Preface

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Federal Communications Commission (FCC)

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment onto an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Shielded interconnect cables and a shielded AC power cable must be employed with this equipment to ensure compliance with the pertinent RF emission limits governing this device. Changes or modifications not expressly approved by the system's manufacturer could void the user's authority to operate the equipment.

Declaration of Conformity

This device complies with part 15 of the FCC rules. Operation is subject to the following conditions:

− This device may not cause harmful interference, and
− This device must accept any interference received, including interference that may cause undesired operation.

Canadian Department of Communications

This class B digital apparatus meets all requirements of the Canadian Interference-causing Equipment Regulations.

Cet appareil numérique de la classe B respecte toutes les exigences du Réglement sur le matériel brouilieur du Canada.

About the Manual

The manual consists of the following:

Chapter 1 **Introducing the Motherboard**	Describes features of the motherboard, and provides a shipping checklist. Go to ⟹ page 1
Chapter 2 **Installing the Motherboard**	Describes installation of motherboard components. Go to ⟹ page 7
Chapter 3 **Using BIOS**	Provides information on using the BIOS Setup Utility. Go to ⟹ page 28
Chapter 4 **Using the Motherboard Software**	Describes the motherboard software. Go to ⟹ page 53

Features and Packing List Translations

Liste de contrôle

Comparez ce qui est contenu dans l'emballage de la carte mère avec la liste suivante:

Eléments standards

- Une carte mère
- Un câble plat pour lecteur de disquette
- Un câble plat pour lecteur IDE
- Un CD d'installation automatique pour le logiciel
- Un écran pour panneau arrière d'entrées/sorties
- Un câble SATA (inclus quand votre carte mère soutient l'en-tête de SATA)
- Un câble d'alimentation SATA (inclus quand votre carte mère soutient l'en-tête de SA-TA)
- Ce manuel utilisateur
- Guide d'Installation Rapide
- Etiquette de Paramétrage Rapide des Cavaliers

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 • Peut recevoir le Processeur AMD Athlon XP/Sempron/Athlon/Duron	
Chipset	Le chipset sur cette carte mère comprend le chipset VT8378 (KM400) Northbridge combiné avec le chipset VT8235 ou VT8237 Southbridge. Le tableau ci-dessous explique brièvement certaines des caractéristiques avancées du chipset.	
	Chipset	**Caractéristiques**
	KM400 NB	Prend en charge DDR333, DDR266 et DDR200 (PC2700, PC2100 et PC1600 DDR SDRAM).
		Contrôleur de Port Graphique Accéléré (AGP) complet qui prend en charge les modes de transfert 533 MHz 8x, 266 MHz 4x, et 133 MHz 2x pour signalisation Ad et SBA.
		Supporte une interface d'Hôte V-Link 66 MHz avec une bande passante de pointe de 533Mo/sec.
	VT8235 SB	Supporte une interface Client V-Link 66 MHz avec une bande passante totale de 533 Mo/sec.
		Contrôleur USB 2.0 intégré avec trois hubs racine et six ports de fonction .
		Contrôleur EIDE de mode maître UltraDMA-33/66/100/133 de Canal double.

	VT8237 SB	Supporte une interface Client V-Link 66 MHz avec une bande passante totale de 1066 Mo/sec.
		Contrôleur ATA/HDD Série de canal double.
		Contrôleur USB 2.0 intégré avec quatre hubs racine et huit ports de fonction.
		Fonctionnement full et half duplex en 1/10/100 MHz.
Mémoire	• Support de module mémoire DDR SDRAM jusqu'à 166/133/100 MHz • 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.	
VGA	Cette carte mère comprend un logement AGP qui offre huit fois la bande passante des spécifications AGP d'origine à 2.1 gigaoctets par seconde (Go/s). La technologie AGP offre une connexion directe entre le sous-système graphique et le processeur de sorte que les graphiques n'ont pas à entrer en concurrence avec d'autres périphériques pour le temps d'utilisation du processeur sur le bus PCI.	
Codec Audio AC'97	La ALC655 est conforme aux spécifications AC'97 2.3 et supporte les extensions de CODEC multiples avec vitesses d'échantillonnage variables indépendantes et effets 3D intégrés. Elle intègre la technologie de convertisseur propriétaire pour obtenir une SNR élevée, supérieure à 90 dB. Le circuit de l'interface numérique fonctionne à partir d'une alimentation en 5V/3.3V et supporte une fonction de sortie SPDIF conforme AC'97 2.3 permettant une connexion facile à partir du PC sur d'autres produits électroniques. Les fonctions supplémentaires comprennent le support de quatre entrées stéréo de niveau de ligne analogique.	
Options d'Extensions	Cette carte mère possède un logement AGP et trois logements PCI 32 bits. Elle supporte la maîtrise de bus Ultra DMA avec des vitesses de transfert de 33/66/100/133 Mo/sec.	
LAN Interne (optionnel)	Le Realtek RTL8100C est un contrôleur Fast Ethernet 10/100Mbps a puce unique mini PCI d'un bon rapport qualité prix hautement intégrée. Il prend en charge l'éveil à distance (comprenant AMD Magic Packet™ et Microsoft® Wake-up frame) et la fonction de gestion ACPI (Configuration Avancée et Interface d'Alimentation). Il fournit aussi un transfert de données de maître bus PCI avec une vitesse d'horloge PCI de 16.75MHz-40MHz.	
1394a (Optionnel)	• Contrôleur d'hôte VT6307 PCI 1394a intégré • Conforme aux spécifications 1394 open HCI v1.0 et v1.1 • Supporte les provisions du standard IEEE 1394-1995 pour bus série de hautes performances et le supplément P1394a 4.0 • Générateur CRC 32 bits CRC et vérificateur pour recevoir et émettre des données	

	• Conforme aux spécifications PCI v2.2 • Support de maîtrise de bus de hautes performances • Offre trois ports câbles entièrement compatibles 1394a à 100/200/400 Mbits par seconde
E/S Intégrées	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 VGA • Un port parallèle • Quatre ports USB • Un port LAN (optionnel) • Un port 1394a (optionnel) • Prises audio pour microphone, ligne d'entrée et ligne de sortie
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

Vergleichen Sie den Packungsinhalt des Motherboards mit der folgenden Checkliste:

Standard Items

- Ein Motherboard
- Ein Bandkabel für Diskettenlaufwerke
- Ein Bandkabel für IDE-Laufwerke
- Eine Auto-Installations-Support-CD
- I/O-Anschlussabdeckung für die Rückwand
- Ein SATA-Kabel (mit eingeschlossen, wann Ihr Motherboard die SATA Überschrift stützt)
- Ein SATA-Netzkabel (mit eingeschlossen, wann Ihr Motherboard die SATA Überschrift stützt)
- Dieses Benutzerhandbuch
- Schnellinstallationsanleitung
- Aufkleber für schnelle Jumpereinstellung

Features

Processor	Das Motherboard verwendet einen AMD 462-Pin Sockel A mit den folgenden Eigenschaften: • Unterstützt 200/266/333 MHz Frontsidebus (FSB) • Nimmt AMD Athlon XP/Sempron/Athlon/Duron-Prozessoren auf
Chipsatz	Der Chipsatz dieses Motherboards verfügt über die VT8378 (KM400) Northbridge, die mit der VT8235 oder VT8237 Southbridge verbunden ist In der untenstehenden Tabelle werden einige der fortschrittlichen Funktionen des Chipsatzes kurz vorgestellt:

Chipsatz	Funktionen
KM400 NB	Unterstützt DDR333, DDR266 und DDR200 (PC2700, PC2100 und PC1600 DDR SDRAM).
	Volle Unterstützung für Accelerated Graphics Port (AGP)-Controller (Unterstützung der Transfermodu 533 MHz 8x, 266 MHz 4x und 133 MHz 2x für Ad und SBA-Signaling.
	Unterstützt 66MHz V-Link Host-Interface mit einer maximalen Bandbreite von 533 MB/Sek.
VT8235 SB	Unterstützt 66MHz V-Link Client-Interface mit einer totalen Bandbreite von 533 MB/Sek.
	Onboard-USB 2.0-Controller mit vier Root Hub und acht Port.
	Dualkanal-UltraDMA-33/66/100/133 Master Mode EIDE-Controller.
	Unterstützt ACPI (Advanced Configuration and Power Interface) und Legacy (APM)-Energieverwaltung.

	VT8237 SB	Unterstützt 16-Bit 66 MHz V-Link Client-Interface mit einer totalen Bandbreite von 1066 MB/Sek.
		Dualkanal Serial ATA/HDD-Controller.
		Onboard-USB 2.0-Controller mit vier Root Hub und acht Port.
		1/10/100 MHz Voll/Halbduplexbetrieb.
Speicher	• Unterstützt DDR bis zu 166/133/100MHz DDR SDRAM-Speichermodul • Nimmt zwei ungepufferte 2.5V 184-Pin Steckplätze auf • Jeder Steckplatz unterstützt bis zu 1 GB mit einer maximalen Gesamtkapazität von 2 GB	
VGA	Dieses Motherboard enthält einen AGP-Steckplatz, der die achtfache Bandbreite der originalen AGP-Spezifikation ermöglicht (bis zu 2.1 MB/Sek.). Die AGP-Technologie bietet eine direkte Verbindung zwischen dem Grafik-Subsystem und dem Prozessor, damit die Grafik nicht mit anderen Geräten auf dem PCI-Bus um Prozessorzeit wetteifern muss.	
AC' 97 Audio Codec	Der ALC655 ist kompatibel mit der AC´97 2.3-Spezifkation und unterstützt mehrfache CODEC-Erweiterungen mit variablen, unabhängigen Samplingraten und integrierten 3D-Effekten. Er verfügt über eine gesetzlich geschützte Konverter-Technologie zur Erreichung eines hohen SNR von mehr als 90 dB. Der digitale Interface-Schaltschreis wird von einem 5 Volt /3.3 Volt-Netzteil betrieben und unterstützt zum einfachen Anschluss an einen PC oder andere elektronische Geräte eine SPDIF-Out-Funktion. Weitere Funktionen beinhalten z.B. die Unterstützung von vier analogen Line-Level-Eingängen.	
Erweiterungs-optionen	Dieses Motherboard hat eine AGP-Steckplatz und drei 32-bit PCI-Steckplätze. Es unterstützt Ultra DMA Bus-Mastering mit Übertragungsraten von 33/66/100/133 MB/s.	
Integriertes LAN (optional)	Der RTL8100C ist ein hochgradig integrierter und kostengünstiger mini-PCI Single-Chip Fast Ethernet Controller mit einer Geschwindigkeit von 10/100 MB/Sek. Er unterstützt ferngesteuerte Weckfunktionen (einschließlich AMD Magic Packet™ und Microsoft® Wake-Up Frame) sowie die Verwaltungsfunktion ACPI (Advanced Configuration Power Interface). Außerdem bietet er PCI-Bus-Master-Datentransfer mit einer PCI-Taktgeschwindigkeit von 16.75MHz-40MHz.	
1394a (optional)	• VT6307 PCI 1394a integrierter Host-Controller • Entspricht den 1394 Open HCI Spezifikationen v1.0 und v1.1 • Unterstützt Bereitstellung von IEEE 1394-1995 Standard Hochleistungs-Serial Bus und den P1394a Zusatz 4.0 • 32 bit CRC-Generator und Checker für Datenempfang und Datenübertragung • Entspricht PCI Spezifikation v2.2 • Unterstützung für Hochleistungs-Bus-Mastering • Bietet drei vollständig 1394a kompatible Kabelanschlüsse	

	mit 100/200/400 Mbit pro Sekunde
Integrierte I/O	Das Mainboard verfügt über einen kompletten Satz von I/O-Schnittstellen und Anschlüssen: • Zwei PS/2-Schnittstellen für Maus und Tastatur • Eine serielle Schnittstelle • Eine VGA-Schnittstelle • Eine parallele Schnittstelle • Vier USB-Schnittstellen • Eine LAN-Schnittstelle (optional) • Eine 1394a-Schnittstelle (optional) • Audiobuchsen für Mikrofon, Line-in und Line-out
BIOS Firmware	Dieses Mainboard setzt das Award BIOS ein, mit dem der Anwender viele Systemeigenschaften selbst konfigurieren kann, einschließlich der folgenden: • Energieverwaltung • Wake-up Alarm • CPU-Parameter und Speichertiming • 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 di controllo

Comparate il contenuto della confezione della scheda madre con la seguente lista di controllo:

Articoli standard

- Una scheda madre
- Un cavo a nastro per il drive dischetti
- Un cavo a nastro IDE
- Un CD di supporto software auto-installante
- Una protezione per il pannello posteriore di I/O
- Un cavo SATA (incluso quando la vostra cartolina base sostiene l'intestazione di SATA)
- Un cavetto di alimentazione SATA (incluso quando la vostra cartolina base sostiene l'intestazione di SATA)
- Il manuale dell'utente
- Guida all'Installazione Rapida
- Cartellino adesivo contenente le impostazioni dei Jumper

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 (FSB) fino a 200/266/333 Mhz - Possibilità di alloggiare le CPU Athlon XP/Sempron/Athlon/Duron AMD
Chipset	Il chipset è composto dai chipset Northbrigde VT8378 (KM400) e Southbridge VT8235 o VT8237. La tabella sottostante presenta una panoramica delle funzioni avanzate del chipset:

Chipset	Funzioni
KM400 NB	Supporto DDR333, DDR266 e DDR200 (DDR SDRAM PC2700, PC2100 e PC1600).
	Controller AGP Full Featured (Accelerated Graphics Port) in grado di supportare il bus dati a 533 MHz 8x, 266 MHz 4x, and 133 MHz 2x per il segnale Ad e SBA.
	Supporto interfaccia Host 66 MHz V-Link con larghezza di banda sino a 533MB/sec.
VT8235 SB	Supporto interfaccia Client V-Link 66 MHz interface con larghezza di banda totale pari a 533 MB/sec.
	Controller USB 2.0 Integrated con tre porte hubs e sei porte attive.
	Controller EIDE master mode a doppio canale UltraDMA-33/66/100/133.
	Supporto sia degli standard ACPI (Advanced Configuration and Power Interface) e APM per la gestione del consume energetico.

