Trademarks

M852 Series, V1.0
KT400A/January 2004

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.

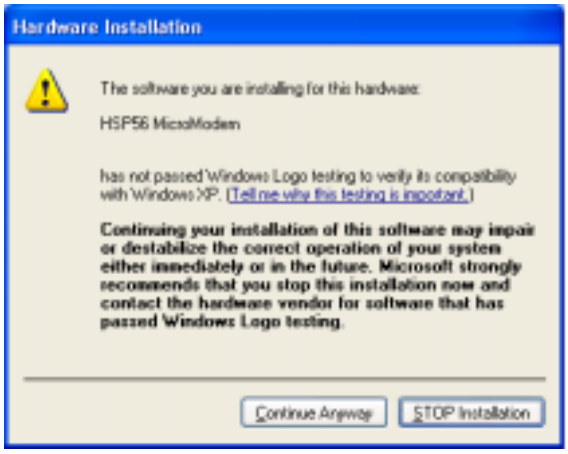
1. Don't take this motherboard and components out of their original static-proof package until you are ready to install them.
2. While installing, please wear a grounded wrist strap if possible. If you don't have a wrist strap, discharge static electricity by touching the bare metal of the system chassis.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

Pre-Installation Inspection

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

Notice:

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



2-1. The USB 2.0 driver only supports Windows XP and Windows 2000.

2-5. If you connect a USB 2.0 hub to the root hub, plugging USB devices into this hub, the system might not successfully execute certain USB devices' connection because it could not recognize these devices.

Currently, we are working on such limitations' solution. As soon as the solution is done, the updated USB drive will be released to our website: www.pcchips.com.tw for your downloading.

Features and Checklist Translations

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

Processeur	La carte mère utilise un Socket A AMD 462 broches présentant les caractéristiques suivantes: • Supporte un bus frontal (FSB) de 200/266/**333 MHz** • Intègre les processeurs AMD Duron, Athlon, et Athlon X
Chipset	Le chipset sur comprend le **KT400A** Northbridge et **VT8235** Southbridge basés sur une architecture novatrice et dimensionnable avec une fiabilité et des performances prouvées. Quelques-unes des caractéristiques avancées du chipset sont: • Support d'adresse indépendante, données, et interfaces de surveillance • Support de modes de transfert 533 MHz 8x, 266 MHz 4x, et 133 MHz 2x pour signalisation AGP Ad et SBA • AGP v3.0 conforme au mode de transfert 8x • Supporte une interface d'Hôte V-Link 66 MHz avec une bande passante de pointe de 533 Mo/sec • Contrôleur Fast Ethernet intégré avec capacités 1/10/100 Mbits • Contrôleur EIDE de mode maître UltraDMA-33/66/100/133 de Canal double • Vitesse de transfert jusqu'à 133Mo/sec pour couvrir les pilotes PIO mode 4, multi-mots DMA mode 2, et interface UltraDMA-33 • Compatible USB v2.0 et Interface de Contrôleur d'Hôte Avancé (EHCI) v1.0 • Supporte à la fois la gestion d'alimentation ACPI (Advanced Configuration and Power Interface) et legacy (APM) Les caractéristiques supplémentaires comprennent le support pour six ports USB, une liaison AC 97 pour audio et modem, surveillance matérielle, et gestion d'alimentation ACPI/OnNow.
Graphiques	Cette carte mère comprend un logement AGP qui offre huit fois la bande passante des spécifications AGP d'origine. L'AGP 3.0 (8xAGP) offre une amélioration significative de performances accompagnée d'améliorations de fonctionnalités sur l'AGP2.0. Cette interface représente l'évolution naturelle de l'AGP existante pour répondre à une demande toujours croissante d'interfaces graphiques en environnements de station de travail et de bureau.
Support de Mémoire	• Peut recevoir deux logements sans mémoire tampon en 2.5V de 184 broches. • Chaque logement supporte jusqu'à 1 Go avec une capacité maximum totale de 2 Go • Support de module mémoire **DDR** SDRAM jusqu'à 200/266/333/**400 MHz**

AC97 Audio Codec	Le Codec Audio VIA VT1612A est conforme aux spécifications AC'97 2.2 offrant des performances de résolution en 18 bits. Avec des sorties à 2 canaux la VIA VT1612A offre une qualité stéréo de hautes performances pour connexions d'écouteurs et de haut-parleurs. • Codec conforme à l'extension AC'97 2.2 • Stéréo 18 bits full duplex • Extension stéréo 3D pour contour simulé • Entrées de niveau de ligne analogique, 2 stéréo, 2 mono
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 • Quatre ports USB • Un port LAN (optionnel) • Prises audio pour microphone, ligne d'entrée et ligne de sortie
Fast Ethernet LAN (optional)	Le VT6103 est un périphérique à Couche Physique pour Ethernet 10BASE-T et 100BASE-TX utilisant des câbles Non blindés de catégorie 5, Blindés de Type 1. • Double Vitesse – 100/10 Mbps • Half et Full Duplex • Conforme à tous les Standards IEEE 802.3, 10Base-T et 100Base-Tx Applicables • Egaliseur Adaptatif
Microprogramme BIOS	Cette carte mère utilise Award BIOS qui permet aux utilisateurs de configurer de nombreuses caractéristiques du système comprenant les suivantes: • Gestion d'alimentation • Alarmes de réveil • Paramètres de CPU • Synchronisation de CPU et de mémoire Le microprogramme peut aussi être utilisé pour définir les paramètres pour les vitesses d'horloges de différents processeurs.

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

Checkliste

Die Verpackung Ihres Mainboards enthält folgende Teile:

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

Ausstattung

Prozessor	Das Motherboard verwendet einen AMD 462-Pin Sockel A mit den folgenden Eigenschaften: • Unterstützung für 200/266/**333 MHz** FrontSideBus (FSB) • Unterstüzung für AMD Duron, Athlon und Athlon XP-Prozessoren
Chipsatz	Der Chipsatz des enthält eine **KT400A** Northbridge und eine VT8235 Southbridge, die auf einer innovativen und skalierbaren Architektur mit bewiesener Zuverlässigkeit und Leistung basieren. Einige der modernen Eigenschaften des Chipsatzes: • Unterstützt unabhängige Adressen, Daten und Snoop Interfaces • Unterstützt 533 MHz 8x, 266 MHz 4x und 133 MHz 2x-Datentransfermodi für Ad- und SBA AGP-Signale • Kompatibel mit AGP v3.0 mit 8x-Transfermodus • Unterstützung für 66 MHz V-Link Client Interface mit einer Spitzen-Bandbreite von 533 MB/Sek. • Integrierter Fast Ethernet-Controller mit einer Leistung von 1/10/100 Mbit • Dualkanal-UltraDMA-33/66/100/133 Mastermodus EIDE-Controller • Transferraten bis zu 133MB/s für PIO-Modus 4, Multi-Word DMA-Modus 2-Treiber und UltraDMA-33Interface • USB v2.0 und Enhanced Host Controller Interface (EHCI) v1.0 kompatibel • Unterstützt sowohl ACPI (Advanced Configuration and Power Interface) als auch Legacy- (APM) Energieverwaltung Zusätzliche Eigenschaften umfassen die Unterstützung für sechs USB-Ports, ein AC 97-Link für Audio und Modem, Hardwareüberwachung und ACPI/OnNow-Energieverwaltung.
Grafik	Das Motherboard enthält einen AGP-Steckplatz ausgestattet, der gegenüber der ursprünglichen AGP-Spezifikation über die achtfache Bandbreite verfügt. AGP 3.0 (8xAGP) bietet gegenüber AGP2.0 eine erhebliche Leistungssteigerung und verbesserte Features. Dieses Interface stellt die natürliche Weiterentwicklung des bestehenden AGP dar, um den stetig anwachsenden Anforderungen an die Grafikschnittstellen innerhalb der Workstations und Desktop-Umgebungen gerecht zu werden.
Speicherunterstützung	• Platz für zwei ungepufferte 2.5V 184-Pin-Slots • Jeder Steckplatz unterstützt bis zu 1 GB mit einer Gesamtkapazität von 2 GB • Unterstützung bis zu 200/266/333/**400 MHz DDR**-SDRAMs
AC97 Audio Codec	Der VIA VT1612A Audio Codec entspricht der AC'97 2.2-Spezifikation für 18-Bit-Auflösung. Mit 2-Kanalausgängen bietet das VIA VT1612A Hochleistungs-Stereoqualität für Kopfhörer oder Lautsprecher. • Codec entspricht AC'97 2.2 S/PDIF-Erweiterung

	• 18-Bit Stereo-Vollduplex • 3D-Stereoerweiterung für simulierten Surround-Sound • 2 Stereo-, 2 analoge Mono Line-level-Eingänge
Onboard I/O Ports	Das Motherboard verfügt über einen kompletten Satz von I/O-Schnittstellen und Anschlüssen: • Zwei PS/2-Schnittstellen für Maus und Tastatur • Eine serielle Schnittstellen • Eine parallele Schnittstelle • Vier USB - Schnittstelle • Eine Eine LAN-Schnittstelle (optional) • Audiobuchsen für Mikrofon, Line-in und Line-out
Fast Ethernet LAN (optional)	Das VT6103 ist ein Physical-Layer-Gerät für Ethernet 10BASE-T und 100BASE-TX bei Benutzung von nicht abgeschirmten Kategorie 5-Kabeln, abgeschirmten Typ 1-Kabeln und Glasfaserkabeln. • Zwei Geschwindigkeiten – 100/10 MB/Sek. • Halb- und Vollduplex • Entspricht allen geltenden IEEE 802.3, 10Base-T und 100Base-Tx-Standards • Einstellbarer Equalizer
BIOS Firmware	Dieses Motherboard verwendet Award BIOS, mit dem Anwender viele Systemeigenschaften selbst konfigurieren können, einschließlich der folgenden: • Energieverwaltung • Wake-up Alarm • CPU-Parameter • CPU- und Speichertiming Mit der Firmware können auch die Parameter für verschiedene Prozessortaktgeschwindigkeiten eingestellt werden.

Bestimmte Hardwarespezifikationen und Teile der Softwareausstattung können ohne weitere Ankündigung abgeändert werden.

