System Board User's Manual

935-D200C1-000G
87730551

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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.

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About this Manual

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.

Warranty

1. Warranty does not cover damages or failures that arised from misuse of the product, inability to use the product, unauthorized replacement or alteration of components and product specifications.

2. The warranty is void if the product has been subjected to physical abuse, improper installation, modification, accidents or unauthorized repair of the product.

3. Unless otherwise instructed in this user's manual, the user may not, under any circumstances, attempt to perform service, adjustments or repairs on the product, whether in or out of warranty. It must be returned to the purchase point, factory or authorized service agency for all such work.

4. We will not be liable for any indirect, special, incidental or consequencial damages to the product that has been modified or altered.

Static Electricity Precautions

It is quite easy to inadvertently damage your PC, system board, components or devices even before installing them in your system unit. Static electrical discharge can damage computer components without causing any signs of physical damage. You must take extra care in handling them to ensure against electrostatic build-up.

1. To prevent electrostatic build-up, leave the system board in its anti-static bag until you are ready to install it.
2. Wear an antistatic wrist strap.
3. Do all preparation work on a static-free surface.
4. Hold the device only by its edges. Be careful not to touch any of the components, contacts or connections.
5. Avoid touching the pins or contacts on all modules and connectors. Hold modules or connectors by their ends.

Important:
Electrostatic discharge (ESD) can damage your processor, disk drive 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.

Safety Measures

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.

About the Package

The system board package contains the following items. If any of these items are missing or damaged, please contact your dealer or sales representative for assistance.

- ☑ One system board
- ☑ One Karajan audio module
- ☑ Two IDE round cables
- ☑ One floppy round cable
- ☑ Four Serial ATA data cables
- ☑ Two Serial ATA power cables
- ☑ One I/O shield
- ☑ One SATA driver diskette (for ATI SB450 and Silicon Image Sil 3114 RAID)
- ☑ One "Mainboard Utility" CD
- ☑ One user's manual
- ☑ One Quick Installation Guide

The system board and accessories in the package may not come similar to the information listed above. This may differ in accordance to the sales region or models in which it was sold. For more information about the standard package in your region, please contact your dealer or sales representative.

Before Using the System Board

Before using the system board, prepare basic system components.

If you are installing the system board in a new system, you will need at least the following internal components.

- A CPU
- Memory module
- Storage devices such as hard disk drive, CD-ROM, etc.

You will also need external system peripherals you intend to use which will normally include at least a keyboard, a mouse and a video display monitor.

Français

Caractéristiques et Spécifications

Processeur
- AMD Athlon™ 64 FX / Athlon™ 64 / Sempron™
- Interface HyperTransport 2000MT/s
- Socket 939

Chipset
- ATI chipset
  - Pont nord: ATI Radeon® Xpress 200 CrossFire
  - Pont sud: ATI SB450

Mémoire Système
- 4 sockets DDR SDRAM DIMM 184 broches
- Supporte l'interface de mémoire deux canaux (128-bit)
- Supporte jusqu'à 4GB de mémoire
- Supporte DDR SDRAM DIMM PC2100 (DDR266), PC2700 (DDR333) et PC3200 (DDR400)
- Supporte exclusivement les modules DIMM non-ECC x8/x16, densité de RAM jusqu'à 512Mb, DIMM non-tamponnés

Logements d'Extension
- 2 slots PCI Express x16
  Mode CrossFire - Chaque slot x16 fonctionne à la bande passante x8.
  Mode Single VGA - Le slot PCIE1 fonctionne à la bande passante x16. Le slot PCIE3 fonctionne à la bande passante x1.
- 1 slot PCI Express x1
- 3 slots PCI

BIOS
- Compatible avec Award BIOS
- CMOS Reloaded
- Overclocking de CPU/DRAM
- Contrôle du voltage de CPU/DRAM/Chipset
- Mémoire Flash 4Mbit

Design à Haut Rendement Énergétique
- ACPI STR (Suspend to RAM) fonction
- Réveil-Sur-PS/2 Clavier/Souris
- Réveil-Sur-USB Clavier/Souris
- Eveil Sonnerie
- Réveil Par Le Réseau
- Minuterie RTC pour allumer le système
- Récupération après Défaillance d'Alimentation CA

System Health Monitor Fonctions
- Gère l'alarme de température et de surchauffe de CPU/système/chipset
- Gère l'alarme de voltage et d'échec de 12V/5V/3.3V/Vcore/Vbat/5Vsb/Vchipset/Vdram
- Gère la vitesse de ventilateur du ventilateur de CPU/Fan2/Fan3
- Protection du CPU - supporte la mise hors circuit automatique en cas de surchauffage du système

Caractéristiques Audio sur Carte
- Karajan carte audio
  - CODEC Realtek ALC882 8-canaux
  - 6 prises audio, 1 connecteur CD-in et 1 connecteur audio de l'avant

- Sorties de niveau de lignes stéréo vraies
- Interface entrée/sortie S/PDIF

Fonctionnalités Onboard LAN
- Deux Gigabit LAN - Marvell 88E8053 PCI Express et Marvell 88E8001 PCI LAN
- Supporte IEEE 802.3 (10BASE-T), 802.3u (100BASE-TX) et 802.3ab (1000BASE-T)
- Fonctions de gestion d'alimentation intégrées
- Support câble pour la gestion

Interface IDE
- Supporte des disques durs jusqu'à UltraDMA 133Mbps

Interface Série ATA avec RAID
- Quatre ports de série ATA gérés avec la puce ATI SB450 (pour les LANPARTY UT RDX200 CF-D uniquement)
  - Vitesse SATA jusqu'à 1.5Gb/s
  - RAID 0 et RAID 1
- Quatre ports de série ATA gérés par Silicon Image Sil 3114 (pour les LANPARTY UT RDX200 CF-DR uniquement)
  - Vitesse SATA jusqu'à 1.5Gb/s
  - RAID 0, RAID 1, RAID 0+1 et RAID 5

Interface IEEE 1394
- VIA VT6307
- Supporte 2 ports 100/200/400 Mb/séc

Le Panneau des Ports Entrée/Sortie en Arrière
- 1 port souris PS/2 et 1 port clavier PS/2
- 2 S/PDIF RCA prises (S/PDIF-in et S/PDIF-out)
- 1 carte Karajan (6 prises audio)
- 1 port IEEE 1394
- 2 ports RJ45 LAN
- 6 ports USB 2.0/1.1

Connecteurs Entrée/Sortie
- 1 connecteur pour 2 ports USB 2.0/1.1 supplémentaires
- 1 connecteur pour 1 IEEE 1394
- 1 connecteur pour 1 série
- 1 connecteur pour module audio Karajan
- 1 connecteur audio frontal pour les jacks de sortie externe et d'entrée micro (sur le module audio Karajan)
- 1 connecteur CD-in audio internes (sur le module audio Karajan)
- 1 S/PDIF l'assemblage pour l'adjonction de câble optique
- 1 connecteur IR et 1 connecteur CIR
- 8 connecteurs Serial ATA (pour les modèles LANPARTY UT RDX200 CF-DR uniquement)
  4 connecteurs Serial ATA (pour les LANPARTY UT RDX200 CF-D uniquement)
- 2 connecteurs IDE et 1 connecteur de 90° FDD
- 1 connecteur d'alimentation 24-pin ATX
- 1 connecteur d'alimentation 8-pin 12V ATX
- 1 prises d'alimentation 4-broches 5V/12V (type-FDD)
- 1 connecteur devant panneau
- 5 connecteurs de ventilateurs
- 4 indicateurs diagnostiques
- EZ interrupteurs (bouton de power et reset)

PCB
- ATX, 24cm (9.45") x 30.5cm (12")

Deutsch

Leistungsmerkmale und Technische Daten

Prozessor
- AMD Athlon™ 64 FX / Athlon™ 64 / Sempron™
- Interface HyperTransport 2000MT/s
- Socket 939

Chipset
- ATI chipset
  - Nordbrücke: ATI Radeon® Xpress 200 CrossFire
  - Südbrücke: ATI SB450

Systemspeicher
- 4 DDR-SDRAM-DIMM- Fassungen mit 184poligem Anschlußstecker
- Unterhält 128-bit – Speiher mit den zwei Kanälen
- Unterhält bis zum 4GB-Systemspeicher
- Unterstützt DDR SDRAM DIMM PC2100 (DDR266), PC2700 (DDR333) und PC3200 (DDR400)
- Unterhält nur non-ECC x8/x16 DIMMs, ohne Dämpfer, bis zum 512Mb DRAM

Erweiterungssteckfasssungen
- 2 PCI Express x16 Steckplätze
  CrossFire Modus - Beide x16 Steckplätze arbeiten mit x8 Bandbreite.
  Single VGA Modus – Der PCIE1 Steckplatz arbeitet mit x16 Bandbreite und der PCIE3 Steckplatz arbeitet mit x1 Bandbreite.
- 1 PCI Express x1 Steckplätze
- 3 PCI-Einbauplätzen

BIOS
- Kompatibilität mit Award BIOS
- CMOS Reloaded
- Die Frequenzerhöhung CPU/DRAM
- Die Spannungserhöhung CPU/DRAM/Chipset
- Flash-Speicher (4Mbit)

Energomisches Design
- ACPI STR (Suspend to RAM) funktion
- Wecken bei Betätigung PS/2 Tastatur/Maus
- Wecken bei USB-Tastatur/Maus
- Wecken bei Klingeln und Wecken des Systems durch das Netzwerk
- RTC-Taktgeber zum Einschalten des Systems
- Wiederherstellung der Wechselstromversorgung nach einem Ausfall

System Health Monitor Funktions
- Überwachung der Temperatur des CPU/System/Chipset sowie Warnsignal bei Überhitzung
- Überwachung der Spannungen des 12V/5V/3.3V/Vcore/Vbat/5Vsb/Vchipset/Vdram
- Überwachung der Geschwindigkeit des CPU-, Fan 2 und Fan 3-Ventilators
- Prozessor-Shutz - Die Ausschaltung bei der Überhitzung – die automatische Ausschaltung des Computers bei der Überhitzung

Audiomerkmale auf Platine
- Karajan-platine
  - Realtek ALC882 8-Kanal-Codec

- 6 Audio-Anschlußbuchsen
- 1 interne Audioanschlüsse (CD-in) und 1 Frontaudioanschluß

• Naturgetreue Stereo-Leitungspegel-Ausgabe
• S/PDIF-In/Aus-Schnittstelle

Merkmale des LAN auf Platine

• Zwei Gigabit LAN - Marvell 88E8053 PCI Express und Marvell 88E8001 PCI LAN
• Unterstützt IEEE 802.3 (10BASE-T), 802.3u (100BASE-TX) und 802.3ab (1000BASE-T)
• Integrierte Power-Management-Funktionen
• Unterstützung des Leiters für das Management

IDE-Schnittstelle

• Unterstützung der Festplatten bis zum UltraDMA 133Mbps

Serielle ATA-Schnittstelle mit RAID

• Vier serielle Serial ATA-Ports, unterstützt von einem ATI SB450 Chip (Nur für die LANPARTY UT RDX200 CF-D)
  - SATA bis zu 1.5Gb/s schnell
  - RAID 0 und RAID 1
• Vier serielle ATA-Ports, unterstützt von Silicon Image Sil 3114 (Nur für die LANPARTY UT RDX200 CF-DR)
  - SATA bis zu 1.5Gb/s schnell
  - RAID 0, RAID 1, RAID 0+1 und RAID 5

IEEE 1394 Schnittstelle

• VIA VT6307
• Uunterstützt 2 Ports 100/200/400 Mbps

Ein-/Ausgabe-Porte an der Rückwand

• 1 Mini-DIN-6-Anschluß für eine PS/2-Maus
• 1 Mini-DIN-6-Anschluß für eine PS/2-Tastatur
• 2 S/PDIF RCA-Anschlüsse (S/PDIF-in und S/PDIF-out)
• Karajan-platine (6 Audio-Anschlußbuchsen)
• 1 IEEE 1394-Anschlüsse und 2 RJ45 LAN-Anschlüsse
• 6 USB 2.0/1.1-Anschlüsse

Ein-/Ausgabe-Steckverbinder

• 1 Anschlußfassung für 2 zusätzliche externe USB 2.0/1.1-Anschlüsse
• 1 Anschluß für eine externe IEEE 1394 Schnittstelle
• 1 Anschluß für eine externe serieller DB-9-Anschluß
• 1 Anschluß für eine Karajan Audiomodul
• 1 Front-Audioanschluss für externe Mikrofon-Ein- und –Ausgänge (im Karajan Audiomodul)
• 1 CD-in interne Audioanschlüsse (im Karajan Audiomodul)
• 1 S/PDIF Anschluß für die Verbindung des optischen Kabel
• 1 Anschluß für die IR-Schnittstelle und 1 Anschluß für die CIR-Schnittstelle
• 8 Serial ATA-Anschlüsse (Nur für die Modelle LANPARTY UT RDX200 CF-DR)
  4 Serial ATA-Anschlüsse (Nur für die LANPARTY UT RDX200 CF-D)
• 2 IDE-Anschlüsse und 1 90° Floppy-Anschlüsse
• 1 24-polige Anschlußstecker für das ATX-Netzgerät
• 1 8-polige 12V Anschlußstecker für das ATX-Netzgerät
• 1 4-polige 5V/12V Netzstecker (für FDD)
• 1 Vorderseite Füllung Anschlüsse
• 5-ventilator-Anschlüsse
• 4 diagnostischen Außenindikatoren
• EZ Umschaltern (der Knopf der Speisung und des Auslasses)

Die Druckplatte

• ATX, 24cm (9.45") x 30.5cm (12")

Español

Características y Especificaciones

Procesador
- AMD Athlon™ 64 FX / Athlon™ 64 / Sempron™
- Interface de HyperTransport 2000MT/s
- Socket 939

Chipset
- ATI chipset
  - Puente norte: ATI Radeon® Xpress 200 CrossFire
  - Puente sur: ATI SB450

Memoria de Sistema
- 4 zocalos 184-pin DDR SDRAM DIMM
- Soporta memoria de dos canales (128-bit)
- Soporta hasta 4 GB de memoria sistémica
- Soporta PC2100 (DDR266), PC2700 (DDR333) y PC3200 (DDR400)
- Soporta sólo non-ECC x8/x16 DIMM, unbuffered, apoyo hasta 512 Mb DRAM

Ranuras de Expansión
- 2 slots PCI Express x16
  Modo CrossFire – Los slots x16 operan con un ancho de banda x8.
  Modo Single VGA – El slot PCIE1 funciona con un ancho de banda x16. El slot PCIE3 funciona con un ancho de banda x1.
- 1 slot PCI Express x1
- 3 slots PCI

BIOS
- Award BIOS
- CMOS Reloaded
- Subida de frecuencia de CPU/DRAM
- Subida de voltaje de CPU/DRAM/Chipset
- Memoria Instante (4Mbitios)

Diseño Energia Eficiente
- ACPI STR (Suspend to RAM) función
- PS/2 Teclado/Ratón de Wake-On
- USB Teclado/Ratón de Wake-On
- Wake-On-LAN
- Wake-On-LAN
- Temporizador de RTC para encender el sistema
- Recuperación de Fracaso de Energía AC

Funciones de Monitor de Salud del Sistema
- Monitores de los CPU/sistema/chipset temperaturas y alarma acalorada.
- Monitores de voltajes de 12V/5V/3.3V/Vcore/Vbat/5Vsb/Vchipset/Vdram
- Vigila la velocidad del abanico del abanido del CPU/Fan2/Fan3
- Protección del procesador - Desconección en caso de recalentamiento –el ordenador se desconecta automáticamente en caso de recalentamiento

Características de Audio En Tablero
- Tablero de Karajan
  - Realtek ALC882 8-canal CODEC
  - 6 enchufes de audio
  - 1 conector de CD-in audio interno
  - 1 conectador audio delantero

- Auténtico salidas de nivel de línea estéreo
- Interfáz de S/PDIF-in/out

Características de LAN Interno
- Dos Gigabit LAN - Marvell 88E8053 PCI Express y Marvell 88E8001 PCI LAN
- Soporta IEEE 802.3 (10BASE-T), 802.3u (100BASE-TX) y 802.3ab (1000BASE-T)
- Funciones de administración de energía integrado
- Soporta alambre para la administración

Interfaz IDE
- Soporta las unidades duras hasta de UltraDMA 133Mbps

Interfaz en Serie ATA con RAID
- 4 ports de Serial ATA soporta por ATI SB450 chip (para los LANPARTY UT RDX200 CF-D solamente)
  - SATA se acelera a 1.5Gb/s
  - RAID 0 y RAID 1
- 4 ports de Serial ATA soporta por Silicon Image Sil 3114 (para los LANPARTY UT RDX200 CF-DR solamente)
  - SATA se acelera a 1.5Gb/s
  - RAID 0, RAID 1, RAID 0+1 y RAID 5

Interfaz IEEE 1394
- VIA VT6307
- Soporta 2 ports 100/200/400 Má/sec

Panel de reverso de conectores de entrada - Salida
- 1 puerto de ratón PS/2 y 1 puerto de teclado PS/2
- 2 enchufes de S/PDIF RCA (S/PDIF-in y S/PDIF-out)
- 1 tablero de Karajan (6 enchufes de audio)
- 1 puerto de IEEE 1394
- 2 puertos de RJ45 LAN
- 6 puertos de USB 2.0/1.1

I/O Conectores
- 1 conector para 2 puertos de USB 2.0/1.1 externo adicional
- 1 conector para un puerto de IEEE 1394
- 1 conector para un puerto de DB-9 serie externa
- 1 conector para un módulo de sonido de Karajan
- 1 connector de sonido delantera por linea externa y micrófono interno (en el módulo de sonido de Karajan)
- 1 conector de CD-in audio interno (en el módulo de sonido de Karajan)
- 1 S/PDIF mortaja para conección de cable óptico
- 1 conector de IR y 1 conector de CIR
- 8 conectores de Serial ATA (para los modelos LANPARTY UT RDX200 CF-DR solamente)
  4 conectores de Serial ATA (para los LANPARTY UT RDX200 CF-D solamente)
- 2 conector de IDE
- 1 conector de 90° FDD
- 1 conector 24-pin de fuente de alimentación de ATX
- 1 conector 8-pin 12V de fuente de alimentación de ATX
- 1 4-fichas conectadores de energía de 5V/12V (FDD-tipo)
- 1 conector de panel delante y 5 conectores de abanicos
- 4 indicadores diagnósticos
- EZ conmutadores (conmutadores de alimentación y reset)

La Placa Imprenta
- Form-factor ATX, 24cm (9.45") x 30.5cm (12")

Русский язык

Характеристики и свойства

Процессор
- AMD Athlon™ 64 FX / Athlon™ 64 / Sempron™
- Интерфейс системной шины 2000MT/s
- Socket 939

Чипсет
- ATI chipset
  - Северный мост: ATI Radeon® Xpress 200 CrossFire
  - Южный мост: ATI SB450

Оперативная Память
- 4 184-pin DDR SDRAM DIMM
- Поддерживает двухканальный (128-битного) интерфейс
- Поддерживает до 4ГБ системной памяти
- Поддерживает PC2100 (DDR266), PC2700 (DDR333) и PC3200 (DDR400) DDR SDRAM DIMM
- Поддерживает только non-ECC x8/x16 DIMM, небуфф, Поддержка до 512Мб DRAM

Слоты
- 2 PCI слота Express x16
  Режим CrossFire – Каждый слот x16 работает с пропускной способностью x8.
  Режим Single VGA – Слот PCIE1 работает с пропускной способностью x16. Слот PCIE3 работает с пропускной способностью x1.
- 1 PCI слота Express x1
- 3 слота PCI

BIOS
- Award BIOS, 4Mbit Flash Память
- CMOS Reloaded
- Повышение частоты CPU/DRAM
- Повышение напряжения CPU/DRAM/Chipset

Энергомичный Дизайн
- ACPI STR (Suspend to RAM)
- Активизация На Движение Мыши
- Активизация На Нажатие Кнопки USB Клавиатуры
- Активизация На Входящий Звонок
- Активизация На Сетевое Событие
- RTC Таймер для Включения Системы и Скачки Напряжения

Функции Мониторинга Состояния Системы
- Мониторинг температуры процессора/системы/chipset
- Мониторинг напряжений 12V/5V/3.3V/Vcore/Vbat/5Vsb/Vchipset/Vdram
- Мониторинг скорости вращения вентилятора процессора/Fan2/Fan3
- Защита процессора - Выключение при перегреве – автоматическое выключение компьютера при перегреве

Встроенный Звук
- звуковой модуль Karajan
  - Полнодуплексный Realtek ALC882 codec 8-и канальный звуковой выход

- 6 гнезда для звука, 1 разъем CD-in и 1 передний аудио разъем
- Настоящий линейный стерео выход
- интерфейса S/PDIF-in и S/PDIF-out

Встроенные сетевые функции
- 2 Gigabit LAN - Marvell 88E8053 PCI Express и Marvell 88E8001 PCI LAN
- Поддержка IEEE 802.3 (10BASE-T), 802.3u (100BASE-TX) и 802.3ab (1000BASE-T)
- Встроенные функции управления питанием
- Работа через шнур управления

Интерфейс IDE
- Поддерживает жесткие диски до UltraDMA 133Mbps

Интерфейс Serial ATA с RAID
- Чип ATI SB450 поддерживает четыре порта Serial ATA (Только для LANPARTY UT RDX200 CF-D)
  - Скорость SATA до 1.5 ГБ/с
  - RAID 0 и RAID 1
- Чип Silicon Image Sil 3114 поддерживает четыре порта Serial ATA (Только для LANPARTY UT RDX200 CF-DR)
  - Скорость SATA до 1.5 ГБ/с
  - RAID 0, RAID 1, RAID 0+1 и RAID 5

Интерфейс IEEE 1394
- VIA VT6307
- Поддерживает 2 порта 100/200/400 Мб/сек

Порты Ввода/Вывода (I/O) задней панели
- 1 мини-DIN-6 PS/2 порт для мыши
- 1 мини-DIN-6 PS/2 порт для клавиатуры
- 2 S/PDIF RCA звука (S/PDIF-in и S/PDIF-out)
- звуковой модуль Karajan (6 гнезда для звука)
- 1 IEEE 1394 порт и 2 RJ45 LAN порт
- 6 USB 2.0/1.1 порта

Разъемы Ввода/Вывода
- 1 разъем для 2-х дополнительных внешних USB 2.0/1.1 портов
- 1 разъем для внешнего IEEE 1394 порта
- 1 разъем для внешнего внешнего DB-9
- 1 разъем для аудио-модуле Karajan
- 1 фронтальный аудио-разъем для внешнего линейного и микрофонного выходов (на аудио-модуле Karajan)
- 1 CD-in внутренних звуковых разъема (на аудио-модуле Karajan)
- 1 S/PDIF разъем для присоединения оптического кабеля
- 1 разъем для интерфейса IR
- 1 разъем для интерфейса CIR
- 8 Serial ATA разъема (Только для моделей LANPARTY UT RDX200 CF-DR)
  4 Serial ATA разъема (Только для LANPARTY UT RDX200 CF-D)
- 2 IDE разъема и 1 разъем 90° FDD
- 1 24-штырьковых разъемов питания ATX
- 1 8-штырьковых 12V разъемов питания ATX
- 1 4-штырьковых разъемов питания 5V/12V (типа FDD)
- 1 Фронт панель разъем и 5 Разъемы для вентилятора
- 4-х внешних диагностических индикаторов
- EZ переключатели (кнопка питания и сброса)

Печатная плата
- ATX, 24cm (9.45") x 30.5cm (12")

Chapter 1 - Introduction

Specifications

Processor

- AMD Athlon™ 64 FX / Athlon™ 64 / Sempron™
- Socket 939

Front Side Bus

- 2000MT/s HyperTransport interface

Chipset

- ATI chipset
  - Northbridge: ATI Radeon® Xpress 200 CrossFire
  - Southbridge: ATI SB450

System Memory

- Four 184-pin DDR SDRAM DIMM sockets
- Supports dual channel (128-bit wide) memory interface
- Supports up to 4GB system memory
- Supports PC2100 (DDR266), PC2700 (DDR333) and PC3200 (DDR400) DDR SDRAM DIMM
- Supports x8/x16 non-ECC unbuffered DIMMs, up to 512Mb DDR devices

Expansion Slots

- 2 PCI Express x16 slots
  CrossFire mode - Each x16 slot operates at x8 bandwidth.
  Single VGA mode - PCIE1 slot operates at x16 bandwidth. PCIE3 slot operates at x1 bandwidth.
- 1 PCI Express x1 slot
- 3 PCI slots

BIOS

- Award BIOS
- CMOS Reloaded
- CPU/DRAM overclocking
- CPU/DRAM/Chipset overvoltage
- 4Mbit flash memory

Energy Efficient Design

- Supports ACPI specification and OS Directed Power Management
- Supports ACPI STR (Suspend to RAM) function
- Wake-On-Events include:
  - Wake-On-PS/2 Keyboard/Mouse
  - Wake-On-USB Keyboard/Mouse
  - Wake-On-Ring
  - Wake-On-LAN
  - RTC timer to power-on the system
- AC power failure recovery

Hardware Monitor

- Monitors CPU/system/chipset temperature
- Monitors 12V/5V/3.3V/Vcore/Vbat/5Vsb/Vchipset/Vdram voltages
- Monitors the speed of the CPU fan, Fan 2 and Fan 3 fan
- CPU Overheat Protection function monitors CPU temperature during system boot-up

Onboard Audio Features

- Karajan audio module
  - Realtek ALC882 8-channel High Definition Audio CODEC
  - 6 audio jacks
  - 1 CD-in connector
  - 1 front audio connector
- True stereo line level outputs
- S/PDIF-in/out interface

Onboard LAN Features

- Dual Gigabit LAN - Marvell 88E8053 PCI Express and Marvell 88E8001 PCI LAN
- Fully compliant to IEEE 802.3 (10BASE-T), 802.3u (100BASE-TX) and 802.3ab (1000BASE-T) standards
- Integrated power management functions
- Supports wire for management

IDE Interface

- Supports two IDE connectors that allow connecting up to four UltraDMA 133Mbps hard drives

Serial ATA Interface with RAID

- Four Serial ATA ports supported by the ATI SB450 chip (LANPARTY UT RDX200 CF-D only)
  - SATA speed up to 1.5Gb/s
  - RAID 0 and RAID 1
- Four Serial ATA ports supported by the Silicon Image Sil 3114 chip (LANPARTY UT RDX200 CF-DR only)
  - SATA speed up to 1.5Gb/s
  - RAID 0, RAID 1, RAID 0+1 and RAID 5

IEEE 1394 Interface

- VIA VT6307
- Supports two 100/200/400 Mb/sec ports

Rear Panel I/O Ports

- 1 mini-DIN-6 PS/2 mouse port
- 1 mini-DIN-6 PS/2 keyboard port
- 2 S/PDIF RCA jacks (S/PDIF-in and S/PDIF-out)
- Karajan audio module (6 audio jacks)
- 1 IEEE 1394 port
- 2 RJ45 LAN ports
- 6 USB 2.0/1.1 ports

I/O Connectors

- 1 connector for 2 additional external USB 2.0/1.1 ports
- 1 connector for 1 external IEEE 1394 port
- 1 connector for 1 external serial port
- 1 connector for the Karajan audio module
- 1 front audio connector for external line-out and mic-in jacks (on the Karajan audio module)
- 1 CD-in internal audio connector (on the Karajan audio module)
- 1 S/PDIF connector for optical cable connection
- 1 IrDA connector
- 1 CIR connector
- 8 Serial ATA connectors (LANPARTY UT RDX200 CF-DR only)
  4 Serial ATA connectors (LANPARTY UT RDX200 CF-D only)
- 2 IDE connectors
- 1 90° floppy connector
- 1 24-pin ATX power connector
- 1 8-pin ATX 12V power connector
- 1 4-pin 5V/12V power connector (FDD-type)
- 1 front panel connector
- 5 fan connectors
- 4 diagnostic LEDs
- EZ touch switches (power switch and reset switch)

PCB

- ATX form factor
- 24cm (9.45") x 30.5cm (12")

Special Features of the System Board

AMD Athlon™ 64

The system board supports the AMD Athlon™ 64 processor. AMD Athlon™ 64 provides superior computing for many software applications by allowing both 32-bit and 64-bit applications to run simultaneously on the same platform. The operating system and software are able to process more data and access a tremendous amount of memory which improves the overall system performance.

2T timing which provides better system stability is supported in CG or later revisions of the AMD Athlon™ 64 processor. You can select the memory timing in the Genie BIOS Setting submenu ("DRAM Configuration" section) of the BIOS.

ATI CrossFire™ Technology

ATI's CrossFire technology drives your PC to a new peak of performance. By connecting a Radeon CrossFire Edition graphics card and a standard PCI Express graphics card, the power of these multiple GPUs (Graphics Processing Units) within the system will accelerate your gaming performance and improve image quality.

PCI Express

PCI Express is a high bandwidth I/O infrastructure that possesses the ability to scale speeds by forming multiple lanes. The system board currently supports the physical layer of x1 and x16 lane widths.

The x1 PCI Express lane supports transfer rate of 2.5 Gigabytes (250MBbps) per second. The PCI Express architecture also provides a high performance graphics infrastructure by enhancing the capability of a x16 PCI Express lane to provide 4 Gigabytes per second transfer rate.

CPU Overheat Protection

CPU Overheat Protection has the capability of monitoring the CPU's temperature during system boot up. Once the CPU's temperature exceeded the temperature limit pre-defined by the CPU, the system will automatically shutdown. This preventive measure has been added to protect the CPU from damage and insure a safe computing environment.

DDR

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 doubling the speed of data transfer.

CMOS Reloaded

CMOS Reloaded is a technology that allows storing multiple user-defined BIOS settings by using the BIOS utility to save, load and name the settings. This is especially useful to overclockers who require saving a variety of overclocked settings and being able to conveniently switch between these settings simultaneously.

Karajan Audio Module

The Karajan audio module at the rear I/O panel supports 8-channel audio output via the audio jacks on the module. It is also equipped with a CD-in and front audio connector.

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.

Serial ATA Interface with RAID

Serial ATA is a storage interface that is compliant with SATA 1.0 specification. With speed of up to 1.5Gb/s, it improves hard drive performance faster than the standard parallel ATA whose data transfer rate is 100MB/s.