Memory	• Supporto per i banchi SDRAM DDR a 166/133/100 MHz • Presenza di due slot a 184 pin unbuffered 2.5V • Ogni slot supporta sino ad un 1 GB con una capacità massima pari a 2 GB
VGA	Questa scheda madre possiede uno slot AGP in grado di garantire una larghezza di banda 8 volte superiore rispetto a quella prevista dalle specifiche dello standard AGP originale che posso arrivare a 2.1 gigabytes al secondo (GB/s). Questa tecnologia fornisce un collegamento diretto tra il sotto sistema grafico ed il processore, evitando così che la scheda non debba competere con altre per l'utilizzo del processore tramite il bus PCI.
AC' 97 Audio Codec	Il codec ALC 655 è conforme alla specifiche AC 97 2.3 che supporta estensioni CODEC multiple con capacità di campionamento multiple e scalabili ed effetti 3D integrati. È dotato di una tecnologia di conversione integrata per ottenere un SNR di qualità elevata, maggiore di 90 dB. L'interfaccia digitale è alimentata da un alimentatore a 3.3/5V e supporta un SPDIF compatibile con le specifiche AC'97 2.3 con funzioni che facilitano il collegamento di strumenti elettronici al PC. Altre caratteristiche includono il supporto di quattro entrate LINE STEREO analogiche
Expansion Options	La scheda madre presenta tre slot PCI a 32 bit ed uno slot AGP Supporta la gestione di canali Ultra DMA con transfert rate pari a 33/66/100/133 MB/sec.
Onboard LAN (optional)	Il chip LAN Realtek RTL8100C é parte integrante dlla scheda madre e fornisce un valido supporto come controller PCI 10/100 Mpbs Fast Ethernet ad un costo molto contenuto. Supporta il Wake up remoto (incluso including AMD Magic Packet™ and Microsoft® Wake-up) e la gestione avanzata ACPI (Advanced Configuration Power Interface). Permette inoltre il trasferimento dati via bus master PCI ad una velocitá di clock compresa tra 16.75MHz e 40MHz
1394a (optional)	• Controller VT6307 PCI 1394a integrato • Conforme alle specifiche 1394 open HCI v1.0 e v1.1 • Supporto delle specifiche IEEE 1394-1995 per l'ottimento di alte prestazioni ed inoltre per l'aggiornamento al P1394a 4.0 • Generatore CRC a 32 bit e controllore per ricevere e trasmettere dati • Compatibile con le specifiche PCI v2.2 • Supporto per il bus principale ad alte prestazioni • Presenti tre porte conformi allo standard 1394a capaci di un trasferimento dati a 100/200/400 Mbit al secondo

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 VGA • Una porta parallela • Quattro porte USB • Una porta LAN (opzionale) • Una porta 1394a (opzionale) • Jack audio per microfono e connettori ingresso/uscita Line
BIOS	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 E' 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

Compare los contenidos del paquete de la placa principal con la sigte. lista:

Ítems Estándares

- Una placa principal
- Un cable cinta del lector de diskette
- Un cable cinta de la unidad IDE
- Un CD de soporte en software de autoinstalación
- Un protector del panel I/O trasero
- Un cable SATA (incluido cuando su placa base apoya el jefe de SATA)
- Un cable de suministro SATA (incluido cuando su placa base apoya el jefe de SATA)
- Este manual del usuario
- Guía Rápida de Setup
- Calcomanía de Configuración de Jumper Rápi

Características

Procesador	El panel principal usa un AMD 462-pin Enchufe A que tiene las siguientes características: • Permite 200/266/333 MHz bus de lado frontal (FSB) • Adecua procesadores AMD Athlon XP/Sempron/Athlon/Duron
Chipset	El chipset en esta placa principal incluye la VT8378 (KM400) Northbridge combinado con el chipset VT8235 o VT8237 South-bridge. La tabla abajo explica algunas de las características avanzadas del chipset:

<table>
<tr><th>Chipset</th><th>Características</th></tr>
<tr><td rowspan="3">KM400 NB</td><td>Soporta DDR333, DDR266 y DDR200 (PC2700, PC2100 y PC1600 DDR SDRAM).</td></tr>
<tr><td>Controlador de Puerto de Gráficas Accelerado (AGP) caracterizado que soporta los modos de transferencias de 533 MHz 8x, 266 MHz 4x, y 133 MHz 2x para la señalización Ad y SBA.</td></tr>
<tr><td>Soporta la interfaz 66 MHz V-Link Host con ancha de banda pico de 533MB/seg.</td></tr>
<tr><td rowspan="4">VT8235 SB</td><td>Soporta la interfaz 66 MHz V-Link Client con la ancha de banda total de 533 MB/seg.</td></tr>
<tr><td>Controlador USB 2.0 Integrado con tres hubs de raíz y seis puertos de función.</td></tr>
<tr><td>Controlador EIDE del modo máster UltraDMA-33/66/100/133 de canal dual.</td></tr>
<tr><td>Soporta ambos ACPI (Configuración Avanzada e Interfaz de Suministro) y administración de suministro de legado (APM).</td></tr>
</table>

	VT8237 SB	Soporta la interfaz 16-bit 66 MHz V-Link Client con ancha de banda total de 1066 MB/seg.
		Controlador ATA/HDD de serie de canal dual.
		Controlador USB 2.0 integrado con cuatro hubs de raíz y ocho puertos de función.
		Operación de duplex medio y completo de 1/10/100 MHz.
Memoria	• Permite DDR hasta 166/133/100 MHz DDR módulo de memoria SDRAM • Adecua dos ranuras no reservadas 2.5V 184-pin • Cada ranura permite hasta 1 GB con una capacidad máxima total de 2 GB	
VGA	Esta placa principal incluye una ranura AGP que provee ocho tiempos de amplitud de la especificación original AGP a 2.1 giga-bytes por segundo (GB/s). La tecnología AGP provee una conexión directa entre el sub-sistema de gráficos y el procesador para que los gráficos no tengan que rivalizar por el tiempo del procesador con otros componentes en la Ruta PCI.	
El Codec AC' 97 Audio	El ALC655 se conforma con la especificación AC'97 2.3 y soporta múltiples extensiones CODEC con índice de muestreo variable y efectos 3D incorporados. Incorpora la tecnología de conversor propietaria para lograr un SNR alto, mayor que 90 dB. El circuito de interfaz digital opera de un suministro de 5V/3.3V y soporta una función de salida SPDIF conforme con AC'97 2.3 que permite la conexión fácil del PC a otros produc-tos electrónicos. Otras características incluyen soporte para cuatro entradas estereofónicas a nivel de línea analógica.	
Opciones de Expansión	Esta placa principal tiene un AGP y tres ranuras PCI 32-bit. Permite bus de control Ultra DMA con valor de transferencia de 33/66/100/133 MB/por segundo.	
LAN Incorporada (opcional)	The Realtek RTL8100C es un controlador Fast Ethernet de mini PCI single-chip 10/100 Mpbs altamente integrado y efi-ciente a costo. Soporta despertador remoto (incluye cuadro AMD Magic Packet™ y Microsoft® Wake-up) y la función de administración ACPI (Interfaz de Suministro de Configuración Avanzada/Advanced Configuration Power Interface). También provee transferencia de datos de master bus PCI con una velocidad de reloj de 16.75MHz-40MHz.	
1394a (opcional)	• Controlador de interfaz VT6307 PCI 1394a incorporado • Adaptable con 1394 abierto, especificaciones HCI v1.0 y v1.1 • Permite abastecimiento de IEEE 1394-1995 convencional para bus de serie de alto rendimiento y P1394a suple-mento 4.0 • Generador CRC 32 bit y verificador para recibir y trans-mitir datos • Adaptable con especificación PCI v2.2 • Apoyo de bus de control de alto rendimiento	

	• Provee tres puertos de cable totalmente adaptables 1394a en 100/200/400 Mbit por segundo
I/O Integrado	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 VGA • Un puerto paralelo • Cuatro puertos USB • Un puerto LAN (opcional) • Un puerto 1394a (opcional) • Enchufes de audio para micrófono, línea de entrada y línea de salida
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 previo aviso.

チェックリスト

下記のチェックリストに列挙されている製品が同封されているかを確認してください。

標準同封アイテム

- メインボード　1枚
- ディスクドライブ用リボンケーブル　1個
- IDEドライブ用リボンケーブル　1個
- 自動インストール機能対応ソフトウェアCD　1枚
- リアパネルI/Oシールド　1個
- SATAコードが1本と　(あなたのマザーボードがSATA ヘッダーを支える時含まれた)
- SATA電源線が1本と　(あなたのマザーボードがSATA ヘッダーを支える時含まれた)
- ユーザーマニュアル
- クィックセットアップガイド
- クィックジャンパー設定用ステッカー

製品特徴

プロセッサ	当マザーボードに搭載されているAMD 462ピンソケットは、次の特徴があります： ・ 200/266/333 MHz フロントサイドバス（FSB）をサポートします ・ AMD Athlon XP/Sempron/Athlon/Duron プロセッサをサポートします
チップセット	当マザーボードに搭載されているチップセットは、 VT8378 （KM400） Northbridge と、 VT8235 あるいは VT8237 Southbridgeの何れかとを備え、下表に示される先進な機能をお届けします。

チップセット名	機能
KM400 NB	DDR333と DDR266 とDDR200をサポート（PC2700 と PC2100とPC1600との DDR SDRAM）。
	全機能のAGP(Accelerated Graphics Port)コントローラーを搭載し、 533 MHz 8xや 266MHz 4xや133 MHz 2x の転送モードでの Ad と SBA との信号転送に完全対応。
	66 MHz V-Link ホストインターフェースをサポートし、ピーク帯域幅 533MB/秒。
VT8235 SB	66 MHz V-Link クライアントインターフェースをサポートし、トータル帯域幅 533MB/秒可能。
	搭載したUSB 2.0 コントローラーで、3つのルートハブと6つのポートを提供。
	1/10/100 MHzの全/半二重動作が可能。

		二重チャネル UltraDMA-33/66/100/133 マスターモードのEIDEコントローラーを搭載
		ACPI (Advanced Configuration and Power Interface) と従来の（APM）電源管理機能をサポート。
		16ビットの 66 MHz V-Link クライアントインターフェースをサポートし、トータル帯域幅 1066 MB/秒まで可能。
		二重チャネルシリアル ATA/HDDコントローラーを搭載。
	VT8237 SB	内蔵しているUSB 2.0 コントローラーで、4つのルートハブと8つのポートを提供。
		内蔵しているUSB 2.0 コントローラーで、4つのルートハブと8つのポートを提供。
		内蔵しているUSB 2.0 コントローラーで、4つのルートハブと8つのポートを提供。
メモリー	● 166/133/100 MHz DDR SDRAMまでのDDRメモリモジュールに対応 ● 2つの非バッファー2.5V 184ピン仕様のスロットを収納 ● 各スロットが1 GBまで対応し、トータルでメモリを2 GBまでサポートします	
VGA	本マザーボードは、従来のAGP仕様の8倍、2.1GB/秒に相当する帯域幅を提供することができるAGPスロットが搭載されています。AGP技術は、グラフィックサブシステムとプロセッサとの間での直接通信を実現することにより、グラフィックサブシステムがPCIバスでその他のデバイスと競合する問題ことを解消します。	
AC'97 オーディオコーデック	ALC655 オーディオコーデックはAC'97 2.3 仕様に準拠したもので、様様なCODEC拡張機能をサポートしながら、独立の可変サンプリング率と共に3D効果機能をも内蔵しております。独自の変換技術を取り入れることにより、90dB超の高いSNRを実現しました。そのデジタル式インターフェース回路は、5V/3V電源サプライで動作し、かつAC'97 2.3 仕様に準拠したSPDIF出力機能をサポートしておりますので、他の電子製品を容易にシステムに接続することができます。さらに、アナログ式レインレベルステレオ入力を4つまでサポートします。	
拡張オプション	当マザーボードには1つのAGPスロットと3つの32ビットPCIスロットが搭載されています。 さらに、33/66/100/133 MB/秒の転送速度のUltra DMAバスマスタリングをサポートします。	