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

Processore	La scheda madre è dotata di un socket A AMD a 462 pin che presenta le seguenti caratteristiche: • Supporta il bus di sistema 200/266/**333 MHz** frontside (FSB) • Possibilità di alloggiare le CPU Amd Athlon Duron, Athlon e Athlon XP
Chipset	Il chipset è composto dai chipset Northbrigde **KT400A** e Southbridge **VT8235** basati su un'architettura innovativa e facilmente espandibile dall'affidabilità e dalle prestazioni dimostrate. Ecco alcune delle caratteristiche principali dei chipset: • Supporta interfacce indirizzi, dati e snoop di produttori indipendenti • Supporta le modalità di trasferimento 8x a 533 MHz, 4x a 266 MHz e 2x a 133 MHz per segnali Ad e SBA AGP • Compatibilità AGP v3.0 con modalità di trasferimento 8x • Supporta interfaccia client V-link 66 MHz con picco di larghezza di banda di 533 MB/sec • Controller Fast Ethernet Integrato con capacità pari a 1/10/100 Mbit • Controller Eide modalità master dual channel UltraDMA-33/66/100/133 • Trasferimento dati sino a 133MB/sec per la modalità PIO mode 4, "multi-word DMA mode 2 drivers" e l'interfaccia UltraDMA-33 • Compatibile con lo standard USB v2.0 e Enhanced Host Controller Interface (EHCI) v1.0 • Supporta la gestione energia sia ACPI (Advanced Configuration and Power Interface) che precedenti (APM) Alcune ulteriori caratteristiche chiave includono il supporto per sei porte USB, per il collegamento AC 97 per audio e modem, per il monitoraggio hardware e per il Sistema Risparmio Energetico ACPI/OnNow.
Grafica	La scheda include uno slot AGP che fornisce otto volte la larghezza di banda delle specifiche AGP originarie. La tecnologia AGP 3.0 offre prestazioni e funzioni superiori rispetto alla tecnologia AGP 2.0. Questa interfaccia, che rappresenta una naturale evoluzione di quella esistente, è progettata per assicurare una completa compatibilità dell'interfaccia grafica con le applicazioni correnti e future, sia su workstation che su desktop.
Memory Support	• Comprende due slot 2.5V da 184 pin senza buffer • Ogni slot supporta sino ad un 1 GB con una capacità massima pari a 2 G • Supporta DDR su moduli di memoria SDRAM **DDR** fino a 200/266/333/**400 MHz**.
AC97 Audio Codec	Il VIA VT1612A Audio Codec è conforme alle specifiche AC'97 2.2 che assicurano prestazioni con una risoluzione a 18 bit. Grazie alle 2 uscite canale, il VIA VT1612A offre una qualità stereo di alto livello per le connessioni delle cuffie e degli altoparlanti.

	• Estensione AC'97 2.2 S/PDIF, conforme con Codec, • Stereo full duplex a 18 bit • Espansione 3D stereo per surround simulato • 2 ingressi stereo, 2 ingressi mono analogici a livello di linea
I/O integrati	La scheda madre è dotata di un set completo di connettori e porte I/O: • Due porte PS/2 per mouse e tastiera • Una porta seriale • Una porta parallela • Quattro porte USB • Una porta LAN (opzionale) • Jack audio per microfono e connettori ingresso/uscita Line
Fast Ethernet LAN (opzionale)	La scheda VT6103 è un dispositivo Physical Layer per Ethernet 10BASE-T e 100BASE-TX che usa cavi della categoria 5 non schermati, Tipo 1 schermati e ottici. • Dual Speed – 100/10 Mbps • Half e Full Duplex • Conforme a tutti gli standard applicabili IEEE 802.3, 10Base-T e 100Base-Tx • Equalizzatore adattivo
BIOS Firmware	Questa scheda madre utilizza il BIOS Award che permette all'utente di configurare numerose caratteristiche del sistema tra cui le seguenti: • Risparmio energetico • Segnali Wake Up • Parametri della CPU e sincronizzazione memoria • Timing della memoria e della CPU È possibile inoltre impostare i parametri di velocità del clock del processore su diversi valori.

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

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

Procesador	El panel principal usa un AMD 462-pines Enchufe A que tiene las siguientes características: • Permite 200/266/**333 MHz** bus de lado frontal (FSB) • Adecua procesadores AMD Duron, Athlon, and Athlon XP
Chipset	El panel principal en incluye **KT400A** Northbridge y **VT8235** Southbridge los cuales están basados en una innovadora y escalada estructura la cual provee confiabilidad y rendimiento. Algunas de las características avanzadas del chipset son: • Soporta interfaces de dirección, datos y snoop independientes • Soporta modos de transferencia en 533 MHz 8x, 266 MHz 4x, y 133 MHz 2x para la señalización de Ad y SBA AGP • AGP v3.0 convencional con modo de transferencia 8x • Soporta 66 MHz V-Link interfaz Usuario con un máximo de ancho de banda de 533 MB/por segundo • Controlador Fast Ethernet integrado con capacidad de 1/10/100 Mbit • Canal doble UltraDMA-33/66/100/133 modo maestro controlador EIDE • Valor de transferencia hasta 133MB/por segundo para cubrir PIO modo 4, conductores multi-palabras DMA modo 2, e Interfaz UltraDMA-33 • USB v2.0 y Interfaz de Controlador de Receptor Mejorado (EHCI) v1.0 compatible • Permite ambas ACPI (Configuración Avanzada e Interfaz de Energía) y (APM) antigua administración de energía Características adicionales incluyen apoyo para seis puertos USB, un enlaces AC 97 para audio y modem, monitorización de hardware, y administración de potencia ACPI/OnNow.
Gráficas	La placa principal incluye una ranura AGP que provee ocho veces el ancho de banda de la especificación original AGP. La tecnología AGP 3.0 (8xAGP) provee un aumento significativo en realizar junto con los refuerzos de característica para el AGP2.0. Esta interfaz representa la evolución natural del AGP existente para safisfacer las contìnuas exigencies puestas en las interfaces de gráficas dentro del ordenador y los ambientes de desktop.
Soporte de Memoria	• Acomoda dos ranuras 2.5V 184-pin sin buffer • Cada ranura permite hasta 1 GB con una capacidad máxima total de 2 GB • Soporta DDR hasta modulo de memoria 200/266/333/**400 MHz DDR** SDRAM.
AC97 Audio Codec	El VIA VT1612A Audio Codec se conforma con la especificación AC'97 2.2 que provee rendimiento de resolución 18-bit. Con salidas de 2 canales el VIA VT1612A provee la calidad en estéreo de alto rendimiento para auriculares o conexiones de altoparlantes..

	• Codec con conformidad de extensión AC'97 2.2 S/PDIF • Full duplex en estéreo de 18-bit • Expansión en estéreo 3D para el surround simulado • Entradas a nivel de línea analógicas de 2 estéreo, 2 mono
Puertos I/O Abordos	El tablero principal tiene un set completo de puertos de Entrada/Salida y conectores: • Dos puertos PS/2 para ratón y teclado • Un puerto de serie • Un puerto paralelo • Cuatro puertos USB • Un puerto LAN (opcional) • Enchufes de audio para micrófono, línea de entrada y línea de salida
Ethernet LAN Rápido (optional)	La VT6103 es un componente Estrato Físico para Ethernet 10BASE-T y 100BASE-TX usando categoría 5 no blindado, Tipo 1 Blindado, y cables de Fibra óptica. • Velocidad Doble – 100/10 Mbps • Bidireccional Total y Medio • Reúne Todo la Apropiado IEEE 802.3, 10Base-T y 100Base-Tx Convencionales • Ecualizador adaptable
BIOS Firmware	Este panel principal usa el Award BIOS que posibilita a los usuarios configurar muchas características de sistema incluidas las siguientes: • Administración de potencia • Alarmas despertadoras • Parámetros y memoria de temporizador CPU • Memoria de temporizador CPU El firmware puede también ser usado para ajustar parámetros para velocidades diferentes de procesador de reloj.

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

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

Processador	A placa mãe usa um Soquete A AMD de 462-pin que leva as seguintes características: • Suporta bus frontal de 200/266/**333 MHz** (FSB) • Acomoda processadores AMD Duron, Athlon, e Athlon XP
Chipset	O chipset inclui **KT400A** Northbridge e **VT8235** Southbridge que são baseados em uma estrutura escalável e inovativa com performance e confiabilidade comprovadas. Algumas das características avançadas do chipset são: • Suporta endereço, dados e interface de investigação independentes • Suporta modos de transferência 533 MHz 8x, 266 MHz 4x, e 133 MHz 2x para sinalização Ad e SBA AGP • AGP v3.0 compatível com modo de transferência 8x • Suporta 66 MHz V-Link Host interface com máximo de banda de 533 MB/seg • Controlador Fast Ethernet integrado com capacidade de 1/10/100 Mbit • Canal duplo UltraDMA-33/66/100/133 controlador mestre modo EIDE • Faixa de transferência até 133MB/seg para cobrir PIO modo 4, modo multi-palavra DMA 2 drivers, e interface UltraDMA-33 • USB v2.0 e Interface Controlador de Host Realçado (EHCI) v1.0 compatível • Suporta ambos ACPI (Advanced Configuration and Power Interface) e herança (APM) de gerenciamento de força Características adicionais incluem suporte para seis portes USB, um linque AC 97 para áudio e modem, monitoramento de hardware, e gerenciamento de força ACPI/OnNow.
Graphics	Esta placa mãe inclui uma ranhura AGP que fornece oito vezes a banda da especificação original AGP. O AGP 3.0 (8xAGP) oferece um aumento siginificativo na performance junto com o realçamento das características para AGP2.0. Este interface representa a evolução natiral do AGP existente para satisfazer a demanda crescente sobre interfaces de gráficos dentro do ambiente do workstation e desktop.
Suporte de memória	• Acomoda duas ranhuras não registradas de 2.5V 184-pin • Cada ranhura suporta até 1 GB com capacidade total máxima de 2 GB • Suporta módulo de memória DDR até 400 MHz DDR SDRAM.
AC97 Audio Codec	O VIA VT1612A Audio Codec é compatível à especificação AC'97 2.2 fornecendo performance de resolução 18-bit. Com 2 canais de saída o VIA VT1612A fornece qualidade de estéreo de alta-performance para fones de ouvidos ou conexões de alto-falantes. • AC'97 2.2 extensão compatível codec • Duplex completo de 18-bit estéreo • Expansão estéreo 3D para surround simulado

	• 2 estéreos, 2 entradas de nível mono análogas
Portas I/O na placa	A placa principal conta com um conjunto completo de portas e conectores E/S: • Duas portas PS/2 para o rato e o teclado • Uma porta de série • Uma porta paralela • Quatro portas USB • Uma porta LAN (opcional) • Uma porta VGA • Tomadas de áudio para microfone, linha de entrada e linha de saída
Fast Ethernet LAN (optional)	O VT6103 é um dispositivo de Camada Física para Ethernet 10BASE-T e 100BASE-TX usando a categoria 5 Desencapada e Tipo 1 Encapado. • Velocidade Dual – 100/10 Mbps • Duplex Completo e Metade • De acordo Com Todos os Padrões Aplicáveis de IEEE 802.3, 10Base-T e 100Base-Tx • Equalizador Adaptivo
BIOS Firmware	Esta placa principal utiliza a Award BIOS que permite aos utilizadores configurarem muitas funções do sistema, incluindo as seguintes: • Gestão de energia • Alarmes de despertar • Parâmetros da UCP • Temporização da UCP e da memória O firmware também pode ser utilizado para definir parâmetros para diferentes velocidades do relógio do processador.

