

Preface

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Version 1.0b

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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:

Chapter 1 Introducing the Motherboard	Describes features of the motherboard, and provides a shipping checklist. Go to ⇒ page 1
Chapter 2 Installing the Motherboard	Describes installation of motherboard components. Go to ⇒ page 7
Chapter 3 Using BIOS	Provides information on using the BIOS Setup Utility. Go to ⇒ page 26
Chapter 4 Using the Motherboard Software	Describes the motherboard software. Go to ⇒ page 47

Features Translations

Caractéristiques

Processeur	La carte mère utilise le Socket K8 AMD 754 supportant un bus frontal (FSB) de 800 MHz et un bus système de 1600 MT/s														
Chipset	<p>Le chipset sur cette carte mère comprend le chipset SiS755 Northbridge combiné avec le chipset SiS964 ou SiS964L Southbridge. Le tableau ci-dessous explique brièvement certaines des caractéristiques avancées du chipset.</p> <table border="1"> <thead> <tr> <th>Chipset</th> <th>Caractéristiques</th> </tr> </thead> <tbody> <tr> <td rowspan="5">SiS755 NB</td> <td>Supporte les CPU AMD K8</td> </tr> <tr> <td>Supporte le pilote de bus compatible HyperTransport™ avec capacité de compensation auto</td> </tr> <tr> <td>Compatible avec AGP 3.0 Universel</td> </tr> <tr> <td>Supporte l'interface AGP 8X/4X avec w/Fast Write Transaction</td> </tr> <tr> <td>Supporte les registres de configuration de gestion d'alimentation PCI pour prendre en charge le contrôleur de coupure d'alimentation ACPI</td> </tr> <tr> <td rowspan="5">SiS964/964L SB</td> <td>Entretien simultané pour tous les Périphériques DMA: Contrôleurs IDE Doubles, contrôleur SATA (<i>excepté pour SiS964L</i>), trois USB 1.1 HC, USB 2.0 HC, Contrôleur MAC et Contrôleur DMA Audio/Modem</td> </tr> <tr> <td>Conforme aux spécifications PCI 2.3</td> </tr> <tr> <td>Prend en charge les réseaux domestiques full duplex 10base-T, 100base-Tx, 1Mb/s & 10Mb/s</td> </tr> <tr> <td>Conforme à AC' 97 v2.3 supportant 6 Chanaux de sortie haut-parleur AC' 97 et Modem V.90 HSP</td> </tr> <tr> <td>Gestion d'Alimentation avancée</td> </tr> </tbody> </table>	Chipset	Caractéristiques	SiS755 NB	Supporte les CPU AMD K8	Supporte le pilote de bus compatible HyperTransport™ avec capacité de compensation auto	Compatible avec AGP 3.0 Universel	Supporte l'interface AGP 8X/4X avec w/Fast Write Transaction	Supporte les registres de configuration de gestion d'alimentation PCI pour prendre en charge le contrôleur de coupure d'alimentation ACPI	SiS964/964L SB	Entretien simultané pour tous les Périphériques DMA: Contrôleurs IDE Doubles, contrôleur SATA (<i>excepté pour SiS964L</i>), trois USB 1.1 HC, USB 2.0 HC, Contrôleur MAC et Contrôleur DMA Audio/Modem	Conforme aux spécifications PCI 2.3	Prend en charge les réseaux domestiques full duplex 10base-T, 100base-Tx, 1Mb/s & 10Mb/s	Conforme à AC' 97 v2.3 supportant 6 Chanaux de sortie haut-parleur AC' 97 et Modem V.90 HSP	Gestion d'Alimentation avancée
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	Gestion d'Alimentation avancée														
Mémoire	<ul style="list-style-type: none"> • Peut recevoir deux logements sans mémoire tampon en 2.5V de 184 broches • Supporte le module mémoire DDR/SDRAM jusqu'à 200/266/333/400 MHz • Chaque logement supporte jusqu'à 1 Go avec une capacité maximum totale de 2 Go 														
Graphiques	Cette carte mère comprend un logement AGP qui offre huit fois la bande passante des spécifications AGP d'origine. L'AGP 3.0 (8X AGP) offre une amélioration significative de performances accompagnée d'améliorations de fonctionnalités sur l'AGP 2.0. 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.														

Audio	Il est conforme aux spécifications AC'97 2.3 et supporte les extensions de CODEC multiples avec vitesses d'échantillonnage variables indépendantes et effets 3D intégrés. Elle intègre la technologie de convertisseur propriétaire pour obtenir une SNR élevée, supérieure à 90 dB. Le circuit de l'interface numérique fonctionne à partir d'une alimentation en 5V/3.3V et supporte une fonction de sortie SPDIF conforme AC'97 2.3 permettant une connexion facile à partir du PC sur d'autres produits électroniques. Les fonctions supplémentaires comprennent le support de quatre entrées stéréo de niveau de ligne analogique.
Options d'Extensions	<p>La carte mère est livrée avec les options d'extensions suivantes:</p> <ul style="list-style-type: none"> • Un logement AGP (supporte la carte 1.5V AGP seulement) • Cinq logements PCI 32 bits • Un logement Communications Network Riser (CNR) (Interface AC' 97 seulement) • Deux connecteurs IDE supportant quatre canaux IDE et une interface de lecteur de disquette • Deux connecteurs SATA supportant une deux disques durs SATA <p>Cette carte mère supporte la maîtrise de bus Ultra DMA avec des vitesses de transfert de 133/100/66/33 Mo/sec.</p>
LAN Interne (optionnel)	<p>Le LAN Interne est un Fast Ethernet Phyceiver avec interface MII sur puce MAC. Il offre les fonctionnalités suivantes:</p> <ul style="list-style-type: none"> • Supporte l'interface MII • Supporte le fonctionnement en 10/100 Mbps • Supporte le fonctionnement en half/full duplex • Fonctionnement en 3.3V avec signal 5V • Fonctionnement à faible consommation d'énergie
E/S Intégrées	<p>La carte mère possède un jeu complet de ports d'E/S et de connecteurs:</p> <ul style="list-style-type: none"> • Deux ports PS/2 pour souris et clavier • Un port série • Un port parallèle • Quatre ports USB • Un port LAN (optionnel) • Prises audio pour microphone, ligne d'entrée et ligne de sortie

Microprogramme BIOS	<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">• Gestion d'alimentation• Alarmes de réveil• Paramètres de CPU• Synchronisation de CPU et de mémoire <p>Le microprogramme peut aussi être utilisé pour définir les paramètres pour les vitesses d'horloges de différents processeurs.</p>
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Certaines spécifications matérielles et éléments de logiciels peuvent être modifiés sans avertissement.