オンボード LAN機能 （オプション）	The Realtek RTL8100C は、高度に統合され、優れた性能価格比を持つ小型 PCI シングルチップ10/100 Mpbs 高速イーサーネットコントローラーであります。遠隔喚起機能(即ち、AMD Magic Packet™ や Microsoft® Wake-up フレームなど)と ACPI (Advanced Configuration Power Interface) 管理機能をサポートします。さらに、PCIクロックスピードが16.75 MHz-40MHzである PCI バスマスタデータ転送をサポートします。
1394a （オプション）	• VT6307 PCI 1394a 統合ホストコントローラ • 1394オープンHCI仕様v1.0とv1.1に対応 • 高性能シリアルバス及びP1394a 補足4.0のためのIEEE 1394-1995標準に対応 • データ送受信用の32ビットCRCジェネレータとチェッカー • PCI仕様v2.2対応 • 高性能バスマスタリング対応 • 100/200/400 Mbit/秒の1394a 完全対応ケーブルポート3つを搭載
統合された入出力 ポート	このメインボードにはフルーセットのI/Oポートおよびコネクタが搭載しています。 • 2つのマウスおよびキーボード向けPS/2ポート • 1つのシリアルポート • 1つのVGAポート • 1つのパラレルポート • 4つのUSBポート • １つのLANポート（オプション） • 1つの1394aポート(オプション) • マイクロフォンやラインイン、ラインアウト向けのオーディオジャック
BIOS ファームウェア	本メインボードは次のシステム機能を含めた設定をすることができるAward BIOSを採用しています： • 電源管理 • Wake-up警告 • CPUパラメータ • CPUおよびメモリのタイミング その他に、各種プロセッサクロック速度のパラメータを設定することができます。

一部のハードウェア仕様及びソフトウェアアイテムは予告なく変更されることがあります。

품목 목록

다음 품목들이 메인보드 패키지에 모두 포함되어 있는지 확인해 보십시오:

표준 품목

- 메인 보드 1개
- 디스켓 드라이브 리본 케이블 1개
- IDE 드라이브 리본 케이블 1개
- 자동 설치 소프트웨어 지원 CD 1개
- 뒷패널 I/O 실드 1개
- SATA 케이블 1개 (너의 어미판이 SATA 우두머리를 지원할 때 포함하는)
- SATA 전원 케이블 1 개 (너의 어미판이 SATA 우두머리를 지원할 때 포함하는)
- 본 사용자 설명서
- 퀵 셋업가이드
- 퀵 점퍼 셋팅스티커

기능

프로세서	본 마더보드는 AMD 462 핀 소켓 A 를 사용하며 다음과 같은 특징을 지닌다: • 200/266/333 MHz frontside bus (FSB) 지원 • AMD Athlon XP/Sempron/Athlon/Duron 프로세서 사용
칩셋	본 마더보드에 있는 칩셋은 VT8378 (KM400) Northbridge 와 VT8235 또는 VT8237 Southbridge 칩셋을 조합한다. 아래 표는 칩셋의 고급 기능을 간단히 설명한다.

칩셋	특징
KM400 NB	DDR333, DDR266 및 DDR200 (PC2700, PC2100 및 PC1600 DDR SDRAM) 지원.
	Ad 와 SBA 시그널링을 위해 533 MHz 8x, 266 MHz 4x, 및 133 MHz 2x 전송 모드를 지원하는 고급의 Accelerated Graphics Port (AGP) 컨트롤러.
	최고 대역폭 533MB/sec 의 66 MHz V-Link 호스트 인터페이스 지원.
VT8235 SB	총 대역폭 533 MB/sec의 66 MHz V-Link 클라이언트 인터페이스 지원
	3 개의 루트 허브와 6 개의 기능 포트를 지닌 통합 USB 2.0 컨트롤러.
	듀얼 채널 UltraDMA-33/66/100/133 마스터 모드 EIDE 컨트롤러.
	ACPI (Advanced Configuration and Power Interface) 와 legacy (APM) 전원 관리 지원.

	VT8237 SB	총 대역폭 1066 MB/sec의 16 비트 66 MHz V-Link 클라이언트 인터페이스 지원.
		듀얼 채널 시리얼 ATA/HDD 컨트롤러.
		4 개의 루트 허브와 8 개의 기능 포트가 있는 통합 USB 2.0 컨트롤러.
		1/10/100 MHz full / half duplex 오퍼레이션.
메모리	• DDR 을 최대 166/133/100 MHz DDR SDRAM 메모리 모듈 지원 • 2개의 unbuffered 2.5V 184 핀 슬롯 사용 • 총 최대 용량은 2GB 이며, 각 슬롯은 최대 1 GB 를 지원	
VGA	본 마더보드는 기존 AGP 사양의 8배의 대역폭을 매초간 2.1 기가바이트 (GB/s) 을 제공하는 AGP 슬롯을 사용한다. AGP 기술은 그래픽 하부 시스템과 프로세서를 직접 연결하여 그래픽이 PCI 버스 상에 있는 다른 장치와 프로세서 시간을 다툴 필요가 없다..	
AC' 97 오디오 코덱	ALC655 는 AC'97 2.3 사양에 부합되며 독립적인 다양한 샘플링 속도와 내장 3D 효과를 지닌 다양한 코덱 확장을 지원한다. 90 dB 이상의 고품질의 SNR을 위해 적합한 컨버터 기술을사용하였다. 디지털 인터페이스 회로는 5V/3.3V 파워 써플라이로 작동되며, AC'97 2.3 부합 SPDIF 출력 기능을지원하여 PC와 다른 전기 제품의 연결을 용이하게 한다. 그 밖에도 4 개의 아날로그 라인 레벨 스테레오 입력을 지원한다.	
확장 옵션	본 마더보드는 AGP 슬롯 1 개와 32 비트 PCI 슬롯 3 개가 있다.이것은 전송 속도 33/66/100/133 MB/sec 의 Ultra DMA bus mastering을 지원한다.	
보드 내장 LAN (선택 사항)	Realtek RTL8100C 는 고도로 통합되고 비용 효율적인 미니 PCI 싱글 칩 10/100 Mpbs 패스트 이더넷 컨트롤러이다. 이것은 원격 wake-up (AMD Magic Packet™ 및 Microsoft® Wake-up 프레임 포함) 및 ACPI (Advanced Configuration Power Interface) 관리 기능을 지원하며, 16.75MHz40MHz 의 PCI 클록 속도의 PCI 버스 마스터 데이터 전송을 제공한다.	
1394a (선택 사항)	• VT6307 PCI 1394a 통합 호스트 컨트롤러 • 1394 open HCI 사양 v1.0 및 v1.1 호환 • 고 성능 시리얼 버스를 위한 IEEE 1394-1995 표준 규정 및 P1394a 증보 4.0 부합 • 데이터 수신 및 송신을 위한 32 bit CRC 제너레이터 및 검사기 • PCI 사양 v2.2 호환 • 고 성능의 bus mastering 지원 • 매초 100/200/400 Mbit의 3 개의 1394a 호환 케이블 포트 제공	

통합 I/O	본 마더보드는 풀 세트의 I/O 포트 및 커넥터가 있다: • 마우스와 키보드용 PS/2 포트 2 개 • 시리얼 포트 1개 • VGA 포트 1 개 • 패러럴 포트 1 개 • USB 포트 4 개 • LAN 포트 1 개 (선택 사항) • 1394a 포트 1 개 (선택 사항) • 마이크 용 오디오 잭, 라인 입력과 라인 출력
BIOS **펌웨어**	본 마더보드는 Award BIOS 를 사용하여 사용자는 다음과 같은 시스템 기능을 구성할 수 있다: • 전원 관리 • 기상 알람 • **CPU** 파라미터 • **CPU** 및 메모리 타이밍 펌웨어는 다른 프로세서 클럭 속도의 파라미터를 설정하는데도 사용될 수 있다.

하드웨어 사양 및 소프트웨어 아이템은 사전 통보 없이 변경될 수 있음.

檢查表

請依下列檢查表，核對主機板包裝之內容：

標準項目

- 主機板一片
- 磁碟機排線一條
- IDE磁碟機排線一條
- 自動安裝CD一片
- 後控制面板輸出入(I/O)擋板一片
- 1條SATA連接線 (當你的主機板支援SATA排針時才會附)
- 1條SATA電源線 (當你的主機板支援SATA排針時才會附)
- 本使用手冊
- 快速安裝指南
- 快速跳線器設定用貼紙

性能

中央處理器	本主機板採用了具有下列功能之AMD 462針Socket A： • 支援高達 200/266/333 MHz之前置匯流排 (FSB) • 支援AMD Athlon XP/Sempron/Athlon/Duron 處理器		
晶片組	本主機板係以VT8378 (KM400) 北橋晶片組搭配 VT8235 或 VT8237 南橋晶片組，具有如下表所述之先進晶片組功能：		
	晶片組		**功能**
	KM400 NB		支援 DDR333, DDR266 及 DDR200 (PC2700,PC2100 及 PC1600 DDR SDRAM)。
			提供全功能的繪圖加速埠 (AGP)控制器，能夠支援 533 MHz 8x、266 MHz 4x、及133 MHz 2x 傳輸模式的 Ad及SBA信號傳送。
			支援66 MHz V-Link主機介面，最大頻寬可達 533MB/秒。
	VT8235 SB		支援66 MHz V-Link客戶介面，總頻寬可達533 MB/秒。
			內建USB 2.0控制器，提供3個集線器及6個連接埠。
			具有雙通道UltraDMA-33/66/100/133主控模式EIDE控制器。
			支援ACPI (Advanced Configuration and Power Interface) 及舊版的(APM)電源管理功能。

	VT8237 SB	支援16-bit 66 MHz V-Link 客戶介面,總頻寬高達1066 MB/秒。
		具有雙通道串列ATA/HDD控制器。
		內建USB 2.0控制器,提供4個集線器及8個連接埠。
		具有1/10/100 MHz全/半雙工功能。
記憶體		- 支援DDR高達166/133/100 MHz之DDR型SDRAM記憶體 - 配備有2無緩衝2.5V184針插槽 - 各插槽支援1GB,共可支援2GB之記憶體
VGA		本主機板配備有一個AGP插槽,能夠支援為舊型AGP規格8倍之頻寬,相當於2.1GB/秒。AGP技術能使繪圖子系統與中央處理器直接連接,藉此繪圖子系統將無需與其他PCI插槽設備在爭取處理器資源上發生衝突。
AC' 97 音訊編解碼器		配備之ALC655音效解碼/編碼器採用了AC' 97 2.3 規格,且支援多CODEC擴充子集,具有獨立的可變取樣率及內建的3D效果功能。本編解碼器具有一專屬的轉換技術,能夠得到更高的SNR (實際高達90dB)。該數位介面電路可使用5V/3.3V的電源,支援符合AC' 97 2.3規格的SPDIF輸出功能,能夠使其他電子產品更容易地與連接電腦連接。再者,也提供4種類比線級立體音效輸入。
擴充選項		本主機板 提供有1個AGP插槽及3個32-位元 PCI插槽。 此外,也支援Ultra DMA 匯流排主控功能,可提供 33/66/100/133 MB/sec之傳輸速率。
機載區域網路功能 (選項)		Realtek RTL8100C為高度整合且具有高經濟效益的迷你 PCI 單晶片型10/100 Mpbs 高速乙太網路控制器,能夠支援遠距喚醒功能 (包括 AMD Magic Packet™ 及Microsoft® Wake-up 框架) 及ACPI (Advanced Configuration Power Interface) 管理功能,並且也能以16.75MHz-40MHz的PCI時脈速率進行PCI匯流排主控的資料傳輸。
1394a (選項)		- VT6307 PCI 1394a 整合型主控控制器 - 符合1394 開放式 HCI 規格 v1.0 及 v1.1 - 支援 高效能串列匯流排用IEEE 1394-1995 規格及P1394a 增列規格 4.0 - 配備有32 位元 CRC 產生器及檢測器,用以收發資料 - PCI 規格 v2.2相容 - 支援高效能匯流排主控功能 - 配備有3個1394a 完全相容連線埠,提供每秒 100/200/400 M位元之傳輸效率

已整合的輸出入功能	本主機板完整地支援各種輸出入及連接器：
	• 2個 PS/2 埠，分供滑鼠及鍵盤連接
	• 1個串列埠
	• 1個VGA埠
	• 1個平行埠
	• 4個USB埠
	• 1個LAN埠(選項)
	• 1個1394a埠(選項)
	• 麥克風、line-in及line-out音效端
BIOS 韌體	本主機板使用了Award BIOS，使用者可藉此對包括下列之系統功能進行設定：
	• 電源管理功能
	• 喚醒警示功能
	• CPU參數
	• CPU及記憶體時序
	本BIOS也可用以設定各種有關處理器時脈的參數。

有些硬體規格以及軟體物件將視狀況適當調整，不予另行通知。

校验表

将本主板的组件内容与以下校验表进行对照:

标准组件

- 一只主板
- 一条磁盘驱动器带状电缆
- 一条 IDE 驱动器带状电缆
- 一张自动安装软件支持光盘
- 一个后面板 I/O 防护罩
- 一 条 SATA 电缆 (包括当你的主板支持SATA 头球)
- 一 条 SATA 电源线 (包括当你的主板支持SATA 头球)
- 本用户手册
- 快速安装指南
- 快速跳线设置 贴纸

特性

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 Athlon XP/Sempron/Athlon/Duron 处理器	
芯片组	此主板含有 VT8378 (KM400) 北桥芯片组和 VT8235 或 VT8237 南桥芯片组。下表中简要介绍了芯片组的先进功能。	

芯片组	功能
KM400 NB	支持 DDR333、DDR266 和 DDR200 (PC2700, PC2100 and PC1600 DDR SDRAM)。
	完整的加速图形端口 (AGP) 控制器,支持 533 MHz 8x、266 MHz 4x 和 133 MHz 2x 传输模式。
	支持峰值带宽为 533MB/sec 的 66MHz V-Link Host 接口。
VT8235 SB	支持总带宽为 533MB/sec 的 66MHz V-Link 客户接口。
	集成 USB 2.0 控制器,带有 3 个 Root Hub 和 6 个功能端口。
	双通道 UltraDMA-33/66/100/133 主控模式 EIDE 控制器。
	支持 ACPI(高级配置电源接口)和传统 (APM) 电源管理。
VT8237 SB	支持总带宽为 533MB/sec 的 16 位 66MHz V-Link 客户接口。
	双通道串行 ATA/HDD 控制器。
	集成 USB 2.0 控制器,带有 4 个 Root Hub 和 8 个功能端口。
	1/10/100 MHz 全双工和半双工操作。

内存	• 支持 166/133/100 MHz DDR SDRAM 内存条 • 提供 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
VGA	此主板含有一个 AGP 插槽，可提供普通 AGP 规格 8-倍的带宽，可达 2.1 GB/s。AGP 技术能提供图像子系统和处理器之间的直接连接，这样图像就不需要与 PCI 总线上的其它设备争用处理器时间。
AC' 97 音频编码器	ALC655 符合 AC'97 2.3 规格，支持多个具有独立可调采样速率和内建 3D 音效的编解码器。它与专有的转换器技术相结合，能够获得大于 90 dB 的 SNR（信噪比）。数字接口电路可以在 5V/3.3V 电源下工作，并支持符合 AC'97 2.3 规格的 SPDIF 输出功能，此功能可以方便的将 PC 与其它电子产品连接在一起。其它功能包括支持 4 路模拟线路级立体声输入。
扩展 选项	此主板含有 1 个 AGP 插槽和 3-个 32 位 PCI 插槽。 它支持 Ultra DMA 总线控制，传输速率可达 33/66/100/133 MB/sec。
Onboard LAN（可选）	RTL8100C 是一种高度集成的低成本迷你 PCI 单芯片 10/100 Mpbs 快速以太网控制器。它支持远程唤醒（包括 AMD Magic Packet™ 和 Microsoft® 唤醒帧）和 ACPI（高级配置电源接口）管理功能。它还提供 PCI 时钟速度为 16.75MHz-40MHz-的 PCI 总线主控数据传输。
1394a（可选）	• VT6307 PCI 1394a 集成主控制器 • 兼容 1394 open HCI v1.0 和 v1.1 规格 • 支持 IEEE 1394-1995 标准中对高性能串行总线的规定和 P1394a 附录 4.0 • 32 位 CRC 发生器和检查器用于接收和传输数据 • 兼容 PCI v2.2 规格 • 支持高性能总线主控 • 提供 3 个 1394a 全兼容的电缆端口，传输速率达 100/200/400 Mbit/秒
集成 I/O	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 VGA 端口 • 1 个并口 • 4 个 USB 端口 • 1 个 LAN 端口（可选） • 1 个 1394a 端口（可选） • 麦克风、线入和线出声音插孔

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。

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Introducing the Motherboard

Introduction

Thank you for choosing this motherboard. This motherboard is designed to fit the advanced AMD Athlon XP/Sempron/Athlon/Duron processors in the 462-pin package. Based on the micro-ATX form factor featuring the VIA VT8378 (KM400) Northbridge and VT8235/VT8237 Southbridge chipsets. This motherboard provides the standard 200/266/333 MHz CPU front side bus with extra capability.

Taking advantage of the highly integrated chipsets, the VT8378 (KM400) Northbridge provides superior performance between the CPU, DRAM, V-Link bus and internal AGP 8x graphics controller bus with pipelined, burst, and concurrent operation. The VT8235/VT8237 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.

This motherboard is equipped with advanced full set of I/O ports, such as dual channel IDE interfaces, a floppy controller, a high-speed serial port, a VGA port, an EPP/ECP capable bi-directional parallel port connector, four USB (Universal Serial Bus) connector, a PS/2 keyboard, mouse, 1394a connectors and audio jacks for microphone, line-in, line-out. One AGP slot and three PCI local bus slots provide expandability for add-on peripheral cards.

Checklist

Compare the motherboard's package contents with the following checklist:

Standard Items

- One motherboard
- One diskette drive ribbon cable
- One IDE drive ribbon cable
- One auto-install software support CD
- One I/O shield
- One SATA cable (included when your motherboard supports the SATA header)
- One SATA power cable (included when your motherboard supports the SATA header)
- This user's manual
- Quick Setup Guide
- Quick Jumper Setting Sticker

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 Athlon XP/Sempron/Athlon/Duron processor
Chipset	The chipset on this motherboard includes the VT8378 (KM400) Northbridge combine with VT8235 or VT8237 Southbridge chipset. The table below briefly explains some of the chipset's advanced features.

Chipset	Features
KM400 NB	Supports DDR333, DDR266 and DDR200 (PC2700, PC2100 and PC1600 DDR SDRAM).
	Full Featured Accelerated Graphics Port (AGP) Controller which support 533 MHz 8x, 266 MHz 4x, and 133 MHz 2x transfer modes for Ad and SBA signaling.
	Supports 66 MHz V-Link Host interface with peak bandwidth of 533MB/sec.
VT8235 SB	Supports 66 MHz V-Link Client interface with total bandwidth of 533 MB/sec.
	Integrated USB 2.0 Controller with three root hubs and six function ports.
	Dual channel UltraDMA-33/66/100/133 master mode EIDE controller.
	Supports both ACPI (Advanced Configuration and Power Interface) and legacy (APM) power management.
VT8237 SB	Supports 16-bit 66 MHz V-Link Client interface with total bandwidth of 1066 MB/sec.
	Dual channel Serial ATA/HDD controller.
	Integrated USB 2.0 Controller with four root hubs and eight function ports.
	1/10/100 MHz full and half duplex operation.

Memory	• Supports DDR up to 166/133/100 MHz DDR SDRAM memory module • Accommodates two unbuffered 2.5V 184-pin slots • Each slot supports up to 1 GB with a total maximum capacity of 2 GB
VGA	This motherboard includes an AGP slot that provides eight times the bandwidth of the original AGP specification to 2.1 gigabytes per second (GB/s). AGP technology provides a direct connection between the graphics sub-system and the processor so that the graphics do not have to compete for processor time with other devices on the PCI bus.

AC' 97 Audio Codec	The ALC655 is compliant with the AC'97 2.3 specification and supports multiple CODEC extensions with independent variable sampling rates and built-in 3D effects. It incorporates proprietary converter technology to achieve a high SNR, greater than 90 dB. The digital interface circuitry operates from a 5V/3.3V power supply and supports an AC'97 2.3 compliant SPDIF out function which allows easy connection from the PC to other electronic products. Further features include support for four analog line-level stereo inputs.
Expansion Options	This motherboard has an AGP slot and three 32-bit PCI slots. It supports Ultra DMA bus mastering with transfer rates of 33/66/100/133 MB/sec.
Onboard LAN (optional)	The Realtek RTL8100C is a highly integrated and cost-effective mini PCI single-chip 10/100 Mpbs Fast Ethernet controller. It supports remote wake-up (including AMD Magic Packet[™] and Microsoft[®] Wake-up frame) and ACPI (Advanced Configuration Power Interface) management function. It also provides PCI bus master data transfer with a PCI clock speed of 16.75MHz-40MHz.
1394a (optional)	• VT6307 PCI 1394a integrated host controller • Compliant with 1394 open HCI specifications v1.0 and v1.1 • Supports provisions of IEEE 1394-1995 standard for high performance serial bus and the P1394a supplement 4.0 • 32 bit CRC generator and checker for receive and transmit data • Compliant with PCI specification v2.2 • High-performance bus mastering support • Provides three 1394a fully compliant cable ports at 100/200/400 Mbit per second
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 VGA port • One parallel port • Four USB ports • One LAN port (optional) • One 1394a port (optional) • Audio jacks for microphone, line-in and line-out
BIOS Firmware	This motherboard 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.

Some hardware specifications and software items are subject to change without prior notice.

Choosing a Computer Case

There are many types of computer cases on the market. The motherboard complies with the specifications for the Micro ATX system case. Some features on the motherboard are implemented by cabling connectors on the motherboard to indicators and switches on the system case. Ensure that your case supports all the features required. The motherboard can support one or two floppy diskette drives and four enhanced IDE drives. Ensure that your case has sufficient power and space for all the drives that you intend to install.

Most cases have a choice of I/O templates in the rear panel. Make sure that the I/O template in the case matches the I/O ports installed on the rear edge of the motherboard.

This motherboard has a Micro ATX form factor of 244 mm x 220 mm. Choose a case that accommodates this form factor.

Motherboard Components
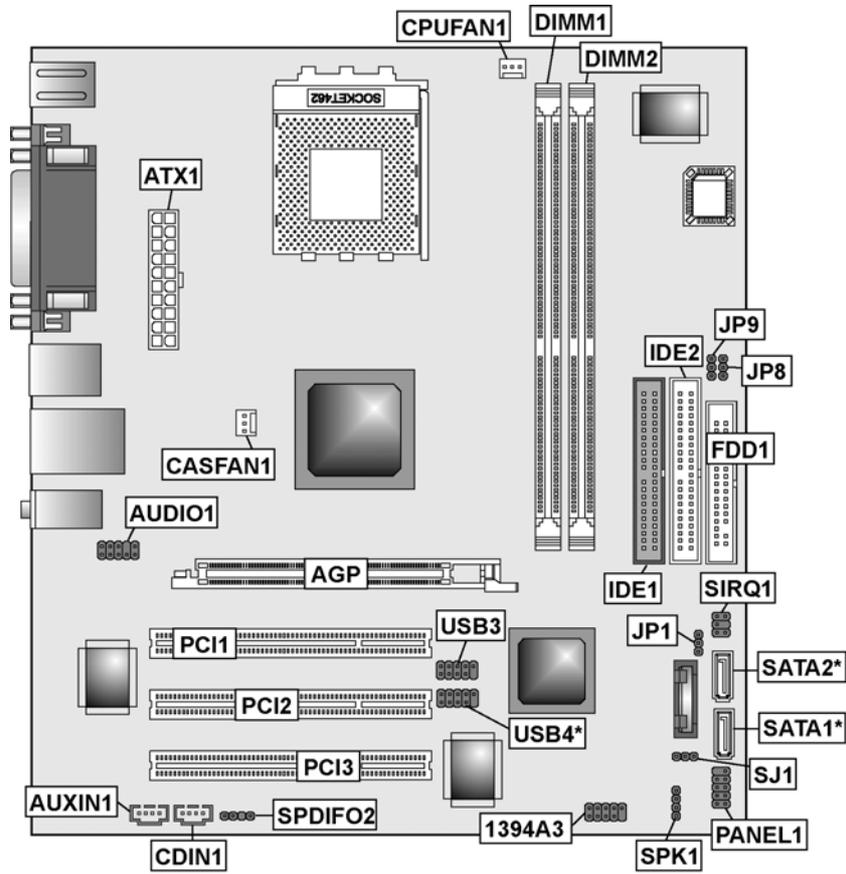
* These components are only available when your motherboard incorporates the VT8237 Southbridge chipset.

Table of Motherboard Components

Label	Component
1394A3	IEEE 1394A header
AGP1	Accelerated Graphics Port
ATX1	Standard 20-pin ATX power connector
AUDIO1	Front audio connector
AUXIN1	Auxiliary-in header
BAT1	Three volt realtime clock battery
CASFAN1	Case fan connector
CDIN1	Primary CD-in connector
CPU SOCKET	Socket A for AMD CPUs
CPUFAN1	Cooling fan for CPU
DIM1 ~ DIM2	Two 184-pin DDR SDRAM
FDD1	Floppy disk drive connector
IDE 1	Primary IDE channel
IDE 2	Secondary IDE channel
IR1*	Infrared port
JP1	Clear CMOS jumper
JP8/JP9	CPU Frequency jumper
PANEL1	Connector for case front panel switches and LED indicators
PCI1 ~ PCI3	Three 32-bit add-on card slots *(PCI3 slot is optional)*
SATA1 ~ SATA2	Serial ATA header
SIRQ1	Serial IRQ header
SJ1	Single color LED header
SPK1*	Speaker connector
SPDIFO2	SPDIF out header
USB3 ~ USB4	Connector for front panel USB ports

Optional component

This concludes Chapter 1. The next chapter explains how to install the motherboard.