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

检查单

您的主板包装含有以下项目：

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

功能

处理器	主板使用一个 AMD 462-pin Socket A 插座，此插座具有以下特点： • 支持 200/266/**333 MHz** 前端总线 (FSB) • 支持 AMD Duron、Athlon 和 Athlon XP 处理器
芯片组	芯片组包括 **KT400A** 北桥和 VT8235 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。此芯片组具有以下一些高级功能： • 支持独立地址、数据和窥探接口 • 8x 传输模式兼容 AGP v3.0 • 支持峰值带宽为 533MB/sec 的 66MHz V-Link Host 接口 • 集成 1/10/100 Mbit 智能高速乙太网控制器 • 双通道 UltraDMA-33/66/100/133 主控模式 EIDE 控制器 • 传输速率可达 133MB/sec，支持 PIO 模式 4、多字 DMA 模式 2 驱动程序和 UltraDMA-33 接口 • 兼容 USB v2.0 和增强主控器接口 (EHCI) v1.0 • 支持 ACPI（高级配置电源接口）和传统 (APM) 电源管理 其它功能包括支持 6 个 USB 端口、用于音频和调制解调器的 AC 97 连接、硬件监测和 ACPI/OnNow 电源管理。带读/写并发处理的多线程 I/O 连接主控
图形	该主板包括一个 AGP 插槽，可提供普通 AGP 规格 8-倍的带宽。AGP 3.0 (8xAGP) 在增强了 AGP2.0 功能的同时极大地提高了性能。此接口反映了 AGP 的发展规律，它进一步满足了在工作站和桌面环境中对图形接口的不断增长的要求。
内存支持	• 它有 2 个非缓冲 2.5V 184 pin 插槽 • 每个插槽支持 1 GB，总共最大可支持 2 GB • 支持 200/266/333/**400MHz DDR** SDRAM 内存条。
AC97 编解码器 Codec	VIA VT1612A 音频编解码器符合 AC'97 2.2 规格，能够提供 18 位分辨率性能。VIA VT1612A 带有 2 通道输出，能够为耳机或扬声器连接提供高性能的立体声音质。 • 符合 AC'97 2.2 扩展的编解码器 • 18 位立体声全双工 • 用于模拟环绕的 3D 立体声扩展 • 2 路立体声、2 路单声道线路电平输入

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 • 4 个 USB 端口 • 1 个 LAN 端口（可选） • 麦克风、线入和线出声音插孔
Fast Ethernet LAN (optional)	VT6103 是一种物理层设备，可用于使用 5 类非屏蔽线、1 类屏蔽线的以太网 10BASE-T 和 100BASE-TX。 • 双速 – 100/10 Mbps • 半双工和全双工 • 符合所有相应的 IEEE 802.3、10Base-T 和 100Base-Tx 标准 • 自适应均衡器
BIOS	此主板使用 Award BIOS，可以让用户自己配置以下系统功能： • 电源管理 • 唤醒报警 • CPU 参数 • CPU 和记忆定时 还可用于设置不同处理器时钟速度的参数。

部分硬件规格和软件项目若有更改恕不另行通知。

Chapter 1

Introduction

Thank you for choosing the motherboard. The motherboard is designed to fit the advanced AMD processors in the 462-pin package. Based on the ATX form factor, this motherboard incorporates one of the following chipset: VIA KT400A Northbridge and VT8235 Southbridge chipsets. This motherboard provides the standard 200/266/**333 MHz** front side bus with extra capability.

The KT400A Northbridge provides superior performance between the CPU, DRAM, AGP bus, and 8X V-Link bus with pipelined, burst, and concurrent operation. It supports four banks of DDR Synchronous DRAMs up to 2 GB and full AGP 3.0 capability bus utilization including 2x, 4x, and 8x mode transfers, SideBand Addressing, Flush/Fence commands and pipelined grants.

The VT8235 Southbridge supports standard intelligent peripheral controllers such as USB v2.0/1.1 and Universal HCI v2.0/1.1 compliant, real time clock with 256 byte extended CMOS, integrated bus-mastering dual full-duplex direct-sound AC97 link compatible sound system and full System Management Bus (SMBus) interface.

Sufficient expansion is provided for with one AGP slot, five 32-bit PCI slot and an optional CNR slot. It also comes with a built-in Enhanced PCI Bus Master PCI IDE controller that provides high-speed connections to full range of IDE devices such as HDD and CD-ROM. This motherboard is designed in a standard ATX form factor using a 4-layer printed circuit board and measures 305 mm x 190 mm.

Key Features

This motherboard has these key features:

Processor

The motherboard uses an AMD 462-pin Socket A that has the following features:

- Supports 200/266/**333 MHz** frontside bus (FSB)
- Accommodates AMD Duron, Athlon, and Athlon XP processors

Chipset

The chipset includes the **KT400A** Northbridge and **VT8235** Southbridge which are based on an innovative and scalable architecture with proven reliability and performance. A few of the chipset's advanced features are:

- Support 533 MHz 8x, 266 MHz 4x, and 133 MHz 2x transfer modes for Ad and SBA AGP signaling
- AGP v3.0 compliant with 8x transfer mode
- Supports 66 MHz V-Link Host interface with peak bandwidth of 533 MB/sec
- Integrated Fast Ethernet Controller with 1/10/100 Mbit capability
- Dual channel UltraDMA-33/66/100/133 master mode EIDE controller
- Transfer rate up to 133MB/sec to cover PIO mode 4, multi-word DMA mode 2 drivers, and UltraDMA-33 interface
- USB v2.0 and Enhanced Host Controller Interface (EHCI) v1.0 compatible
- Supports both ACPI (Advanced Configuration and Power Interface) and legacy (APM) power management

Additional features include support for six USB ports, an AC 97 link for audio and modem, hardware monitoring, and ACPI/OnNow power management.

Graphics

- This motherboard includes an AGP slot that provides eight times the bandwidth of the original AGP specification. The AGP 3.0 (8xAGP) offers a significant increase in performance along with feature enhancements to AGP2.0. This interface represents the natural evolution from the existing AGP to meet the ever-increasing demands placed on the graphic interfaces within the workstation and desktop environments.

Memory

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

AC'97 Audio Codec

The VIA VT1612A Audio Codec conforms to the AC'97 2.2 specification providing 18-bit resolution performance. With 2 channel outputs the VIA VT1612A provides high-performance stereo quality for headphones or speaker connections.

- AC'97 2.2 extension compliant codec
- 18-bit stereo full duplex
- 3D stereo expansion for simulated surround
- 2 stereo, 2 mono analog line-level inputs

Expansion Options

The motherboard comes with the following expansion options:

- Five 32-bit PCI slots
- One AGP 8x slot
- One Communications Network Riser (CNR) slot
- Two IDE connectors support four IDE channels and a floppy disk drive interface

The motherboard supports Ultra DMA bus mastering with transfer rates of 33/66/100/133 MB/sec.

Onboard LAN (optional)

The VT6103 is a Physical Layer device for Ethernet 10BASE-T and 100BASE-TX using category 5 Unshielded and Type 1 Shielded.

- Dual Speed – 100/10 Mbps
- Half And Full Duplex
- Meet All Applicable IEEE 802.3, 10Base-T and 100Base-Tx Standards
- Adaptive Equalizer

Integrated I/O

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
- Four USB ports
- One LAN port (optional)
- Audio jacks for microphone, line-in and line-out

BIOS Firmware

This mainboard uses Award BIOS that enables users to configure many system features including the following:

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

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

Bundled Software

- **PC-Cillin 2002** provides automatic virus protection under Windows 98/ME/NT/2000/XP
- **Adobe Acrobat Reader V5.0** is the software to help users read .PDF files.

Dimensions

- ATX form factor of 305 x 190mm

Package Contents

Your motherboard package contains the following items:

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

Optional Accessories

You can purchase the following optional accessories for this motherboard.

- Extended USB module
- Card Reader (You can buy your own Card Reader from the third party, but please contact your local Card Reader vendor on any issues of the specification and compatibility.)

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

Chapter 2

Motherboard Installation

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

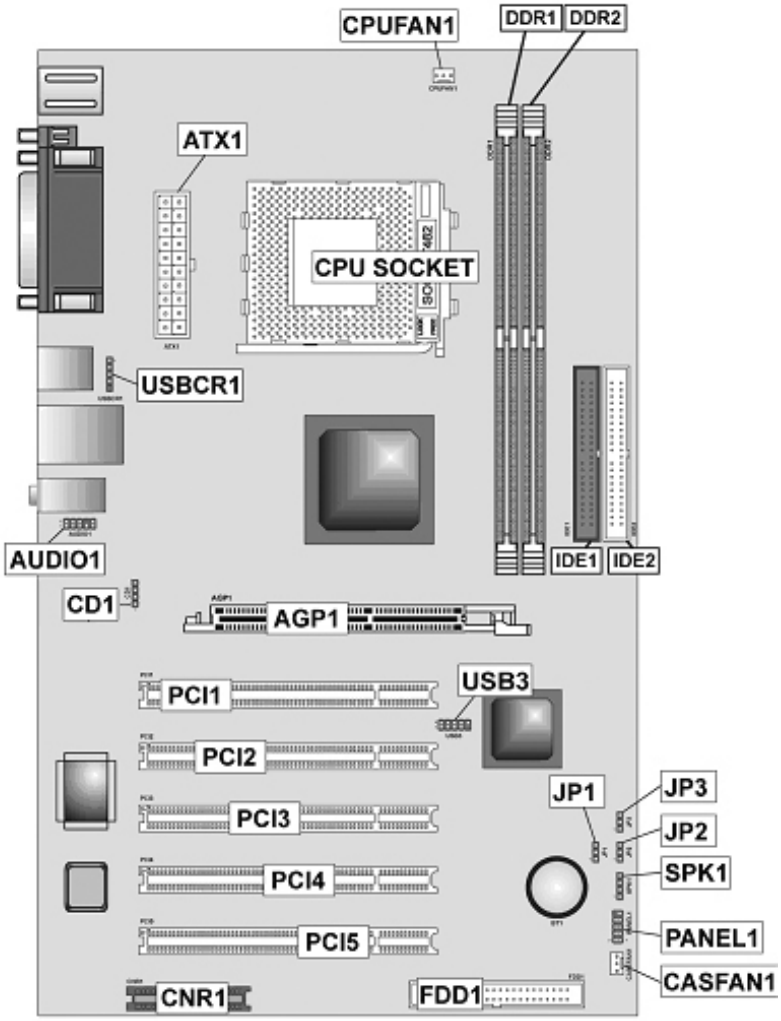
- Identify the motherboard components
- Install a CPU
- Install one or more system memory modules
- Make sure all jumpers and switches are set correctly
- Install this motherboard in a system chassis (case)
- Connect any extension brackets or cables to connectors on the motherboard
- Install any peripheral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

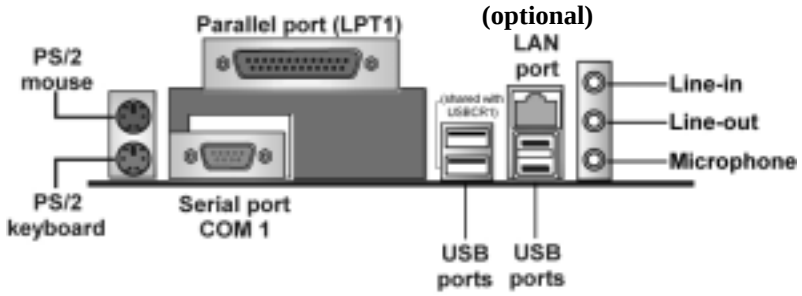
Identify major components on the motherboard via this diagram underneath.



Note: *Any jumpers on your motherboard that do not appear in this illustration are for testing only.*

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.
LPT1	Use LPT1 to connect printers or other parallel communications devices.
COM1	Use the COM ports to connect serial devices such as mice or fax/modems. COM1 is identified by the system as COM1/3.
Audio Ports	Use the three audio ports to connect audio devices. The first jack is for stereo line-in signal. The second jack is for stereo line-out signal. The third jack is for microphone.
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.

