

# Preface

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Version 1.0La

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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 Règlement sur le matériel brouilleur du Canada.

## About the Manual

The manual consists of the following:

<b>Chapter 1</b> <b>Introducing the Motherboard</b>	Describes features of the motherboard, and provides a shipping checklist.  Go to ➡ page 1
<b>Chapter 2</b> <b>Installing the Motherboard</b>	Describes installation of motherboard components.  Go to ➡ page 7
<b>Chapter 3</b> <b>Using BIOS</b>	Provides information on using the BIOS Setup Utility.  Go to ➡ page 26
<b>Chapter 4</b> <b>Using the Motherboard Software</b>	Describes the motherboard software.  Go to ➡ page 50

## Features Translations

### Caractéristiques

<b>Processeur</b>	<p>La carte mère utilise un Socket A AMD 462 broches présentant les caractéristiques suivantes:</p> <ul style="list-style-type: none"> <li>• Supporte un bus frontal (FSB) de 400/333/266/200 MHz</li> <li>• Peut recevoir les CPU AMD Athlon XP/Sempron/Athlon/Duron</li> <li>• Transfert DDR (Double Data Rate) 200/166/133 MHz sur adresse CPU AMD Athlon XP/Sempron/Athlon/Duron et bus de données</li> </ul> <p><b>Remarque :</b> Il est conseillé d'utiliser AMD Athlon XP ou CPU de niveau plus élevé pour assurer que la fonction "Diode Thermique" fonctionne correctement.</p>															
<b>Chipset</b>	<p>Le chipset sur cette carte mère comprend le chipset KT600 Northbridge combiné avec le chipset VT8237 Southbridge. Le tableau ci-dessous explique brièvement certaines des caractéristiques avancées du chipset.</p> <table> <tr> <th>Chipset</th><th>Caractéristiques</th></tr> <tr> <td rowspan="5"><b>KT600 NB</b></td><td>Transfert DDR (Double Data Rate) 200/166/133 MHz sur adresse CPU AMD Athlon XP/Sempron/Athlon/Duron et bus de données</td></tr> <tr> <td>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</td></tr> <tr> <td>Supporte une interface d'Hôte V-Link 66 MHz avec une bande passante de pointe de 533Mo/sec.</td></tr> <tr> <td>Prend en charge l'interface 2.5V à alimentation séparée sur mémoire système et l'interface 1.5V sur AGP.</td></tr> <tr> <td>Prend en charge la DRAM synchrone à double vitesse DDR400, DDR333 et DDR266.</td></tr> <tr> <td rowspan="6"><b>VT8237 SB</b></td><td>Supporte une interface Client V-Link 16-bit 66 MHz avec une bande passante totale de 1066 Mo/sec.</td></tr> <tr> <td>Contrôleur ATA Série de canal double.</td></tr> <tr> <td>Supporte à la fois la gestion d'alimentation ACPI (Advanced Configuration and Power Interface) et legacy (APM).</td></tr> <tr> <td>Contrôleur EIDE de mode maître UltraDMA-33/66/100/133 de Canal double.</td></tr> <tr> <td>Contrôleur USB 2.0 intégré avec quatre hubs racine et huit ports de fonction.</td></tr> <tr> <td>Fonctionnement full et half duplex en 1/10/100 MHz.</td></tr> </table>	Chipset	Caractéristiques	<b>KT600 NB</b>	Transfert DDR (Double Data Rate) 200/166/133 MHz sur adresse CPU AMD Athlon XP/Sempron/Athlon/Duron et bus de données	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.	Prend en charge l'interface 2.5V à alimentation séparée sur mémoire système et l'interface 1.5V sur AGP.	Prend en charge la DRAM synchrone à double vitesse DDR400, DDR333 et DDR266.	<b>VT8237 SB</b>	Supporte une interface Client V-Link 16-bit 66 MHz avec une bande passante totale de 1066 Mo/sec.	Contrôleur ATA Série de canal double.	Supporte à la fois la gestion d'alimentation ACPI (Advanced Configuration and Power Interface) et legacy (APM).	Contrôleur EIDE de mode maître UltraDMA-33/66/100/133 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.
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<b>Mémoire</b>	<ul style="list-style-type: none"> <li>• Prend en charge le module mémoire SDRAM DDR allant jusqu'à DDR266/333/400</li> <li>• Peut recevoir deux logements sans mémoire tampon en 2.5V de 184 broches.</li> <li>• Chaque logement supporte jusqu'à 1 Go avec une capacité maximum totale de 3 Go. (DDR 400 jusqu'à 2 Go seulement)</li> </ul>
<b>Graphique</b>	Cette carte mère comprend un logement AGP qui offre huit fois la bande passante des spécifications AGP d'origine. L'AGP 3.0 (8xAGP) offre une amélioration significative de performances accompagnée d'améliorations de fonctionnalités sur l'AGP2.0. Cette interface représente l'évolution naturelle de l'AGP existante pour répondre à une demande toujours croissante d'interfaces graphiques en environnements de station de travail et de bureau.
<b>Codec Audio AC'97</b>	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.
<b>Options d'Extensions</b>	La KT600-A offre quatre slots 32 bits PCI, un logement AGP (supportant seulement la carte AGP 1.5V) et logement CNR (Communications and Networking Riser). Elle supporte la maîtrise de bus Ultra DMA avec des vitesses de transfert de 33/66/100/133 Mo/sec.
<b>LAN Interne (optionnel)</b>	<p>Le VT6103 est un périphérique à Couche Physique pour Ethernet 10BASE-T et 100BASE-TX utilisant des câbles Non blindés de catégorie 5, Blindés de Type 1, et à Fibres Optiques.</p> <ul style="list-style-type: none"> <li>• Double Vitesse – 100/10 Mbps</li> <li>• Half et Full Duplex</li> <li>• Conforme à tous les Standards IEEE 802.3, 10Base-T et 100Base-Tx Applicables</li> <li>• Egaliseur Adaptatif</li> </ul>
<b>E/S Intégrées</b>	<p>La carte mère possède un jeu complet de ports d'E/S et de connecteurs:</p> <ul style="list-style-type: none"> <li>• Deux ports PS/2 pour souris et clavier</li> <li>• Deux port série</li> <li>• Un port parallèle</li> <li>• Quatre ports USB (USB 2.0)</li> <li>• Prises audio pour microphone, ligne d'entrée et ligne de sortie</li> </ul>
<b>Microprogramme BIOS</b>	<p>Cette carte mère utilise Award BIOS qui permet aux utilisateurs de configurer de nombreuses caractéristiques du système comprenant les suivantes:</p> <ul style="list-style-type: none"> <li>• Gestion d'alimentation</li> <li>• Alarmes de réveil</li> <li>• Paramètres de CPU</li> </ul>

- |  |   |
|--|---|
|  | <ul style="list-style-type: none"><li>• Synchronisation de CPU et de mémoire</li></ul> <p>Le microprogramme peut aussi être utilisé pour définir les paramètres pour les vitesses d'horloges de différents processeurs.</p> |
|--|---|



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

## Funktionen

<b>Prozessor</b>	<p>Das Mainboard verwendet einen AMD 462-Pin Sockel A mit den folgenden Eigenschaften:</p> <ul style="list-style-type: none"> <li>• Unterstützt 400/333/266/200 MHz Frontsidebus (FSB)</li> <li>• Nimmt AMD Athlon XP/Sempron/Athlon/Duron -CPU auf.</li> <li>• 200/166/133 MHz DDR (Double Data Rate) Transfer auf AMD Athlon XP/Sempron/Athlon/Duron CPU-Adressen- und Datenbussen</li> </ul> <p><b>Hinweis:</b> Die Verwendung einer CPU vom Typ AMD Athlon XP oder höher wird empfohlen, damit die Funktion „Thermische Diode“ richtig funktioniert.</p>															
<b>Chipsatz</b>	<p>Der Chipsatz dieses Motherboards verfügt über die KT600 Northbridge, die mit der VT8237 Southbridge verbunden ist. In der untenstehenden Tabelle werden einige der fortschrittlichen Funktionen des Chipsatzes kurz vorgestellt:</p> <table border="1"> <thead> <tr> <th>Chipsatz</th><th>Funktionen</th></tr> </thead> <tbody> <tr> <td rowspan="5"><b>KT600 NB</b></td><td>200/166/133 MHz DDR (Double Data Rate) Transfer auf AMD Athlon XP/Sempron/Athlon/Duron CPU-Adressen- und Datenbussen</td></tr> <tr> <td>Volle Unterstützung für Accelerated Graphics Port (AGP)-Controller (Unterstützung der Transfermodi 533 MHz 8x, 266 MHz 4x und 133 MHz 2x für Ad und SBA-Signaling).</td></tr> <tr> <td>Unterstützt 66MHz V-Link Host-Interface mit einer maximalen Bandbreite von 533 MB/Sek.</td></tr> <tr> <td>Unterstützt separate Spannungsversorgung für 2.5 Volt Interface to System Memory und 1.5 Volt Interface to AGP</td></tr> <tr> <td>Unterstützt DDR400, DDR333 und DDR266 Double Data Rate Synchronous DRAM.</td></tr> <tr> <td rowspan="6"><b>VT8237 SB</b></td><td>Unterstützt 16-Bit 66 MHz V-Link Client-Interface mit einer totalen Bandbreite von 1066 MB/Sek.</td></tr> <tr> <td>Dualkanal Serial ATA -Controller.</td></tr> <tr> <td>Unterstützt ACPI (Advanced Configuration and Power Interface) und Legacy (APM)-Energieverwaltung.</td></tr> <tr> <td>Dualkanal-UltraDMA-33/66/100/133 Master Mode EIDE-Controller.</td></tr> <tr> <td>Onboard-USB 2.0-Controller mit vier Root Hub und acht Port.</td></tr> <tr> <td>1/10/100 MHz Voll/Halbduplexbetrieb.</td></tr> </tbody> </table>	Chipsatz	Funktionen	<b>KT600 NB</b>	200/166/133 MHz DDR (Double Data Rate) Transfer auf AMD Athlon XP/Sempron/Athlon/Duron CPU-Adressen- und Datenbussen	Volle Unterstützung für Accelerated Graphics Port (AGP)-Controller (Unterstützung der Transfermodi 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.	Unterstützt separate Spannungsversorgung für 2.5 Volt Interface to System Memory und 1.5 Volt Interface to AGP	Unterstützt DDR400, DDR333 und DDR266 Double Data Rate Synchronous DRAM.	<b>VT8237 SB</b>	Unterstützt 16-Bit 66 MHz V-Link Client-Interface mit einer totalen Bandbreite von 1066 MB/Sek.	Dualkanal Serial ATA -Controller.	Unterstützt ACPI (Advanced Configuration and Power Interface) und Legacy (APM)-Energieverwaltung.	Dualkanal-UltraDMA-33/66/100/133 Master Mode EIDE-Controller.	Onboard-USB 2.0-Controller mit vier Root Hub und acht Port.	1/10/100 MHz Voll/Halbduplexbetrieb.
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<b>Speicher</b>	<ul style="list-style-type: none"> <li>• Unterstützt bis zu DDR266/333/400 DDR SDRAM Speichermodule</li> <li>• Nimmt zwei ungepufferte 2.5V 184-Pin Steckplätze auf</li> <li>• Jeder Steckplatz unterstützt bis zu 1 GB mit einer maximalen Gesamtkapazität von 3 GB (DDR 400 bis zu 2 GB)</li> </ul>															
<b>Graphic</b>	Dieses Motherboard enthält einen AGP-Steckplatz, der															

	gegenüber der ursprünglichen AGP-Spezifikation über die achtfache Bandbreite verfügt. AGP 3.0 (8xAGP) bietet gegenüber AGP 2.0 eine erhebliche Leistungssteigerung und verbesserte Features. Dieses Interface stellt die natürliche Evolution des bestehenden AGP dar, um den stetig anwachsenden Anforderungen an die Grafikschnittstellen innerhalb der Workstations und Desktop-Umgebungen gerecht zu werden.
<b>AC' 97 Audio Codec</b>	Der ALC655 ist kompatibel mit der AC'97 2.3-Spezifikation 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-Schaltkreis wird von einem 5 V / 3.3 V-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.
<b>Erweiterungsoptionen</b>	Das KT600-A verfügt über vier 32-Bit PCI-Steckplätze, einen AGP-Steckplatz (unterstützt nur 1.5V 4x AGP-Karte) und einen CNR (Communications and Networking Riser)-Steckplatz.  Es unterstützt Ultra DMA Bus-Mastering mit Übertragungsraten von 33/66/100/133 MB/s.
<b>Onboard-LAN (optional)</b>	Das VT6103 ist ein Physical-Layer-Gerät für Ethernet 10BASE-T und 100BASE-TX bei Benutzung von nicht abgeschirmten Kategorie 5-Kabeln, abgeschirmten Typ 1-Kabeln und Glasfaserkabeln. <ul style="list-style-type: none"> <li>• Zwei Geschwindigkeiten – 100/10 Mbps/Sek.</li> <li>• Halb- und Vollduplex</li> <li>• Entspricht allen geltenden IEEE 802.3, 10Base-T und 100Base-Tx-Standards</li> <li>• Einstellbarer Equalizer</li> </ul>
<b>Integrierte I/O</b>	Das Mainboard verfügt über einen kompletten Satz von I/O-Schnittstellen und Anschlüssen: <ul style="list-style-type: none"> <li>• Zwei PS/2-Schnittstellen für Maus und Tastatur</li> <li>• Zwei serielle Schnittstelle</li> <li>• Eine parallele Schnittstelle</li> <li>• Vier USB-Schnittstellen (USB2.0)</li> <li>• Audiobuchsen für Mikrofon, Line-in und Line-out</li> </ul>
<b>BIOS Firmware</b>	Dieses Motherboard setzt das Award BIOS ein, mit dem der Anwender viele Systemeigenschaften selbst konfigurieren kann, einschließlich der folgenden: <ul style="list-style-type: none"> <li>• Energieverwaltung</li> <li>• Wake-up Alarm</li> <li>• CPU-Parameter</li> <li>• CPU- und Speichertiming</li> </ul> Mit der Firmware können auch die Parameter für verschiedene Prozessortaktgeschwindigkeiten eingestellt werden.



