



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



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,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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Static Electricity Precautions

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 mainboard vendor about those damages.

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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.

Guide de l'utilisateur de la carte mère

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**

Remarque: 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 **VIA K8M800 Northbridge** et **VT8237 Southbridge** conformément à une architecture novatrice et dimensionnable avec une fiabilité et des performances prouvées.

- Définit des solutions hautement intégrées pour les conceptions de stations de travail & PC de bureau de haute performance -- North Bridge de haute performance avec interface d'HyperTransport sur CPU AMD™ K8 plus bus externe AGP 8X sur contrôleur de carte graphique externe plus interface V-Link à grande vitesse sur South Bridge
- Interface de CPU d'HyperTransport de haute performance – Interface de processeur via interface d'HyperTransport
- Contrôleur de Port Graphique Accélééré (AGP) Complet
 - Mode de transfert en 8X / 4X conforme AGP v3.0 avec prise en charge de Fast Write
 - Transferts en longue-rafale à transaction fractionnée en pipeline jusqu'à 2.1 Go/sec (4 octets x 533 MHz)
- Contrôleur d'hôte 16 Bits Ultra V-Link à bande passante élevée de 1 Go/Sec
 - Prend en charge les modes de transfert 4X et 8X de 66MHz, interface d'hôte Ultra V-Link avec une bande passante totale de 1 Go/sec
- Prise en charge de gestion d'alimentation système avancée -- Conforme ACPI 2.0 et PCI Bus Power Management 1.2
- Transit de données PCI vers mémoire système jusqu'à 132 Mcoctets/sec (données envoyées au north bridge via Interface Ultra V-Link haute vitesse)
- Conforme PCI-2.2, interface PCI 3.3V 32 bits avec entrée à tolérance 5V
- Prend en charge trois logements PCI d'arbitrage et de décodage pour toutes les fonctions intégrées et bus LPC.
- Contrôleur ATA/RAID Série Double Canal —Conforme aux Spécifications ATA Série Révision 1.0

Support de Mémoire

- Deux sockets DIMM de 2.5V 184 broches pour module mémoire DDR SDRAM
- Prend en charge les modules de mémoire **DDR400/333/266**
- 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

- Conforme aux spécifications AC'97 2.3
- CODEC full-duplex Stéréo 16 bits avec vitesse d'échantillonnage indépendante et variable
- Prise en charge d'alimentation numérique 3.3v, analogique 5v et gestion de faible courant d'alimentation
- Trois entrées stéréo de niveau de ligne analogique avec contrôle de volume 5 bits : LINE_IN, CD, AUX
- Détection de prise de Sortie Avant, Sortie Contour, Entrée MIC et Entré Ligne
- Deux entrées mono de niveau de ligne analogique
- LQFP 48 broches standard

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)

- **Solution de Couche Physique 100Base-TX/10Base-T**
- Double Vitesse – 100/10 Mbps
- Négociation automatique : 10/100, Full/Half Duplex
- Conforme à tous les Standards IEEE802.3, 10Base-T et 100Base-TX Applicables

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

Guide de l'utilisateur de la carte mère

- 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.

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

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

Hinweis: 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 **VIA K8M800 Northbridge** und **VT8237 Southbridge**. Die Chipsatzarchitektur ist in einem innovativen und skalierbaren Design gehalten und verspricht sowohl Zuverlässigkeit als auch Leistungsstärke.

- Definiert hochgradig integrierte Lösungen für Hochleistungs-Workstation & PC Desktop-Designs -- Hochleistungsfähiges North Bridge mit HyperTransport-Interface zu AMD™ K8 CPU plus AGP 8X externem Bus zum externen Grafik-Controller mit Hochgeschwindigkeits-V-Link-Interface zu South Bridge
- Hochleistungsfähiges HyperTransport CPU-Interface – Prozessor-Interface via HyperTransport-Interface
- Vollständiger Accelerated Graphics Port (AGP) Controller
-- Entspricht AGP v3.0 8X / 4X Transfermodus mit Fast Write-Unterstützung
-- Pipelined Split-transaction Long-burst Transfers bis zu 2.1 GB/s (4 Bytes x 533 MHz)
- 1 GB/s 16-Bit Ultra V-Link Host-Controller mit hoher Bandbreite -- unterstützt 66MHz, 4X und 8X Transfermodi, Ultra V-Link Host-Interface mit einer gesamten Bandbreite von 1 GB/s
- Unterstützung für Advanced System Power Management – entspricht ACPI 2.0 und PCI Bus Power Management 1.2
- PCI zu Systemspeicher Datenstreaming mit bis zu 132Mbyte/s (Daten werden über Ultra V-Link-Interface an Northbridge gesandt)
- Entspricht PCI-2.2, 32-Bit 3.3V PCI-Interface mit 5V-toleranten Eingängen
- Unterstützt drei PCI-Slots für Ausgleich und Entschlüsselung für alle integrierten Funktionen und den LPC-Bus.
- Dualkanal serieller ATA/RAID-Controller—entspricht Serial ATA Spezifikation Revision 1.0

