TÜV CERT

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.**

2F, No. 240, Sec. 1, Nei Hu Road, Taipei, Taiwan 114
No. 22, Alley 38, Lane 91, Sec. 1, Nei Hu Road, Taipei, Taiwan 114
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**

TGA-ZM-30-96-00

Essen, 04.03.2004

RWTÜV

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,Shatuojiao,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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Table of Contents

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 mainboard 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) pops 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.
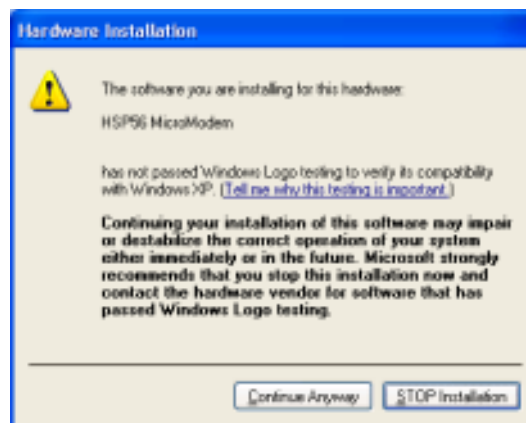
2. USB 2.0 Driver Limitations:
   2-1 The USB 2.0 driver only supports Windows XP and
       Windows 2000.
   2-2 If you connect a USB 2.0 hub to the root hub, plugging
       USB devices into this hub, the system might not
       successfully execute certain USB devices' connection
       because it 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 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

- Prend en charge les processeurs AMD **Athlon 64/Sempron**
- Prend en charge le Bus Frontal à **800 MHz**

> *La **Technologie HyperTransport** est une liaison point à point entre deux matériels, elle permet à des circuits intégrés d'échanger des informations à des vitesses bien plus élevées que ne le permettent les technologies à interconnexions actuellement disponibles.*

Chipset

Ce chipset comporte **SiS760GX Northbridge** et **SiS964 Southbridge** conformément à une architecture novatrice et dimensionnable avec une fiabilité et des performances prouvées.

- Interface d'Hôte de Hautes Performances : Prend en charge les pilotes de bus compatibles avec les **CPU AMD Athlon 64** et l'**HyperTransport** avec capacité d'auto compensation, prise en charge de 8/16 liaisons, jusqu'à 1600MT/s de bande passante
- Cible conforme AGP intégrée /Pont Hôte vers PCI à 66MHz : Conforme à AGP v3.0 Universel, prend en charge seulement l'interface AGP 1.5V, et prend en charge l'interface **AGP 8X/4X** avec Fast Write Transaction
- Accélérateur Graphique 3D de Haute Performance & Haute Qualité. Moteur graphique 3D 256 bits de haute performance et moteur d'installation en triangle VLIW au format de virgule flottante en 32 bits intégrés
- Solution de Sortie TV/Ecran plat numérique complète : Contrôleur de TRC secondaire intégré pour prendre en charge l'affichage indépendant du TRC secondaire, LCD et sortie TV.
- Pont MuTIOL 1G vers PCI intégré : Conforme aux spécifications PCI 2.3, et prend en charge jusqu'à 6 maîtres PCI
- Contrôleur Maître/Esclave IDE double: Maîtrise de liaison d'E/S multiprocessus intégrée avec flux en pipeline de lecture, Ultra DMA 133/100/66/33
- Contrôleur d'hôte ATA série : Conforme aux spécifications ATA Série 1.0, Ultra DMA 150
- Contrôleur Hôte de bus USB. Maîtrise de lien Multiprocessus E/S intégré, et trois Contrôleurs d'Hôte OHCI USB 1.1 Indépendants et Un Contrôleur d'Hôte EHCI USB 2.0, prenant en charge jusqu'à huit ports
- Contrôleur Fast Ethernet MAC Intégré : Compatible avec le standard IEEE 802.3 et 802.3x et, prend en charge les réseaux domestiques full duplex 10base-T, 100base-Tx, 1Mb/s & 10 Mb/s.
- Contrôleur Audio intégré avec interface AC'97: Conforme à AC97 v2.3, et 6 canaux de sorties haut-parleur AC97 et Modem V.90 HSP

Guide de l'utilisateur de la carte mère

Support de Mémoire

- Deux sockets DIMM de 2.5V 184 broches pour module mémoire DDR SDRAM
- Prend en charge les modules de mémoire **DDR400**
- La mémoire maximum installée est 2Go

Logements d'Extension

- Un logement CNR
- Un logement **8X** AGP
- Deux logements PCI 32 bits pour interface de bus conforme PCI 2.2

Canaux IDE internes

- Deux Connecteurs IDE
- Prend en Charge les modes PIO (Entrée/Sortie Programmable) et DMA (Accès Direct à la Mémoire)
- Supporte maîtrise de bus Ultra DMA IDE avec vitesse de transfert de **133**/100/ 66 Mo/sec

ATA Série

- Deux ATA Série connecteurs
- Vitesse de transfert supérieure au meilleur ATA (~150 Mo/s) avec extensibilité aux vitesses supérieures
- Comptage de broche faible pour l'hôte et les périphériques

AC'97 Audio 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 Sortie S/PDIF : Sortie 96/ 48 kHz avec 24/ 20/16 bits
- 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
- Un port VGA
- Quatre ports **USB 2.0** de panneau arrière
- Un port LAN (optionnel)
- Prises audio pour microphone, ligne d'entrée et ligne de sortie

LAN Ethernet Fast (optionnel)

- Supporte le fonctionnement en 10/100Mbps et le fonctionnement en half/full duplex
- Conforme IEEE 802.3/802.3u
- Supporte l'auto-négociation IEEE 802.3u clause 28
- Supporte le fonctionnement en mode d'Economie d'Energie d'Interruption de Liaison

- Supporte la compensation de Déviation de Ligne de Base (BLW)
- Egalisation spéculative

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 1.0
- 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, jusqu'à huit ports fonctionnels
- 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.

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Funktionen & Checkliste

Checkliste

Die Verpackung Ihres Motherboards enthält folgende Teile:

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

Ausstattung

Unterstütz Socket-754-Prozessoren

- Unterstützt AMD **Athlon 64/Sempron** Prozessoren
- Unterstützt Front-Side Bus **800 MHz**

> *HyperTransport Technologie ist ein Punkt-zu-Punkt Link zwischen zwei Geräten. Es ermöglicht integrierten Schaltkreisen einen Informationsaustausch mit wesentlich höherer Geschwindigkeit als bei gängigen Interconnect-Technologien.*

Chipsatz

Dieser Chipsatz besteht aus einer **SiS760GX Northbridge** und **SiS964 Southbridge**. Die Chipsatzarchitektur ist in einem innovativen und skalierbaren Design gehalten und verspricht sowohl Zuverlässigkeit als auch Leistungsstärke.