Safety Precautions

Follow these safety precautions when installing the motherboard:

- Wear a grounding strap attached to a grounded device to avoid damage from static electricity.
- Discharge static electricity by touching the metal case of a safely grounded object before working on the motherboard.
- Leave components in the static-proof bags they came in.
- Hold all circuit boards by the edges. Do not bend circuit boards.

Quick Guide

This Quick Guide suggests the steps you can take to assemble your system with the motherboards.

The following table provides a reference for installing specific components:

Installing the Motherboard in a Case

Refer to the following illustration and instructions for installing the motherboard in a case:

This illustration shows an example of a motherboard being installed in a tower-type case: **Note:** Do not overtighten the screws as this can stress the motherboard. Most system cases have mounting brackets installed in the case, which correspond to the holes in the motherboard. Place the motherboard over the mounting brackets and secure the motherboard onto the mounting brackets with screws.	2. Secure the mainboard with screws where appropriate. 1. Place the mainboard over the mounting brackets.
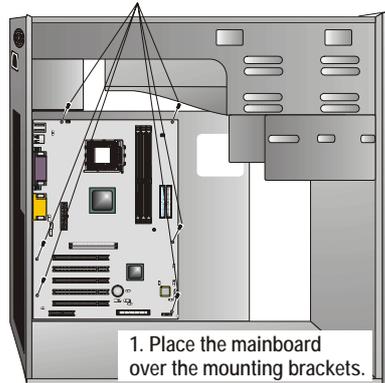
Ensure that your case has an I/O template that supports the I/O ports and expansion slots on your motherboard.

Checking Jumper Settings

This section explains how to set jumpers for correct configuration of the motherboard.

Setting Jumpers

Use the motherboard jumpers to set system configuration options. Jumpers with more than one pin are numbered. When setting the jumpers, ensure that the jumper caps are placed on the correct pins.

The illustrations below show a 2-pin jumper. When the jumper cap is placed on both pins, the jumper is SHORT. If you remove the jumper cap, or place the jumper cap on just one pin, the jumper is OPEN.

This illustration shows a 3-pin jumper. Pins 1 and 2 are SHORT.

Short   **Open**

1 2 3
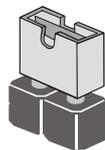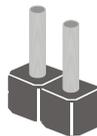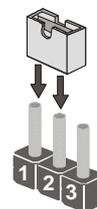
Checking Jumper Settings

The following illustration shows the location of the motherboard jumpers. Pin 1 is labeled.
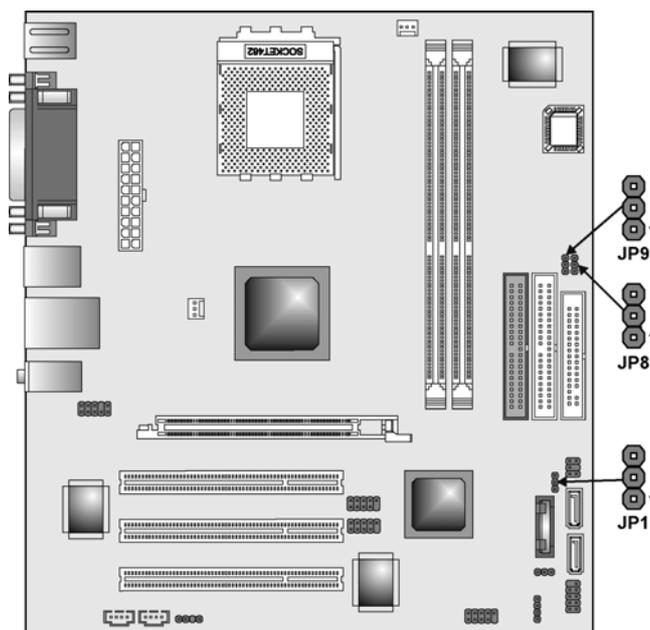
Jumper Settings

Jumper	Type	Description	Setting (*default*)	
JP1	3-pin	Clear CMOS	1-2: Normal *2-3: Clear CMOS*	JP1
JP8 & JP9	3-pin	CPU Frequency select jumper	See table on following page for settings.	JP9 JP8
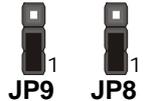
JP1 – Clear CMOS Jumper

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

JP8 & JP9 – CPU Frequency Select Jumper

This jumper enables you to set the CPU frequency.

JP8	JP9	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

Connecting Case Components

After you have installed the motherboard into a case, you can begin connecting the motherboard components. Refer to the following:

1. Connect the standard power supply connector to **ATX1**.
2. Connect the CPU cooling fan cable to **CPUFAN1**.
3. Connect the case cooling fan connector to **CASFAN1**.
4. Connect the case speaker cable to **SPK1**.
5. Connect the case LED cable to **SJ1**.
6. Connect the case switches and indicator to **PANEL1**.

ATX1: ATX 20-pin Power Connector

Pin	Signal Name	Pin	Signal Name
1	+3.3V	11	+3.3V
2	+3.3V	12	-12V
3	Ground	13	Ground
4	+5V	14	PS ON#
5	Ground	15	Ground
6	+5V	16	Ground
7	Ground	17	Ground
8	PWRGD	18	-5V
9	+5VSB	19	+5V
10	+12V	20	+5V

CPUFAN1/CASFAN1: FAN Power Connectors

Pin	Signal Name	Function
1	GND	System Ground
2	+12V	Power +12V
3	Sense	Sensor

SPEAKER1: Internal speaker *(optional)*

Pin	Signal Name
1	Signal
2	NC
3	Ground
4	VCC

SJI: Single-color LED header

Pin	Signal Name
1	ACPI LED
2	ACPI LED
3	5VSB

ACPI LED function:

SJ1	S0	S1	S3	S4/S5
1	Light	Blinking	Blinking	Dark

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:

PANEL1
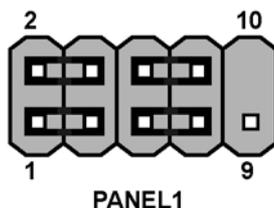
Pin	Signal	Function	Pin	Signal	Function
1	HD_LED_P	Hard disk LED (positive)	2	FP PWR/SLP	MSG LED [dual color or single color (+)]
3	HD_LED_N	Hard disk active LED (negative)	4	FP PWR/SLP	MSG LED [dual color or single color (-)]
5	RST_SW_N	Reset Switch	6	PWR_SW_P	Power Switch
7	RST_SW_P	Reset Switch	8	PWR_SW_N	Power Switch
9	RSVD	Reserved	10	NC	No pin

Hard Drive Activity LED

Connecting pins 1 and 3 to a front panel mounted LED provides visual indication that data is being read from or written to the hard drive. For the LED to function properly, an IDE drive should be connected to the onboard IDE interface. The LED will also show activity for devices connected to the SCSI (hard drive activity LED) connector.

Power / Sleep / Message Waiting LED

Connecting pins 2 and 4 to a single- or dual-color, front panel mounted LED provides power on/off, sleep, and message waiting indication.

Reset Switch

Supporting the reset function requires connecting pins 5 and 7 to a momentary-contact switch that is normally open. When the switch is closed, the board resets and runs POST.

Power Switch

Supporting the power on/off function requires connecting pins 6 and 8 to a momentary-contact switch that is normally open. The switch should maintain contact for at least 50 ms to signal the power supply to switch on or off. The time requirement is due to internal debounce circuitry. After receiving a power on/off signal, at least two seconds elapses before the power supply recognizes another on/off signal.

Installing Hardware

Installing the Processor

> **Caution: When installing a CPU heatsink and cooling fan make sure that you DO NOT scratch the motherboard or any of the surface-mount resistors with the clip of the cooling fan. If the clip of the cooling fan scrapes across the motherboard, you may cause serious damage to the motherboard or its components.**
>
> **On most motherboards, there are small surface-mount resistors near the processor socket, which may be damaged if the cooling fan is carelessly installed.**
>
> **Avoid using cooling fans with sharp edges on the fan casing and the clips. Also, install the cooling fan in a well-lit work area so that you can clearly see the motherboard and processor socket.**

Before installing the Processor

This motherboard automatically determines the CPU clock frequency and system bus frequency for the processor. You may be able to change these settings by making changes to jumpers on the motherboard, or changing the settings in the system Setup Utility. We strongly recommend that you do not overclock processors or other components to run faster than their rated speed.

> **Warning: Overclocking components can adversely affect the reliability of the system and introduce errors into your system. Overclocking can permanently damage the motherboard by generating excess heat in components that are run beyond the rated limits.**

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

This motherboard is built with Socket 462 processor socket. When choosing a processor, consider the performance requirements of the system. The following illustration shows CPU installation components:

Step 1	Step 2
Step 3	Step 4
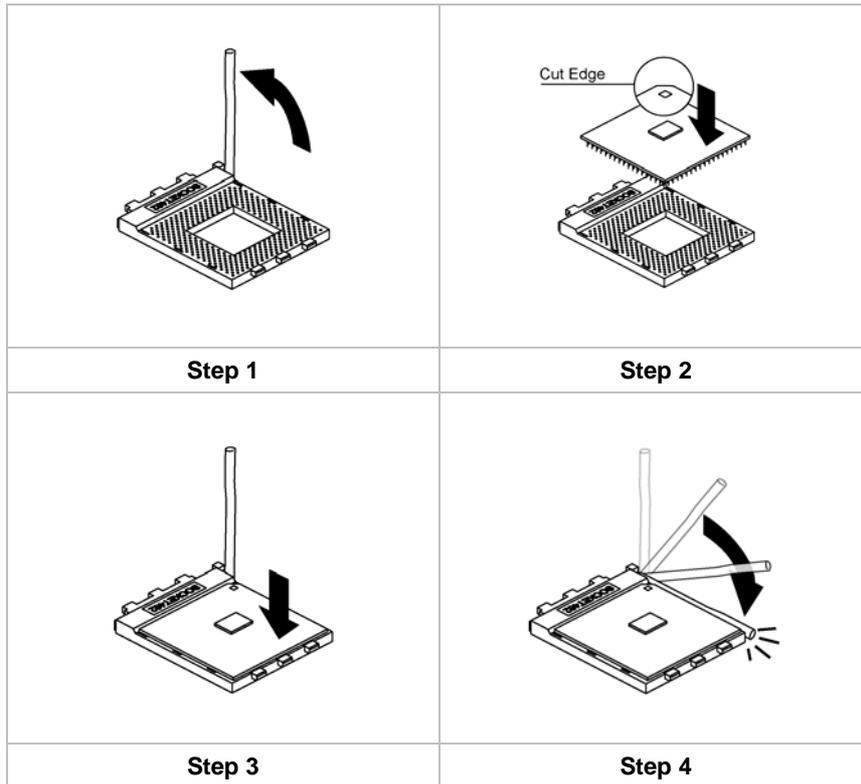
Orient the CPU so the odd corner matches the odd corner of the socket. With the lever in an upright position, gently place the CPU on the socket; make sure that all pins line up with the socket holes. When pins are aligned, the CPU should seat itself in the socket. Apply very light pressure to ensure 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.

Installing CPU Fan and Fan Connector

CPU fan and heatsink installation procedures may vary with the type of CPU fan/heatsink supplied. The form and size of fan/heatsink may also vary. Without an effective cooling fan, the CPU can overheat and cause damage to both CPU and the motherboard.

1. Lower the CPU cooling fan/heatsink assembly onto the CPU.	
2. Secure the two retention clips on either side of the fan/heatsink unit onto the Socket 462 base.	
3. 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. Double Data Rate (DDR) SDRAM doubles the rate to 1.6 GBps and 2.1 GBps. The memory chips must be standard SDRAM (Synchronous Dynamic Random Access Memory). The memory bus can run up to 133 MHz.

When you installed DDR266 memory modules, the memory bus can run up to 133 MHz. If you have DDR200, this can only run up to 100 MHz.

The motherboard accommodates two memory modules. You must install at least one module in any of the two slots. Each module can be installed with 128 MB to 1 GB of memory; total memory capacity is 2GB.

Do not remove any memory module from its antistatic packaging until you are ready to install it on the motherboard. 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.
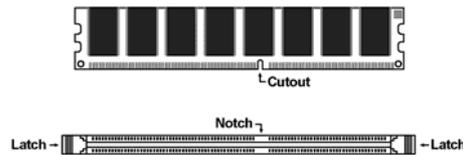
2. Push the latches on each side of the DIMM slot down.

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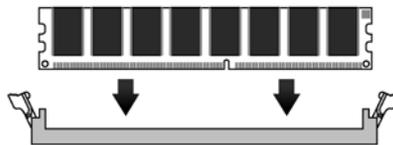
4. Check that the cutouts on the DIMM module edge connector match the notches in the DIMM slot.

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.

Installing a Hard Disk Drive/SATA Hard Drive/ CD-ROM

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

About IDE Devices

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

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.

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.