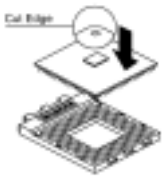
***Note**: The lower USB port located near the Parallel port is shared with the USBCR1 connector.*

Installing the Processor

This motherboard has a Socket 462 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

The following illustration shows CPU installation components:

	
Step 1	**Step 2**
	
Step 3	**Step 4**

Orient the CPU so the odd corner matches the odd corner of the socket. With the lever in an upright position, gently place the CPU on the socket; make sure that all pins line up with the socket holes. When pins are aligned, the CPU should seat itself in the socket. Apply very light pressure to ensure the CPU is evenly seated. Push the lever down and ensure it latches firmly.

Note: *Remember to apply thermal grease on top of the CPU.*

Connect the CPU Cooling Fan power cable connector to the CPUFAN connector.

Installing Memory Modules

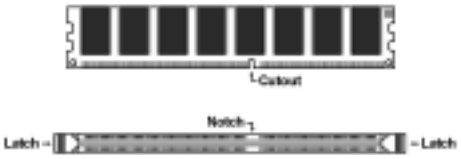
This motherboard accommodates two 184-pin 2.5V unbuffered Double Data Rate (DDR) SDRAM memory modules. Each module can be installed with 128 MB to 1 GB of memory; total memory capacity is 2GB.

Note: *DDR SDRAM uses additional power and ground lines and requires 184-pin DIMM modules rather than the 168-pin DIMMs used by SDRAM.*

Do not remove any memory module from its antistatic packaging until you are ready to install it on the mainboard. Handle the modules only by their edges. Do not touch the components or metal parts. Always wear a grounding strap when you handle the modules.

Refer to the following to install the memory modules.

1. This motherboard supports unbuffered DDR SDRAM only. Do not attempt to insert any other type of DDR SDRAM into the slots.



2. Push the latches on each side of the DIMM slot down.

3. Align the memory module with the slot. The DIMM slots are keyed with notches and the DIMMs are keyed with cutouts so that they can only be installed correctly.

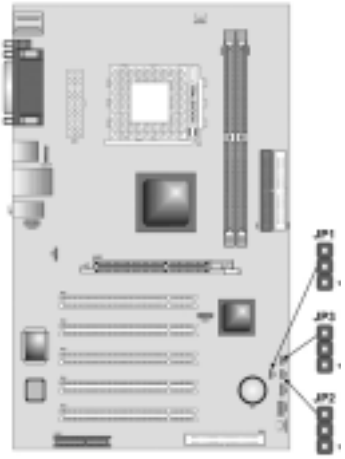
4. Check that the cutouts on the DIMM module edge connector match the notches in the DIMM slot.

5. Install the DIMM module into the slot and press it firmly down until it seats correctly. The slot latches are levered upwards and latch on to the edges of the DIMM.

6. Install any remaining DIMM modules.

Jumper Settings

Using a jumper cap to connect two pins is SHORT, removing it 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 Setting
Normal	Short Pins 1-2
Clear CMOS	Short Pins 2-3

JP2 & JP3: CPU Frequency Select Jumper
This jumper enables you to set the CPU frequency.

JP2	JP3	CPU Frequency
Short 1-2	Short 1-2	100MHz
Short 2-3	Short 1-2	133MHz
Short 1-2	Short 2-3	Not Applicable
Short 2-3	Short 2-3	166MHz

Install the Motherboard

Install the motherboard in a system chassis (case). The board is an ATX size motherboard. You can install this motherboard in an ATX case. Make sure your case has an I/O cover plate matching the ports on this motherboard.
Install the motherboard in a case. Follow the instructions of the case manufacturer to use the hardware and internal mounting points on the chassis.

Connect the standard power supply connector to **ATX1**.
Connect the CPU cooling fan cable to **CPUFAN1.**

Connect the chase cooling fan connector to **CASFAN1.**
Connect the cable from the PC speaker to the **SPK1** connector on the motherboard.

Pin	Signal	Pin	Signal
1	SIGNAL	2	NC
3	GROUND	4	VCC

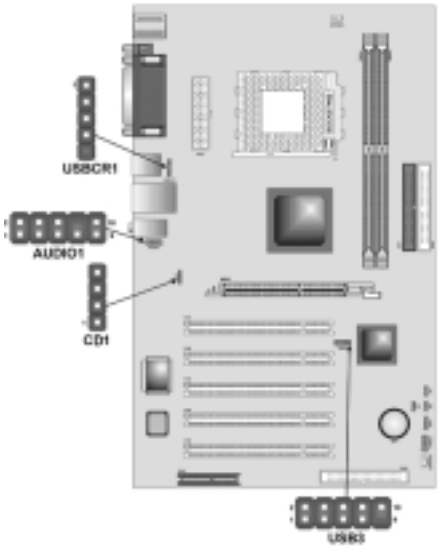
Connect the case LED cable to the optional Single color LED connector **PANEL1**.

Front Panel Connector
The front panel connector (PANEL1) provides a standard set of switch and LED connectors commonly found on ATX or micro-ATX cases. Refer to the table below for information:

Pin	Signal	Pin	Signal
1	HD_LED_P	2	SUS LED
3	HD_LED_N	4	SUS LED
5	RST_SW_N	6	PWR_SW_P
7	RST_SW_P	8	PWR_SW_N
9	RSVD	10	NC

Connecting Optional Devices

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



AUDIO1: Front Panel Audio header

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

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

USB3: Front panel USB connectors

The motherboard has four 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 connectors USB3 to connect the front-mounted ports to the motherboard.

Pin	Signal	Pin	Signal
1	USBVCC	2	USBVCC
3	USBP4-	4	USBP5-
5	USBP4+	6	USBP5+
7	GND	8	GND
9	KEY	10	NC

Note: *Please make sure that the USB cable has the same pin assignment as indicated above. A different pin assignment may cause damage or system hang-up.*

USBCR1: USB Card Reader Connector (optional)

This connector is for connecting internal USB card reader. You can use a card reader to read or transfer files and digital images to your computer.

Pin	Signal	Pin	Signal
1	USBVCC	2	USB1-
3	USB1+	4	GND
5	KEY		

Note*:The USBCR1 is shared with one of the USB ports of the I/O back panel. See "Connecting I/O Devices" for more information.*

Please check the pin assignment of the cable and the USB header on the mainboard. Make sure the pin assignment will match before plugging in. Any incorrect usage may cause unexpected damage to the system.

Install Other Devices

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

Installing a Hard Disk Drive/CD-ROM

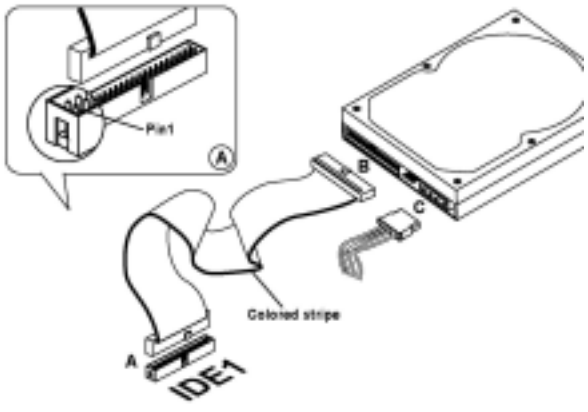
This section describes how to install IDE devices such as a hard disk drive and a CD-ROM drive.

Your motherboard has a primary and secondary IDE channel interface (IDE1 and IDE2). An IDE ribbon cable supporting two IDE devices is bundled with the motherboard.

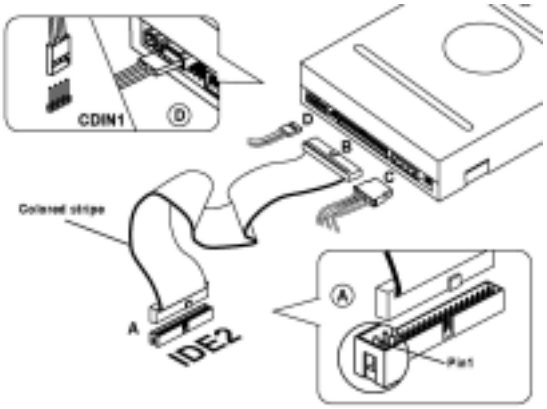
If you want to install more than two IDE devices, get a second IDE cable and you can add two more devices to the secondary IDE channel.

IDE1: Primary IDE Connector

The first hard drive should always be connected to IDE1.



IDE2: Secondary IDE
The second drive on this controller must be set to slave mode. The configuration is the same as IDE1.



You must orient the cable connector so that the pin 1 (color) edge of the cable corresponds to the pin 1 of the I/O port connector.

IDE devices have jumpers or switches that are used to set the IDE device as MASTER or SLAVE. Refer to the IDE device user's manual. When installing two IDE devices on one cable, ensure that one device is set to MASTER and the other device is set to SLAVE. The documentation of your IDE device explains how to do this.

CD1

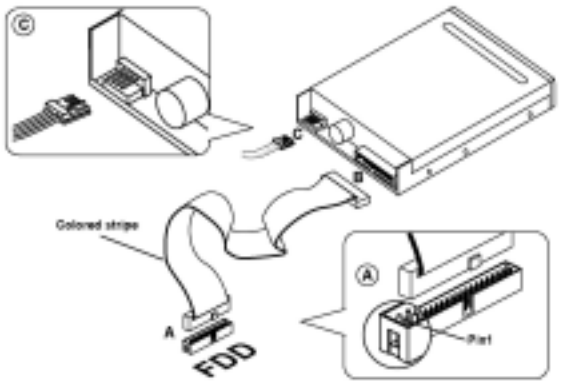
Pin	Signal	Pin	Signal
1	CDIN L	2	GND
3	GND	4	CD IN R

Installing a Floppy Disk Drive

The motherboard has a floppy diskette drive (FDD) interface and ships with a diskette drive ribbon cable that supports one or two floppy diskette drives. You can install a 5.25-inch drive and a 3.5-inch drive with various capacities. The floppy diskette drive cable has one type of connector for a 5.25-inch drive and another type of connector for a 3.5-inch drive.

FDD1: Floppy Disk Connector

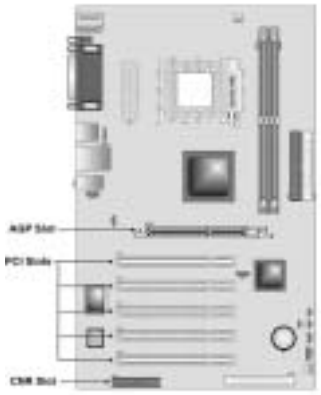
This connector supports the provided floppy drive ribbon cable. After connecting the single end to the onboard floppy connector, connect the remaining plugs on the other end to the floppy drives correspondingly.



You must orient the cable connector so that the pin 1 (color) edge of the cable corresponds to the pin 1 of the I/O port connector.

Expansion Slots

The slots in this motherboard are designed to hold expansion cards and connect them to the system bus. Expansion slots are a means of adding or enhancing the motherboard's features and capabilities. With these efficient facilities, you can increase the motherboard's capabilities by adding hardware which performs tasks that are not part of the basic system.