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

## Caratteristiche

<b>Processore</b>	<p>La scheda madre è dotata di un socket A AMD a 462 pin che presenta le seguenti caratteristiche:</p> <ul style="list-style-type: none"> <li>• Supporta il bus di sistema 400/333/266/200 MHz frontside (FSB)</li> <li>• Compatibile con CPU AMD Athlon XP/Sempron/Athlon/Duron</li> <li>• Trasferimento 200/166/133 MHz DDR (Double Data Rate) su i bus dati e indirizzo AMD Athlon XP/Sempron/Athlon/Duron CPU</li> </ul> <p><b>Note:</b> Si raccomanda l'uso di una CPU AMD Athlon XP o superiore per garantire il funzionamento corretto della funzione "Diodo termico".</p>															
<b>Chipset</b>	<p>Il chipset è composto dai chipset Northbridge KT600 e Southbridge VT8237. La tabella sottostante presenta una panoramica delle funzioni avanzate del chipset:</p> <table border="1"> <thead> <tr> <th>Chipset</th><th>Funzioni</th></tr> </thead> <tbody> <tr> <td rowspan="5"><b>KT600 NB</b></td><td>Trasferimento 200/166/133 MHz DDR (Double Data Rate) su i bus dati e indirizzo AMD Athlon XP/Sempron/Athlon/Duron CPU</td></tr> <tr> <td>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.</td></tr> <tr> <td>Supporto interfaccia Host 66 MHz V-Link con larghezza di banda sino a 533MB/sec.</td></tr> <tr> <td>Supporto separato dell'interfaccia a 2.5V per la memoria di sistema e l'interfaccia 1.5V per AGP.</td></tr> <tr> <td>Supporto della RAM sincrona double data DDR400, DDR333 e DDR266.</td></tr> <tr> <td rowspan="6"><b>VT8237 SB</b></td><td>Supporto Dell'interfaccia Client V-Link a 16bit 66 MHz con larghezza di banda totale pari a 1066 MB/sec.</td></tr> <tr> <td>Controller Seriale a ATA a doppio canale.</td></tr> <tr> <td>Supporto sia degli standard ACPI (Advanced Configuration and Power Interface) e APM per la gestione del consumo energetico.</td></tr> <tr> <td>Controller EIDE master mode a doppio canale UltraDMA-33/66/100/133.</td></tr> <tr> <td>Controller USB 2.0 Integrato con quattro hub root e otto porte funzionanti.</td></tr> <tr> <td>Operazioni full e half duplex a 1/10/100 MHz.</td></tr> </tbody> </table>	Chipset	Funzioni	<b>KT600 NB</b>	Trasferimento 200/166/133 MHz DDR (Double Data Rate) su i bus dati e indirizzo AMD Athlon XP/Sempron/Athlon/Duron CPU	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.	Supporto separato dell'interfaccia a 2.5V per la memoria di sistema e l'interfaccia 1.5V per AGP.	Supporto della RAM sincrona double data DDR400, DDR333 e DDR266.	<b>VT8237 SB</b>	Supporto Dell'interfaccia Client V-Link a 16bit 66 MHz con larghezza di banda totale pari a 1066 MB/sec.	Controller Seriale a ATA a doppio canale.	Supporto sia degli standard ACPI (Advanced Configuration and Power Interface) e APM per la gestione del consumo energetico.	Controller EIDE master mode a doppio canale UltraDMA-33/66/100/133.	Controller USB 2.0 Integrato con quattro hub root e otto porte funzionanti.	Operazioni full e half duplex a 1/10/100 MHz.
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<b>Memory</b>	<ul style="list-style-type: none"> <li>• Supporto per modulo memoria SDRAM con DDR fino a 266/333/400 MHz</li> <li>• Presenza di due slot a 184 pin unbuffered 2.5V</li> <li>• Ogni slot supporta sino ad un 1 GB con una capacità massima pari a 3 GB (supporto DDR 400 limitato a 2 GB)</li> </ul>															
<b>Graphic</b>	<p>Questa scheda madre possiede uno slot AGP slot in grado di garantire una larghezza di banda otto volte superiore rispetto a quella prevista dalle specifiche dello standard AGP originale..</p>															



	La tecnologia AGP 3.0 (8xAGP) offre un miglioramento marcato delle prestazioni assieme al miglioramento delle funzioni rispetto ad AGP 2.0. Questa interfaccia rappresenta l'evoluzione naturale dell'interfaccia AGP esistente per soddisfare le richieste sempre maggiori poste alle interfacce grafiche negli ambienti desktop e workstation.
<b>AC' 97 Audio Codec</b>	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.
<b>Opzioni di espansione</b>	La KT600-A presenta di quattro porte PCI a 32 bit ed uno slot AGP (compatibile solamente con la scheda 4x AGP 1,5V) ed uno slot CNR (Communications and Networking Riser). Supporta la gestione di canali Ultra DMA con transfert rate pari a 33/66/100/133 MB/sec.
<b>LAN integrata (opzionale)</b>	La scheda VT6103 è un dispositivo Physical Layer per Ethernet 10BASE-T e 100BASE-TX che usa cavi della categoria 5 non schermati, Tipo 1 schermati e ottici. <ul style="list-style-type: none"> <li>• Dual Speed – 100/10 Mbps</li> <li>• Half e Full Duplex</li> <li>• Conforme a tutti gli standard applicabili IEEE 802.3, 10Base-T e 100Base-Tx</li> <li>• Equalizzatore adattivo</li> </ul>
<b>I/O integrati</b>	La scheda madre è dotata di un set completo di connettori e porte I/O: <ul style="list-style-type: none"> <li>• Due porte PS/2 per mouse e tastiera</li> <li>• Due porta seriale</li> <li>• Una porta parallela</li> <li>• Quattro porte USB (USB2.0)</li> <li>• Jack audio per microfono e connettori ingresso/uscita Line</li> </ul>
<b>BIOS</b>	Questa scheda madre utilizza il BIOS Award che permette all'utente di configurare numerose caratteristiche del sistema tra cui le seguenti: <ul style="list-style-type: none"> <li>• Risparmio energetico</li> <li>• Segnali Wake Up</li> <li>• Parametri della CPU</li> <li>• Timing della memoria e della CPU</li> </ul> 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.

## Características

<b>Procesador</b>	<p>El panel principal usa un AMD 462-pin Enchufe A que tiene las siguientes características:</p> <ul style="list-style-type: none"> <li>• Permite 400/333/266/200 MHz bus de lado frontal (FSB)</li> <li>• Acomoda una CPU AMD Athlon XP/Sempron/Athlon/Duron</li> <li>• Transferencia de 200/166/133 MHz DDR (Double Data Rate/Índice de Datos Doble) en dirección AMD Athlon XP/Sempron/Athlon/Duron CPU y buses de datos</li> </ul> <p><b>Nota:</b> Se recomienda que usted use AMD Athlon XP u otra CPU de nivel superior para asegurarse de que la función “Diodo Termal” trabajará adecuadamente.</p>															
<b>Chipset</b>	<p>El chipset en esta placa principal incluye la KT600 Northbridge combinado con el chipset VT8237 Southbridge. La tabla abajo explica algunas de las características avanzadas del chipset:</p> <table> <tr> <th>Chipset</th><th>Características</th></tr> <tr> <td rowspan="5"><b>KT600 NB</b></td><td>Transferencia de 200/166/133 MHz DDR (Double Data Rate/Índice de Datos Doble) en dirección AMD Athlon XP/Sempron/Athlon/Duron CPU y buses de datos</td></tr> <tr> <td>Controlador de Puerto de Gráficas Acelerado (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>Soporta la interfaz con suministro de 2.5V para la memoria del sistema y la interfaz de 1.5V para el AGP por separado.</td></tr> <tr> <td>Soporta DRAM sincrónico de índice de datos doble en DDR400, DDR333 y DDR266.</td></tr> <tr> <td rowspan="6"><b>VT8237 SB</b></td><td>Soporta la interfaz 16-bit 66 MHz V-Link Client con ancha de banda total de 1066 MB/seg.</td></tr> <tr> <td>Controlador ATA de serie 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> <tr> <td>Controlador EIDE del modo máster UltraDMA-33/66/100/133 de canal dual.</td></tr> <tr> <td>Controlador USB 2.0 integrado con cuatro hubs de raíz y ocho puertos de función.</td></tr> <tr> <td>Operación de duplex medio y completo de 1/10/100 MHz.</td></tr> </table>	Chipset	Características	<b>KT600 NB</b>	Transferencia de 200/166/133 MHz DDR (Double Data Rate/Índice de Datos Doble) en dirección AMD Athlon XP/Sempron/Athlon/Duron CPU y buses de datos	Controlador de Puerto de Gráficas Acelerado (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.	Soporta la interfaz 66 MHz V-Link Host con ancha de banda pico de 533MB/seg.	Soporta la interfaz con suministro de 2.5V para la memoria del sistema y la interfaz de 1.5V para el AGP por separado.	Soporta DRAM sincrónico de índice de datos doble en DDR400, DDR333 y DDR266.	<b>VT8237 SB</b>	Soporta la interfaz 16-bit 66 MHz V-Link Client con ancha de banda total de 1066 MB/seg.	Controlador ATA de serie de canal dual.	Soporta ambos ACPI (Configuración Avanzada e Interfaz de Suministro) y administración de suministro de legado (APM).	Controlador EIDE del modo máster UltraDMA-33/66/100/133 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.
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<b>Memoria</b>	<ul style="list-style-type: none"> <li>• Soporta el módulo de memoria de DDR266/333/400 DDR SDRAM</li> <li>• Adecua dos ranuras no reservadas 2.5V 184-pin</li> <li>• Cada ranura permite hasta 1 GB con una capacidad máxima total de 3 GB (DDR 400 hasta 2 GB solamente)</li> </ul>															

<b>Gráficas</b>	Esta placa principal incluye una ranura AGP que provee ocho tiempos de amplitud de la especificación original AGP. La AGP 3.0 (8xAGP) ofrece un aumento significativo en funcionamiento junto con características mejoradas para AGP2.0. Esta interfaz representa la evolución natural de la ya existente AGP para hacer frente a las demandas siempre en aumento centradas en las interfaces de gráficos dentro de estaciones de trabajo y ámbitos de computadoras.
<b>El Codec AC' 97 Audio</b>	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 convertor 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 productos electrónicos. Otras características incluyen soporte para cuatro entradas estereofónicas a nivel de línea analógica.
<b>Opciones de Expansión</b>	El KT600-A provee cuatro ranuras PCI de 32-bit una ranura AGP (permite solo tarjeta 1.5V AGP) y ranura CNR (Comunicaciones y Contrahuella de Red).  Permite bus de control Ultra DMA con valor de transferencia de 33/66/100/133 MB/por segundo.
<b>LAN Incorporada (opcional)</b>	La VT6103 es un componente Estrato Físico para Ethernet 10BASE-T y 100BASE-TX usando categoría 5 no blindado, Tipo 1 Blindado, y cables de Fibra óptica. <ul style="list-style-type: none"> <li>• Velocidad Doble – 100/10 Mbps</li> <li>• Bidireccional Total y Medio</li> <li>• Reúne Todo lo Apropiado IEEE 802.3, 10Base-T y 100Base-Tx Convencionales</li> <li>• Ecuilizador adaptable</li> </ul>
<b>I/O Integrado</b>	El tablero principal tiene un set completo de puertos de Entrada/Salida y conectores: <ul style="list-style-type: none"> <li>• Dos puertos PS/2 para ratón y teclado</li> <li>• Dos puerto de serie</li> <li>• Un puerto paralelo</li> <li>• Cuatro puertos USB (USB2.0)</li> <li>• Enchufes de audio para micrófono, línea de entrada y línea de salida</li> </ul>
<b>BIOS Firmware</b>	Este panel principal usa el Award BIOS que posibilita a los usuarios configurar muchas características de sistema incluidas las siguientes: <ul style="list-style-type: none"> <li>• Administración de potencia</li> <li>• Alarmas despertadoras</li> <li>• Parámetros de temporizador CPU</li> <li>• Sincronización de CPU y de Memoria</li> </ul> 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.