About SATA Connectors

Your mainboard features two SATA connectors supporting a total of two drives. SATA refers to Serial ATA (Advanced Technology Attachment) is the standard interface for the IDE hard drives which are currently used in most PCs. These connectors are well designed and will only fit in one orientation. Locate the SATA connectors on the mainboard (see page 23) and follow the illustration below to install the SATA hard drives.

Installing Serial ATA Hard Drives

To install the Serial ATA (SATA) hard drives, use the SATA cable which supports the Serial ATA protocol. This SATA cable comes with an SATA power cable. You can connect either end of the SATA cable to the SATA hard drive or the connecter on the mainboard.

SATA cable (optional)   **SATA power cable (optional)**

Refer to the illustration below for proper installation:

1. Attach either cable end to the connector (**A**) on the mainboard.

2. Attach the other cable end (**B**) to the SATA hard drive.

3. Attach the SATA power cable to the SATA hard drive (**C**) and connect the other end to the power supply.
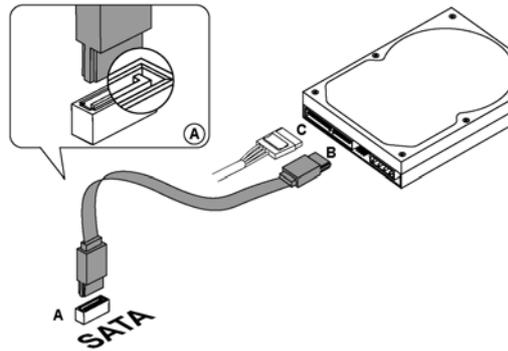
Note: This mainboard does not support the "Hot-Plug" function.

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

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.

> 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.

IDE1: Primary IDE Connector

The first hard drive should always be connected to IDE1.
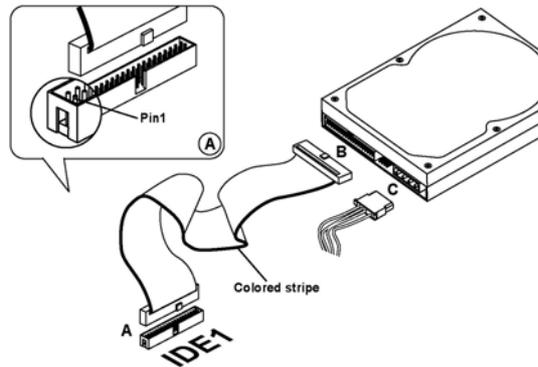
IDE2: Secondary IDE

The second drive on this controller must be set to slave mode. The configuration is the same as IDE1.
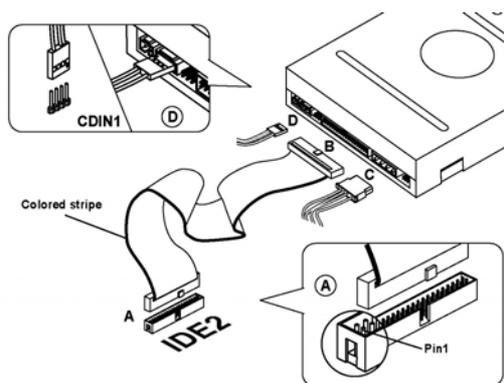
IDE devices have jumpers or switches that are used to set the IDE device as MASTER or SLAVE. Refer to the IDE device user's manual. When installing two

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.

About UltraDMA

This mainboard supports UltraDMA 66/100/133. UDMA is a technology that accelerates the performance of devices in the IDE channel. To maximize performance, install IDE devices that support UDMA and use 80-pin IDE cables that support UDMA 66/100/133.

Installing a Floppy Diskette Drive

The mainboard 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.

> 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.

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.
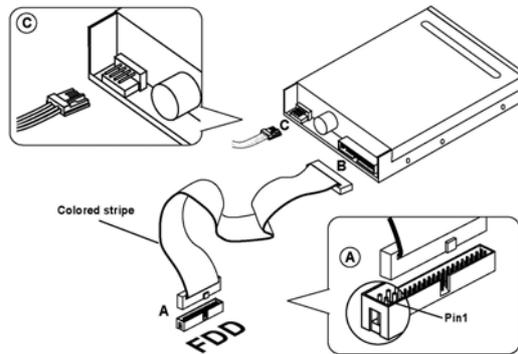
Installing Add-on Cards

The slots in this motherboard are designed to hold expansion cards and con-
nect 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.
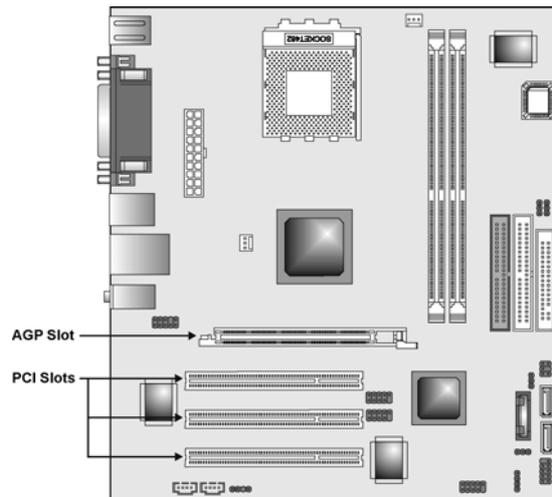
PCI Slots	PCI slots are used to install expansion cards that have the 32-bit PCI interface.
AGP Slot	The AGP slot is used to install 3D graphics adapter that supports the 8x AGP card which is also backward compatible with 4x AGP card. The slot is keyed to support only the latest 1.5-volt AGP cards.

> **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 con-
> figure the card before installation.

Follow these instructions to install an add-on card:

1. Remove a blanking plate from the system case corresponding to the slot you are going to use.

Edge connector
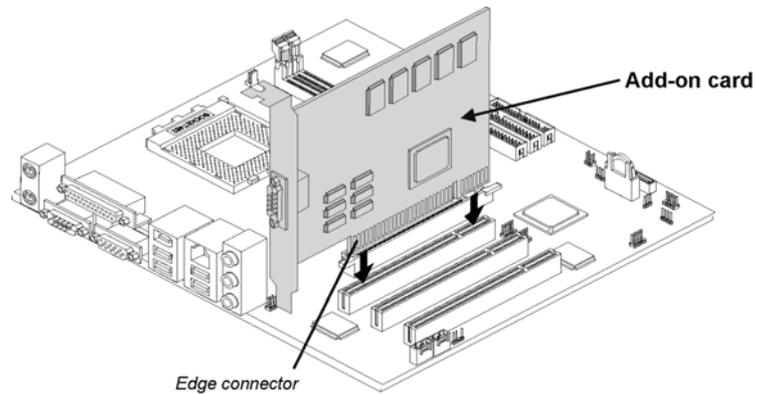
Add-on card

2. Install the edge connector of the add-on card into the expansion slot. Ensure that the edge connector is correctly seated in the slot.

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

Note: For some add-on cards, for example graphics adapters and network adapters, you have to install drivers and software before you can begin using the add-on card.

Connecting Optional Devices

Refer to the following for information on connecting the mainboard's optional devices:
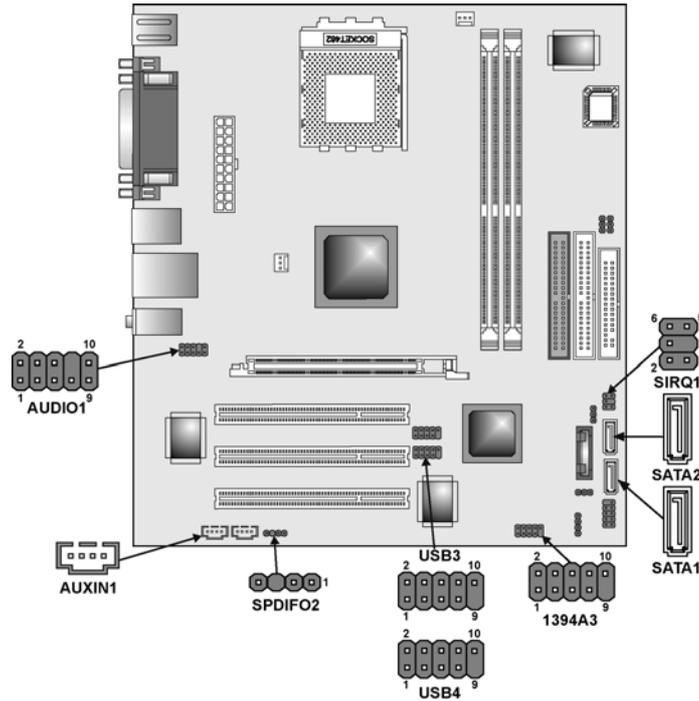
AUDIO1: Front Panel Audio header

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

Pin	Signal Name	Function
1	AUD_MIC	Front Panel Microphone input signal
2	AUD_GND	Ground used by Analog Audio Circuits
3	AUD_MIC_BIAS	Microphone Power
4	AUD_VCC	Filtered +5 V used by Analog Audio Circuits
5	AUD_FPOUT_R	Right Channel Audio signal to Front Panel
6	AUD_RET_R	Right Channel Audio signal to Return from Front Panel
7	HP_ON	Reserved for future use to control Head-phone Amplifier
8	KEY	No Pin
9	AUD_FPOUT_L	Left Channel Audio signal to Front Panel
10	AUD_RET_L	Left Channel Audio signal Return from Front Panel

USB3/USB4*: Front Panel USB connector (*see condition on page 5)

The mainboard 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 or USB4 to connect the front-mounted ports to the mainboard.

Pin	Signal Name	Function
1	VREG_FP_USBPWR0	Front Panel USB Power
2	VREG_FP_USBPWR0	Front Panel USB Power
3	USB_FP_P0-	USB Port 0 Negative Signal
4	USB_FP_P1-	USB Port 1 Negative Signal
5	USB_FP_P0+	USB Port 0 Positive Signal
6	USB_FP_P1+	USB Port 1 Positive Signal
7	GND	Ground
8	GND	Ground
9	KEY	No pin
10	USB_FP_OC0	Overcurrent signal

> **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.

1394A3: IEEE 1394A header

Use this header to connect to any IEEE 1394A interface.

Pin	Signal Name	Pin	Signal Name
1	TPA+	2	TPA-
3	GND	4	GND
5	TPB+	6	TPB-
7	Cable-power	8	Cable-power
9	NC	10	GND

SPDIFO2: SPDIF out header

You can purchase an optional 24-bit digital audio extension bracket from a third-party vendor. You can use the audio RCA jacks to connect to digital audio devices. If your CD-ROM/DVD drive has digital audio output, you can connect it to the input pins of the SPDIF connector.

Pin	Signal Name	Function
1	SPDIF	SPDIF digital output
2	+5VA	5V analog power
3	NC	Not connected
4	GND	Ground

AUXIN1: Auxiliary-in header

This connector is an additional line-in audio connector. It allows you to attach a line-in cable when your rear line-in jack is set as line out port for 4-channel function.

Pin	Signal Name	Function
1	AUX_L	AUX In left channel
2	GND	Ground
3	GND	Ground
4	AUX_R	AUX In right channel

SATA1*/SATA2*: Serial ATA header (*see condition on page 5)

These connectors are use to support the new Serial ATA devices for the highest date transfer rates (150 MB/s), 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.

Pin	Signal Name	Pin	Signal Name
1	GND	2	TX+
3	TX-	4	GND
5	RX+	6	RX-
7	GND	-	-

SIRQ1: Serial IRQ header

This header allows you to install the Serial IRQ connector.

Pin	Signal Name
1	NC
2	GND
3	KEY
4	NC
5	GND
6	Serial IRQ

Connecting I/O Devices

The backplane of the mainboard has the following I/O ports:
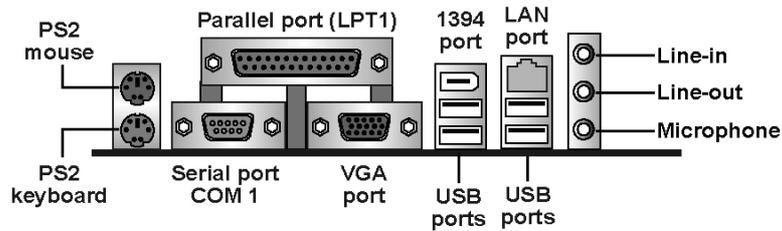
PS/2 Mouse	Use the upper PS/2 port to connect a PS/2 pointing device.
PS/2 Keyboard	Use the lower PS/2 port to connect a PS/2 keyboard.
LPT1	Use LPT1 to connect printers or other parallel communications devices.
COM1	Use the COM ports to connect serial devices such as mice or fax/modems. COM1 is identified by the system as COM1/3. COM2 is identified by the system as COM2/4.
VGA Port	Connect your monitor to the VGA port.
1394a Port (optional)	Use the 1394a port to connect any Firewire device.
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.

External Connector Color Coding

Many connectors now use standard colors as shown in the table below.

Connector	Color
Audio line-in	Light blue
Audio line-out	Lime
Digital monitor/flat panel	White
IEEE 1394	Grey
Microphone	Pink
MIDI/game	Gold
Parallel	Burgundy
PS/2-compatible keyboard	Purple
PS/2-compatible mouse	Green
Serial	Teal or Turquoise
Speaker out/subwoofer	Orange
Right-to-left speaker	Brown
USB	Black
Video out	Yellow
SCSI, network, telephone, modem	None

This concludes Chapter 2. The next chapter covers the BIOS.