The ATI SB450 chip supports RAID 0 and RAID 1 while the Silicon Image Sil 3114 chip (LANPARTY UT RDX200 CF-DR only) supports RAID 0, RAID 1, RAID 0+1 and RAID 5.

IEEE 1394 Interface

IEEE 1394 is fully compliant with the 1394 OHCI (Open Host Controller Interface) 1.1 specification. It supports up to 63 devices that can run simultaneously on a system. 1394 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. 1394 supports both Plug-and-Play and hot plugging.

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.

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 or via a PCI LAN card that uses the PCI PME (Power Management Event) signal. 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-PS/2 Keyboard/Mouse

This function allows you to use the PS/2 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. 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® 2000/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® 2000/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.

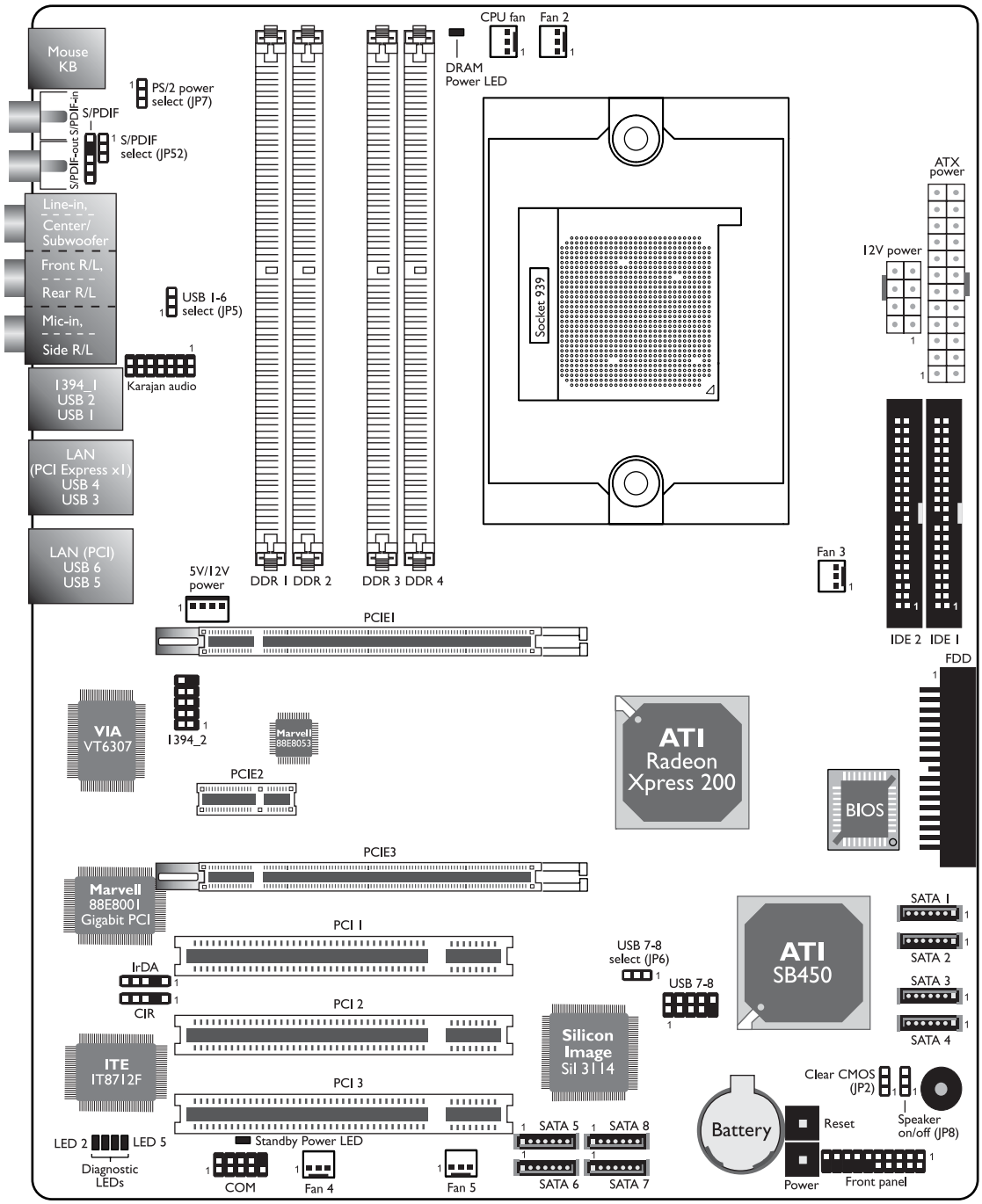
Important:
The 5VSB power source of your power supply must support ≥1A.

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.

Chapter 2 - Hardware Installation

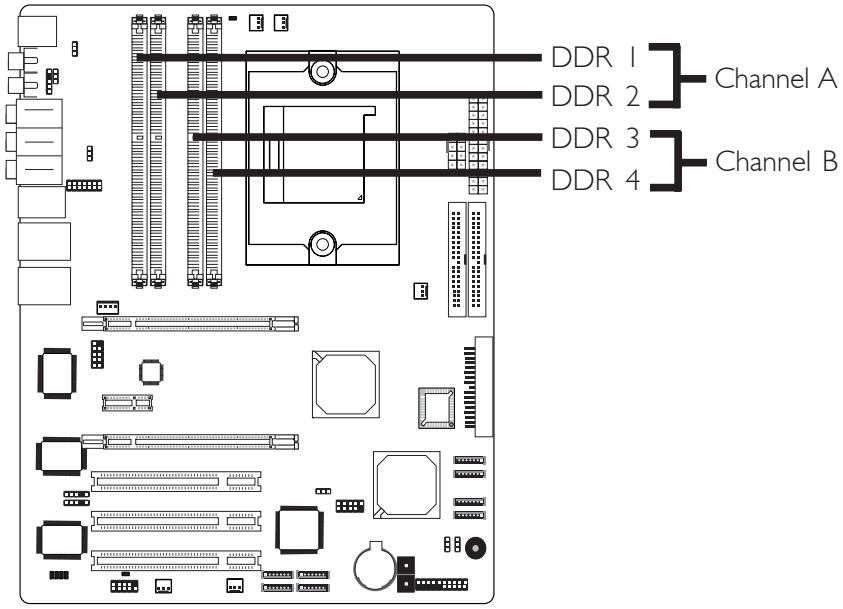
System Board Layout



Silicon Image Sil3114 and SATA 5 to SATA 8 are supported in the LANPARTY UT RDX200 CF-DR model only.

Warning:
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.

System Memory



The system board supports 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 doubling the speed of data transfer.

Refer to chapter 1 (System Memory section) for detailed specification of the memory supported by the system board. The four DDR DIMM sockets on the system board are divided into 2 channels:

Channel A - DDR 1 and DDR 2
Channel B - DDR 3 and DDR 4

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)

Data will be accessed in chunks of 128 bits from the memory channels. 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. However, we highly recommend using identical DIMMs. • Not all slots need to be populated.
Dual Channel	• DIMMs of the same memory configuration are on different channels.

BIOS Setting

Configure the system memory in the Genie BIOS Setting submenu ("DRAM Configuration" section) of the BIOS.

The integrated memory controller in AMD's 64-bit Socket 939 series CPU will directly catch data transmission from DDR RAM without passing through the Northbridge. Therefore when using 4 identical double side DIMMs or using 2 DIMMs in non-dual channels, the memory speed will reduce to DDR333. Please refer to the detailed memory speed shown below.

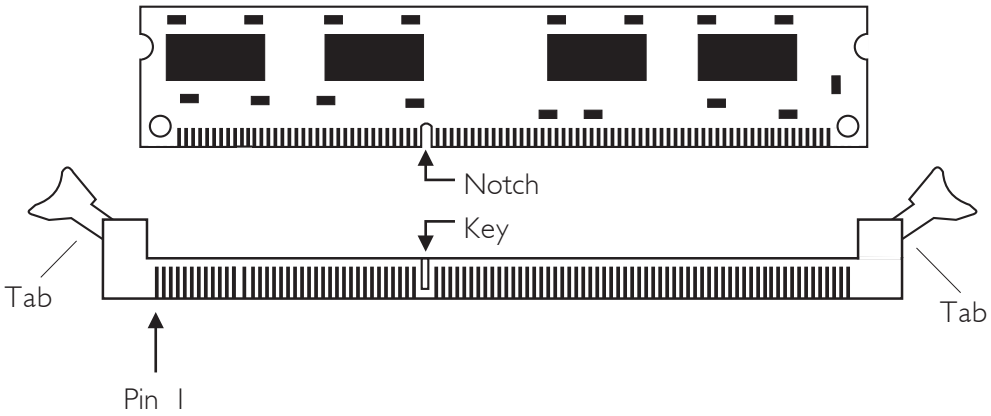
Memory Speed	DIMM 1	DIMM 2	DIMM 3	DIMM 4
DDR400	S			
DDR400			S	
DDR400	D			
DDR400			D	
DDR400	S		S	
DDR400	D		D	
DDR400	S	S		
DDR333	D	D		
DDR400	S	S	S	S
DDR333	D	D	D	D

"S": Single side DIMM
"D": Double side DIMM

A DIMM's SPD is originally fixed at 1T. When modules are inserted in DIMM 1 and DIMM 3, the SPD must be 2T for better system stability. We recommend inserting DIMMs in DIMM 2 and DIMM 4.

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.



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.

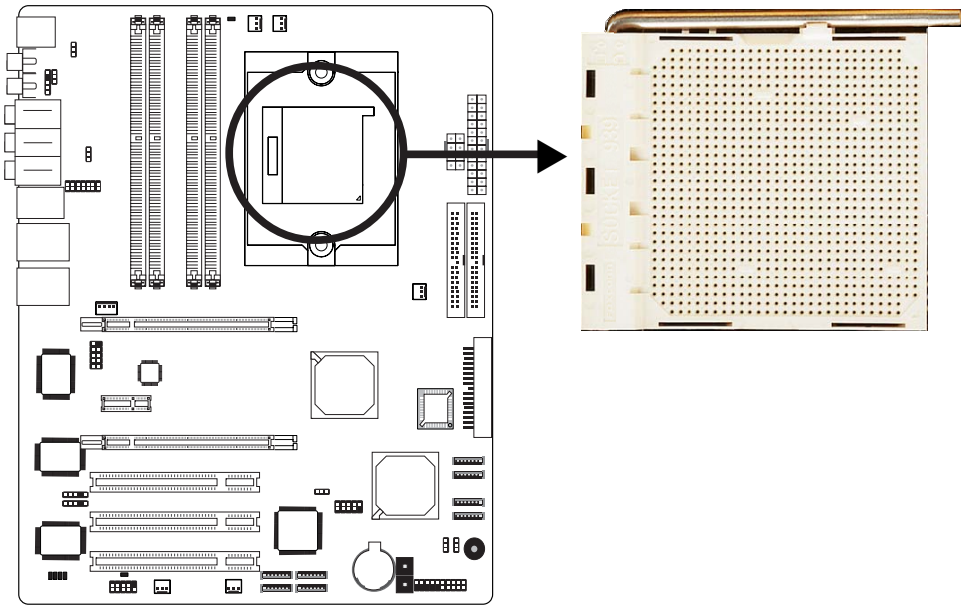
CPU

Overview

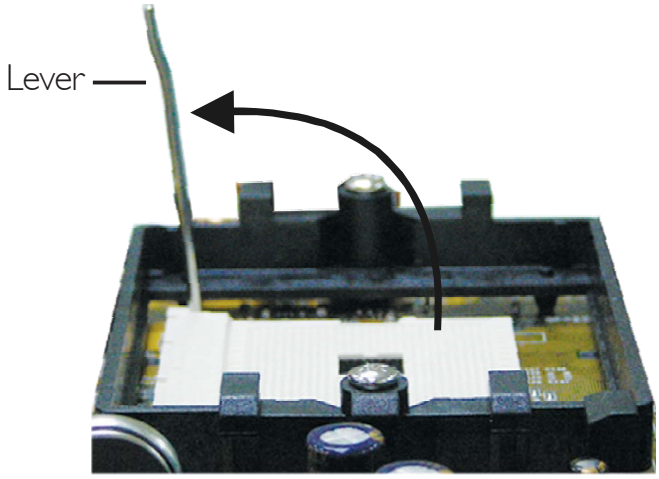
The system board is equipped with a surface mount 939-pin CPU socket. This socket is exclusively designed for installing an AMD CPU.

Installing the CPU

1. Make sure the PC and all other peripheral devices connected to it has been powered down.
2. Disconnect all power cords and cables.
3. Locate the 939-pin CPU socket on the system board.

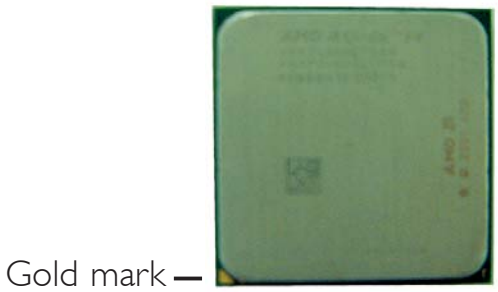


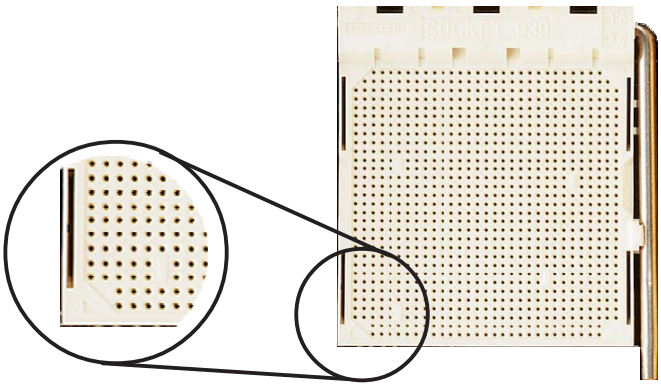
4. Unlock the socket by pushing the lever sideways, away from the socket, then lifting it up to a 90° angle. Make sure the lever is lifted to at least this angle otherwise the CPU will not fit in properly.



5. Position the CPU above the socket. The gold mark on the CPU must align with the corner of the CPU socket (refer to the enlarged view) shown below.

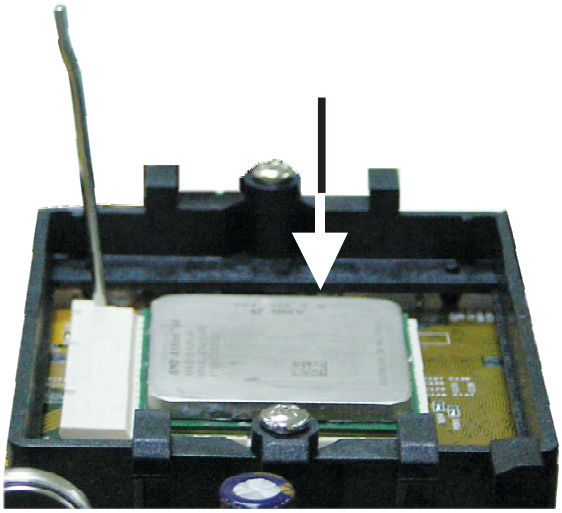
Important:
Handle the CPU by its edges and avoid touching the pins.



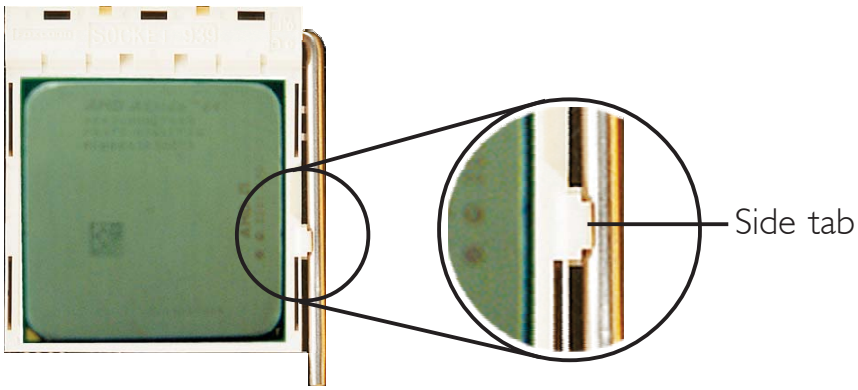


6. Insert the CPU into the socket until it is seated in place. The CPU will fit in only one orientation and can easily be inserted without exerting any force.

Important:
Do not force the CPU into the socket. Forcing the CPU into the socket may bend the pins and damage the CPU.



7. 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.



Installing the Fan and Heat Sink

The CPU must be kept cool by using a CPU fan with heat sink. Without sufficient air circulation across the CPU and heat sink, the CPU will overheat damaging both the CPU and system board.

Note:

- *Use only certified fan and heat sink.*
- *The fan and heat sink package usually contains the fan and heat sink assembly, and an installation guide. If the installation procedure in the installation guide differs from the one in this section, please follow the installation guide in the package.*

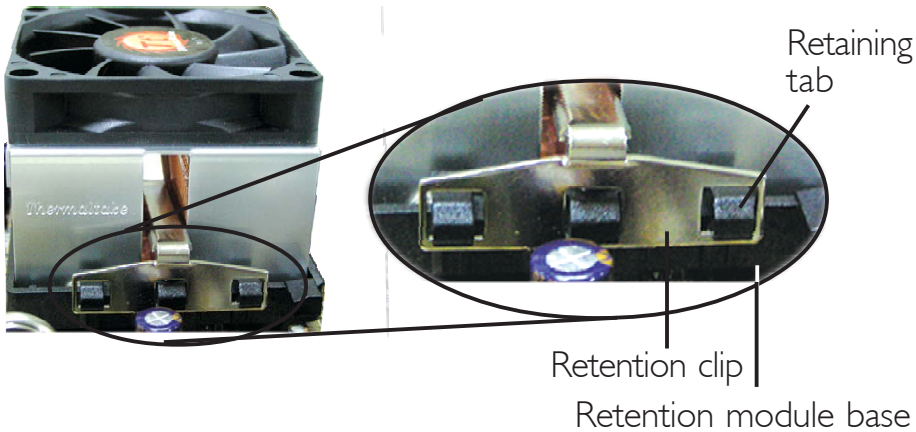
1. Before you install the fan / heat sink, you must apply a thermal paste onto the top of the CPU. The thermal paste is usually supplied when you purchase the CPU or fan heat sink assembly. Do not spread the paste all over the surface. When you later place the heat sink on top of the CPU, the compound will disperse evenly.

   Do not apply the paste if the fan / heat sink already has a patch of thermal paste on its underside. Peel the strip that covers the paste before you place the fan / heat sink on top of the CPU.

2. The system board comes with the retention module base already installed.

Retention module base

3. Place the heat sink on top of the CPU. Now hook one side of the retention clip onto the retention module base by fitting the holes on the retention clip into the retaining tabs of the retention module base.

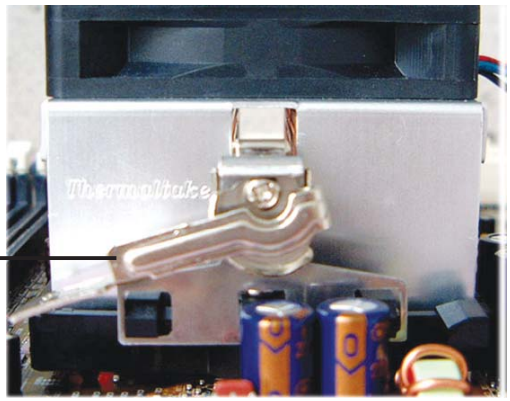


Side View

Top View

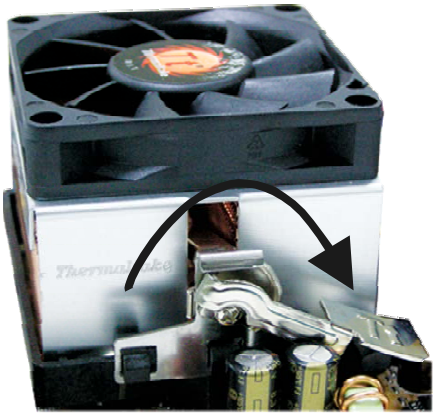
4. Hook the other side of the retention clip (the one near the retention lever) so that the holes on the retention clip also fit into the retaining tabs of the retention module base.

Note:
You will not be able to secure the fan and heat sink assembly in place if it did not fit properly onto the retention module base.



5. Move the retention lever to its opposite side then push it down to lock the fan and heat sink assembly to the retention module base.

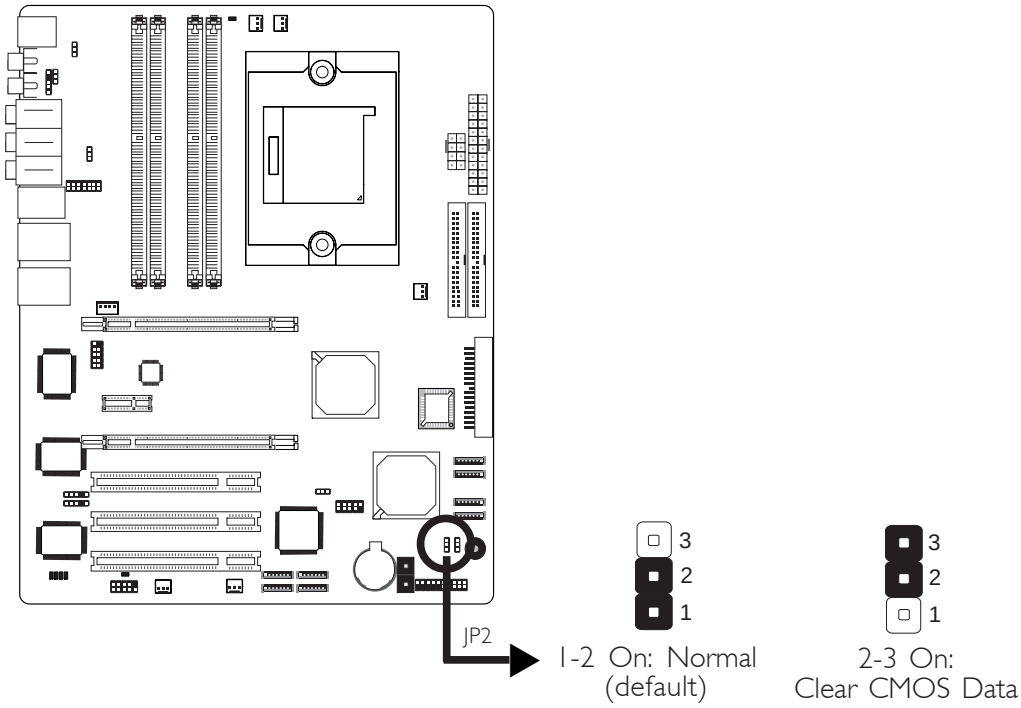
Note:
Make sure there is sufficient air circulation across the CPU fan and heat sink.



6. Connect the CPU fan's cable connector to the CPU fan connector on the system board.

Jumper Settings

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 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 JP2 pins 2 and 3 to On. Wait for a few seconds and set JP2 back to its default setting, pins 1 and 2 On.

3. Now 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 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.

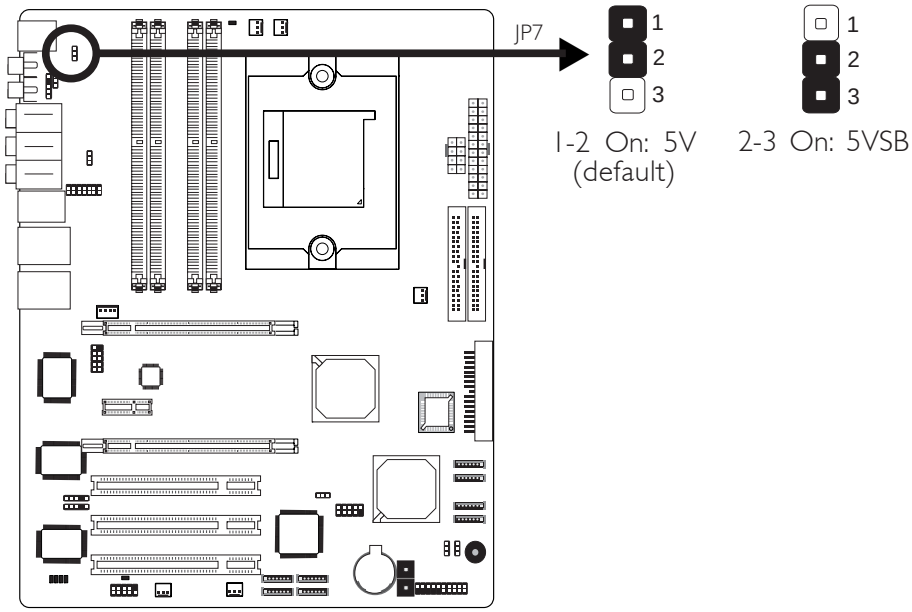
5. Select the Genie BIOS Setting submenu and press <Enter>.

6. Set the processor's clock to its default setting or an appropriate bus clock. Refer to 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>.

PS/2 Power Select



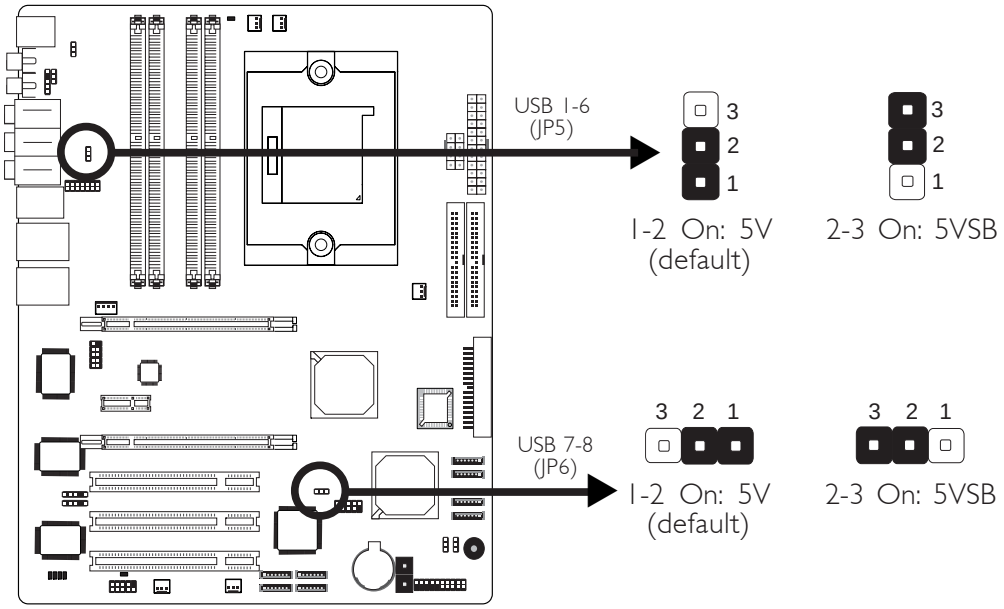
JP7 is used to select the power of the PS/2 keyboard/mouse port. Selecting 5VSB will allow you to use the PS/2 keyboard or PS/2 mouse to wake up the system.

BIOS Setting

Configure the PS/2 keyboard/mouse wake up function in the Integrated Peripherals submenu of the BIOS. Refer to chapter 3 for more information.

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

USB Power Select

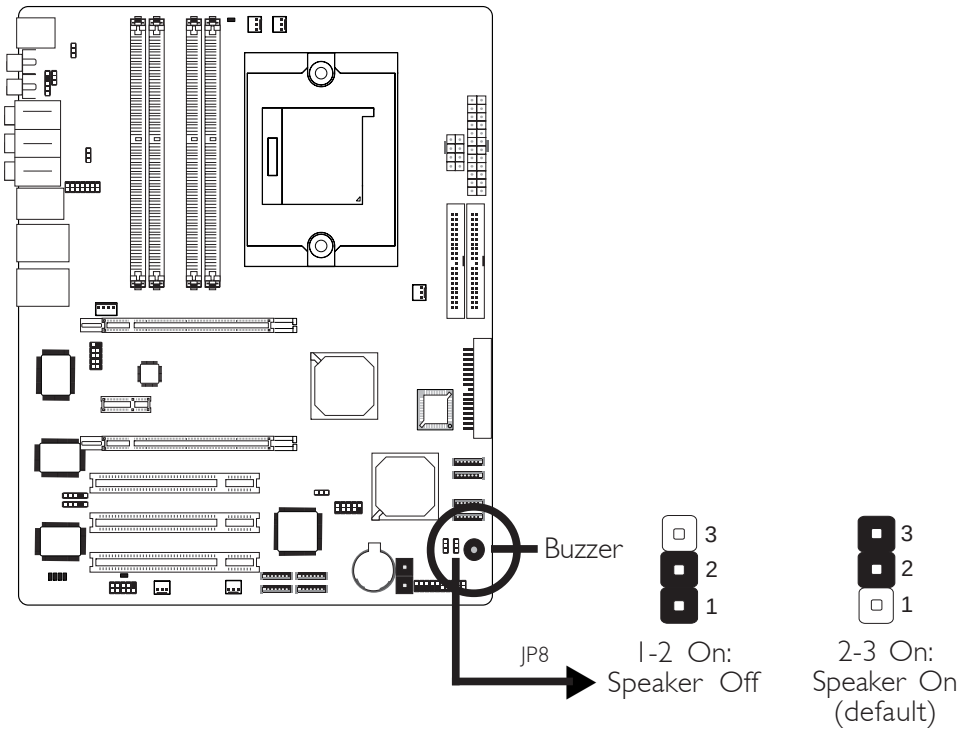


JP5 and JP6 are used to select the power of the USB ports. Selecting 5VSB will allow you to use the USB keyboard or USB mouse to wake up the system..