## 製品特徴

プロセッサ	<p>当メインボードは ADM 462 ピンソケットを搭載し、次の特長があります：</p> <ul style="list-style-type: none"> <li>400/333/266/200 MHz フロントサイドバス (FSB) をサポートします</li> <li>AMD Athlon XP/Sempron/Athlon/Duron CPU に対応</li> <li>AMD Athlon XP/Sempron/Athlon/Duron CPU のアドレスバスとデータバスを 200/166/133 MHz DDR (Double Data Rate) の転送率でサポート。</li> </ul> <p><b>メモ：</b>“Termal Diode” 機能を正しく作動させるために、AMD Athlon XP またはそれ以上の CPU のご使用をお勧めします。</p>														
チップセット	<p>当マザーボードに搭載されているチップセットは、KT600 Northbridge と VT8237 Southbridge とを備え、下表に示される先進な機能をお届けします。</p> <table border="1"> <thead> <tr> <th>チップセット名</th><th>機能</th></tr> </thead> <tbody> <tr> <td rowspan="5">KT600 NB</td><td>AMD Athlon XP/Sempron/Athlon/Duron CPU のアドレスバスとデータバスを 200/166/133 MHz DDR (Double Data Rate) の転送率でサポート。</td></tr> <tr> <td>全機能の AGP (Accelerated Graphics Port) コントローラーを搭載し、533 MHz 8x や 266 MHz 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。</td></tr> <tr> <td>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。</td></tr> <tr> <td>システムメモリ用の 2.5V インターフェースと、AGP 用の 1.5V インターフェースとを別々に備えてサポート。</td></tr> <tr> <td>DDR400 と、DDR333、DDR266 との DDR SDRAM (double data rate synchronous DRAM) をサポート。</td></tr> <tr> <td rowspan="5">VT8237 SB</td><td>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。</td></tr> <tr> <td>二重チャネルシリアル ATA/コントローラーを搭載。</td></tr> <tr> <td>ACPI (Advanced Configuration and Power Interface) と従来の (APM) 電源管理機能をサポート。</td></tr> <tr> <td>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。</td></tr> <tr> <td>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。</td></tr> </tbody> </table>	チップセット名	機能	KT600 NB	AMD Athlon XP/Sempron/Athlon/Duron CPU のアドレスバスとデータバスを 200/166/133 MHz DDR (Double Data Rate) の転送率でサポート。	全機能の AGP (Accelerated Graphics Port) コントローラーを搭載し、533 MHz 8x や 266 MHz 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。	システムメモリ用の 2.5V インターフェースと、AGP 用の 1.5V インターフェースとを別々に備えてサポート。	DDR400 と、DDR333、DDR266 との DDR SDRAM (double data rate synchronous DRAM) をサポート。	VT8237 SB	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/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。	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。	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。
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	1/10/100 MHz の全/半二重動作が可能。
メモリー	<ul style="list-style-type: none"> <li>最大 DDR266/333/400 までの DDR SDRAM メモリモジュールをサポート</li> <li>2つの非バッファ2.5V184 ピン仕様のスロットを収納</li> <li>各スロットはメモリーを 1 GB まで、トータルで 3GB までサポートします。(DDR 400 の場合は、最大 2 GB まで)</li> </ul>
グラフィック	本マザーボードは、従来の AGP 仕様の 8 倍のバンド幅を提供することができる AGP スロットが含まれています。AGP3.0 (8xAGP) は、ワークステーションやデスクトップ環境において、より優れたグラフィックインターフェースのニーズに対応するために誕生したもので、既存の AGP 機能をさらに進化させ、AGP2.0 よりパワーアップしたパフォーマンスおよび機能を提供します。
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、様々な CODEC 拡張機能をサポートしながら、独立の変換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/3.3V 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 4 つの 32 ビット PCI スロット、APG スロット (1.5V AGP カードのみ対応) と CNR (通信及びネットワークアダプター、オプション) 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 (オプション)	<p>VT6103 はカテゴリ 5 案シールド、Type 1 シールド、光ファイバーケーブルを使う Ethernet 10BASE-T と 100BASE-TX のための物理レイヤーです。</p> <ul style="list-style-type: none"> <li>デュアルスピード – 100/10 Mbps</li> <li>半/全二重</li> <li>すべての IEEE 802.3、10Base-T、100Base-Tx 標準に対応</li> <li>適応エコライザ</li> </ul>
統合された入出力ポート	<p>このメインボードにはフルセットの I/O ポートおよびコネクタが搭載しています。</p> <ul style="list-style-type: none"> <li>2つのマウスおよびキーボード向け PS/2 ポート</li> <li>2つのシリアルポート</li> <li>1つのパラレルポート</li> <li>4つの USB ポート (USB2.0)</li> <li>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</li> </ul>
BIOS ファームウェア	<p>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：</p> <ul style="list-style-type: none"> <li>電源管理</li> </ul>

	<ul style="list-style-type: none"> <li>• Wake-up 警告</li> <li>• CPU パラメータ</li> <li>• CPU およびメモリのタイミング</li> </ul> <p>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。</p>
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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。

기능

프로세서	이 메인보드는 AMD 462 핀 소켓 A 를 사용하며 다음과 같은
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	<p>특징을 지닌다:</p> <ul style="list-style-type: none"> <li>400/333/266/200 MHz frontside bus (FSB) 지원</li> <li>AMD Athlon XP/Sempron/Athlon/Duron CPU 를 사용한다.</li> <li>AMD Athlon XP/Sempron/Athlon/Duron CPU 어드레스 및 데이터 버스에서의 200/166/133 MHz DDR (Double Data Rate) 전송</li> </ul> <p><b>Note:</b> “ 열 다이오드 ” 기능이 적절히 기능하도록 AMD Athlon XP 또는 그 이상의 CPU 사용을 권장 함.</p>															
칩셋	<p>본 마더보드에 있는 칩셋은 KT600 Northbridge 와 VT8237 Southbridge 칩셋을 조합한다. 아래 표는 칩셋의 고급 기능을 간단히 설명한다.</p> <table border="1"> <thead> <tr> <th>칩셋</th><th>특징</th></tr> </thead> <tbody> <tr> <td rowspan="5">KT600 NB</td><td>AMD Athlon XP/Sempron/Athlon/Duron CPU 어드레스 및 데이터 버스에서의 200/166/133 MHz DDR (Double Data Rate) 전송</td></tr> <tr> <td>Ad 와 SBA 시그널링을 위해 533 MHz 8x, 266 MHz 4x, 및 133 MHz 2x 전송 모드를 지원하는 고급의 Accelerated Graphics Port (AGP) 컨트롤러.</td></tr> <tr> <td>최고 대역폭 533MB/sec 의 66 MHz V-Link 호스트 인터페이스 지원.</td></tr> <tr> <td>시스템 메모리에 2.5V 인터페이스, AGP 에 1.5V 인터페이스 지원.</td></tr> <tr> <td>DDR400, DDR333 및 DDR266 더블 데이터 속도 동기 DRAM 지원.</td></tr> <tr> <td rowspan="6">VT8237 SB</td><td>총 대역폭 1066 MB/sec 의 16 비트 66 MHz V-Link 클라이언트 인터페이스 지원.</td></tr> <tr> <td>듀얼 채널 시리얼 ATA 컨트롤러.</td></tr> <tr> <td>ACPI (Advanced Configuration and Power Interface) 와 legacy (APM) 전원 관리 지원.</td></tr> <tr> <td>듀얼 채널 UltraDMA-33/66/100/133 마스터 모드 EIDE 컨트롤러.</td></tr> <tr> <td>4 개의 루트 허브와 8 개의 기능 포트가 있는 통합 USB 2.0 컨트롤러.</td></tr> <tr> <td>1/10/100 MHz full / half duplex 오퍼레이션.</td></tr> </tbody> </table>	칩셋	특징	KT600 NB	AMD Athlon XP/Sempron/Athlon/Duron CPU 어드레스 및 데이터 버스에서의 200/166/133 MHz DDR (Double Data Rate) 전송	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.	시스템 메모리에 2.5V 인터페이스, AGP 에 1.5V 인터페이스 지원.	DDR400, DDR333 및 DDR266 더블 데이터 속도 동기 DRAM 지원.	VT8237 SB	총 대역폭 1066 MB/sec 의 16 비트 66 MHz V-Link 클라이언트 인터페이스 지원.	듀얼 채널 시리얼 ATA 컨트롤러.	ACPI (Advanced Configuration and Power Interface) 와 legacy (APM) 전원 관리 지원.	듀얼 채널 UltraDMA-33/66/100/133 마스터 모드 EIDE 컨트롤러.	4 개의 루트 허브와 8 개의 기능 포트가 있는 통합 USB 2.0 컨트롤러.	1/10/100 MHz full / half duplex 오퍼레이션.
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메모리	<ul style="list-style-type: none"> <li>최대 DDR266/333/400 DDR SDRAM 메모리 모듈을 지원한다.</li> <li>2 개의 unbuffered 2.5V 184 핀 슬롯 사용</li> <li>총 최대 용량은 3GB 이며, 각 슬롯은 최대 1 GB 를 지원 (DDR 400 최대 2 GB 의 경우에만)</li> </ul>															
그래픽	<p>본 마더보드는 기존 AGP 사양의 8 배의 대역폭을 제공하는 AGP 슬롯을 포함한다. AGP 3.0 (8xAGP) 는 AGP 2.0 의 기능 강화로 탁월한 성능을 제공한다. 이 인터페이스는 기존</p>															

	AGP 의 자연적 진화로 워크 스테이션과 데스크탑 환경에서 필요로 하는 그래픽 인터페이스를 제공한다
<b>AC' 97 오디오 코덱</b>	ALC655 는 AC'97 2.3 사양에 부합되며 독립적인 다양한 샘플링 속도와 내장 3D 효과를 지닌 다양한 코덱 확장을 지원한다. 90 dB 이상의 고품질의 SNR 을 위해 적합한 컨버터 기술을 사용하였다. 디지털 인터페이스 회로는 5V/3.3V 파워 쉘플라이로 작동되며, AC'97 2.3 부합 SPDIF 출력 기능을 지원하여 PC 와 다른 전기 제품의 연결을 용이하게 한다. 그 밖에도 4 개의 아날로그 라인 레벨 스테레오 입력을 지원한다.
<b>확장 옵션</b>	KT600-A 는 4 개의 32-bit PCI 슬롯을 제공한다, 1 개의 AGP 슬롯 (1.5V AGP 카드만), CNR (Communications and Networking Riser) 슬롯이 있다.  이것은 전송 속도 33/66/100/133 MB/sec 의 Ultra DMA bus mastering 을 지원한다.
<b>Onboard LAN (선택 사항)</b>	VT6103 는 카테고리 5 Unshielded, 타입 1 Shielded, 유리 섬유 케이블을 사용한 Ethernet 10BASE-T 와 100BASE-TX 를 위한 물리적 레이어 장치이다.  <ul style="list-style-type: none"> <li>• 듀얼 속도 – 100/10 Mbps</li> <li>• Half 및 Full Duplex</li> <li>• 모든 적용 가능한 IEEE 802.3, 10Base-T 및 100Base-Tx 표준 지원</li> <li>• 적용 가능한</li> </ul>
<b>통합 I/O</b>	본 마더보드는 풀 세트의 I/O 포트 및 커넥터가 있다: <ul style="list-style-type: none"> <li>• 마우스와 키보드용 PS/2 포트 2 개</li> <li>• 시리얼 포트 2 개</li> <li>• 패러럴 포트 1 개</li> <li>• USB 포트 4 개(USB 2.0)</li> <li>• 마이크 용 오디오 잭, 라인 입력과 라인 출력</li> </ul>
<b>BIOS 펌웨어</b>	본 마더보드는 Award BIOS 를 사용하여 사용자는 다음과 같은 시스템 기능을 구성할 수 있다: <ul style="list-style-type: none"> <li>• 전원 관리</li> <li>• 기상 알람</li> <li>• CPU 파라미터</li> <li>• CPU 및 메모리 타이밍</li> </ul> <p>펌웨어는 다른 프로세서 클럭 속도의 파라미터를 설정하는데도 사용될 수 있다.</p>