Speicherunterstützung

- Zwei 184-pin 2.5V DIMM Steckplätze für DDR SDRAM
- Unterstützung für **DDR400/333/266** 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

- Entspricht AC'97 2.3
- 16-Bit Stereo full-duplex CODEC mit unabhängigem und variablem Rang.
- Unterstützung für 3.3v digitaler, 5v analoger Stromzuführung und niedrigem Stromverbrauch.
- Drei analoggleiche Stereo-Eingänge mit einer 5-Bit Lautstärkenkontrolle: LINE_IN, CD, AUX
- Front-Out, Surround-Out, MIC-In und LINE-In-Jack Sensing
- Zwei analoge Line-Level Mono-Eingänge
- Standard 48-Pin LQFP

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)

- **100Base-TX/10Base-T Physical Layer-Lösung**
- Duale Geschwindigkeit – 100/10 Mbps.
- Auto-Negotiation: 10/100 , Voll/Halfduplex
- Entspricht allen anwendbaren Standards: IEEE802.3, 10Base-T und 100Base-TX

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 Geschwind-

igkeit 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.

Guida dell'utente della scheda madre

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**

Nota: 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 architettura scabile e innovative sono presenti nel chipset il **Northbridge VIA K8M800** e **Southbridge VT8237**.

- Rende possibili soluzioni a elevato livello di integrazione per workstation avanzate e modelli desktop -- Northbridge per prestazioni avanzate con interfaccia HyperTransport per CPU K8 AMD™, bus esterno 8X AGP per controller grafico, interfaccia V-Link ad alta velocità per Southbridge
- Interfaccia CPU HyperTransport a elevate prestazioni -- Interfaccia processore tramite interfaccia HyperTransport
- Controller AGP (Accelerated Graphics Port) con funzionalità complete
 - Modalità di trasferimento 8X / 4X conforme a AGP v3.0 con supporto di funzionalità Fast Write
 - Trasferimenti Long-Burst con transazioni suddivise a pipeline fino a 2,1 GB/sec (4 byte x 533 MHz)
- Host controller Ultra V-Link a 16 bit con 1 GB/sec a banda larga -- Supporto di interfaccia per Host Ultra V-Link a 66 MHz, modalità di trasferimento 4X e 8X, con totale di 1 GB/sec
- Supporto di gestione dell'alimentazione a sistema avanzato -- Conformità con ACPI 2.0 e PCI Bus Power Management 1.2
- Streaming di dati da PCI a memoria di sistema fino a 132 Mbyte/sec (invio di dati a Northbridge tramite interfaccia Ultra V-Link ad alta velocità)
- Interfaccia a 3,3 V e 32 bit conforme a PCI 2.2 con ingressi dotati di tolleranza a 5 V
- Supporto di tre slot PCI di accesso in arbitrato e decodifica per tutte le funzioni integrate e bus LPC.
- Controller ATA/RAID seriale Dual Channel—Conformità con specifica ATA seriale revisione 1.0

Memoria Supporta

- Due prese DIMM da 2.5 V a 184 pin per moduli memoria SDRAM DDR
- Supporta bus di memoria **DDR400/333/266**
- 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 più alti
- Pin Count ridotto sia per l'host sia per le periferiche

AC'97 Audio Codec

- Conforme con le specifiche AC'97 2.3
- CODEC stereo full-duplex a 16-bit con sampling rate indipendente e variabile.
- Supporto per 3.3v digitale, alimentazione analogica da 5v e gestione a basso consumo elettrico.
- Tre input stereo line-level analogici con controllo volume a 5 bit: LINE_IN, CD, AUX
- Rilevazione dei jack Front-Out, Surround-Out, MIC-In e LINE-In
- Due ingressi di linea analogica-mono
- LQFP a 48 pin standard

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)

- **Architettura 100Base-TX/10Base-T**
- Doppia velocità – 100/10 Mbps
- Negoziazione Automatica: 10/100, Full/Half Duplex
- Supporto di tutti gli standard esistenti IEEE802.3, 10Base-T e 100Base-TX

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

Guida dell'utente della scheda madre

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.

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

Nota: 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 **VIA K8M800 Northbridge** y **VT8237 Southbridge** en este chipset en conformidad con una arquitectura innovadora y escalable con fiabilidad y rendimiento comprobados.