Important:

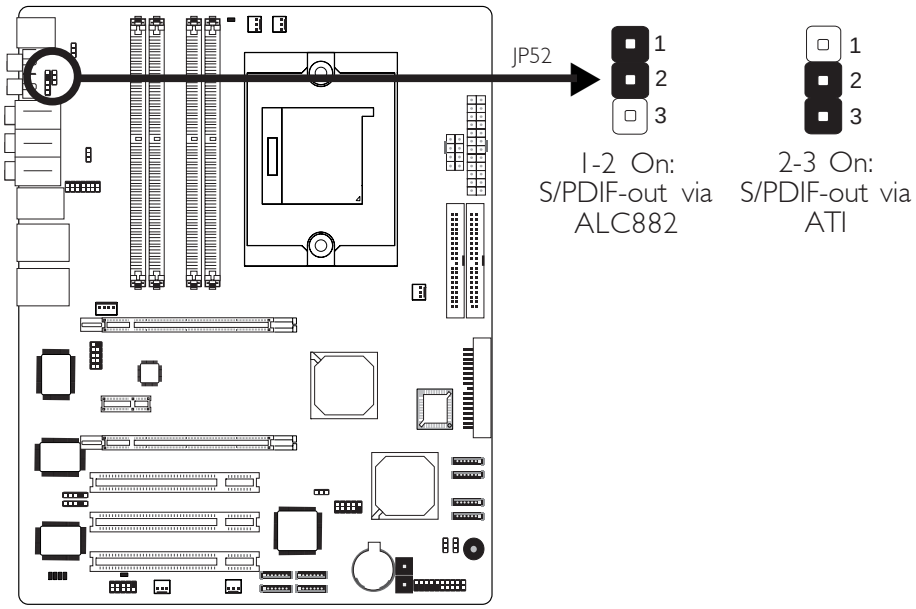
If you are using the Wake-On-USB Keyboard/Mouse function for 2 USB ports, the 5VSB power source of your power supply must support ≥1.5A. For 3 or more USB ports, the 5VSB power source of your power supply must support ≥2A.

Speaker On/Off Select



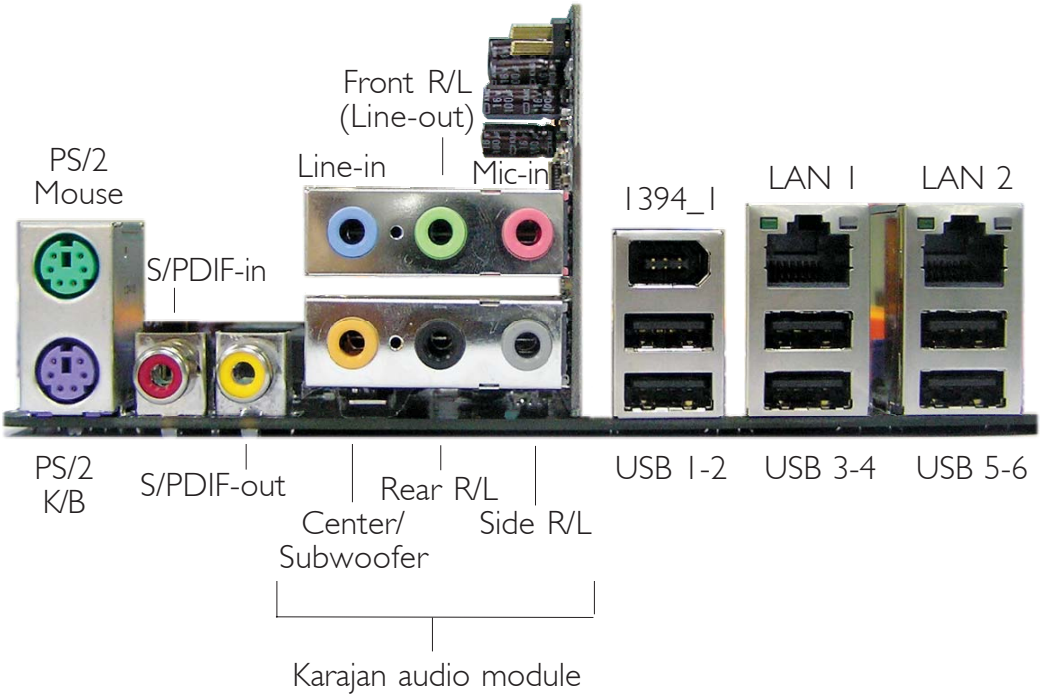
The system board is equipped with a buzzer which serves as the PC's speaker. By default the buzzer is "on" allowing you to hear the system's beep messages and warnings. If you intend to use an external speaker, turn this function off by setting JP8 pins 1 and 2 to On.

S/PDIF-out Settings



JP52 is used to select the controller that will send signal to the S/PDIF-out port.

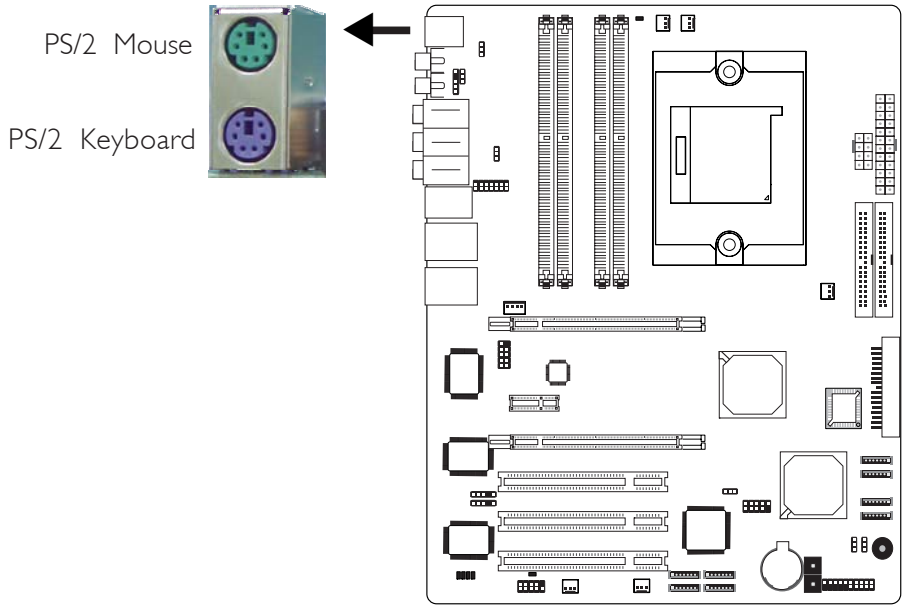
Rear Panel I/O Ports



The rear panel I/O ports consist of the following:

- PS/2 mouse port
- PS/2 keyboard port
- S/PDIF-in jack
- S/PDIF-out jack
- Karajan audio module
  - Line-in jack
  - Front right/left jack (Line-out)
  - Mic-in jack
  - Center/Subwoofer jack
  - Rear right/left port jack
  - Side right/left port jack
- 1394_1 port
- USB ports
- LAN 1 Gigabit PCI Express port
- LAN 2 Gigabit PCI port

PS/2 Mouse and PS/2 Keyboard Ports



The system board is equipped with an onboard PS/2 mouse (Green) and PS/2 keyboard (Purple) ports - both at location CN2 of the system board. 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.

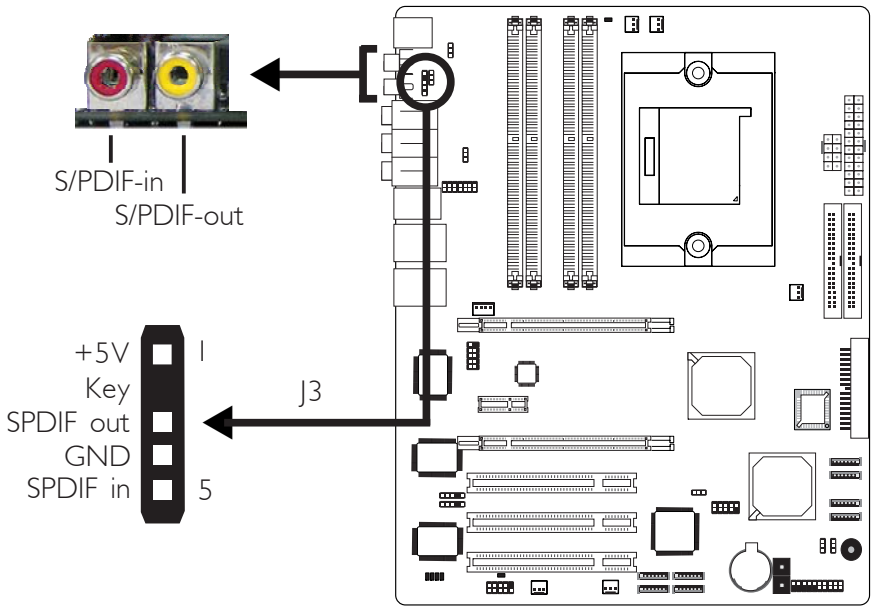
Wake-On-PS/2 Keyboard/Mouse

The Wake-On-PS/2 Keyboard/Mouse function allows you to use the PS/2 keyboard or PS/2 mouse to power-on the system. To use this function:

- **Jumper Setting:**
  JP7 must be set to "2-3 On: 5VSB". Refer to "PS/2 Power Select" in this chapter for more information.

- **BIOS Setting:**
  Configure the PS/2 wake up function in the Integrated Peripherals submenu of the BIOS. Refer to chapter 3 for more information.

S/PDIF-in/out Jacks

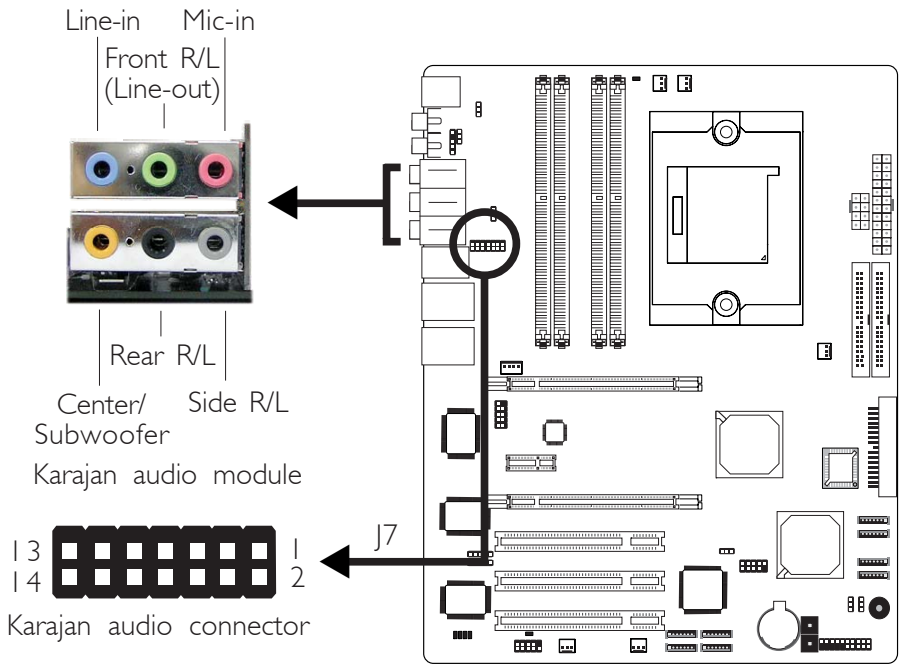


The system board is equipped with an onboard S/PDIF-in RCA jack (red) and a S/PDIF-out RCA jack (yellow) at locations CN5 and CN7 respectively.

The S/PDIF connector at location J3 is used to connect to optical S/PDIF ports. The S/PDIF ports may be mounted on a card-edge bracket. Install the card-edge bracket to the system chassis then connect the audio cable connector to J3. Make sure pin 1 of the audio cable connector is aligned with pin 1 of J3.

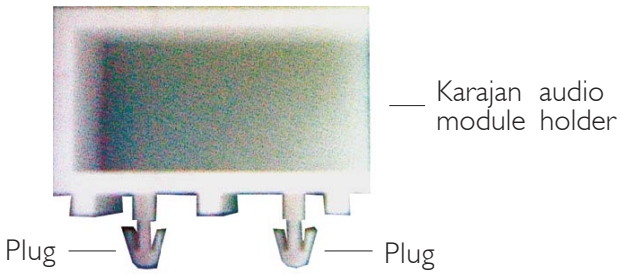
DO NOT use RCA S/PDIF and optical S/PDIF at the same time.

Karajan Audio Module



Installing the Karajan Audio Module

The system board comes with the Karajan audio module already installed on the board. The module is stabilized by means of the module holder.



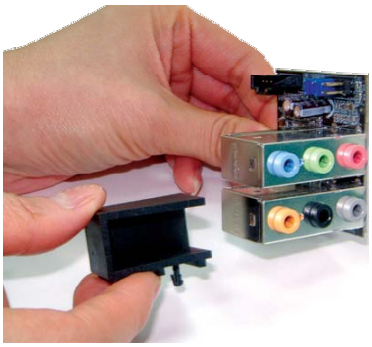
If in any case you need to remove the Karajan audio module, the steps below will guide you on how to install and uninstall the module.

To uninstall:

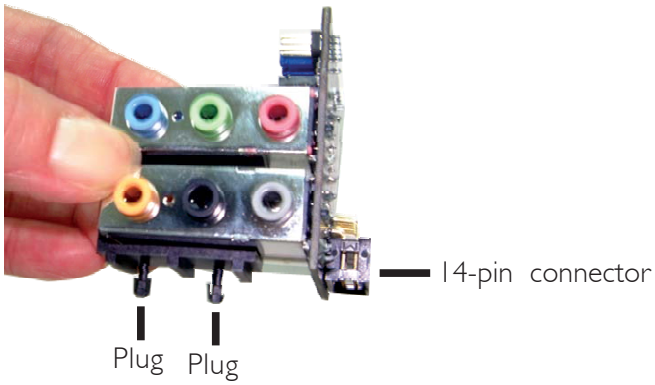
1. The Karajan audio module is snapped through the system board via the module holder. Pull the Karajan audio module upward. The module holder will at the same time detach from the system board.

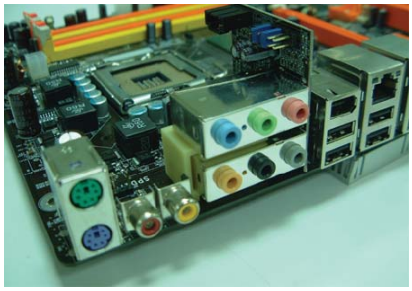
To install:

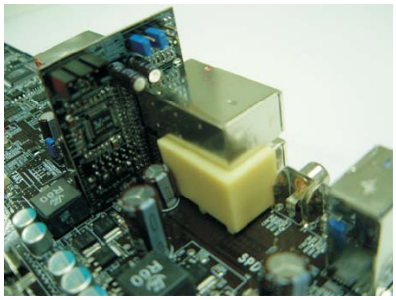
1. Fit the module holder onto the Karajan audio module.



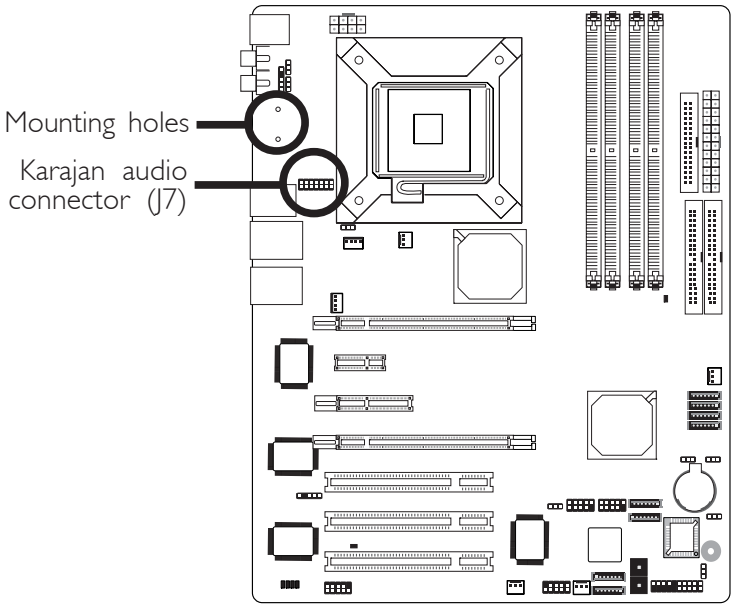
2. Align the module's plugs above the mounting holes then insert the plugs from the top through to the bottom of the system board. While at it, the 14-pin connector at the solder side of the module must also insert into the Karajan audio connector at location J7 of the system board. Make sure the plugs snap firmly out the bottom of the board.







Note:
The illustrations in this section are for reference only. The color of the module holder may differ from the actual one.



Karajan Audio Jacks

- **Line-in (Light Blue)**
  This jack is used to connect any audio devices such as Hi-fi set, CD player, tape player, AM/FM radio tuner, synthesizer, etc.

- **Front Right/Left Jack - Line-out (Lime)**
  This jack is used to connect to the front right and front left speakers of the audio system.

- **Mic-in Jack (Pink)**
  This jack is used to connect an external microphone.

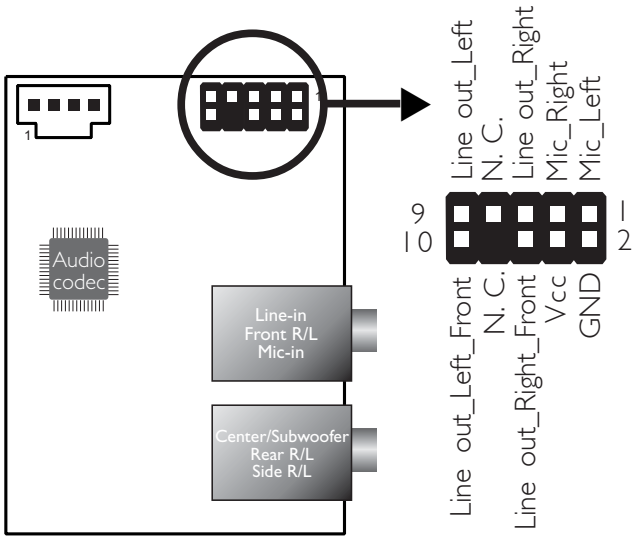
- **Center/Subwoofer Jack (Orange)**
  This jack is used to connect to the center and subwoofer speakers of the audio system.

- **Rear Right/Left Jack (Black)**
  This jack is used to connect to the rear right and rear left speakers of the audio system.

- **Side Right/Left Jack (Gray)**
  This jack is used to connect to the side left and side right speakers of the audio system.

Front Audio

The front audio connector (J4) on the Karajan audio module allows you to connect to the line-out and mic-in jacks that are at the front panel of your system. Using this connector will disable the rear audio's line-out and mic-in functions.



Remove the jumper caps from pins 5-6 and pins 9-10 of J4 prior to connecting the front audio cable connector. Make sure pin 1 of the cable connector is aligned with pin 1 of J4. If you are not using this connector, make sure to replace the jumper caps back to their original pin locations.

Pins 5-6 and 9-10 short (default)	The front audio is disabled. The rear audio is enabled.
Pins 5-6 and 9-10 open	The front audio is enabled. The rear audio is disabled.

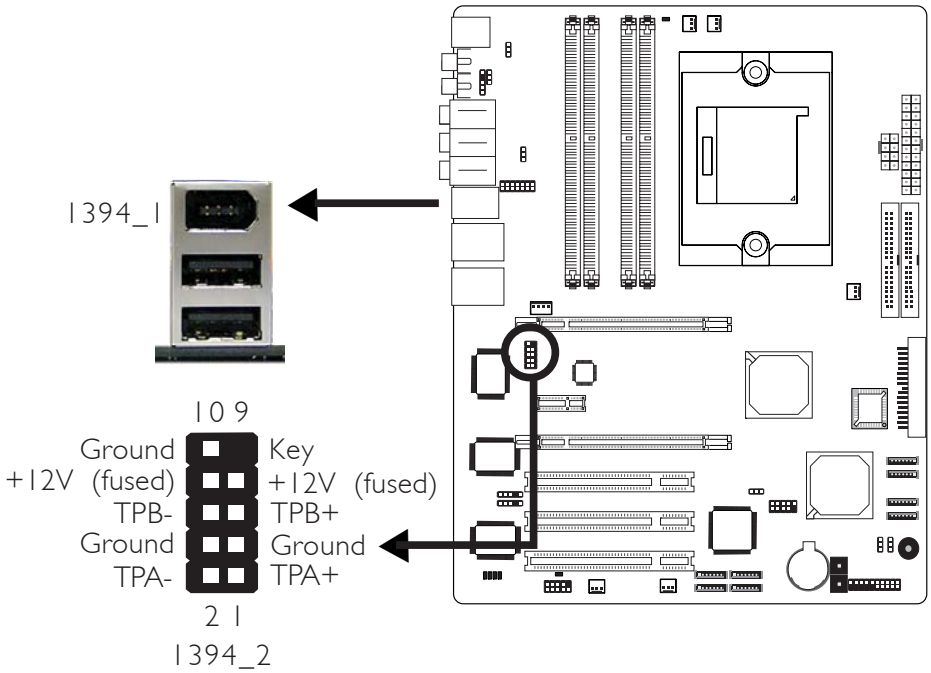
BIOS Setting

Configure the onboard audio in the Genie BIOS Setting submenu ("PCI Device Control" section) of the BIOS. Refer to chapter 3 for more information.

Driver Installation

Install the audio driver. Refer to chapter 4 for more information.

IEEE 1394



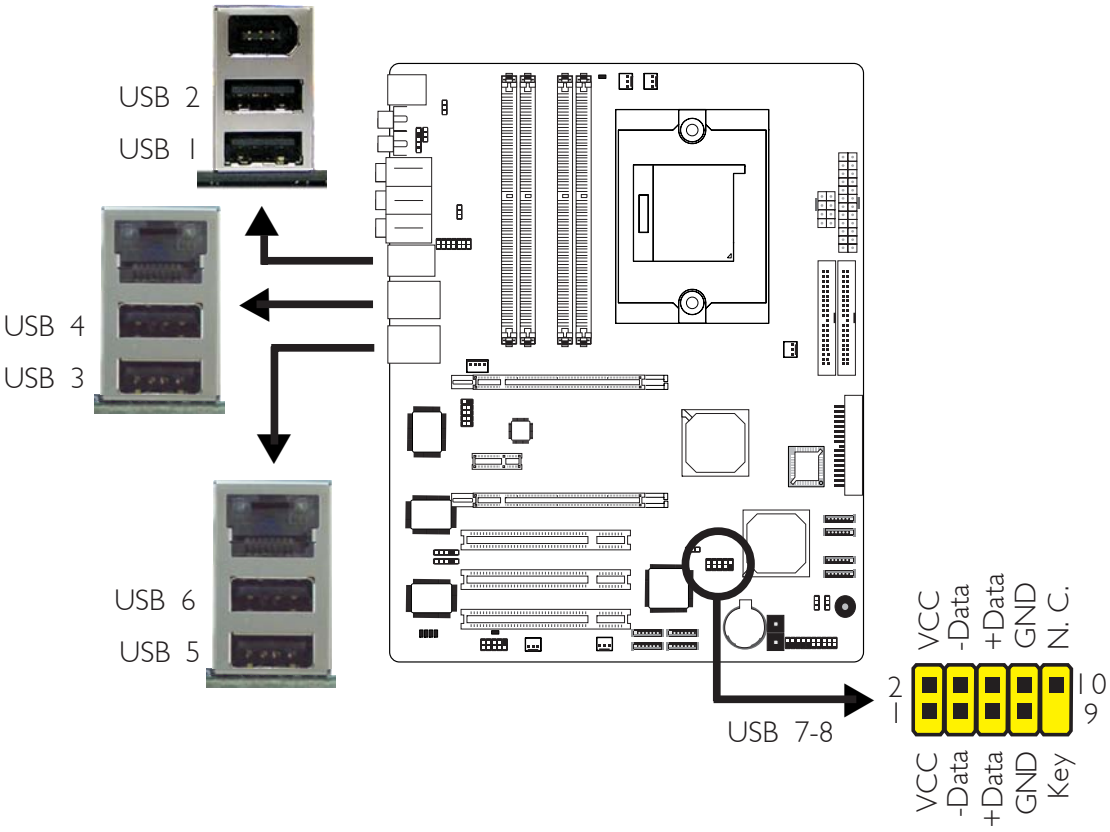
The system board is equipped with an onboard IEEE 1394 port at location CN3 (IEEE 1394_1) of the system board.

It is also equipped with an IEEE 1394 connector at location J8 (1394_2) for connecting an additional 1394 device. The 1394 port may come mounted on a card-edge bracket. Install the card-edge bracket to the system chassis then insert the connector that is attached to the 1394 port cable to J8. Make sure pin 1 of the cable connector is aligned with pin 1 of the J8.

BIOS Setting

Enable or disable the onboard 1394 in the Genie BIOS Setting submenu ("PCI Device Control" section) of the BIOS. Refer to chapter 3 for more information.

Universal Serial Bus Ports



The system board supports 8 USB 2.0/1.1 ports. USB allows data exchange between your computer and a wide range of simultaneously accessible external Plug and Play peripherals.

Six onboard USB 2.0/1.1 ports (Black) are at locations CN3 (USB 1-2), CN4 (USB 3-4) and CN6 (USB 5-6) of the system board.

J18 (USB 7-8) allows you to connect 2 additional USB 2.0/1.1 ports. The USB ports may come mounted on a card-edge bracket. Install the card-edge bracket to the system chassis then insert the connector that is attached to the USB port cables to J18.

BIOS Setting

Configure the onboard USB in the Integrated Peripherals submenu of the BIOS. Refer to chapter 3 for more information.

Driver Installation

You may need to install the proper drivers in your operating system to use the USB device. Refer to your operating system's manual or documentation for more information.

Refer to chapter 4 for more information about installing the USB 2.0 driver.

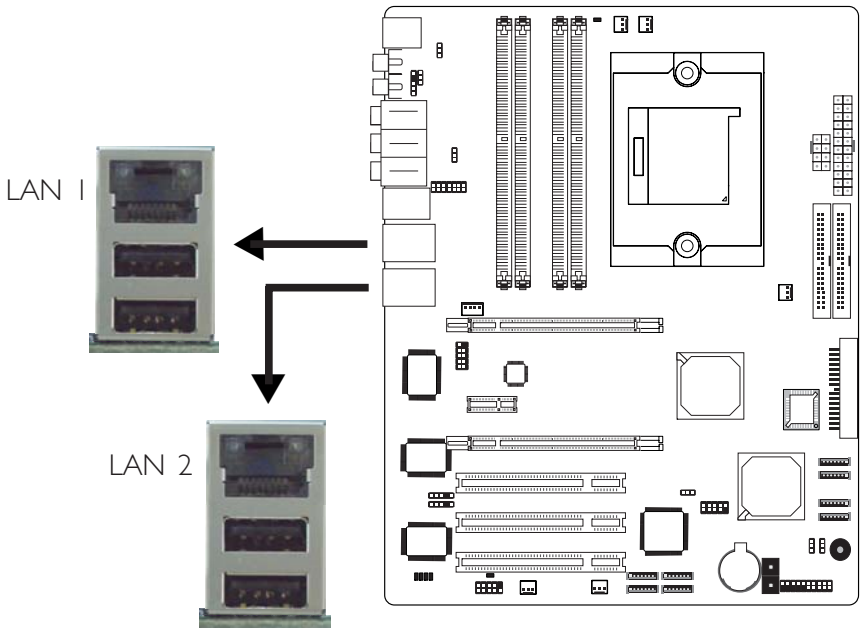
Wake-On-USB Keyboard/Mouse

The Wake-On-USB Keyboard/Mouse function allows you to use a USB keyboard to wake up a system from the S3 (STR - Suspend To RAM) state. To use this function:

- **Jumper Setting:**
  JP5 and/or JP6 must be set to "2-3 On: 5VSB". Refer to "USB Power Select" in this chapter for more information.

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. For 3 or more USB ports, the 5VSB power source of your power supply must support ≥2A.

RJ45 LAN Port



LAN 1 which is controlled by the Marvell 88E8053 Gigabit PCI Express x1 chip is at location CN4 and LAN 2 which is controlled by the Marvell 88E8001 Gigabit PCI chip is at location CN6.

LAN allows the system board to connect to a local area network by means of a network hub.

BIOS Setting

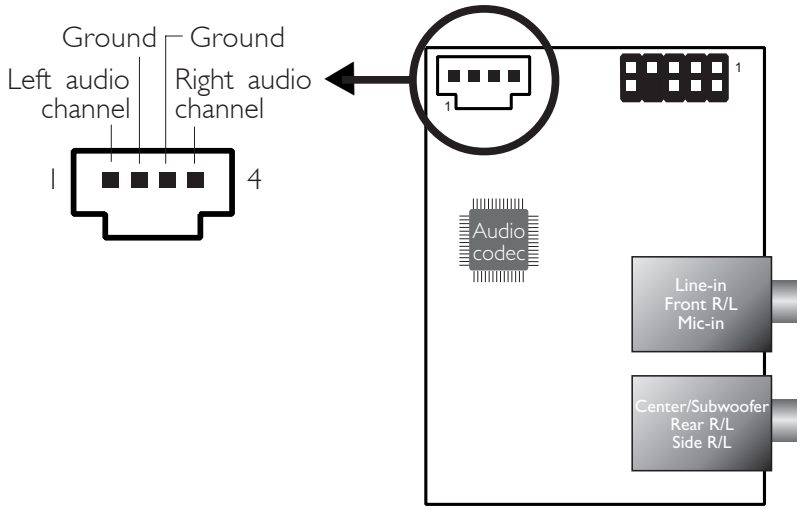
Configure the onboard LAN in the Genie BIOS Setting submenu ("PCI Device Control" section) of the BIOS. Refer to chapter 3 for more information.

Driver Installation

Install the LAN driver. Refer to chapter 4 for more information.

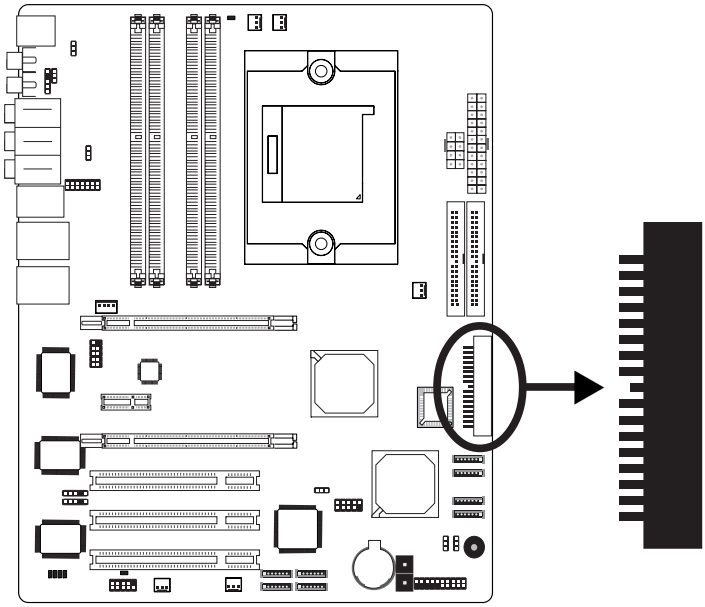
I/O Connectors

CD-in Internal Audio Connector



The CD-in (J2) connector on the Karajan audio module is used to receive audio from a CD-ROM drive, TV tuner or MPEG card.