Funktionen

Prozessor	Das Motherboard verwendet einen AMD K8 Socket 754, der 800 MHz Frontsidebus (FSB) und 1600 MT/s Systembus unterstützt.														
Chipsatz	<p>Der Chipsatz dieses Motherboards verfügt über die SiS755 Northbridge, die mit der SiS964 oder SiS964L 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">SiS755 NB</td> <td>Unterstützt AMD K8-CPU's</td> </tr> <tr> <td>Unterstützt HyperTransport™ –kompatiblen Bustreiber mit autom. Kompensationsfähigkeit</td> </tr> <tr> <td>Entspricht Universal AGP v3.0</td> </tr> <tr> <td>Unterstützt AGP 8X/4X-Interface mit Fast Write-Abwicklung</td> </tr> <tr> <td>Unterstützung PCI-Power-Management-Konfigurationsregister zur Unterstützung eines ACPI Power Down-Controllers</td> </tr> <tr> <td rowspan="5">SiS964/964L SB</td> <td>Gleichzeitiger Zugriff auf alle DMA-Geräte: Duale IDE-Controller, SATA-Controller (<i>außer bei SiS964L</i>), drei USB 1.1 HC, USB 2.0 HC, MAC-Controller und Audio/Modem DMA-Controller</td> </tr> <tr> <td>Kompatibel mit der PCI 2.3-Spezifikation</td> </tr> <tr> <td>Unterstützung für Vollduplex 10base-T, 100base-Tx, 1Mb/Sek. & 10 Mb/Sek. Home-Networking</td> </tr> <tr> <td>Kompatibel mit AC'97 v2.3; Unterstützung für sechs Kanäle für AC'97-Lautsprecherauszüge sowie für ein V.90 HSP-Modem</td> </tr> <tr> <td>Advanced Power Management</td> </tr> </tbody> </table>	Chipsatz	Funktionen	SiS755 NB	Unterstützt AMD K8-CPU's	Unterstützt HyperTransport™ –kompatiblen Bustreiber mit autom. Kompensationsfähigkeit	Entspricht Universal AGP v3.0	Unterstützt AGP 8X/4X-Interface mit Fast Write-Abwicklung	Unterstützung PCI-Power-Management-Konfigurationsregister zur Unterstützung eines ACPI Power Down-Controllers	SiS964/964L SB	Gleichzeitiger Zugriff auf alle DMA-Geräte: Duale IDE-Controller, SATA-Controller (<i>außer bei SiS964L</i>), drei USB 1.1 HC, USB 2.0 HC, MAC-Controller und Audio/Modem DMA-Controller	Kompatibel mit der PCI 2.3-Spezifikation	Unterstützung für Vollduplex 10base-T, 100base-Tx, 1Mb/Sek. & 10 Mb/Sek. Home-Networking	Kompatibel mit AC'97 v2.3; Unterstützung für sechs Kanäle für AC'97-Lautsprecherauszüge sowie für ein V.90 HSP-Modem	Advanced Power Management
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Speicher	<ul style="list-style-type: none"> • Nimmt zwei ungepufferte 2.5V 184-Pin Steckplätze auf • Unterstützt DDR/SDRAM bis zu 200/266/333/400 MHz SDRAM-Speichermodul • Jeder Steckplatz unterstützt bis zu 1 GB mit einer maximalen Gesamtkapazität von bis zu 2 GB 														
Grafik	Das Motherboard enthält einen AGP-Steckplatz mit der achtfachen Bandbreite der ursprünglichen AGP-Spezifikation. AGP 3.0 (8X AGP) bietet gegenüber AGP 2.0 eine erhebliche Leistungssteigerung und verbesserte Features. Dieses Interface stellt die natürliche Weiterentwicklung des bestehenden AGP dar, um den stetig anwachsenden Anforderungen an die Grafikschnittstellen innerhalb der Workstations und Desktop-Umgebungen gerecht zu werden.														

Audio	Das 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 Volt /3.3 Volt-Netzteil betrieben und unterstützt zum einfachen Anschluss an einen PC oder andere elektronische Geräte eine SPDIF-Out-Funktion. Weitere Funktionen beinhalten z.B. die Unterstützung von vier analogen Line-Level-Eingängen.
Erweiterungsoptionen	Das Motherboard bietet die folgenden Erweiterungsoptionen: <ul style="list-style-type: none"> • Einen AGP-Steckplatz (unterstützt nur 1.5V AGP Interface) • Fünf 32-bit PCI-Steckplätze • Einen Steckplatz für Communications Network Riser (CNR) (nur AC'97-Interface) • Zwei IDE-Stecker, die vier IDE-Kanäle und eine Schnittstelle für ein Floppydiskettenlaufwerk unterstützen • Zwei SATA-Anschlüsse, die Zwei SATA-festplatten Dieses Motherboard unterstützt Ultra DMA Bus-Mastering mit Übertragungsraten von 133/100/66/33 MB/s.
Integriertes LAN (optional)	Der Integriertes LAN ist ein Fast Ethernet Phyceiver mit einem MII-Interface und einem MAC-Chip. Er hat folgende Funktionen: <ul style="list-style-type: none"> • Unterstützung für MII-Interface • Unterstützung für 10/100 Mbps-Betrieb • Unterstützung für Halb-/Voll duplexbetrieb • 3.3 Volt-Betrieb mit 5 Volt-Signalen • Geringer Stromverbrauch beim Betrieb
Integrierte I/O	Das Motherboard verfügt über einen kompletten Satz von I/O-Schnittstellen und Anschlüssen: <ul style="list-style-type: none"> • Zwei PS/2-Schnittstellen für Maus und Tastatur • Eine serielle Schnittstelle • Eine parallele Schnittstelle • Vier USB-Schnittstellen • Eine LAN-Schnittstelle (optional) • Audiobuchsen für Mikrofon, Line-in und Line-out
BIOS-Firmware	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"> • Energieverwaltung • Wake-up-Alarm • CPU-Parameter • CPU und Speichertiming Mit der Firmware können auch die Parameter für verschiedene Prozessortaktgeschwindigkeiten eingestellt werden.



