



CERTIFICATE

The TÜV CERT Certification Body
for QM Systems of RWTÜV Systems GmbH

hereby certifies in accordance with TÜV CERT
procedure that

ELITEGROUP COMPUTER SYSTEMS CO., LTD.
ECS MANUFACTURING (SHENZHEN) CO., LTD.
ELITE TECHNOLOGY (SHENZHEN) CO., LTD.

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No. 20 & No. 26, Free Trade Zone, Shatoujiao, Shenzhen City, Guangdong Province, China

has established and applies a quality system for

**Design, Manufacturing and Sales of Mainboards,
Personal Computers, Notebooks and Peripheral Cards**

An audit was performed, Report No. 2.5-1585/2000

Proof has been furnished that the requirements according to
ISO 9001 : 2000 / EN ISO 9001 : 2000 / JIS Q 9001 : 2000 / ANSI/ASQC Q9001 : 2000
are fulfilled. The certificate is valid until 27 January 2007

Certificate Registration No. 04100 2000 1325

The company has been certified since 2000



Essen, 04.03.2004




The TÜV CERT Certification Body for QM Systems
of RWTÜV Systems GmbH



ISO14001 CERTIFICATE

Certificate NO.: 05-2001-065

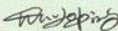
We hereby certify that
ECS Manufacturing(Shenzhen) Co.,Ltd
by reason of its
Environmental Management System
has been awarded this certificate for
compliance with the standard
ISO14001:1996

The Environmental Management System
applies in the following area:

The manufacture of Mother Board and Peripheral Card and interrelated
management activities of ECS Manufacturing(Shenzhen) Co.,Ltd.
which is located in No.20,Free Trade Zone,Shatuojiiao,Shenzhen, P. R.China.

Date of issue: 30th Dec 2001

Date of expiry: 29th Dec 2004

Signed by: 



SHENZHEN ENVIRONMENTAL MANAGEMENT SYSTEM CERTIFICATION CENTER

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W32 Series, V1.0B
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Static Electricity Precautions

Static electricity could damage components on this motherboard. Take the following precautions while unpacking this motherboard and installing it in a system.

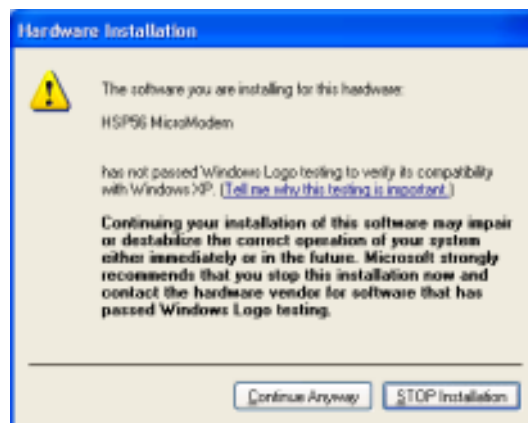
1. Don't take this motherboard and components out of their original static-proof package until you are ready to install them.
2. While installing, please wear a grounded wrist strap if possible. If you don't have a wrist strap, discharge static electricity by touching the bare metal of the system chassis.
3. Carefully hold this motherboard by its edges. Do not touch those components unless it is absolutely necessary. Put this motherboard on the top of static-protection package with component side facing up while installing.

Pre-Installation Inspection

1. Inspect this motherboard whether there are any damages to components and connectors on the board.
2. If you suspect this motherboard has been damaged, do not connect power to the system. Contact your motherboard vendor about those damages.

Notice:

1. Owing to Microsoft's certifying schedule is various to every supplier, we might have some drivers not certified yet by Microsoft. Therefore, it might happen under Windows XP that a dialogue box (shown as below) pop out warning you this software has not passed Windows Logo testing to verify its compatibility with Windows XP. Please rest assured that our RD department has already tested and verified these drivers. Just click the "Continue Anyway" button and go ahead the installation.



2. USB 2.0 Driver Limitations:
 - 2-1 The USB 2.0 driver only supports Windows XP and Windows 2000.
 - 2-2 If you connect a USB 2.0 hub to the root hub, plugging USB devices into this hub, the system might not successfully execute certain USB devices' connection because it could not recognize these devices.Currently, we are working on such limitations' solution. As soon as the solution is done, the updated USB drive will be released to our website: www.pcchips.com.tw for your downloading.

Traduction des Caractéristiques & Liste de contrôle

Liste de contrôle

Le coffret de votre carte mère contient les éléments suivants:

- La carte mère
- Le Manuel utilisateur
- Un câble plat pour lecteur de disquette (optionnel)
- Une câble plat pour lecteur IDE
- CD de support de logiciels

Caractéristiques

Prise en charge du Processeur Socket-754

- Supporte le Processeur **AMD Athlon 64/Sempron** avec la **Technologie HyperTransport™**
- Supporte un Bus Avant allant jusqu'à **800 MHz**

La technologie HyperTransport™ est conçue pour augmenter la vitesse de communication entre les circuits intégrés dans les ordinateurs jusqu'à 48 fois plus vite, aide à réduire le nombre de bus dans un système et réduire les goulots d'étranglement du système.

Chipset

Ce chipset comporte **SiS755 Northbridge** et **SiS964 Southbridge** conformément à une architecture novatrice et dimensionnable avec une fiabilité et des performances prouvées.

- Prend en charge les CPU AMD Athlon 64/Sempron jusqu'à **800MHz**
- Prend en charge 400/333/266/200 MHz et comporte deux emplacements 184 broches 2,5V non tamponnés
- Conformité avec AGP v3.0 universel
- Supporte l'interface AGP 8X/4X avec Fast Write Transaction
- Conforme aux Spécifications PCI 2.3
- Prend en charge les registres de configuration de gestion d'alimentation PCI de prise en charge du contrôleur de coupure d'alimentation ACPI

Support de Mémoire

- Comporte deux emplacements 184 broches 2,5V non tamponnés
- Prend en charge les modules de mémoire DDR 400/333/266/200MHz
- Chaque logement prend en charge jusqu'à 1Go avec une capacité maximum totale de 2Go

Logements d'Extension

- Un logement CNR (Interface AC' 97 seulement)
- Un logement 8X AGP (prise en charge de 1.5V uniquement)
- Cinq logements PCI 32 bits

Canaux IDE internes

- Deux Connecteurs IDE
- Supporte quatre canaux IDE
- Supporte maîtrise de bus Ultra DMA IDE avec vitesse de transfert de 133/100/66/33 Mo/sec

Motherboard User's Guide

ATA Série

- Deux ATA Série connecteurs
- Prend en charge deux disques durs SATA
- Ultra DMA 150

AC' 97 Codec

- 6 canaux et conforme aux Spéc. Intel® AC' 97 (REV. 2.3), respectant les exigences de Microsoft® PC2001
- Gestion d'alimentation avancée et capacités d'économie d'énergie.
- Fonction de ligne d'entrée stéréo partagée avec la sortie Contour.
- Entrée de CD Audio analogique pseudo différentielle de haute qualité.
- Support d'Entrée S/PDIF : L'entrée S/PDIF est dotée du support des fonctionnalités d'interruption, auto-verrouillage, anti-bruit, et anti-distorsion.
- Technologie logicielle complémentaire de valeur. Supporte la plupart des standards de l'industrie de son 3D PC et support de fonction de karaoké unique qui comprend l'écho microphone, décalage de touche, et annulation vocale.

Ports E/S Internes

La carte mère possède un jeu complet de ports d'E/S et de connecteurs:

- Deux ports PS/2 pour souris et clavier
- Un port série
- Un port parallèle
- Huit ports USB 2.0 (quatre ports fond de panier, connecteurs USB internes USB3/4 offrant quatre ports supplémentaires)
- Prises audio pour microphone, ligne d'entrée et ligne de sortie
- Un port LAN (optionnel)

LAN Ethernet intégré (optionnel)

- **LAN Gigabit Interne:**
 - Émetteur-récepteur intégré **10/100/1000**
 - Auto Négotiation avec capacité de page Suivante
 - Supporte le contrôle de flux en Full Duplex (IEEE 802.3x), et marquage VLAN IEEE 802.1Q
 - Entièrement conforme à IEEE 802.3, IEEE 802.3u, IEEE 802.3ab
- **Onboard 10/100Mbps Ethernet LAN:**
 - Fonctionnement **10 Mb/s et 100 Mb/s**
 - Fast Ethernet MAC intégré, puce physique, et émetteur-récepteur sur une seule puce
 - Supporte l'auto-négociation N-way en 10Mb/s et 100Mb/s
 - Supporte la gestion d'alimentation ACPI
 - Contrôle de Flux en Full Duplex (IEEE 802.3x) et capacité Half/Full duplex

USB 2.0

- Conforme aux Spécifications de Bus Série Universel Révision 2.0
- Conforme aux Spécifications d'interface de Contrôleur d'Hôte Amélioré de Intel Révision 0.95
- Conforme aux Spécifications d'Interface de Contrôleur d'Hôte Universel Révision 1.1

- Le périphérique multifonction PCI consiste en deux noyaux de Contrôleur d'Hôtes UHCI pour signalisation pleine/faible vitesse et un noyau de Contrôleur d'Hôtes EHCI pour signalisation haute vitesse
- Le hub racine consiste en 4 ports de face en aval avec émetteurs-récepteurs de couche physique intégrés partagés par le Contrôleur d'Hôte UHCI et EHCI
- Support des Spécifications d'Interface de Gestion d'Alimentation de Bus PCI version 1.1
- Support hérité pour tous les ports face à l'aval.

Remarque: Certaines spécifications matérielles et éléments de logiciels peuvent être modifiés sans avertissement.

Funktionen & Checkliste

Checkliste

Die Verpackung Ihres Motherboards enthält folgende Teile:

- Motherboard
- Handbuch
- Bandkabel für Floppylaufwerke (optional)
- Bandkabel für IDE-Laufwerke
- Software -CD

Ausstattung

Unterstützt Socket-754-Prozessoren

- Unterstützung für **AMD Athlon 64/Sempron** mit **HyperTransport™** Technologie
- Unterstützung von bis zu **800 MHz** Front-Side Bus

Die **HyperTransport™** Technologie wurde entworfen, um die Kommunikationsgeschwindigkeit zwischen den in Computern integrierten Schaltkreisen bis zu 48mal zu erhöhen; hilft die Bus-Anzahl eines Systems und die Verkleinerung des Systems zu reduzieren..