Floppy Disk Drive Connector



The system board is equipped with a 90° floppy disk drive connector that supports two standard floppy disk drives. To prevent improper floppy cable installation, the 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.

Connecting the Floppy Disk Drive Cable

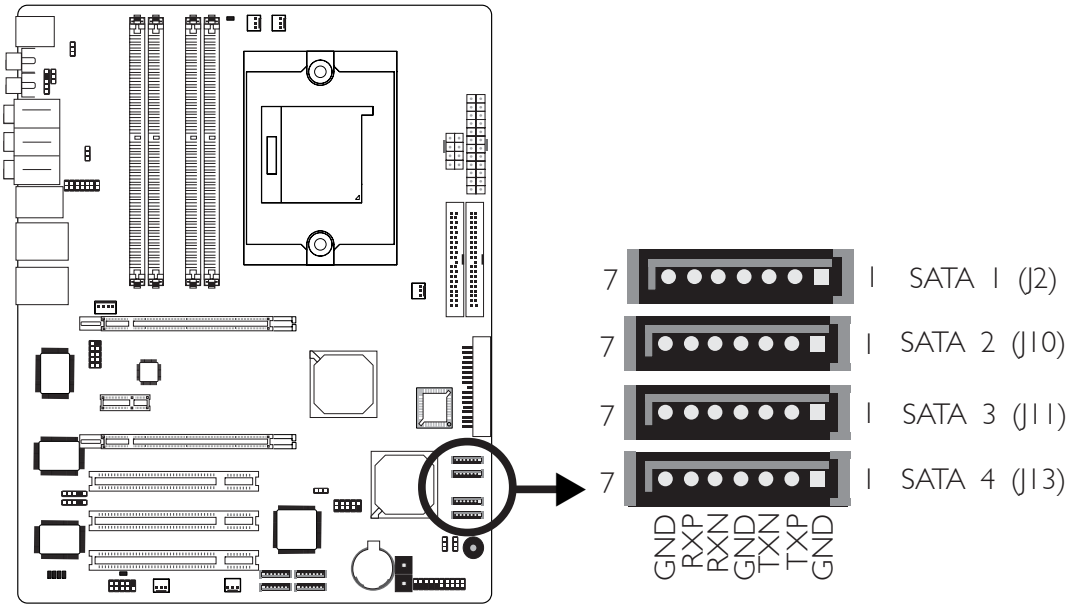
Install one end of the floppy disk drive cable into the shrouded floppy disk header (J23) on the system board and the other end-most connector to the drive you want to designate as Drive A. If you are connecting another drive (Drive B), install the middle connector of the cable to the drive. The colored edge of the daisy chained ribbon cable should be aligned with pin 1 of J23.

BIOS Setting

Enable or disable this function in the Integrated Peripherals submenu of the BIOS. Refer to chapter 3 for more information.

Serial ATA Connectors

Four Serial ATA ports supported by the ATI SB450 chip (LANPARTY UT RDX200 CF-D only)



- SATA speed up to 1.5Gb/s
- RAID 0 and RAID 1

Connecting Serial ATA Cables

Connect one end of the Serial ATA cable to the Serial ATA connector and the other end to your Serial ATA device.

Configuring RAID

The steps below describe configuring RAID on SATA 1 to SATA 4.

1. Run the Award BIOS setup utility then go to the Genie BIOS Setting submenu - "PCI Device Control" section of the BIOS.
2. Select the Serial ATA ports you want enabled in the "Onboard SATA Controller" field.
3. Set the "Onboard SATA Type" to RAID.
4. Save and exit the BIOS then reboot the PC.

5. When the system powers-up, the ATI BIOS status message screen will appear. Press the <F4> key to enter the utility. The utility allows you to build a RAID system on Serial ATA drives.

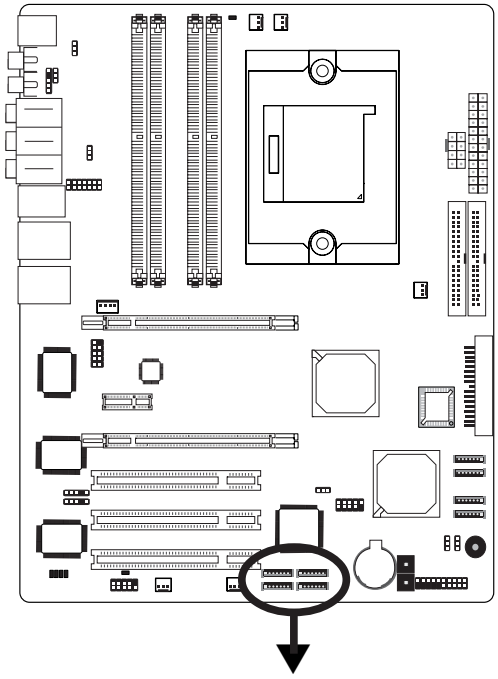
6. Normally you do not need to separately install the ATI RAID driver. Installing the ATI Radeon Xpress 200 System Drivers will automatically install the RAID drivers.

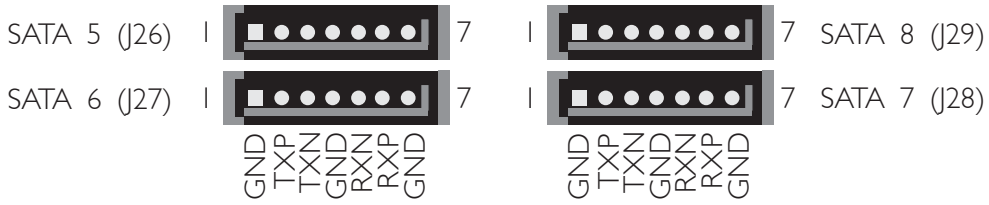
   If you are in the process of installing Windows® XP or Windows® 2000 on RAID configured Serial ATA drives, you will need the provided ATI RAID driver floppy diskette. If you are installing the driver on existing Windows® XP or Windows® 2000, install the "ATI Radeon Xpress 200 System Drivers" that is in the provided CD.

For steps 1 to 5, refer to chapter 3 for more information. For step 6, refer to chapter 4 for more information.

Important:
Before creating RAID, make sure you have installed the Serial ATA drives and connected the data cables otherwise you won't be able to enter the ATI RAID BIOS utility.

Four Serial ATA ports supported by the Silicon Image Sil 3114 chip (LANPARTY UT RDX200 CF-DR only)





- SATA speed up to 1.5Gb/s
- RAID 0, RAID 1, RAID 0+1 and RAID 5

Connecting Serial ATA Cables

Connect one end of the Serial ATA cable to the Serial ATA connector and the other end to your Serial ATA device.

Configuring RAID

The steps below describe configuring RAID on SATA 5 to SATA 8.

1. Run the Award BIOS setup utility then go to the Genie BIOS Setting submenu - "PCI Device Control" section of the BIOS.

2. Select the Serial ATA ports you want enabled in the "Onboard SATA Controller" field.

3. Set the "Sil3114 S-ATA RAID Control" field to "SATA RAID".

4. Save and exit the BIOS then reboot the PC.

5. When the system powers-up, the Sil3114 SataRAID BIOS status message screen will appear. Press the <Ctrl-S> or <F4> key to enter the utility. The utility allows you to build a RAID system on Serial ATA drives.

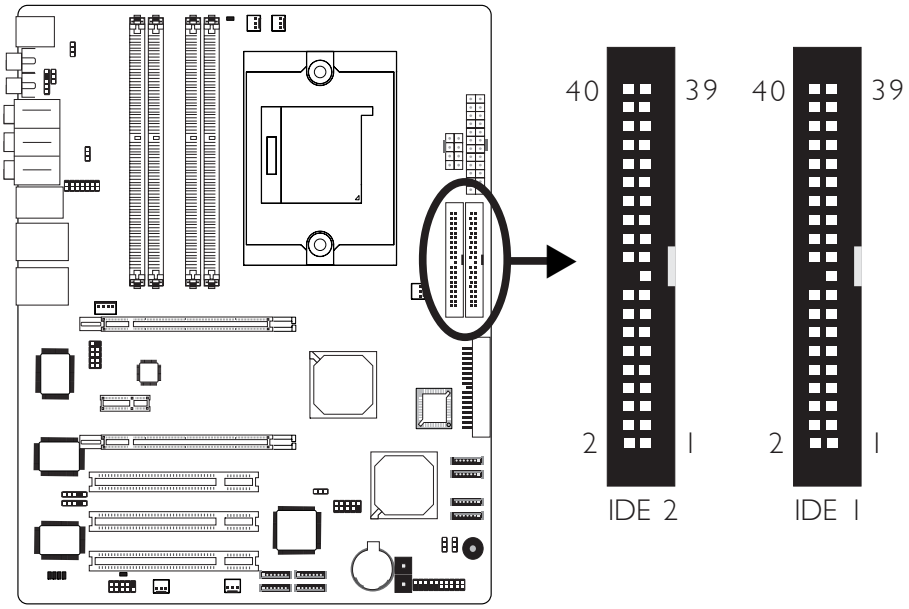
6. Install the Silicon Image RAID driver.

   If you are in the process of installing Windows® XP or Windows® 2000 on RAID configured Serial ATA drives, you will need the provided "Silicon Image Sil3114 RAID Drivers" diskette. If you are installing the driver on existing Windows® XP or Windows® 2000, install the Silicon Image Sil3114 RAID driver from the provided CD.

For steps 1 to 5, refer to chapter 3 for more information. For step 6, refer to chapter 4 for more information.

Important:
Before creating RAID, make sure you have installed the Serial ATA drives and connected the data cables otherwise you won't be able to enter the Silicon Image RAID BIOS utility.

IDE Disk Drive Connector



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.

Each IDE connector supports 2 devices, a Master and a Slave. Use an IDE ribbon cable to connect the drives to the system board. An IDE ribbon cable have 3 connectors on them, one that plugs into an IDE connector on the system board and the other 2 connects to IDE devices. The connector at the end of the cable is for the Master drive and the connector in the middle of the cable is for the Slave drive.

Connecting the IDE Disk Drive Cable

Install one end of the IDE cable into the IDE 1 header (J22) on the system board and the other connectors to the IDE devices.

If you are adding a third or fourth IDE device, use another IDE cable and install one end of the cable into the IDE 2 header (J25) on the system board and the other connectors to the IDE devices.

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.

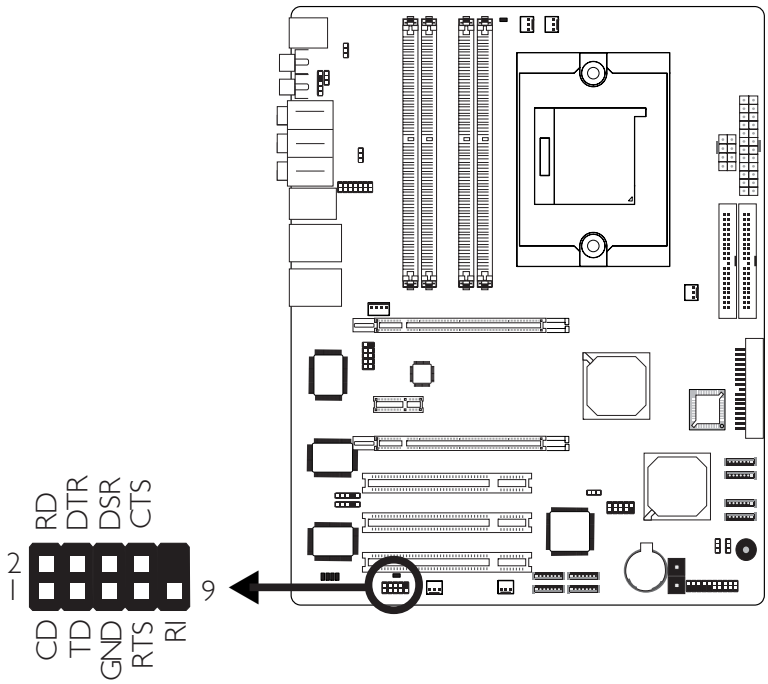
The system board supports Enhanced IDE or ATA-2, ATA/33, ATA/66 or ATA/100 hard drives. We recommend that you use hard drives from the same manufacturer. In a few cases, drives from two different manufacturers will not function properly when used together. The problem lies in the hard drives, not the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

BIOS Setting

Configure the onboard IDE in the Integrated Peripherals submenu ("South OnChip IDE Device" section) of the BIOS. Refer to chapter 3 for more information.

Serial (COM) Port



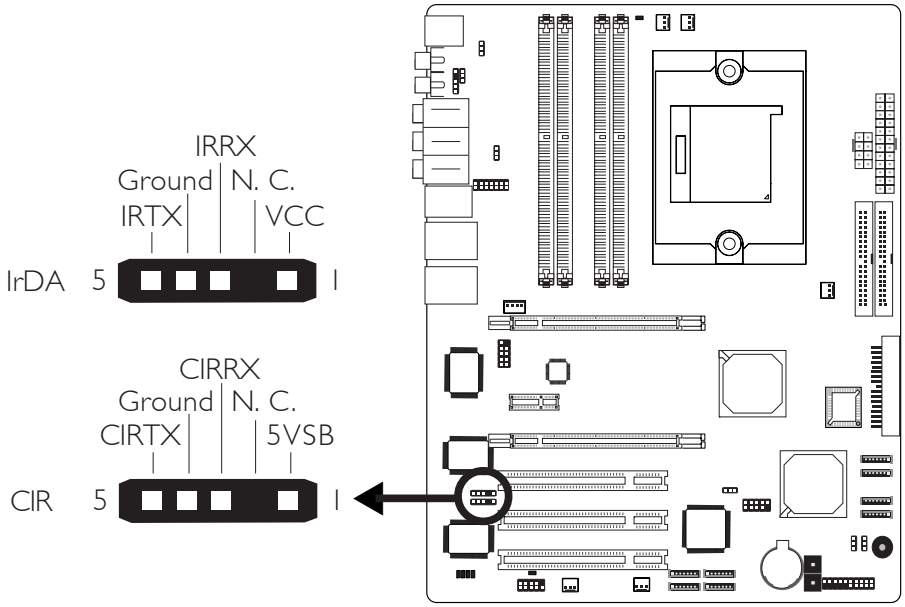
The system board is equipped with a 9-pin connector for connecting an external serial port. The serial port cable is an optional item and must be purchased separately. Insert the connector that is attached to the serial port cable to the 9-pin connector (J4) then install the serial port bracket to an available bracket slot at the rear of the system chassis. Make sure the colored stripe on the ribbon cable is aligned with pin 1 of the connector.

The serial port is an RS-232 and/or RS-485 asynchronous communication port with 16C550A-compatible UARTs that can be used with modems, serial printers, remote display terminals, and other serial devices.

BIOS Setting

Configure the onboard serial port in the Integrated Peripherals submenu of the BIOS. Refer to chapter 3 for more information.

IrDA Connector



Connect the cable connector from your IrDA/CIR module to the IrDA connector (J5) or CIR connector (J14).

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

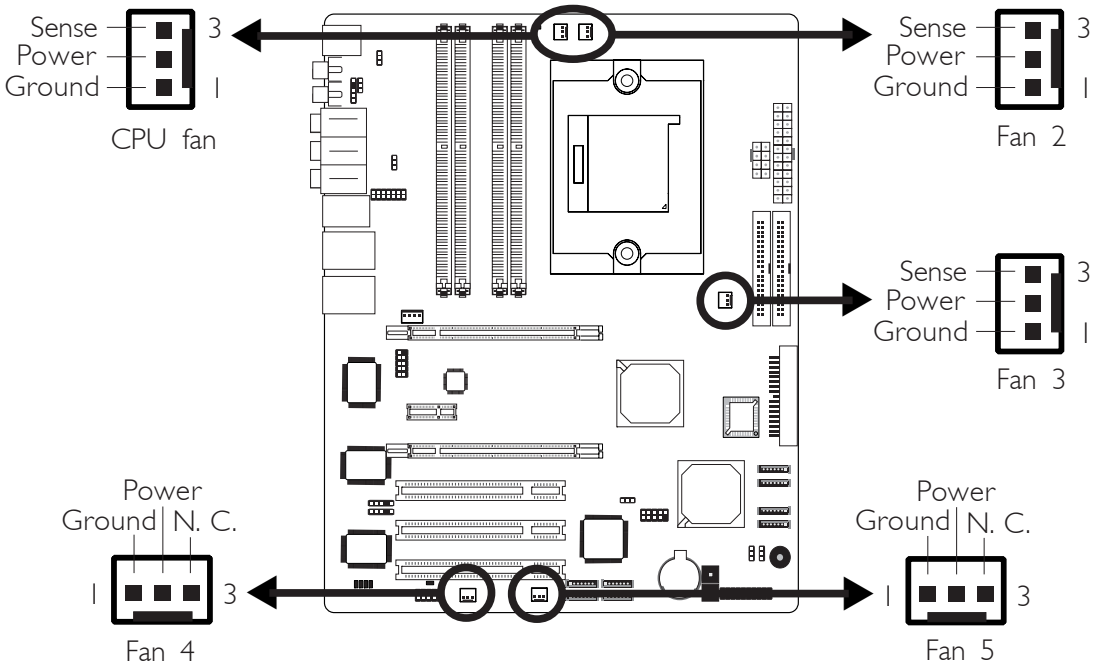
BIOS Setting

Configure IrDA/CIR in the Integrated Peripherals submenu of the BIOS.

Driver Installation

You may need to install the proper drivers in your operating system to use the IrDA/CIR function. Refer to your operating system's manual or documentation for more information.

Cooling Fan Connectors

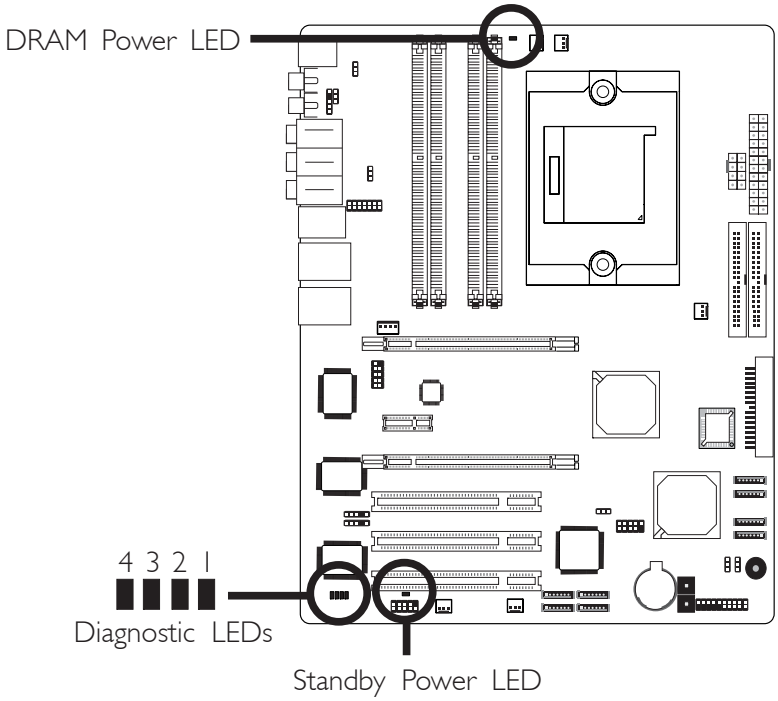


Connect the CPU fan's cable connector to the CPU fan connector (J31) on the system board. Fan 2 (J32), Fan 3 (J30), Fan 4 (J6) and Fan 5 (J9) are used to connect additional cooling fans. The cooling fans will provide adequate airflow throughout the chassis to prevent overheating the CPU and system board components.

BIOS Setting

The "PC Health Status" submenu of the BIOS will display the current speed of the cooling fans. Refer to chapter 3 for more information.

LEDs



DRAM Power LED

This LED will light when the system's power is on.

Standby Power LED

This LED will light when the system is in the standby mode.

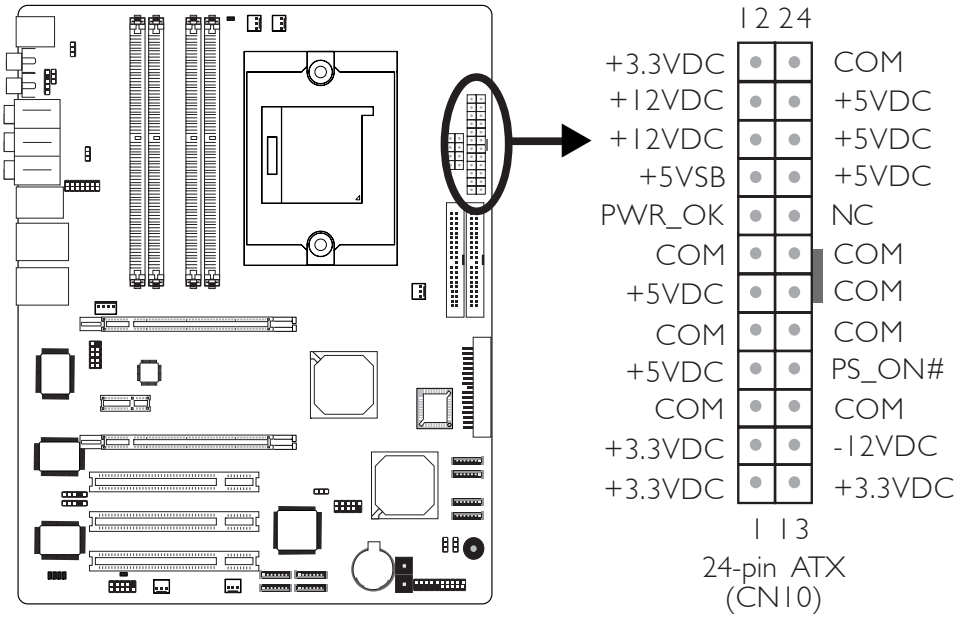
Diagnostic LEDs

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

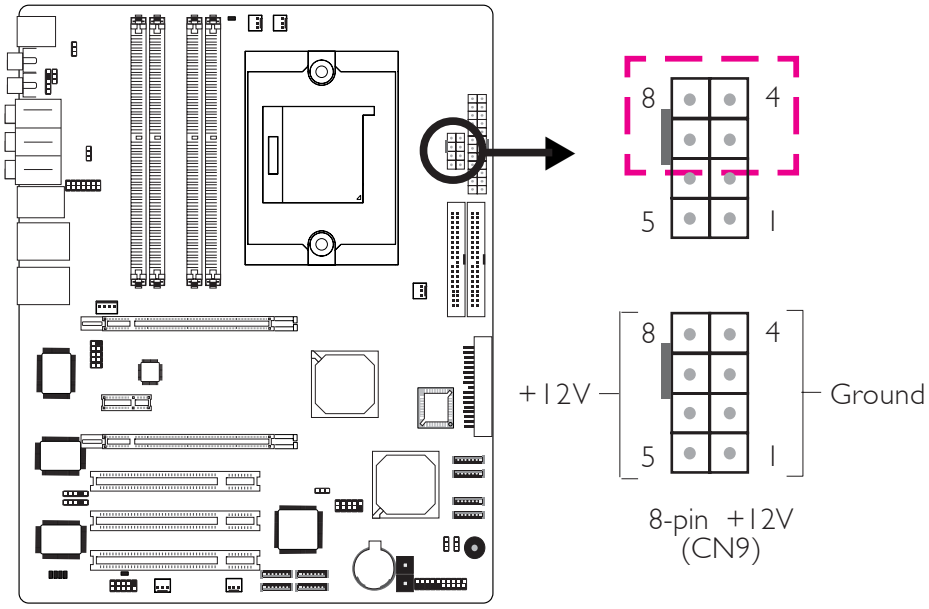
System Condition	4	3	2	1
System start-up	■	■	■	■
CPU detected	■	■	■	□
DRAM detected	■	■	□	□
VGA detected	■	□	□	□
System boot-up	□	□	□	□

Power Connectors

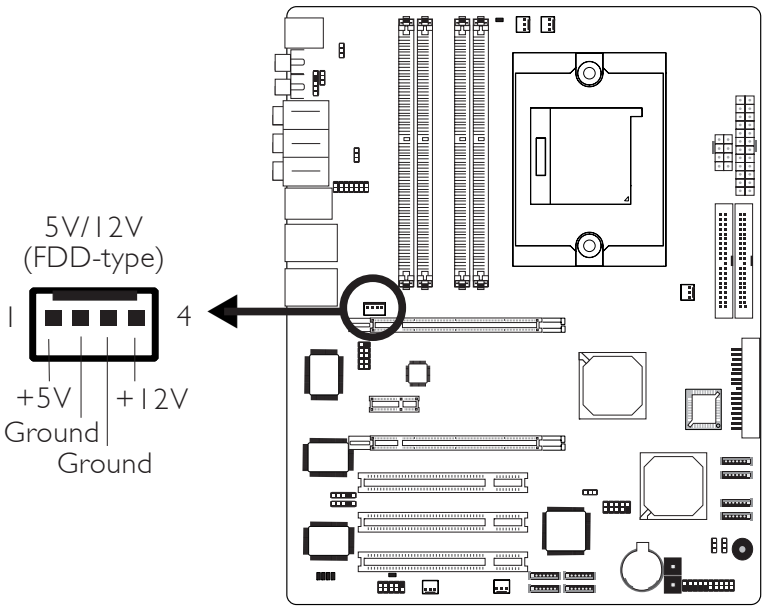
Use a power supply that complies with the ATX12V Power Supply Design Guide Version 1.1. An ATX12V power supply unit has a standard 24-pin ATX main power connector that must be inserted onto CN10.



Your power supply unit may come with an 8-pin or 4-pin +12V power connector. The +12V power enables the delivery of more +12VDC current to the processor's Voltage Regulator Module (VRM). If available, it is preferable to use the 8-pin power; otherwise connect the 4-pin power connector to CN9 as shown below.



The FDD-type power connector is an additional power connector. If you are using two graphics cards, we recommend that you plug a power cable from your power supply unit onto the 5V/12V power connector at location J1. This will provide more stability to the entire system. The system board will still work even if the additional power connector is not connected.



The system board requires a minimum of 300 Watt power supply to operate. Your system configuration (CPU power, amount of memory, add-in cards, peripherals, etc.) may exceed the minimum power requirement. To ensure that adequate power is provided, **we strongly recommend that you use a minimum of 400 Watt (or greater) power supply.**

Restarting the PC

Normally, you can power-off the PC by:

1. Pressing the power button at the front panel of the chassis.
   or
2. Pressing the power switch that is on the system board (note: not all system boards come with this switch).

If for some reasons you need to totally cut off the power supplied to the PC, switch off the power supply or unplug the power cord. Take note though that if you intend to restart it at once, please strictly follow the steps below.

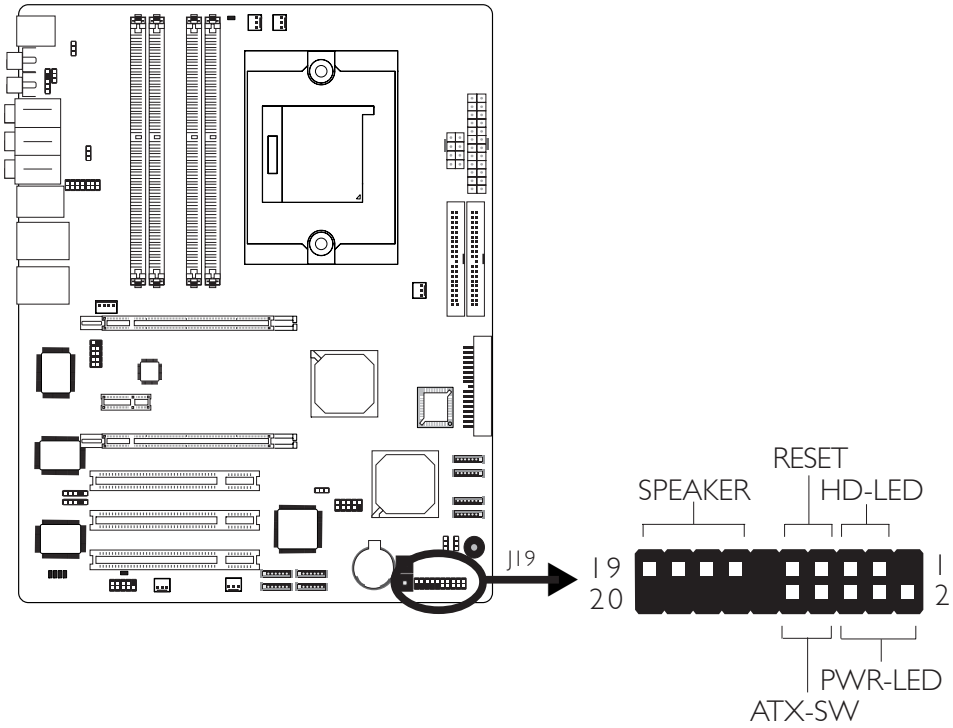
1. The time where power is totally discharged varies among power supplies. It's discharge time is highly dependent on the system's configuration such as the wattage of the power supply, the sequence of the supplied power as well as the number of peripheral devices connected to the system. Due to this reason, we strongly recommend that you wait for the Standby Power LED (refer to the "LEDs" section in this chapter for the location of the Standby Power LED) to lit off.

2. After the Standby Power LED has lit off, wait for 6 seconds before powering on the PC.

   If the system board is already enclosed in a chassis which apparently will not make the Standby Power LED visible, wait for 15 seconds before you restore power connections. 15 seconds is approximately the time that will take the LED to lit off and the time needed before restoring power.

The above will ensure protection and prevent damage to the motherboard and components.