- Hochleistungsfähiges Host-Interface: Unterstützt **AMD Athlon 64 CPUs** und Bustreiber mit **HyperTransport**-Entspechung mit automatischer Kompensationsfähigkeit, unterstützt 8/16 Links, Bandbreite bis zu 1600MT/s
- Integrierte Target/66MHz Host-to-PCI Bridge mit AGP-Entsprechung: entspricht Universal AGPv3.0, unterstützt nur 1.5V AGP Interface und unterstützt **AGP 8X/4X** Interface mit Fast Write Transaction
- Hochleistungsfähiger Qualitäts 3D-Grafikbeschleuniger: integrierter hochleistungsfähiger 256-Bit 3D-Grafik-Engine und 32-Bit Fließkomma VLIW-Triangle Setup-Engine
- Komplette TV-OUT/Digital Flachbildschirm-Lösung: eingebauter sekundärer CRT-Controller zur Unterstützung der unabhängigen Wiedergabe des sekundären CRT, LCD und TV-out
- Integriertes MuTIOL 1G-zu-PCI Bridge: entspricht PCI 2.3 Spezifikation und unterstützt bis zu 6 PCI-Masters
- Dualer IDE Master/Slave-Controller: integriertes Multithreaded I/O Link-Mastering mit Read-Pipelined-Streaming, Ultra DMA 133/100/66/33
- Serieller ATA Host-Controller: entspricht Serial ATA 1.0 Spezifikation, Ultra DMA 150
- Universal Serial Bus Host-Controller: integriertes Multithreaded I/O Link-Mastering, drei unabhängige OHCI USB 1.1 Host-Controller und ein EHCI USB 2.0 Host-Controller unterstützen bis zu acht Ports
- Integrierter Fast Ethernet MAC-Controller: entspricht IEEE802.3 und 802.3x Standards und unterstützt Vollduplex 10base-T, 100base-Tx, 1 Mb/s & 10 Mb/s Home-Networking
- Integrierter Audio-Controller mit AC'97 Interface: AC'97 v2.3 Entsprechung, 6-Kanal AC97 Lautsprecherausgabe und V.90 HSP-Modem

Speicherunterstützung

- Zwei 184-pin 2.5V DIMM Steckplätze für DDR SDRAM
- Unterstützung für **DDR400** Speicherbus
- Maximal auf 2GB Speicher erweiterbar

Erweiterungssteckplätze

- Ein CNR-Steckplatz
- Ein **8X** AGP-Steckplatz
- Zwei 32-Bit PCI-Steckplätze für PCI 2.2-kompatibles Businterface

Onboard IDE-Kanäle

- Zwei IDE-Header
- Unterstützt die Modi PIO (Programmable Input/Output) und DMA (Direct Memory Access)
- Unterstützung für IDE Ultra DMA-Busmastering mit Transferraten von **133**/ 100/66 MB/Sek

Serial ATA

- Zwei Serial ATA Headers
- Datentransferrate übertrifft beste ATA-Werte (~150 MB/Sek.); höhere Transferraten möglich
- Low Pin Count (LPC) für Host und Geräte

AC'97 Audio 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 Output-Unterstützung: Output 96 / 48 kHz mit 24 / 20 / 16 Bits
- 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
- Ein VGA Steckplatz
- Vier **USB 2.0** Ports auf der Rückseite
- Ein LAN Steckplatz (optional)
- Audioanschlüsse für Mikrofon, line-in und line-out

Fast Ethernet LAN (optional)

- Unterstützt Betrieb mit 10/100 Mbps sowie Halb-/Vollduplexbetrieb
- Kompatibel mit IEEE 802.3/802.3u
- Unterstützt IEEE 802.3u Clause 28 Auto Negotiation
- Unterstützt Betrieb im Link Down-Energiesparmodus
- Unterstützt Base Line Winder (BLW)- Kompensation
- Adaptive Entzerrung

USB2.0

- Entspricht Universal Serial Bus-Spezifikation, Revision 2.0
- Entspricht Intels Enhanced Host Controller Interface-Spezifikation, Revision 1.0
- 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, bis zu acht funktionelle Ausgangsstellen.
- 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 abgeändert werden.

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

- Supporto di processori AMD **Athlon 64/Sempron**
- Supporto di Front Side Bus a **800 MHz**

*La **tecnologia HyperTransport** consente il collegamento point-to-point fra due dispositivi e quindi un trasferimento di informazioni tra circuiti integrati molto più veloce di quanto sia possibile con le attuali tecnologie di interconnessione.*

Chipset

In accordo ad una archittettura scabile e innovative sono presenti nel chipset il **Northbridge SiS760GX** e **Southbridge SiS964**.

- Interfaccia host a elevate prestazioni: supporto di driver per bus conforme con **CPU AMD Athlon 64** e **HyperTransport** con funzionalità di autocompensazione, supporto di 8/16 link, ampiezza di banda fino a 1600 MT/s
- Bridge Host/PCI Target/66 MHz conforme con AGP integrato: conforme con AGP v3.0 universale, con supporto di sola interfaccia AGP a 1.5 V e supporto di interfaccia **AGP 8X/4X** con funzionalità Fast Write
- Acceleratore grafico 3D a elevate prestazioni e qualità: motore grafico 3D a 256 bit a elevate prestazioni integrato e motore triangle setup con architettura VLIW a virgola mobile a 32 bit integrato
- Soluzione completa per TV-OUT/Digital Flat Panel: controller CRT secondario integrato per il supporto indipendente di schermi CRT, LCD e TV-out secondari
- Bridge MuTIOL 1G/PCI integrato: conforme alla specifica PCI 2.3, con supporto di un massimo di 6 master PCI
- Doppio controller IDE Master/Slave: controllo master MuTIOL integrato con streaming a pipeline in lettura, Ultra DMA 133/100/66/33
- Host controller ATA seriale: conforme alla specifica ATA Seriale 1.0, Ultra DMA 150
- Host controller a bus seriale universale: controllo master MuTIOL integrato, tre host controller OHCI USB 1.1 indipendenti e un host controller EHCI USB 2.0, supporto di fino a otto porte
- Controller MAC Fast Ethernet integrato: compatibile con gli standard IEEE802.3 e 802.3x e supporto di reti domestiche full duplex a 10base-T, 100base-Tx, 1 Mb/s e 10 Mb/s
- Controller audio integrato con interfaccia AC'97: Conforme a AC'97 v2.3, 6 canali di uscita altoparlanti AC97 e HSP-Modem V.90

Memoria Supporta
- Due prese DIMM da 2.5 V a 184 pin per moduli memoria SDRAM DDR
- Supporta bus di memoria **DDR400**
- Quantità massima di memoria installabile, 2GB

Slot di espansione
- Una slot CNR
- Una slot AGP **8X**
- Due slots PCI a 32 bit per interfaccia bus PCI 2.2

Canali IDE Integrati
- Due connettori IDE
- Supporto della modalità PIO (Programmable Input/Output) e DMA (Direct Memory Access)
- Supporto per le modalità Bus Mastering e Ultra DMA ATA **133**/100/66 MB/sec

ATA Seriale
- Due connettori Serial ATA
- Altissima velocità di trasferimento dati ATA (~150 MB/s) con la possibilità di scalabilità della velocità stessa verso valori piú alti
- Pin Count ridotto sia per l'host sia per le periferich

AC'97 Audio 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.
- Funzione Stereo Line-in condivisa con l'uscita Surround out.
- Input pseudo analogico CD Audio ad alta qualità.
- Supporto Output S/PDIF, Output da 96/48 kHz con 24 / 20 / 16 bit
- 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 della voce.