- Define Soluciones Altamente Integradas para Workstation & PC Desktop Designs de Alta-Performance – Puente Norte de Alta-performance con interface HyperTransport para AMD™ K8 CPU y AGP 8X bus externo para Regulador de Gráfico externo y interface V-Link de alta velocidad para Puente Sur
- Interface HyperTransport CPU de Alta Performance – Procesador Interface via interface HyperTransport
- Regulador de Porte de características de Gráfico aceleradas completas (AGP) --AGP v3.0 complaciente 8X / 4X modo de transferencia con Soporte Fast Write --Transferencia de estallos-largos y división-transacción de 2.1 GB/sec (4 bytes x 533 MHz)
- Regulador Host de Alta Banda 1 GB/Sec 16-Bit Ultra V-Link -- Soporta 66MHz, 4X y 8X modos de transferencia, Ultra V-Link Host interface con banda larga total de 1 GB/sec
- Soporte de Sistema de Gerencia de Energia Avanzada -- ACPI 2.0 y PCI Bus Gerencia de Energia 1.2 complaciente
- PCI para sistema de datos de memoria fluido de 132Mbyte/sec máx(datos mandados para la Puente norte via banda larga de alta velocidad Ultra V-Link interface)
- PCI-2.2 complaciente, 32-bit 3.3V PCI interface con input 5V tolerante
- Soporta tres portes de ranura PCI de arbitraje y decodificación para todas las funciones integradas y LPC bus.
- Regulador de Canal Doble en Série ATA/RAID —Obedece a Revisión 1.0 de la Especificación en Série ATA

Soporte de Memoria

- Dos zócalos DIMM de 184-pin 2.5V para los módulos de memoria DDR SDRAM

Guía de Usuario de la Placa Principal

- Soporta bus de memoria en **DDR400/333/266**
- 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

- Conforme con la especificación AC'97 2.3
- CODEC full-duplex de estéreo en 16-bit con índice independiente y variable
- Soporte para suministro eléctrico digital de 3.3v y analógico de 5v, y administración de consumo bajo.
- Tres entradas de estéreo a nivel de línea analógica con control de volumen de 5-bit: LINE_IN, CD, AUX
- Detección de Clavija de Salida de Frente, Salida Surround, Entrada de Micrófono y Entrada de Línea
- Dos entradas mono a nivel de línea analógica
- 48-Pin LQFP estándar

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)

- **Solución de Capa Física 100Base-TX/10Base-T**
- Velocidad Dual – 100/10 Mbps
- Autonegociación: 10/100, Duplex Completo/Medio
- Satisface Todas las Normas Aplicables IEEE802.3, 10Base-T y 100Base-TX

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

Guía de Usuario de la Placa Principal

- 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 , hasta ocho puertos funcionales
- 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 .

Guia de Utilizador da Motherboard

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

Nota: 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 **VIA K8M800 Northbridge** e **VT8237 Southbridge** neste chipset, de acordo com uma arquitectura inovadora e escalável com um nível de confiança e desempenho comprovado.

- Define Soluções Altamente Integradas para Posto de Trabalho & PC Desktop Designs – North Bridge de Alta Performance com interface de Hiper-Transporte para CPU K8 AMD™ mais bus externo AGP 8X para Controlador de Gráficos externo mais interface V-Link de alta velocidade para South Bridge
- Interface CPU de Hiper-Transporte de Alta Performance – Interface de Processador através de interface de Hiper-Transporte
- Controlador de Porta de Gráficos Acelerados com Todas as Características (AGP)
 - Compatível com AGP v3.0 com modo de transferência 8X / 4X com Suporte de Escrita Rápida
 - Transferências de longo alcance com transacção de comutação em paralelo até 1 GB/seg. (4 bytes x 533 MHz)
- Controlador Host V-Link Ultra de 16 Bits e Elevada Largura de Banda de 1 GB/Seg. – Suporta modos de transferência 66MHz, 4X e 8X, interface Host V-Link Ultra com um total de largura de banda de GB/seg.
- Suporte de Gestão Avançada de Energia do Sistema – Compatível com 1.2 Gestão de Energia PCI bus e ACPI 2.0
- PCI para fluxo de dados de memória do sistema até 132Mbyte/sec (envio de dados para a north bridge através de interface V-Link Ultra de alta velocidade)
- Compatível com PCI-2.2, interface PCI 3.3V de 32 bits com entradas tolerantes de 5V
- Suporta três aberturas PCI de arbitragem e descodificação com todas as funções integradas e LPC bus.
- Controlador ATA/RAID de Série Bicanal—Cumprir com a Revisão 1.0 da Especificação de Série da ATA

Suporte de memória

- Dois fichas DIMM 2.5V com 184 pinos para módulos de memória DDR SDRAM

Guia de Utilizador da Motherboard

- Suporta barramento de memória **DDR400/333/266**
- 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

- Compatível com a especificação AC'97 2.3
- CODEC full-duplex estéreo 16-bit com taxa de amostragem variável e independente
- Suporte para 3.3v digital, fonte de alimentação analógica 5v e gestão de consumo de baixa potência
- Três entradas estéreo de nível de linha e analógicas com controlo de volume 5-bit: LINE_IN, CD, AUX
- Saída Frontal, Saída Surround, Sensor de Tomada MIC-In e LINE-In
- Duas entradas mono nível de linha analógicas
- LQFP de 48 pinos standard

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)

- **100Base-TX/10Base-T Solução de Camadas Físicas**
- Velocidade Dupla – 100/10 Mbps
- Auto Negociação: 10/100, Full/Half Duplex
- Satisfaz todos os Padrões IEEE802.3, 10Base-T e 100Base-TX Aplicáveis

USB 2.0

- Compatível com Universal Serial Bus Revisão 2.0 da especificação
- Compatível com controlador Enhanced Host da Intel Revisão 1.0 da especificação da interface
- Compatível com controlador Universal Host Revisão 1.1 da especificação da

Guia de Utilizador da Motherboard

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, até oito tomadas funcionais
- 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.