Chipsatz

Dieser Chipsatz besteht aus einer **SiS755 Northbridge** und **SiS964 Southbridge**. Die Chipsatzarchitektur ist in einem innovativen und skalierbaren Design gehalten und verspricht sowohl Zuverlässigkeit als auch Leistungsstärke.

- Unterstützt AMD Athlon 64/Sempron-CPU's von bis zu 800MHz
- Unterstützt 400/333/266/200 MHz und besitzt zwei ungepufferte 2,5V 184-pol. Steckplätze
- In Übereinstimmung der AGP v3.0-Universalrichtlinien
- Unterstützt AGP 8X/4X-Interface mit Fast Write-Abwicklung
- In Übereinstimmung mit den PCI 2.3-Spezifikationen
- Unterstützt das Einstellungsverzeichnis des PCI-Stromzufuhrbetriebs des Ausschaltungscontrollers ACPI

Speicherunterstützung

- Besitzt zwei ungepufferte 2,5V 184-pol. Steckplätze
- Unterstützt 400/333/266/200 MHz DDR Speichermodule
- Jede Steckplatz unterstützt bis zu 1GB mit einer maximalen Kapazität von 2GB

Erweiterungssteckplätze

- Ein CNR-Steckplatz (nur AC' 97-Schnittstelle)
- Ein 8X AGP-Steckplatz (unterstützt nur 1.5V AGP Interface)
- Fünf 32-Bit PCI-Steckplätze

Onboard IDE-Kanäle

- Zwei IDE-Header
- Unterstützt vier IDE-Kanäle
- Unterstützung für IDE Ultra DMA-Busmastering mit Transferraten von 133/100/66/33 MB/Sek

Motherboard User's Guide

Serial ATA

- Zwei Serial ATA Anschlüsse
- Unterstützt zwei SATA-Festplatten
- Ultra DMA 150

AC' 97 Codec

- 6 Kanäle und in Übereinstimmung mit den Spezif. von Intel® AC' 97 (REV. 2.3), gemäß den Richtlinien von Microsoft® PC2001
- Fortgeschrittener Stromzuführungsbetrieb und Stromsparfähigkeiten.
- Stereo "Line-in-Funktion" geteilt mit "Surround out".
- Hochqualitäts pseudo-unterschiedlicher Analog-CD-Audio-Eingang.
- S/PDIF Input-Unterstützung: Der S/PDIF Input kennzeichnet sich durch die Unterstützung seiner Abschaltungs-, Autoblockierungs-, Anti-Geräuschs-, und Anti-Störungfunktionen.
- Wertvolle zusätzliche Software-Technologie: Unterstützt die meisten Industrienormen des PC-3D-Tons und die einzigartige Karaoke-Funktion kennzeichnet sich durch das Mikrofonecho, dem Tastenwechsel und der Stimmunterbrechung.

Onboard I/O Ports

Das Motherboard verfügt über einen kompletten Satz von I/O-Schnittstellen und Anschlüssen:

- Zwei PS/2-Steckplätze für Maus und Tastatur
- Ein serieller Steckplatz
- Ein paralleler Steckplatz
- Acht USB2.0-Ports (vier Ports auf der Rückseite; die Onboard-USB-Header USB3/4 bieten vier zusätzliche USB-Ports).
- Audioanschlüsse für Mikrophon, line-in und line-out
- Ein LAN Steckplatz (optional)

Integriertes Ethernet LAN (optional)

• Onboard Gigabit LAN:

- Integrierter **10/100/1000** Transceiver
- Selbstverhandlung mit "Next page"- (nächste Seite) Kapazität
- Unterstützt eine Full Duplex Flußkontrolle (IEEE 802.3x), und IEEE 802.1Q VLAN-Markierung
- In Übereinstimmung mit IEEE 802.3, IEEE 802.3u, IEEE 802.3ab

• Onboard 10/100Mbps Ethernet LAN:

- **10 Mb/s und 100 Mb/s** Betrieb
- Integrierter Fast Ethernet MAC, physikalischer Chip und Transceiver in einem einzigen Chip
- Unterstützt 10Mb/s und 100Mb/s N-way Auto-Verhandlung
- Unterstützt ACPI Versorgungs-Betriebssystem
- Fließende Full Duplex Kontrolle (IEEE 802.3x) und halbe/Full duplex Kapazität

USB2.0

- Entspricht Universal Serial Bus-Spezifikation, Revision 2.0
- Entspricht Intels Enhanced Host Controller Interface-Spezifikation, Revision

0.95

- Entspricht Universal Host Controller Interface -Spezifikation Revision 1.1
- PCI-Multifunktionsgerät besteht aus zwei UHCI Host Controller-Kernen für Signalübertragung bei voller und niedriger Geschwindigkeit sowie einem EHCI Host Controller-Kern für Hochgeschwindigkeits-Signalübertragung
- Root Hub besteht aus 4 Downstream-Ports mit integrierten Physical Layer-Überträgern für gemeinsame Nutzung durch UHCI und EHCI Host Controller
- Unterstützt PCI-Bus Power Management Interface , Spezifikation Release 1.1
- Legacy-Unterstützung für alle Downstream-Ports

Hinweis: Bestimmte Hardwarespezifikationen und Teile der softwareausstattung können ohne weitere Ankündigung

Traduzione Funzioni e Lista

Lista

L'imballo della scheda madre é composto da:

- La scheda madre
- Il manuale
- Una piattina per il collegamento dei drive (opzionale)
- Una piattina IDE
- Il CD con il Software di supporto

Caratteristiche

Dotata di Socket 754 per Processori

- Supporta **AMD Athlon 64/Sempron** con **Tecnologia HyperTransport™**
- Supporta fino a **800 MHz** Front-Side Bus

La tecnologia **HyperTransport™** è stato create con l'intento di aumentare fino a 48 volte la velocità di comunicazione tra i circuiti integrati, diminuendo così il numero di bus necessari per il funzionamento del computer ed i colli di bottiglia.

Chipset

In accordo ad una architettura scabile e innovative sono presenti nel chipset il **Northbridge SiS755** e **Southbridge SiS964**.

- Supporto dei processori AMD Athlon 64/Sempron con velocità massima pari a 800MHz
- Supporto 400/333/266/200 MHz ed accomoda due alloggiamenti Unbuffered 2,5V a 184 pin
- Conforme alle specifiche dello standard universal AGP v3.0
- Supporta l'interfaccia AGP 8X/4X con Funzione Transizione Fast Write
- Conforme alle specifiche dello standard PCI 2.3
- Supporto dei risparmio energia PCI riguardante il ACPI power down

Memoria Supporta

- Accomoda due alloggiamenti Unbuffered 2,5V a 184 pin
- Supporto moduli memoria **DDR 400/333/266/200**
- Ogni slot supporta fino ad 1GB per un totale di 2GB

Slot di espansione

- Una slot CNR (solo per interfaccia AC' 97)
- Una slot AGP 8X (supporta solo l'interfaccia 1.5V AGP)
- Cinque slot PCI a 32 bit

Canali IDE Integrati

- Due connettori IDE
- Supporto quattro canali IDE
- Supporto per le modalità Bus Mastering e Ultra DMA ATA **133/100/66/33 MB/sec**

Motherboard User's Guide

ATA Seriale

- Due connettori Serial ATA
- Supporto di due dischi rigidi SATA
- Ultra DMA 150

AC' 97 Codec

- 6 canali conforme alle specifiche dello standard Intel® AC' 97 (REV. 2.3), rispettando inoltre i requisiti Microsoft® PC2001
- Supporto delle funzionalità relative alla Gestione avanzata del Risparmio Energia.
- Input pseudo analogico CD Audio ad alta qualità.
- High quality pseudo-differential analog CD Audio input.
- Supporto Input S/PDIF, dotato delle funzionalità arresto, auto lock, anti rumore e distorsione.
- Tecnologie aggiuntive di grande valore: Supporto garantito dei maggiori standard industriali relative al sonoro PC 3D, incredibile funzione karaoke con supporto dell'eco sull'ingresso microfono, key shifting e cancellazione dell'avoce.

Onboard I/O Porte

La scheda madre è dotata da una serie completa di porte e connettori I/O:

- Due porte PS/2 per tastiera e mouse
- Una porta seriale
- Una porta parallela
- Quantità otto porte USB2.0 (Quattro presenti nella parte posteriore, connettori USB integrati nella scheda madre per l'aggiunta di altre 4 porte USB3/4)
- Jack audio per microfono, ingresso linea e uscita linea
- Una porta LAN (opzionale)

Built-In Ethernet LAN (opzionale)

- **LAN Gigabit integrata:**
 - Transceiver **10/100/1000** Integrato
 - Negoziazione automatica con capacità Next page
 - Controllo flusso dati Full Duplex (IEEE 802.3x) e tagging VLAN IEEE 802.1Q
 - Supporto degli standard IEEE 802.3, IEEE 802.3u e IEEE 802.3ab
- **Onboard 10/100Mbps Ethernet LAN:**
 - Operazioni **10 Mb/s a 100 Mb/s**
 - Fast Ethernet MAC integrata, chip fisico e transceiver nello stesso chip
 - Supporto della negoziazione automatica N-way a 10Mb/s e 100Mb/s
 - Supporto di gestione del consumo energetico ACPI
 - Controllo di flusso Full Duplex (IEEE 802.3x) e Half/Full

USB 2.0

- Conforme alle specifiche Universal Serial Bus 2.0
- Conforme alle specifiche Intel Enhanced Host Controller revisione 0.95
- Root hub consists 4 downstream facing ports with integrated physical layer
- Il porto hub di base consiste di 4 porte downstream con ricetrasmittenti i ntegrati nel layer fisico condivisi dalla scheda di controllo interfaccia UHCI e EHCI
- Supporto per interfaccia risparmio energia bus PCI specifiche release 1.1

Motherboard User's Guide

- Conforme alle specifiche Universal Host Controller Interface revisione 1.1
- Il dispositivo PCI multifunzione consiste di due schede di controllo UHCI per la trasmissione segnali pieno/basso e una scheda di controllo EHCI per la trasmissione segnali ad alta velocità.
- Supporto per tutte le porte downstream precedenti

Nota: Alcune specifiche hardware ed elementi software sono soggetti a variazioni senza preavviso.