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
- Una porta VGA
- Quattro porte **USB 2.0** sul retro del pannello
- Una porta LAN (opzionale)
- Jack audio per microfono, ingresso linea e uscita linea

Fast Ethernet LAN (opzionale)
- Supporto delle operazioni 10/100Mbps half/full duplex
- Conforme allo standard IEEE 802.3/802.3u
- Supporto delle impostazioni per la negoziazione automatica IEEE 802.3u
- Supporto delle operazioni nella modalità Link Down Power Saving
- Supporto della compensazione Base Line Winder (BLW)
- Equalizzazione adattabile

USB 2.0

- Conforme alle specifiche Universal Serial Bus 2.0
- Conforme alle specifiche Intel Enhanced Host Controller revisione 1.0
- 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.
- Il root hub è composto in 4 porte in downstream facing con ricevitore physical layer integrato condiviso dall'Host Controller UHCI e EHCI sino a otto porte funzionali
- Supporto per interfaccia risparmio energia bus PCI specifiche release 1.1
- Supporto per tutte le porte downstream precedenti

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

Guía de Usuario de la Placa Principal

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 procesadores AMD **Athlon 64/Sempron**
- Soporta Bus Frontal de **800 MHz**

**HyperTransport Technology** es un vínculo de punto a punto entre dos dispositivos, habilita circuitos integrados para intercambiar información en velocidades muchos más rápidas que las tecnologías de interconexión disponibles hoy.

Chipset

Hay **SiS760GX Northbridge** y **SiS964 Southbridge** en este chipset en confomidad con una arquitectura innovadora y escalable con fiabilidad y rendimiento comprobados.

- Interfaz Anfitrión de Alto Rendimiento: Soporta **CPUs AMD Athlon 64** y driver de bus conforme con **HyperTransport** con capacidad de autocompensación, soporte de vínculos 8/16, hasta la ancha de banda de 1600MT/s
- Puente Anfitrión-a-PCI Target/66MHz con Conformidad de AGP Integrado: Conformidad de Universal AGPv3.0, soporte de la interfaz 1.5V AGP solamente, y soporta la interfaz **AGP 8X/4X** c/ Transacción Escritura Rápida (Fast Write Transaction)
- Acelerador de Gráficas 3D de Alto Rendimiento & Alta Calidad: un motor de gráficas 3D de 256-bit de alto rendimiento incorporado y motor de setup de triángulo VLIW en formato de punto flotante de 32-bit
- Solución TV-OUT/Panel Plano Digital Completa: Controlador CRT secundario incorporado para soportar muestra independiente de CRT, LCD y TV-OUT secundarios
- Puente MuTIOL 1G a PCI Integrado: Conformidad de la Especificación 2.3, y soporta hasta 6 Másters de PCI
- Controlador Dual IDE Máster/Esclavo: vínculo I/O Multihilado Integrado con Read Pipelined Streaming, Ultra DMA 133/100/66/33
- Controlador Anfitrión ATA Serial: Conformidad con la Especificación 1.0 de ATA Serial, Ultra DMA 150
- Controlador Anfitrión de Bus Serial Universal: Mastering de Vínculo IO Multihilado Integrado, y Tres Controladores Anfitriones OHCI USB 1.1 Independientes y Un Controlador Anfitrión EHCI USB 2.0, soportan hasta ocho puertos
- Controlador MAC de Fast Ethernet Integrado: Compatible con las Normas IEEE802.3 y 802.3x, y Soporta Redes de Casa de full duplex 10base-T, 100base-Tx, 1 Mb/s & 10 Mb/s
- Controlador de Audio Integrado con Interfaz AC'97: Conformidad de AC'97 v2.3, y 6 Canales de salidas de altoparlantes AC97 y V.90 HSP-Modem

Soporte de Memoria

- Dos zócalos DIMM de 184-pin 2.5V para los módulos de memoria DDR SDRAM
- Soporta bus de memoria en **DDR400**
- Memoria máxima instalada es 2GB

Ranuras de Expansión

- Una ranura CNR
- Una ranura 8X AGP
- Dos ranuras 32-bit PCI para la interfaz de bus conforme con PCI 2.2

Canales IDE abordo

- Dos conectores IDE
- Soporta modos PIO (Entrada/Salida Programable/Programmable Input/ Output) y modos DMA (Acceso de Memoria Directo/Direct Memory Access).
- Soporta mastering de bus IDE Ultra DMA con índices de transferencia de **133**/100/66 MB/seg

ATA Serial

- Dos conectores Serial ATA
- Índice de transferencia que excede el mejor ATA (~150 MB/s) con escalabilidad a índices superiores
- Cuenta de pin baja para ambos anfitrión y dispositivos

AC'97 Audio 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 seudodiferencial de alta calidad.
- Soporte de Salida S/PDIF: Salida de 96 / 48 kHz con 24 / 20 / 16 bits
- 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
- Un puerto VGA
- Cuatro puertos USB2.0 del panel trasero
- Un puerto LAN (optativo)
- Clavijas de sonido para micrófono, entrada y salida de línea

Fast Ethernet LAN (optativo)

- Soporta la operación de 10/100Mbps y de medio/full duplex
- Conformidad IEEE 802.3/802.3u
- Soporta la autonegociación de clásura 28 de IEEE 802.3u
- Soporta operación bajo el modo Link Down Power Saving (Ahorro de Suministro de Vínculo)
- Soporta compensación Base Line Winder (BLW)
- Ecualización Adaptiva

USB2.0

- Conforme con la Especificación de Bus Serial Universal Revisión 2.0
- Conforme con Controlador Anfitrión Reforzado de Intel
  Interface Specification Revision 1.0
- 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 velocidaa
- Root hub consiste de 4 puertos que miran hacia abajo con transceptores de
  capa física integrado compartido por Controlador Anfitrión UHCI y EHCI ,
  hasta ocho puertos funcionales
- Soporta Especificación de Interfaz de Administración de Energía de BUS PCI
  versión 1.1
- Soporte de legado para todos los puetos 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 processadores AMD **Athlon 64/Sempron**
- Suporta um Bus **800 MHz** na parte frontal

Tecnologia de HyperTransport *Té um link ponto-a-ponto entre dois dispositivos, permite circuitos integrados para trocar informação a velocidades muito mais elevadas que as disponíveis actualmente em tecnologias de interconexão.*

Chipset

Conta com **SiS760GX Northbridge** e **SiS964 Southbridge** neste chipset, de acordo com uma arquitectura inovadora e escalável com um nível de confiança e desempenho comprovado.