Front Panel Connectors



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

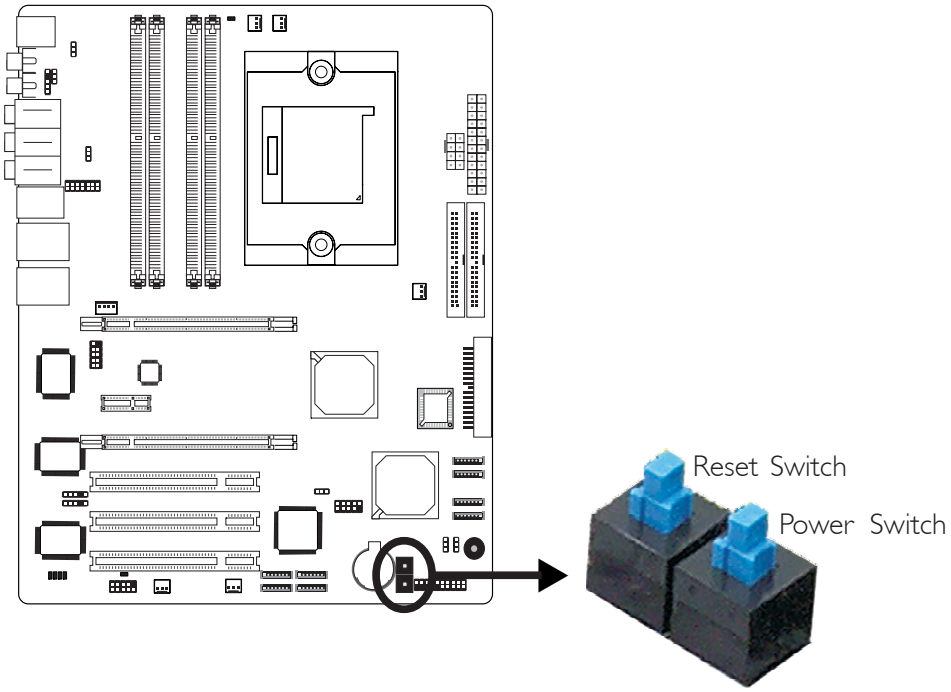
When the system's power is on, this LED will light. When the system is in the S1 (POS - Power On Suspend) or S3 (STR - Suspend To RAM) state, it will blink every second.

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.

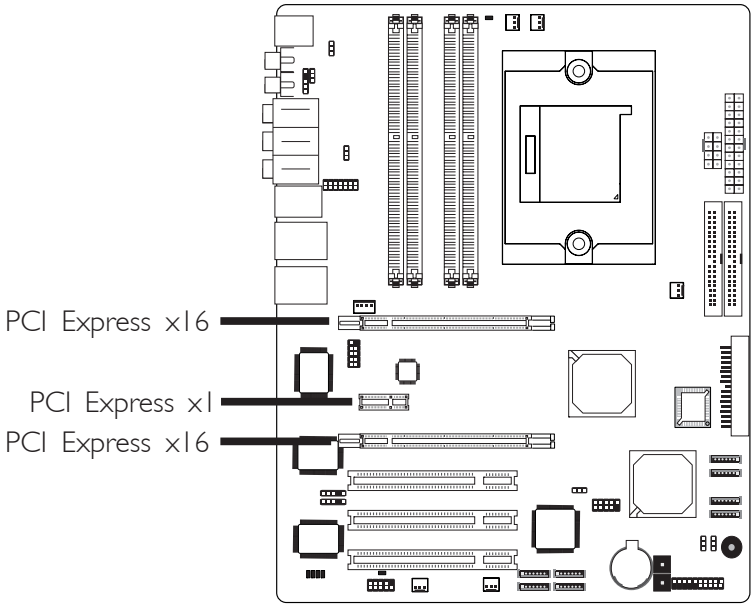
	Pin	Pin Assignment
HD-LED (Primary/Secondary IDE LED)	3 5	HDD LED Power HDD
Reserved	14 16	N. C. N. C.
ATX-SW (ATX power switch)	8 10	PWRBT+ PWRBT-
Reserved	18 20	N. C. N. C.
RESET (Reset switch)	7 9	Ground H/W Reset
SPEAKER (Speaker connector)	13 15 17 19	Speaker Data N. C. Ground Speaker Power
PWR-LED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

EZ Touch Switches



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.

PCI Express Slots



Install PCI Express x16 graphics card, that comply to the PCI Express specifications, into the PCI Express x16 slot. To install a graphics card into the x16 slot, align the graphics card above the slot then press it down firmly until it is completely seated in the slot. The retaining clip of the slot will automatically hold the graphics card in place.

Refer to the next section for information about CrossFire.

Install PCI Express x1 cards such as network cards or other cards that comply to the PCI Express specifications into the PCI Express x1 slot.

ATI CrossFire Technology

ATI's CrossFire technology drives your PC to a new peak of performance. By connecting a Radeon CrossFire Edition graphics card and a standard PCI Express graphics card, the power of these multiple GPUs (Graphics Processing Units) within the system will accelerate your gaming performance and improve image quality.

How CrossFire Works

CrossFire's key objective is to maximize the speed of a multi-GPU system. This is achieved by dividing the rendering workload to each of the two GPUs. When each GPU has completed its assigned tasks for a given frame, the Compositing Engine on the CrossFire Edition graphics card combines the results from each GPU (according to the selected operating mode) then sends the final frames out to the display device. The result will be a complete frame rendered at up to twice the performance of a single graphics card.

Features

Regardless of the type of operating mode used, the completed frames from both GPUs are sent to the Compositing Engine on the CrossFire Edition graphics card, which then sends them on to the display device.

- **Supertile Mode**

  Supertiling divides your screen image into subsections like "tiles" in alternating tile pattern such that half of the tiles are assigned to each of the two GPUs.

- **Scissor Mode**

  In Scissor mode, each frame is split into two sections, either horizontal or vertical, with each section being processed by one GPU.

- **Alternate Frame Rendering (AFR)**

  In AFR mode, all even frames are rendered on one GPU, while all odd frames are rendered on the other.

- **Super AA (Anti-Aliasing)**

  The Super AA mode provides even higher quality anti-aliasing on multi-GPU systems. It works by having each GPU render the same frame with anti-aliasing enabled but using different sample locations for each. When both versions of the frame are completed, they are blended in the CrossFire Compositing engine. The resulting image is twice the number of samples, so 4x and 6x AA become 8x and 12x Super AA respectively.

Graphics Cards Requirements

1. One Radeon® X850 / Radeon® X800 CrossFire Edition graphics card.
2. One standard PCI Express Radeon® X850 or Radeon® X800 graphics card.

   The Radeon® X850 CrossFire Edition card works with any standard PCI Express Radeon X850 graphics card (Radeon X850 PRO, Radeon X850 XT or Radeon X850 XT Platinum Edition) from ATI or any of its partners including cards previously sold.

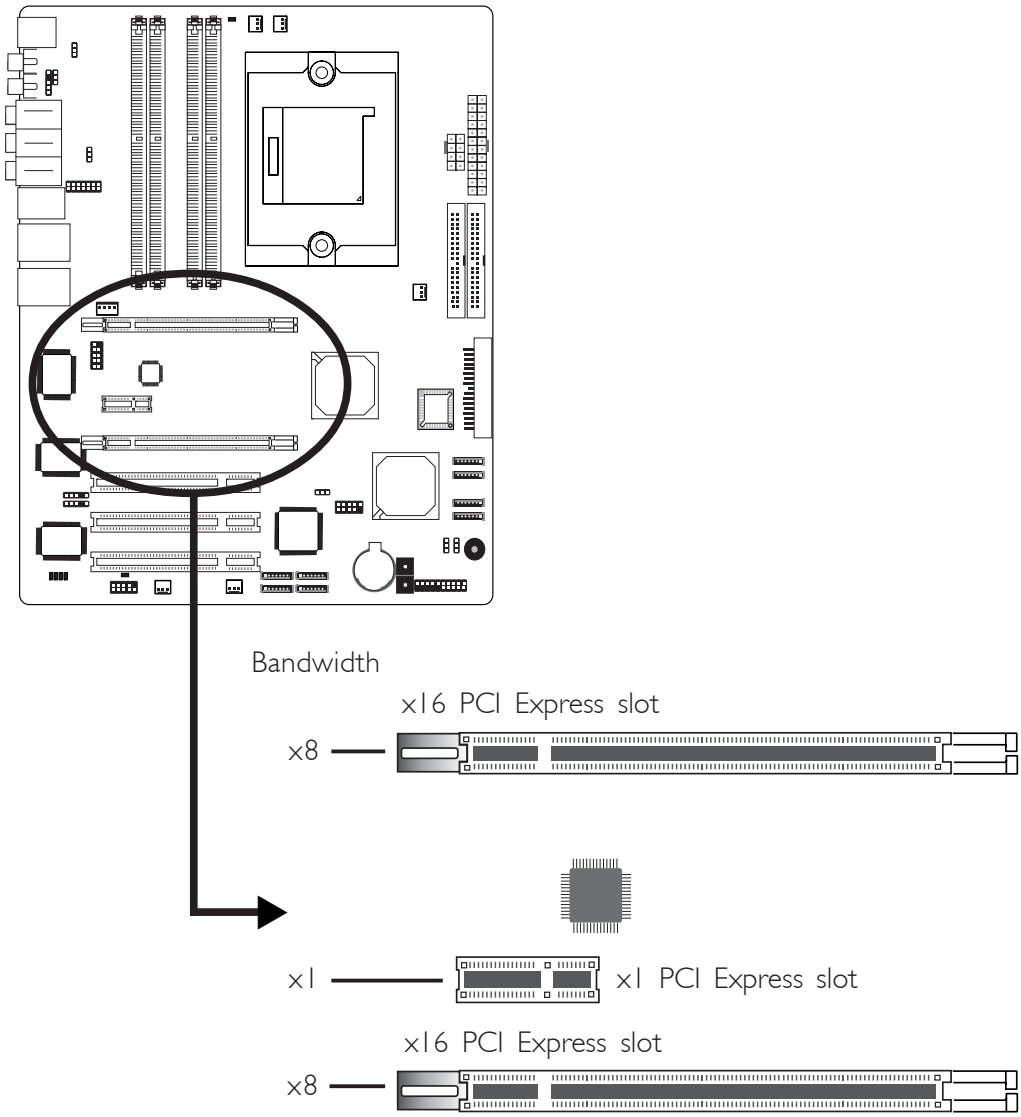
   The Radeon® X800 CrossFire Edition card works with any standard PCI Express Radeon X800 graphics card (Radeon X800, Radeon X800 PRO, Radeon X800 XL, Radeon X800 XT or Radeon X800 XT Platinum Edition) from ATI or any of its partners.

Note:
If the clock speed of the CrossFire Edition graphics card and standard PCI Express graphics card are different, both cards will operate at their individual clock speeds.

The PCI Express Slots

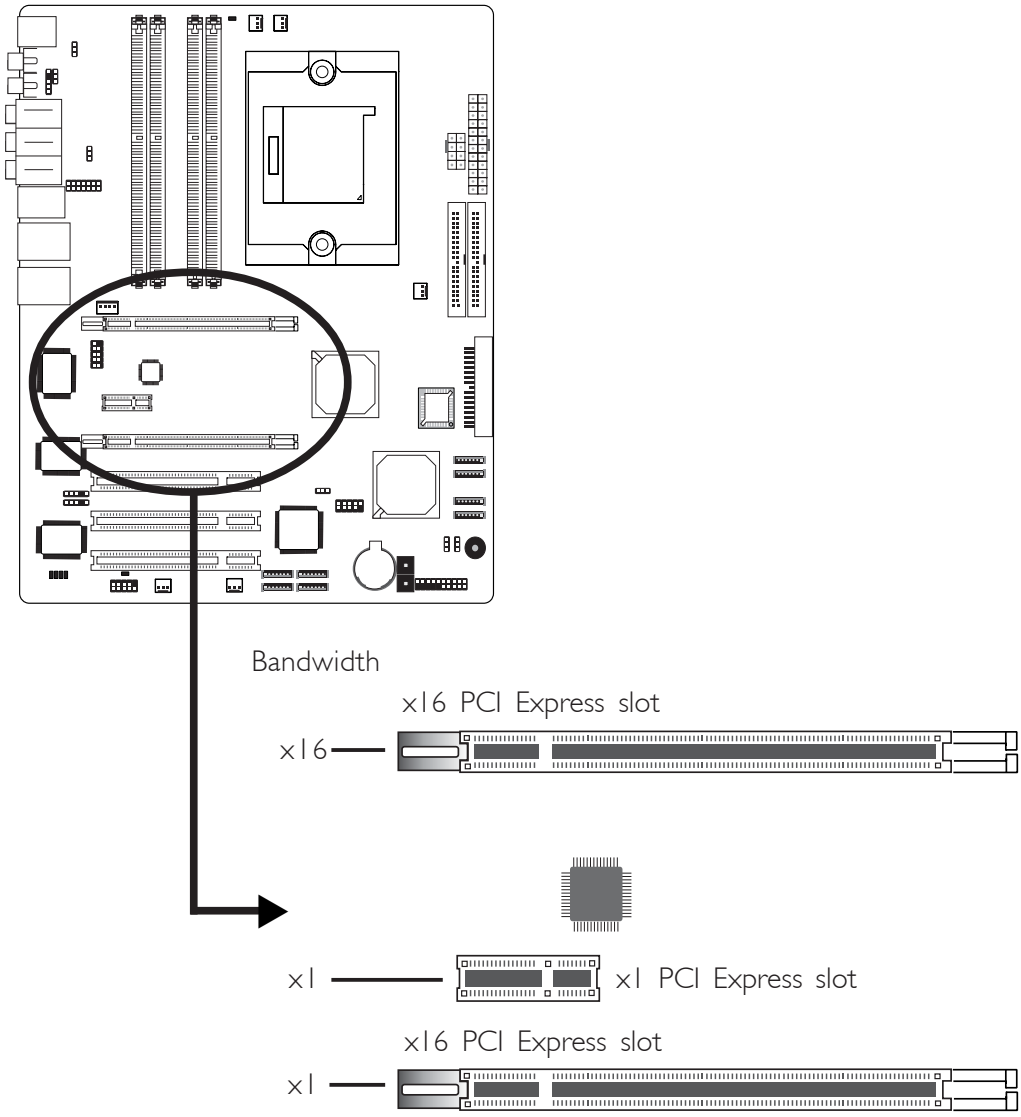
CrossFire Mode

The illustration below shows the bandwidth of the PCI Express slots when in CrossFire mode.



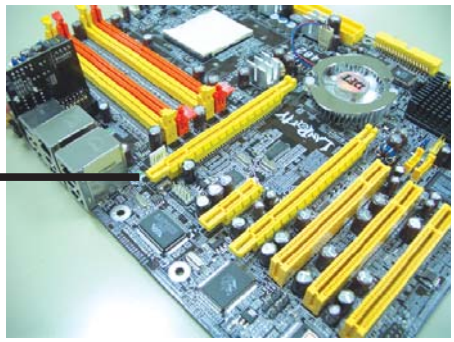
Single VGA Mode

The illustration below shows the bandwidth of the PCI Express slots when in Single VGA mode.

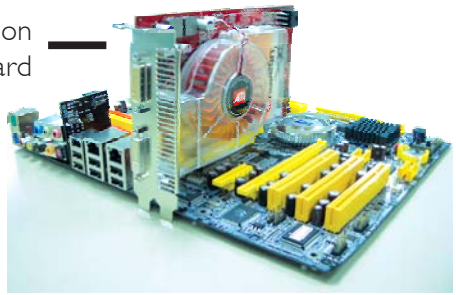


CrossFire Setup

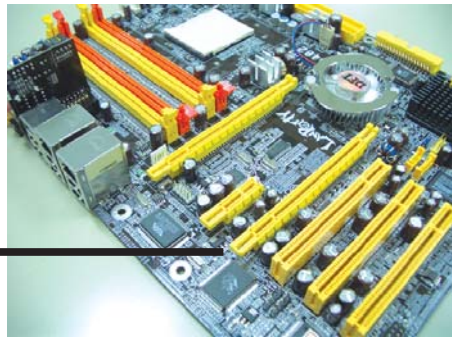
1. Power-off the system and monitor then unplug the power cord.
2. Remove the screw of the bracket that is opposite the PCIE1 slot then remove the bracket.



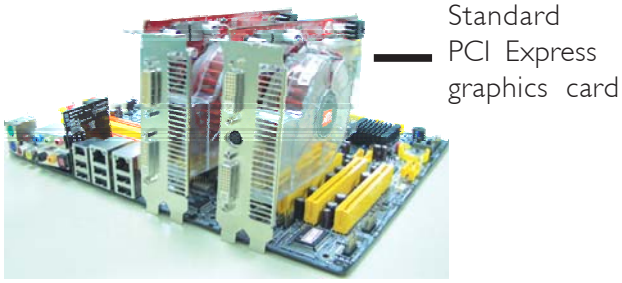
3. Align the CrossFire Edition graphics card (Master) above the PCIE1 slot then press it down firmly until it is completely seated in the slot.



4. Secure the graphics card with the screw you removed in step 2.
5. Remove the screw of the bracket that is opposite the PCIE3 slot then remove the bracket.

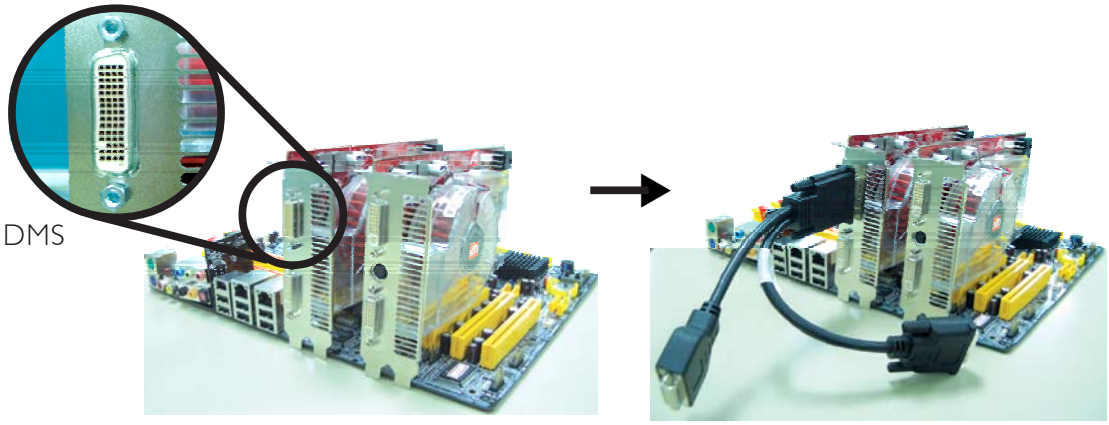


6. Align the standard PCI Express graphics card (Slave) above the PCIE3 slot then press it down firmly until it is completely seated in the slot.

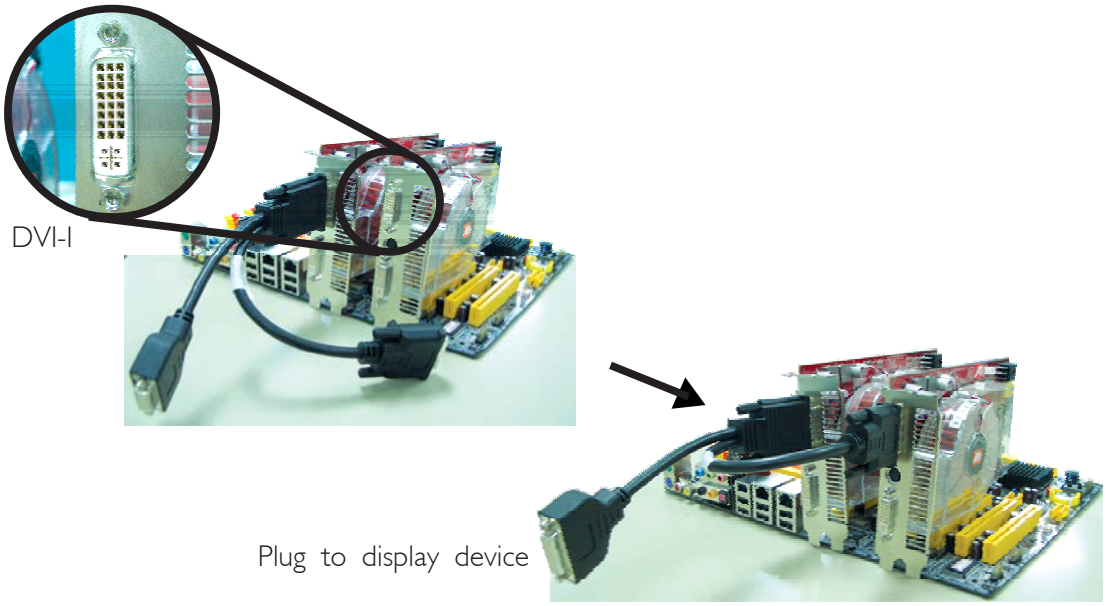


7. Secure the graphics card with the screw you removed in step 5.

8. The CrossFire Edition graphics card comes with a cable. Plug the cable connector to the DMS connector of the CrossFire Edition graphics card as shown below.



9. Now plug the other cable connector to the DVI-I connector of the standard PCI Express graphics card then the last cable connector to a display device.



10. Connect auxiliary power source from the power supply unit to the graphics cards.

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

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

    a. Set the "Dual Slot Configuration" field to Enabled.
    b. Set the "GFX0 Link Width" and "GFX1 Link Width" fields to x8.

Dual Slot Configuration	Enabled
GFX0 Link Width	x8
GFX1 Link Width	x8

13. Save and exit the BIOS. Power-on the monitor first then restart the system so that Windows can detect the new hardware settings.

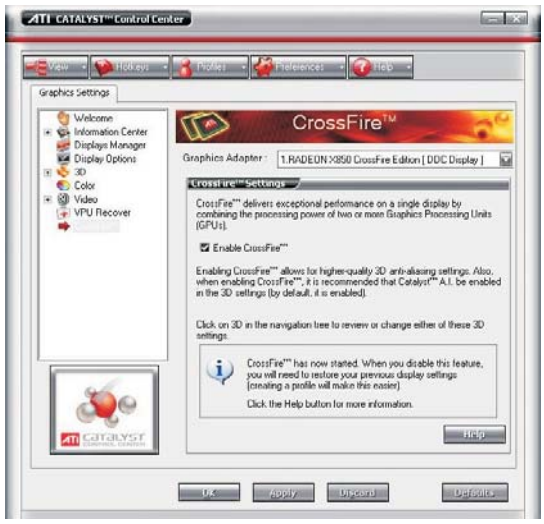
14. Install the graphics cards' drivers then restart the system for the drivers to take effect.

15. When you enter the operating system, you will notice the ATI Catalyst Control Center icon added onto your desktop. Double-click this icon.

16. Click the View tab then select Custom View.

17. In the Graphics Settings menu (left side of screen), click CrossFire. The CrossFire Settings screen will appear on the main window. Click "Enable CrossFire" then click "Yes" to continue.

18. The screen on the right indicates that CrossFire has been enabled. Make sure to restart the PC for CrossFire to take effect.



Chapter 3 - BIOS Setup

Award BIOS Setup Utility

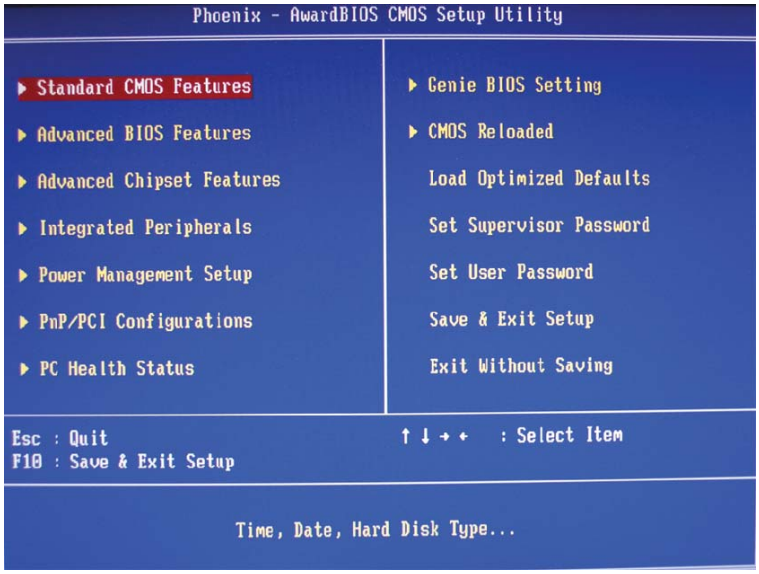
The Basic Input/Output System (BIOS) is a program that takes care of the basic level of communication between the processor and peripherals. In addition, the BIOS also contains codes for various advanced features found in this system board. This chapter explains the Setup Utility for the Award BIOS.

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:

Press DEL to enter setup

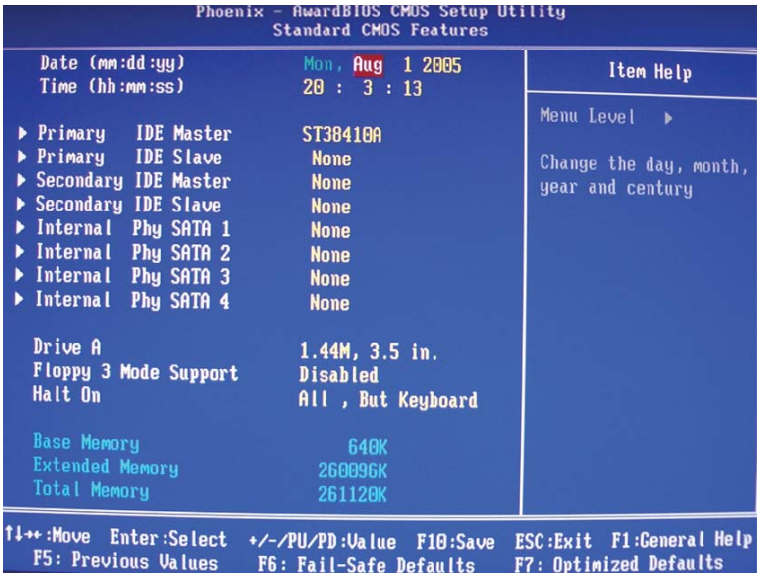
If the message disappears before you respond, restart the system or press the "Reset" button. You may also restart the system by pressing the <Ctrl> <Alt> and <Del> keys simultaneously.

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



Standard CMOS Features

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



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

Date

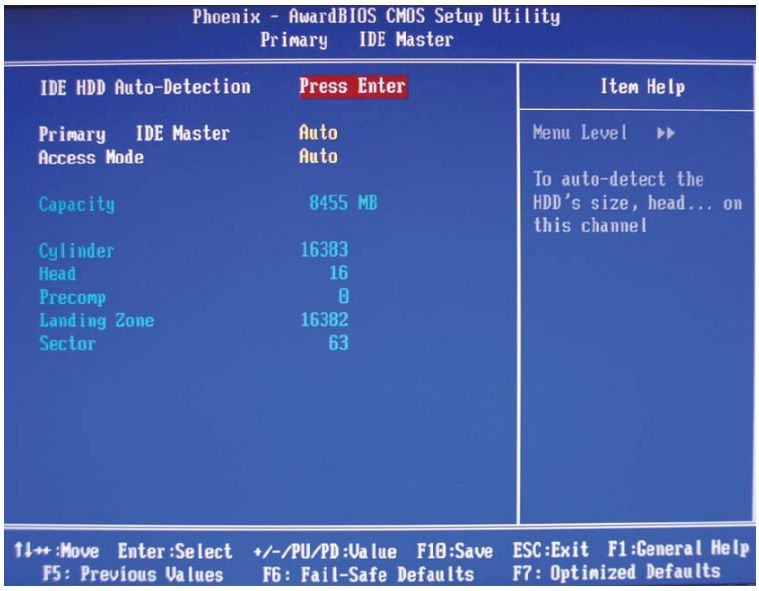
The date format is <day>, <month>, <date>, <year>. Day displays a day, from Sunday to Saturday. Month displays the month, from January to December. Date displays the date, from 1 to 31. Year displays the year, from 1994 to 2079.

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.

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

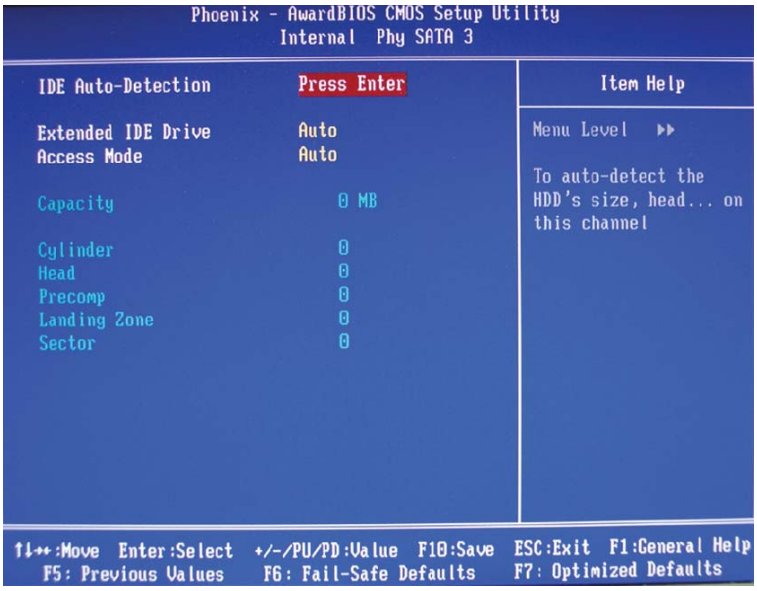
Move the cursor to a field then press <Enter>. The following screen will appear.



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

Internal Phy SATA 1, Internal Phy SATA 2, Internal Phy SATA 3 and Internal Phy SATA 4

Move the cursor to a field then press <Enter>. The following screen will appear.



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.

Primary IDE Master/Slave and Secondary IDE Master/Slave

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 CHS 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.

Drive A

This field identifies the type of floppy disk drive 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

Floppy 3 Mode Support

The options are Enabled and Disabled.

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.

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.