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

Caratteristiche

Processore	La scheda madre utilizza una piattaforma AMD K8 a 754 pin che supporta un front side bus (FSB) a 800 MHz ed un bus di sistema a 1600 MT/s.														
Chipset	<p>Il chipset è composto dai chipset Northbridge SiS755 e Southbridge SiS964 o SiS964L. La tabella sottostante presenta una panoramica delle funzioni avanzate del chipset:</p> <table border="1"> <thead> <tr> <th>Chipset</th> <th>Caratteristiche</th> </tr> </thead> <tbody> <tr> <td rowspan="5">SiS755 NB</td> <td>Supporta CPU AMD K8</td> </tr> <tr> <td>Supporto del Bus HyperTransport™ con funzione di autocompensazione automatica</td> </tr> <tr> <td>Conforme Universal AGP 3.0</td> </tr> <tr> <td>Supporta l'interfaccia AGP 8X/4X con Funzione Transizione Fast Write</td> </tr> <tr> <td>Supporto per la gestione "Risparmio Energia" PCI garantendo la compatibilità con i controller ACPI</td> </tr> <tr> <td rowspan="5">SiS964/964L SB</td> <td>Servizio Simultaneo a tutte le periferiche DMA: Doppio Controller IDE, Controller SATA (<i>ad eccezione del SiS964L</i>), Tree HC USB 1.1 HC, USB 2.0 HC, Controller MAC e controller DMA Audio/Modem</td> </tr> <tr> <td>Conforme allo standard PCI 2.3</td> </tr> <tr> <td>Supporto home networking full duplex per 10base-T, 100base-Tx, 1Mb/s & 10 Mb/s</td> </tr> <tr> <td>Conforme allo standard AC'97 v2.3 garantendo il supporto a 6 Canali delle uscite speaker AC'97 e modem HSP-Modem V.90</td> </tr> <tr> <td>Gestione avanzata per il risparmio energetico</td> </tr> </tbody> </table>	Chipset	Caratteristiche	SiS755 NB	Supporta CPU AMD K8	Supporto del Bus HyperTransport™ con funzione di autocompensazione automatica	Conforme Universal AGP 3.0	Supporta l'interfaccia AGP 8X/4X con Funzione Transizione Fast Write	Supporto per la gestione "Risparmio Energia" PCI garantendo la compatibilità con i controller ACPI	SiS964/964L SB	Servizio Simultaneo a tutte le periferiche DMA: Doppio Controller IDE, Controller SATA (<i>ad eccezione del SiS964L</i>), Tree HC USB 1.1 HC, USB 2.0 HC, Controller MAC e controller DMA Audio/Modem	Conforme allo standard PCI 2.3	Supporto home networking full duplex per 10base-T, 100base-Tx, 1Mb/s & 10 Mb/s	Conforme allo standard AC'97 v2.3 garantendo il supporto a 6 Canali delle uscite speaker AC'97 e modem HSP-Modem V.90	Gestione avanzata per il risparmio energetico
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	Gestione avanzata per il risparmio energetico														
Memoria	<ul style="list-style-type: none"> • Presenta due slot a 184 pin 2,5 V unbuffered • Supporta moduli di memoria DDR SDRAM fino a 200/266/333/400 Mhz • Ciascun slot supporta fino a 1 GB per una capacità totale massima di 2 GB 														
Grafica	La scheda madre include uno slot AGP che fornisce otto volte la larghezza di banda delle specifiche AGP originarie. Lo standard AGP 3.0 (8X AGP) garantisce prestazioni significativamente superiori oltre ad altri miglioramenti rispetto allo standard AGP 2.0. Questa interfaccia rappresenta la naturale evoluzione dell'AGP esistente ed è in grado di soddisfare le sempre maggiori aspettative del mercato nel campo delle interfacce grafiche, sia in ambiente workstation che in ambiente desktop														

Audio	<p>Il 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 5V/3.3V 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</p>
Opzioni di espansione	<p>La scheda madre presenta le seguenti opzioni di espansione:</p> <ul style="list-style-type: none"> • Uno slot AGP (supporta solo l'interfaccia 1.5V AGP) • cinque slot PCI 32 bit • Una slot Communications e Network Riser (CNR) (solo interfaccia AC' 97) • Due connettori IDE che supportano quattro canali IDE e un floppy disk • Due connettori SATA che supportano unità disco rigido connettori SATA <p>La scheda madre supporta il bus mastering Ultra DMA con transfer rate 133/100/66/33 MB/sec.</p>
LAN integrato (opzionale)	<p>La LAN integrato è una periferica Fast Ethernet dotata di interfaccia MII per chip MAC. È dotata delle seguenti caratteristiche:</p> <ul style="list-style-type: none"> • Dotata di interfaccia MII • Supporto – 100/10 Mbps • Supporto Half e Full Duplex • Funzionamento a 3.3V con segnale a 5V • Basso consumo energetico
I/O Integrati	<p>La scheda madre è dotata da una serie completa di porte e connettori I/O:</p> <ul style="list-style-type: none"> • Due porte PS/2 per tastiera e mouse • una porta seriale • Una porta parallela • Quattro porte USB • Una porta LAN (opzionale) • Jack audio per microfono, ingresso linea e uscita linea
Firmware BIOS	<p>Questa scheda madre adotta un BIOS Award che permette agli utenti di configurare le caratteristiche principali del sistema, inclusi:</p> <ul style="list-style-type: none"> • Gestione energia • Allarmi wake up • Parametri CPU • Temporizzazione CPU e memoria <p>Il firmware può anche essere usato per impostare i parametri per diverse velocità di clock.</p>



Alcune specifiche hardware o software potrebbero essere soggette a cambiamenti senza preavviso.

Características

Procesador	La placa principal usa un AMD K8 Ranura 754 que soporta bus de lado frontal 800 MHz (FSB) y el bus de sistema 1600 MT/s.														
Chipset	<p>El chipset en esta placa principal incluye la SiS755 Northbridge combinado con el chipset SiS964 o SiS964L Southbridge. La tabla abajo explica algunas de las características avanzadas del chipset:</p> <table border="1"> <thead> <tr> <th>Chipset</th> <th>Características</th> </tr> </thead> <tbody> <tr> <td rowspan="5">SiS755 NB</td> <td>Soporta CPUS de AMD K8</td> </tr> <tr> <td>Soporte HyperTransport™ con driver de bus conforme con la capacidad de auto-compensación</td> </tr> <tr> <td>Conforme con Universal AGP 3.0</td> </tr> <tr> <td>Soporta la interfaz AGP 8X/4X c/ Transacción de Escritura Rápida</td> </tr> <tr> <td>Soporta los registros de configuración de administración de suministro PCI para soportar el controlador de apagado ACPI</td> </tr> <tr> <td rowspan="5">SiS964/ 964L SB</td> <td>Servicio conjunto de todos los Dispositivos DMA: Controladores IDE Dual, controlador SATA (<i>excepto para SiS964L</i>), tres USB 1.1 HC, USB 2.0 HC, Controlador MAC y Controlador Sonido/Módem DMA</td> </tr> <tr> <td>Conforme con la especificación PCI 2.3</td> </tr> <tr> <td>Soporta la red de trabajo residencial de duplex completo 10base-T, 100base-Tx, 1 Mb/s & 10 Mb/s</td> </tr> <tr> <td>Conforme con AC'97 v2.3 que soporta 6 Canales de salidas de altoparlante AC'97 y V.90 HSP-Módem</td> </tr> <tr> <td>Administración de Suministro Avanzada</td> </tr> </tbody> </table>	Chipset	Características	SiS755 NB	Soporta CPUS de AMD K8	Soporte HyperTransport™ con driver de bus conforme con la capacidad de auto-compensación	Conforme con Universal AGP 3.0	Soporta la interfaz AGP 8X/4X c/ Transacción de Escritura Rápida	Soporta los registros de configuración de administración de suministro PCI para soportar el controlador de apagado ACPI	SiS964/ 964L SB	Servicio conjunto de todos los Dispositivos DMA: Controladores IDE Dual, controlador SATA (<i>excepto para SiS964L</i>), tres USB 1.1 HC, USB 2.0 HC, Controlador MAC y Controlador Sonido/Módem DMA	Conforme con la especificación PCI 2.3	Soporta la red de trabajo residencial de duplex completo 10base-T, 100base-Tx, 1 Mb/s & 10 Mb/s	Conforme con AC'97 v2.3 que soporta 6 Canales de salidas de altoparlante AC'97 y V.90 HSP-Módem	Administración de Suministro Avanzada
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	Administración de Suministro Avanzada														
Memoria	<ul style="list-style-type: none"> • Acomoda dos ranuras 2.5V 184-pin sin buffer • Soporta DDR/SDRAM hasta módulo de memoria 200/266/333/400 MHz SDRAM • Cada ranura soporta hasta 1 GB con una capacidad máxima total de 2 GB 														
Gráficas	Esta placa principal incluye una ranura AGP que provee ocho veces la ancha de banda de la especificación de AGP original. El AGP 3.0 (8X AGP) ofrece un aumento significativo en rendimiento junto con mejoramientos de característica para AGP 2.0. Esta interfaz representa la evolución natural del AGP existente para satisfacer las crecientes demandas enfocadas en las interfaces de gráficas dentro de los ambientes de estación de trabajo y sobremesas.														

