connect to the web server.

Installing RadarSync

1.   On the left side of the autorun screen, click the "TOOLS" icon.

2.   Click "RadarSync" on the main menu. The following screen will appear.
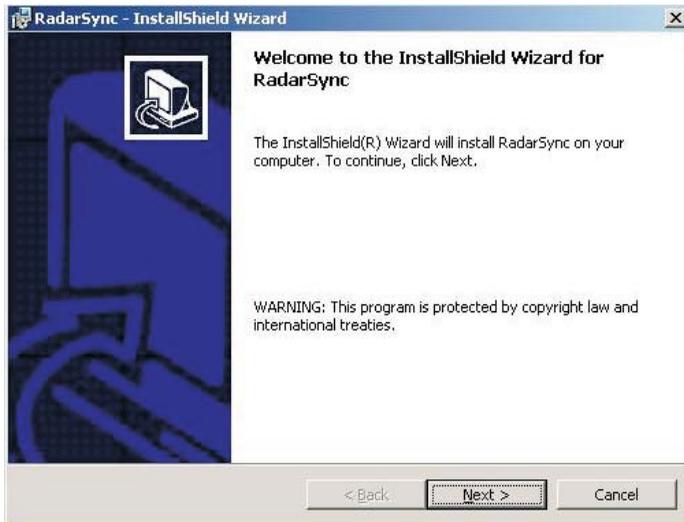
3.   Follow the prompts on the screen to complete installation.

4.   Reboot the system for the driver to take effect.

Launching RadarSync

Click Start on your Windows desktop, point to Programs then click RadarSync. The RadarSync icon will appear on the taskbar.

If you are online, it will start to "radar" (rotate) looking for updates for your PC. If you are not online, RadarSync will be in sleep mode.

If you want to customize or manage the options in RadarSync, double-click the icon to open the RadarSync. software.

Updating the System

When RadarSync is running and you are online, the Update Window will from time to time pop up on your computer screen. This means RadarSync has found an update file for the system's BIOS.

By finding the updates for you and downloading them, RadarSync saves you time.

To get an update once RadarSync notifies you about it, click "Download" on the Update Window.

Note:
Refer to the RadarSync User's Manual for more information. The manual is included in the CD.

4.2.11   WinFlash

WinFlash is a utility program that allows you to flash the BIOS under an operating system.

To install, please follow the steps below.

1. On the left side of the autorun screen, click the "TOOLS" icon.

2. Click "WinFlash" on the main menu. The following screen will appear:
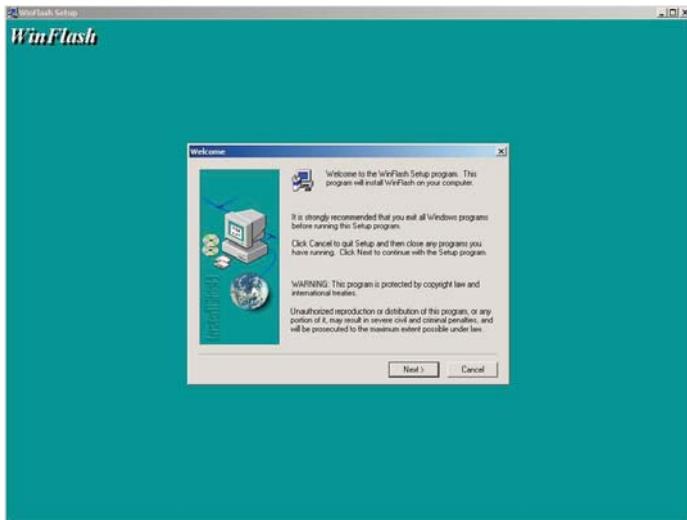
3. Follow the prompts on the screen to complete installation.

4. Restart the system.

To flash the BIOS, run the WinFlash utility.

4.3 6-Channel Audio Output via Software

The line-out jack (at the rear panel) together with the 4-channel audio connector supports 6-channel audio output. If, for any rea-son, you are not using the 4-channel audio connector which is made possible by connecting a 4-channel audio cable, the 6-chan-nel audio output function can be supported using software. Please follow the steps below.