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

## 性能



<b>處理器</b>	<p>本主機板採用了具有下列功能之 AMD 462 針 Socket A：</p> <ul style="list-style-type: none"> <li>• 支援高達 400/333/266/200 MHz 之系統匯流排(FSB)</li> <li>• 支援 AMD Athlon XP/Sempron/Athlon/Duron 處理器</li> <li>• 支援高達 200/166/133MHz DDR (Double Data Rate, 雙倍速資料傳輸) 之 AMD Athlon XP/Sempron/Athlon/Duron CPU 位址和數據匯流排傳輸</li> </ul> <p><b>註解：</b> 建議使用 AMD Athlon XP 或更高等級之 CPU，以確保過熱保護電路 (Thermal Diode) 之功能運作正常。</p>															
<b>晶片組</b>	<p>本主機板係以 KT600 北橋晶片組搭配 VT8237 南橋晶片組，具有如下表所述之先進晶片組功能：</p> <table border="1"> <thead> <tr> <th>晶片組</th><th>功能</th></tr> </thead> <tbody> <tr> <td rowspan="5"><b>KT600 NB</b></td><td>支援高達 200/166/133MHz DDR (Double Data Rate, 雙倍速資料傳輸) 之 AMD Athlon XP/Sempron/Athlon/Duron CPU 位址和數據匯流排傳輸</td></tr> <tr> <td>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。</td></tr> <tr> <td>支援 66 MHz V-Link 主機介面，最大頻寬可達 533 MB/秒。</td></tr> <tr> <td>提供系統記憶體用 2.5V 介面、及 AGP 用 1.5V 介面之支援。</td></tr> <tr> <td>支援 DDR400、DDR333、及 DDR266 DDR SDRAM (同步雙倍資料傳輸動態隨機存取記憶體)。</td></tr> <tr> <td rowspan="6"><b>VT8237 SB</b></td><td>支援 16-bit 66 MHz V-Link 客戶介面，總頻寬高達 1066 MB/秒。</td></tr> <tr> <td>具有雙通道串列 ATA 控制器。</td></tr> <tr> <td>支援 ACPI (Advanced Configuration and Power Interface) 及舊版的 (APM) 電源管理功能。</td></tr> <tr> <td>具有雙通道 UltraDMA-33/66/100/133 主控模式 EIDE 控制器。</td></tr> <tr> <td>內建 USB 2.0 控制器，提供 4 個集線器及 8 個連接埠。</td></tr> <tr> <td>具有 1/10/100 MHz 全/半雙工功能。</td></tr> </tbody> </table>	晶片組	功能	<b>KT600 NB</b>	支援高達 200/166/133MHz DDR (Double Data Rate, 雙倍速資料傳輸) 之 AMD Athlon XP/Sempron/Athlon/Duron CPU 位址和數據匯流排傳輸	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 533 MB/秒。	提供系統記憶體用 2.5V 介面、及 AGP 用 1.5V 介面之支援。	支援 DDR400、DDR333、及 DDR266 DDR SDRAM (同步雙倍資料傳輸動態隨機存取記憶體)。	<b>VT8237 SB</b>	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 控制器。	支援 ACPI (Advanced Configuration and Power Interface) 及舊版的 (APM) 電源管理功能。	具有雙通道 UltraDMA-33/66/100/133 主控模式 EIDE 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。
晶片組	功能															
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<b>VT8237 SB</b>	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 控制器。															
	支援 ACPI (Advanced Configuration and Power Interface) 及舊版的 (APM) 電源管理功能。															
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	具有 1/10/100 MHz 全/半雙工功能。															
<b>記憶體</b>	<ul style="list-style-type: none"> <li>• 支援 DDR266/333/400 之 DDR SDRAM 記憶體模組</li> <li>• 配備有 2 無緩衝 2.5V 184 針插槽</li> <li>• 各插槽支援 1GB，共可支援 3 GB 之記憶體。(DDR 400 記憶體僅支援至 2 GB)</li> </ul>															
<b>繪圖卡</b>	<p>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。相較於 AGP 2.0，AGP 3.0(8xAGP) 能夠提供商的性能以及功能。本介面係順應工作站與個人電腦環境中對圖形介面不斷升高之要求，由既有之 AGP 規格所發展出來的成果。</p>															
<b>AC' 97 音訊編解</b>	<p>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</p>															

<b>碼器</b>	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。
<b>擴充選項</b>	KT600-A 配備有 4 個 32 位元 PCI 插槽、1 個 AGP 插槽 (僅支援 1.5 伏特電壓規格之 AGP 卡) 及 CNR (Communications and Networking Riser) 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。
<b>內建網路功能 (選購)</b>	VT6103 係為乙太 10BASE-T 和 100BASE-TX 之實體層元件, 使用 Category 5(速率 100 Mbps) 無遮蔽式雙絞線, Type 1 屏蔽電纜以及光纖電纜。 <ul style="list-style-type: none"><li>• 雙倍速 - 100/10 Mbps 傳輸速率</li><li>• 支援半或全雙工運作模式</li><li>• 適用於所有可用之 IEEE 802.3, 10BaseT 和 100Base-Tx 雙絞線, 等之標準</li><li>• 自適均衡器</li></ul>
<b>已整合的輸出入功能</b>	本主機板完整地支援各種輸出入及連接器： <ul style="list-style-type: none"><li>• 2 個 PS/2 埠，分供滑鼠及鍵盤連接</li><li>• 1 個串列埠</li><li>• 1 個平行埠</li><li>• 4 個 USB 埠(USB2.0)</li><li>• 麥克風、line-in 及 line-out 音效端</li></ul>
<b>BIOS 韌體</b>	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： <ul style="list-style-type: none"><li>• 電源管理功能</li><li>• 喚醒警示功能</li><li>• CPU 參數</li><li>• CPU 及記憶體時序</li></ul> 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。

## 特性

<b>處理器</b>	主板使用一个 AMD 462-pin Socket A 插座，此插座具有以下
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	<p>特点:</p> <ul style="list-style-type: none"> <li>支持 400/333/266/200 MHz 前端总线 (FSB)</li> <li>支持 AMD Athlon XP/Sempron/Athlon/Duron CPU</li> <li>AMD Athlon XP/Sempron/Athlon/Duron CPU 地址和数据总线上 200/166/133 MHz DDR (双数据传输率) 传输</li> </ul> <p><b>说明:</b> 建议您使用 AMD Athlon XP 或更高频率的处理器, 以确保能够正常使用 “Thermal Diode” 功能。</p>															
芯片组	<p>此主板含有 KT600 北桥芯片组和 VT8237 南桥芯片组。下表中简要介绍了芯片组的先进功能。</p> <table border="1"> <thead> <tr> <th>芯片组</th><th>功能</th></tr> </thead> <tbody> <tr> <td rowspan="5">KT600 NB</td><td>AMD Athlon XP/Sempron/Athlon/Duron CPU 地址和数据总线上 200/166/133 MHz DDR (双数据传输率) 传输</td></tr> <tr> <td>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。</td></tr> <tr> <td>支持峰值带宽为 1066MB/sec 的 66MHz V-Link Host 接口。</td></tr> <tr> <td>支持 (单独驱动) 到系统内存的 2.5V 接口和到 AGP 的 1.5V 接口。</td></tr> <tr> <td>支持 DDR400、DDR333 和 DDR266 双数据速率同步 DRAM。</td></tr> <tr> <td rowspan="6">VT8237 SB</td><td>支持总带宽为 533MB/sec 的 16 位 66MHz V-Link 客户接口。</td></tr> <tr> <td>双通道串行 ATA 控制器。</td></tr> <tr> <td>支持 ACPI (高级配置电源接口) 和传统 (APM) 电源管理。</td></tr> <tr> <td>双通道 UltraDMA-33/66/100/133 主控模式 EIDE 控制器。</td></tr> <tr> <td>集成 USB 2.0 控制器, 带有 4 个 Root Hub 和 8 个功能端口。</td></tr> <tr> <td>1/10/100 MHz 全双工和半双工操作。</td></tr> </tbody> </table>	芯片组	功能	KT600 NB	AMD Athlon XP/Sempron/Athlon/Duron CPU 地址和数据总线上 200/166/133 MHz DDR (双数据传输率) 传输	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 1066MB/sec 的 66MHz V-Link Host 接口。	支持 (单独驱动) 到系统内存的 2.5V 接口和到 AGP 的 1.5V 接口。	支持 DDR400、DDR333 和 DDR266 双数据速率同步 DRAM。	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 控制器。	支持 ACPI (高级配置电源接口) 和传统 (APM) 电源管理。	双通道 UltraDMA-33/66/100/133 主控模式 EIDE 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。
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内存	<ul style="list-style-type: none"> <li>支持 DDR266/333/400 DDR SDRAM 内存条</li> <li>提供 2 个非缓冲 2.5V 184 pin 插槽</li> <li>每个插槽支持 1 GB, 总共最大可支持 3 GB (DDR 400 最大只支持到 2 GB)</li> </ul>															
图形	<p>此主板含一个 AGP 插槽, 可提供普通 AGP 规格 8 倍的带宽。AGP 3.0 (8xAGP) 在增强了 AGP2.0 功能的同时极大地提高了性能。此接口反映了 AGP 的发展规律, 它进一步满足了在工作站和桌面环境中对图形接口的不断增长的要求。</p>															
AC' 97 音频编码器	<p>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</p>															

	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	KT600-A 提供 4 个 32 位 PCI 插槽。1 个 AGP（仅支持 1.5V AGP 卡）插槽和 1 个 CNR（通信网络转接卡）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）	VT6103 是一种物理层设备，可用于使用 5 类非屏蔽线、1 类屏蔽线和光缆的以太网 10BASE-T 和 100BASE-TX。 <ul style="list-style-type: none"><li>• 双速 –100/10 Mbps</li><li>• 半双工和全双工</li><li>• 符合所有相应的 IEEE 802.3、10Base-T 和 100Base-Tx 标准</li><li>• 自适应均衡器</li></ul>
集成 I/O	此主板具有完整的 I/O 端口和插孔： <ul style="list-style-type: none"><li>• 2 个用于连接鼠标和键盘的 PS/2 端口</li><li>• 2 个串口</li><li>• 1 个并口</li><li>• 4 个 USB 端口 (USB2.0)</li><li>• 麦克风、线入和线出声音插孔</li></ul>
BIOS	此主板使用 Award BIOS，可以让用户自己配置以下系统功能： <ul style="list-style-type: none"><li>• 电源管理</li><li>• 唤醒报警</li><li>• CPU 参数</li><li>• CPU 和记忆定时</li></ul> 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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## *Chapter 1*

# **Introducing the Motherboard**

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## **Introduction**

Thank you for choosing the KT600-A motherboard. The KT600-A is designed to fit the advanced AMD processors in the 462-pin package, supporting socket 462 AMD Athlon XP / Sempron / Athlon / Duron processors. Based on the ATX form factor featuring the VIA KT600 Northbridge and VT8237 Southbridge chipsets, this motherboard provides the standard 400/333/266/200 MHz front side bus with extra capability.

Taking advantage of the highly integrated chipsets, the KT600 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 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.

To top it all, the motherboard has a complete set of I/O Ports such as dual channel IDE interfaces, a floppy controller, two high-speed serial ports, an EPP/ECP capable bi-directional parallel port connector, four USB (Universal Serial Bus) connector, a PS/2 keyboard connector, mouse connector and audio jacks for microphone, line-in, line-out. One AGP slot, four PCI local bus slots and one communication and networking riser (CNR) slot provide expandability for add-on peripheral cards.

This motherboard is ideal for high performance and high quality computer system.