- Interface Host de Elevada Performance: Suporta um bus driver compatível com **CPUs AMD Athlon 64** e **HyperTransport** com capacidade de auto-compensação, suporte de 8/16 links, até 1600MT/s de largura de banda
- AGP Integrado Compatível com Porta de Ligação Target/66MHz Host-para-PCI: Compatível com AGPv3.0 Universal, suporta somente interface 1.5V AGP, e suporta Interface **AGP 8X/4X** com Transação de Escrita Rápida
- Acelerador de Gráficos 3D de Elevada Performance e Elevada Qualidade: Integrado num dispositivo de gráficos 3D de 256 bits de elevada performance e dispositivo de configuração triangular VLIW com formato de ponto flutuante de 32 bits
- Solução Completa de Painel Plano Saída de TV/Digital: Integrado num controlador CRT secundário para suportar um ecrã independente de CRT secundário, LCD e saída de TV
- Porta de Ligação Integrada MuTIOL 1G para PCI: Cumprimento com a Especificação PCI 2.3, e Suporta até 6 Domínios PCI
- Controlador Duplo IDE Principal/Secundário: Domínio Link I/O Multi-fios Integrado com Fluxo de Leitura em Paralelo , Ultra DMA 133/100/66/33
- Controlador Host ATA de Série: Cumpre com a Especificação ATA 1.0 de Série, Ultra DMA 150
- Controlador Host Bus de Série Universal: Domínio Link IO Multi-fios Integrado , e Três Controladores Host OHCI USB 1.1 Independentes e Um Controlador Host EHCI USB 2.0, suporta até oito portas
- Controlador Integrado MAC de Ethernet Rápida: Compatível com IEEE802.3 e 802.3x Standard, e Suporta duplex completo 10base-T, 100base-Tx, Rede Local 1 Mb/s & 10 Mb/s
- Controlador de Áudio Integrado com Interface AC'97: compatibilidade com AC'97 v2.3, e 6 Canais de saídas de altifalantes AC97 e Modem V.90 HSP

Suporte de memória

- Dois fichas DIMM 2.5V com 184 pinos para módulos de memória DDR SDRAM
- Suporta barramento de memória **DDR400**
- A memória máxima instalada é de 2GB

Slots de expansão

- Um slot CNR
- Um slot AGP **8X**
- Dois slots PCI de 32 bit para interface bus compatível com PCI 2.2

Canais IDE na placa

- Dois conectores IDE
- Suporta modos PIO (Input/Output Programável) e DMA (Direct Memory Access)
- Suporta IDE Ultra DMA bus mastering com razão de transferência de **133**/100/66 MB/seg

Série ATA

- Dois conectores Série ATA
- Razão de transferência excedendo o melhor ATA (~150 MB/s) com escalabilidade para razões mais altas
- Contagem baixa de pin para ambos os dispositivos e host

AC'97 Audio 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 Saída S/PDIF: Saída de 96 / 48 kHz com 24 / 20 / 16 bits
- 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:

- Dois portas PS/2 para o rato e teclado
- Uma porta série
- Uma porta paralela
- Uma porta VGA
- Quatro portas USB2.0 instaladas no painel traseiro
- Uma porta LAN (opcional)
- Jacks audio para microfone, line-in e line-out

Fast Ethernet LAN (opcional)

- Suporta o funcionamento 10/100Mbps em half/full duplex
- Compatível com IEEE 802.3/802.3u
- Suporta IEEE 802.3u, classe 28 com negociação automática
- Suporta o funcionamento no modo Poupança de Energia com Ligação Inactiva
- Suporta a compensação Base Line Winder (BLW)

• Equalização adaptável

USB 2.0

• Compatível com Universal Serial Bus Revisão 2.0 da especificação
• Compatível com controlador Enhanced Host da Intel Revisão 1.0 da especifi-cação da interface
• Compatível com controlador Universal Host Revisão 1.1 da especificação da Interface
• O dispositivo PCI muli-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 transre-ceptores de camadas físicas integrados partilhados pelos controladores Host UHCI e EHCI, até oito tomadas funcionais
• Suporte de gestão de energia PCI-Bus Revisão 1.1 da especificação da inter-face
• 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.

主板用户指南

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 AMD Athlon 64/Sempron 处理器
- 支持 800 MHz 前端总线

> *HyperTransport 技术是一种在两台设备间进行点到点连接的技术，它可以让集成电路使用比当前互连技术更高的速度进行信息交换。*

芯片组

芯片组包含SiS760GX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。

- 高性能主机接口：支持 AMD Athlon 64 CPU 和符合 HyperTransport 的总线驱动程序，具有自动补偿功能，支持 8/16 连接，最高带宽可到 1600MT/s
- 集成兼容 A.G.P 的 Target/66Mhz 主机到 PCI 桥路：符合通用 AGPv3.0 规格，仅支持 1.5V AGP 接口，支持带快写处理功能的 AGP 8X/4X 接口
- 高性能高质量 3D 图形加速器：内建高性能 256 位 3D 引擎和 32 位浮点式 VLIW 三角设置引擎
- 完整的 TV-OUT/数字量平板解决方案：集成辅助 CRT 控制器，支持 CRT、LCD 和 TV 输出独立显示
- 集成 MuTIOL 1G 到 PCI 桥路：符合 PCI 2.3 规格，最多支持 6 个 PCI 主控器
- 双 IDE 主/从控制器：对读流水线信号流进行集成多线程 I/O 连接主控，Ultra DMA 133/100/66/33
- Serial ATA 主控器：符合串行 ATA 1.0 规格，Ultra DMA 150
- 通用串行总线主控器：集成多线程 IO 连接主控，3 个独立 OHCI USB 1.1 主控器和 1 个 EHCI USB 2.0 主控制，最多支持 8 个端口
- 集成高速以太网 MAC 控制器：兼容 IEEE802.3 and 802.3x 标准，支持全双工 10base-T、100base-Tx、1Mb/s & 10 Mb/s 本地网络
- 带 AC'97 接口的集成音频控制器：符合 AC97 v2.3 规格，6 声道 AC97 扬声器输出和 V.90 HSP-Modem

内存支持
- 两个用于 DDR SDRAM 内存条的 184-pin 2.5V DIMM 插槽
- 支持 DDR400 存储总线
- 内存最多可达 2GB

扩展槽
- 1 个 CNR 插槽
- 1 个 8XAGP 插槽
- 2 个 32 位 PCI 插槽，用于 PCI 2.2 兼容总线接口

Onboard IDE 通道
- 2 个 IDE 接口
- 支持 PIO (程控输入/输出) 和 DMA (直接存储器存取) 模式
- 支持 IDE Ultra DMA 总线控制，传输速率可达 133/100/66 MB/sec

Serial ATA
- 2 个Serial ATA 接口
- 传输速率超过 ATA (~150 MB/s)，可扩展到更高速率
- 主机和设备管脚数量少

AC'97 编解码器
- 6 声道，符合 Intel$^®$ AC'97 (REV. 2.3) 规格，符合 Microsoft$^®$ PC2001 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 输出：输出 96 / 48 kHz，24 / 20 / 16 位。
- 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
- 1 个 VGA 端口
- 4 个后面板 USB2.0 端口
- 1 个 LAN 端口 (可选)
- 麦克风、线入和线出声音插孔

快速以太网 LAN (可选)
- 支持10/100Mbps 工作和半/全双工工作
- 符合 IEEE 802.3/802.3u 标准
- 支持IEEE 802.3u 第 28 项的自协商
- 支持链路故障节电模式下操作
- 支持基线漂移 (BLW) 补偿
- 自适应均衡

USB 2.0
- 符合通用串行总线规格 2.0 版本
- 符合 Intel 1.0 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
- 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，最多 8 个功能端口
- 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** supporting the newest and advanced **AMD Athlon 64/Sempron** with **HyperTransport Technology** processors, Front-Side Bus (FSB) speeds up to **800** MHz and system bus to 1600 MT/s.