1. On the left side of the autorun screen, click the "AUDIO" icon.

2. Click "Audio Drivers" on the main menu.

3. After installing the audio driver, the "SoundEffect" icon will ap-pear on the taskbar.

4. Click the "SoundEffect" icon. The "AC97 Audio Configuration" screen will appear.

5. Click the "Speaker Configuration" tab, then select "6 channels mode for 5.1 speakers output".
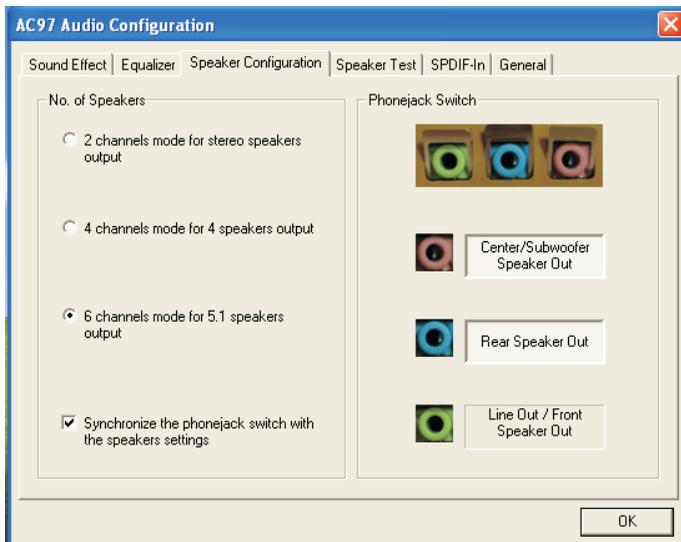
6. Click the "Sound Effect" tab, then under "Environment", select the sound effect you want. You must select one to create 6-channel audio output.
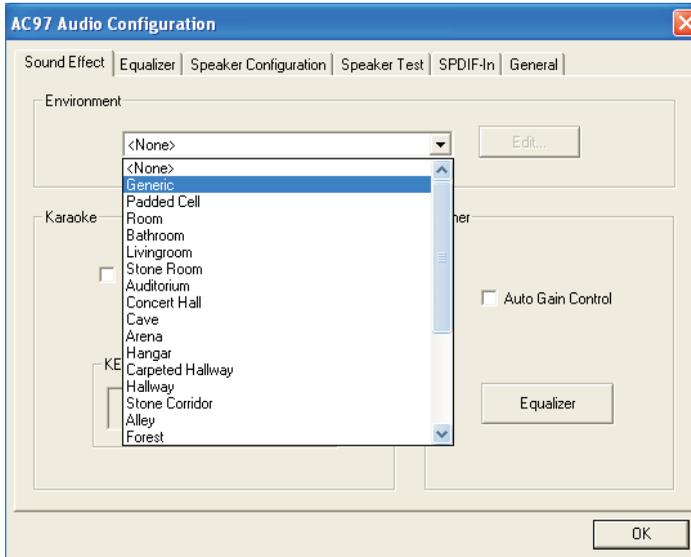
Note:
With the 6-channel mode supported using software, both the line-in and mic-jacks at the rear panel will instead function as line-out. Therefore you can connect your speakers to these jacks (line-out, line-in and mic-in) for 6-channel audio output. Under such circumstance, line-in will not be supported. Mic-in on the other hand is supported by using the Front Audio connector on the system board.

4.4 Installation Notes

1. "Autorun" ONLY supports the Windows® 98, Windows® 98 SE, Windows® ME, Windows® 2000 and Windows® XP operating systems. If after inserting the CD, "Autorun" did not automatically start (which is, the Main Board Utility CD screen did not appear), please go directly to the root directory of the CD and double-click "Setup".

2. All steps or procedures to install software drivers are subject to change without notice as the softwares are occassionally updated. Please go to DFI's web site at "http://www.dfi.com/support1/download2.asp" for the latest version of the drivers or software applications.

Appendix A - Using the Suspend to RAM Function

A.1   Using the Suspend to RAM Function

If you are using the Windows® 98 operating system, please follow the steps below.