Extended Memory

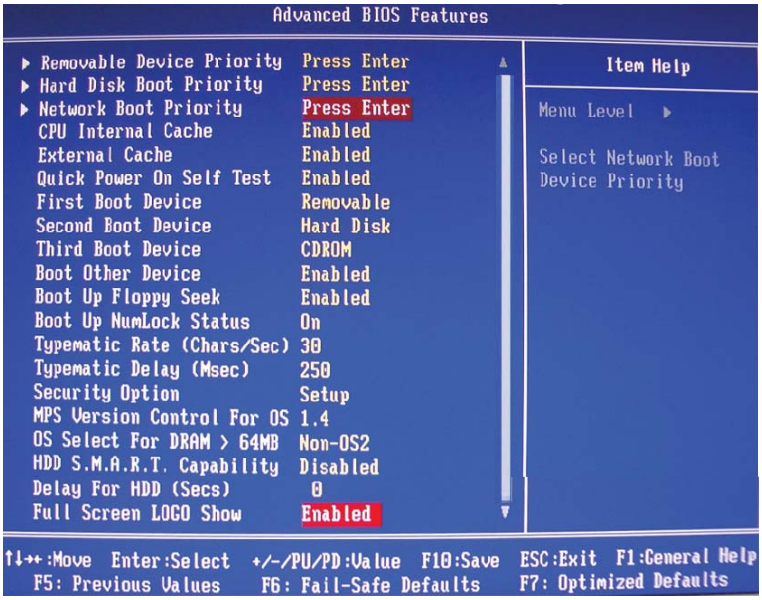
Displays the amount of extended memory detected during boot-up.

Total Memory

Displays the total memory available in the system.

Advanced BIOS Features

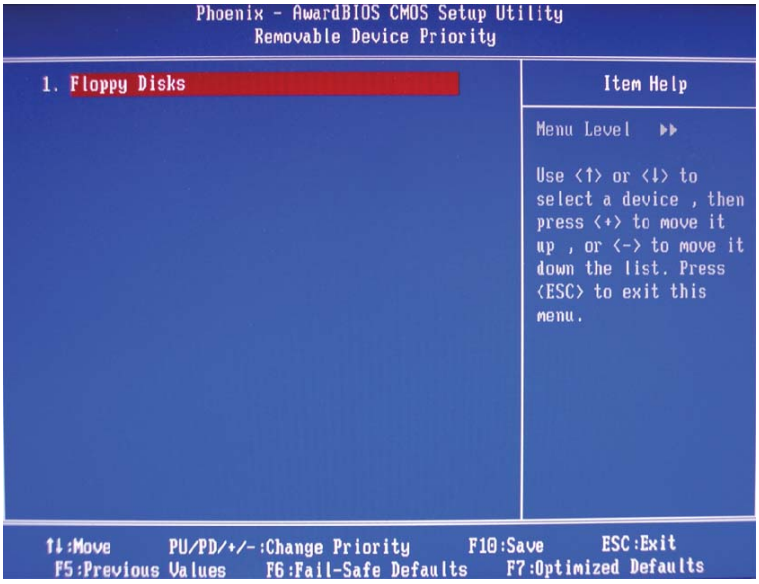
The Advanced BIOS Features allows you to configure your system for basic operation. Some entries are defaults required by the system board, while others, if enabled, will improve the performance of your system or let you set some features according to your preference.



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.

Removable Device Priority

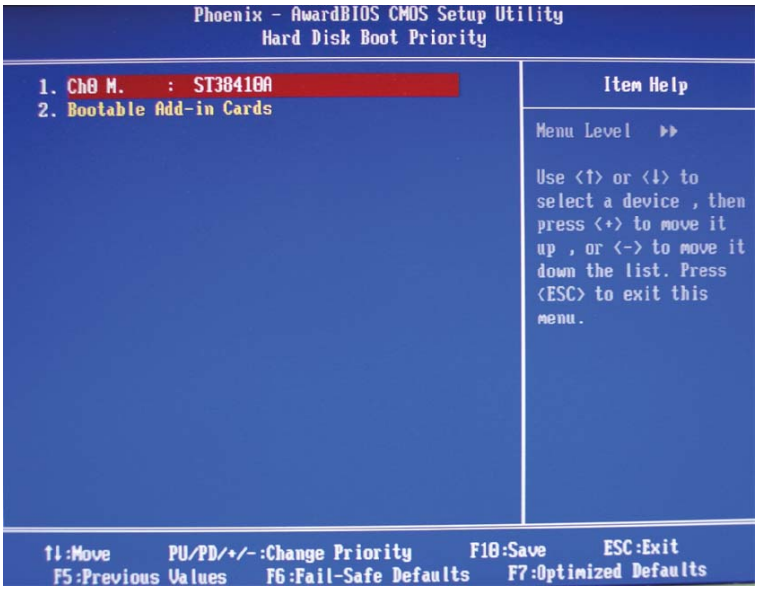
This field is used to select the boot sequence of the removable devices. Move the cursor to this field then press <Enter>. Use the Up or Down arrow keys to select a device then press <+> to move it up or <-> to move it down the list.



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

Hard Disk Boot Priority

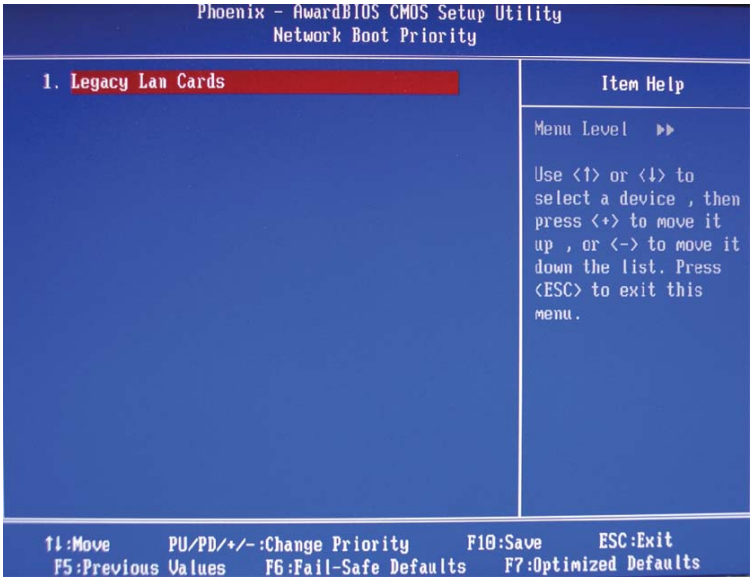
This field is used to select the boot sequence of the hard drives. Move the cursor to this field then press <Enter>. Use the Up or Down arrow keys to select a device then press <+> to move it up or <-> to move it down the list.



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

Network Boot Priority

This field is used to select the boot sequence of the network. Move the cursor to this field then press <Enter>. Use the Up or Down arrow keys to select a device then press <+> to move it up or <-> to move it down the list.



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

CPU Internal Cache and External Cache

These fields speed up the memory access. The default is Enabled, which provides better performance by enabling cache.

Quick Power On Self Test

This field speeds up Power On Self Test (POST) whenever the system is powered on. The BIOS will shorten or skip some check items during POST. To attain the shortest POST time, select "Enabled".

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.

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.

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.

Typematic Rate (Chars/Sec)

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

Typematic Delay (Msec)

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

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.

MPS Version Control for OS

This field is used to select the MPS version that the system board is using.

OS Select for DRAM > 64MB

Select the "OS2" option only if the system that is running an OS/2 operating system has greater than 64MB RAM.

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.

Delay for HDD (Secs)

This field is used to select the time that would delay the HDD controller's initial time. This is specially useful for some HDDs which will not be ready at first boot when you power-on the system.

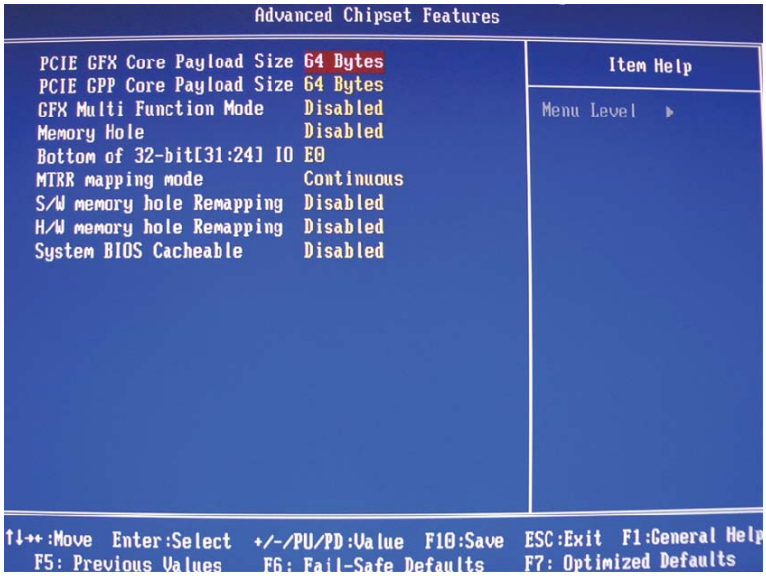
Full Screen Logo Show

This field is applicable only if you want a particular logo to appear during system boot-up.

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

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

Advanced Chipset Features



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.

PCIE GFX Core Payload Size

The options are 16 Bytes, 32 Bytes and 64 Bytes.

PCIE GPP Core Payload Size

The options are 16 Bytes, 32 Bytes and 64 Bytes.

GFX Multi Function Mode

This field is used to enable the GFX multi function mode.

Memory Hole

The options are Enabled and Disabled.

Bottom of 32-bit [31:24] IO

This field is used to select the memory that will be remapped to another address higher than 00E0.

MTRR Mapping Mode

This field is used to disable or continue the MTRR mapping mode.

S/W Memory Hole Remapping

This field is used to enable the software to remap the physical memory to an address higher than 00E0.

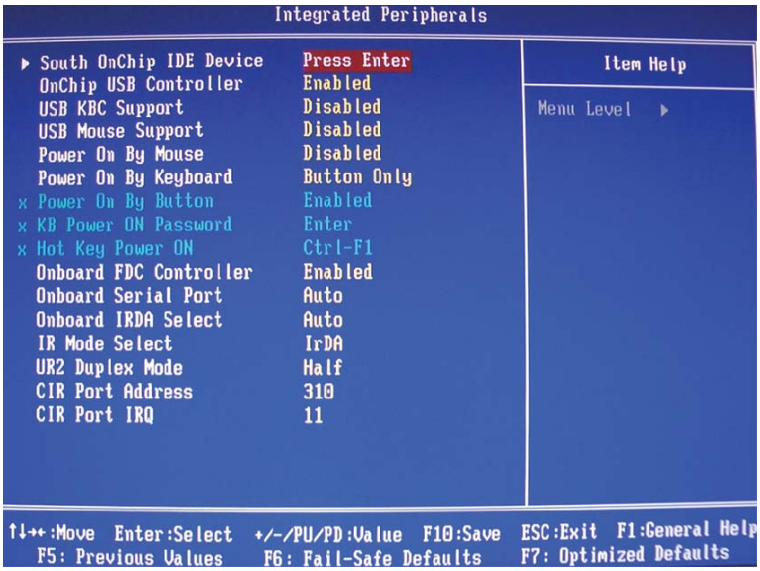
H/W Memory Hole Remapping

This field is used to enable the hardware to remap the physical memory to an address higher than 00E0.

System BIOS Cacheable

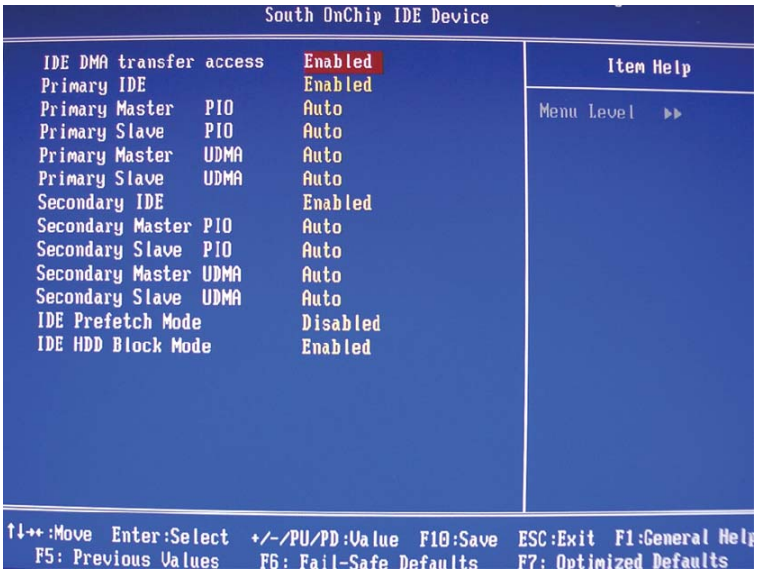
When this field is enabled, accesses to the system BIOS ROM addressed at F0000H-FFFFFH are cached, provided that the cache controller is enabled. The larger the range of the Cache RAM, the higher the efficiency of the system.

Integrated Peripherals



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

South OnChip IDE Device



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

IDE DMA Transfer Access

This field is used to enable or disable the DMA transfer function of an IDE hard drive.

Primary IDE and 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.

Primary Master/Slave PIO and 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.

Primary Master/Slave UDMA and 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.

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.

OnChip USB Controller

This field is used to enable or disable the onboard USB.

USB KBC Support

If you are using a USB keyboard device, set this field to Enabled.

USB Mouse Support

If you are using a USB mouse, set this field to Enabled.

Power On By Mouse

Disabled Disables the power on by mouse function.

Mouse Move When this option is selected, move the mouse to power-on the system.

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

Power On By Keyboard

Button only 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.

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.

Power On By Button

Set this field to Enabled if you are using the power button to power-on the system.

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.

Hot Key Power On

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

Onboard FDC Controller

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

Onboard Serial Port

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.

Onboard IRDA Select

Auto	Automatically detects the IrDA device.
Disabled	Disables the onboard IrDA.

IR Mode Select

This field is used to select the type of IrDA standard supported by your IrDA device. For better transmission of data, your IrDA peripheral device must be within a 30° angle and within a distance of 1 meter.

UR2 Duplex Mode

Half Data is completely transmitted before receiving data.
Full Transmits and receives data simultaneously.

CIR Port Address

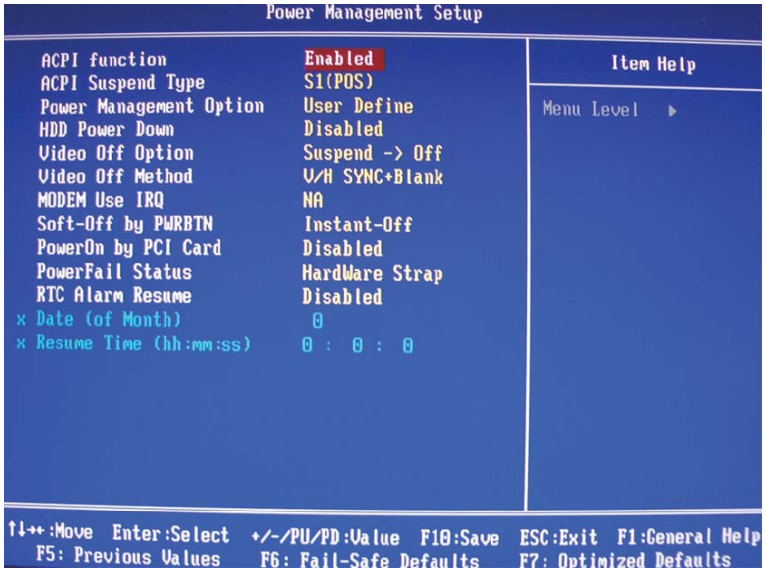
This field is used to select an I/O address for the CIR device.

CIR Port IRQ

This field is used to select an IRQ for the CIR device.

Power Management Setup

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



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

ACPI Function

This function should be enabled only in operating systems that support ACPI. Currently, only Windows® 98SE/2000/ME/XP supports this function. When this field is enabled, the system will ignore the settings in the "HDD Power Down" field. If you want to use the Suspend to RAM function, make sure this field is enabled then select "S3(STR)" in the field below.

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.

Power Management Option

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

HDD Power Down

This is selectable only when the Power Management field is set to User Define. When the system enters the HDD Power Down mode according to the power saving time selected, the hard disk drive will be powered down while all other devices remain active.

Video Off Option

Always On	The system BIOS will never turn off the screen.
Suspend -> Off	The screen is off when the system is in the Suspend mode.
All Modes -> Off	The screen is off when the system is in the Doze, Standby or Suspend mode.

Video Off Method

This determines the manner in which the monitor is blanked.

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

MODEM Use IRQ

This field is used to set an IRQ channel for the modem installed in your system.

Soft-Off by PWRBTN

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

Delay 4 Sec. Regardless of whether the Power Management function 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.

PowerOn by PCI Card

Enabled This field should be set to Enabled only if your PCI card such as LAN card or modem card uses the PCI PME (Power Management Event) signal to remotely wake up the system. Access to the LAN card or PCI card will cause the system to wake up. Refer to the card's documentation for more information.

Disabled The system will not wake up despite access to the PCI card.

PowerFail Status

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.

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

Former-Sts 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.

RTC Alarm Resume

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

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

Day (of Month)

0 The system will power-on everyday according to the time set in the "Time (hh:mm:ss) Alarm" field.

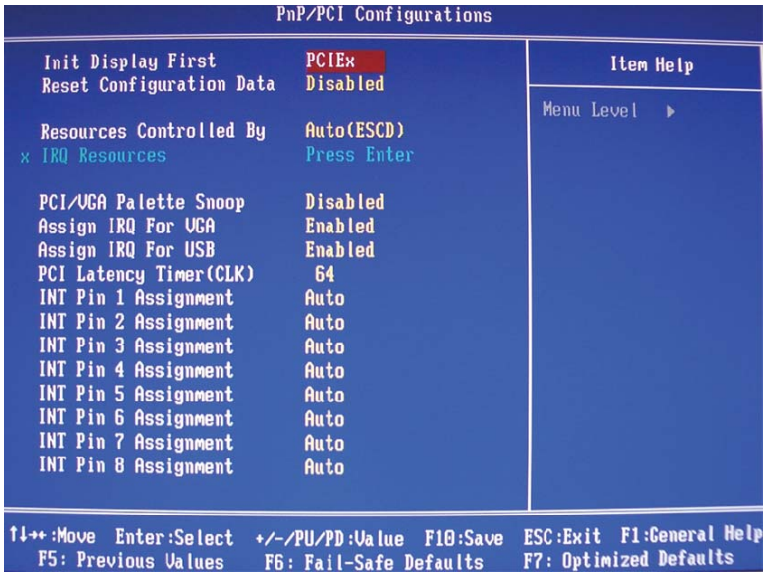
1-31 Select a date you would like the system to power-on. The system will power-on on the set date, and time set in the "Time (hh:mm:ss) Alarm" field.

Time (hh:mm:ss)

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

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.



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

Init Display First

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

PCIEx When the system boots, it will first initialize the PCI Express x16 graphics card.

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

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.

Resources Controlled By

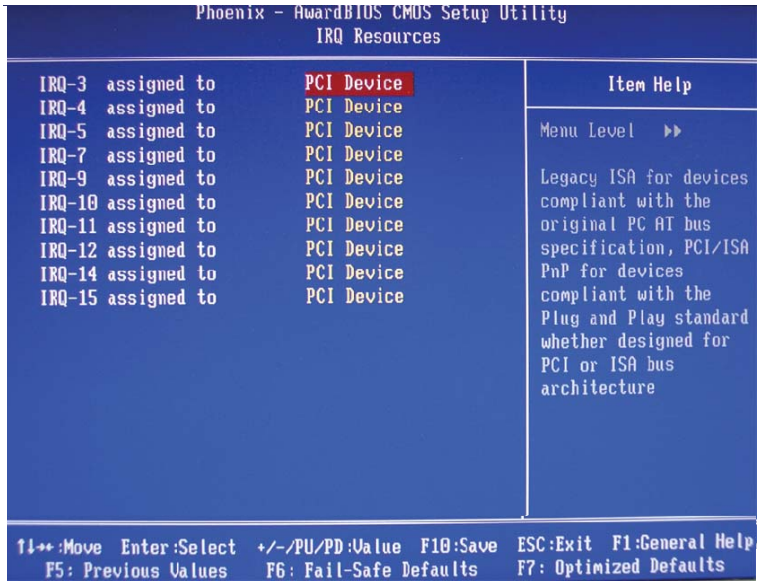
The Award Plug and Play BIOS has the capability to automatically configure all of the boot and Plug and Play compatible devices.

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

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

IRQ Resources

Move the cursor to this field and press <Enter>. This field is used to set each system interrupt to either Reserved or PCI Device.



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

PCI/VGA Palette Snoop

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

Enabled MPEG ISA/VESA VGA cards work with PCI/VGA.

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

Assign IRQ for VGA

When Enabled, the system automatically assigns an IRQ for the VGA card installed. Your VGA card will need an IRQ only when using the video capture function of the card. If you are not using this function and a new device requires an IRQ, you can set this field to Disabled. The IRQ (previously occupied by the VGA card) will be available for your new device.

Assign IRQ for USB

When Enabled, the system automatically assigns an IRQ for the USB device connected to your system. However, if you are not using USB devices and an ISA slot requires an IRQ, set this field to Disabled. The IRQ previously occupied by the USB device will be available for the ISA slot.

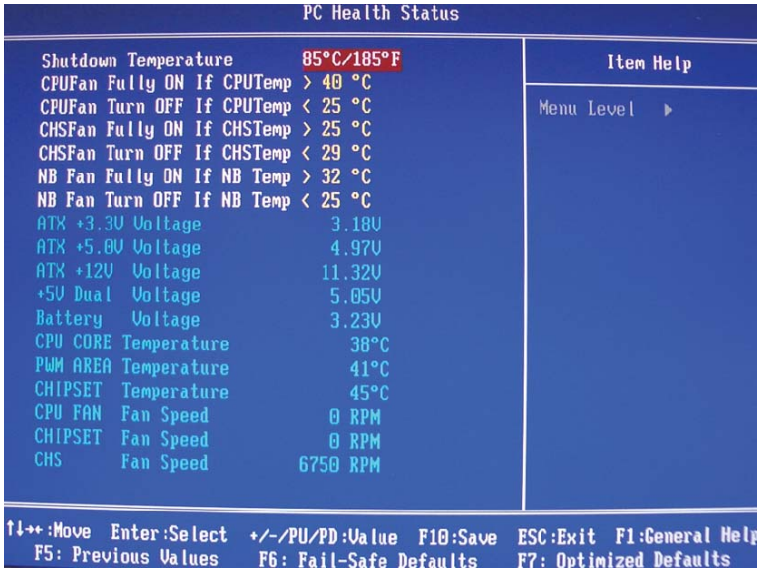
PCI Latency Timer (CLK)

This feature is used to select the length of time each PCI device will control the bus before another takes over. The larger the value, the longer the PCI device can retain control of the bus. Since each access to the bus comes with an initial delay before any transaction can be made, low values for the PCI Latency Timer will reduce the effectiveness of the PCI bandwidth while higher values will improve it.

INT Pin 1 Assignment to INT Pin 8 Assignment

By default, a device is automatically assigned to each INT. You can also manually assign an INT for each device.

PC Health Status



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

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.

CPUFan Fully On If CPUTemp

This field is used to select the CPU temperature that will allow the CPU fan to rotate at full speed.

CPUFan Turn Off If CPUTemp

This field is used to select the CPU temperature that will allow the CPU fan to rotate at a start speed which is the slowest speed.

Note:

1. *If the CPU temperature runs between the highest (set in the "CPUFan Fully On If CPUTemp" field) and lowest (set in the "CPUFan Turn Off If CPUTemp" field) temperature, the system will automatically adjust the CPU fan's speed according to the temperature.*
2. *If you want to reduce the CPU fan's noise or prevent CPU overheat, select a lower temperature in the "CPUFan Fully*

On If CPUTemp" field to allow the CPU fan to rotate full speed at the selected lower temperature.

CHSFan Fully On If CHSTemp

This field is used to select the system temperature that would allow Fan 2 to rotate at full speed.

CHSFan Turn Off If CHSTemp

This field is used to select the system temperature that would allow Fan 2 to rotate at a start speed which is the slowest speed.

Note:
If the system temperature runs between the highest (set in the "CHSFan Fully On If CHSTemp" field) and lowest (set in the "CHSFan Turn Off If CHSTemp" field) temperature, the system will automatically adjust Fan 2's speed according to the temperature.

NB Fan Fully On If NB Temp

This field is used to select the NB's temperature that would allow the NB fan to rotate at full speed.

NB Fan Turn Off If NB Temp

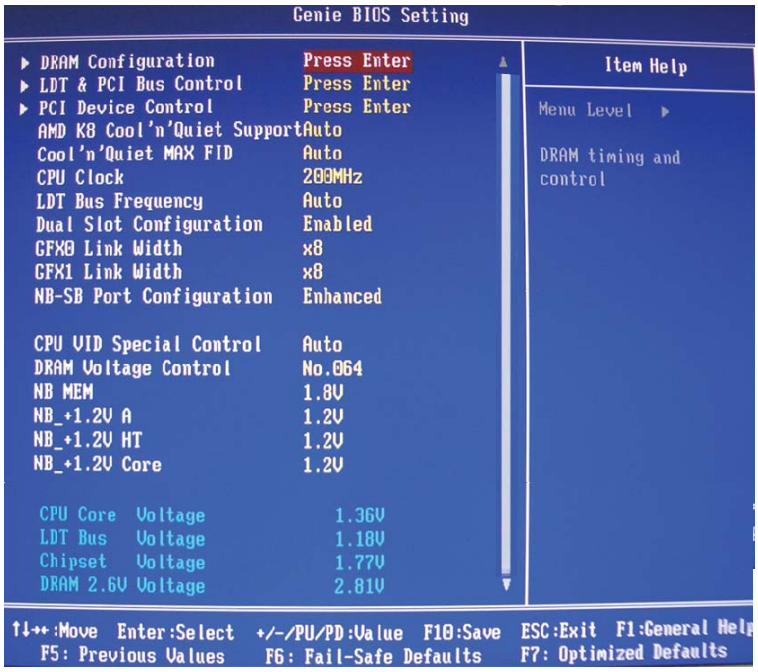
This field is used to select the NB's temperature that would allow the NB fan to rotate at a start speed which is the slowest speed.

Note:
If the system temperature runs between the highest (set in the "NB Fan Fully On If NB Temp" field) and lowest (set in the "NB Fan Turn Off If NB Temp" field) temperature, the system will automatically adjust NB Fan's speed according to the temperature.

ATX +3.3V Voltage to CHS Fan Speed

These fields will show the output voltage, temperature and fan speed of the monitored devices or components.

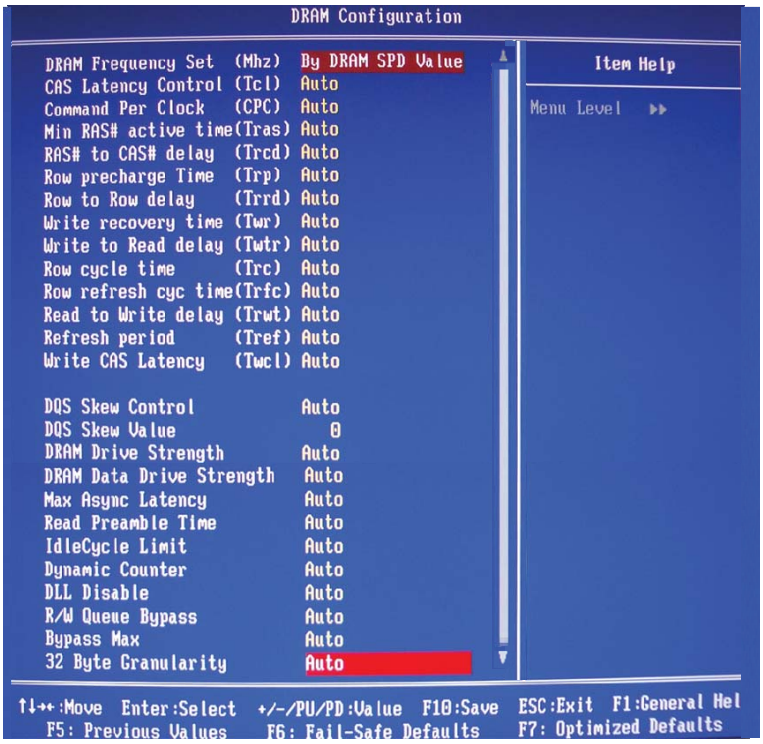
Genie BIOS Setting



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

DRAM Configuration

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



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

DRAM Frequency Set (Mhz)

This field is used to set a memory clock limit on the system. This will prevent the memory speed from running faster than this frequency.

CAS Latency Control (Tcl)

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

Command Per Clock (CPC)

This field is used to enable the DRAM commands and address that will be driven for 2 clock cycles and select the second phase of the 2 clock command and address.

Min RAS# Active Time (Tras)

This field is used to select the minimum time RAS takes to read from and write to a memory cell.

RAS# to CAS# Delay (Trcd)

When DRAM refreshes, both rows and columns are addressed separately. This field is used to select the delay time from RAS (Row Address Strobe) to CAS (Column Address Strobe) when reading and writing to the same bank. The lesser the clock cycle, the faster the DRAM's performance.

Row Precharge Time (Trp)

This field is used to select the number of cycles that is allowed for Row Address Strobe (RAS) to precharge. If insufficient time is allowed for the RAS to accumulate its charge before DRAM refreshes, refreshing may be incomplete and DRAM may fail to retain data.

Row to Row Delay (Trrd)

This field is used to select the row to row delay time of different banks.

Write Recovery Time (Twr)

This field is used to select the write recovery time when the DRAM safely registers the last write data. This is the time from the last write data to precharge.

Write to Read Delay (Twtr)

This field is used to select the write to read delay time. This is measured from the rising edge of the last non-masked data strobe to the rising edge of the next read command.

Row Cycle Time (Trc)

This field is used to select the row cycle time, RAS# active or auto refresh of the same bank.

Row Refresh Cyc Time (Trfc)

This field is used to select the row refresh cycle time. Auto refresh active to RAS# active or RAS# to auto refresh - similar to Trc.

Read to Write Delay (Trwt)

This field is used to select the read to write delay time. Although this is not a DRAM specified timing parameter, it is related to the routing latencies on the clock forwarded bus. This is measured from the first address bus slot which is not associated with part of the read burst.

Refresh Period (Tref)

This field is used to select the number of clock cycles between each refresh.

Write CAS Latency (Twcl)

This field is used to select the write CAS latency time.

DQS Skew Control

The options are Auto, Increase Skew and Decrease Skew.