功能和检查单翻译

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

说明：HyperTransport 技术是一种在两台设备间进行点对点连接的技术，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 VIA K8M800 北桥和 VT8237 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。

- 定义了用于高性能工作站和 PC 台式机设计的高整合解决方案 — 带有到 AMD™ K8 CPU 的 HyperTransport 接口的高性能北桥，到外部图形控制器的 AGP 8X 外部总线，以及到南桥的高速 V-Link 接口
- 高性能 HyperTransport CPU 接口 — 通过 HyperTransport 接口的处理器接口
- 全功能加速图形端口 (AGP) 控制器
 - 符合 AGP v3.0 标准，8X/4X 传输模式，支持快写
 - 流水线分离传输长猝发传输速度可达 2.1 GB/sec (4 字节 x 533 MHz)
- 高带宽 1 GB/Sec 16-位 Ultra V-Link 主控制器 -- 支持 66 MHz 4X 和 8X 传输模式，支持 Ultra V-Link 主控接口，总带宽可达 1GB/s
- 支持高级系统电源管理 — 符合 ACPI 2.0 和 PCI 总线电源管理 1.2。
- PCI 到系统内存数据传输速率可达 132 MB/sec（数据通过高速 V-Link 接口发送到北桥）
- 符合 PCI-2.2 标准，带 5V 输入的 32 位 3.3V PCI 接口
- 支持 3 个 PCI 插槽，用于所有整合功能和 LPC 总线的仲裁和解码
- 双通道串行 ATA/RAID 控制器—符合串行 ATA 规格 1.0

内存支持

- 两个用于 DDR SDRAM 内存条的 184-pin 2.5V DIMM 插槽
- 支持 DDR400/333/266 存储总线
- 内存最多可达 2GB

主板用户指南

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

- 兼容 AC'97 2.3 规格
- 具有可调独立采样速率的 16 位立体声全双工 CODEC (编解码器)
- 它支持 3.3v 数字、5v 模拟电源和低功耗管理
- 3 路带 5 位音量控制的模拟线路电平立体声输入：LINE_IN, CD, AUX
- 前置输出、环绕输出、麦克风输入和线入插孔检测
- 2 路线路电平单声道输入
- 标准 48-Pin LQFP

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)

- 100Base-TX/10Base-T 物理层解决方案
- 双速-100/10 Mbps
- 自动协商：10/100，全双工/半双工
- 符合所有相应的 IEEE 802.3、10Base-T 和 100Base-Tx 标准

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 **VIA K8M800 Northbridge** and **VT8237 Southbridge** that supports the **Serial ATA** interface for high-performance and mainstream desktop PCs, 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 supports 6-channel **AC'97 Audio Codec** and provides one **IDE Ultra DMA 133/100/66** channel. 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 parallel port, one **VGA** port, one **LAN** port (optional), four back-panel **USB2.0** ports, and three audio jacks for microphone, line-in and line-out. Onboard **USB header(s)** can provide 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**

Note: 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 **VIA K8M800 Northbridge** and **VT8237 Southbridge** in this chipset in accordance with an innovative and scalable architecture with proven reliability and performance.

- Defines Highly Integrated Solutions for High-Performance Workstation & PC Desktop Designs -- High-performance North Bridge with HyperTransport interface to **AMD™ K8 CPU** plus **AGP 8X** external bus to external Graphics Controller plus high-speed **V-Link** interface to South Bridge

Motherboard User's Guide

- High Performance HyperTransport CPU Interface -- Processor interface via HyperTransport interface
- Full Featured Accelerated Graphics Port (AGP) Controller
 - AGP v3.0 compliant 8X / 4X transfer mode with Fast Write Support
 - Pipelined split-transaction long-burst transfers up to 2.1 GB/sec (4 bytes x 533 MHz)
- High Bandwidth 1 GB/Sec 16-Bit Ultra V-Link Host Controller -- Supports 66MHz, 4X and 8X transfer modes, Ultra V-Link Host interface with total bandwidth of 1 GB/sec
- Advanced System Power Management Support -- ACPI 2.0 and PCI Bus Power Management 1.2 compliant
- PCI to system memory data streaming up to 132Mbyte/sec (data sent to north bridge via high speed Ultra V-Link interface)
- PCI-2.2 compliant, 32-bit 3.3V PCI interface with 5V tolerant inputs
- Support three PCI slots of arbitration and decoding for all integrated functions and LPC bus.
- Dual Channel Serial ATA/RAID Controller—Complies with Serial ATA Specification Revision 1.0

Memory Support

- Two 184-pin 2.5V DIMM sockets for DDR SDRAM memory modules
- Supports **DDR400**/333/266 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
- Low pin count for both host and devices