## Features

<b>Processor</b>	<p>The motherboard uses an AMD 462-pin Socket A that has the following features:</p> <ul style="list-style-type: none"> <li>• Supports 400/333/266/200 MHz Front Side Bus (FSB)</li> <li>• Accommodates AMD Athlon XP/Sempron/Athlon/Duron CPU</li> <li>• 200/166/133 MHz DDR (Double Data Rate) transfer on Athlon XP/Sempron/Athlon/Duron CPU and data buses</li> </ul> <p><b>Note:</b> It is recommended that you use AMD Athlon XP or higher level CPU to make sure that the “Thermal Diode” function will work properly.</p>															
<b>Chipset</b>	<p>The chipset on this motherboard includes the KT600 Northbridge combine with VT8237 Southbridge chipset. The table below briefly explains some of the chipset’s advanced features.</p> <table> <tr> <th>Chipset</th><th>Features</th></tr> <tr> <td rowspan="5"><b>KT600 NB</b></td><td>200/166/133 MHz DDR (Double Data Rate) transfer on Athlon XP/Sempron/Athlon/Duron CPU address and data buses.</td></tr> <tr> <td>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.</td></tr> <tr> <td>Supports 66 MHz V-Link Host interface with peak bandwidth of 533MB/sec.</td></tr> <tr> <td>Supports separately powered 2.5V interface to system memory and 1.5V interface to AGP.</td></tr> <tr> <td>Supports DDR400, DDR333 and DDR266 double data rate synchronous DRAM.</td></tr> <tr> <td rowspan="6"><b>VT8237 SB</b></td><td>Supports 16-bit 66 MHz V-Link Client interface with total bandwidth of 1066 MB/sec.</td></tr> <tr> <td>Dual channel Serial ATA controller.</td></tr> <tr> <td>Supports both ACPI (Advanced Configuration and Power Interface) and legacy (APM) power management.</td></tr> <tr> <td>Dual channel UltraDMA-33/66/100/133 master mode EIDE controller.</td></tr> <tr> <td>Integrated USB 2.0 Controller with four root hubs and eight function ports.</td></tr> <tr> <td>1/10/100 MHz full and half duplex operation.</td></tr> </table>	Chipset	Features	<b>KT600 NB</b>	200/166/133 MHz DDR (Double Data Rate) transfer on Athlon XP/Sempron/Athlon/Duron CPU address and data buses.	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.	Supports separately powered 2.5V interface to system memory and 1.5V interface to AGP.	Supports DDR400, DDR333 and DDR266 double data rate synchronous DRAM.	<b>VT8237 SB</b>	Supports 16-bit 66 MHz V-Link Client interface with total bandwidth of 1066 MB/sec.	Dual channel Serial ATA controller.	Supports both ACPI (Advanced Configuration and Power Interface) and legacy (APM) power management.	Dual channel UltraDMA-33/66/100/133 master mode EIDE controller.	Integrated USB 2.0 Controller with four root hubs and eight function ports.	1/10/100 MHz full and half duplex operation.
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	Integrated USB 2.0 Controller with four root hubs and eight function ports.															
	1/10/100 MHz full and half duplex operation.															
<b>Memory</b>	<ul style="list-style-type: none"> <li>• Supports DDR up to 200/266/333/400 MHz DDR SDRAM memory module</li> <li>• Accommodates three unbuffered 2.5V 184-pin slots</li> <li>• Each slot supports up to 1 GB with a total maximum capacity of 3 GB (DDR 400 up to 2 GB only)</li> </ul>															
<b>Graphics</b>	<p>This motherboard includes an AGP slot that provides eight times the bandwidth of the original AGP specification. The AGP 3.0 (8x AGP) offers a significant increase in performance along with feature enhancements to AGP2.0. This interface</p>															



	represents the natural evolution from the existing AGP to meet the ever-increasing demands placed on the graphic interfaces within the workstation and desktop environments.
<b>AC' 97 Audio Codec</b>	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.
<b>Expansion Options</b>	The KT600-A provides four 32-bit PCI slots, an AGP slot (supports 1.5V AGP card only) and CNR (Communications and Networking Rise slot).  It supports Ultra DMA bus mastering with transfer rates of 33/66/100/133 MB/sec.
<b>Onboard LAN (optional)</b>	The VT6103 is a Physical Layer device for Ethernet 10BASE-T and 100BASE-TX using category 5 Unshielded, Type 1 Shielded, and Fiber Optic cables. <ul style="list-style-type: none"> <li>• Dual Speed – 100/10 Mbps</li> <li>• Half And Full Duplex</li> <li>• Meet All Applicable IEEE 802.3, 10Base-T and 100Base-Tx Standards</li> <li>• Adaptive Equalizer</li> </ul>
<b>Integrated I/O</b>	The motherboard has a full set of I/O ports and connectors: <ul style="list-style-type: none"> <li>• Two PS/2 ports for mouse and keyboard</li> <li>• Two serial port</li> <li>• One parallel port</li> <li>• Four USB ports (USB 2.0)</li> <li>• Audio jacks for microphone, line-in and line-out</li> </ul>
<b>BIOS Firmware</b>	This motherboard uses Award BIOS that enables users to configure many system features including the following: <ul style="list-style-type: none"> <li>• Power management</li> <li>• Wake-up alarms</li> <li>• CPU parameters</li> <li>• CPU and memory timing</li> </ul> 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.

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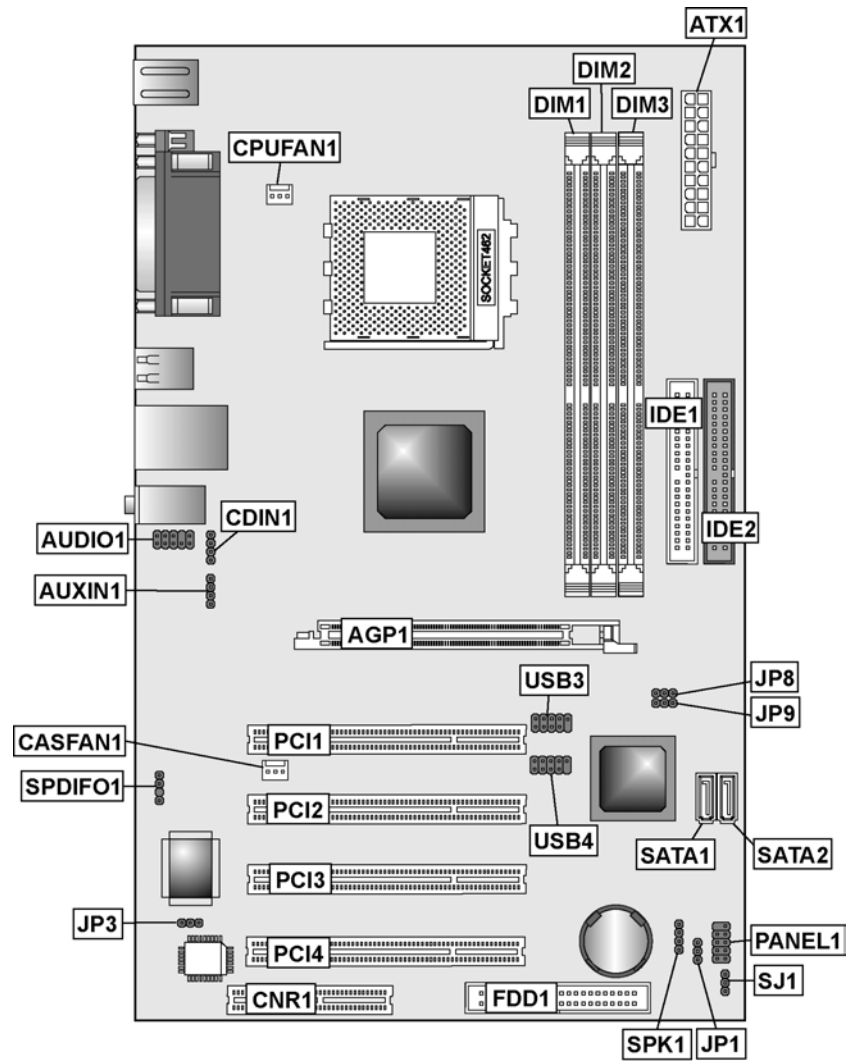
## **Choosing a Computer Case**

There are many types of computer cases on the market. The motherboard complies with the specifications for the 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 an ATX form factor of 305 mm x 191 mm. Choose a case that accommodates this form factor.

## Motherboard Components



## Table of Motherboard Components

Label	Component
AGP1	Accelerated Graphics Port (supports 1.5V AGP card only)
ATX1	Standard 20-pin ATX power connector
AUDIO1	Front audio connector
AUXIN1	Extra line-in connector
BAT1	Three volt realtime clock battery
CASFAN1	Case fan connector
CDIN1	CD-in connector
CNR1	Communications Networking Riser slot
CPU SOCKET	Socket A for AMD CPU
CPUFAN1	Cooling fan for CPU
DIM1 ~ DIM3	Three 184-pin DDR SDRAM
FDD1	Floppy disk drive connector
IDE 1	Primary IDE channel
IDE 2	Secondary IDE channel
JP1	Clear CMOS jumper
JP3	BIOS Protect jumper
JP8 ~ JP9	CPU Frequency jumper
PANEL1	Connector for case front panel switches and LED indicators
PCI1 ~ PCI4	Four 32-bit add-on card slots
SATA1 ~ SATA2	Serial ATA header
SPDIFO1	SPDIF out header
SJ1	Single color LED header
SPK1	Speaker connector
USB3 ~ USB4	Connector for front panel USB ports

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

## *Chapter 2*

# Installing the Motherboard

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### 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:

<b>Locating Motherboard Components</b>	Go to page 5
<b>Installing the Motherboard in a Case</b>	Go to page 8
<b>Setting Jumpers</b>	Go to page 8
<b>Installing Case Components</b>	Go to page 10
<b>Installing the CPU</b>	Go to page 13
<b>Installing Memory</b>	Go to page 16
<b>Installing an HDD/SATA Hard Drive/CD-ROM Drive</b>	Go to page 18
<b>Installing an FDD</b>	Go to page 21
<b>Installing Add-on Cards</b>	Go to page 22
<b>Connecting Options</b>	Go to page 23
<b>Connecting Peripheral (I/O) Devices</b>	Go to page 25

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## Installing the Motherboard in a Case

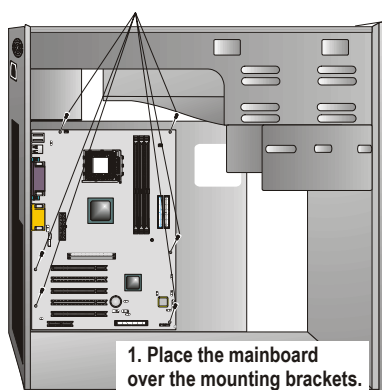
Refer to the following illustration and instructions for installing the motherboard in a case:

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.



Ensure that your case has an I/O template that supports the I/O ports and expansion slots on your motherboard.

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## Checking Jumper Settings

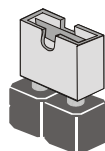
This section explains how to set jumpers for correct configuration of the motherboard.

### Setting Jumpers

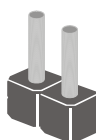
Use the motherboard jumpers to set system configuration options. Jumpers with more than one pin are numbered. When setting the jumpers, ensure that the jumper caps are placed on the correct pins.

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**.

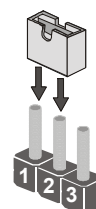
This illustration shows a 3-pin jumper. Pins 1 and 2 are **SHORT**.



Short

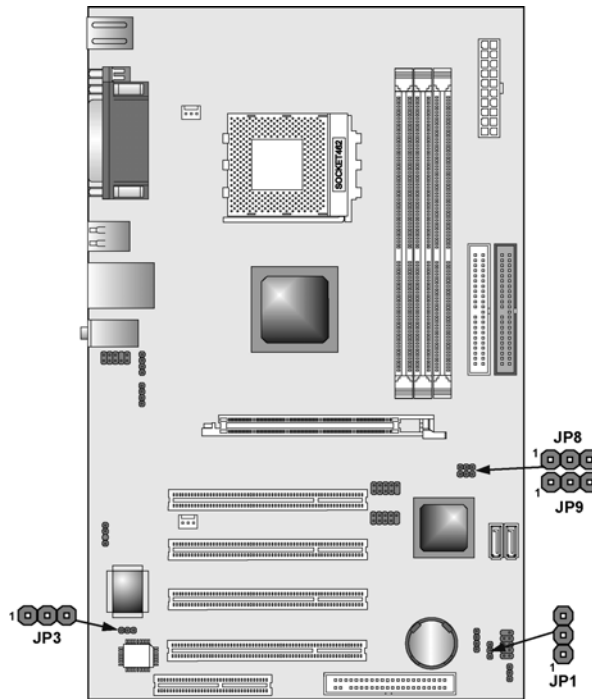


Open







## 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: <i>Clear CMOS</i> <i>Before clearing CMOS, make sure to turn off the system.</i> 
JP3	3-pin	BIOS Protect	1-2: Normal 2-3: <i>Clear CMOS</i> 
JP8 & JP9	3-pin	CPU Frequency select jumper	See table on following page for settings.  