Sonido	El conforma con la especificación AC'97 2.3 y soporta múltiples extensiones CODEC con índice de muestreo variable y efectos 3D incorporados. Incorpora la tecnología de conversor propietaria para lograr un SNR alto, mayor que 90 dB. El circuito de interfaz digital opera de un suministro de 5V/3.3V y soporta una función de salida SPDIF conforme con AC'97 2.3 que permite la conexión fácil del PC a otros productos electrónicos. Otras características incluyen soporte para cuatro entradas estereofónicas a nivel de línea analógica.
Opciones de Expansión	La placa principal viene con las sigtes. opciones de expansión: <ul style="list-style-type: none"> • Una ranura AGP (soporta interfaz 1.5V AGP solamente) • Cinco ranuras 32-bit PCI • Una ranura de Communications Network Riser (CNR) (Interfaz AC'97 solamente) • Dos conectores IDE que soportan cuatro canales IDE y una interfaz de unidad de disco floppy • Dos conectores SATA que soportan dos unidades rígidas SATA Esta placa principal soporta mastering de bus Ultra DMA con índices de transferencia de 133/100/66/33 MB/seg.
LAN Abordo (optativo)	El LAN Abordo es un Fast Ethernet Phyceiver con interfaz MII para el chip MAC. Provee las sigtes. características: <ul style="list-style-type: none"> • Soporta Interfaz MII • Soporta operación 10/100 Mbps • Soporta operación medio/full duplex • Operación 3.3V con señal 5V • Bajo consumo de operación
I/O Integrado	La placa principal tiene un juego completo de puertos y conectores I/O: <ul style="list-style-type: none"> • Dos puertos PS/2 para ratón y teclado • Un puerto serial • Un puerto paralelo • Cuatro puertos USB • Un puerto LAN (optativo) • Clavijas de sonido para micrófono, entrada y salida de línea
Firmware de BIOS	Esta placa principal usa Award! BIOS que habilita los usuarios a configurar muchas características de sistema que incluyen las sigtes.: <ul style="list-style-type: none"> • Administración de energía • Alarmas despertadoras • Parámetros de CPU • CPU y cronometraje de memoria El firmware también se puede usar para configurar parámetros para diferentes velocidades de reloj.



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

機能

プロセッサ	このメインボードは、800 MHz システムバス (FSB) と 1600 MT/s システムバスに対応した AMD K8 ソケット 754を搭載しています。						
チップセット	当マザーボードに搭載されているチップセットは、SiS755 Northbridge と、SiS964 か SiS964LかのSouthbridgeとで構成されたもので、下表に示される先進な機能をお届けします。 <table border="1" data-bbox="625 621 1179 1297"> <thead> <tr> <th data-bbox="625 621 737 680">チップセット名</th> <th data-bbox="742 621 1179 680">機能</th> </tr> </thead> <tbody> <tr> <td data-bbox="625 686 737 930"> SiS755 NB </td> <td data-bbox="742 686 1179 930"> AMD K8 CPUをサポート 自動補正機能付きの HyperTransport™対応バスドライバをサポート AGP 3.0に対応 高速書込み方式の AGP 8X/4X インターフェースをもサポート PCI電源管理設定登録機能でACPIパワーダウンコントロールをサポート </td> </tr> <tr> <td data-bbox="625 936 737 1297"> SiS964/ 964L SB </td> <td data-bbox="742 936 1179 1297"> 次のDMAデバイスを同時にサポート可能：デュアル IDE コントローラと、SATA コントローラ (SiS964Lの場合除外)、3つのUSB 1.1 HC、USB 2.0 HC、MACコントローラ、オーディオ/モデムDMA コントローラ PCI 2.3 仕様に準拠 全二重の10base-Tと100base-Txとの他に、1Mb/秒&10Mb/秒のホームネットワーク機能をもサポート AC'97 v2.3 に準拠することで6 チャンネル AC'97 スピーカ出力と V.90 HSP-モデムをサポート アドバンス電源管理機能有り </td> </tr> </tbody> </table>	チップセット名	機能	SiS755 NB	AMD K8 CPUをサポート 自動補正機能付きの HyperTransport™対応バスドライバをサポート AGP 3.0に対応 高速書込み方式の AGP 8X/4X インターフェースをもサポート PCI電源管理設定登録機能でACPIパワーダウンコントロールをサポート	SiS964/ 964L SB	次のDMAデバイスを同時にサポート可能：デュアル IDE コントローラと、SATA コントローラ (SiS964Lの場合除外)、3つのUSB 1.1 HC、USB 2.0 HC、MACコントローラ、オーディオ/モデムDMA コントローラ PCI 2.3 仕様に準拠 全二重の10base-Tと100base-Txとの他に、1Mb/秒&10Mb/秒のホームネットワーク機能をもサポート AC'97 v2.3 に準拠することで6 チャンネル AC'97 スピーカ出力と V.90 HSP-モデムをサポート アドバンス電源管理機能有り
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メモリー	<ul style="list-style-type: none"> 2つの非バッファ2.5V184ピン仕様のスロットを備え 200/266/333/400 MHzのDDR SDRAMモジュールをサポート 各スロットが1GBまで対応し、合計で2GBまでのメモリーをサポートします。 						
グラフィック	このマザーボードは、本来のAGP仕様の8倍の帯域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。AGP 3.0 (8X AGP) はAGP 2.0をより向上させた高度な性能を提供します。このインターフェースは、既存のAGPから無理なく自然な革新をはかり、ワークステーションやデスクトップ環境におけるグラフィックインターフェースに対するニーズを強化しています。						

オーディオ	これは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、独立で可変のサンプリング率と共に3D効果機能をも採用しています。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電源サブライで動作し、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	このメインボードには次の拡張オプションがあります： <ul style="list-style-type: none"> ● 1つのAGPスロット (1.5V AGPインターフェースのみに対応) ● 5つの32ビットPCIスロット ● 通信ネットワークライザ (CNR) スロット (AC'97インターフェースのみ) ● 2つのIDEコネクタで4つのIDEチャンネルとフロッピーディスクドライブインターフェースをサポート ● 2つのSATAコネクタ、これで2つのSATAドライブを接続可能 さらに、133/100/66/33 MB/秒の転送レートでUltraDMAバスマスタリングに対応しています。
オンボードLAN (オプション)	このオンボードLANはFast Ethernet Phyceiverであって、MACチップと接続するMIIインターフェースを取り入れ、かつ次の特徴があります。 <ul style="list-style-type: none"> ● MIIインターフェースをサポート ● 10/100 Mbps動作をサポート ● 半/全二重動作をサポート ● 5V仕様信号での3.3V動作 ● 低消費電力
統合の入出力ポート	このメインボードはフルセットのI/Oポートおよびコネクタを搭載しています。 <ul style="list-style-type: none"> ● マウスとキーボード用の2つのPS/2ポート ● リアルポート x 1 ● パラレルポート x 1 ● USBポート x 4 ● LANポート x 1 (オプション) ● マイクロフォンやラインイン、ラインアウトのオーディオジャック