1.   Select "Power Management Setup" in the main menu screen and press <Enter>.

2.   In the "ACPI Function" field, select "Enabled".

3.   In the "ACPI Suspend Type" field, select "S3(STR)".

Phoenix - AwardBIOS CMOS Setup Utility
Power Management Setup

		Item Help
ACPI function	**Enabled**	
ACPI Suspend Type	**S1(POS)**	Menu Level
Power Management	User Define	
Video Off Method	DPMS Support	
HDD Power Down	Disabled	
Soft-Off by PBTN	Instant-Off	
Wake On LAN From Soft-Off	Enabled	
Wake On Ring From Soft-Off	Enabled	
USB Resume from S3	Disabled	
Keyboard/Mouse Power On	Disabled	
X KB Power ON Password	Enter	
X KB Power On Hot Key	Ctrl-F1	
PWR Lost Resume State	Keep Off	
Power-On by Alarm	Disabled	
X Time(dd:hh:mm) of Alarm	2 : 0 : 4	

↑↓→← Move   Enter:Select   +/-/PU/PD:Value   F10:Save   ESC:Exit   F1:General Help
F5:Previous Values   F6:Fail-Safe Defaults   F7:Optimized Defaults

The settings on the screen are for reference only. Your version may not be identical to this one.

4.   Press <Esc> to return to the main menu.

5.   Select "Save & Exit Setup" and press <Enter>. Type <Y> and press <Enter>.

6.   Install Windows® 98 by typing the following parameter. This is to ensure that the ACPI function is supported.

[drive]:>setup /p j

If you have previously installed Windows® 98, you need to upgrade the system in order to support ACPI. Please contact Microsoft for upgrade information.

7.   Boot Windows**®** 98. In the Windows**®** 98 desktop, click the
      Start button. Move the cursor to Settings, then click Control
      Panel.

      To check whether ACPI was properly installed, double-click the
      System icon. In the System Properties dialog box, click the
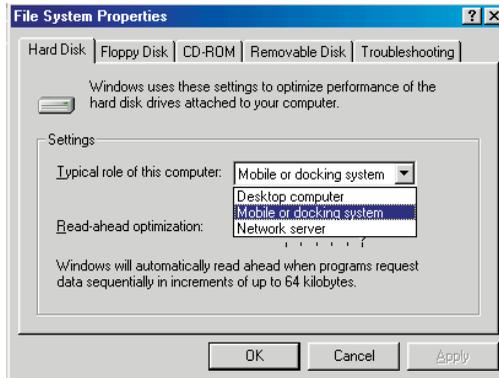   "Device Manager" tab. In "View devices by type", click "System
      devices".
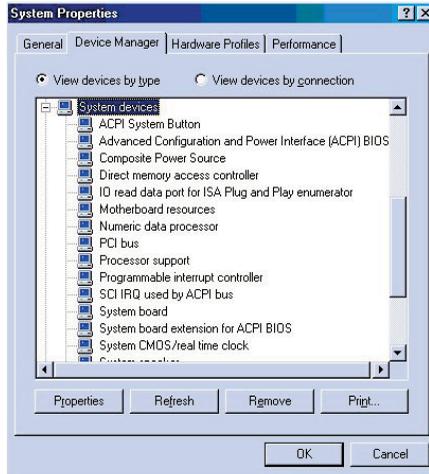
8.   Double-click the System icon. In the System Properties dialog
      box, click the Performance tab.

9.   Click File System. In the "Typical role of this computer" field, select "Mobile or docking system". Click Apply, then click OK. Restart the computer.

10. Repeat step 7 to open the Control Panel dialog box. Double-click the Power Management icon.

11. Click the Advanced tab. In the "When I press the power button on my computer" field, select "Standby".
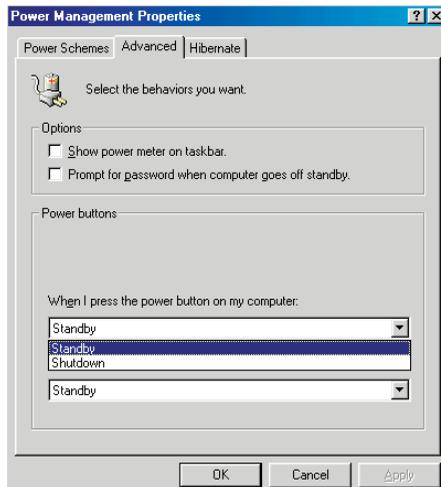
12. After completing the steps above and you want to power-off the computer, you do not need to go through the process of closing files, applications and operating system. You can power-off the computer at once by pressing the power button or selecting "Standby" when you shut down Windows**®** 98.