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

1. Locate the AGP or PCI slots on the motherboard.
2. Remove the slot cover for this slot from the system chassis.
3. Insert the expansion card edge connector into the slot and press it firmly down into it so that it is fully inserted.
4. Secure the expansion card bracket to the system chassis with a screw.

PCI Slots	PCI slots are used to install expansion cards that have the 32-bit PCI interface.
AGP Slot	The AGP slot is used to install a graphics adapter that supports AGP 1.5V and AGP 3.0 signaling.
CNR Slot	This slot is used to insert CNR cards with Modem functionality.

Note: *Before installing an add-on card, check the documentation for the card carefully. If the card is not Plug and Play, you may have to manually configure the card before installation.*

Chapter 3

Using BIOS

About The Setup Utility

The computer uses the latest Award BIOS with support for Windows Plug and Play. The CMOS chip on the mainboard contains the ROM setup instructions for configuring the mainboard BIOS.
The BIOS (Basic Input and Output System) Setup Utility displays the system's configuration status and provides you with options to set system parameters. The parameters are stored in battery-backed-up CMOS RAM that saves this information when the power is turned off. When the system is turned back on, the system is configured with the values you stored in CMOS.
The BIOS Setup Utility enables you to configure:

- Hard drives, diskette drives, and peripherals
- Video display type and display options
- Password protection from unauthorized use
- Power management features

The settings made in the Setup Utility affect how the computer performs. Before using the Setup Utility, ensure that you understand the Setup Utility options.
This chapter provides explanations for Setup Utility options.

The Standard Configuration

A standard configuration has already been set in the Setup Utility. However, we recommend that you read this chapter in case you need to make any changes in the future.
This Setup Utility should be used:

- when changing the system configuration
- when a configuration error is detected and you are prompted to make changes to the Setup Utility
- when trying to resolve IRQ conflicts
- when making changes to the Power Management configuration
- when changing the password or making other changes to the Security Setup

Starting Setup

The BIOS is immediately activated when you first turn on the computer. The BIOS reads system configuration in CMOS RAM and begins the process of checking out the system and configuring it through the power-on self test (POST).

When these preliminaries are finished, the BIOS seeks an operating system on one of the data storage devices (hard drive, floppy drive, etc.). The BIOS launches the operating system and hands control of system operations to it.

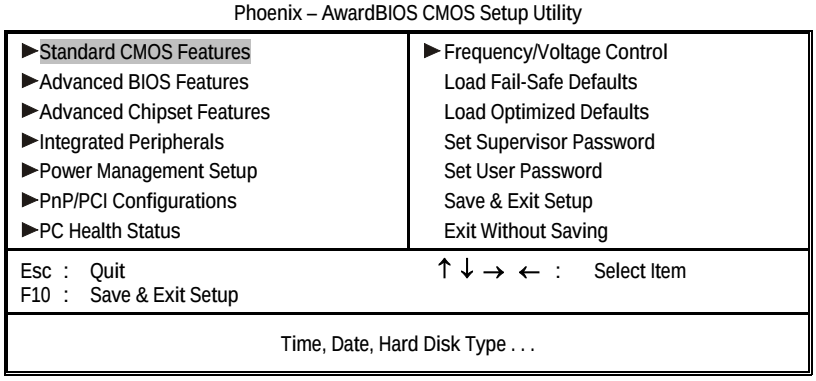
During POST, you can start the Setup program in one on two ways:

1. By pressing Del immediately after switching the system on, or
2. By pressing Del or pressing Ctrl+Alt+Esc when the following message appears briefly at the bottom of the screen during POST:

TO ENTER SETUP BEFORE BOOT PRESS DEL KEY

If the message disappears before you respond and you still wish to enter Setup, restart the system to try again by turning it OFF then ON or pressing the RESET button on the system case. You may also restart by simultaneously pressing Ctrl+Alt+Del. If you do not press the keys at the correct time and the system does not boot, an error message appears and you are again asked to:

PRESS F1 TO CONTINUE, DEL TO ENTER SETUP



BIOS Navigation Keys

Key	Function
Esc	Exits the current menu
←↑↓→	Scrolls through the items on a menu
+/–/PU/PD	Modifies the selected field's values
F10	Saves the current configuration and exits setup
F1	Displays a screen that describes all key functions
F5	Loads previously saved values to CMOS
F6	Loads a minimum configuration for troubleshooting.
F7	Loads an optimum set of values for peak performance

Standard CMOS Setup

In the Standard CMOS menu you can set the system clock and calendar, record disk drive parameters and the video subsystem type, and select the type of errors that stop the BIOS POST.

Phoenix – AwardBIOS CMOS Setup Utility
Standard CMOS Features

Date (mm:dd:yy)	Tue, July 11 2001	Item Help
Time (hh:mm:ss)	12 : 8 : 59	
► IDE Primary Master		Menu Level ►
► IDE Primary Slave		Change the day, month, year and century.
► IDE Secondary Master		
► IDE Secondary Slave		
Drive A	[1.44M, 3.5 in.]	
Drive B	[None]	
Video	[EGA/VGA]	
Halt On	[All, But keyboard]	
Base Memory	640K	
Extended Memory	31744K	
Total Memory	32768K	

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

Date and Time

The Date and Time items show the current date and time on the computer. If you are running a Windows OS, these items are automatically updated whenever you make changes to the Windows Date and Time Properties utility.

▶ IDE Devices (None)

Your computer has two IDE channels (Primary and Secondary) and each channel can be installed with one or two devices (Master and Slave). Use these items to configure each device on the IDE channel. Press <Enter> to display the IDE submenu:

CMOS Setup Utility – Copyright © 1984 – 2001 Award Software
IDE Primary Master

IDE HDD Auto-Detection	[Press Enter]	Item Help
IDE Primary Master	[Auto]	
Access Mode	[Auto]	Menu Level ►►
Capacity	0 MB	To auto-detect the HDD's size, head . . . on this channel
Cylinder	0	
Head	0	
Precomp	0	
Landing Zone	0	
Sector	0	

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

IDE HDD Auto-Detection

Press <Enter> while this item is highlighted to prompt the Setup Utility to automatically detect and configure an IDE device on the IDE channel.

Note: *If you are setting up a new hard disk drive that supports LBA mode, more than one line will appear in the parameter box. Choose the line that lists LBA for an LBA drive.*

IDE Primary/Secondary Master/Slave (Auto)

Leave this item at Auto to enable the system to automatically detect and configure IDE devices on the channel. If it fails to find a device, change the value to Manual and then manually configure the drive by entering the characteristics of the drive in the items described below.

Refer to your drive's documentation or look on the drive casing if you need to obtain this information. If no device is installed, change the value to None.

Note: *Before attempting to configure a hard disk drive, ensure that you have the configuration information supplied by the manufacturer of your hard drive. Incorrect settings can result in your system not recognizing the installed hard disk.*

Access Mode

This item defines ways that can be used to access IDE hard disks such as LBA (Large Block Addressing). Leave this value at Auto and the system will automatically decide the fastest way to access the hard disk drive.

Press <Esc> to return to the Standard CMOS Features screen.

Drive A/Drive B (1.44M, 3.5 in./None)

These items define the characteristics of any diskette drive attached to the system. You can connect one or two diskette drives.

Video (EGA/VGA)

This item defines the video mode of the system; you must leave this item at the default value.

Halt On (All, But keyboard)

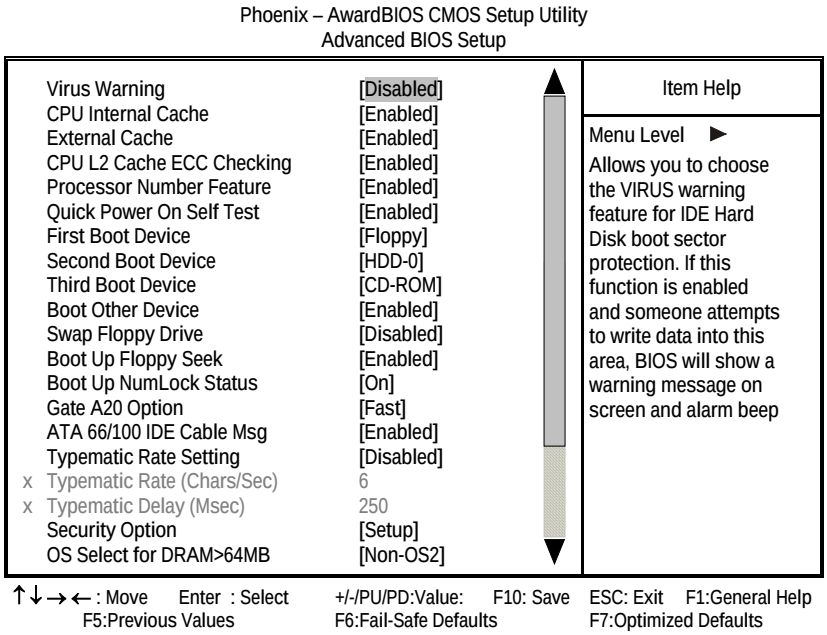
This item defines the operation of the system POST (Power On Self Test) routine. You can use this item to select which types of errors in the POST are sufficient to halt the system.

Base Memory, Extended Memory, and Total Memory

These items are automatically detected by the system at start up time. These are display-only fields. You cannot make changes to these fields.

Advanced BIOS Setup

This screen contains industry-standard options additional to the core PC AT BIOS.



Virus Warning (Disabled)

When enabled, this item provides protection against viruses that try to write to the boot sector and partition table of your hard disk drive. You need to disable this item when installing an operating system. We recommend that you enable this item as soon as you have installed an operating system.

Note: *For complete protection against viruses, install virus software in your operating system and update the virus definitions regularly.*

CPU Internal Cache (Enabled)

All processors that can be installed in this mainboard use internal level 1 (L1) cache memory to improve performance. Leave this item at the default value for better performance.

External Cache (Enabled)

Most processors that can be installed in this system use external level 2 (L2) cache memory to improve performance. Leave this item at the default value for better performance.

CPU L2 Cache ECC Checking (Enabled)
This item enables or disables ECC (Error Correction Code) error checking on the CPU cache memory. We recommend that you leave this item at the default value.

Processor Number Feature (Enabled)
Some new processors are installed with a unique processor number. This number may be used for verification in Internet transactions and e-commerce. If you prefer not to use or distribute the unique processor number, disable this item to suppress the processor number.

Quick Power On Self Test (Enabled)
Enable this item to shorten the power on testing (POST) and have your system start up faster. You might like to enable this item after you are confident that your system hardware is operating smoothly.

First/Second/Third Boot Device (Floppy/HDD-0/CD-ROM)
Use these three items to select the priority and order of the devices that your system searches for an operating system at start-up time.

Boot Other Device (Enabled)
When enabled, the system searches all other possible locations for an operating system if it fails to find one in the devices specified under the First, Second, and Third boot devices.

Swap Floppy Drive (Disabled)
If you have two floppy diskette drives in your system, this item allows you to swap the assigned drive letters so that drive A becomes drive B, and drive B becomes drive A.

Boot Up Floppy Seek (Enabled)
If this item is enabled, it checks the size of the floppy disk drives at start-up time. You don't need to enable this item unless you have a legacy diskette drive with 360K capacity.