This motherboard integrates the **SiS760GX** Northbridge and **SiS964** Southbridge that supports the **Serial ATA** interface for high-performance and mainstream desktop PCs, the **AC'97 audio codec**, the **Ultra DMA 133**/100/66 function, and the built-in **USB 2.0** providing higher bandwidth. It implements **Universal Serial Bus Specification Revision 2.0** and is compliant with **UHCI 1.1** and **EHCI 0.95**.

It has two 32-bit **PCI** slots, one **8X AGP** slot, one **CNR** (Communications and Networking Riser) slot, and supports the onboard **10BaseT/100BaseTX Network** interface (optional). In addition, this motherboard has a full set of I/O ports including two PS/2 ports for mouse and keyboard, one serial port, one VGA port, one parallel port, one LAN port (optional), three audio jacks for microphone, line-in and line-out, four back-panel **USB2.0** ports and onboard USB headers J2/J3 providing extra ports by connecting the Extended USB Module to the motherboard.

This motherboard is a **Micro ATX size** motherboard and has power connectors for an ATX power supply.

Key Features

The key features of this motherboard include:

Socket-754 Processor Support

- Supports AMD **Athlon 64/Sempron** processors
- Supports Front-Side Bus **800 MHz**

HyperTransport Technology is a point-to-point link between two devices, it enables integrated circuits to exchange information at much higher speeds than currently available interconnect technologies.

Chipset

There are **SiS760GX Northbridge** and **SiS964 Southbridge** in this chipset in accordance with an innovative and scalable architecture with proven reliability and performance.

- High Performance Host Interface: Supports **AMD Athlon 64 CPUs** and **HyperTransport** compliant bus driver with auto compensation capability, 8/16 links support, up to 1600MT/s bandwidth
- Integrated AGP Compliant Target/66MHz Host-to-PCI Bridge: Universal AGP v3.0 Compliant, support 1.5V AGP interface only, and supports **AGP 8X/4X** Interface w/ Fast Write Transaction
- High Performance & High Quality 3D Graphics Accelerator: Built-in a high performance 256-bit 3D graphics engine and 32-bit floating point format VLIW triangle setup engine
- Complete TV-OUT/Digital Flat Panel Solution: Built-in secondary CRT controller to support independent display of secondary CRT, LCD and TV-out
- Integrated MuTIOL 1G to PCI Bridge: PCI 2.3 Specification Compliance, and Supports up to 6 PCI Masters
- Dual IDE Master/Slave Controller: Integrated Multithreaded I/O link Mastering with Read Pipelined Streaming, Ultra DMA 133/100/66/33

- Serial ATA Host Controller: Compliant with Serial ATA 1.0 Specification, Ultra DMA 150
- Universal Serial Bus Host Controller: Integrated Multi-threaded IO Link Mastering, and Three Independent OHCI USB 1.1 Host Controllers and One EHCI USB 2.0 Host Controller, support up to eight ports
- Integrated Fast Ethernet MAC Controller: IEEE802.3 and 802.3x Standard Compatible, and Supports full duplex 10base-T, 100base-Tx, 1 Mb/s & 10 Mb/s Home Networking
- Integrated Audio Controller with AC'97 Interface: AC'97 v2.3 compliance, and 6 Channels of AC97 speaker outputs and V.90 HSP-Modem

Memory Support

- Two 184-pin 2.5V DIMM sockets for DDR SDRAM memory modules
- Supports **DDR400** memory bus
- Maximum installed memory is 2GB

Expansion Slots

- One CNR slot
- One **8X** AGP slot
- Two 32-bit PCI slots for PCI 2.2-compliant bus interface

Onboard IDE channels

- Two IDE Connectors
- Supports PIO (Programmable Input/Output) and DMA (Direct Memory Access) modes
- Supports IDE Ultra DMA bus mastering with transfer rates of **133**/100/66 MB/sec

Serial ATA

- Two Serial ATA Connectors
- Transfer rate exceeding best ATA (~150 MB/s) with scalability to higher rates

3

◆ Low pin count for both host and devices

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 Output support: Output 96 / 48 kHz with 24 / 20 /
16 bits
◆ 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
◆ One VGA port
◆ Four back-panel **USB2.0** ports
◆ One LAN port (optional)
◆ Audio jacks for microphone, line-in and line-out

Fast Ethernet LAN (optional)

◆ Supports 10/100Mbps operation and half/full duplex operation
◆ IEEE 802.3/802.3u compliant
◆ Supports IEEE 802.3u clause 28 auto negotiation
◆ Supports operation under Link Down Power Saving mode
◆ Supports Base Line Winder (BLW) compensation
◆ Adaptive Equalization

USB 2.0

- Compliant with Universal Serial Bus Specification Revision 2.0
- Compliant with Intel's Enhanced Host Controller Interface Specification Revision 1.0
- 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, up to eight functional ports
- Support PCI-Bus Power Management Interface Specification 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.