To power-on the computer, just press the power button. The operating session where you left off when you power-off the computer will resume in not more than 8 seconds.

If you have changed the color or resolution (in the Display Properties dialog box), do not apply the settings without restarting. You must restart the computer.

Shut Down Windows

What do you want the computer to do?

- ⦿ Stand by
- ○ Shut down
- ○ Restart
- ○ Restart in MS-DOS mode

[OK]   [Cancel]   [Help]
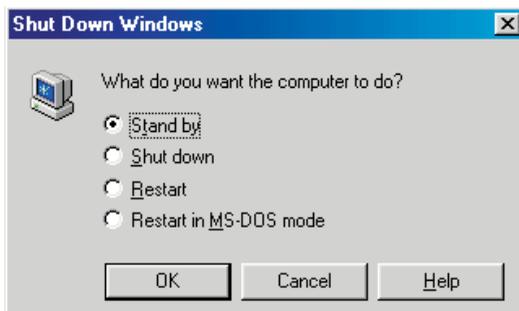
Important:
*If you are unable to use the Suspend to RAM function (after performing the steps above in Windows**®** 98 or when you are in Windows**®** 2000/ME/XP), please check whether your add-in cards or devices support this function. If this function is not supported, you need to download the appropriate driver from their respective website.*

Appendix B - System Error Message

When the BIOS encounters an error that requires the user to correct something, either a beep code will sound or a message will be displayed in a box in the middle of the screen and the message, PRESS F1 TO CONTINUE, CTRL-ALT-ESC or DEL TO ENTER SETUP, will be shown in the information box at the bottom. Enter Setup to correct the error.

B.1 POST Beep

There are two kinds of beep codes in the BIOS. One code indicates that a video error has occured and the BIOS cannot initialize the video screen to display any additional information. This beep code consists of a single long beep followed by three short beeps. The other code indicates that a DRAM error has occured. This beep code consists of a single long beep.

B.2 Error Messages

One or more of the following messages may be displayed if the BIOS detects an error during the POST. This list indicates the error messages for all Awards BIOSes:

CMOS BATTERY HAS FAILED
The CMOS battery is no longer functional. It should be replaced.

⚠ **Caution:**
Danger of explosion if battery incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the battery manufacturer's instructions.

CMOS CHECKSUM ERROR
Checksum of CMOS is incorrect. This can indicate that CMOS has become corrupt. This error may have been caused by a weak battery. Check the battery and replace if necessary.

DISPLAY SWITCH IS SET INCORRECTLY
The display switch on the motherboard can be set to either monochrome or color. This indicates the switch is set to a different

setting than indicated in Setup. Determine which setting is correct, either turn off the system and change the jumper or enter Setup and change the VIDEO selection.

FLOPPY DISK(S) fail (80)
Unable to reset floppy subsystem.

FLOPPY DISK(S) fail (40)
Floppy type mismatch.

Hard Disk(s) fail (80)
HDD reset failed.

Hard Disk(s) fail (40)
HDD controller diagnostics failed.

Hard Disk(s) fail (20)
HDD initialization error.

Hard Disk(s) fail (10)
Unable to recalibrate fixed disk.

Hard Disk(s) fail (08)
Sector Verify failed.

Keyboard is locked out - Unlock the key
The BIOS detects that the keyboard is locked. Keyboard controller is pulled low.

Keyboard error or no keyboard present
Cannot initialize the keyboard. Make sure the keyboard is attached correctly and no keys are being pressed during the boot.

Manufacturing POST loop
System will repeat POST procedure infinitely while the keyboard controller is pull low. This is also used for the M/B burn in test at the factory.

BIOS ROM checksum error - System halted
The checksum of ROM address F0000H-FFFFFH is bad.

Memory test fail
The BIOS reports memory test fail if the memory has error(s).

Appendix C - Troubleshooting

C.1 Troubleshooting Checklist

This chapter of the manual is designed to help you with problems that you may encounter with your personal computer. To efficiently troubleshoot your system, treat each problem individually. This is to ensure an accurate diagnosis of the problem in case a problem has multiple causes.