AC'97 Codec

- Compliant with AC'97 2.3 specification
- 16-bit Stereo full-duplex CODEC with independent and variable sampling rate

- Support for 3.3v digital, 5v analog power supply and low power consumption management
- Three analog line-level stereo inputs with 5-bit volume control: LINE_IN, CD, AUX
- Front-Out, Surround-Out, MIC-In and LINE-In Jack Sensing
- Two analog line-level mono input
- Standard 48-Pin LQFP

Onboard I/O Ports

- 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)

- Built-in **100Base-TX/10Base-T Physical Layer solution**
- Dual Speed – 100/10 Mbps
- MII Interface to Ethernet Controller and Configuration & Status
- Auto Negotiation: 10/100, Full/Half Duplex
- Meet All applicable IEEE 802.3, 10Base-T and 100 Base-TX Standards

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

Motherboard User's Guide

- CPU and memory timing

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

Dimensions

- Micro ATX form factor of 244 x 192 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:

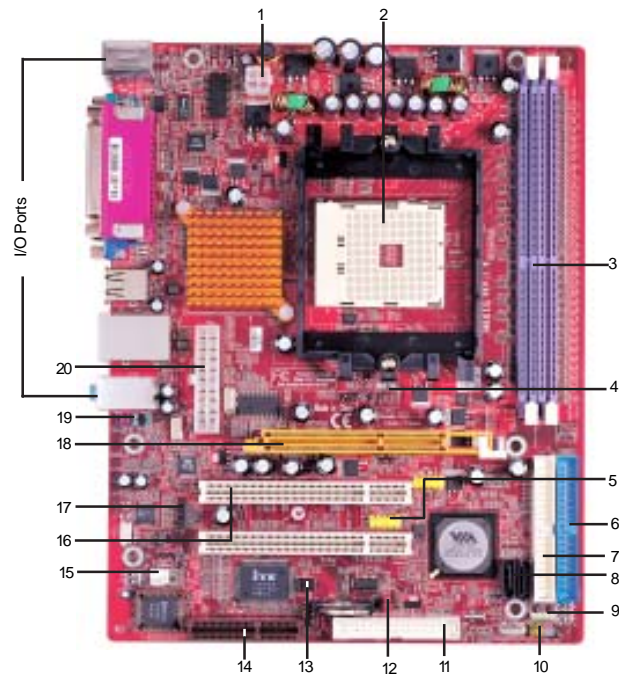
- ❑ Identify the motherboard components
- ❑ Install a CPU
- ❑ Install one or more system memory modules
- ❑ Make sure all jumpers and switches are set correctly
- ❑ Install this motherboard in a system chassis (case)
- ❑ Connect any extension brackets or cables to headers/connectors on the motherboard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

Note:

- 1 Before installing this motherboard, make sure jumper JP1 is under Normal setting. See this chapter for information about locating JP1 and the setting options.
- 2 Never connect power to the system during installation; otherwise, it may damage the motherboard.

Motherboard User's Guide

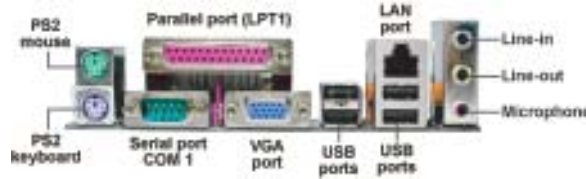
Motherboard Components



ITEM	LABEL	COMPONENTS	COLOR
1	PWR2	Standard 4-Pin ATX Power connector	WHITE
2	CPU Socket	Socket-754 for AMD Athlon 64/Sempron CPUs	WHITE
3	DIMM1/2	Two 184-pin DDR SDRAM sockets	PURPLE
4	FAN2	CPU Fan connector(3PIN)	DARK RED
5	USB3/4	Front Panel USB headers	YELLOW
6	IDE1	Primary IDE connector	BLUE
7	IDE2	Secondary IDE connector	WHITE
8	SATA 1/2	Serial ATA connectors	BLACK
9	SPK1	Speaker header	LIME
10	PANEL1	Front Panel Switch/LED header	COLOR
11	FDD1	Floppy Disk Drive connector	WHITE
12	JP1	Clear CMOS jumper	RED
13	SIR1	Infrared header	BLACK
14	CNR1	CNR slot	BROWN
15	FAN1	System Fan connector	WHITE
16	PCI 1-2	32-bit PCI slots	WHITE
17	CD1	Analog Audio Input header	BLACK
18	AGP1	AGP 8X slot	ORANGE
19	AUDIO2	Front Panel Audio header	PURPLE
20	PWR1	Standard 20-Pin ATX Power connector	WHITE

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 Netw ork.
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.