Boot Up NumLock Status (On)
This item defines if the keyboard Num Lock key is active when your system is started.

Gate A20 Option (Fast)
This item defines how the system handles legacy software that was written for an earlier generation of processors. Leave this item at the default value.

ATA 66/100 IDE Cable Msg (Enabled)
Enables or disables the ATA 66/100 IDE Cable Msg. This message will appear during reboot when you use 40-pin cable on your 66/100 hard disks.

Typematic Rate Setting (Disabled)

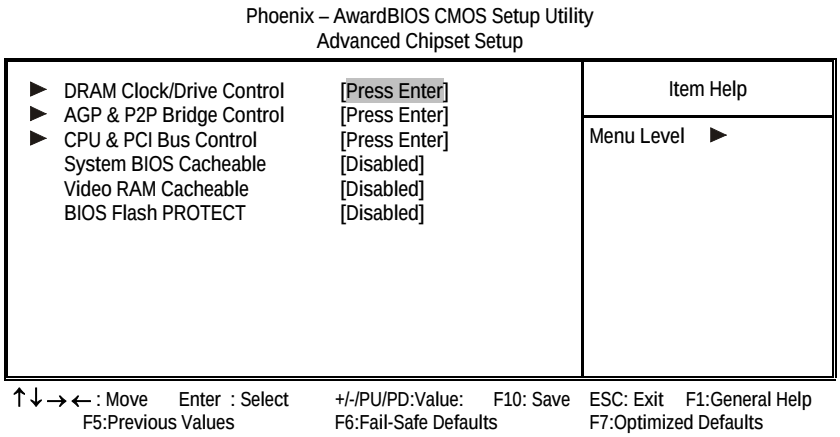
If this item is enabled, you can use the following two items to set the typematic rate and the typematic delay settings for your keyboard.

- **Typematic Rate (Chars/Sec):** Use this item to define how many characters per second are generated by a held-down key.
- **Typematic Delay (Msec):** Use this item to define how many milliseconds must elapse before a held-down key begins generating repeat characters.

Security Option (Setup)
If you have installed password protection, this item defines if the password is required at system start up, or if it is only required when a user tries to enter the Setup Utility.
OS Select For DRAM > 64 MB (Non-OS2)
This item is only required if you have installed more than 64 MB of memory and you are running the OS/2 operating system. Otherwise, leave this item at the default.
HDD S.M.A.R.T Capability (Disabled)
The S.M.A.R.T. (Self-Monitoring, Analysis, and Reporting Technology) system is a diagnostics technology that monitors and predicts device performance. S.M.A.R.T. software resides on both the disk drive and the host computer.
The disk drive software monitors the internal performance of the motors, media, heads, and electronics of the drive. The host software monitors the overall reliability status of the drive. If a device failure is predicted, the host software, through the Client WORKS S.M.A.R.T applet, warns the user of the impending condition and advises appropriate action to protect the data.
Video BIOS Shadow (Enabled)
This function, when enabled allows VGA BIOS to be copied to the system DRAM for enhanced performance.
Small Logo (EPA) Show (Disabled)
Determines whether or not the EPA logo appears during boot up.

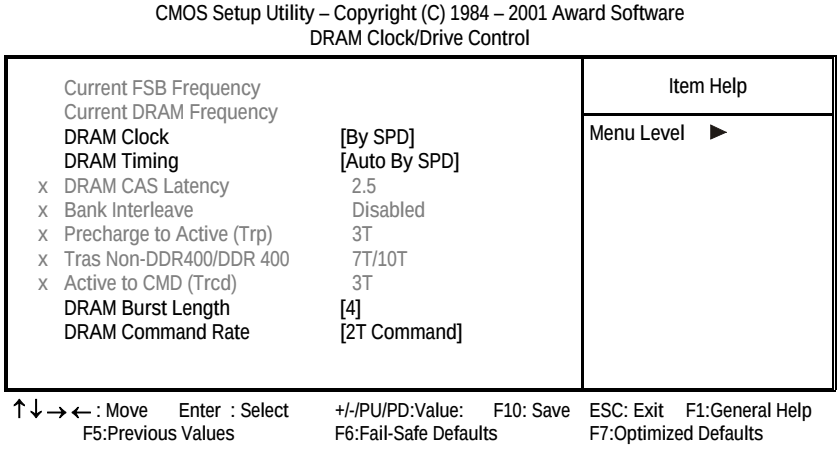
Advanced Chipset Setup

The parameters in this screen are for system designers, service personnel, and technically competent users only. Do not reset these values unless you understand the consequences of your changes.



► DRAM Clock/Drive Control

Scroll to this item and press <Enter> to view the following screen:



Current FSB Frequency

This item displays the frontside bus (FSB) frequency. This is a display-only item. You cannot make changes to this field.

Current DRAM Frequency

This item displays the memory (DRAM) frequency. This is a display-only item. You cannot make changes to this field.

DRAM Clock (100 MHz)

This item enables you to manually set the DRAM Clock. We recommend that you leave this item at the default value.

DRAM Timing (Manual)
Set this to the default value to enable the system to automatically set the SDRAM timing by SPD (Serial Presence Detect). SPD is an EEPROM chip on the DIMM module that stores information about the memory chips it contains, including size, speed, voltage, row and column addresses, and manufacturer. If you disable this item, you can use the following three items to manually set the timing parameters for the system memory

DRAM CAS Latency (2.5)
Enables you to select the CAS latency time in HCLKs of 2/2 or 3/3. The value is set at the factory depending on the DRAM installed. Do not change the values in this field unless you change specifications of the installed DRAM or the installed CPU. The options are "2" and "2.5" default.

Bank Interleave (Disabled)
Enable this item to increase memory speed. When enabled, separate memory banks are set for odd and even addresses and the next byte of memory can be accessed while the current byte is being refreshed.

Precharge to Active (3T/4T)
This item is used to designate the minimum Row Precharge time of the SDRAM devices on the module.

DRAM must continually be refreshed or it will lose its data. Normally, DRAM is refreshed entirely as the result of a single request. This option allows you to determine the number of CPU clocks allocated for the Row Address Strobe (RAS) to accumulate its charge before the DRAM is refreshed. If insufficient time is allowed, refresh may be incomplete and data lost.

Tras Non-DDR400/DDR400 (7T/10T)

This item specifies the minimum required timing delay for Non-DDR400 and DDR400.

Active to CMD (3T)
This item specifies the minimum required delay between activation of different rows.

DRAM Burst Length (4)

This item describes which burst lengths are supported by the devices on the mainboard. 1 level can provide faster performance but may result in instability whereas 8 level gives the most stable but slowest performance.

DRAM Queue Depth (4 level)

This item sets the depth of the DRAM queue used for CPU's cache.

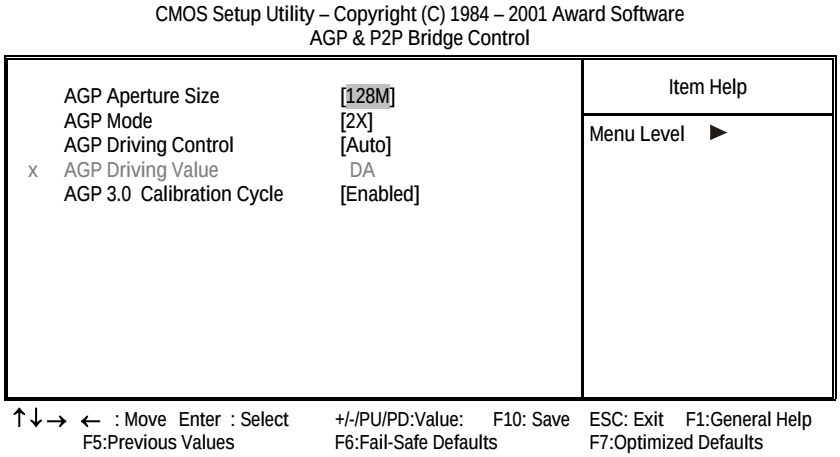
DRAM Command Rate (2T Command)

This item enables you to specify the waiting time for the CPU to issue the next command after issuing the command to the DDR memory. We recommend that you leave this item at the default value.

Press <Esc> to return to the Advanced Chipset Setup screen.

► AGP & P2P Bridge Control

Scroll to this item and press <Enter> to view the following screen:



AGP Aperture Size (128 MB)

This item defines the size of the aperture if you use an AGP graphics adapter. The AGP aperture refers to a section of the PCI memory address range used for graphics memory. We recommend that you leave this item at the default value.

AGP Mode (2X)

This item allows you to enable or disable the caching of display data for the processor video memory. Enabling AGP-2X Mode can greatly improve the display speed. Disable this item if your graphics display card does not support this feature.

AGP Driving Control (Auto)

This item is used to signal driving current on AGP cards to auto or manual. Some AGP cards need stronger than normal driving current in order to operate. We recommend that you set this item to the default.

- **AGP Driving Value:** When AGP Driving Control is set to Manual, use this item to set the AGP current driving value.

AGP 3.0 Calibration Cycle (Enabled)

This item is used to implement dynamic compensation to recalibrate the AGP bus over time for AGP 3.0 compatible chipset.

Press <Esc> to return to the Advanced Chipset Setup screen.

► CPU & PCI Bus Control

Scroll to this item and press <Enter> to view the following screen:

CMOS Setup Utility – Copyright (C) 1984 – 2001 Award Software
CPU & PCI Bridge Control

PCI1 Master 0 WS Write	[Enabled]	Item Help
PCI2 Master 0 WS Write	[Enabled]	
PCI1 Post Write	[Enabled]	Menu Level ►
PCI2 Post Write	[Enabled]	
PCI Delay Transaction	[Enabled]	

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

PCI 1/2 Master 0 WS Write (Enabled)

When enabled, writes to the PCI bus are executed with zero wait states, providing faster data transfer.

PCI 1/2 Post Write (Enabled)

When enabled, writes from the CPU to PCU bus are buffered, to compensate for the speed differences between the CPU and PCI bus. When disabled, the writes are not buffered and the CPU must wait until the write is complete before starting another write cycle.

PCI Delay Transaction (Enabled)

The mainboard's chipset has an embedded 32-bit post write buffer to support delay transactions cycles. Select Enabled to support compliance with PCI specification version 2.1.

Press <Esc> to return to the Advanced Chipset Setup screen.

System BIOS/Video RAM Cacheable (Disabled)

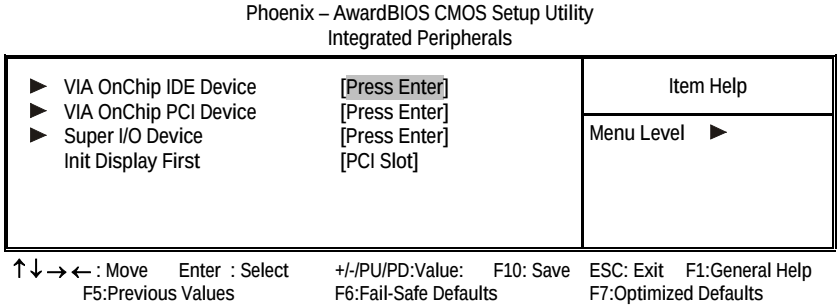
These items allow the video and system to be cached in memory for faster execution. Leave these items at the default value for better performance.