Some of the most common things to check when you encounter problems while using your system are listed below.

1. The power switch of each peripheral device is turned on.
2. All cables and power cords are tightly connected.
3. The electrical outlet to which your peripheral devices are connected is working. Test the outlet by plugging in a lamp or other electrical device.
4. The monitor is turned on.
5. The display's brightness and contrast controls are adjusted properly.
6. All add-in boards in the expansion slots are seated securely.
7. Any add-in board you have installed is designed for your system and is set up correctly.

Monitor/Display

If the display screen remains dark after the system is turned on:

1. Make sure that the monitor's power switch is on.
2. Check that one end of the monitor's power cord is properly attached to the monitor and the other end is plugged into a working AC outlet. If necessary, try another outlet.
3. Check that the video input cable is properly attached to the monitor and the system's display adapter.
4. Adjust the brightness of the display by turning the monitor's brightness control knob.

The picture seems to be constantly moving.

1. The monitor has lost its vertical sync. Adjust the monitor's vertical sync.
2. Move away any objects, such as another monitor or fan, that may be creating a magnetic field around the display.
3. Make sure your video card's output frequencies are supported by this monitor.

The screen seems to be constantly wavering.

1. If the monitor is close to another monitor, the adjacent monitor may need to be turned off. Fluorescent lights adjacent to the monitor may also cause screen wavering.

Power Supply

When the computer is turned on, nothing happens.

1. Check that one end of the AC power cord is plugged into a live outlet and the other end properly plugged into the back of the system.
2. Make sure that the voltage selection switch on the back panel is set for the correct type of voltage you are using.
3. The power cord may have a "short" or "open". Inspect the cord and install a new one if necessary.

Floppy Drive

The computer cannot access the floppy drive.

1. The floppy diskette may not be formatted. Format the diskette and try again.
2. The diskette may be write-protected. Use a diskette that is not write-protected.
3. You may be writing to the wrong drive. Check the path statement to make sure you are writing to the targeted drive.
4. There is not enough space left on the diskette. Use another diskette with adequate storage space.

Hard Drive

Hard disk failure.

1. Make sure the correct drive type for the hard disk drive has been entered in the BIOS.
2. If the system is configured with two hard drives, make sure the bootable (first) hard drive is configured as Master and the second hard drive is configured as Slave. The master hard drive must have an active/bootable partition.

Excessively long formatting period.

If your hard drive takes an excessively long period of time to format, it is likely a cable connection problem. However, if your hard drive has a large capacity, it will take a longer time to format.

Parallel Port

The parallel printer doesn't respond when you try to print.

1. Make sure that your printer is turned on and that the printer is on-line.
2. Make sure your software is configured for the right type of printer attached.
3. Verify that the onboard LPT port's I/O address and IRQ settings are configured correctly.
4. Verify that the attached device works by attaching it to a parallel port that is working and configured correctly. If it works, the

printer can be assumed to be in good condition. If the printer remains inoperative, replace the printer cable and try again.

Serial Port

The serial device (modem, printer) doesn't output anything or is outputting garbled characters.

1. Make sure that the serial device's power is turned on and that the device is on-line.
2. Verify that the device is plugged into the correct serial port on the rear of the computer.
3. Verify that the attached serial device works by attaching it to a serial port that is working and configured correctly. If the serial device does not work, either the cable or the serial device has a problem. If the serial device works, the problem may be due to the onboard I/O or the address setting.
4. Make sure the COM settings and I/O address are configured correctly.

Keyboard

Nothing happens when a key on the keyboard was pressed.

1. Make sure the keyboard is properly connected.
2. Make sure there are no objects resting on the keyboard and that no keys are pressed during the booting process.

System Board

1. Make sure the add-in card is seated securely in the expansion slot. If the add-in card is loose, power off the system, re-install the card and power up the system.
2. Check the jumper settings to ensure that the jumpers are properly set.
3. Verify that all memory modules are seated securely into the memory sockets.
4. Make sure the memory modules are in the correct locations.
5. If the board fails to function, place the board on a flat surface and seat all socketed components. Gently press each component into the socket.
6. If you made changes to the BIOS settings, re-enter setup and load the BIOS defaults.