DQS Skew Value

This field is used to select a DQS skew value.

DRAM Drive Strength

This field is used to select a level of the DRAM drive strength.

DRAM Data Drive Strength

The options are Auto, Level 1, Level 2, Level 3 and Level 4.

Max Async Latency

This field is used to select the DRAM maximum asynchronous latency time.

Read Preamble Time

This field is used to select the time prior to the max-read DOS return when the DOS receiver is turned on.

Idle Cycle Limit

This field is used to select the cycle of MemCLKs before forcibly closing (precharging) an open page.

Dynamic Counter

This field is used to enable the dynamic idle cycle counter.

DLL Disable

The options are Auto, Enable and Disable.

R/W Queue Bypass

This field is used to select the number of times the first operation in the DCI read/write queue can be bypassed before the arbiter is overridden and the first operation is chosen.

Bypass Max

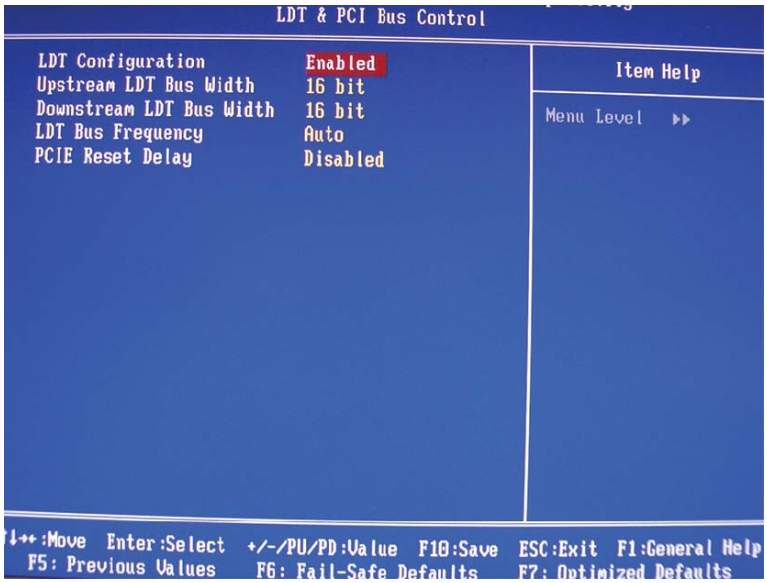
This field is used to select the number of times the first entry in DCQ can be bypassed in arbitration before the arbiter choice is disallowed.

32 Byte Granularity

This field is used to determine whether the burst counter should be enabled to optimize data bus bandwidth for 32-byte access.

LDT & PCI Bus Control

This field is used to configure the LDT. Move the cursor to this field then press <Enter>.



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

LDT Configuration

Set this field to Enabled to configure LDT.

Upstream LDT Bus Width

This field is used to select the utilized upstream data width of the HyperTransport link.

Downstream LDT Bus Width

This field is used to select the utilized downstream data width of the HyperTransport link.

LDT Bus Frequency

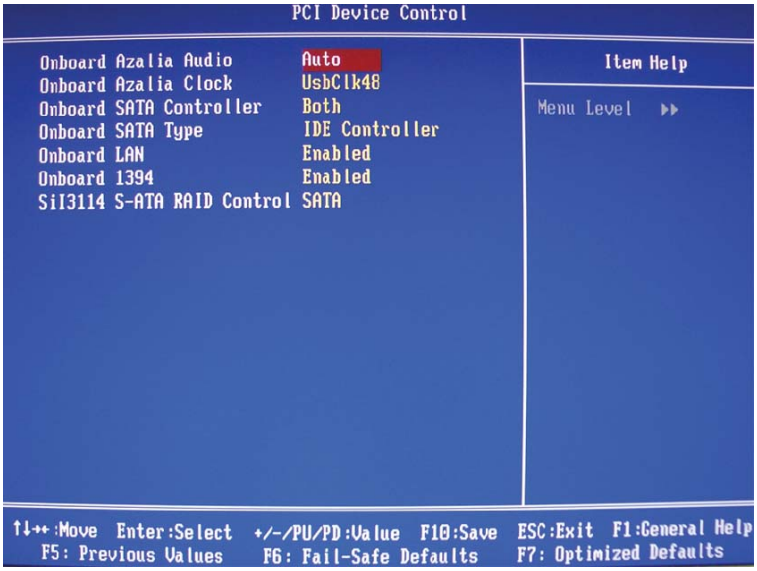
This field is used to select the maximum bus frequency of the link's transmitter clock.

PCIE Reset Delay

This field is used to enable or disable the reset delay of the PCI Express slot.

PCI Device Control

Move the cursor to this field then press <Enter>.



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

Onboard Azalia Audio

Auto	The system automatically detects the onboard audio.
Disabled	Disables the onboard audio.

Onboard Azalia Clock

This field is used to select the audio's clock.

Onboard SATA Controller

This field is used to select the SATA interface you want enabled.

Onboard SATA Type

This field is used to configure SATA 1 to SATA 4 in IDE or RAID mode.

Onboard LAN

This field is used to enable or disable the onboard LAN.

Onboard 1394

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

Sil3114 S-ATA RAID Control

This field is used to configure SATA 5 to SATA 8 that is supported by the Silicon Image Sil 3114 chip.

AMD K8 Cool 'n' Quiet Support

Auto	Enables AMD's Cool'n'Quiet technology. This function allows the system to detect the CPU's tasks and utilization status. When the CPU's task slows down, the system effectively lowers power consumption by changing its CPU speed and voltage, subsequently decreasing its noise level.
Disabled	Disables AMD's Cool'n'Quiet technology.

Cool 'n' Quiet MAX FID

This field is used to select a value for the Cool 'n' Quiet FID.

CPU Clock

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.

LDT Bus Frequency

This field is used to select the maximum bus frequency of the link's transmitter clock.

Dual Slot Configuration

CrossFire requires using two graphics cards. If you are using this feature, set this field to Enabled.

GFX0 Link Width

The options are x1, x2, x4, x8, x12 and x16.

GFX1 Link Width

The options are x1, x2, x4, x8 and x12.

NB-SB Port Configuration

This field is used to configure the NB-SB port. The options are Default and Enhanced.

CPU VID Special Control

This field provides more options to further adjust the voltage of the CPU.

DRAM 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.

NB MEM

The options are 1.8V and 1.9V.

NB_+1.2V A

The options are 1.2V, 1.3V, 1.4V and 1.5V.

NB_+1.2V HT

The options are 1.2V, 1.3V, 1.4V and 1.5V.

NB_+1.2V Core

The options are 1.2V, 1.3V, 1.4V and 1.5V.

CPU Core Voltage

This field will show the CPU's current voltage.

LDT Bus Voltage

This field will show the LDT bus voltage.

Chipset Voltage

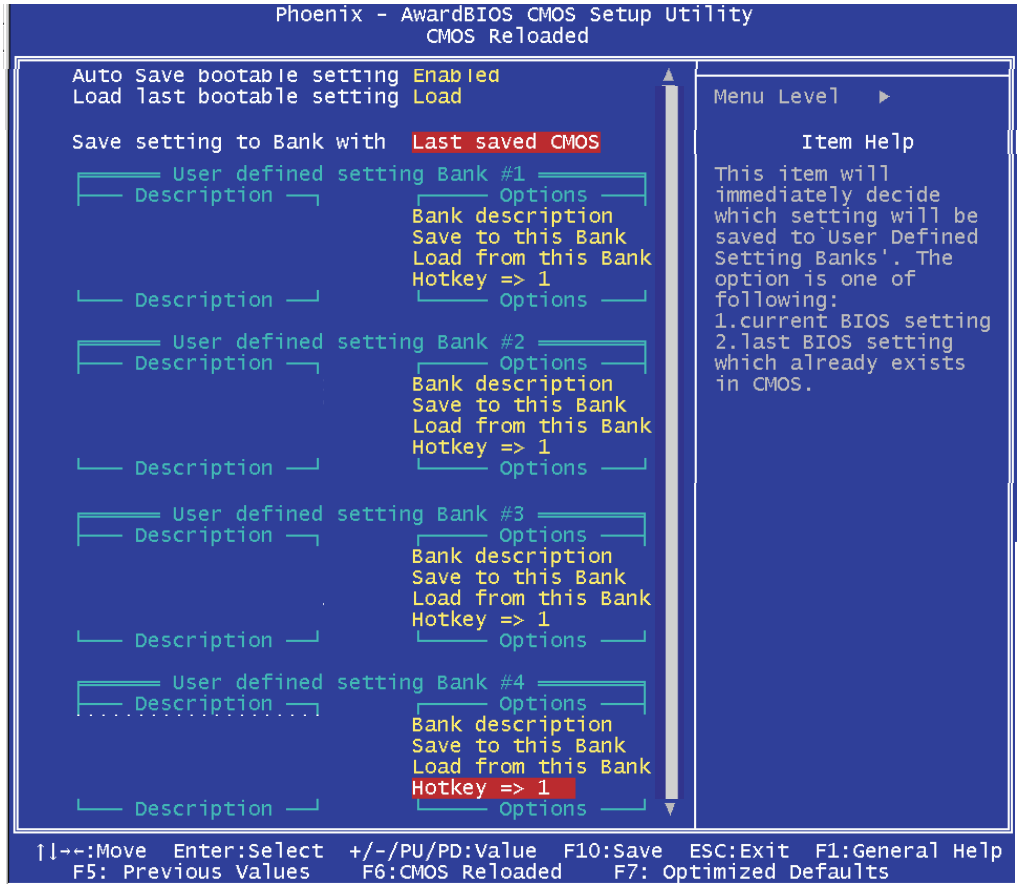
This field will show the chipset's current voltage.

DRAM 2.6V Voltage

This field will show the DRAM's current voltage.

CMOS Reloaded

The CMOS Reloaded submenu allows you to save different configurations and when needed, allows you to conveniently restore one of these previously saved configurations. Highlight CMOS Reloaded in the main menu then press <Enter>.



The screen above list all the fields available in the CMOS Reloaded 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.

CMOS Reloaded is especially helpful to overclockers who often go through the tiresome trial and error process of repeatedly changing the BIOS settings to come up with the most ideal overclocked setting. By being able to save and load the settings, it eliminates the tedious job of remembering several settings and/or repeatedly resetting settings during the trial process. The settings are stored in the SEEPROM. SEEPROM is divided into 5 banks - the backup bank and the 4 user defined banks.

Auto Save Bootable Setting

This field is used to automatically save the last bootable setting from CMOS to an area in the SEEPROM referred to as the backup bank. To use this function:

1. Set this field to Enabled.
2. Select "Save & Exit Setup" in the main menu then press <Enter>.
3. Type <Y> then press <Enter>.

If the changes to the setting allowed the system to boot, the setting will be stored in the SEEPROM. In other words, if the system did not boot up, the setting will not be stored. You may then follow the steps in the next section to load the last bootable setting.

Load Last Bootable Setting

If, during the trial and error process, the setting resulted to the system's instability or worse yet, not being able to boot up the system, please follow the steps below to use the Load function.

Note:
You can use the Load function only if you have set the "Auto Save Bootable Setting" to Enabled.

1. If the system did not boot up properly but you were able to enter the BIOS utility:
   a. Select "CMOS Reloaded" in the main menu then press <Enter>.
   b. Move the cursor to "Load Last Bootable Setting" then press "Load".
   c. Press <Y> to load the last bootable setting that was stored in the backup bank.
2. If you cannot enter the BIOS utility:
   a. Use JP2 to clear the CMOS. Refer to chapter 2 for more information about clearing CMOS.
   b. Enter the BIOS utility then perform steps 1a to 1c.

Saving, Loading and Naming BIOS Settings

For overclockers who require different sets of settings for various system environments or operating systems, CMOS Reloaded allows you to save, load and name up to four sets of BIOS settings - in the "User Defined Setting Bank #1" to "User Defined Setting Bank #4" fields.

Save Setting to Bank With

This field is used to select the type of setting you would like saved to a User Defined Setting Bank when you use the "Save to this Bank" function of that bank.

Current BIOS Setting	This option will save the current BIOS setting to the User Defined Setting Bank.
Last BIOS Setting	This option will save the last saved BIOS setting to the User Defined Setting Bank.

User Defined Setting Bank #1/2/3/4

Bank Description
To name the BIOS setting, move the cursor to "Bank Description" then press <Enter>. You can enter up to 60 characters. Providing a name to the BIOS setting will allow you to easily remember the settings in the bank.

Save to this Bank
To save the BIOS setting, move the cursor to "Save to this Bank" then press <Enter>. Type <Y> then press <Enter>. This will save the current setting or the last saved setting to this bank; depending on the option selected in the "Save Setting to Bank With" field.

If you want to immediately reboot to use the new settings, make sure to save before you exit the BIOS setup utility by selecting "Y" in the "Save & Exit Setup" submenu.

Load from this Bank

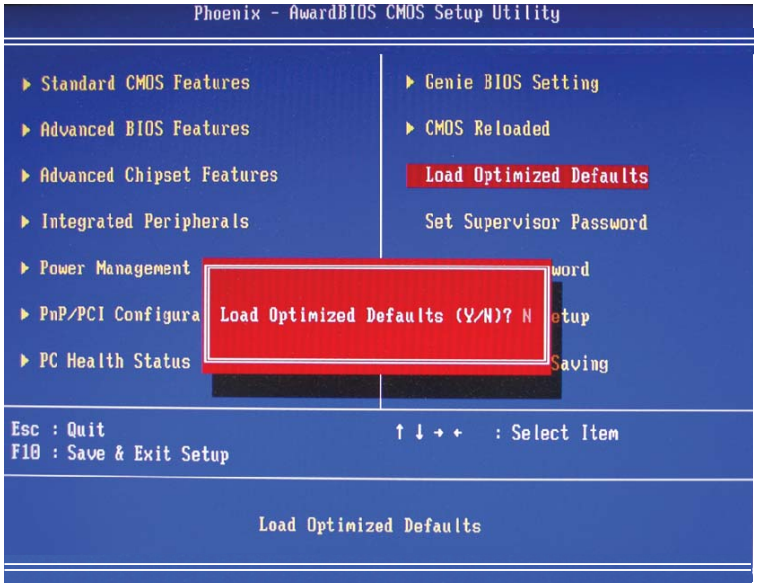
To load the setting saved in the bank, move the cursor to "Load from this Bank" then press <Enter>. The setting in this bank will replace the current setting. Make sure to save before you exit the BIOS setup utility by selecting "Y" in the "Save & Exit Setup" submenu.

Hotkey

You can now load a BIOS setting during system boot up; bypassing the lengthy process of entering the BIOS utility to load a setting. Move the cursor to "Hotkey" then press <Enter>. Select the key you would like to use to load the settings from the bank. When the system boots up, press the key to load the setting.

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>.

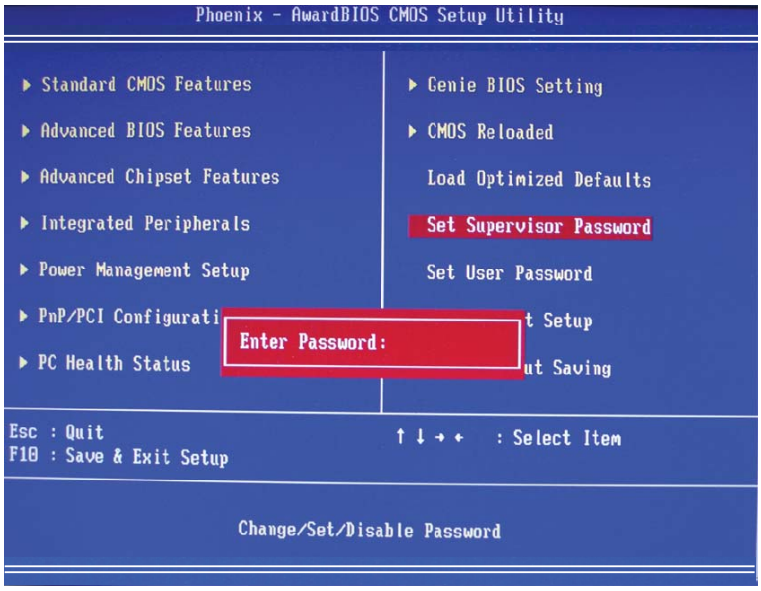


Type <Y> and press <Enter> to load the Setup default values.

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>.



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

Confirm Password:

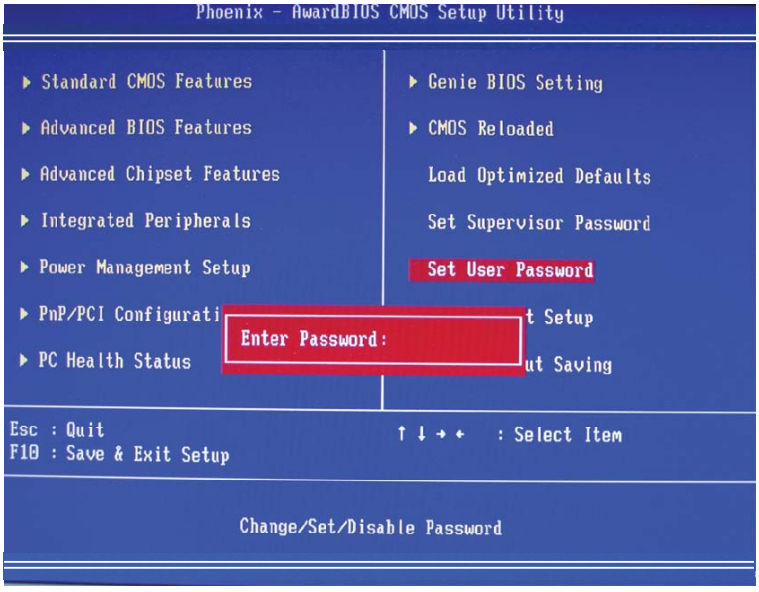
You are asked to verify the password. Type in exactly the same password. If you type in a wrong password, you will be prompted to enter the correct password again. To delete or disable the password function, highlight "Set Supervisor Password" and press <Enter>, instead of typing in a new password. Press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

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.

Use the arrow keys to highlight "Set User Password" and press <Enter>.



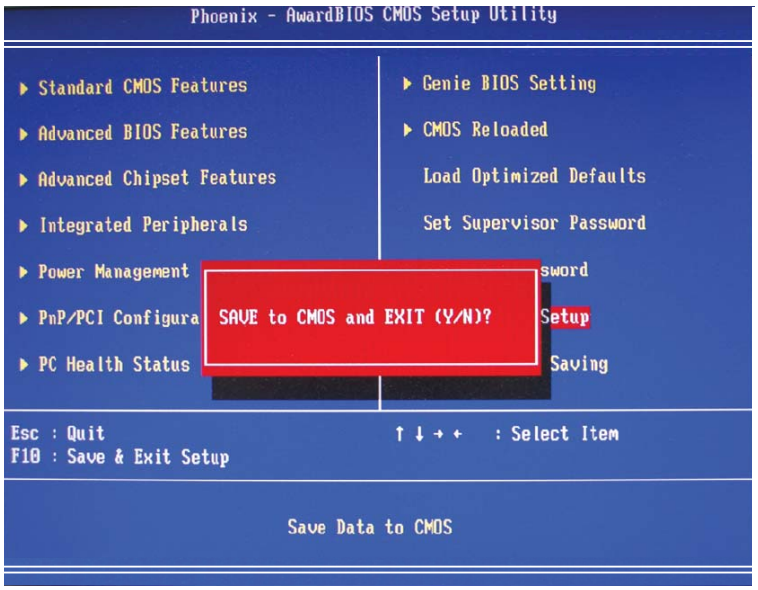
Type in the password. You are limited to eight characters. When done, the message below will appear:

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 User Password" and press <Enter>, instead of typing in a new password. Press the <Esc> key to return to the main menu.

Save & Exit Setup

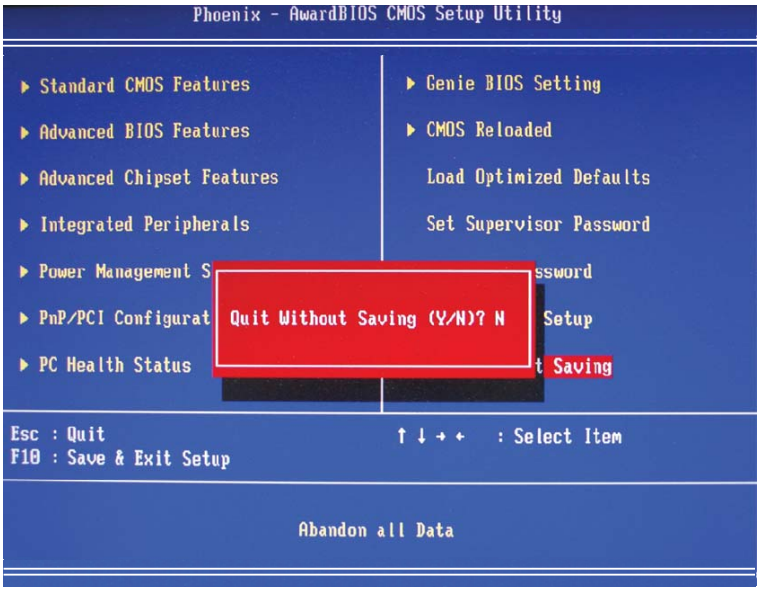
When all the changes have been made, highlight "Save & Exit Setup" and press <Enter>.



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.

Exit Without Saving

When you do not want to save the changes you have made, highlight "Exit Without Saving" and press <Enter>.



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.

ATI RAID BIOS

The ATI RAID BIOS utility, supported by the ATI SB450 chipset, is used to configure and manage RAID on Serial ATA drives connected to SATA 1 to SATA 4.

After you power up the system and all drives have been detected, the ATI BIOS status message screen will appear. Press the <F4> key to enter the utility. The utility allows you to build a RAID system on Serial ATA drives.

Important:

Before creating RAID:

- *Make sure you have connected the Serial ATA drives.*
- *Select the Serial ATA ports you want enabled in the "Onboard SATA Controller" field. (Integrated Peripherals submenu - "South OnChip PCI Device" section)*
- *Set the "Onboard SATA Type" to RAID. (Integrated Peripherals submenu - "South OnChip PCI Device" section)*

Sil3114 SataRAID BIOS

The Sil3114 SataRAID BIOS utility, supported by the Silicon Image Sil 3114 chip, is used to configure and manage RAID on Serial ATA drives connected to SATA 5 to SATA 8.

After you power up the system and all hard disk drives have been detected, the Sil3114 SataRAID BIOS status message screen will appear. Press the <Ctrl-S> or <F4> key to enter the utility. The utility allows you to build a RAID system on Serial ATA drives.

Important:

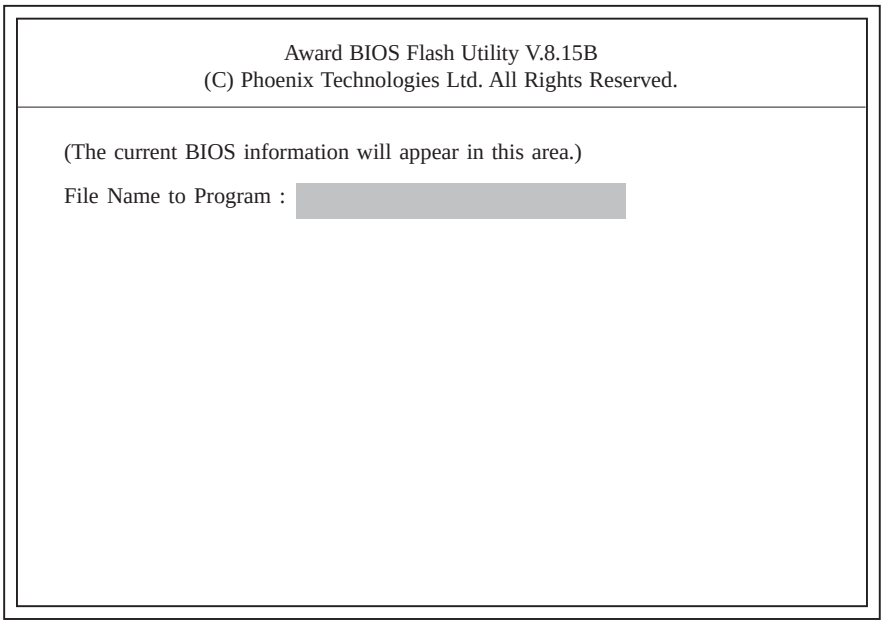
Before creating RAID:

- *Make sure you have connected the Serial ATA drives.*
- *Select the Serial ATA ports you want enabled in the "Onboard SATA Controller" field. (Integrated Peripherals submenu - "South OnChip PCI Device" section)*
- *Set the "Sil3114 S-ATA RAID Control" field to "SATA RAID". (Integrated Peripherals submenu - "South OnChip PCI Device" section)*

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.



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

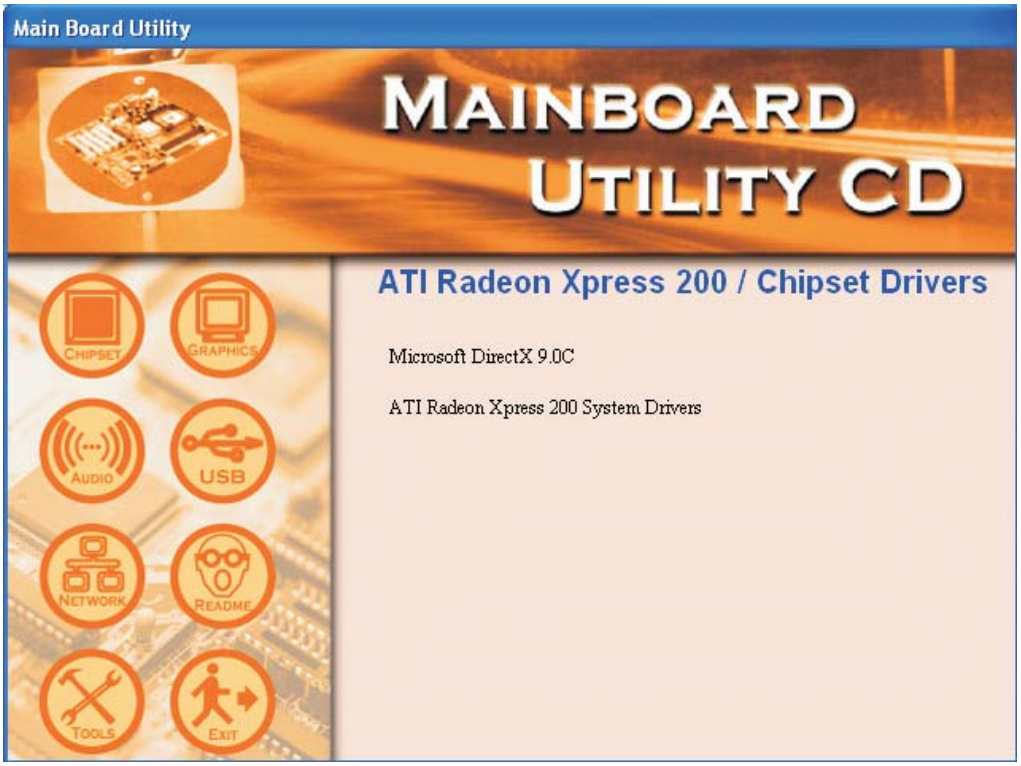
8. Press <Y> to flash the new BIOS.

Chapter 4 - Supported Software

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".

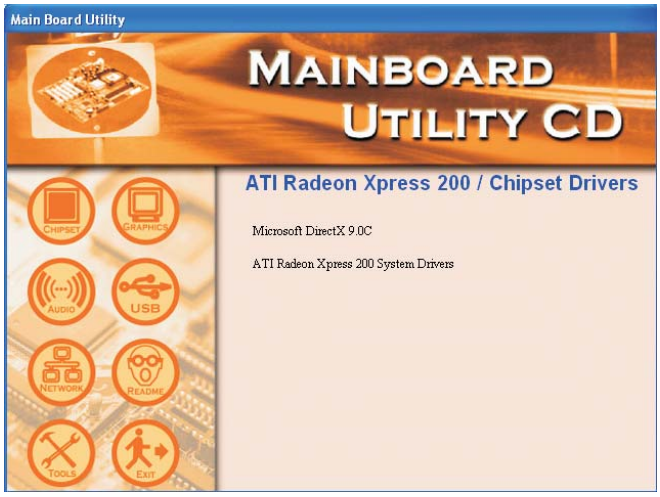


Important:
You must first install Microsoft DirectX 9.0C prior to installing any drivers.

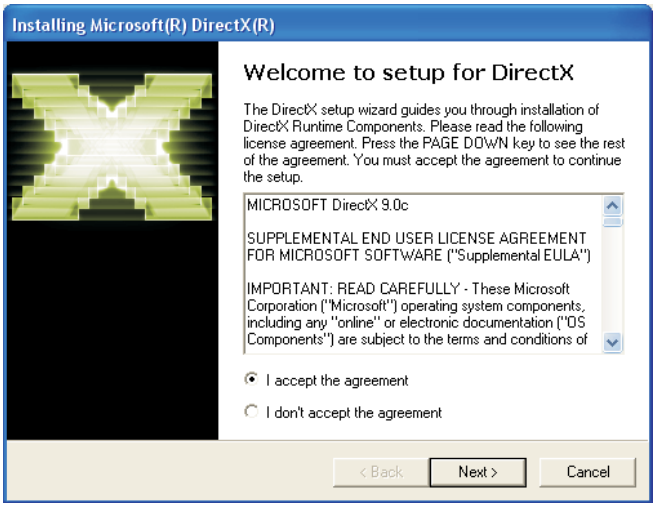
Microsoft DirectX 9.0C

When you insert the CD, the default menu that will appear is the Chipset Drivers menu. If in any case it is not, click the "CHIPSET" icon that is on the left side of the autorun screen.