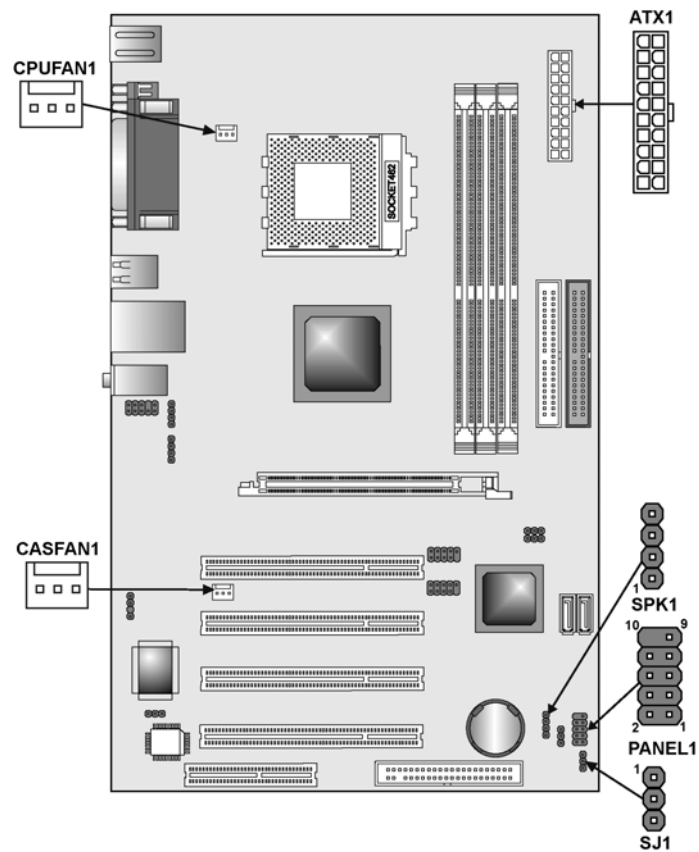
### JP8 & JP9 – CPU Frequency Select Jumper

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 2-3	Short 2-3	166 MHz
Short 1-2	Short 2-3	200 MHz

### Connecting Case Components

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





### ATX1: ATX 20-pin Power Connector

Connect the standard power supply connector to **ATX1**.

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

Connect the CPU cooling fan cable to **CPUFAN1**.

Connect the case cooling fan connector to either **CASFAN1**.

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

### SPK1: Internal speaker

Connect the case speaker cable to **SPK1**.


Pin	Signal Name
1	VCC
2	NC
3	NC
4	Signal

### SJ1: Single-color LED header

Connect the case LED cable to **SJ1**.

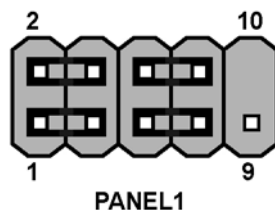
Pin	Signal Name
1	ACPI LED
2	ACPI LED
3	5VSB

### ACPI LED function:

SJ1	S0	S1	S3	S4/S5
	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:



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

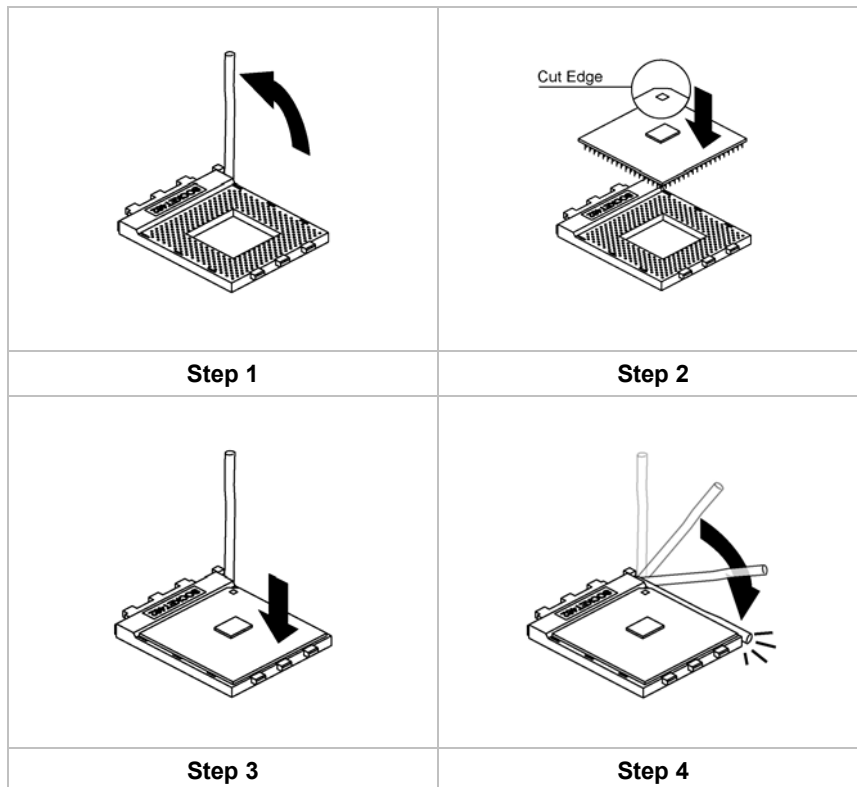
This motherboard automatically determines the CPU clock frequency and system bus frequency for the processor. You may be able to change these settings by making changes to jumpers on the motherboard, or changing the settings in the system Setup Utility. We strongly recommend that you do not overclock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



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.

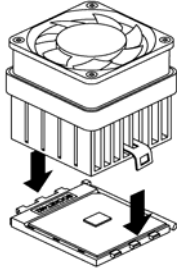
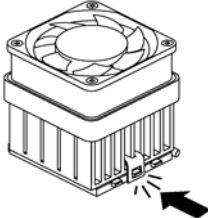
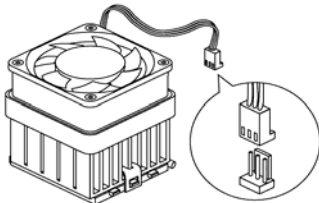
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**Note:** Remember to apply thermal grease on top of the CPU.

---

## 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.

<p>1. Lower the CPU cooling fan/heatsink assembly onto the CPU.</p>	 A line drawing showing a square CPU cooling fan with a heatsink being lowered onto a CPU socket. Two black arrows point downwards from the fan/heatsink assembly towards the CPU, indicating the direction of installation.
<p>2. Secure the two retention clips on either side of the fan/heatsink unit onto the Socket 462 base.</p>	 A line drawing of the CPU cooling fan/heatsink assembly now mounted on the CPU socket. Two black arrows point to the retention clips on either side of the fan/heatsink unit, indicating where they should be secured.
<p>3. Connect the CPU Cooling Fan power cable connector to the CPUFAN connector.</p>	 A line drawing showing the CPU cooling fan/heatsink assembly with its power cable. A circular inset shows a close-up of the power cable connector being plugged into the CPUFAN connector on the motherboard.

## Installing Memory Modules

This motherboard accommodates three 184-pin 2.5V unbuffered Double Data Rate (DDR) SDRAM memory modules. It can support R266/DDR333/DDR400 memory modules and allow up to 3.2 GB/s data transfer rate.

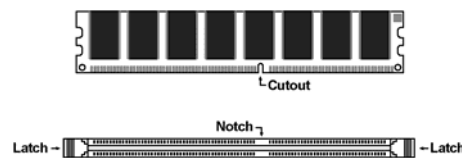
The motherboard accommodates three memory modules. You must install at least one module in any of the three slots. Each module can be installed with 32 MB to 1 GB of memory; total memory capacity is 3GB.



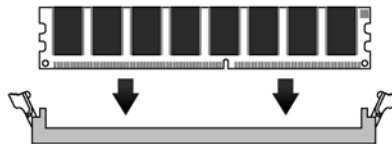
Do not remove any memory module from its antistatic packaging until you are ready to install it on the motherboard. Handle the modules only by their edges. Do not touch the components or metal parts. Always wear a grounding strap when you handle the modules.

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.

**DDR SDRAM memory module table:**

DDR 266	3 DIMMs
DDR 333	3 DIMMs
DDR 400	DDR 400 can only support up to <u>2 DIMMs</u> : 1. One <i>double-sided</i> DIMM (or) 2. Two <i>single-sided</i> DIMMs

**Note:** We do not guarantee that all DDR 400 memory modules will work properly with your motherboard.

**DDR (memory module) QVL (Qualified Vendor List)**

The following DDR400 memory modules have been tested and qualified for use with this motherboard.

Size	Vendor	Brand	Model Number
<b>128MB</b>	Infineon	Infineon	HYS64D16000GU-7-A
	SAMSUNG	SAMSUNG	M368L1713DTL-CB0
	Hynix	Hynix	None
	Micron	Micron	MT4VDDT1664AG-265C3
	Ramaxel	Ramaxel	RME340M18C4T-266
	Ramaxel	SAMSUNG	None
	NANYA	NANYA	RME340s18c4t-266
	Twinmos	SAMSUNG	None
	Kingston	Kingston	KVR266X64C25128
	Hyundai	Hyundai	None
	Kingston	Kingston	KVR266X64C25128
	SAMSUNG	SAMSUNG	None
	KINGMAX	KINGMAX	MPDB62D-68KX2
	NANYA	NANYA	NT256D64S88A0G-7K
<b>256MB</b>	Hynix	Hynix	HYMD132645B8-H AA
	Infineon	Infineon	HYS64D3200GU-7-A
	Micron	Micron	MT16VDDT3264AG-265A1
	Hynix	Hynix	None
	Micron	Micron	MT8VDDT3264AG-265C4
	Ramaxel	HYNIX	None
	Kingston	NANYA	KVR266X64C25/256
	SAMSUNG	SAMSUNG	None
	SAMSUNG	SAMSUNG	None
	NANYA	NANYA	None
	Ramaxel	Samsung	RME340K18C5T-266
	Ramaxel	Ramaxel	RME340M18C5T-266

	Ramaxel	Ramaxel	RME340A18C5T-266
	Ramaxel	Infineon	RME340S18C5T-266
<b>512MB</b>	NANYA	NANYA	NT512D64S8HA0G-7K
	Infineon	Infineon	HYS64D64020GU-7-A
	Micron	Micron	MT16VDDT6464AG-265C4

## 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

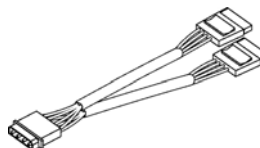
Your mainboard features two SATA connectors supporting a total of two drives. SATA refers to Serial ATA (Advanced Technology Attachment) is the standard interface for the IDE hard drives which are currently used in most PCs. These connectors are well designed and will only fit in one orientation. Locate the SATA connectors on the mainboard (see page 22) 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 connector on the mainboard.



**SATA cable**

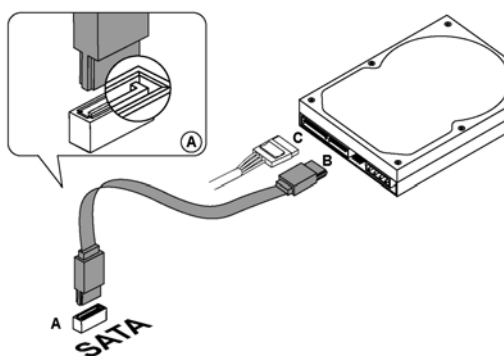


**SATA power cable**



Refer to the illustration below for proper installation:

1. Attach either cable end to the connector **(A)** on the mainboard.
7. Attach the other cable end **(B)** to the SATA hard drive.
8. Attach the SATA power cable to the SATA hard drive **(C)** and connect the other end to the power supply.



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**Note:** This mainboard does not support the “Hot-Plug” function.

---

## Installing Windows OS into the Serial ATA HDD

If you want to use the Serial ATA HDD and install OS into it, please follow the initial step before proceeding to the next procedure.

### Initial step (do this using another computer)

1. Insert the **Motherboard Support CD** into the CD-ROM.
2. Insert a floppy disk.
3. Follow this path **E:\RAID\VIA\DriverDisk\SATA\**
4. Copy all files and directories to the floppy disk.
5. Keep your floppy disk ready. Continue the steps below.