About the Setup Utility

The computer uses the latest Award BIOS with support for Windows Plug and Play. The CMOS chip on the motherboard contains the ROM setup instructions for configuring the motherboard 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

Entering the Setup Utility

When you power on the system, BIOS enters the Power-On Self Test (POST) routines. POST is a series of built-in diagnostics performed by the BIOS. After the POST routines are completed, the following message appears:

Press DEL to enter SETUP

Pressing the delete key 🔲 accesses the BIOS Setup Utility:

Phoenix – AwardBIOS CMOS Setup Utility

►Standard CMOS Features	►Frequency Control
►Advanced BIOS Features	Load Fail-Safe Defaults
►Advanced Chipset Features	Load Optimized Defaults
►Integrated Peripherals	Set Supervisor Password
►Power Management Setup	Set User Password
►PnP/PCI Configurations	Save & Exit Setup
►PC Health Status	Exit Without Saving

Esc : Quit F10 : Save & Exit Setup	↑ ↓ → ← : Select Item

Time, Date, Hard Disk Type . . .

BIOS Navigation Keys

The BIOS navigation keys are listed below:

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

Updating the BIOS

You can download and install updated BIOS for this motherboard from the manufacturer's Web site. New BIOS provides support for new peripherals, improvements in performance, or fixes for known bugs. Install new BIOS as follows:

1. If your motherboard has a BIOS protection jumper, change the setting to allow BIOS flashing.

2.   If your motherboard has an item called Firmware Write Protect in Advanced BIOS features, disable it. (Firmware Write Protect prevents BIOS from being overwritten.)

3.   Create a bootable system disk. (Refer to Windows online help for information on creating a bootable system disk.)

4.   Download the Flash Utility and new BIOS file from the manufacturer's Web site. Copy these files to the system diskette you created in Step 3.

5.   Turn off your computer and insert the system diskette in your computer's diskette drive. (You might need to run the Setup Utility and change the boot priority items on the Advanced BIOS Features Setup page, to force your computer to boot from the floppy diskette drive first.)

6.   At the A:\ prompt, type the Flash Utility program name and press <Enter>. You see a screen similar to the following:

```
        FLASH MEMORY WRITER V7.33
 (C) Award Software 1999 All Rights Reserved

For (MOTHERBOARD NAME)       DATE: 10/26/2000
Flash Type
File Name to Program :


 Error Message
```
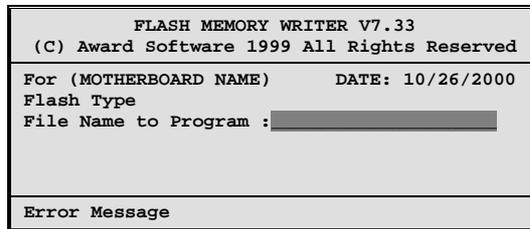
7.   Type the filename of the new BIOS in the "File Name to Program" text box. Follow the onscreen directions to update the motherboard BIOS.

8.   When the installation is complete, remove the floppy diskette from the diskette drive and restart your computer. If your motherboard has a Flash BIOS jumper, reset the jumper to protect the newly installed BIOS from being overwritten.

Using BIOS

When you start the Setup Utility, the main menu appears. The main menu of the Setup Utility displays a list of the options that are available. A highlight indicates which option is currently selected. Use the cursor arrow keys to move the highlight to other options. When an option is highlighted, execute the option by pressing <Enter>.

Some options lead to pop-up dialog boxes that prompt you to verify that you wish to execute that option. Other options lead to dialog boxes that prompt you for information.

Some options (marked with a triangle ▶) lead to submenus that enable you to change the values for the option. Use the cursor arrow keys to scroll through the items in the submenu.

In this manual, default values are enclosed in parenthesis. Submenu items are denoted by a triangle ▶.

Standard CMOS Feature

This option displays basic information about your system.

		Item Help
Date (mm:dd:yy)	Tue, Jun 11 2002	
Time (hh:mm:ss)	15 : 6 : 23	
► IDE Primary Master		Menu Level ►
► IDE Primary Slave	[None]	Change the day, month,
► IDE Secondary Master	[None]	year and century.
► IDE Secondary Slave		
Drive A	[1.44M, 3.5 in.]	
Drive B	[None]	
Video	[EGA/VGA]	
Halt On	[All Errors]	
Base Memory	640K	
Extended Memory	65472K	
Total Memory	1024K	

↑↓→←: 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:

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

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 page.

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. This motherboard has a built-in VGA graphics system; you must leave this item at the default value.

Halt On (All Errors)

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 Features

This option defines advanced information about your system.

```
┌─────────────────────────────────────────────────────┬──────────────────────┐
│  Anti-Virus Protection          [Disabled]     ▲     │      Item Help       │
│  CPU Internal Cache             [Enabled]       │     ├──────────────────────┤
│  Quick Power On Self Test       [Enabled]       │     │ Menu Level    ►      │
│  First Boot Device              [Floppy]        │     │                      │
│  Second Boot Device             [HDD-0]         │     │ Allows you to choose │
│  Third Boot Device              [CDROM]         │     │ the VIRUS warning    │
│  Boot Other Device              [Enabled]       │     │ feature for IDE Hard │
│  Swap Floppy Drive              [Disabled]      │     │ Disk boot sector     │
│  Boot Up Floppy Seek            [Disabled]      │     │ protection. If this  │
│  Boot Up NumLock Status         [On]            │     │ function is enabled  │
│  Gate A20 Option                [Fast]          │     │ and someone attempts │
│  ATA 66/100 IDE Cable Msg       [Enabled]       │     │ to write data into   │
│  Typematic Rate Setting         [Disabled]      │     │ this area, BIOS will │
│ x Typematic Rate (Chars/Sec)     6              │     │ show a warning       │
│ x Typematic Delay (Msec)         250            │     │ message on screen    │
│  Security Option                [Setup]         ▼     │ and alarm beep       │
└─────────────────────────────────────────────────────┴──────────────────────┘
 ↑↓→← : Move    Enter : Select    +/-/PU/PD:Value:    F10: Save   ESC: Exit   F1:General Help
        F5:Previous Values        F6:Fail-Safe Defaults           F7:Optimized Defaults
```

Anti-Virus Protection (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 CPU Internal Cache (Enabled)

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

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 (Disabled)

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.

APIC Mode (Enabled)

This item allows you to enable APIC (Advanced Programmable Interrupt Controller) functionality. APIC is an Intel chip that provides symmetric multiprocessing (SMP) for its Pentium systems.

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 Features

These items define critical timing parameters of the motherboard. You should leave the items on this page at their default values unless you are very familiar with the technical specifications of your system hardware. If you change the values incorrectly, you may introduce fatal errors or recurring instability into your system.

Phoenix – AwardBIOS CMOS Setup Utility
Advanced Chipset Features

► DRAM Clock/Drive Control	[Press Enter]	Item Help
► AGP & P2P Bridge Control	[Press Enter]	
► CPU & PCI Bus Control	[Press Enter]	Menu Level ►
System BIOS Cacheable	[Disabled]	
Video RAM Cacheable	[Disabled]	

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

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.

►DRAM Clock/Timing Control

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

Phoenix – AwardBIOS CMOS Setup Utility
DRAM Clock/Timing Control

		Item Help
Current FSB Frequency		
Current DRAM Frequency		Menu Level ►
DRAM Clock	[By SPD]	
DRAM Timing	[By SPDI]	
x DRAM CAS Latency	2.5	
x Bank Interleave	Disabled	
x Precharge to Active (Trp)	3T	
x Active to Precharge (Tras)	6T	
x Active to CMD (Trcd)	3T	
DRAM Command Rate	[2T Command]	

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

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 (By SPD)

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

DRAM Timing (By SPD)

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.

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.

36

Precharge to Active (3T)

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.

Active to Precharge (6T)

This item specifies the number of clock cycles needed after a bank active command before a precharge can occur.

Active to CMD (3T)

This item specifies the minimum required delay between activation of different rows.

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 Features screen.

►AGP & P2P Bridge Control

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

Phoenix – AwardBIOS CMOS Setup Utility
AGP & P2P Bridge Control

AGP Aperture Size	[128MB]	Item Help
AGP Mode	[4X]	
AGP Driving Control	[Auto]	Menu Level ►
x AGP Driving Value	DA	
AGP Fast Write	[Disabled]	
AGP Master 1 WS Write	[Disabled]	
AGP Master 1 WS Read	[Disabled]	
AGP 3.0 Calibration Cycle	[Enabled]	
VGA Share Memory Size	[32M]	

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

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 (4X)

Set this option to enable if you want the AGP bus to make use of the AGP 4X

transfer protocol to boost the AGP bus bandwidth. If it is set to disabled, then the AGP bus is only allowed to use the AGP 1X or AGP 2X transfer protocol.

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 Fast Write (Disabled)

This item lets you enable or disable the caching of display data for the video memory of the processor. Enabling this item can greatly improve the display speed. Disable this item if your graphics display card does not support this feature.

AGP Master 1 WS Write (Disabled)

This implements a single delay when writing to the AGP Bus. By default, two-wait states are used by the system, providing greater stability.

AGP Master 1 WS Read (Disabled)

This implements a single delay when reading to the AGP Bus. By default, two-wait states are used by the system, allowing for greater stability.

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.

VGA Share Memory Size (32M)

This item allows you to select the shared memory size for VGA usage.

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

► CPU & PCI Bus Control

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

Phoenix – AwardBIOS CMOS Setup Utility
CPU & PCI Bridge Control

		Item Help
PCI1 Master 0 WS Write	[Enabled]	
PCI2 Master 0 WS Write	[Enabled]	Menu Level ►
PCI1 Post Write	[Enabled]	
PCI2 Post Write	[Enabled]	
Vlink 8X Support	[Enabled	
PCI Delay Transaction	[Disabled]	

↑↓→←: 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, pro-
viding 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 be-
fore starting another write cycle.

Vlink 8X Support (Enabled)

The item is used to toggle the doubling of the V-Link bus' clock speed. When
set to enabled, the quad-pumped 8-bit V-Link bus will run at 133MHz, deliver-
ing a bandwidth of 533MB/s. When disabled, the V-Link bus will use a clock
speed of 66MHz.

PCI Delay Transaction (Disabled)

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 Features screen.

Integrated Peripherals

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

Phoenix – AwardBIOS CMOS Setup Utility
Integrated Peripherals

► VIA OnChip IDE Device	[Press Enter]	Item Help
► VIA OnChip PCI Device	[Press Enter]	
► Super I/O Device	[Press Enter]	Menu Level ►
Init Display First	[PCI Slot]	
USB Legacy Support	[Disabled]	

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

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 motherboard.

USB Legacy Support (Disabled)

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

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.

► VIA OnChip IDE Device

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

Phoenix – AwardBIOS CMOS Setup Utility
VIA OnChip IDE Device

OnChip IDE Channel 0		[Enabled]	Item Help
OnChip IDE Channel 1		[Enabled]	
Primary Master	PIO	[Auto]	Menu Level ►►
Primary Slave	PIO	[Auto]	
Secondary Master	PIO	[Auto]	
Secondary Slave	PIO	[Auto]	
Primary Master	UltraDMA	[Auto]	
Primary Slave	UltraDMA	[Auto]	
Secondary Master	UltraDMA	[Auto]	
Secondary Slave	UltraDMA	[Auto]	
IDE Burst Mode		[Enabled]	

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

On-Chip IDE Channel 0/1 (Enabled)

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

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.

Primary/Secondary Master/Slave UDMA (Auto)

Each IDE channel supports a master device and a slave device. This motherboard 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 motherboard in order to use an UltraDMA device.

IDE Burst Mode (Enabled)

This option, when enabled will instruct the system to send every write transaction to the write buffer. Burstable transactions then burst onto the PCI bus and nonburstable transactions do not.

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:

Phoenix – AwardBIOS CMOS Setup Utility
VIA OnChip PCI Device

		Item Help
AC97 Audio	[Enabled]	
Onchip USB Controller	[Enabled]	Menu Level ►►
USB 2.0 Support	[Enabled]	
USB Keyboard Support	[Disabled]	
USB Mouse Support	[Disabled]	
Onboard LAN Device	[Enabled]	
Onboard LAN Boot ROM	[Disabled]	

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

AC97 Audio (Enabled)

Enables and disables the onboard AC 97 audio function. Disable this item if you are going to install a PCI audio add-on card.

OnChip USB Controller (Enabled)

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

USB 2.0 Support (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.

Onboard LAN Device (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.

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

► SuperIO Device

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

Phoenix – AwardBIOS CMOS Setup Utility
SuperIO Device

Onboard FDC Controller	[Enabled]	Item Help
Onboard Serial Port 1	[3F8/IRQ4]	
Onboard Parallel Port	[378/IRQ7]	Menu Level ►►
Parallel Port Mode	[ECP]	
ECP Mode Use DMA	[3]	

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

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.