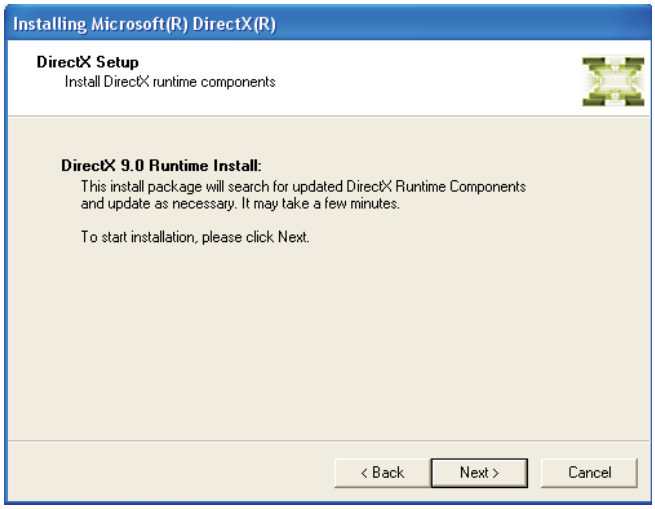
1. Click "Microsoft DirectX 9.0C" on the main menu.



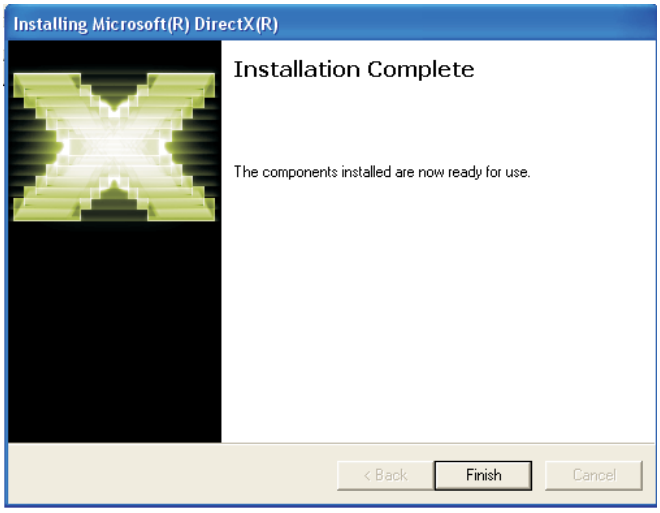
2. Click "I accept the agreement" then click Next.



3. You are now ready to install DirectX. Click Next.



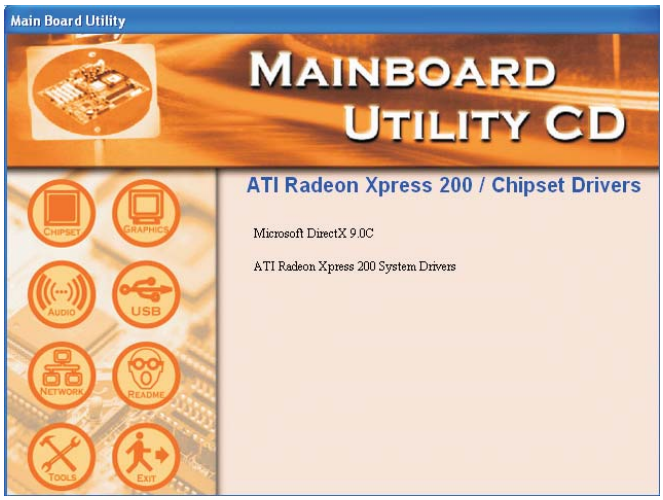
4. Click Finish. Reboot the system for DirectX to take effect.



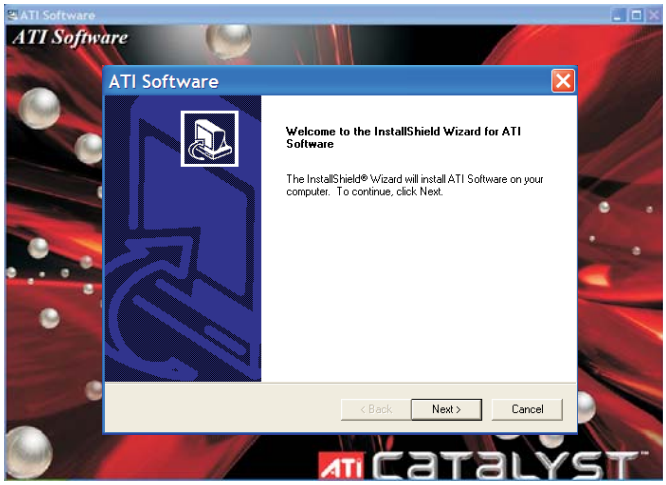
ATI Radeon Xpress 200 System Drivers

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

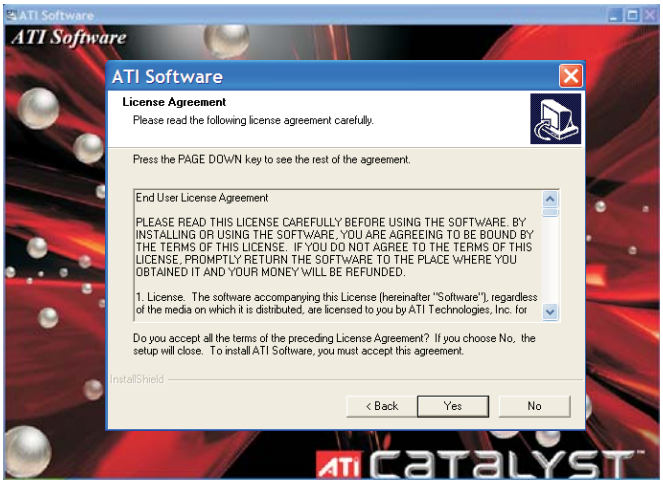
1. Click "ATI Radeon Xpress 200 System Drivers" on the main menu.



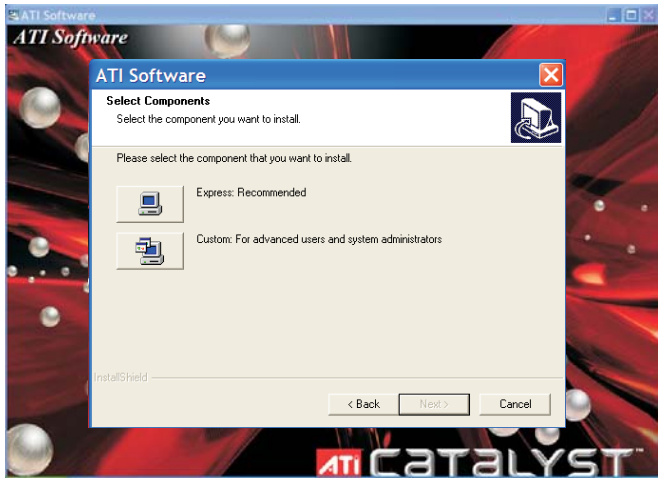
2. The installation wizard will extract the files needed to install the driver. After all files have been extracted, click Next.



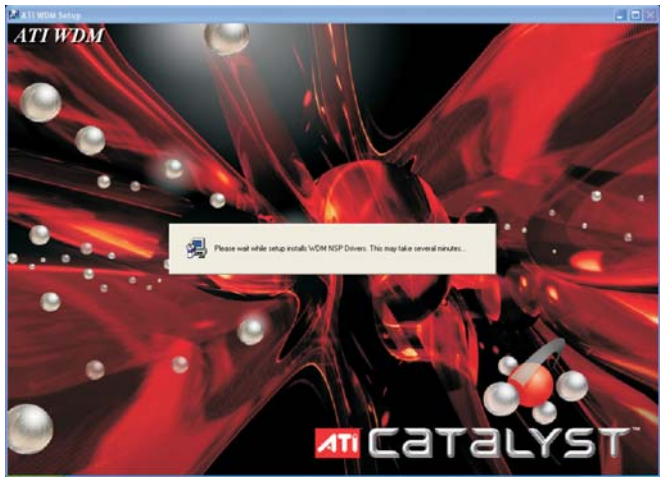
3. Read the license agreement then click Yes.



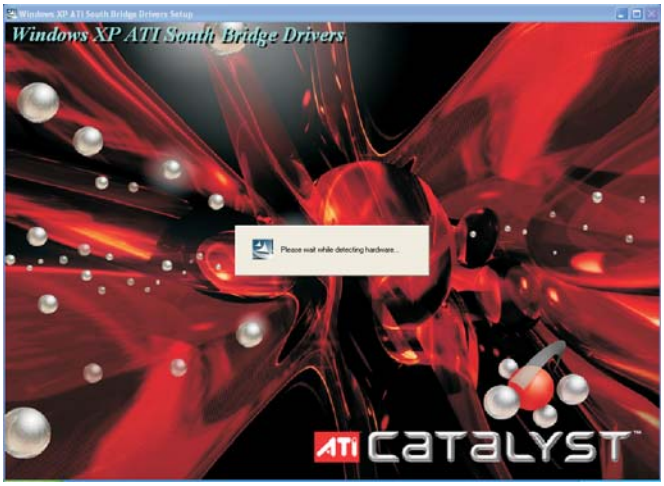
4. Select the component you want to install then click Next.



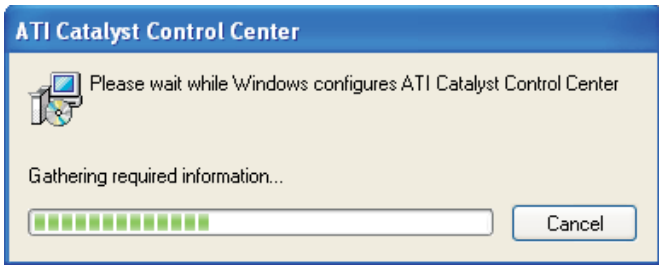
5. Setup will now install the ATI WDM driver.



6. Setup will now install the ATI south bridge driver.

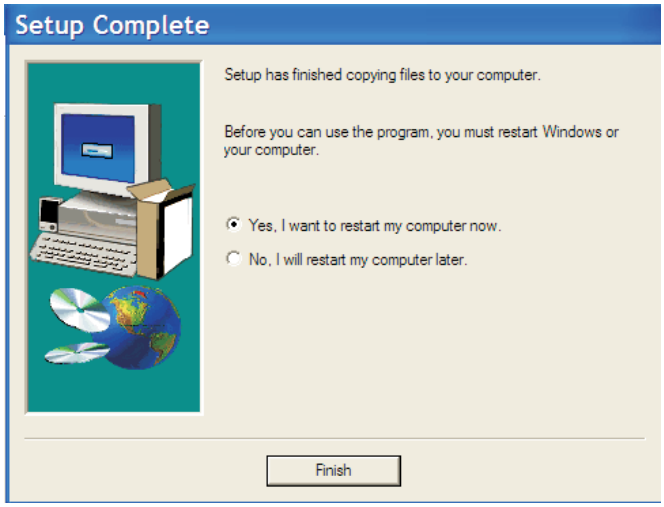


7. Windows will now configure the ATI Catalyst Control Center.



8. Click "Yes, I want to restart my computer now" then click Finish.

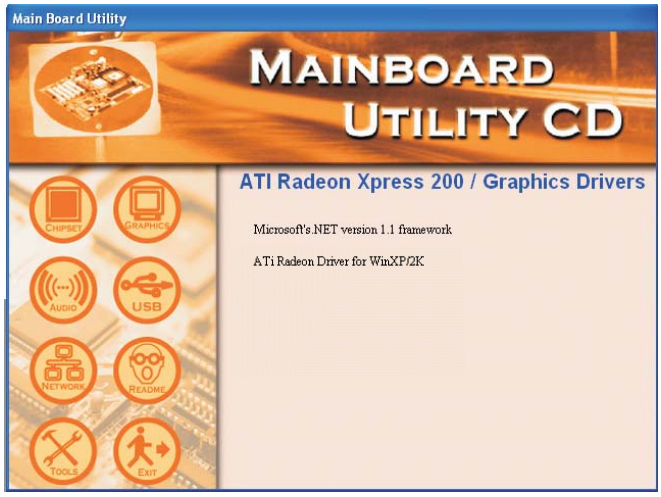
   Restarting the system will allow the new driver installation to take effect.



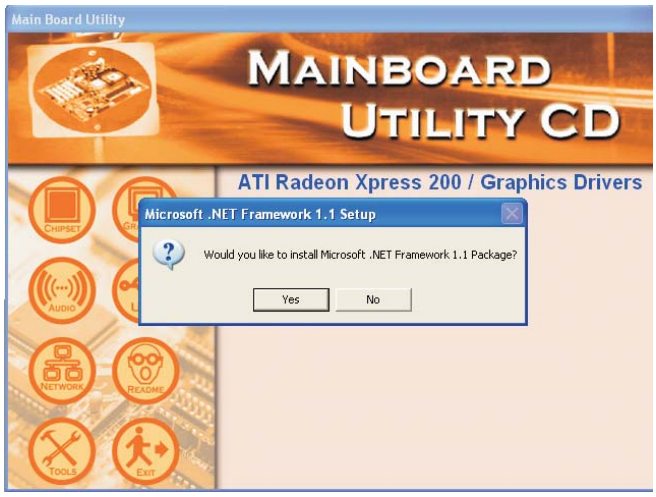
Graphics Drivers

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

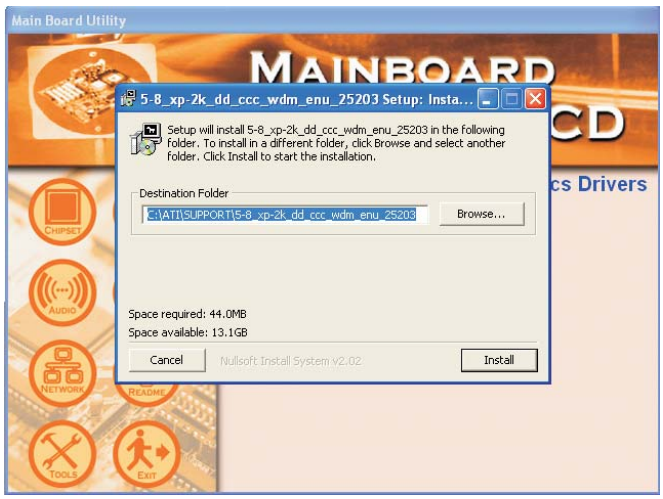
1. Click "Microsoft's NET Version 1.1 Framework" on the main menu.



2. Click Yes to install the driver.



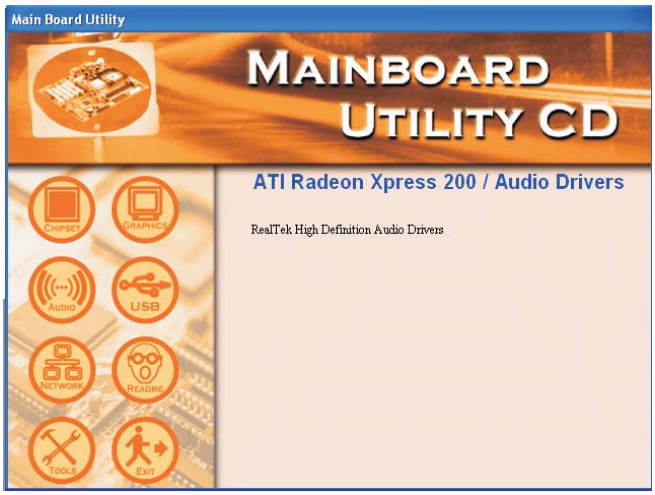
3. Click "ATI Radeon Driver for WinXP/2K" on the main menu.
4. Follow the prompts on the screen to complete installation.
5. Reboot the system for the driver to take effect.



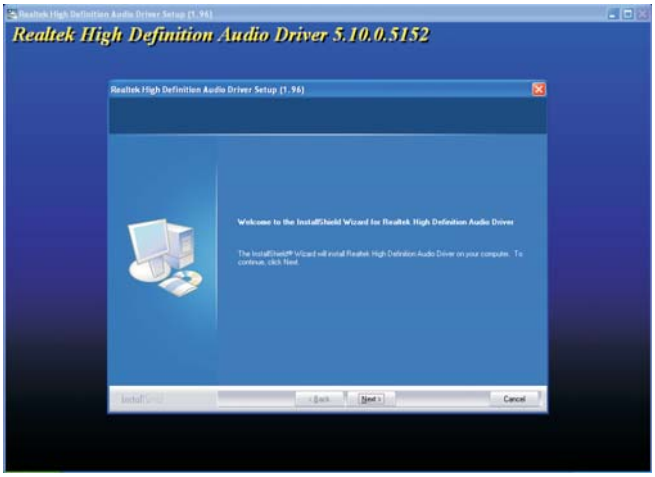
Audio Drivers

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

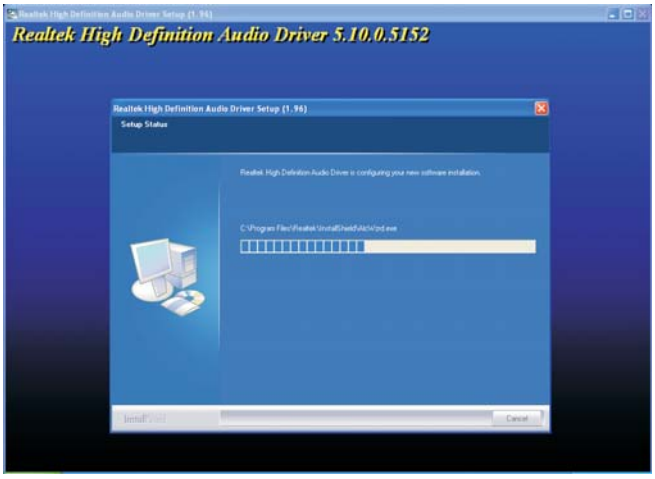
1. Click "Realtek High Definition Audio Drivers" on the main menu.



2. The installation wizard will extract the files needed to install the audio driver. Click Next to continue.



3. Setup is intalling and configuring the new software installation.



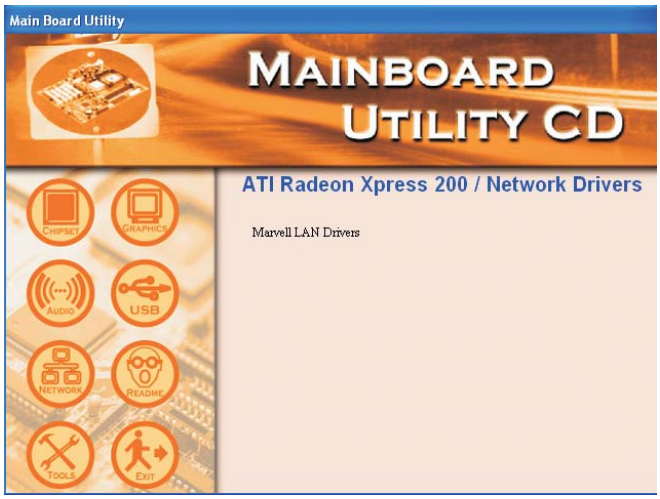
4. Click "Yes, I want to restart my computer now" then click Finish.

   Restarting the system will allow the new driver installation to take effect.

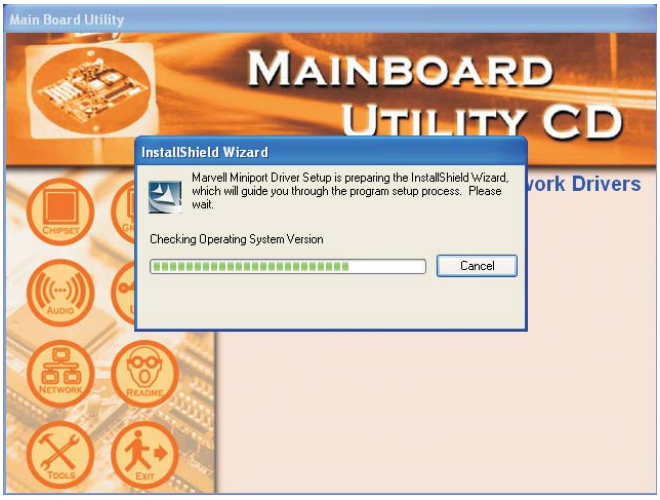
Network Drivers

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

1. Click "Marvell LAN Drivers" on the main menu.



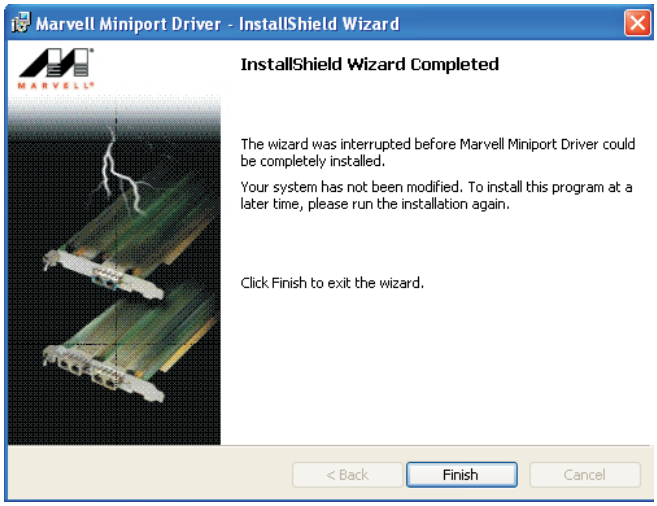
2. Setup is now preparing the installation wizard.



3. You are now ready to install the driver. Click Next.

4. Click Finish.

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



RAID Driver for ATI SB450

The steps below describe configuring RAID on SATA 1 to SATA 4.

1. Run the Award BIOS setup utility then go to the Genie BIOS Setting submenu - "PCI Device Control" section of the BIOS.
2. Select the Serial ATA ports you want enabled in the "Onboard SATA Controller" field.
3. Set the "Onboard SATA Type" to RAID.
4. Save and exit the BIOS then reboot the PC.
5. When the system powers-up, the ATI BIOS status message screen will appear. Press the <F4> key to enter the utility. The utility allows you to build a RAID system on Serial ATA drives.
6. Normally you do not need to separately install the ATI RAID driver. Installing the ATI Radeon Xpress 200 System Drivers will automatically install the RAID drivers.

   If you are in the process of installing Windows® XP or Windows® 2000 on RAID configured Serial ATA drives, you will need the provided ATI RAID driver floppy diskette. If you are installing the driver on existing Windows® XP or Windows® 2000, install the "ATI Radeon Xpress 200 System Drivers" that is in the provided CD.

For steps 1 to 5, refer to chapter 3 for more information.

Important:

- *Before creating RAID, make sure you have installed the Serial ATA drives and connected the data cables otherwise you won't be able to enter the ATI RAID BIOS utility.*
- *Treat the hard drives' cables with extreme caution especially while creating RAID. A damaged cable will ruin the entire installation process and operating system. The system will not boot and you will lost all data in the hard drives. Please give special attention to this warning because there is no way of recovering back the data.*

Installing the RAID Driver While in the Process of Installing Windows® XP or Windows® 2000

The steps below will instruct you on installing the RAID driver while in the process of installing Windows® XP or Windows® 2000 on RAID configured Serial ATA drives.

1. Start Windows Setup by booting from the installation CD.
2. Press <F6> when prompted at the beginning of Windows setup.
3. Press <S> to select "Specify Additional Device".
4. At this point you will be prompted to insert a floppy disk containing the RAID driver. Insert the "ATI RAID Drivers" diskette.
5. Locate for the drive where you inserted the diskette then select the ATI controller. Press <Enter> to install the driver.
6. If you need to install other devices, please do so at this time otherwise please proceed to the next step.
7. Follow the prompts on the screen to complete installation.

Installing the RAID Driver on Existing Windows® XP or Windows® 2000

1. Insert the provided CD into a CD-ROM drive.
2. On the left side of the autorun screen, click the "CHIPSET" icon.
3. Click "ATI Chipset Drivers".
4. Follow the installation instructions to complete installation.
5. Reboot the system for the driver to take effect.

RAID Driver for Silicon Image Sil 3114

The steps below describe configuring RAID on SATA 5 to SATA 8.

1. Run the Award BIOS setup utility then go to the Genie BIOS Setting submenu - "PCI Device Control" section of the BIOS.

2. Select the Serial ATA ports you want enabled in the "Onboard SATA Controller" field.

3. Set the "Sil3114 S-ATA RAID Control" field to "SATA RAID".

4. Save and exit the BIOS then reboot the PC.

5. When the system powers-up, the Sil3114 SataRAID BIOS status message screen will appear. Press the <Ctrl-S> or <F4> key to enter the utility. The utility allows you to build a RAID system on Serial ATA drives.

6. Install the Silicon Image RAID driver.

   If you are in the process of installing Windows® XP or Windows® 2000 on RAID configured Serial ATA drives, you will need the provided "Silicon Image Sil3114 RAID Drivers" diskette. If you are installing the driver on existing Windows® XP or Windows® 2000, install the Silicon Image Sil3114 RAID driver from the provided CD.

   On the left side of the autorun screen, click the "TOOLS" icon then install the Silicon Image RAID drivers and utilities.

For steps 1 to 5, refer to chapter 3 for more information.

Important:

- *Before creating RAID, make sure you have installed the Serial ATA drives and connected the data cables otherwise you won't be able to enter the Silicon Image RAID BIOS utility.*
- *Treat the hard drives' cables with extreme caution especially while creating RAID. A damaged cable will ruin the entire installation process and operating system. The system will not boot and you will lost all data in the hard drives. Please give special attention to this warning because there is no way of recovering back the data.*

Installing the RAID Driver While in the Process of Installing Windows® XP or Windows® 2000

The steps below will instruct you on installing the RAID driver while in the process of installing Windows® XP or Windows® 2000 on RAID configured Serial ATA drives.

1. Start Windows Setup by booting from the installation CD.
2. Press <F6> when prompted at the beginning of Windows setup.
3. Press <S> to select "Specify Additional Device".
4. At this point you will be prompted to insert a floppy disk containing the RAID driver. Insert the "Silicon Image Sil3114 RAID Drivers" diskette.
5. Locate for the drive where you inserted the diskette then select the Silicon Image controller. Press <Enter> to install the driver.
6. If you need to install other devices, please do so at this time otherwise please proceed to the next step.
7. Follow the prompts on the screen to complete installation.

Installing the RAID Driver on Existing Windows® XP or Windows® 2000

1. Insert the provided CD into a CD-ROM drive.
2. On the left side of the autorun screen, click the "TOOLS" icon.
3. Click "Silicon Image RAID Drivers". A "readme" screen which contains the RAID drivers installation instructions will appear.
4. Follow the installation instructions to complete installation.
5. Reboot the system for the driver to take effect.

ITE Smart Guardian

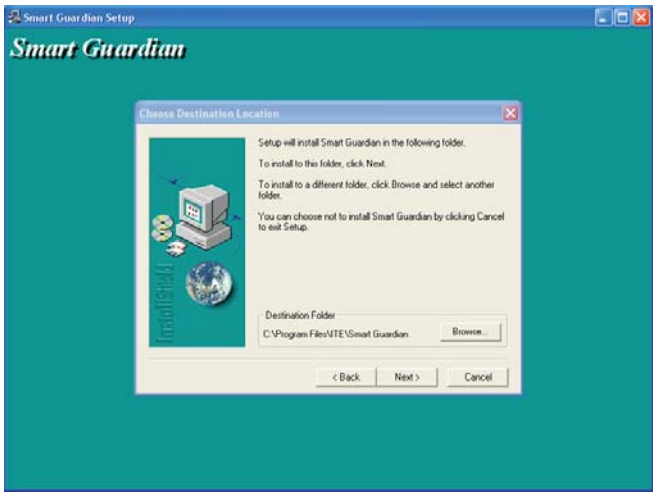
The system board comes with the ITE Smart Guardian utility. This utility is capable of monitoring the system's temperature, fan speed, voltage, etc. and allows you to manually set a range (Highest and Lowest Limit) to the items being monitored. If the settings/values are over or under the set range, 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.

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

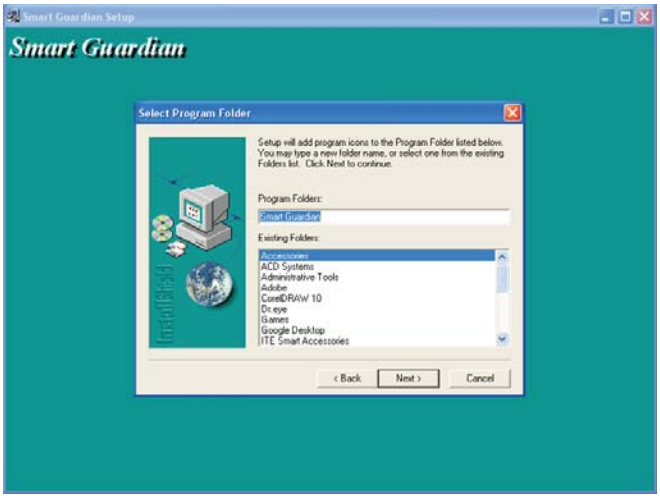
1. Click "ITE Smart Guardian" on the main menu.

2. Setup will prepare the installation wizard.

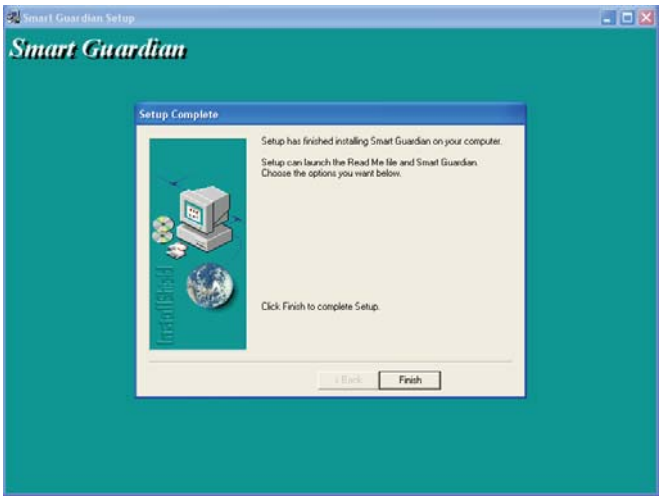
3. You are now ready to install Smart Guardian. Click Next to install or click Browse to select another folder.



4. Click Next to add the program icon to the Program Folder.



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



USB 2.0 Drivers

Windows® XP

If your Windows® XP CD already includes Service Pack 1, the USB 2.0 driver will automatically install when you install the operating system. If the CD does not include Service Pack 1, it is available for download at Microsoft's Windows Update website.

Windows® 2000

If your Windows® 2000 CD already includes Service Pack 4, the USB 2.0 driver will automatically install when you install the operating system. If the CD does not include Service Pack 4, it is available for download at Microsoft's Windows Update website.

Installation Notes

1. "Autorun" ONLY supports the Windows® 2000, Windows NT® 4.0 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 - 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.

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.

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 B - Troubleshooting

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.