### Please follow the steps below to install the VIA VT8237 Serial ATA driver

1. Boot system from OS installation CD.
2. Press **F6** when the message appears “Press F6 if you need to install third party SCSI or RAID driver”.
3. Insert the floppy disk.
4. Depending on your OS, choose the device drive according to your OS.
5. Press **Enter** to start the device driver installation.
6. Run **setup.exe** (E:\RAID\VIA) after OS has been installed.

## 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.

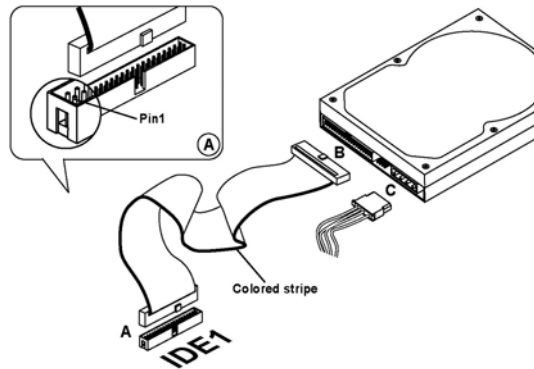
If you want to install more than two IDE devices, get a second IDE cable and you can add two more devices to the secondary IDE channel.



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.

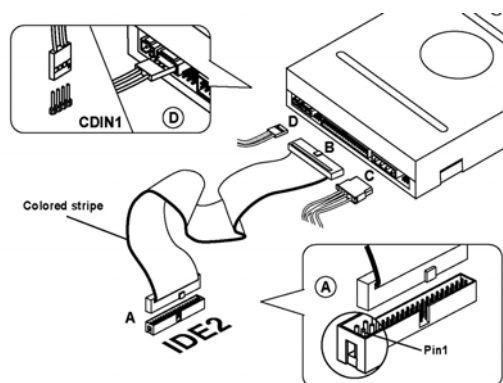
### IDE1: Primary IDE Connector

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.

**CDIN1**

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

## 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

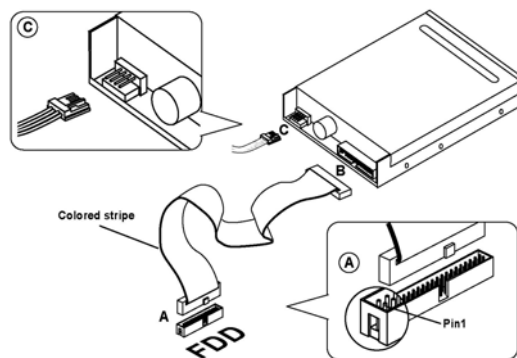
The mainboard has a floppy diskette drive (FDD) interface and ships with a diskette drive ribbon cable that supports one or two floppy diskette drives. You can install a 5.25-inch drive and a 3.5-inch drive with various capacities. The floppy diskette drive cable has one type of connector for a 5.25-inch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

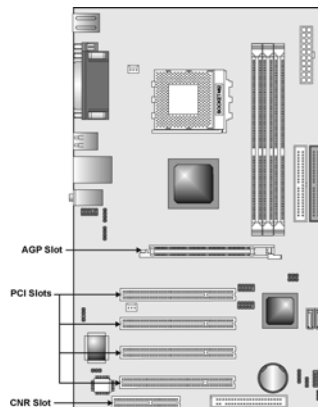
### FDD1: Floppy Disk Connector

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



- 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 graphics adapter that supports the 1.5V 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.
- CNR Slot** This slot is used to insert CNR cards with Modem and Audio functionality.

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

---

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.	
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.	A 3D perspective diagram showing a rectangular add-on card being inserted into a slot on a motherboard. An arrow points to the top of the card labeled 'Add-on card'. Another arrow points to the bottom edge of the card where it meets the slot, labeled 'Edge connector'.
3. Secure the metal bracket of the card to the system case with a screw.	

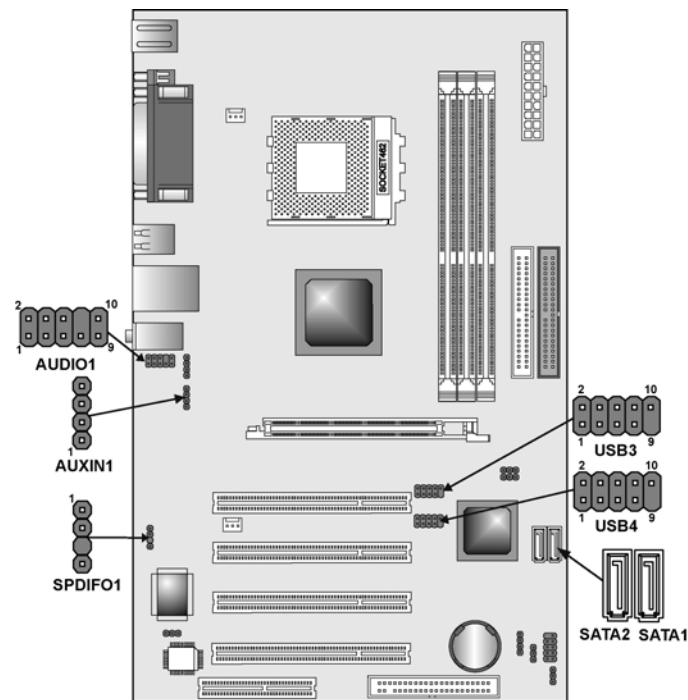
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**Note:** For some add-on cards, for example graphics adapters and network adapters, you have to install drivers and software before you can begin using the add-on card.

---

## Connecting Optional Devices

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



### AUDIO1: Front Panel Audio header

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

Pin	Signal 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 connectors

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.

## AUXIN1: Auxiliary-in connector

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

## SPDIF01: 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

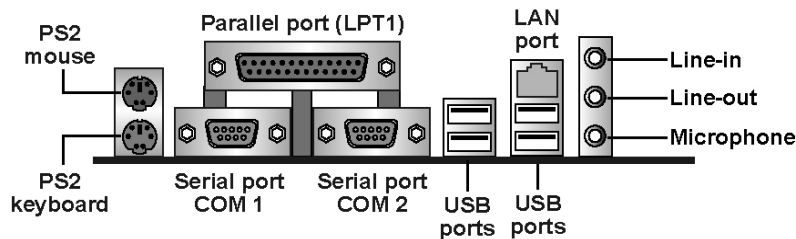
## SATA1/SATA2: Serial ATA header

These connectors are used to support the new Serial ATA devices for the highest data 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	-	-

## Connecting I/O Devices

The backplane of the motherboard has the following I/O ports:



<b>PS/2 Mouse</b>	Use the upper PS/2 port to connect a PS/2 pointing device.
<b>PS/2 Keyboard</b>	Use the lower PS/2 port to connect a PS/2 keyboard.
<b>LPT1</b>	Use LPT1 to connect printers or other parallel communications devices.
<b>COM1/2</b>	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.
<b>Audio Ports</b>	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.
<b>LAN Port (optional)</b>	Connect an RJ-45 jack to the LAN port to connect your computer to the Network.
<b>USB Ports</b>	Use the USB ports to connect USB devices.

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

## *Chapter 3*

# Using BIOS

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### 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



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

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

- TO ENTER SETUP BEFORE BOOT PRESS DEL KEY

PRESS F1 TO CONTINUE, DEL TO ENTER SETUP

<ul style="list-style-type: none"> <li>▶ <b>Standard CMOS Features</b></li> <li>▶ Advanced BIOS Features</li> <li>▶ Advanced Chipset Features</li> <li>▶ Integrated Peripherals</li> <li>▶ Power Management Setup</li> <li>▶ PnP/PCI Configurations</li> <li>▶ PC Health Status</li> </ul>	<ul style="list-style-type: none"> <li>▶ Frequency Control</li> <li>Load Fail-Safe Defaults</li> <li>Load Optimized Defaults</li> <li>Set Supervisor Password</li> <li>Set User Password</li> <li>Save &amp; Exit Setup</li> <li>Exit Without Saving</li> </ul>
<p>Esc : Quit</p> <p>F10 : Save &amp; Exit Setup</p>	
<p>Time, Date, Hard Disk Type . . .</p>	

## 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 : <input type="text"/>	
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 Features

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

Phoenix – AwardBIOS CMOS Setup Utility  
Standard CMOS Features

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

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

### Date and Time

The Date and Time items show the current date and time on the computer. If you are running a Windows OS, these items are automatically updated when-

ever 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:

Phoenix – AwardBIOS CMOS Setup Utility		
IDE Primary Master		
IDE HDD Auto-Detection	[Press Enter]	Item Help
IDE Primary Master	[Auto]	Menu Level ▶▶  To auto-detect the HDD's size, head ... on this channel
Access Mode	[Auto]	
Capacity	0 MB	
Cylinder	0	
Head	0	
Precomp	0	
Landing Zone	0	
Sector	0	
↑↓→← : Move    Enter : Select    +/-/PU/PD:Value:    F10: Save    ESC: Exit    F1:General Help F5:Previous Values    F6:Fail-Safe Defaults    F7:Optimized Defaults		

### IDE HDD Auto-Detection

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

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

### IDE Primary/Secondary Master/Slave

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

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

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

### Access Mode

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

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

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

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

### Floppy 3 Mode Support (Disabled)

Floppy 3 mode refers to a 3.5-inch diskette with a capacity of 1.2 MB. Floppy 3 mode is sometimes used in Japan.

### 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 (But keyboard)

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

### Base Memory, Extended Memory, and Total Memory

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

## Advanced BIOS Setup

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

Phoenix – AwardBIOS CMOS Setup Utility  
Advanced BIOS Setup

		Item Help
CPU Internal Cache	[Enabled]	<b>Menu Level ▶</b>  Allows you to choose the VIRUS warning feature for IDE Hard Disk boot sector protection. If this function is enabled and someone attempts to write data into this area, BIOS will show a warning message on screen and alarm beep
Quick Power On Self Test	[Enabled]	
First Boot Device	[Floppy]	
Second Boot Device	[HDD-0]	
Third Boot Device	[CD-ROM]	
Boot Other Device	[Enabled]	
Boot Up NumLock Status	[On]	
Gate A20 Option	[Fast]	
ATA 66/100 IDE Cable Msg	[Disabled]	
Typematic Rate Setting	[Disabled]	
x Typematic Rate (Chars/Sec)	6	
x Typematic Delay (Msec)	250	
Security Option	[Setup]	
APIC Mode	[Enabled]	
HDD S.M.A.R.T Capability	[Disabled]	
Video BIOS Shadow	[Enabled]	

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

### 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.

### **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 (Disabled)**

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 or disable the APIC (Advanced Programmable Interrupt Controller) mode. APIC provides symmetric multi-processing (SMP) for systems, allowing support for up to 60 processors.

### **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, me-

dia, heads, and electronics of the drive. The host software monitors the overall reliability status of the drive. If a device failure is predicted, the host software, through the Client WORKS S.M.A.R.T applet, warns the user of the impending condition and advises appropriate action to protect the data.

#### Video BIOS Shadow (Enabled)

This function, when enabled allows VGA BIOS to be copied to the system DRAM for enhanced performance.

#### Small Logo (EPA) Show (Disabled)

Determines whether or not the EPA logo appears during boot up.

### Advanced Chipset Setup

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

#### Phoenix – AwardBIOS CMOS Setup Utility Advanced Chipset Setup

<ul style="list-style-type: none"><li>▶ DRAM Clock/Drive Control</li><li>▶ AGP &amp; P2P Bridge Control</li><li>▶ CPU &amp; PCI Bus Control</li><li>System BIOS Cacheable</li><li>Video RAM Cacheable</li></ul>	<ul style="list-style-type: none"><li>[Press Enter]</li><li>[Press Enter]</li><li>[Press Enter]</li><li>[Disabled]</li><li>[Disabled]</li></ul>	Item Help
		Menu Level ▶

↑↓→← : 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/Drive Control

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

### Phoenix – AwardBIOS CMOS Setup Utility DRAM Clock/Drive Control

Current FSB Frequency Current DRAM Frequency		Item Help
DRAM Clock	[By SPD]	Menu Level ►
DRAM Timing	[Auto by SPD]	
DRAM CAS Latency	[2.5]	
Bank Interleave	[Disabled]	
Precharge to Active (Trp)	[5T]	
Active to Precharge (Tras)	[7T]	
Active to CMD (Trcd)	[5T]	
DRAM Burst Length	[4]	
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 (Auto by SPD)**

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

#### **DRAM CAS Latency (2.5)**

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

#### **Bank Interleave (Disabled)**

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



This item is used to designate the minimum Row Precharge time of the SDRAM devices on the module.

### Active to Precharge (7T)

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

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

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

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.