Dimensions

- Micro ATX form factor of 245 x 220 mm

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 Guide
- ❑ 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 headers/ connectors on the motherboard
- ❑ Install peripheral devices and make the appropriate connections to headers/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
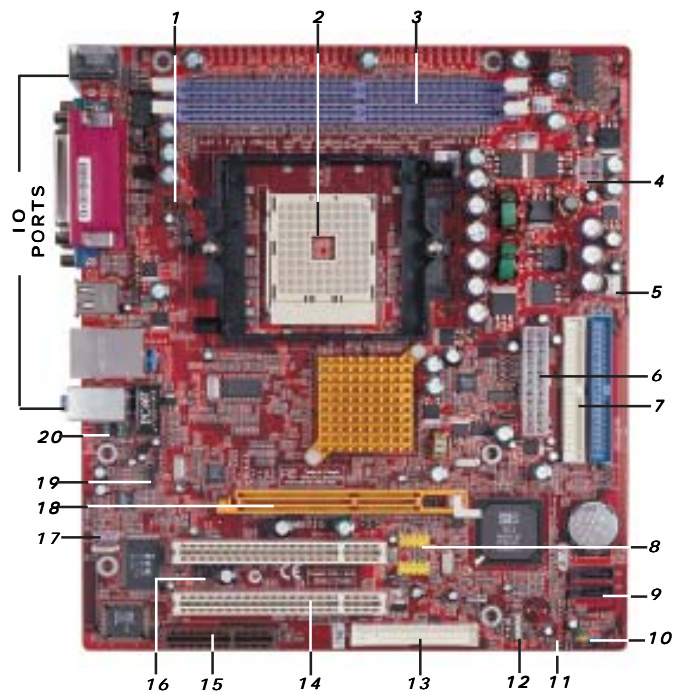
ITEM	LABEL	COMPONENTS
1	CPU_FAN	CPU Fan Connector
2	CPU SOCKET	SOCKET-754 for AMD Athlon 64/Sempron Processors
3	DIMM1-2	Two 184-pin DDR SDRAM Sockets
4	PWR1	Standard 4-Pin ATX Power Connector
5	SYSTEM_FAN	System Fan Connector
6	PWR2	Standard 20-pin ATX Power Connector
7	IDE1/2	Primary/Secondary IDE Connectors
8	USB2/USB3	Front Panel USB Headers
9	CON1/2	Serial ATA Connectors
10	PANEL1	Front Panel Switch/LED Header
11	JP26	Clear CMOS Jumper
12	SPK1	Speaker Header
13	FDC1	Floppy Disk Drive Connector

ITEM	LABEL	COMPONENTS
14	PCI 1-2	32-bit PCI slots
15	CNR1	Communications Networking Riser slot
16	SIR1	Infrared Header
17	SPDIFO1	SPDIF Out Header
18	AGP1	Accelerated Graphics Port slot
19	CD1	Analog Audio Input Header
20	AUDIO1	Front Panel Audio Header

I/O Ports

The illustration below shows a side view of the built-in I/O ports on the motherboard.
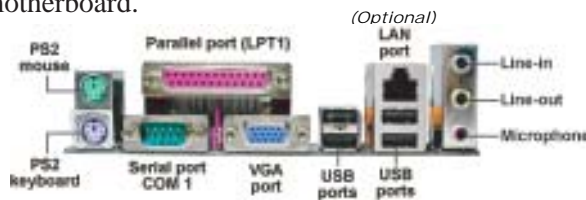
PS/2 Mouse	Use the upper PS/2 port to connect a PS/2 pointing device.
PS/2 Keyboard	Use the lower PS/2 port to connect a PS/2 keyboard.
Parallel Port (LPT1)	Use the Parallel port to connect printers or other parallel communications devices.
Serial Port (COM1)	Use the COM port to connect serial devices such as mice or fax/modems. COM1 is identified by the system as COM1.
VGA Port	Use the VGA port to connect VGA devices.
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 these three audio jacks to connect audio devices. The first jack is for stereo Line-In signal, the second jack for stereo Line-Out signal, and the third jack for Microphone.

9

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:

CPU_FAN

1

pin1

Socket-754
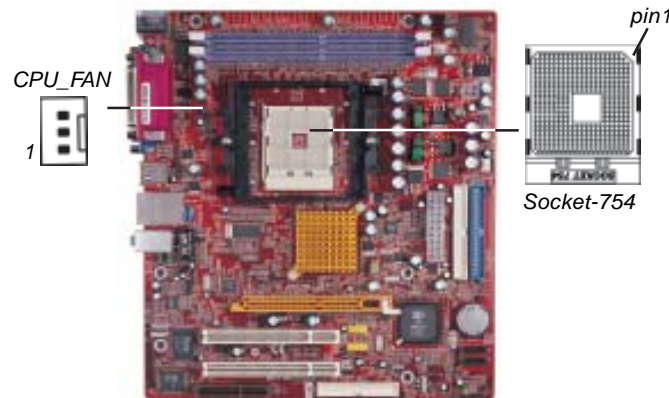
1   Unhook the locking lever of the CPU socket. Pull the locking lever away from the socket and raising it to the upright position.

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.

10

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 DIMM sockets (Dual Inline Memory Module) for unbuffered **DDR 400** memory modules (Double Data Rate SDRAM), and maximum 2.0 GB installed memory.

DDR SDRAM is a type of SDRAM that supports data transfers on both edges of each clock cycle (the rising and falling edges), effectively doubling the memory chip's data throughput. DDR DIMMs can synchronously work with 166 MHz or 200 MHz memory bus.

DDR SDRAM provides 1.6 GB/s, 2.1 GB/s or 3.2GB/s data transfer rate when the bus is 133 MHz, 166 MHz or 200 MHz, respectively.

11
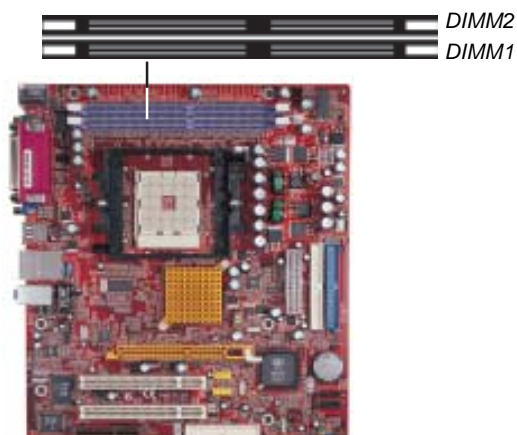
Memory Module Installation Procedure

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.

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 motherboard 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
Clear CMOS	Short Pins 1-2
Normal	Short Pins 2-3

Note: To avoid the system unstability after clearing CMOS, we recommend users to enter the main BIOS setting page to "Load Optimal De-faults" and then "Save Changes and Exit".

Install the Motherboard

Install the motherboard in a system chassis (case). The board is a Micro 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.
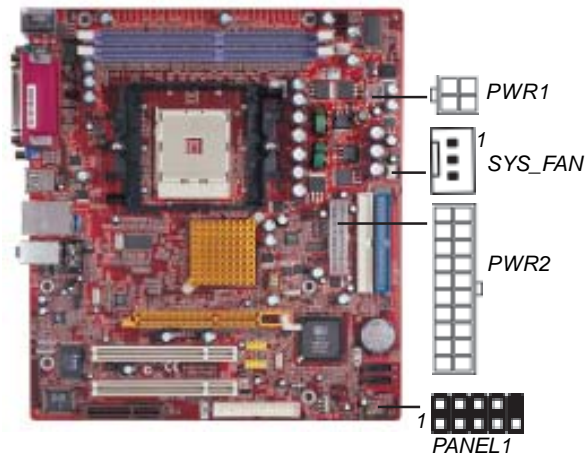
Connect the power connector from the power supply to the **PWR2** connector on the motherboard. The **PWR1** is a +12V connector for CPU Vcore power.