BIOS Write Protect (Disabled)

Use this item to enable or disable the BIOS Write Protect.

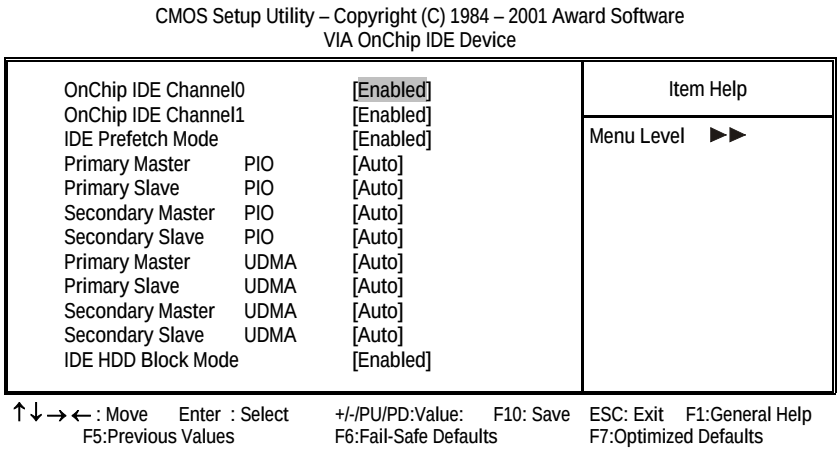
Integrated Peripherals

These options display items that define the operation of peripheral components on the system's input/output ports.



► VIA OnChip IDE Device

Scroll to this item and press <Enter> to view the following screen:



On-Chip IDE Channel 0/1 (Enabled)

Use these items to enable or disable the PCI IDE channels that are integrated on the mainboard.

IDE Prefetch Mode (Enabled)

The onboard IDE drive interfaces supports IDE prefetching, for faster drive access. If you install a primary and secondary add-in IDE interface, set this field to Disabled if the interface does not support prefetching.

IDE Primary/Secondary Master/Slave PIO (Auto)

Each IDE channel supports a master device and a slave device. These four items let you assign which kind of PIO (Programmed Input/Output) is used by IDE devices. Choose Auto to let the system auto detect which PIO mode is best, or select a PIO mode from 0-4.

IDE Primary/Secondary Master/Slave UDMA (Auto)

Each IDE channel supports a master device and a slave device. This mainboard supports UltraDMA technology, which provides faster access to IDE devices.

If you install a device that supports UltraDMA, change the appropriate item on this list to Auto. You may have to install the UltraDMA driver supplied with this mainboard in order to use an UltraDMA device.

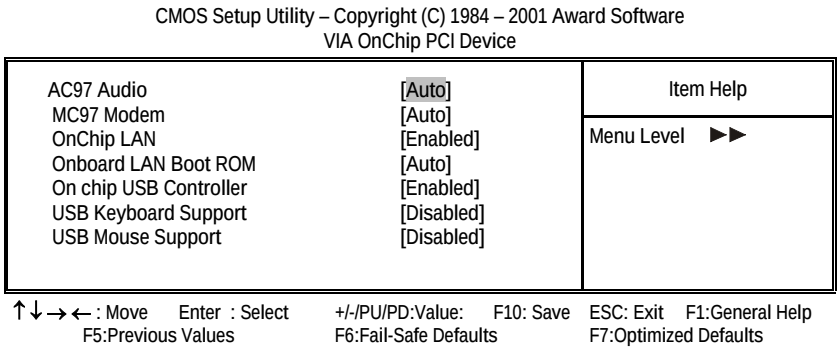
IDE HDD Block Mode (Enabled)

Enable this field if your IDE hard drive supports block mode. Block mode enables BIOS to automatically detect the optimal number of block read and writes per sector that the drive can support and improves the speed of access to IDE devices.

Press <Esc> to return to the Integrated Peripherals screen.

► VIA OnChip PCI Device

Scroll to this item and press <Enter> to view the following screen:



AC97 Audio (Auto)

Enables and disables the onboard audio chip. Disable this item if you are going to install a PCI audio add-in card.

MC97 Modem (Auto)

Enables and disables the onboard modem. Disable this item if you are going to install an external modem.

OnChip LAN (Enabled)

Enables and disables the onboard LAN chip.

Onboard LAN Boot ROM (Disabled)

Use this item to enable and disable the booting from the onboard LAN or a network add-in card with a remote boot ROM installed.

OnChip USB Controller (Enabled)

Enable this item if you plan to use the Universal Serial Bus ports on this mainboard.

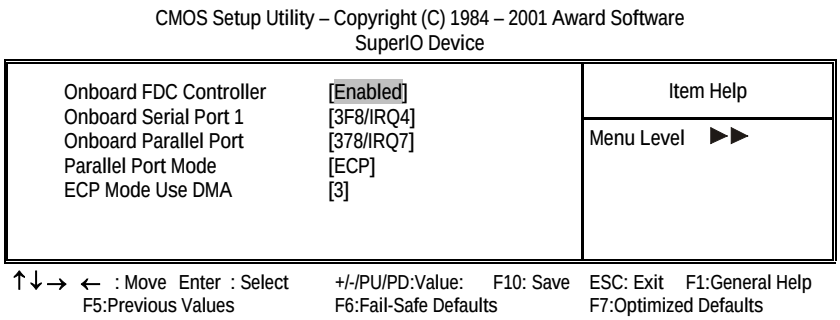
USB Keyboard/Mouse Support (Disabled)

Enable this item if you plan to use a keyboard/mouse connected through the USB port in a legacy operating system (such as DOS) that does not support Plug and Play.

Press <Esc> to return to the Integrated Peripherals screen.

► **SuperIO Device**

Scroll to this item and press <Enter> to view the following screen:



Onboard FDC Controller (Enabled)

This option enables the onboard floppy disk drive controller.

Onboard Serial Port 1 (3F8/IRQ4)

This option is used to assign the I/O address and interrupt request (IRQ) for the onboard serial port 1 (COM1).

Onboard Parallel Port (378/IRQ7)

This option is used to assign the I/O address and interrupt request (IRQ) for the onboard parallel port.

Parallel Port Mode (ECP)

Enables you to set the data transfer protocol for your parallel port. There are four options: SPP (Standard Parallel Port), EPP (Enhanced Parallel Port), ECP (Extended Capabilities Port) and ECP+EPP.

SPP allows data output only. Extended Capabilities Port (ECP) and Enhanced Parallel Port (EPP) are bi-directional modes, allowing both data input and output. ECP and EPP modes are only supported with EPP- and ECP-aware peripherals.

ECP Mode Use DMA (3)

When the onboard parallel port is set to ECP mode, the parallel port can use DMA 3 or DMA 1.

Press <Esc> to return to the Integrated Peripherals screen.

Init Display First (PCI Slot)

Use this item to specify whether your graphics adapter is installed in one of the PCI slots or is integrated on the mainboard.

Power Management Setup

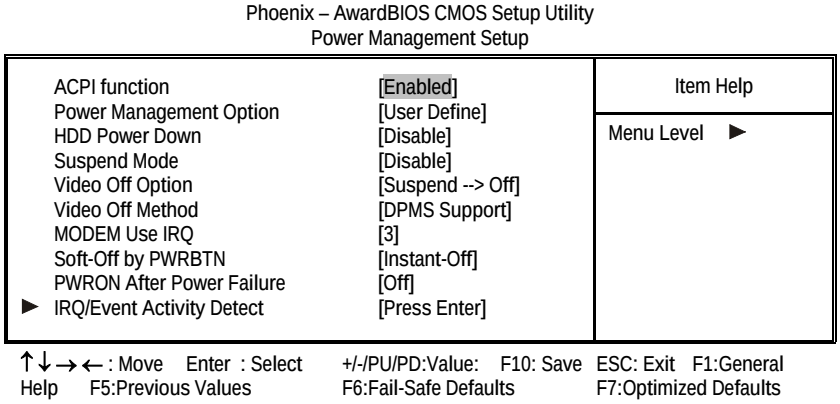
The Power Management Setup Menu option is used to change the values of the chipset registers for system power management.

Power Management Timeouts

The power-saving modes can be controlled by timeouts. If the system is inactive for a time, the timeouts begin counting. If the inactivity continues so that the timeout period elapses, the system enters a power-saving mode. If any item in the list of Reload Global Timer Events is Enabled, then any activity on that item will reset the timeout counters to zero.

Wake Up Calls

If the system is suspended, or has been powered down by software, it can be resumed by a wake up call that is generated by incoming traffic to a modem, a LAN card, a PCI card, or a fixed alarm on the system realtime clock.



ACPI Function (Enabled)

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

Note: *ACPI is a power management specification that makes hardware status information available to the operating system. ACPI enables a PC to turn its peripherals on and off for improved power management. It also allows the PC to be turned on and off by external devices, so that mouse or keyboard activity wakes up the computer.*

Power Management Option (User Define)

This item acts like a master switch for the power-saving modes and hard disk timeouts. If this item is set to Max Saving, power-saving modes occur after a short timeout. If this item is set to Min Saving, power-saving modes occur after a longer timeout. If the item is set to

User Define, you can insert your own timeouts for the power-saving modes.

HDD Power Down (Disable)

The IDE hard drive will spin down if it is not accessed within a specified length of time. Options are from 1 Min to 15 Min and Disable.

Suspend Mode (Disable)

The CPU clock will be stopped and the video signal will be suspended if no Power Management events occur for a specified length of time. Full power function will return when a Power Management event is detected. Options are from 1 Min to 1 Hour and Disable.

Video Off Option (Suspend --> Off)

This option defines if the video is powered down when the system is put into suspend mode.

Video Off Method (DPMS Support)

This item defines how the video is powered down to save power. This item is set to DPMS (Display Power Management Software) by default.

MODEM Use IRQ (3)

If you want an incoming call on a modem to automatically resume the system from a power-saving mode, use this item to specify the interrupt request line (IRQ) that is used by the modem. You might have to connect the fax/modem to the mainboard Wake On Modem connector for this feature to work.

Soft-Off by PWRBTN (Instant-Off)

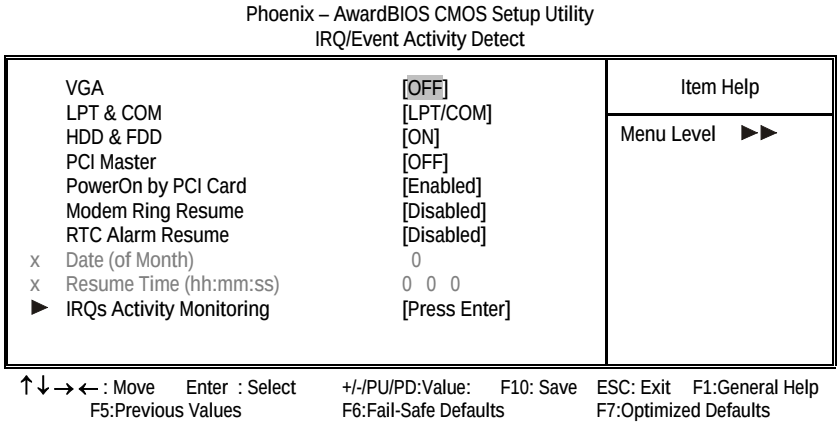
Under ACPI (Advanced Configuration and Power management Interface) you can create a software power down. In a software power down, the system can be resumed by Wake Up Alarms. This item lets you install a software power down that is controlled by the power button on your system. If the item is set to Instant-Off, then the power button causes a software power down. If the item is set to Delay 4 Sec. then you have to hold the power button down for four seconds to cause a software power down.