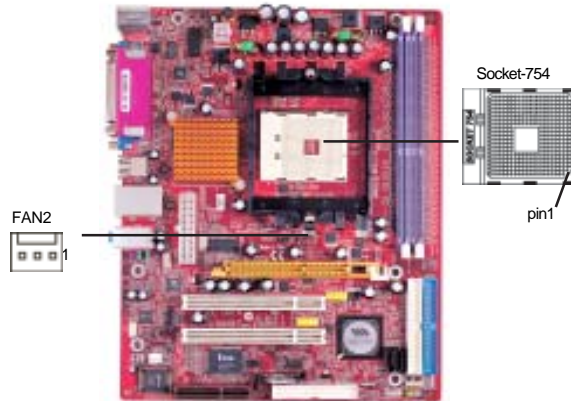
Installing the Processor

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.

Motherboard User's Guide

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.
- 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 (FAN2) on the motherboard.



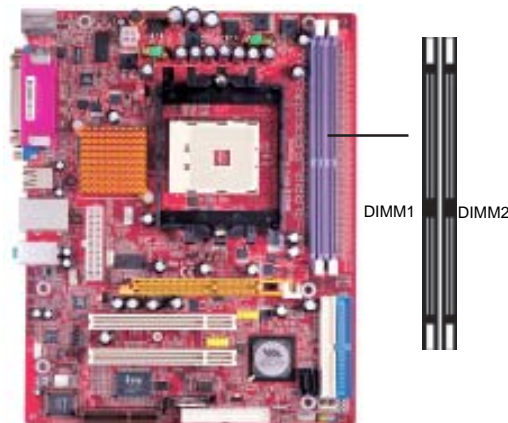
Installing Memory Modules

This motherboard accommodates two 184-pin 2.5V DIMM sockets (Dual Inline Memory Module) for unbuffered **DDR400/333/266** memory modules (Double Data Rate SDRAM), and maximum 2.0 GB installed memory.

Chapter 2: Motherboard Installation

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 2.1 GB/s, 2.7 GB/s or 3.2GB/s data transfer rate when the bus is 133 MHz, 166 MHz or 200 MHz, respectively.



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**.



JP1: 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.

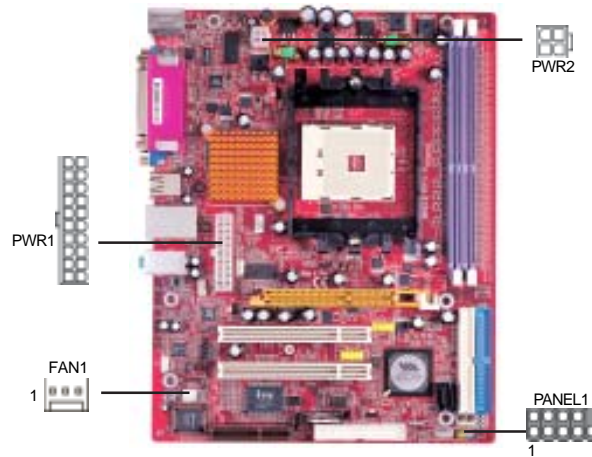
Function	Jumper
Normal	Short Pins 1-2
Clear CMOS	Short Pins 2-3

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.

Chapter 2: Motherboard Installation



Connect the power connector from the power supply to the **PWR1** connector on the motherboard. **PWR2** is a +12V connector for CPU Vcore power.

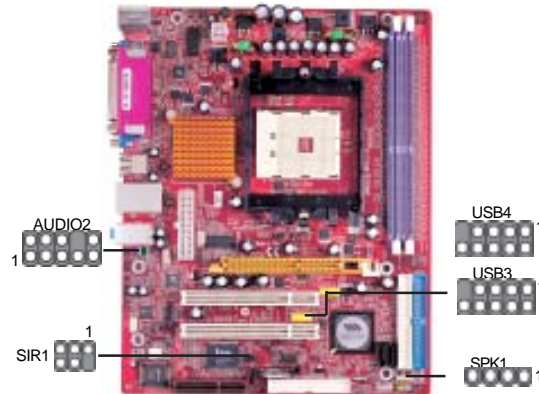
If there is a cooling fan installed in the system chassis, connect the cable from the cooling fan to the **FAN2** fan power connector on the motherboard.

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

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:



SPK1: Speaker Header

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

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

AUDIO2: 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_MIC1	2	AUD_GND
3	AUD_MIC2	4	AUD_VCC
5	AUD_FPOUT_R	6	AUD_RET_R
7	HP_ON	8	KEY
9	AUD_FPOUT_L	10	AUD_RET_L

USB3/USB4: 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 USB3/USB4 to connect the front-mounted ports to the motherboard.

Chapter 2: Motherboard Installation

Here is a list of USB pin assignments.

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 USB3/USB4 header on the motherboard.
2. Plug the bracket cable onto the USB3/USB4 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

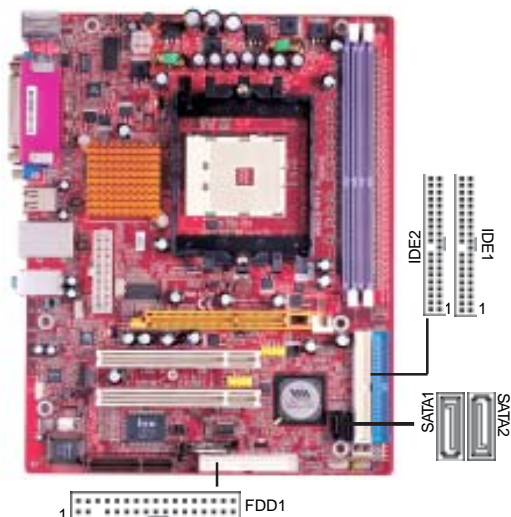
The infrared port allows the wireless exchange of information between your computer and similarly equipped devices such as printers, laptops, Personal Digital Assistants (PDAs), and other computers.