Traducción de Características & Lista

LISTA DE VERIFICACIÓN

El paquete de su placa principal contiene los sigtes. ítems:

- La placa principal
- El Manual del Usuario
- Un cable cinta para el lector de disquete (optativo)
- Un cable cinta para el lector IDE
- CD de Software de soporte

Características

Soporte de Procesador Socket-754

- Soporta Procesador de **AMD Athlon 64/Sempron** con la **Tecnología HyperTransport™**
- Soporta hasta Bus de Lado Frontal de **800 MHz**

La tecnología a HyperTransport™ está diseñado para aumentar la velocidad de comunicación entre los circuitos integrados en los ordenadores hasta 48 veces más veloz, ayuda a reducir la cantidad de buses en un sistema y el achicamiento del sistema.

Chipset

Hay **SiS755 Northbridge** y **SiS964 Southbridge** en este chipset en conformidad con una arquitectura innovadora y escalable con fiabilidad y rendimiento comprobados.

- Soporta CPUs de AMD Athlon 64/Sempron hasta 800MHz
- Admite DDR a 400/333/266/200 MHz y acomoda dos ranuras de 184 contactos de 2.5V sin memoria intermedia
- Conformidad con AGP v3.0
- Soporta la interfaz AGP 8X/4X c/ Transacción de Escritura Rápida
- Conformidad de la especificación PCI 2.3
- Soporta los registros de configuración de administración de suministro PCI del controlador de apagado ACPI en soporte.

Soporte de Memoria

- Acomoda dos ranuras de 184 contactos de 2.5V sin memoria intermedia
- Admite módulos de memoria DDR a 400/333/266/200 MHz
- Cada ranura soporta hasta 1GB con un total de capacidad máxima de 2GB

Ranuras de Expansión

- Una ranura CNR (Interfaz AC' 97 solamente)
- Una ranura 8X AGP (soporta interfaz 1.5V AGP solamente)
- Cinco ranuras 32-bit PCI

Canales IDE abordo

- Dos conectores IDE
- Soporta cuatro Canales IDE
- Soporta mastering de bus IDE Ultra DMA con índices de transferencia de 133/100/66/33 MB/seg

Motherboard User's Guide

ATA Serial

- Dos conectores Serial ATA
- Soporta dos unidades rígidas SATA
- Ultra DMA 150

AC' 97 Codec

- 6 canales y conformidad de la Espec. Intel®AC' 97 (REV. 2.3), satisface los requisitos de Microsoft®PC2001
- Administración de suministro avanzada y capacidades de ahorro de energía.
- La función Stereo Line-in compartida con Surround out.
- Entrada de Audio CD analógica pseudodiferencial de alta calidad.
- Soporte de Entrada S/PDIF: la Entrada S/PDIF se caracteriza por el soporte de las funcionalidades de interrupción, autobloqueo, antiruido y antidistorsión.
- Valiosa tecnología de software adicional: Soporta la mayoría de las normas industriales del sonido PC 3D y la función Karaoke se caracteriza por el eco de micrófono, cambio a teclas y cancelación vocal.

Puertos I/O Abordos

La placa principal tiene un juego completo de puertos I/O y conectores:

- Dos puertos PS/2 para ratón y teclado
- Un puerto serial
- Un puerto paralelo
- Ocho puertos USB2.0 (cuatro puertos de panel trasero, conectores USB abordo USB3/4 que provee cuatro puertos extras)
- Clavijas de sonido para micrófono, entrada y salida de línea
- Un puerto LAN (optativo)

Ethernet LAN Incorporado (optativo)

- **Gigabit LAN Abordo:**
 - Transreceptor **10/100/1000** integrado
 - Auto-Negociación con capacidad Next page(Próxima página)
 - Soporta control de flujo Full Duplex (IEEE 802.3x), y marcación IEEE 802.1Q VLAN
 - Conformidad total con IEEE 802.3, IEEE 802.3u, IEEE 802.3ab
- **Onboard 10/100Mbps Ethernet LAN:**
 - Operación **10 Mb/s y 100 Mb/s**
 - Fast Ethernet MAC integrado, chip físico, y transceptor en un solo chip
 - Soporta N-way auto-negociación 10Mb/s y 100Mb/s
 - Soporta administración de suministro ACPI
 - Control de Flujo Full Duplex (IEEE 802.3x) y capacidad Medio/Full duplex

USB2.0

- Conforme con la Especificación de Bus Serial Universal Revisión 2.0
- Conforme con Controlador Anfitrión Reforzado de Intel Interface Specification Revision 0.95
- Conforme con la Especificación de Interfaz de Controlador Anfitrión Universal Revisión 1.1

- Dispositivo PCI multi-función se consiste de dos centros de Controlador Anfitrión UHCI para señalización de velocidad completa/baja y un centro de Controlador Anfitrión EHCI para señalización de alta velocidad
- Root hub consiste de 4 puertos que miran hacia abajo con transceptores de capa física integrado compartido por Controlador Anfitrión UHCI y EHCI
- Soporta Especificación de Interfaz de Administración de Energía de BUS PCI versión 1.1
- Soporte de legado para todos los puertos que miran hacia abajo

Nota: Algunas especificaciones de hardware e ítems de software son sujetos a cambio sin aviso previo .

Tradução da Lista & Características

Lista de verificação

A embalagem da sua placa principal contém os seguintes itens:

- A placa principal
- O Manual do Utilizador
- Um cabo para a unidade de disquetes (opcional)
- Um cabo para a unidade IDE
- CD de suporte para o software

Características

Suporte do Processador Socket-754

- Suporta Processador **AMD Athlon 64/Sempron** com Tecnologia **HyperTransport™**
- Suporta até **800 MHz** Front-Side Bus

A tecnologia HyperTransport™ foi concebida para aumentar a velocidade de comunicação entre circuitos integrados em computadores até 48 vezes, o que ajuda a reduzir o número de dispositivos tipo bus ligados ao sistema e a reduzir os engarrafamentos no sistema.

Chipset

Conta com **SiS755 Northbridge** e **SiS964 Southbridge** neste chipset, de acordo com uma arquitectura inovadora e escalável com um nível de confiança e desempenho comprovado.

- Suporta CPUs AMD Athlon 64/Sempron até 800MHz
- Suporta de 400/333/266/200 MHz e acomoda dois slots de 184 pinos de 2,5 V, sem buffer
- Cumpre a norma universal AGP v3.0
- Suporta AGP 8X/4X Interface com Transação de Escrita Rápida
- Cumpre a especificação PCI 2.3
- Suporta registos de configuração da gestão da corrente PCI providos do controlador de corte da corrente ACPI

Suporte de memória

- Acomoda dois slots de 184 pinos de 2,5 V, sem buffer
- Suporta módulos de memória DDR de 400/333/266/200MHz
- Cada entrada suporta até 1GB tendo uma capacidade máxima total de 2GB

Slots de expansão

- Um slot CNR (Apenas para a interface AC' 97)
- Um slot AGP 8X (suporta apenas 1.5V AGP)
- Cinco slots PCI de 32 bit

Canais IDE na placa

- Dois conectores IDE
- Suporta quatro canais IDE
- Suporta IDE Ultra DMA bus mastering com razão de transferência de 133/100/66/33 MB/seg

Motherboard User's Guide

Série ATA

- Dois conectores Série ATA
- Suporta dois discos rígidos SATA
- Ultra DMA 150

AC' 97 Codec

- Spec de 6 canais e de acordo com a norma Intel®AC' 97 (REV. 2.3), de acordo com os requisitos Microsoft®PC2001
- Capacidades de gestão avançada da corrente e de poupança de energia.
- Função da entrada de stereo partilhada com a saída do som Surround.
- Entrada de áudio analógica com pseudo-diferencial para CD de alta qualidade.
- Suporte da entrada S/PDIF: A entrada S/PDIF encontra-se presente com suporte das funções de interrupção, anti-ruído, e anti-distorção.
- Tecnologia de software de actualização valiosa: Suporta a maior parte dos padrões da indústria de som 3D para PC e possui um suporte único para a função de karaoke que possui um eco do microfone, mudança de teclas, e cancelamento vocal.

Portas I/O na placa

A placa principal possui um conjunto completo de portas e conectores I/O:

- Duas portas PS/2 para o rato e teclado
- Uma porta série
- Uma porta paralela
- Oito portas USB2.0 (quatro portas traseiros, conectores USB embutidos USB3/4 fornecendo quatro portas extras
- Jacks audio para microfone, line-in e line-out
- Uma porta LAN (opcional)

Ethernet LAN Integrada (opcional)

• LAN Onboard Gigabit:

- ransreceptor integrado **10/100/1000**
- Auto-Negociação com capacidade Next page (Próxima página)
- Suporta controle de fluxo Full Duplex (IEEE 802.3x), e alongamento IEEE 802.1Q VLAN
- Totalmente complacente com IEEE 802.3, IEEE 802.3u, IEEE 802.3ab

• Onboard 10/100Mbps Ethernet LAN:

- Operação **10 Mb/s e 100 Mb/s**
- Fast Ethernet MAC integrado, chipe físico e transreceptor em um único chipe
- Suporta auto-negociação N-way de 10Mb/s e 100Mb/s
- Suporta gerenciamento de força ACPI
- Controle de Fluxo Duplex Completo (IEEE 802.3x) e capacidade duplex Half/Full (Parcial/Total)

USB 2.0

- Compatível com Universal Serial Bus Revisão 2.0 da especificação
- Compatível com controlador Enhanced Host da Intel Revisão 0.95 da especificação da interface

Motherboard User's Guide

- Compatível com controlador Universal Host Revisão 1.1 da especificação da Interface
- O dispositivo PCI multi-funções consiste em dois núcleos de Controlador UHCI Host Controller para sinalização de velocidade total/baixa em um núcleo de Controlador EHCI Host para sinalização de alta velocidade
- O núcleo de raiz consiste em 4 portas de protecção a jusante com transreceptores de camadas físicas integrados partilhados pelos controladores Host UHCI e EHCI
- Suporte de gestão de energia PCI-Bus Revisão 1.1 da especificação da interface
- Suporte para todas as portas de protecção a jusante

Nota: As especificações de alguns artigos de hardware e software encontram-se sujeitos a alterações sem aviso prévio.