BIOS ファームウェア	この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： <ul style="list-style-type: none">• 電源管理• Wake-up警告• CPUパラメータ• CPUおよびメモリのタイミング この他に、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。
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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。

특징

프로세서	본 마더보드는 800 MHz frontside bus (FSB) 및 1600 MT/s system bus 를 지원하는 AMD K8 소켓 754를 사용한다.						
칩셋	<p>본 마더보드에 있는 칩셋은 SiS755 Northbridge 와 SiS964 또는 SiS964L Southbridge 칩셋을 조합한다. 아래 표는 칩셋의 고급 기능을 간단히 설명한다.</p> <table border="1" data-bbox="625 569 1179 1186"> <thead> <tr> <th data-bbox="625 569 735 604">칩셋</th> <th data-bbox="740 569 1179 604">특징</th> </tr> </thead> <tbody> <tr> <td data-bbox="625 611 735 867">SiS755 NB</td> <td data-bbox="740 611 1179 867"> AMD K8 CPU 지원 자동 보정 기능을 지닌 HyperTransport™ 호환 버스 드라이버 지원 Universal AGP 3.0 호환 AGP 8X/4X 인터페이스 w/ Fast Write Transaction 지원 ACPI 파워 다운 컨트롤러 지원을 위한 PCI 전원 관리 구성 레지스터 지원 </td> </tr> <tr> <td data-bbox="625 873 735 1186">SiS964/964L SB</td> <td data-bbox="740 873 1179 1186"> 모든 DMA 장치 동시 지원: 듀얼 IDE 컨트롤러, SATA 컨트롤러 (SiS964L 제외), USB 1.1 HC 3 개, USB 2.0 HC, MAC 컨트롤러 및 오디오/모뎀 DMA 컨트롤러 PCI 2.3 사양 준수 전이중 100base-Tx, 1Mb/s 및 10Mb/s 홈 네트워킹 지원 6개 채널의 AC'97 스피커 출력 및 V.90 HSP-모뎀을 지원하는 AC'97 v2.3 호환 고급 전원 관리 </td> </tr> </tbody> </table>	칩셋	특징	SiS755 NB	AMD K8 CPU 지원 자동 보정 기능을 지닌 HyperTransport™ 호환 버스 드라이버 지원 Universal AGP 3.0 호환 AGP 8X/4X 인터페이스 w/ Fast Write Transaction 지원 ACPI 파워 다운 컨트롤러 지원을 위한 PCI 전원 관리 구성 레지스터 지원	SiS964/964L SB	모든 DMA 장치 동시 지원: 듀얼 IDE 컨트롤러, SATA 컨트롤러 (SiS964L 제외), USB 1.1 HC 3 개, USB 2.0 HC, MAC 컨트롤러 및 오디오/모뎀 DMA 컨트롤러 PCI 2.3 사양 준수 전이중 100base-Tx, 1Mb/s 및 10Mb/s 홈 네트워킹 지원 6개 채널의 AC'97 스피커 출력 및 V.90 HSP-모뎀을 지원하는 AC'97 v2.3 호환 고급 전원 관리
칩셋	특징						
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SiS964/964L SB	모든 DMA 장치 동시 지원: 듀얼 IDE 컨트롤러, SATA 컨트롤러 (SiS964L 제외), USB 1.1 HC 3 개, USB 2.0 HC, MAC 컨트롤러 및 오디오/모뎀 DMA 컨트롤러 PCI 2.3 사양 준수 전이중 100base-Tx, 1Mb/s 및 10Mb/s 홈 네트워킹 지원 6개 채널의 AC'97 스피커 출력 및 V.90 HSP-모뎀을 지원하는 AC'97 v2.3 호환 고급 전원 관리						
메모리	<ul style="list-style-type: none"> • 2 개의 unbuffered 2.5V 184 핀 슬롯 사용 • DDR/SDRAM 최대 200/266/333/400 MHz 메모리 모듈 지원 • 각 슬롯은 최대 1 GB 지원. 총 최대 용량은 2 GB 						
그래픽	본 마더보드는 기존 AGP 사양보다 8배의 대역폭을 제공하는 AGP 슬롯이 포함되어 있다. AGP 3.0 (8X AGP) 은 AGP 2.0의 기능을 보강한 월등한 성능을 제공한다. 이 인터페이스는 기존 AGP의 자연적 진화로 워크스테이션과 데스크 탑 환경에서 대폭 증가된 그래픽 인터페이스의 요구 조건을 만족시킨다.						
오디오	는 AC'97 2.3 사양에 부합되며 독립적인 다양한 샘플링 속도와 내장 3D 효과를 지닌 다양한 코덱 확장을 지원한다. 90 dB 이상의 고품질의 SNR을 위해 적합한 컨버터 기술을 사용하였다. 디지털 인터페이스 회로는 5V/3.3V 파워 쉐플라이로 작동되며, AC'97 2.3 부합 SPDIF 출력 기능을 지원하여 PC와 다른 전기 제품의 연결을 용이하게 한다. 그 밖에도 4 개의 아날로그 라인 레벨 스테레오 입력을 지원한다.						

확장 옵션	<p>본 마더보드는 다음과 같은 확장 옵션이 있다:</p> <ul style="list-style-type: none"> • AGP 슬롯 1 개 (1.5V AGP 인터페이스만 지원) • 32 비트 PCI 슬롯 5 개 • Communications Network Riser (CNR) 슬롯 1 개 (AC' 97 인터페이스에만 해당) • 4 개의 IDE 채널 및 1 개의 플로피 디스크 드라이브 인터페이스를 지원하는 2 개의 IDE 커넥터 • 2 개의 SATA 하드 드라이브를 지원하는 SATA 커넥터 2 개 <p>본 마더보드는 전송 속도 133/100/66/33 MB/sec 의 Ultra DMA bus mastering 을 지원한다.</p>
보드 내장 LAN (선택 사항)	<p>보드 내장 LAN은 MAC 칩에 MII 인터페이스를 지닌 패스트 이더넷 Phyceiver 이며 다음과 같은 특징을 지닌다:</p> <ul style="list-style-type: none"> • MII 인터페이스 지원 • 10/100 Mbps 오퍼레이션 지원 • half/full 이중 오퍼레이션 지원 • 5V 시그널과 함께 3.3V 오퍼레이션 • 낮은 전력 소모
통합 I/O	<p>본 마더보드에는 풀 세트의 I/O 포트와 커넥터가 있다:</p> <ul style="list-style-type: none"> • 마우스와 키보드용 PS/2 포트 2 개 • 시리얼 포트 1개 • 패러럴 포트 1 개 • USB 포트 4개 • LAN 포트 1 개(선택 사항) • 마이크용 오디오 잭, 라인 입력과 라인 출력
BIOS 펌웨어	<p>이 메인 보드는 Award BIOS 를 사용하여 사용자는 다음과 같은 시스템 기능을 구성할 수 있다:</p> <ul style="list-style-type: none"> • 전원 관리 • 기상 알람 • CPU 파라미터 • CPU 및 메모리 타이밍 <p>펌웨어는 다른 프로세서의 클럭 속도 설정에도 사용할 수 있다.</p>



하드웨어 사양 및 소프트웨어 아이템은 사전 통지 없이 변경될 수 있습니다.