PWRON After PWR-Fail (Off)

This item enables your computer to automatically restart or return to its last operating status after power returns from a power failure.

► IRQ/Event Activity Detect

Scroll to this item and press <Enter> to view the following screen:



This item opens a submenu that enables you to set events that will resume the system from a power saving mode.

VGA (Off)

When set to On, the system power will resume the system from a power saving mode if there is any VGA activity.

LPT & COM (LPT/COM)

When this item is enabled, the system will restart the power-saving timeout counters when any activity is detected on the serial ports, or the parallel port.

HDD & FDD (ON)

When this item is enabled, the system will restart the power-saving timeout counters when any activity is detected on the hard disk drive or the floppy diskette drive.

PCI Master (OFF)

When set to Off, any PCI device set as the Master will not power on the system.

PowerOn by PCI Card (Enabled)

Use this item to enable PCI activity to wakeup the system from a power saving mode.

Modem Ring Resume (Disabled)

Enable Modem Ring-in to resume the system.

RTC Alarm Resume (Disabled)
When set to Enabled, additional fields become available and you can set the date (day of the month), hour, minute and second to turn on your system. When set to 0 (zero) for the day of the month, the alarm will power on your system every day at the specified time.

►► IRQs Activity Monitoring
Scroll to this item and press <Enter> to view the following screen:

Phoenix – AwardBIOS CMOS Setup Utility
IRQs Activity Monitoring

			Item Help
Primary INTR		[ON]	
IRQ 3	(COM2)	[Enabled]	Menu Level ►►►
IRQ 4	(COM1)	[Enabled]	
IRQ 5	(LPT2)	[Enabled]	
IRQ 6	(Floppy Disk)	[Enabled]	
IRQ 7	(LPT1)	[Enabled]	
IRQ 8	(RTC Alarm)	[Disabled]	
IRQ 9	(IRQ2 Redir)	[Disabled]	
IRQ 10	(Reserved)	[Disabled]	
IRQ 11	(Reserved)	[Disabled]	
IRQ 12	(PS/2 Mouse)	[Enabled]	
IRQ 13	(Coprocessor)	[Enabled]	
IRQ 14	(Hard Disk)	[Enabled]	
IRQ 15	(Reserved)	[Disabled]	

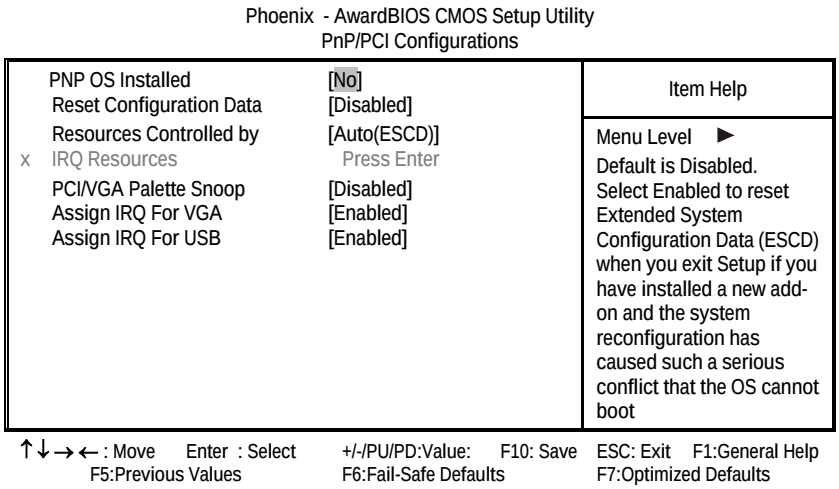
↑↓→ ← : Move Enter : Select +/-/PU/PD:Value: F10: Save ESC: Exit F1:General Help
F5:Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults

This screen enables you to set IRQs that will resume the system from a power saving mode.
Set any IRQ to Enabled to allow activity at the IRQ to wake up the system from a power saving mode.
Press <Esc> to return to the Power Management Setup screen.

PNP/PCI Configurations

This section describes configuring the PCI bus system. PCI (Peripheral Component Interconnect) is a system, which allows I/O devices to operate at speeds nearing CPU's when they communicate with own special components.

All the options describes in this section are important and technical and it is strongly recommended that only experienced users should make any changes to the default settings.



PNP OS Installed (No)

Setting this option to Yes allows the PnP OS (instead of BIOS) to assign the system resources such as IRQ and I/O address to the ISA PnP device. The default setting is No.

Reset Configuration Data (Disabled)

If you enable this item and restart the system, any Plug and Play configuration data stored in the BIOS setup is cleared from memory. New updated data is created.

Resources Controlled By (Auto(ESCD))

You should leave this item at the default Auto(ESCD). Under this setting, the system dynamically allocates resources to plug and play devices as they are required.

If you cannot get a legacy ISA (Industry Standard Architecture) expansion card to work properly, you might be able to solve the problem by changing this item to Manual, and then opening up the IRQ Resources and Memory Resources sub-menus.

In the IRQ Resources sub-menu, if you change any of the IRQ assignations to Legacy ISA, then that Interrupt Request Line is reserved for a legacy ISA expansion card. Press <Esc> to close the IRQ Resources sub-menu.

In the Memory Resources sub menu, use the first item Reserved Memory Base to set the start address of the memory you want to reserve for the ISA expansion card. Use the second item Reserved Memory Length to set the amount of reserved memory. Press <Esc> to close the Memory Resources sub-menu.

PCI/VGA Palette Snoop (Disabled)
This item is designed to overcome some problems that can be caused by some non-standard VGA cards. This board includes a built-in VGA system that does not require palette snooping so you must leave this item disabled.
Assign IRQ for VGA/USB (Enabled)
Names the interrupt request (IRQ) line assigned to the USB/VGA (if any) on your system. Activity of the selected IRQ always awakens the system.

PC Health Status

On mainboards that support hardware monitoring, this item lets you monitor the parameters for critical voltages, critical temperatures, and fan speeds.

Phoenix – AwardBIOS CMOS Setup Utility
PC Health Status

Shutdown Temperature	[Disabled]	Item Help
CPU Vcore		Menu Level ►
+ 2.5V		
Current CPU Temp		
CPU FAN speed		
CAS FAN Speed		

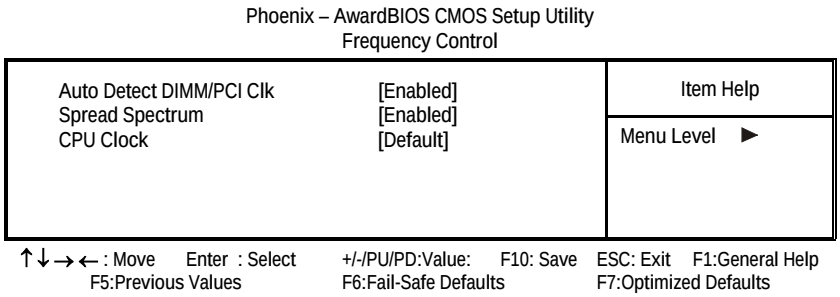
↑↓→←: Move Enter : Select +/-/PU/PD:Value: F10: Save ESC: Exit F1:General Help
F5:Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults

Shutdown Temperature (Disabled)
Enables you to set the maximum temperature the system can reach before powering down.
System Component Characteristics

These fields provide you with information about the systems current operating status. You cannot make changes to these fields.

Frequency Control

This item enables you to set the clock speed and system bus for your system. The clock speed and system bus are determined by the kind of processor you have installed in your system.



Auto Detect DIMM/PCI Clk (Enabled)
When this item is enabled, BIOS will disable the clock signal of free DIMM and PCI slots.
Spread Spectrum (Enabled)
If you enable spread spectrum, it can significantly reduce the EMI (Electro-Magnetic Interference) generated by the system.
CPU Host Clock (Default)
This item is used for overclocking only.

Load Fail-Safe Defaults Option

This option opens a dialog box that lets you install fail-safe defaults for all appropriate items in the Setup Utility:
Press <Y> and then <Enter> to install the defaults. Press <N> and then <Enter> to not install the defaults. The fail-safe defaults place no great demands on the system and are generally stable. If your system is not functioning correctly, try installing the fail-safe defaults as a first step in getting your system working properly again. If you only want to install fail-safe defaults for a specific option, select and display that option, and then press <F6>.

Load Optimized Defaults Option

This option opens a dialog box that lets you install optimized defaults for all appropriate items in the Setup Utility. Press <Y> and then <Enter> to install the defaults. Press <N> and then <Enter> to not install the defaults. The optimized defaults place demands on the system that may be greater than the performance level of the components, such as the CPU and the memory. You can cause fatal errors or instability if you install the optimized defaults when your hardware does not support them. If you only want to install setup defaults for a specific option, select and display that option, and then press <F7>.

Set Password Option

This item can be used to install a password. To install a password, follow these steps:

1. Highlight the item Set Password on the main menu and press <Enter>.
2. The password dialog box appears.

   Enter Password:

3. If you are installing a new password, type in the password. You cannot use more than eight characters or numbers. The Set Password item differentiates between upper and lower case characters. Press <Enter> after you have typed in the password. If you are deleting a password that is already installed press <Enter> when the password dialog box appears. You see a message that indicates that the password has been disabled.

   PASSWORD DISABLED !!!
   Press any key to continue . . .

4. Press any key. You are prompted to confirm the password:

   Confirm Password:

5. Type the password again and press <Enter>, or press <Enter> if you are deleting a password that is already installed.
6. If you typed the password correctly, the password will be installed.

Save & Exit Setup Option

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

Exit Without Saving

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 Exit Without Saving dialog box appears, press <Y> to discard changes and exit, or press <N> to return to the main menu.

Note: *If you have made settings that you do not want to save, use the "Exit Without Saving" item and press <Y> to discard any changes you have made.*

Chapter 4

Software & Applications

Introduction

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

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

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

If your operating system is Windows 98/ME/2000/XP, it will automatically install all the drivers and utilities for your motherboard; if Windows NT or manual installation, please follow the instructions described as the Installing under Windows NT or Manual Installation section.

Installing Support Software

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

The **Setup** button runs the software auto-installing program as explained in next section.
The **Browse CD** button is a standard Windows command that you can check the contents of the disc with the Windows 98 file browsing interface.
The **Exit** button closes the Auto Setup window. To run the program again, reinsert the CD-ROM disc in the drive; or click the CD-ROM driver from the Windows Explorer, and click the Setup icon.
The **Application** button brings up a software menu. It shows the bundled software that this motherboard supports.
The **ReadMe** brings you to the Install Path where you can find out path names of software driver.

Auto-Installing under Windows 98/ME/2000/XP

If you are under Windows 98/ME/2000/XP, please click the **Setup** button to run the software auto-installing program while the Auto Setup screen pops out after inserting the support CD-ROM:

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

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

3. The support software will automatically install.

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

Installing under Windows NT or Manual Installation

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

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

Bundled Software Installation

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

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