检查单

您的主板包装含有以下项目：

- 主板
- 用户手册
- 一根磁盘驱动器扁平电缆（可选）
- 一根 IDE 驱动器扁平电缆
- 软件支持 CD

功能

支持 Socket-754 处理器

- 支持带有HyperTransport™技术的 AMD Athlon 64/Sempron 处理器。
- 支持 800 MHz前端总线

HyperTransport™ 是一种用来提高计算机集成电路通信速度的技术。它可以让计算机运行速度提高 48 倍，帮助减少系统中的总线数量和减少系统瓶颈。

芯片组

芯片组包含SiS755北桥和SiS964南桥,它基于一种新型的、可扩展的架构,能提供已经证明的可靠性和高性能。

- 支持 AMD Athlon 64/Sempron 处理器,最高可到800MHz。
- 支持 400/333/266/200 MHz DDR内存模块 和 配备两个非缓冲 2.5V 184 针插槽。
- 符合通用 AGP v3.0 规格。
- 支持带快写处理功能的 AGP 8X/4X 接口。
- 符合 PCI 2.3 规格。
- 支持 PCI电源管理配置寄存器,用于支持 ACPI掉电控制器。

内存支持

- 配备两个非缓冲 2.5V 184 针插槽。
- 支持 400/333/266/200 MHz DDR内存模块。
- 每个插槽最大支持 1GB,总共可支持 2GB。

扩展槽

- 1 个 CNR 插槽 (仅 AC? 97 接口)。
- 1 个 8X AGP 插槽 (只支持 1.5V AGP 接口)。
- 5 个 32 位 PCI 插槽。

Onboard IDE 通道

- 2 个 IDE 接口。
- 支持 4个IDE声道。
- 支持 IDE Ultra DMA 总线控制,传输速率可达 133/100/66/33 MB/sec。

Motherboard User's Guide

Serial ATA

- 2 个 Serial ATA 接口
- 支持 2 块 SATA 硬盘
- Ultra DMA 150

AC'97 Codec

- 6声道，符合Intel C? 97(REV.2.3)规格，符合Microsoft ?2001标准。
- 高级电源管理和节电功能。
- 共享环绕输出的立体声线入功能。
- 高质量伪差分模拟 CD 音频输入。
- 支持 S/PDIF 输入：S/PDIF In 支持中断、自锁、抗噪和抗失真功能。
- 增值软件技术：支持大部分 PC 3D 立体声行业标准和卡拉 OK 功能，支持话筒回声消除、键移动和声音消除功能。

集成 I/O 端口

此主板具有完整的 I/O 端口和插孔：

- 2 个用于连接鼠标和键盘的 PS/2 端口。
- 1 个串口。
- 1 个并口。
- 8个 USB2.0端口（主板后面板带 4 个接口，板上 USB 接口 USB3/4 提供其它 4 个端口）。
- 麦克风、线入和线出声音插孔。
- 一个 LAN 端口（可选）。

快速以太网 LAN（可选）

- 板上集成千兆 LAN：
 - 集成 10/100/1000 收发器。
 - 带续页能力的自协商。
 - 支持全双工数据流控制 (IEEE 802.3x) 和 IEEE 802.1Q VLAN 标记。
 - 完全符合 IEEE 802.3、IEEE 802.3u、IEEE 802.3ab。
- 板上集成10/100Mbps Ethernet LAN：
 - 10 Mb/s 和 100 Mb/s 工作
 - 单芯片集成了快速以太网 MAC、物理芯片和收发器。
 - 支持 10Mb/s 和 100Mb/s N 路自协商。
 - 支持 ACPI 电源管理。
 - 全双工数据流控制 (IEEE 802.3x) 和半双工/全双工功能。

USB 2.0

- 符合通用串行总线规格 2.0 版本。
- 符合 Intel 0.95 版本的增强主控器接口规格。
- 符合 1.1 版本的通用主控器接口规格。
- PCI 多功能设备由 2 个用于全速/低速传输数据的 UHCI 主控器和 1 个用于高速传输数据的 EHCI 主控器组成。

Motherboard User's Guide

- Root 集线器包括 4 个下行端口，带有与 UHCI 和 EHCI 主控制器共用的集成物理层收发器。
- 支持 1.1 版本的 PCI 总线电源管理接口规格。
- 支持所有传统下行端口。

说明：某些硬件规格和软件项目若有更改恕不另行通知。

Chapter 1 Introduction

This motherboard has a **Socket-754** processor socket for the newest and advanced AMD Athlon 64/Sempron processors with Front-Side Bus (FSB) speeds up to **800** MHz and system bus to 1600 MT/s.

Based on the ATX form factor, the motherboard incorporates the SiS755 Northbridge and SiS964 Southbridge chipsets. The **SiS755** Northbridge features the **HyperTransport™** compliant bus driver technology to support AMD Athlon 64/Sempron processors up to 1600MT/s data rate. It also supports external AGP slot with AGP 4X/8X capability and Fast Write Transactions. The “HyperTransport™” technology is designed to increase the communication speed between integrated circuits in computers up to 48 times faster, helps reduce the number of buses in a system and reduce the system bottlenecks.

The SiS964 Southbridge integrated Serial ATA Host Controller compliant with SATA 1.0 specification which supports 1.5Gb/s bandwidth for each serial port and support IDE channels supporting PIO mode 0,1,2,3,4 and Ultra DMA 133/100/66/33.

This high performance motherboard is intended to give customers a high quality and rich multimedia solution. It provides a complete set of I/O ports, such as dual SATA interfaces, a floppy controller, a high-speed serial port, an EPP/ECP capable bi-directional parallel port connector, eight USB headers (four back-panel ports, onboard USB headers, USB2/3 providing four extra ports), LAN(optional), a PS/2 keyboard and mouse connector, and audio

jacks for microphone, line-in, line-out. One AGP slot, five PCI local bus slots and one CNR Communication and Networking Riser slot providing expandability for add-on peripheral cards.

Key Features

The key features of this motherboard include:

Socket-754 Processor Support

- Supports AMD **Athlon 64/Sempron** processors
- Supports **800 MHz** Front-Side Bus and **1600 MT/s** data rate

Chipset

There are **SiS755 Northbridge** and **SiS964 Southbridge** in the chipsets in accordance with an innovative and scalable architecture with proven reliability and performance.

- Supports AMD Athlon 64/Sempron CPUs up to 800MHz
- Supports 400/333/266/200 MHz and accommodates two unbuffered 2.5V 184-pin slots
- Compliance with universal AGP v3.0
- Supports AGP 8X/4X Interface with Fast Write Transaction
- PCI 2.3 Specification Compliance
- Supports PCI power management configuration registers for supporting ACPI power down controller

Memory Support

- Accommodates two unbuffered 2.5V 184-pin slots
- Supports **DDR up to 400/333/266/200 MHz** memory module
- Each slot supports up to 1GB with a total maximum capacity of 2GB

Expansion Slots

- One CNR slot (AC'97 Interface only)
- One 8x AGP slot (supports 1.5V AGP Interface only)
- Five 32-bit PCI slots

Onboard IDE channels

- Two IDE connectors
- Supports four IDE channels
- Supports IDE Ultra DMA bus mastering with transfer rates of 133/100/66/33 MB/sec

Serial ATA

- Two Serial ATA connectors
- Supports two SATA hard drives
- Ultra DMA 150

AC'97 Codec

- 6-channel and compliant with Intel® AC'97 (REV. 2.3) Spec, meeting with Microsoft® PC2001 requirements
- Advanced power management and power saving capabilities.
- Stereo Line-in function shared with Surround out.
- High quality pseudo-differential analog CD Audio input.
- S/PDIF Input support: S/PDIF In is featured with interrupt, auto-lock, anti-noise, and anti-distortion functionalities support.
- Valuable add-on software technology: Support most industry standards of PC 3D sound and unique karaoke function support featured with microphone echo, key shifting, and vocal cancellation.

Onboard I/O Ports

The motherboard has a full set of I/O ports and connectors:

- Two PS/2 ports for mouse and keyboard
- One serial port

- One parallel port
- Eight USB2.0 ports (four back-panel ports, onboard USB headers USB3/4 providing four extra ports)
- Audio jacks for microphone, line-in and line-out
- One LAN port (optional)

Fast Ethernet LAN (optional)

- **Onboard Gigabit LAN:**
 - Integrated **10/100/1000** transceiver
 - Auto-Negotiation with Next page capability
 - Supports Full Duplex flow control (IEEE 802.3x), and IEEE 802.1Q VLAN tagging
 - Fully compliant with IEEE 802.3, IEEE 802.3u, IEEE 802.3ab
- **Onboard 10/100Mbps Ethernet LAN:**
 - 10 Mbps and 100 Mbps** operation
 - Integrated Fast Ethernet MAC, physical chip, and transceiver onto a single chip
 - Supports 10Mb/s and 100Mb/s N-way auto-negotiation
 - Support ACPI power management
 - Full Duplex Flow Control (IEEE 802.3x) and Half/Full duplex capability

USB 2.0

- Compliant with Universal Serial Bus Specification Revision 2.0
- Compliant with Intel's Enhanced Host Controller Interface Specification Revision 0.95
- Compliant with Universal Host Controller Interface Specification Revision 1.1
- PCI multi-function device consists of two **UHCI Host Controller** cores for full-/low-speed signaling and one **EHCI Host Controller** core for high-speed signaling
- Root hub consists 4 downstream facing ports with integrated physical layer transceivers shared by **UHCI** and **EHCI** Host Controller
- Support PCI-Bus Power Management Interface Specifica-

tion release 1.1

- Legacy support for all downstream facing ports

BIOS Firmware

This motherboard uses AMI BIOS that enables users to configure many system features including the following:

- Power management
- Wake-up alarms
- CPU parameters and memory timing
- CPU and memory timing

The firmware can also be used to set parameters for different processor clock speeds.

Bundled Software

- **Adobe Acrobat Reader** is the software to help users read .PDF files.
- **ShowShifter** provides you with various options to create an ultimate home media center for your PC that you can use it to record and playback TV, enjoy your entertainment over a network, look at digital photos as a slide show on your TV or PC monitor, and so on
- **WinDVD creator Plus** is a storyboard interface making the entire DVD-making process as easy as moving pictures around on your screen.
- **WinDVD** provides the automatic WinDVD software installation.

Dimensions

- ATX form factor of 305 x 220 mm

Motherboard User's Guide

Note: *Hardware specifications and software items are subject to change without notification.*

Package Contents

Your motherboard package ships with the following items:

- The motherboard
- The User's manual
- One diskette drive ribbon cable (optional)
- One IDE drive ribbon cable
- The Software support CD

Optional Accessories

You can purchase the following optional accessories for this motherboard.