功能

處理器	本主機板採用AMD K8 插槽 754，可支援800 MHz前端匯流排及1600 MT/s系統匯流排。														
晶片組	<p>本主機板係以SiS755北橋晶片組搭配SiS964 或 SiS964L南橋晶片組，具有如下表所述之先進功能：</p> <table border="1" data-bbox="623 537 1180 1157"> <thead> <tr> <th data-bbox="623 537 737 575">晶片組</th> <th data-bbox="742 537 1180 575">功能</th> </tr> </thead> <tbody> <tr> <td data-bbox="623 581 737 814" rowspan="5">SiS755 NB</td> <td data-bbox="742 581 1180 613">支援AMD K8 CPU</td> </tr> <tr> <td data-bbox="742 619 1180 674">支援具有自動補償功能的 HyperTransport™ 相容匯流排驅動程式</td> </tr> <tr> <td data-bbox="742 680 1180 711">相容於AGP 3.0規格</td> </tr> <tr> <td data-bbox="742 718 1180 749">支援AGP 8X/4X 介面(有無快速功能均可)</td> </tr> <tr> <td data-bbox="742 756 1180 810">支援PCI電源管理設定登錄，可支援ACPI斷電控制器</td> </tr> <tr> <td data-bbox="623 816 737 1157" rowspan="5">SiS964/964L SB</td> <td data-bbox="742 816 1180 926">同時支援所有DMA設備，包括：雙IDE控制器、SATA控制器 (SiS964L機型不適用)、3個USB 1.1 HC、USB 2.0 HC、MAC控制器、及音訊/數據器DMA控制器</td> </tr> <tr> <td data-bbox="742 932 1180 963">相容於 PCI 2.3 規格</td> </tr> <tr> <td data-bbox="742 970 1180 1052">支援全雙工 10base-T及100base-Tx，同時也支援 1Mb/秒 & 10 Mb/秒的家庭無線網路 (home networking)</td> </tr> <tr> <td data-bbox="742 1058 1180 1113">相容於AC'97 v2.3，可支援 6聲頻的AC'97 喇叭輸出以及V.90 HSP-數據器</td> </tr> <tr> <td data-bbox="742 1119 1180 1150">具備先進電源管理功能</td> </tr> </tbody> </table>	晶片組	功能	SiS755 NB	支援AMD K8 CPU	支援具有自動補償功能的 HyperTransport™ 相容匯流排驅動程式	相容於AGP 3.0規格	支援AGP 8X/4X 介面(有無快速功能均可)	支援PCI電源管理設定登錄，可支援ACPI斷電控制器	SiS964/964L SB	同時支援所有DMA設備，包括：雙IDE控制器、SATA控制器 (SiS964L機型不適用)、3個USB 1.1 HC、USB 2.0 HC、MAC控制器、及音訊/數據器DMA控制器	相容於 PCI 2.3 規格	支援全雙工 10base-T及100base-Tx，同時也支援 1Mb/秒 & 10 Mb/秒的家庭無線網路 (home networking)	相容於AC'97 v2.3，可支援 6聲頻的AC'97 喇叭輸出以及V.90 HSP-數據器	具備先進電源管理功能
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	具備先進電源管理功能														
記憶體	<ul style="list-style-type: none"> • 搭配有2個無緩衝2.5v 184針之插槽 • 支援高達200/266/333/400 MHz 之DDR SDRAM模組。 • 各插槽支援1GB記憶體，共可支援高達2GB的記憶體。 														
繪圖卡	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。此AGP 3.0 (8X AGP)能夠顯著增強AGP 2.0之性能以及增其特色。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。														
音效	相容於AC'97 2.3 規格，且支援多CODEC擴充子集，具有獨立的可變取樣率及內建的3D效果功能。本編解碼器具有一專屬的轉換技術，能夠得到更高的SNR(實際高達90dB)。該數位介面電路可使用5V/3.3V的電源，支援符合AC'97 2.3規格的SPDIF輸出功能，能夠使其他 電子產品更容易地與連接電腦連接。再者，也提供4種類比線級立體音效輸入。														

擴充選項	<p>主機板機載有下列擴充選項:</p> <ul style="list-style-type: none"> • 1個AGP插槽(僅支援1.5伏特電壓規格) • 5個32位元PCI插槽 • 1個通訊網路附加卡(Communications Network Riser, CNR)插槽(僅支援AC'97介面) • 2個IDE連接器，支援4個IDE通道及1個軟碟機介面 • 2個SATA連接器，可連接2個SATA硬碟 <p>此外，也支援Ultra DMA 匯流排主控功能，可提供133/100/66/33 MB/sec之傳輸速率。</p>
機載LAN功能 (選購)	<p>機載LAN為一個高速乙太網路 Phyceiver，具有連接至MAC晶片的 MII 介面。此外，尚具有如下特點:</p> <ul style="list-style-type: none"> • 支援 MII 介面 • 支援 10/100 Mbps 傳輸 • 支援半/全雙工運作 • 動作電壓3.3V，信號電壓5V • 耗電量低
整合的輸入出功能	<p>本主機板完整地支援各種 I 輸出入及連接器：</p> <ul style="list-style-type: none"> • 2個 PS/2 埠，分供滑鼠及鍵盤連接 • 1個串列埠 • 1個平行埠 • 4個USB埠 • 1個LAN埠(選購) • 麥克風、線級輸入及線級輸出音效端子
BIOS 韌體	<p>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：</p> <ul style="list-style-type: none"> • 電源管理 • 喚醒警示 • CPU參數 • CPU及記憶體時脈 <p>本BIOS也可用以設定各種有關處理器頻率的參數</p>