Pin	Signal	Pin	Signal
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 **FDD1**.

IDE Devices

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

The mainboard 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.

Chapter 2: Motherboard Installation

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

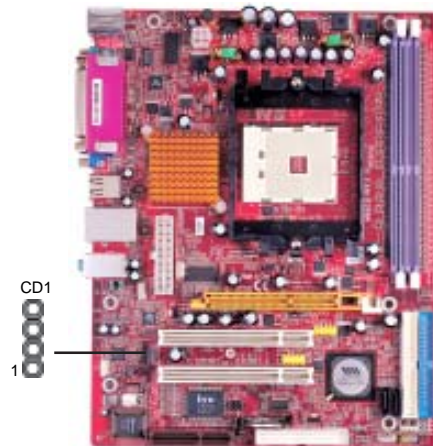
The **Serial ATA (Advanced Technology Attachment)** is the standard interface for the IDE hard drives, which is designed to overcome the design limitations while enabling the storage interface to scale with the growing media rate demands of PC platforms. It provides you a faster transfer rate of **150 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 **SATA1-2**, 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**.

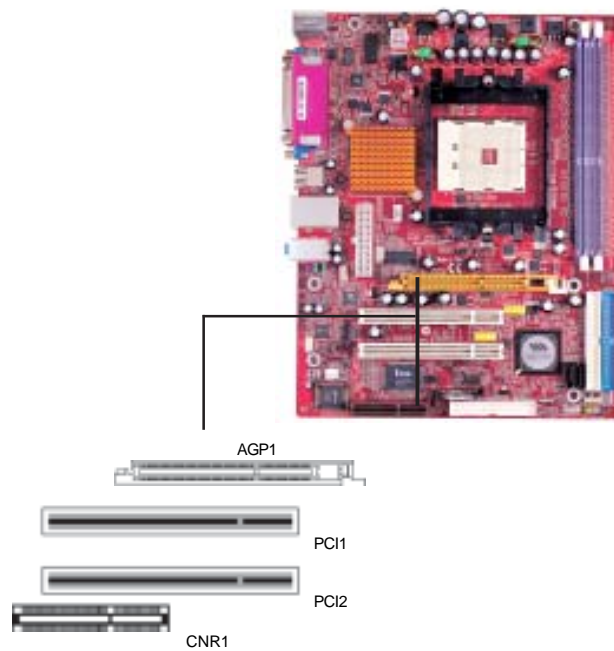
Motherboard User's Guide

Here is a list of CD1 pin assignments.

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.

Chapter 2: Motherboard Installation

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

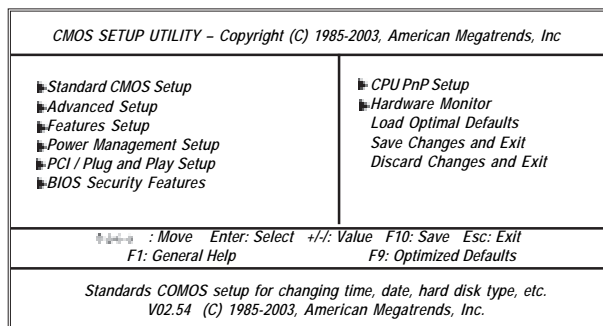
The BIOS Setup Utility records settings and information of your computer, such as date and time, the type of hardware installed, and various configuration settings. Your computer applies the information to initialize all the components when booting up and basic functions of coordination between system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



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.

Chapter 3: BIOS Setup Utility

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	00:004:12	Help Item
System Date	Mon 04/05/2004	
Primary IDE Master	Not Detected	User [Enter], [TAB] or [SHIFT-TAB] to select a field. Use [+] or [-] to configure system time.
Primary IDE Slave	Not Detected	
Secondary IDE Master	Not Detected	
Secondary IDE Slave	Not Detected	
Floppy A	1.44 MB 3 1/2	
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

Use these items to configure devices connected to the Primary/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 A/B

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

Motherboard User's Guide

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>Help Item</i>
<i>Quick Boot</i>	<i>Enabled</i>	
<i>1st Boot Device</i>	<i>HDD:PM-ST3120023AS</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>CD/DVD:3S-CD-ROM 52</i>	
<i>3rd Boot Device</i>	<i>1ST FLOPPY DRIVE</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>AGP Aperture Size</i>	<i>64 MB</i>	
<i>CAS Latency (CL)</i>	<i>Auto</i>	
<i>TRCD</i>	<i>Auto</i>	
<i>TRAS</i>	<i>Auto</i>	
<i>TRP</i>	<i>Auto</i>	
<i>Auto Detect DIMM/PCI C1K</i>	<i>Enabled</i>	
<i>Spread Spectrum</i>	<i>Disabled</i>	
<i>Cool 'N' Quiet</i>	<i>Enabled</i>	

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

Quick Boot

If you enable this item, the system starts up more quickly by elimination of 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.