- The Extended USB module
- The CNR v.90 56K Fax/Modem card
- The Serial ATA Cable
- The Serial ATA Power Cable

Note: *You can purchase your own optional accessories from the third party, but please contact your local vendor on any issues of the specification and compatibility.*

Chapter 2 Motherboard Installation

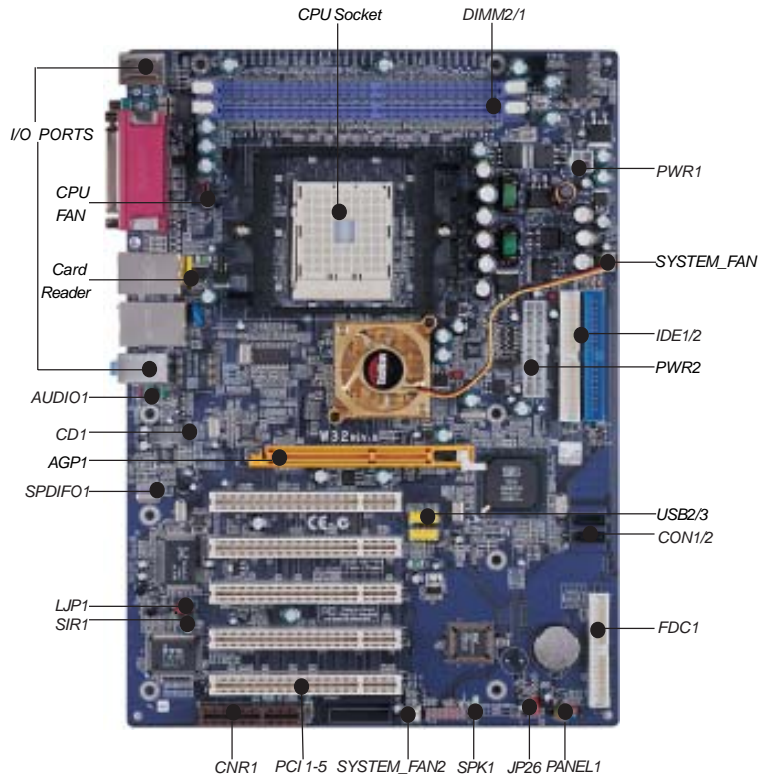
To install this motherboard in a system, please follow these instructions in this chapter:

- Identify the motherboard components
- Install a CPU
- Install one or more system memory modules
- Make sure all jumpers and switches are set correctly
- Install this motherboard in a system chassis (case)
- Connect any extension brackets or cables to connectors on the motherboard
- Install peripheral devices and make the appropriate connections to connectors on the motherboard

Note:

1. Before installing this motherboard, make sure jumper JP26 is under Normal setting. See this chapter for information about locating JP26 and the setting options.
2. Never connect power to the system during installation; otherwise, it may damage the motherboard.

Motherboard Components



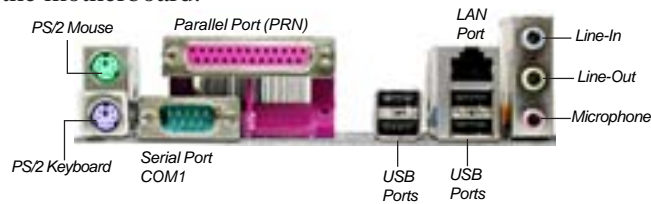
LABELS	COMPONENTS
CPU SOCKET	Socket 754 for Athlon 64/Sempron Processors
DIMM 2/1	Two 184-pin DDR SDRAM sockets
PWR1	Standard 4-pin ATX power connector
SYSTEM_FAN	NB Fan connector
IDE1/2	Primary/Secondary IDE connectors
PWR2	Standard 20-Pin ATX Power connector
USB2/3	Front Panel USB headers
CON1/2	Serial ATA connectors
FDC1	Floppy Disk Drive connector
PANEL 1	Front Panel Switch/LED header

Chapter 2: Motherboard Installation

SYSTEM_FAN2	System Fan connector
JP26	Clear CMOS jumper
SPK1	Speaker header
PCI 1-5	32-bit PCI slots
SIR1	SIR header
LJP1	Giga LAN Function jumper
SPDIFO1	SPDIF Out header
CD1	Analog Audio header
AUDIO1	Front Panel Audio header
Card_Reader	Card_Reader header
CPU_FAN	CPU Fan connector
CNR1	Communication Networking Riser slot
AGP1	One Accelerated Graphics Port slot

I/O Ports

The illustration below shows a side view of the built-in I/O ports on the motherboard.



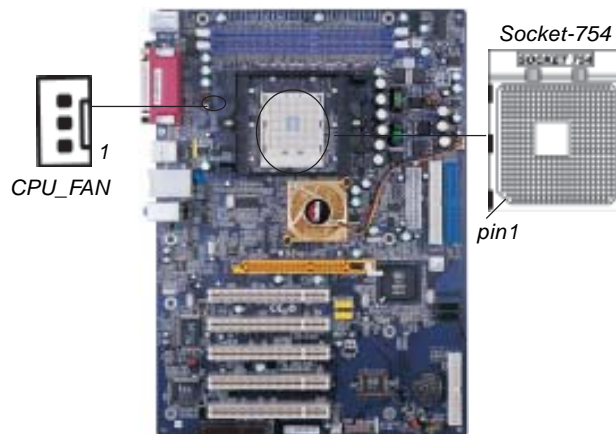
PS/2 Mouse	Use the upper PS/2 port to connect a PS/2 pointing device.
PS/2 Keyboard	Use the lower PS/2 port to connect a PS/2 keyboard.
Parallel Port (PRN)	Use the Parallel port to connect printers or other parallel communications devices.
COM1	Use the COM port to connect serial devices such as mice or fax/modems. COM1 is identified by the system as COM1.
LAN Port (optional)	Connect an RJ-45 jack to the LAN port to connect your computer to the Network.
USB Ports	Use the USB ports to connect USB devices.
Audio Ports	Use the three audio ports to connect audio devices. The first jack is for stereo Line-In signal. The second jack is for stereo Line-Out signal. The third jack is for Microphone.

Installing the Processor

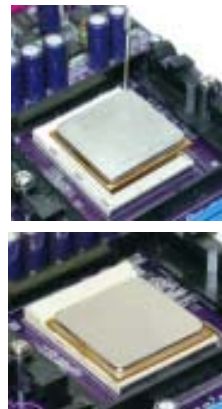
This motherboard has a Socket 754 processor socket. When choosing a processor, consider the performance requirements of the system. Performance is based on the processor design, the clock speed and system bus frequency of the processor, and the quantity of internal cache memory and external cache memory.

CPU Installation Procedure

Follow these instructions to install the CPU:



- 1 Unhook the locking lever of the CPU socket. Pull the locking lever away from the socket and raising it to the upright position.
- 2 Match the pin1 corner marked as the beveled edge on the CPU with the pin1 corner on the socket. Insert the CPU into the socket. Do not use force.



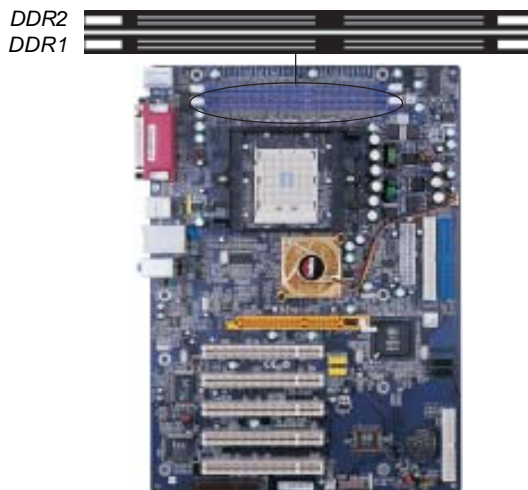
Chapter 2: Motherboard Installation

- 3 Push the locking lever down and hook it under the latch on the edge of socket.
- 4 Apply thermal grease to the top of the CPU.
- 5 Install the cooling fan/heatsink unit onto the CPU, and secure them all onto the socket base.
- 6 Plug the CPU fan power cable into the CPU fan connector (CPU_FAN) on the motherboard.

Installing Memory Modules

This motherboard accommodates two 184-pin 2.5V unbuffered Double Data Rate SDRAM (DDR SDRAM) Dual Inline Memory Module (DIMM) sockets, and supports up to 2.0 GB of **400** MHz DDR SDRAM.

DDR provides 2.1 GB/s, 2.7 GB/s or 3.2 GB/s data transfer rate when the bus is 266 MHz , 333 MHz or 400 MHz, respectively. DDR uses additional power and ground lines and requires 184-pin 2.5V unbuffered DIMM module.



Memory Module Installation Procedure

These modules can be installed with up to 2 GB system memory. Refer to the following to install the memory module.

1. Push down the latches on both sides of the DIMM socket.
2. Align the memory module with the socket. There is a notch on the DIMM socket that you can install the DIMM module in the correct direction. Match the cutout on the DIMM module with the notch on the DIMM socket.



3. Install the DIMM module into the socket and press it firmly down until it is seated correctly. The socket latches are levered upwards and latch on to the edges of the DIMM.