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

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

Here is a list of the PANEL1 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_SW_P(+)
7	RESET_SW_P(+)	8	POWER_SW_N(-)
9	RSVD_DNU	10	KEY

Connecting Optional Devices

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

15
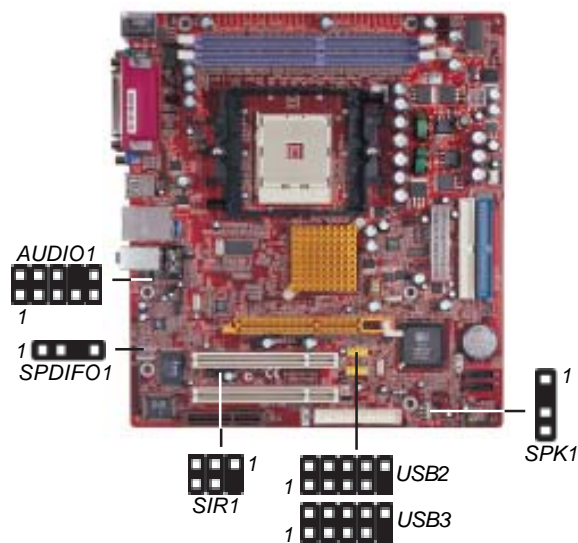
SPK1: Speaker Headerr

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

Pin	Signal	Pin	Signal
1	SPKR	2	NC
3	GND	4	+5V

AUDIO1: Front Panel Audio Header

This connector 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.

Pin	Signal	Pin	Signal
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/USB3 header on the motherboard.
2. Plug the bracket cable onto the USB2/USB3 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: Infrared Port 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.

Pin	Signa	Pin	Signa
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.

SPDIFO1: SPDIF Out Header

S/PDIF (Sony/Philips Digital Interface) is a standard audio transfer file format and allows the transfer of digital audio signals from one device to another without having to be converted first to an analog format. Via a specific audio cable, you can connect the SPDIFO1 header (S/PDIF output) on the motherboard to the S/PDIF digital input on the external speakers or AC Decode devices.

Pin	Signal	Pin	Signal
1	SPDIF	2	+5VA
3	KEY	4	GND

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Install Other Devices

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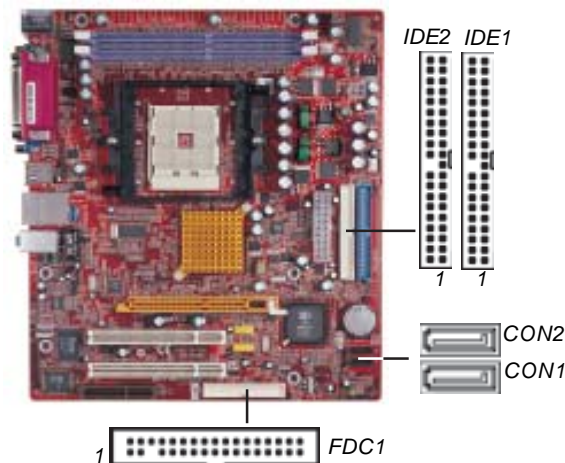
Floppy Disk Drive

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 connecter 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.

Analog Audio Input Header

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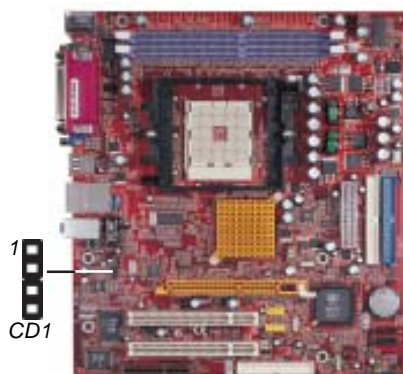
When you first start up your system, the BIOS should automatically detect your CD-ROM/DVD drive. If it doesn't, enter the Setup Utility and configure the CD-ROM/DVD drive that you have installed. On the motherboard, locate the 4-pin header **CD1**.

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

Expansion Slots

This motherboard has one AGP, one CNR and two 32-bit PCI slots.
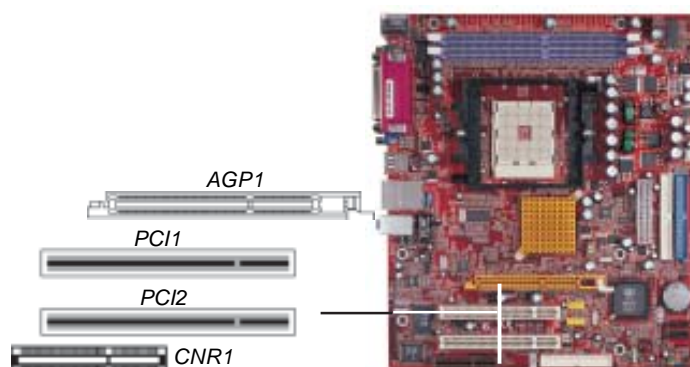
Follow the steps below to install an AGP/CNR/PCI expansion card.

1. Locate the AGP, CNR or PCI slots on the mainboard.
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.

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4. 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 <DEL>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             │ ▶ CPU PnP Setup               │
│ ▶ Advanced Setup                  │ ▶ Hardware Monitor            │
│ ▶ Features Setup                  │   Load Optimal Defaults       │
│ ▶ Power Management Setup          │   Save Changes and Exit       │
│ ▶ PCI / Plug and Play Setup       │   Discard Changes and Exit    │
│ ▶ BIOS Security Features          │                               │
│                                                                    │
├──────────────────────────────────────────────────────────────────┤
│   ↑↓←→ : 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 OK or Cancel by selecting the **[OK]** or **[Cancel]** key.

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.

```
CMOS SETUP UTILITY – Copyright (C) 1985-2003, American Megatrends, Inc.
                        Standard CMOS Setup
System Time                00:00:12              Help Item
System Date                Mon 04/05/2004
                                                 Use [Enter], [TAB] or
 ▸ Primary IDE Master      Not Detected          [SHIFT-TAB] to select a
 ▸ Primary IDE Slave       Not Detected          field.
 ▸ Secondary IDE Master    Not Detected          Use [+] or [-] to configure
 ▸ Secondary IDE Slave     Not Detected          system Time.
 ▸ Third IDE Master        Not Detected
 ▸ Third IDE Slave         Not Detected
 ▸ Fourth IDE Master       Not Detected
 ▸ Fourth IDE Slave        Not Detected

Floppy A                   1.44 MB 31/2″
Floppy B                   Disabled
  ↑↓←→ : Move    Enter: Select   +/-/: Value   F10: Save   Esc: Exit
        F1: General Help                       F9: Optimized Defaults
```

Date & Time

These items set up system date and time.

IDE Primary Master/Primary Slave/Secondary Master/ Secondary Slave/Third Master/Third Slave/Fourth Master/Fourth Slave

Use these items to configure devices connected to Primary/ Secondary/Third/Fourth 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 A/B

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

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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.

```
CMOS SETUP UTILITY – Copyright (C) 1985-2003, American Megatrends, Inc.
                        Advanced Setup
Share Memory              32 MB               Help Item
Quick Boot                Enabled
1st Boot Device           HDD:PM-ST3120023AS  Allows BIOS to skip
2nd Boot Device           CD/DVD:3S-CD-ROM 52 certain tests while
3rd Boot Device           1ST FLOPPY DRIVE    booting. This will
Try Other Boot Device     Yes                 decrease the time
Bootup Num-Lock           On                  needed to boot the
Boot To OS/2 > 64MB       No                  system.
DRAM CAS# Latency         By SPD
DRAM TRCD                 Auto
DRAM TRAS                 Auto
DRAM TRP                  Auto
Auto Detect DIMM/PCI C1K  Enabled
Aperture Size             Auto
Spread Spectrum           Disabled
Cool 'N' Quiet            Enabled
   ↑↓←→ : Move   Enter: Select   +/-/: Value   F10: Save   Esc: Exit
        F1: General Help                    F9: Optimized Defaults
```

Share Memory

This item lets you allocate a portion of the main memory for the onboard VGA display application with several options.