This item controls the timing between write and precharge command.

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

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

AGP Aperture Size	[128 MB]	Item Help
AGP Mode	[4X]	Menu Level ►
AGP Fast Write	[Disabled]	
AGP 3.0 Calibration Cycle	[Enabled]	

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#### **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)**

This item allows you to enable or disable the caching of display data for the processor video memory. Enabling AGP-4X Mode can greatly improve the display speed. Disable this item if your graphics display card does not support this feature.

#### **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 3.0 Calibration Cycle (Enabled)**

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

Press <Esc> to return to the Advanced Chipset 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

PCI1 Master 0 WS Write	[Enabled]	Item Help
PCI2 Master 0 WS Write	[Enabled]	Menu Level ►
PCI1 Post Write	[Enabled]	
PCI2 Post Write	[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, providing faster data transfer.

#### **PCI 1/2 Post Write (Enabled)**

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

fore starting another write cycle.

#### **Vlink 8X Support (Enabled)**

This item is used to toggle the doubling of the V-Link bus' clock speed. When enabled, the quad-pumped 8-bit V-Link bus will run at 133MHz, thereby delivering a bandwidth of 533 MB/s. When disabled, the V-Link bus will use a clock speed of 66MHz, essentially reverting to the original V-Link standard.

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**

▶ OnChip IDE Device	[Press Enter]	Item Help
▶ OnChip PCI Device	[Press Enter]	
▶ Super I/O Device	[Press Enter]	Menu Level ▶
Init Display First	[PCI Slot]	

↑↓→← : 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.

## ► OnChip IDE Device

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

Phoenix – AwardBIOS CMOS Setup Utility				
OnChip IDE Device				
SATA Mode			[IDE]	Item Help
IDE DMA Transfer Access			[Enabled]	Menu Level ▶▶
OnChip IDE Channel1			[Enabled]	
OnChip IDE Channel1			[Enabled]	
IDE Prefetch Mode			[Enabled]	
Primary Master		PIO	[Auto]	
Primary Slave		PIO	[Auto]	
Secondary Master		PIO	[Auto]	
Secondary Slave		PIO	[Auto]	
Primary Master		UDMA	[Auto]	
Primary Slave		UDMA	[Auto]	
Secondary Master		UDMA	[Auto]	
Secondary Slave		UDMA	[Auto]	
IDE HDD Block 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				

### **SATA Mode (IDE)**

Use this item to select the mode of the Serial ATA.

### **IDE DMA Transfer Access (Enabled)**

This item allows you to enable the transfer access of the IDE DMA.

### **On-Chip IDE Channel 0/1 (Enabled)**

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

### **IDE Prefetch Mode (Enabled)**

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

### **IDE Primary/Secondary Master/Slave PIO (Auto)**

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

### **IDE Primary/Secondary Master/Slave UDMA (Auto)**

Each IDE channel supports a master device and a slave device. This 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 HDD Block Mode (Enabled)**

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

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

### **► OnChip PCI Device**

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

Phoenix – AwardBIOS CMOS Setup Utility		
OnChip PCI Device		
AC97 Audio	[Auto]	Item Help
MC97 Modem	[Auto]	Menu Level ►►
OnChip LAN	[Enabled]	
OnChip LAN Boot ROM	[Disabled]	
OnChip USB Controller	[Enabled]	
USB 2.0 Support	[Enabled]	
USB Legacy Support	[Disabled]	
USB Mouse 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		

### **AC97 Audio (Auto)**

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

### **MC97 Modem (Auto)**

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

### **OnChip LAN (Enabled)**

Enables and disables the onboard LAN.

### **OnChip LAN Boot ROM (Disabled)**

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

### **OnChip USB Controller (Enabled)**

Enable this item if you plan to use the Universal Serial Bus ports on this main-board.

### **USB 2.0 Support (Enabled)**

Enable this item if your motherboard supports the USB 2.0 function.

This item allows the BIOS to interact with a USB keyboard or mouse to work with MS-DOS based utilities and non-Windows modes.

Enable this item if you plan to use a USB mouse.

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

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

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

**Game Port Address (201)**

This item sets the I/O address for the game port.

**Midi Port Address (330)**

This item sets the I/O address for the Midi function.

**Midi Port IRQ (10)**

This item sets the interrupt request for the Midi function.

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

## Power Management Setup

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

### Power Management Timeouts

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

### Wake Up Calls

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

#### Phoenix – AwardBIOS CMOS Setup Utility Power Management Setup

HDD Power Down	[Disable]	Item Help
Suspend Mode	[Disable]	
Video Off Option	[Suspend --> Off]	Menu Level ►
Video Off Method	[DPMS Support]	
MODEM Use IRQ	[3]	
Soft-Off by PWRBTN	[Instant-Off]	
PWRON After PWR-Fail	[Off]	
► 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

#### HDD Power Down (Disable)

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

#### Suspend Mode (Disable)

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

#### Video Off Option (Suspend --> Off)

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



### Video Off Method (DPMS Support)

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

### MODEM Use IRQ (3)

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

### Power On After Power Fail (Off)

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

### ► IRQ/Event Activity Detect

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

Phoenix – AwardBIOS CMOS Setup Utility  
IRQ/Event Activity Detect

VGA	[OFF]	Item Help Menu Level ►
LPT & COM	[LPT/COM]	
HDD & FDD	[ON]	
PCI Master	[OFF]	
Resume by PCI PME	[Disabled]	
Resume by 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

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

### VGA (Off)

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

### LPT & COM (LPT/COM )

When this item is enabled, the system will restart the power-saving timeout

counters when any activity is detected on the serial ports, or the parallel port.

#### **HDD & FDD (ON)**

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

#### **PCI Master (OFF)**

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

#### **Resume By PCI PME (Disabled)**

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

#### **Resume by Ring (Disabled)**

An input signal on the serial Ring Indicator (RI) line (in other words, an incoming call on the modem) awakens the system from a soft off state.

#### **RTC Alarm Resume (Disabled)**

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

### **►► IRQs Activity Monitoring**

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

Phoenix – AwardBIOS CMOS Setup Utility			
IRQs Activity Monitoring			
Primary INTR	[ON]	Item Help	
IRQ 3 (COM2)	[Enabled]	Menu Level ►►►	
IRQ 4 (COM1)	[Enabled]		
IRQ 5 (LPT2)	[Enabled]		
IRQ 6 (Floppy Disk)	[Enabled]		
IRQ 7 (LPT1)	[Enabled]		
IRQ 8 (RTC Alarm)	[Disabled]		
IRQ 9 (IRQ2 Redir)	[Disabled]		
IRQ 10 (Reserved)	[Disabled]		
IRQ 11 (Reserved)	[Disabled]		
IRQ 12 (PS/2 Mouse)	[Enabled]		
IRQ 13 (Coprocessor)	[Enabled]		
IRQ 14 (Hard Disk)	[Enabled]		
IRQ 15 (Reserved)	[Disabled]		
↑↓→← : Move Enter : Select +/-/PU/PD:Value: F10: Save ESC: Exit F1:General Help			
F5:Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults			

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

Set any IRQ to Enabled to allow activity at the IRQ to wake up the system from a power saving mode.

Press <Esc> to return to the Power Management Setup screen.

## PNP/PCI Configurations

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

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

### Phoenix - AwardBIOS CMOS Setup Utility PnP/PCI Configurations

		Item Help
Reset Configuration Data	[Disabled]	<b>Menu Level ▶</b>  Default is Disabled. Select Enabled to reset Extended System Configuration Data (ESCD) when you exit Setup if you have installed a new add-on and the system reconfiguration has caused such a serious conflict that the OS cannot boot
Resources Controlled by	[Auto(ESCD)]	
x IRQ Resources	Press Enter	
PCI/VGA Palette Snoop	[Disabled]	
Assign IRQ For USB	[Enabled]	

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

### 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 assignments to Legacy ISA, then that Interrupt Request Line is reserved for a legacy ISA expansion card. Press <Esc> to close the IRQ Resources sub-menu.

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

### PCI/VGA Palette Snoop (Disabled)

This item is designed to overcome some problems that can be caused by some non-standard VGA cards. This board includes a built-in VGA system that does not require palette snooping so you must leave this item disabled.

### Assign IRQ for USB (Enabled)

Names the interrupt request (IRQ) line assigned to the USB 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
CPU Vcore + 2.5V + 3.3V + 5V + 12V Voltage Battery Current CPU Temp CPU FAN Speed CAS FAN Speed		Menu Level ►

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

### Shutdown Temperature (Disabled)

Enables you to set the maximum temperature the system can reach before powering down.

### System Component Characteristics

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

## Frequency/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

Auto Detect DIMM/PCI Clk	[Enabled]	Item Help
Spread Spectrum	[Enabled]	Menu Level ►
CPU Clock	[100]	

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

#### Auto Detect DIMM/PCI Clk (Enabled)

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

#### Spread Spectrum (Enabled)

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

#### CPU Clock (100)

This item allows you to adjust the CPU clock to 100Mhz or 200MHz. You can key-in the numbers within the range to make a precise and ideal adjustment.

## 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.

## 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.

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**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.

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

## Chapter 4

# Using the Motherboard Software

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### 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.

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

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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.

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

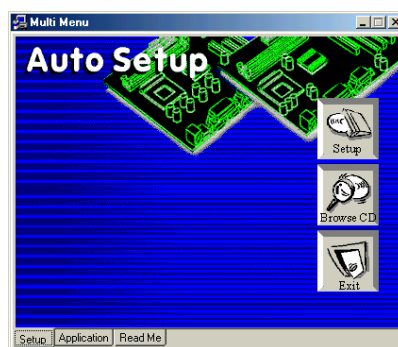
The Auto-install CD-ROM makes it easy for you to install the drivers and software for your motherboard.

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**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.

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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.



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**Note:** If the opening screen doesn't appear, double-click the file "setup.exe" in the root directory.

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## Setup Tab

<b>Setup</b>	Click the <b>Setup</b> button to run the software installation program. Select from the menu which software you want to install.
<b>Browse CD</b>	<p>The <b>Browse CD</b> button is the standard Windows command that allows you to open Windows Explorer and show the contents of the support CD.</p> <p>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.</p> <p>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.</p> <p>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.</p>
<b>Exit</b>	The <b>Exit</b> button closes the Auto Setup window.

## Application Tab

Lists the software utilities that are available on the CD.

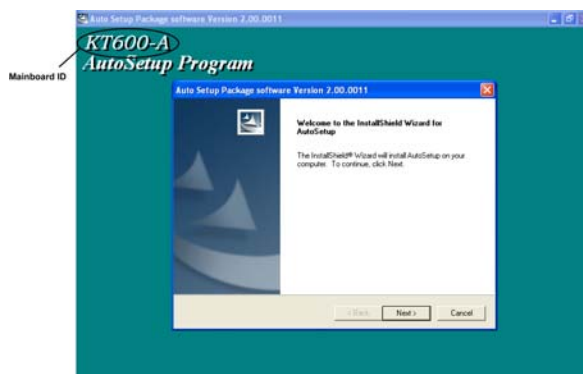
## Read Me Tab

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:

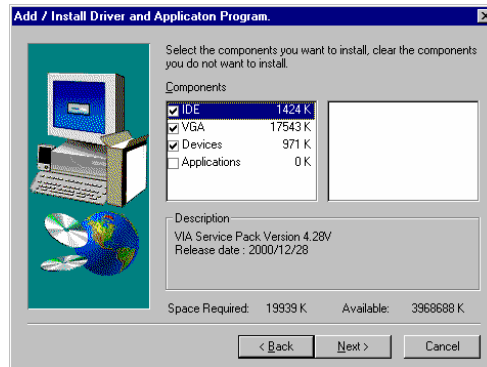
1. Click **Setup**. The installation program begins:



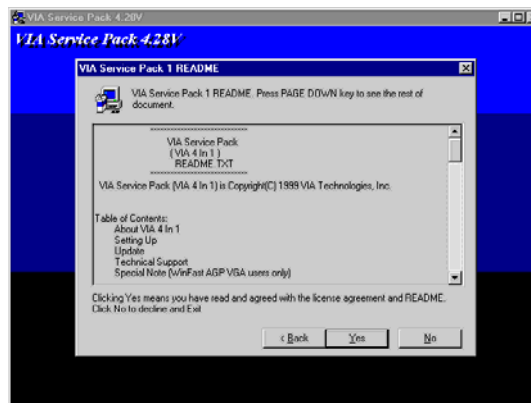
**Note:** The following screens are examples only. The screens and driver lists will be different according to the motherboard you are installing.

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.

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

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## 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

The PC-CILLIN 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.