4. Install any remaining DIMM modules.

Chapter 2: Motherboard Installation

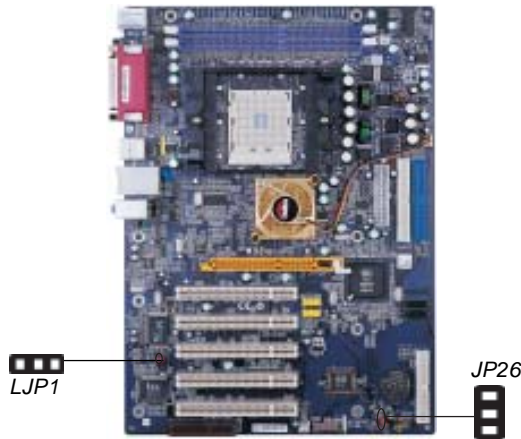
Table A: Unbuffered DIMM Support For 754-pin Lidded Micro PGA Package

Number of DIMMs ⁵	DIMM 1 ^{4,1.5}	DIMM 2 ²	DIMM 3 ²	Maximum DRAM Speed	
				1T	2T ³
1	single rank	empty	empty	DDR400	DDR400
1	empty	single rank	empty	DDR400	DDR400
1	empty	empty	single rank	DDR400	DDR400
1	double rank	empty	empty	DDR400	DDR400
1	empty	double rank	empty	DDR400	DDR400
1	empty	empty	double rank	DDR400	DDR400
2	single rank	single rank	empty	DDR400	DDR400
2	single rank	double rank	empty	DDR400	DDR400
2	single rank	empty	single rank	DDR400	DDR400
2	single rank	empty	double rank	DDR400	DDR400
2	double rank	single rank	empty	DDR400	DDR400
2	double rank	double rank	empty	DDR333	DDR333
2	double rank	empty	single rank	DDR400	DDR400
2	double rank	empty	double rank	DDR333	DDR333
2	empty	single rank	single rank	DDR333	DDR400
2	empty	single rank	double rank	DDR200	DDR400
2	empty	double rank	single rank	DDR200	DDR400
2	empty	double rank	double rank	DDR200	DDR333
3	single rank	single rank	single rank	DDR333	DDR400
3	single rank	single rank	double rank	DDR200	DDR333
3	single rank	double rank	single rank	DDR200	DDR333
3	single rank	double rank	double rank	DDR200	DDR333 ⁴
3	double rank	single rank	single rank	DDR333	DDR333
3	double rank	single rank	double rank	DDR200	DDR333 ⁴
3	double rank	double rank	single rank	DDR200	DDR333 ⁴
3	double rank	double rank	double rank	DDR200	DDR333 ⁴

- 1 DIMM 1 connects to command/address pins MEMADDA [13:0], MEMBANKA[1:0], MEMRASA_L, MEMCASA_L, MEMWEA_L, MEMCKEA.
- 2 DIMM 2 and 3 connect to command/address pins MEMADAB [13:0], MEMBANKB [1:0], MEMRASB_L, MEMCASB_L, MEMWEB_L, MEMCKEB.
- 3 2T timing is supported in CG and later silicon revisions. Refer to the AMD Athlon 64/Sempron Processors Power and Thermal Data Sheet, order #30430, for silicon revision determination.
- 4 The maximum allowable DRAM speed under these high load conditions may be reduced with certain DIMMs due to signal integrity degradation.
- 5 For systems using a 2 DIMM implementation, refer only to rows in this table where the entry for the column titled DIMM 3 reads 'empty'.

Jumper Settings

Connecting two pins with a jumper cap is **SHORT**; removing a jumper cap from these pins, **OPEN**.



JP26: Clear CMOS Jumper

Use this jumper to clear the contents of the CMOS memory. You may need to clear the CMOS memory if the settings in the Setup Utility are incorrect and prevent your mainboard from operating. To clear the CMOS memory, disconnect all the power cables from the motherboard and then move the jumper cap into the **CLEAR** setting for a few seconds.

Function	Jumper Setting
<i>Clear CMOS</i>	<i>Short Pins 1-2</i>
<i>Normal</i>	<i>Short Pins 2-3</i>

LJP1: GIGA LAN Function Jumper

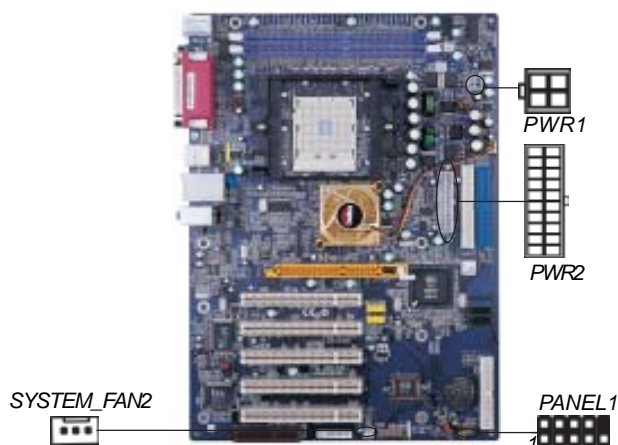
Use this jumper to Enable/Disable Giga LAN function.

Function	Jumper Setting
<i>Disable</i>	<i>Pins 1-2</i>
<i>Enable</i>	<i>Pins 2-3</i>

Install the Motherboard

Install the motherboard in a system chassis (case). The board is an ATX size motherboard. You can install this motherboard in an ATX case. Make sure your case has an I/O cover plate matching the ports on this motherboard.

Install the motherboard in a case. Follow the case manufacturer's instructions to use the hardware and internal mounting points on the chassis.



Connect the power connector from the power supply to the **PWR2** connector on the motherboard. **PWR1** is standard 4-pin ATX power connector.

If there is a cooling fan installed in the system chassis, connect the cable from the cooling fan to the **SYSTEM_FAN2** fan power connector on the motherboard.

Connect the case switches and indicator LEDs to the **PANEL1** header.

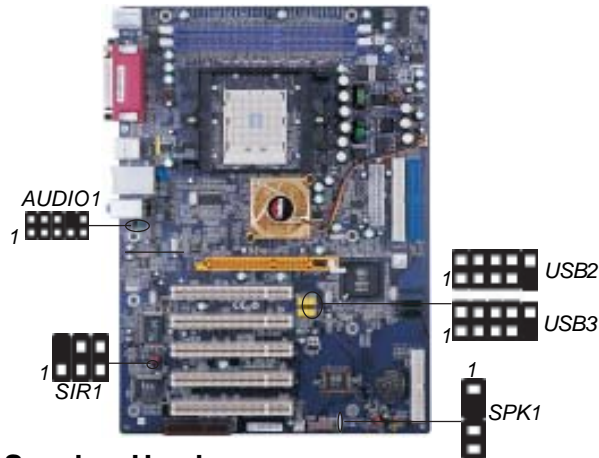
Motherboard User's Guide

Here is a list of the PANEL 1 pin assignments.

Pin	Signal	Pin	Signal
1	HD_LED_P(+)	2	FP_PWR/SLP(+)
3	HD_LED_N(-)	4	FP_PWR/SLP(-)
5	RESET_SW_N(-)	6	POWER_SE_P(+)
7	RESET_SW_P(+)	8	PWER_SW_N(-)
9	RSVD_DNU	10	KEY

Connecting Optional Devices

Refer to the following for information on connecting the motherboard's optional devices:



SPK1: Speaker Header

Connect the cable from the PC speaker to the SPK1 header on the motherboard.

Pin	Signal	Pin	Signal
1	SIGNAL	2	KEY
3	GND	4	VCC

AUDIO1: Front Panel Audio Header

This header allows the user to install auxiliary front-oriented microphone and line-out ports for easier access.

Pin	Signal	Pin	Signal
1	AUD_MIC	2	AUD_GND
3	AUD_MIC_BIAS	4	AUD_VCC
5	AUD_FPOUT_R	6	AUD_RET_R
7	HP_ON	8	KEY
9	AUD_FPOUT_L	10	AUD_RET_L

USB2/USB3: Front panel USB Header

The motherboard has USB ports installed on the rear edge I/O port array. Additionally, some computer cases have USB ports at the front of the case. If you have this kind of case, use auxiliary USB headers USB2/USB3 to connect the front-mounted ports to the motherboard.

<i>Pin</i>	<i>Signal</i>	<i>Pin</i>	<i>Signal</i>
1	VERG_FP_USBPWR0	2	VERG_FP_USBPWR0
3	USB_FP_P0(-)	4	USB_FP_P1(-)
5	USB_FP_P0(+)	6	USB_FP_P1(+)
7	GROUND	8	GROUND
9	KEY	10	USB_FP_OC0

1. Locate the USB2/3 header on the motherboard.
2. Plug the bracket cable onto the USB2/3 header.
3. Remove a slot cover from one of the expansion slots on the system chassis. Install an extension bracket in the opening. Secure the extension bracket to the chassis with a screw.

SIR1: SIR Header

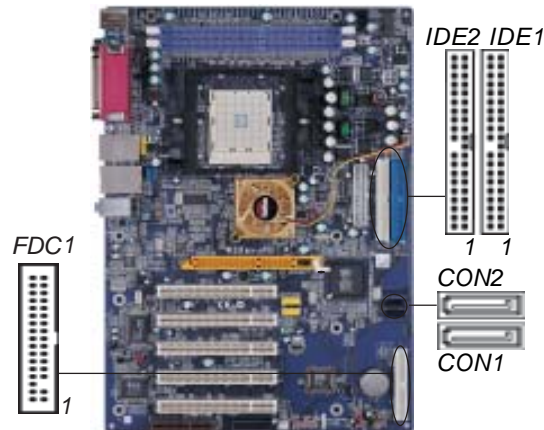
The infrared port allows the wireless exchange of information between your computer and similarly equipped devices such as printers, laptops, Personal Digital Assistants (PDAs), and other computers.

<i>Pin</i>	<i>Signal</i>	<i>Pin</i>	<i>Signal</i>
1	NC	2	KEY
3	+5V	4	GND
5	IRTX	6	IRRX

1. Locate the infrared port-SIR1 header on the motherboard.
2. If you are adding an infrared port, connect the ribbon cable from the port to the SIR1 header and then secure the port to an appropriate place in your system chassis.

Install Other Devices

Install and connect any other devices in the system following the steps below.



Floppy Disk Drive

The motherboard ships with a floppy disk drive cable that can support one or two drives. Drives can be 3.5" or 5.25" wide, with capacities of 360K, 720K, 1.2MB, 1.44MB, or 2.88MB.

Install your drives and connect power from the system power supply. Use the cable provided to connect the drives to the floppy disk drive connector **FDC1**.

IDE Devices

IDE devices include hard disk drives, high-density diskette drives, and CD-ROM or DVD-ROM drives, among others.

The motherboard ships with an IDE cable that can support one or two IDE devices. If you connect two devices to a single cable, you must configure one of the drives as Master and one of the drives as Slave. The documentation of the IDE device will tell you how to configure the device as a Master or Slave device. The Master device connects to the end of the cable.

Install the device(s) and connect power from the system power supply. Use the cable provided to connect the device(s) to the Primary IDE channel connector **IDE1** on the motherboard.

If you want to install more IDE devices, you can purchase a second IDE cable and connect one or two devices to the Secondary IDE channel connector **IDE2** on the motherboard. If you have two devices on the cable, one must be Master and one must be Slave.