Quick Boot

If you enable this item, the system starts up more quickly be 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.

DRAM TRCD/DRAM TRAS/DRAM TRP

These items adjust the efficiency and stability of DRAM.

Auto detect DIMM/PCI Clock

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

Aperture Size

This item defines the size of aperture if you use a graphic adapter.

Spread Spectrum

If you enable spread spertrum, it can significantly reduce the EMI (Electro-Magnetic interface) generated by the system.

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.

Features Setup Page

This page sets up some parameters for peripheral devices connected to the system.

```
CMOS SETUP UTILITY – Copyright (C) 1985-2003, American Megatrends, Inc.
                           Features Setup
OnBoard Floppy Controller      Enabled          Help Item
Serial Port1 Address           3F8/IRQ4
OnBoard IR Port                Disabled     Allows BIOS to
Parallel Port Address          378          Enable or Disable
   Parrllel Port Mode          ECP          Floppy Controller.
      ECP Mode DMA Chnnel       DMA3
   Parallel Port IRQ           IRQ7
OnBoard PCI IDE Controller     Both
OnBoard PCI S-ATA Controller   Raid Mode
Audio Device                   Enabled
Modem Device                   Auto
Ethernet Device                Enabled
OnBoard USB Function           Enabled
USB Function for DOS           Disabled

    ↑↓←→ : Move   Enter: Select  +/-/: Value  F10: Save  Esc: Exit
        F1: General Help                    F9: Optimized Defaults
```

OnBoard Floppy Controller

Use this item to enable or disable the onboard floppy disk drive interface.

Serial Port1 Address

Use this item to enable or disable the onboard COM1/2 serial port, and to assign a port address.

OnBoard IR Port

Use this item to enable or disable the onboard infrared port, and to assign a port address.

Parallel Port Address

Use this item to enable or disable the onboard Parallel port, and to assign a port address.

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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 S-ATA 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.

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Power Management Setup Page

This page sets some parameters for system power management operation.

```
CMOS SETUP UTILITY – Copyright (C) 1985-2003, American Megatrends, Inc.
                      Power Management Setup
ACPI Aware O/S             Yes          │       Help Item
Power Management           Enabled      │
Suspend Mode              S1           │  Enable / Disable
Suspend Time Out           Disabled     │  ACPI support for
Resume On RTC Alarm        Disabled     │  Operating System.
Keyboard Power On          Disabled     │  Enable: If OS
LAN/Ring Power On          Disabled     │  supports ACPI.
USB Device Power On        Disabled     │  Disable: If OS does
                                        │  not support ACPI.

     ↑↓←→ : Move    Enter: Select   +/-/: Value   F10: Save   Esc: Exit
          F1: General Help                      F9: Optimized Defaults
```

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), S3(Suspend to RAM) or Auto, 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 a specific key, any keys or power key on the keyboard, or typing in the password. You must 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/Ring, or traffic on the network adapter. You must use an ATX power supply in order to use this feature.

USB Device Power On

If you enable this item, the system can automatically resume by using the USB device.

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
Primary Graphics Adapter      PCI          │      Help Item
Allocate IRQ to PCI VGA       Yes          │
PCI IDE BusMaster             Disabled     │         Options
                                           │   PCI
                                           │   AGP
                                           │
                                           │
   ↑↓←→   : 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 PCI setting still lets the onboard display work and allows the use of a second display card installed in a 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.

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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
Security Settings                          │      Help Item
                                           │
Supervisor Password : Not Installed        │  Install or Change
Change Supervisor Password   Press Enter   │  the password.
                                           │
                                           │

     ↑↓←→    : 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.

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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                              │      Help Item
 Type: AMD Athlon (tm) 64 Processor 3700+ │
 CPU Clock                    200 MHz   │ CPU Freq Over Clock 200 to
 DRAM Frequency               By SPD    │ 230 MHz
 H/W Thermal Protect Shutdown Disabled  │
                                        │
        ↑↓←→  : 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 Clock

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

DRAM Frequency

This item shows the frequency of the DRAM in your system.

H/W Thermal Protect Shutdown

This item provides the function of CPU temperature protection.

Hardware Monitor Page

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

```
CMOS SETUP UTILITY – Copyright (C) 1985-2003, American Megatrends, Inc.
                           Hardware Monitor
*** System Hardware Monitor***              │      Help Item
Vcore                      :1.463V          │
Vdimm                      :2.512V          │
VIvdd                      :1.432V          │
Vcc5V                      :5.026V          │
SB3V                       :3.264V          │
CPU     FAN Speed          :4017 RPM        │
SYSTEM  FAN  Speed         :0 RPM           │
CPU     Temperature        :50°C/122°F      │
SYSTEM  Temperature        :31°C/87°F       │
POWER   Temperature        :27°C/80°F       │

   ↑↓←→ : Move   Enter: Select  +/-/: Value  F10: Save   Esc: Exit
      F1: General Help                  F9: Optimized Defaults
```

CPU/System/Power Temperature

These items display CPU, System and Power temperature measurement.

FANs & Voltage Measurements

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

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Load Optimal Defaults

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

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, select [OK] to save and exit, or select [Cancel] 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, select [OK] to discard changes and exit, or select [Cancel] 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 select [OK] 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 mainboard supports.

The **ReadMe** brings you to the Install Path where you can find out path names of software driver.
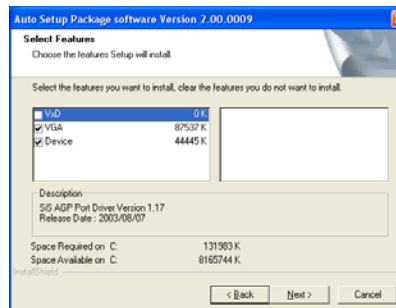
Auto-Installing under Windows 2000/XP

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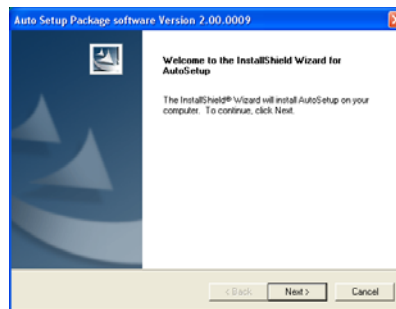
2   Select the items that you want to setup by clicking on it (the default options are recommended). Click the **Next** button to proceed.

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.

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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 mainboard 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.