AGP Aperture Size

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

CAS Latency (CL)

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.

TRCD/TRAS/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.

Spread Spectrum

If you enable spread spectrum, it can significantly reduce the EMI (Electro-Magnetic interference) 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.

Motherboard User's Guide

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		
		Help Item
OnBoard Floppy Controller	Enabled	
Serial Port1 Address	3F8/IRQ4	
OnBoard IR Port	Disabled	Allows BIOS to Enable or Disable Floppy Controller.
Parallel Port Address	378	
Parallel Port Mode	ECP	
ECP Mode DMA Channel	DMA3	
Parallel Port IRQ	IRQ7	
OnBoard PCI IDE Controller	Both	
OnBoard SATA-IDE	Enabled	
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.

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 SATA-IDE

Use this item to enable the onboard SATA-IDE 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. 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>Suspend Mode</i>	<i>S1</i>	<i>Enable / Disable</i>
<i>Suspend Time Out</i>	<i>Disabled</i>	<i>ACPI support for</i>
<i>Resume On RTC Alarm</i>	<i>Disabled</i>	<i>Operating System.</i>
<i>LAN/Ring Power On</i>	<i>Disabled</i>	<i>Enable: If OS supports</i>
<i>Keyboard Power On</i>	<i>Disabled</i>	<i>ACPI.</i>
<i>Wake-Up key</i>	<i>Any key</i>	<i>Disable: If OS does not</i>
		<i>support ACPI.</i>
<p><i>←→ : Move Enter: Select +/-: Value F10: Save Esc: Exit</i> <i>F1: General Help F9: Optimized Defaults</i></p>		

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 / RTC Alarm Date (Days) / System Time

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.

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.

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.

Wake-Up Key

When Keyboard Power On is set to "Wake-Up Key", this item is available and users can press any keys on the keyboard.

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 Share Memory Size 32 MB Allocate IRQ to PCI VGA Yes PCI IDE BusMaster Disabled	Help Item Option 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 an AGP slot.

CPU PnP Setup Page

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

<i>CMOS SETUP UTILITY – Copyright (C) 1985-2003, American Megatrends, Inc.</i>		<i>Help Item</i>
<i>CPU PnP Setup</i>		
<i>CPU Type: AMD Athlon (tm) 64 Processor 3700+</i>	<i>Disabled</i>	
<i>CPU Over-clocking Func. :</i>	<i>200 MHz</i>	<i>CPU Freq Over Clock 200 to 230 MHz</i>
<i>CPU Frequenc :</i>	<i>SPD</i>	
<i>DRAM Frequency :</i>	<i>2.6V</i>	
<i>Memory Voltage :</i>	<i>Normal</i>	
<i>ADD AGP Voltage :</i>	<i>Dual</i>	
<i>5V USB :</i>	<i>1.500V</i>	
<i>CPU VID :</i>	<i>Disabled</i>	
<i>CPU Voltage Control :</i>		

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

CPU Type

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

CPU Over-clocking Func.

This item decides the CPU over-clocking function installed in your system. If the over-clocking fails, please turn off the system power. And then, hold the PageUp key (similar to the Clear CMOS function) and turn on the power, the BIOS will recover the safe default.

CPU Frequency

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.

Memory Voltage

This item determines the DDR voltage adjustment.

CPU VID

This item shows voltage of the CPU in your system.

CPU Voltage Control

This item enables users to adjust the CPU voltage.

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 Setup	
*** System Hardware Monitor***	Help Item
Vcore	:1.463V
Vdimm	:2.512V
Vcc5V	:5.026V
SB3V	:3.264V
CPU FAN2 Speed	:4017 RPM
SYSTEM FAN1 Speed	:0 RPM
SYSTEM Temperature	:31°C/87°F
CPU Temperature	:50°C/122°F
↑↓←→ Move Enter: Select +/-: Value F10: Save Esc: Exit F1: General Help F9: Optimized Defaults	

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 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.

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, select [OK] to save and exit, or [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 [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.

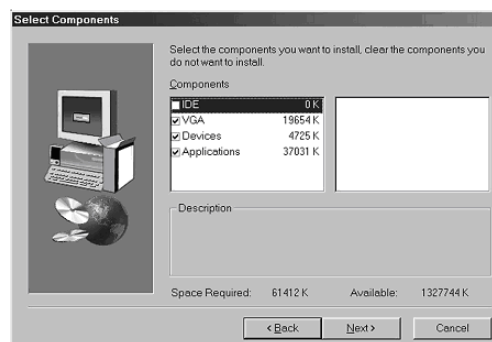
Auto-Installing under Windows 2000/XP

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.

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.