Serial ATA Devices

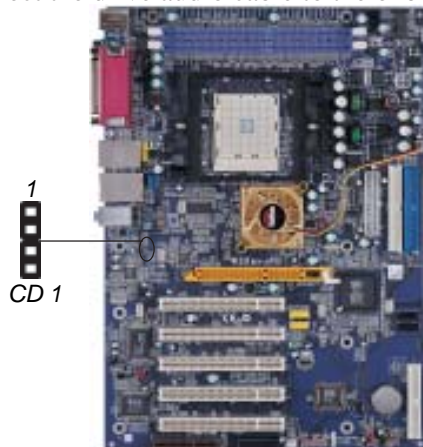
The **Serial ATA (Advanced Technology Attachment)** is the standard interface for the IDE hard drives, which is designed to overcome the design limitations while enabling the storage interface to scale with the growing media rate demands of PC platforms. It provides you a faster transfer rate of **150 MB/s**. If you have installed a Serial ATA hard drive, you can connect the Serial ATA cables to the Serial ATA hard drive or the connector on the motherboard.

On the motherboard, locate the Serial ATA connectors **CON1/2**, which support new Serial ATA devices for the highest data transfer rates, simpler disk drive cabling and easier PC assembly.

It eliminates limitations of the current Parallel ATA interface, but maintains register compatibility and software compatibility with Parallel ATA.

Internal Sound Connections

If you have installed a CD-ROM drive or DVD-ROM drive, you can connect the drive audio cable to the onboard sound system.

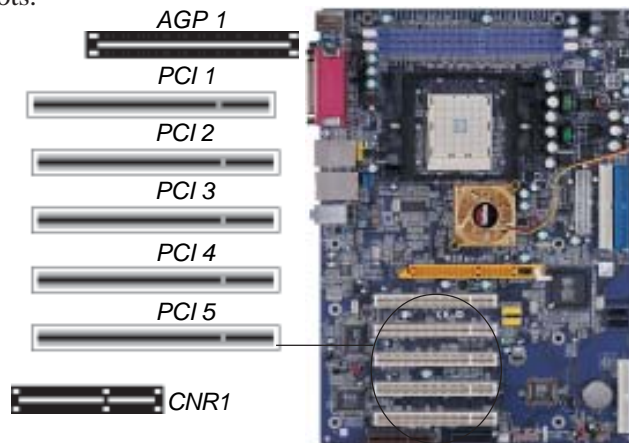


When you first start up your system, the BIOS should automatically detect your CD-ROM/DVD drive. If it doesn't, enter the Setup Utility and configure the CD-ROM/DVD drive that you have installed. On the motherboard, locate the 4-pin header **CD1**.

Pin	Signal
1	CD IN L
2	GND
3	GND
4	CD IN R

Expansion Slots

This motherboard has one AGP, one CNR and five 32-bit PCI slots.



Follow the steps below to install an AGP/CNR/PCI expansion card.

1. Locate the AGP, CNR or PCI slots on the motherboard.
2. Remove the blanking plate of the slot from the system chassis.
3. Install the edge connector of the expansion card into the slot. Ensure the edge connector is correctly seated in the slot.



Secure the metal bracket of the card to the system chassis with a screw.

8x AGP Slot

You can install a graphics adapter that supports the 8x AGP specification and has a 8x AGP edge connector in the AGP slot.

CNR Slot

You can install the CNR (Communications and Networking Riser) cards in this slot, including LAN, Modem, and Audio functions.

PCI Slots

You can install the 32-bit PCI interface expansion cards in the slots.

Chapter 3 BIOS Setup Utility

Introduction

The BIOS Setup Utility records settings and information of your computer, such as date and time, the type of hardware installed, and various configuration settings. Your computer applies the information to initialize all the components when booting up and basic functions of coordination between system components.

If the Setup Utility configuration is incorrect, it may cause the system to malfunction. It can even stop your computer booting properly. If it happens, you can use the clear CMOS jumper to clear the CMOS memory which has stored the configuration information; or you can hold down the **Page Up** key while rebooting your computer. Holding down the **Page Up** key also clears the setup information.

You can run the setup utility and manually change the configuration. You might need to do this to configure some hardware installed in or connected to the motherboard, such as the CPU, system memory, disk drives, etc.

Running the Setup Utility

Every time you start your computer, a message appears on the screen before the operating system loading that prompts you to "Hit if you want to run SETUP". Whenever you see this message, press the **Delete** key, and the Main menu page of the Setup Utility appears on your monitor.

CMOS SETUP UTILITY – Copyright (C) 1985-2003, American Megatrends, Inc	
▀Standard CMOS Setup ▀Advanced Setup ▀Features Setup ▀Power Management Setup ▀PCI / Plug and Play Setup ▀BIOS Security Features	▀CPU PnP Setup ▀Hardware Monitor Load Optimal Defaults Save Changes and Exit Discard Changes and Exit
← → : Move Enter: Select +/-: Value F10: Save Esc: Exit F1: General Help F9: Optimized Defaults	
Standards COMOS setup for changing time, date, hard disk type, etc. V02.54 (C) 1985-2003, American Megatrends, Inc.	

You can use cursor arrow keys to highlight anyone of options on the main menu page. Press **Enter** to select the highlighted option. Press the **Escape** key to leave the setup utility. Press +/- to modify the selected field's values.

Some options on the main menu page lead to tables of items with installed values that you can use cursor arrow keys to highlight one item, and press **PgUp** and **PgDn** keys to cycle through alternative values of that item. The other options on the main menu page lead to dialog boxes requiring your answer Yes or No by hitting the **Y** or **N** keys.

If you have already changed the setup utility, press **F10** to save those changes and exit the utility. Press **F1** to display a screen describing all key functions. Press **F9** to install the setup utility with a set of default values.

Standard CMOS Setup Page

This page displays a table of items defining basic information about your system.

<i>CMOS SETUP UTILITY – Copyright (C) 1985-2003, American Megatrends, Inc. Standard CMOS Setup</i>		
<i>System Time</i>	<i>00:00:12</i>	<i>Help Item</i>
<i>System Date</i>	<i>Mon 04/05/2004</i>	
<i>■ Primary IDE Master</i>	<i>Not Detected</i>	<i>Use [Enter], [TAB] or [SHIFT-TAB] to select a field. Use [+] or [-] to configure system Time.</i>
<i>■ Primary IDE Slave</i>	<i>Not Detected</i>	
<i>■ Secondary IDE Master</i>	<i>Not Detected</i>	
<i>■ Secondary IDE Slave</i>	<i>Not Detected</i>	
<i>Floppy Drive A</i>	<i>1.44 MB 31/2"</i>	
<i>Floppy Drive B</i>	<i>Disabled</i>	
<i>↑↓←→ : Move Enter: Select +/-: Value F10: Save Esc: Exit F1: General Help F9: Optimized Defaults</i>		

Date & Time

These items set up system date and time.

IDE Pri Master/Pri Slave/Sec Master/Sec Slave

Use these items to configure devices connected to the Primary and Secondary IDE channels. To configure an IDE hard disk drive, choose *Auto*. If the *Auto* setting fails to find a hard disk drive, set it to *User*, and then fill in the hard disk characteristics (Size, Cyls, etc.) manually. If you have a CD-ROM drive, select the setting *CDROM*. If you have an ATAPI device with removable media (e.g. a ZIP drive or an LS-120), select *Floptical*.

Floppy Drive A/B

These items set up size and capacity of the floppy diskette drive(s) installed in the system.

Advanced Setup Page

This page sets up more advanced information about your system. Handle this page with caution. Any changes can affect the operation of your computer.

<i>CMOS SETUP UTILITY - Copyright (C) 1985-2003, American Megatrends, Inc.</i>		
<i>Advanced Setup</i>		
<i>Quick Boot</i>	<i>Enabled</i>	<i>Help Item</i>
<i>1st Boot Device</i>	<i>1st FLOPPY DRIVE</i>	<i>Allows BIOS to skip certain tests while booting. This will decrease the time needed to boot the system.</i>
<i>2nd Boot Device</i>	<i>Realtek Boot Agen</i>	
<i>3rd Boot Device</i>	<i>Network Card</i>	
<i>Try Other Boot Device</i>	<i>Yes</i>	
<i>Bootup Num-Lock</i>	<i>On</i>	
<i>Boot To OS/2 > 64MB</i>	<i>No</i>	
<i>DRAM CAS# Latency</i>	<i>By SPD</i>	
<i>Auto Detect DIMM/PCI C1K</i>	<i>Enabled</i>	
<i>Cool 'N' Quiet</i>	<i>Enabled</i>	
<i>← → : Move Enter: Select +/-: Value F10: Save Esc: Exit F1: General Help F9: Optimized Defaults</i>		

Share Memory Size

This item lets you allocate a portion of the main memory for the onboard VGA display application with five options of 32/64/128 MB.

Quick Boot

If you enable this item, the system starts up more quickly by elimination some of the power on test routines.

1st Boot Device/2nd Boot Device/3rd Boot Device

Use these items to determine the device order the computer uses to look for an operating system to load at start-up time.

Try Other Boot Device

If you enable this item, the system will also search for other boot devices if it fails to find an operating system from the first two locations.

BootUp Num-Lock

This item determines if the Num Lock key is active or inactive at system start-up time.

Boot to OS/2 > 64MB

Enable this item if you are booting the OS/2 operating system and you have more than 64MB of system memory installed.

DRAM CAS# Latency

This item determines the operation of DRAM memory CAS (column address strobe). It is recommended that you leave this item at the default value. The 2T setting requires faster memory that specifically supports this mode.

Auto detect DIMM/PCI Clock

When this item is enabled, BIOS will disable the clock signal of free DIMM/PCI slots.

Cool 'N' Quiet

It supports fan control to reduce fan noise when the CPU is running cool. This motherboard and BIOS requirements for a PowerNow! are identical. The same BIOS data structures are used.

Parallel Port Mode

Use this item to set the parallel port mode. You can select ECP (Extended Capabilities Port).

ECP Mode DMA Channel

Use this item to assign a DMA channel to the parallel port.

Parallel Port IRQ

Use this item to assign IRQ to the parallel port.

OnBoard PCI IDE Controller

Use this item to enable or disable both of the onboard Primary and Secondary IDE channels.

OnBoard PCI SATA Controller

Use this item to enable the onboard PCI SATA channel.

Audio Device

This item enables or disables the AC'97 audio chip.

Modem Device

This item enables or disables the onboard Modem.