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。

功能

处理器	主板使用 AMD K8 Socket 754 插座，支持 800 MHz 前端总线 (FSB) 和 1600 MT/s 系统总线。														
芯片组	<p>此主板使用了 SiS755 北桥和 SiS964 或 SiS964L 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">SiS755 NB</td> <td>支持 AMD K8 CPU</td> </tr> <tr> <td>支持带自动补偿功能的 HyperTransport™ 总线驱动程序</td> </tr> <tr> <td>符合通用 AGP 3.0 标准</td> </tr> <tr> <td>支持带快写处理功能的 AGP 8X/4X 接口</td> </tr> <tr> <td>支持 PCI 电源管理配置寄存器，用于支持 ACPI 掉电控制器</td> </tr> <tr> <td rowspan="5">SiS964/964L SB</td> <td>所有 DMA 设备的并发服务：双 IDE 控制器、SATA 控制器 (SiS964L 除外)、3 个 USB 1.1 HC、USB 2.0 HC、MAC 控制器和音频/调制解调器 DMA 控制器</td> </tr> <tr> <td>符合 PCI 2.3 规格</td> </tr> <tr> <td>支持全双工 10base-T、100base-Tx、1Mb/s & 10 Mb/s 本地网络</td> </tr> <tr> <td>符合 AC'97 v2.3 (支持 AC'97 扬声器 6 通道) 标准和 V.90 HSP-Modem 标准</td> </tr> <tr> <td>高级电源管理</td> </tr> </tbody> </table>	芯片组	功能	SiS755 NB	支持 AMD K8 CPU	支持带自动补偿功能的 HyperTransport™ 总线驱动程序	符合通用 AGP 3.0 标准	支持带快写处理功能的 AGP 8X/4X 接口	支持 PCI 电源管理配置寄存器，用于支持 ACPI 掉电控制器	SiS964/964L SB	所有 DMA 设备的并发服务：双 IDE 控制器、SATA 控制器 (SiS964L 除外)、3 个 USB 1.1 HC、USB 2.0 HC、MAC 控制器和音频/调制解调器 DMA 控制器	符合 PCI 2.3 规格	支持全双工 10base-T、100base-Tx、1Mb/s & 10 Mb/s 本地网络	符合 AC'97 v2.3 (支持 AC'97 扬声器 6 通道) 标准和 V.90 HSP-Modem 标准	高级电源管理
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	高级电源管理														
内存	<ul style="list-style-type: none"> 提供 2 个非缓冲 2.5V 184 pin 插槽 支持 200/266/333/400MHz DDR/SDRAM 内存条 每个插槽支持 1 GB，总共最大可支持 2 GB 														
图形	该主板包括一个 AGP 插槽，可提供普通 AGP 规格 8 倍的带宽。AGP 3.0 (8X AGP) 在增强了 AGP 2.0 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。														
音频	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 SNR (信噪比)。数字接口电路可以在 5V/3.3V 电源下工作，并支持符合 AC'97 2.3 规格的 SPDIF 输出功能，此功能可以方便的将 PC 与其它电子产品连接在一起。其它功能包括支持 4 路模拟线路级立体声输入。														

扩展 选项	<p>此主板提供如下扩展选项：</p> <ul style="list-style-type: none"> • 1 个 AGP 插槽（只支持 1.5V AGP 接口） • 5 个 32 位 PCI 扩展插槽 • 1 个通信网络转接（CNR）插槽（仅对于 AC'97 接口） • 2 个 IDE 接口，可支持 4 个 IDE 通道；1 个软驱接口 • 2 个 SATA 接口，支持 2 个 SATA 硬盘 <p>此主办支持 Ultra DMA 总线控制，传输速率可达 133/100/66/33 MB/sec。</p>
Onboard LAN (可选)	<p>Onboard LAN 是一个高速以太网 Phyceiver，带有到 MAC 芯片的 MII 接口。它具有以下特点：</p> <ul style="list-style-type: none"> • 支持 MII 接口 • 支持 10/100 Mbps 工作 • 支持半双工/全双工工作 • 3.3V 工作，5V 信号 • 低功耗
集成 I/O	<p>此主板具有完整的 I/O 端口和插孔：</p> <ul style="list-style-type: none"> • 2 个用于连接鼠标和键盘的 PS/2 端口 • 1 个串口 • 1 个并口 • 4 个 USB 端口 • 1 个 LAN 端口（可选） • 麦克风、线入和线出声音插孔
BIOS	<p>此主板使用 Award BIOS，可以让用户自己配置以下系统功能：</p> <ul style="list-style-type: none"> • 电源管理 • 唤醒报警 • CPU 参数 • CPU 和记忆的定时 <p>还可用于设置不同处理器时钟速度的参数。</p>



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Chapter 1

Introducing the Motherboard

Introduction

Thank you for choosing 755-A2 motherboard. The 755-A2 is designed to fit the newest and advanced AMD K8 processors. This 64-bit and 32-bit x86 PC processor brings continued performance scaling for applications that demand multiprocessor scalability, larger addressable memory, better multimedia performance, and improvements in computational accuracy.

Based on the ATX form factor, the motherboard incorporates the SiS755 Northbridge and SiS964/964(L) Southbridge chipsets. The SiS755 Northbridge features the HyperTransport™ compliant bus driver technology to support AMD Athlon 64 processors up to 1600MT/s data rate. It also support external AGP slot with AGP 4X/8X capability and Fast Write Transactions. The “HyperTransport” technology is designed to increase the communication speed between integrated circuits in computers up to 48 times faster, helps reduce the number of buses in a system and reduce system bottlenecks and reduce the system bottlenecks.

The SiS964/964(L) Southbridge on the other hand implements an EHCI compliant interface that provides 480Mb/s bandwidth for eight USB 2.0 ports, integrates AC'97 v2.3 compliance audio controller that features a 6-channels of audio speaker out and HSP v.90 modem support, the SiS964 Southbridge integrated Serial ATA Host Controller compliant with SATA 1.0 specification which supports 1.5Gb/s bandwidth for each serial port and support IDE channels supporting PIO mode 0,1,2,3,4 and Ultra DMA 133/100/66/33.

This high performance motherboard is intended to give customers a high quality, rich multimedia solution and state-of-the-art technology. It provides a complete set of I/O ports, such as dual SATA interfaces, a floppy controller, a high-speed serial port, an EPP/ECP capable bi-directional parallel port connector, eight USB (Universal Serial Bus) connectors, LAN, a PS/2 keyboard and mouse connector, and audio jacks for microphone, line-in, line-out. One AGP slot (support 1.5V AGP interface only), five PCI local bus slots and one CNR Communication and Networking Riser slot providing expandability for add-on peripheral cards.