Power Management Setup

This option lets you control system power management. The system has various power-saving modes including powering down the hard disk, turning off the video, suspending to RAM, and software power down that allows the system to be automatically resumed by certain events.

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.

```
              Phoenix – AwardBIOS CMOS Setup Utility
                      Power Management Setup
┌─────────────────────────────────────────────┬───────────────────┐
│  ACPI function                  [Enabled]    │     Item Help     │
│  ACPI Suspend Type              [S1(POS)]    │                   │
│  Power Management Option        [User Define]│  Menu Level   ►   │
│  HDD Power Down                 [Disabled]   │                   │
│  Suspend Mode                   [Disabled]   │                   │
│  Video Off Option               [Suspend --> Off]                │
│  Video Off Method               [DPMS Support]                   │
│  MODEM Use IRQ                  [3]          │                   │
│  Soft-Off by PWRBTN             [Instant-Off]│                   │
│  Wakeup After PWR-Fail          [Auto]       │                   │
│  ► IRQ/Event Activity Detect    [Press Enter]│                   │
│                                              │                   │
│                                              │                   │
│                                              │                   │
└─────────────────────────────────────────────┴───────────────────┘
↑↓→←: Move   Enter : Select   +/-/PU/PD:Value:  F10: Save  ESC: Exit  F1:General
Help     F5:Previous Values       F6:Fail-Safe Defaults    F7:Optimized Defaults
```

ACPI Function (Enabled)

This motherboard 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.

ACPI Suspend Type (S1(POS))

Use this item to define how your system suspends. In the default, S1(POS), the suspend mode is equivalent to a software power down. If you select S3 (STR), the suspend mode is a suspend to RAM, i.e., the system shuts down with the exception of a refresh current to the system memory.

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 (Disabled)

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 (Disabled)

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 motherboard 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.

Wake up After PWR-Fail (Off)

Use this item to indicate what you expect to happen after a power failure has occurred.

► **IRQ/Event Activity Detect**

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

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

Phoenix – AwardBIOS CMOS Setup Utility
IRQ/Event Activity Detect

PS2KB Wakeup Select	[Hot key]	Item Help
PS2KB Wakeup from S1-S3	[Disabled]	
Power Button Lock	[Disabled]	Menu Level ►
PS2MS WakeUp from S1-S3	[Disabled]	
USB WakeUp from S1-S3	[Disabled]	
VGA	[OFF]	
LPT & COM	[LPT/COM]	
HDD & FDD	[ON]	
PCI Master	[OFF]	
PowerOn by PCI Card	[Enabled]	
WakeUp On LAN/RIng	[Disabled]	
RTC Alarm Resume	[Disabled]	
x Date (of Month)	0	
x Resume Time (hh:mm:ss)	0 0 0	
► IRQs Activity Monitoring	[Press Enter]	

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

PS2KB Wakeup Select (Hot key)

This option allows you to set hot key combination to turn on the system by keyboard.

PS2KB/MS Wakeup from S1-S3 (Disabled)

This option enables you to allow keyboard or mouse activity to awaken the system from power saving mode.

Power Button Lock (Disabled)

This option allows you to enable or disable the power button lock BIOS function.

USB Resume from S1-S3 (Disabled)

When set to Enabled, the system power will resume the system from a power saving mode if there is any USB port activity.

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.

Wake Up On LAN/Ring (Disabled)

Use this item to enable LAN or modem activity to wakeup the system from a power saving mode.

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

This screen enables you to set IRQs that will resume the system from a power saving mode.

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

Phoenix – AwardBIOS CMOS Setup Utility
IRQs Activity Monitoring

Primary INTR		[ON]	Item Help
IRQ 3	(COM2)	[Enabled]	
IRQ 4	(COM1)	[Enabled]	Menu Level ►►►
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

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

These options configure how PnP (Plug and Play) and PCI expansion cards oper-
ate in your system. Both the ISA and PCI buses on the Motherboard use system
IRQs (Interrupt ReQuests) and DMAs (Direct Memory Access). You must set up
the IRQ and DMA assignments correctly through the PnP/PCI Configurations
Setup utility for the motherboard to work properly. Selecting PnP/PCI Configura-
tions on the main program screen displays this menu:

Phoenix - AwardBIOS CMOS Setup Utility
PnP/PCI Configurations

PNP OS Installed	[No]	Item Help
Reset Configuration Data	[Disabled]	
		Menu Level ▶
Resources Controlled by	[Auto(ESCD)]	
x IRQ Resources	Press Enter	Default is Disabled.
		Select Enabled to reset
PCI/VGA Palette Snoop	[Disabled]	Extended System Con-
Assign IRQ For VGA	[Enabled]	figuration Data (ESCD)
Assign IRQ For USB	[Enabled]	when you exit Setup if you
		have installed a new add-
		on and the system recon-
		figuration has caused
		such a serious conflict
		that the OS cannot boot

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

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 ex-
pansion 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 motherboards 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
Smart Fan Control	[Disabled]	
CPU V-core		Menu Level ▶
+ 2.5V		
+ 3.3V		
+ 5V		
+ 12V		
Voltage Battery		
Current System Temp		
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.

Smart Fan Control (Disabled)

Enables you to adjust the fan rotational speed according to the processor temperature.

System Component Characteristics

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

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Frequency/Voltage 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.

Phoenix – AwardBIOS CMOS Setup Utility
Frequency/Voltage Control

		Item Help
DIMM Voltage Adjust	[Enabled]	
Auto Detect PCI/DIMM Clk	[Enabled]	Menu Level ►
Spread Spectrum Modulated	[Enabled]	
CPU Clock	[Default]	

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

DIMM Voltage Adjust (Enabled)

This item adjusts the voltage delivered to the DIMM memory.

Auto Detect PCI/DIMM 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 Clock (Default)

This item is used for overclocking only.

Load Fail-Safe Defaults

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

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 Supervisor/User Password

When this function is selected, the following message appears at the center of the screen to assist you in creating a password.

ENTER PASSWORD

Type the password, up to eight characters, and press <Enter>. The password typed now will clear any previously entered password from CMOS memory. You will be asked to confirm the password. Type the password again and press <Enter>. You may also press <Esc> to abort the selection.

To disable password, just press <Enter> when you are prompted to enter password. A message will confirm the password being disabled. Once the password is disabled, the system will boot and you can enter BIOS Setup freely.

PASSWORD DISABLED

If you have selected "**System**" in "Security Option" of "BIOS Features Setup" menu, you will be prompted for the password every time the system reboots or any time you try to enter BIOS Setup.

If you have selected "**Setup**" at "Security Option" from "BIOS Features Setup" menu, you will be prompted for the password only when you enter BIOS Setup.

Supervisor Password has higher priority than User Password. You can use Supervisor Password when booting the system or entering BIOS Setup to modify all settings. Also you can use User Password when booting the system or entering BIOS Setup but can not modify any setting if Supervisor Password is enabled.

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Save & Exit Setup

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.

This concludes Chapter 3. Refer to the next chapter for information on the software supplied with the motherboard.

Using the Motherboard Software

About the Software CD-ROM

The support software CD-ROM that is included in the motherboard package contains all the drivers and utility programs needed to properly run the bundled products. Below you can find a brief description of each software program, and the location for your motherboard version. More information on some programs is available in a README file, located in the same directory as the software.

Note: Never try to install software from a folder that is not specified for use with your motherboard.

Before installing any software, always inspect the folder for files named README.TXT, INSTALL.TXT, or something similar. These files may contain important information that is not included in this manual.

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

The Auto-install CD-ROM makes it easy for you to install the drivers and software for your motherboard.

Note: If the Auto-install CD-ROM does not work on your system, you can still install drivers through the file manager for your OS (for example, Windows Explorer). Refer to Utility Folder Installation Notes later in this chapter.

The support software CD-ROM disc loads automatically under Windows 98/ME/2000/XP. When you insert the CD-ROM disc in the CD-ROM drive, the autorun feature will automatically bring up the install screen. The screen has three buttons on it, Setup, Browse CD and Exit.
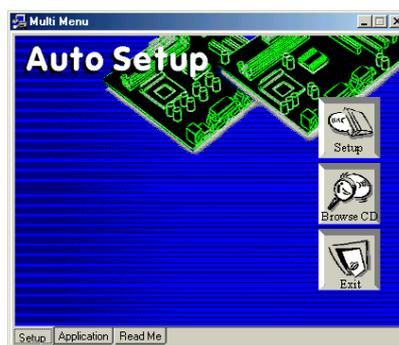
Note: If the opening screen doesn't appear, double-click the file "setup.exe" in the root directory.

Setup Tab

Setup	Click the **Setup** button to run the software installation program. Select from the menu which software you want to install.
Browse CD	The **Browse CD** button is the standard Windows command that allows you to open Windows Explorer and show the contents of the support CD.
	Before installing the software from Windows Explorer, look for a file named README.TXT, INSTALL.TXT or something similar. This file may contain important information to help you install the software correctly.
	Some software is installed in separate folders for different operating systems, such as DOS, WIN NT, or WIN98/95. Always go to the correct folder for the kind of OS you are using.
	To install the software, execute a file named SETUP.EXE or INSTALL.EXE by double-clicking the file and then following the instructions on the screen.
Exit	The **Exit** button closes the Auto Setup window.

Application Tab

Lists the software utilities that are available on the CD.

Read Me Tab

Displays the path for all software and drivers available on the CD.

Running Setup

Follow these instructions to install device drivers and software for the motherboard:

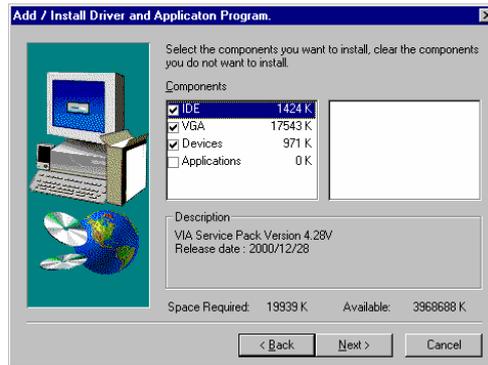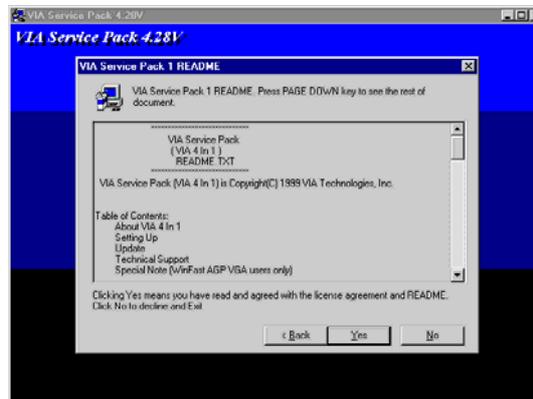1.   Click Setup. The installation program begins:

The motherboard identification is located in the upper left-hand corner.

2.   Click **Next**. The following screen appears:

3.   Check the box next to the items you want to install. The default options are recommended.

4.   Click **Next** run the Installation Wizard. An item installation screen appears:

5.   Follow the instructions on the screen to install the items.

Drivers and software are automatically installed in sequence. Follow the on-screen instructions, confirm commands and allow the computer to restart a few times to complete the installation.

Manual Installation

Insert the CD in the CD-ROM drive and locate the PATH.DOC file in the root directory. This file contains the information needed to locate the drivers for your motherboard.

Look for the chipset and motherboard model; then browse to the directory and path to begin installing the drivers. Most drivers have a setup program (SETUP.EXE) that automatically detects your operating system before installation. Other drivers have the setup program located in the operating system subfolder.

If the driver you want to install does not have a setup program, browse to the operating system subfolder and locate the readme text file (README.TXT or README.DOC) for information on installing the driver or software for your operating system.

Utility Software Reference

All the utility software available from this page is Windows compliant. They are provided only for the convenience of the customer. The following software is furnished under license and may only be used or copied in accordance with the terms of the license.

> **Note:** These software(s) are subject to change at anytime without prior notice. Please refer to the support CD for available software.

AWARD Flash Memory Utility

This utility lets you erase the system BIOS stored on a Flash Memory chip on the motherboard, and lets you copy an updated version of the BIOS to the chip. Proceed with caution when using this program. If you erase the current BIOS and fail to write a new BIOS, or write a new BIOS that is incorrect, your system will malfunction. Refer to Chapter 3, *Using BIOS* for more information.

WinFlash Utility

The Award WinFlash utility is a Windows version of the DOS Award BIOS flash writer utility. The utility enables you to flash the system BIOS stored on a Flash Memory chip on the motherboard while in a Windows environment. This utility is currently available for WINXP\ME\2000\98SE. To install the WinFlash utility, run WINFLASH.EXE from the following directory:
\UTILITY\WINFLASH 1.51

PC-CILLIN 2002

The PC-CILLIN 2002 software program provides anti-virus protection for your system. This program is available for Windows 2000/ME/98SE/XP and Windows NT. Be sure to check the readme.txt and install the appropriate anti-virus software for your operating system.

We strongly recommend users to install this free anti-virus software to help protect your system against viruses.

This concludes Chapter 4.