Ethernet Device

This item enables or disables the onboard Ethernet LAN.

OnBoard USB Function

Enable this item if you plan to use the USB ports on this motherboard.

USB Function For DOS

Enable this item if you plan to use the USB ports on this motherboard in a DOS environment.

Power Management Setup Page

This page sets some parameters for system power management operation.

<i>CMOS SETUP UTILITY – Copyright (C) 1985-2003, American Megatrends, Inc</i> <i>Power Management Setup</i>		
<i>ACPI Aware O/S</i>	<i>Yes</i>	<i>Help Item</i>
<i>Power Management</i>	<i>Enabled</i>	<i>Enable / Disable ACPI support for Operating System. Enable: If OS supports ACPI. Disable: If OS does not support ACPI.</i>
<i>Suspend Mode</i>	<i>S1</i>	
<i>Suspend Time Out</i>	<i>Disabled</i>	
<i>Resume On RTC Alarm</i>	<i>Disabled</i>	
<i>Keyboard Power On</i>	<i>Disabled</i>	
<i>LAN/Ring Power On</i>	<i>Disabled</i>	
<i>↑↓←→ : Move Enter: Select +/-: Value F10: Save Esc: Exit F1: General Help F9: Optimized Defaults</i>		

ACPI Aware O/S

This item supports ACPI (Advanced Configuration and Power management Interface). Use this item to enable or disable the ACPI feature.

Power Management

Use this item to enable or disable a power management scheme. If you enable power management, you can use the items below to set the power management operation. Both APM and ACPI are supported.

Suspend Mode

This item selects the status S1(Stop Clock) or S3(Suspend to RAM) when the system enters the power-saving Suspend mode.

Suspend Time Out

This sets the timeout for Suspend mode in minutes. If the time selected passes without any system activity, the computer will enter power-saving Suspend mode.

Resume On RTC Alarm / Date / Hour / Minute / Second

The system can be turned off with a software command. If you enable this item, the system can automatically resume at a fixed time based on the system's RTC (realtime clock). Use the items below this one to set the date and time of the wake-up alarm. You must use an ATX power supply in order to use this feature.

Keyboard Power On

If you enable this item, system can automatically resume by pressing hot keys on the keyboard or typing in the password. You must enable the Keyboard Power On jumper and use an ATX power supply in order to use this feature.

LAN/Ring Power On

The system can be turned off with a software command. If you enable this item, the system can automatically resume if there is an incoming call on the Modem. You must use an ATX power supply in order to use this feature.

PCI / Plug and Play Setup Page

This page sets up some parameters for devices installed on the PCI bus and those utilizing the system plug and play capability.

CMOS SETUP UTILITY - Copyright (C) 1985-2003, American Megatrends, Inc. PCI / Plug and Play Setup	
<i>Primary Graphics Adapter</i> <i>AGP</i>	<i>Help Item</i>
<i>Allocate IRQ to PCI VGA</i> <i>Yes</i>	<i>Options</i> <i>PCI</i> <i>AGP</i>
<i>PCI IDE BusMaster</i> <i>Disabled</i>	
← → : Move Enter: Select +/-: Value F10: Save Esc: Exit F1: General Help F9: Optimized Defaults	

Primary Graphics Adapter

This item indicates if the primary graphics adapter uses the PCI or the AGP bus. The default AGP setting still lets the onboard display work and allows the use of a second display card installed in an AGP slot.

Allocate IRQ to PCI VGA

If this item is enabled, an IRQ will be assigned to the PCI VGA graphics system. You set this value to No to free up an IRQ.

PCI IDE BusMaster

This item enables or disables the DMA under DOS mode. We recommend you to leave this item at the default value.

BIOS Security Features Setup Page

This page helps you install or change a password.

CMOS SETUP UTILITY - Copyright (C) 1985-2003, American Megatrends, Inc. BIOS Security Features	
<u>Security Settings</u>	<i>Help Item</i>
<i>Supervisor Password : Not Installed</i> <i>Change Supervisor Password Press Enter</i>	<i>Install or Change the password.</i>
↑↓←→ : Move Enter: Select +/-: Value F10: Save Esc: Exit F1: General Help F9: Optimized Defaults	

Supervisor Password

This item indicates whether a supervisor password has been set. If the password has been installed, *Installed* displays. If not, *Not Installed* displays.

Change Supervisor Password

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

CPU PnP Setup Page

This page helps you manually configure the motherboard for the CPU. The system will automatically detect the type of installed CPU and make the appropriate adjustments to the items on this page.

CMOS SETUP UTILITY - Copyright (C) 1985-2003, American Megatrends, Inc. CPU PnP Setup	
Processor Type : AMD Athlon (tm) 64 Processor 3200+ CPU Over-clocking Freq 200 DRAM Frequency : 200 MHz	Help Item CPU Freq Over Clock 200 to 230 MHz
← → : Move Enter: Select +/-: Value F10: Save Esc: Exit F1: General Help F9: Optimized Defaults	

Processor Type

This item shows the type of the CPU installed in your system.

CPU Frequency

This item shows the frequency of the CPU installed in your system.

Model	NB	Function
W32	SiS755	CPU Frequency: 200/166/133/100

Auto Detect DRAM Clock/DRAM Frequency

When this item is enabled, it automatically detects and shows clock and frequency of the DRAM memory installed in your system; when disabled, it can adjust clock and frequency of the DRAM memory.

Hardware Monitor Page

This page sets up some parameters for the hardware monitoring function of this motherboard.

<i>CMOS SETUP UTILITY - Copyright (C) 1985-2003, American Megatrends, Inc.</i>	
<i>Hardware Monitor</i>	
<i>*** System Hardware Monitor***</i>	<i>Help Item</i>
<i>Vcore</i> :1.536V	
<i>Vdimm</i> :2.512V	
<i>Vivdd</i> :1.536V	
<i>Vcc5V</i> :5.026V	
<i>SB3V</i> :3.264V	
<i>CPU FAN Speed</i> :0 RPM	
<i>SYSTEM FAN Speed</i> :0 RPM	
<i>SYSTEM FAN2 Speed</i> :0 RPM	
<i>CPU Temperature</i> :50°C/122°F	
<i>SYSTEM Temperature</i> :31°C/87°F	
<i>POWER Temperature</i> :46°C/114°F	
<i>↑↓←→ : Move Enter: Select +/-: Value F10: Save Esc: Exit</i>	
<i>F1: General Help F9: Optimized Defaults</i>	

CPU/System Temperature

These items display CPU and system temperature measurement.

FANs & Voltage Measurements

These items indicate cooling fan speeds in RPM and the various system voltage measurements.

Load Optimal Defaults

This option opens a dialog box to ask if you are sure to install optimized defaults or not. You press <Y>, and then <Enter>, the Setup Utility loads all default values; or press <N>, and then <Enter>, the Setup Utility does not load default values.

Note: *It is highly recommend that users enter this option to load optimal default values for accessing the best performance.*

Save Changes and Exit

Highlight this item and press <Enter> to save the changes that you have made in the Setup Utility configuration. When the Save Changes and Exit dialog box appears, press Y to save and exit, or press N to return to the main menu.

Discard Changes and Exit

Highlight this item and press <Enter> to discard any changes that you have made in the Setup Utility and exit the Setup Utility. When the Discard Changes and Exit dialog box appears, press <Y> to discard changes and exit, or press <N> to return to the main menu.

Note: *If you have made settings that you do not want to save, use the "Discard Changes and Exit" item and press <Y> to discard any changes you have made.*

Chapter 4 Software & Applications

Introduction

This chapter describes the contents of the support CD-ROM that comes with the motherboard package.

The support CD-ROM contains all useful software, necessary drivers and utility programs to properly run our products. More program information is available in a README file, located in the same directory as the software.

To run the support CD, simply insert the CD into your CD-ROM drive. An Auto Setup screen automatically pops out, and then you can go on the auto-installing or manual installation depending on your operating system.

If your operating system is Windows 2000/XP, it will automatically install all the drivers and utilities for your motherboard; if Windows NT or manual installation, please follow the instructions described as the Installing under Windows NT or Manual Installation section.

Installing Support Software

- 1 Insert the support CD-ROM disc in the CD-ROM drive.
- 2 When you insert the CD-ROM disc in the system CD-ROM drive, the CD automatically displays an Auto Setup screen.
- 3 The screen displays three buttons of **Setup**, **Browse CD** and **Exit** on the right side, and three others **Setup**, **Application** and **ReadMe** at the bottom. Please see the following illustration.



The **Setup** button runs the software auto-installing program as explained in next section.

The **Browse CD** button is a standard Windows command that you can check the contents of the disc with the Windows 98 file browsing interface.

The **Exit** button closes the Auto Setup window. To run the program again, reinsert the CD-ROM disc in the drive; or click the CD-ROM driver from the Windows Explorer, and click the Setup icon.

The **Application** button brings up a software menu. It shows the bundled software that this motherboard supports.

The **ReadMe** brings you to the Install Path where you can find out path names of software driver.

Auto-Installing under Windows 2000/XP

If you are under Windows 2000/XP, please click the **Setup** button to run the software auto-installing program while the Auto Setup screen pops out after inserting the support CD-ROM:

- 1 The installation program loads and displays the following screen. Click the **Next** button.



- 2 Select the items that you want to setup by clicking on it (the default options are recommended). Click the **Next** button to proceed.



- 3 The support software will automatically install.

Once any of the installation procedures start, software is automatically installed in sequence. You need to follow the onscreen instructions, confirm commands and allow the computer to restart as few times as needed to complete installing whatever software you selected. When the process is finished, all the support software will be installed and start working.

Installing under Windows NT or Manual Installation

If you are under Windows NT, the auto-installing program doesn't work out; or you have to do the manual installation, please follow this procedure while the Auto Setup screen pops out after inserting the support CD-ROM:

- 1 Click the **ReadMe** to bring up a screen, and then click the Install Path at the bottom of the screen.
- 2 Find out your motherboard model name and click on it to obtain its correct driver directory.
- 3 Install each software in accordance with the corresponding driver path.

Bundled Software Installation

All bundled software available on the CD-ROM is for users' convenience. You can install bundled software as follows:

- 1 Click the **Application** button while the Auto Setup screen pops out after inserting the support CD-ROM.
- 2 A software menu appears. Click the software you want to install.
- 3 Follow onscreen instructions to install the software program step by step until finished.