Features

Processor	The motherboard uses the AMD K8 Socket 754 that supports 800 MHz frontside bus (FSB) and 1600 MT/s system bus.														
Chipset	<p>The chipset on this motherboard includes the SiS755 Northbridge combine with SiS964 or SiS964L Southbridge chipset. The table below briefly explains some of the chipset's advanced features.</p> <table border="1"> <thead> <tr> <th>Chipset</th> <th>Features</th> </tr> </thead> <tbody> <tr> <td rowspan="5">SiS755 NB</td> <td>Supports AMD K8 CPUs</td> </tr> <tr> <td>Support HyperTransport™ compliant bus driver with auto compensation capability</td> </tr> <tr> <td>Compliant with Universal AGP 3.0</td> </tr> <tr> <td>Supports AGP 8X/4X Interface w/ Fast Write Transaction</td> </tr> <tr> <td>Supports PCI power management configuration registers for supporting ACPI power down controller</td> </tr> <tr> <td rowspan="5">SiS 964/ 964L SB</td> <td>Concurrent servicing of all DMA Devices: Dual IDE Controllers, SATA controller <i>(except for SiS964L)</i>, three USB 1.1 HC, USB 2.0 HC, MAC Controller and Audio/Modem DMA Controller</td> </tr> <tr> <td>Compliant with PCI 2.3 specification</td> </tr> <tr> <td>Supports full duplex 10base-T, 100base-Tx, 1 Mb/s & 10 Mb/s Home Networking</td> </tr> <tr> <td>Compliant with AC'97 v2.3 supporting 6 Channels of AC'97 speaker outputs and V.90 HSP-Modem</td> </tr> <tr> <td>Advanced Power Management</td> </tr> </tbody> </table>	Chipset	Features	SiS755 NB	Supports AMD K8 CPUs	Support HyperTransport™ compliant bus driver with auto compensation capability	Compliant with Universal AGP 3.0	Supports AGP 8X/4X Interface w/ Fast Write Transaction	Supports PCI power management configuration registers for supporting ACPI power down controller	SiS 964/ 964L SB	Concurrent servicing of all DMA Devices: Dual IDE Controllers, SATA controller <i>(except for SiS964L)</i> , three USB 1.1 HC, USB 2.0 HC, MAC Controller and Audio/Modem DMA Controller	Compliant with PCI 2.3 specification	Supports full duplex 10base-T, 100base-Tx, 1 Mb/s & 10 Mb/s Home Networking	Compliant with AC'97 v2.3 supporting 6 Channels of AC'97 speaker outputs and V.90 HSP-Modem	Advanced Power Management
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	Compliant with AC'97 v2.3 supporting 6 Channels of AC'97 speaker outputs and V.90 HSP-Modem														
	Advanced Power Management														
Memory	<ul style="list-style-type: none"> Accommodates two unbuffered 2.5V 184-pin slots Supports DDR/SDRAM up to 200/266/333/400 MHz memory module Each slot supports up to 1 GB with a total maximum capacity of 2 GB 														
Graphics	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 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.														
Audio	It is compliant with the AC'97 2.3 specification and supports multiple CODEC extensions with independent variable sampling rates and built-in 3D effects. It incorporates proprietary converter technology to achieve a high SNR, greater than 90 dB. The digital interface circuitry operates from a 5V/3.3V power supply and supports an AC'97 2.3 compliant SPDIF out function which allows easy connection from the PC to other electronic products. Further features include support for four analog line-level stereo inputs.														
Expansion	The motherboard comes with the following expansion options:														

Options	<ul style="list-style-type: none"> • One AGP slot (supports 1.5V AGP Interface only) • Five 32-bit PCI slots • A Communications Network Riser (CNR) slot (AC'97 interface only) • Two IDE connectors which support four IDE channels and a floppy disk drive interface • Two SATA connectors which support two SATA hard drives <p>This motherboard supports Ultra DMA bus mastering with transfer rates of 133/100/66/33 MB/sec.</p>
Onboard LAN (optional)	<p>The onboard LAN is a Fast Ethernet Phyceiver with MII interface to MAC chip. It provides the following features:</p> <ul style="list-style-type: none"> • Support MII interface • Support 10/100Mbps operation • Support half/full duplex operation • 3.3V operation with 5V signal • Low operation power consumption
Integrated I/O	<p>The motherboard has a full set of I/O ports and connectors:</p> <ul style="list-style-type: none"> • Two PS/2 ports for mouse and keyboard • One serial port • One parallel port • Four USB ports • One LAN port (optional) • Audio jacks for microphone, line-in and line-out
BIOS Firmware	<p>This motherboard uses Award BIOS that enables users to configure many system features including the following:</p> <ul style="list-style-type: none"> • Power management • Wake-up alarms • CPU parameters • CPU and memory timing <p>The firmware can also be used to set parameters for different processor clock speeds.</p>



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

Choosing a Computer Case

There are many types of computer cases on the market. The motherboard complies with the specifications for the 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 x 220 mm. Choose a case that accommodates this form factor.

Motherboard Components

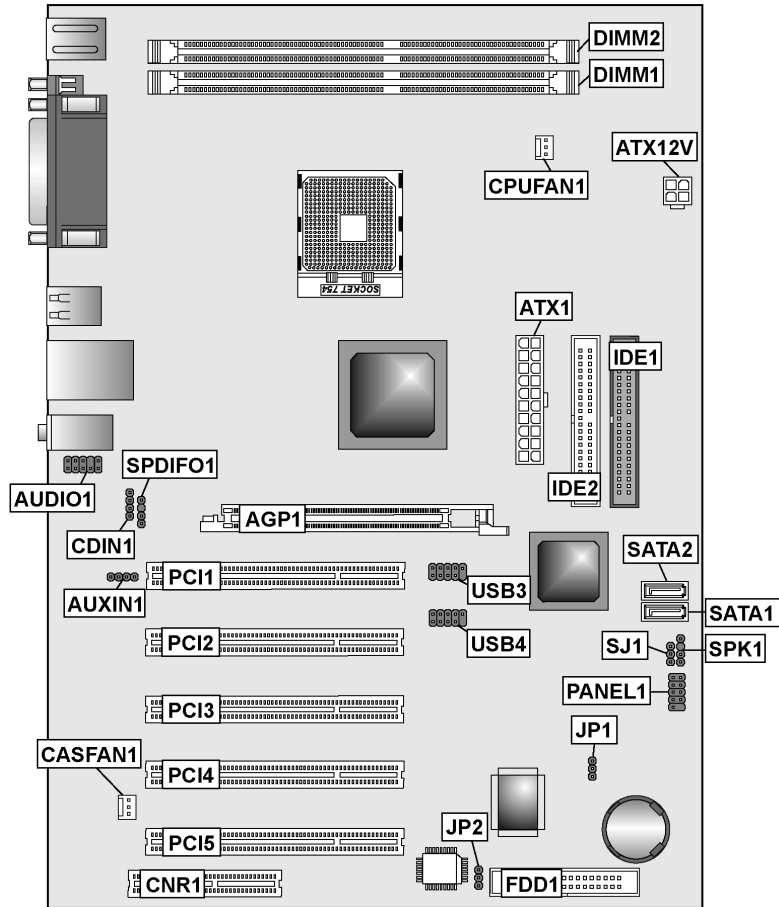


Table of Motherboard Components

Label	Component
AGP1	Accelerated Graphics Port Slot
ATX1	Standard 20-pin ATX power connector
ATX12V	4-pin +12V power connector
AUDIO1	Front panel Audio header
CASFAN1	Case cooling fan connector
CDIN1	CD-in connector
CNR1	Communications Networking Riser slot
CPU SOCKET	Socket 754 for AMD K8 processor
CPUFAN1	CPU cooling fan connector
DIMM1 ~ DIMM2	184-pin DDR SDRAM slots
FDD1	Floppy disk drive connector
IDE 1	Primary IDE connector
IDE 2	Secondary IDE connector
JP1	Clear CMOS jumper
JP2	BIOS Protection jumper
PANEL1	Front panel switch/LED header
PCI1 ~ PCI5	Five 32-bit PCI slots
SJ1*	Single color LED header
SPK1	Speaker header
USB3 ~ USB4	Front Panel USB headers

*Optional component

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

Chapter 2

Installing the Motherboard

Safety Precautions

Follow these safety precautions when installing the motherboard:

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

Quick Guide

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

The following table provides a reference for installing specific components:

Locating Motherboard Components	Go to page 5
Installing the Motherboard in a Case	Go to page 8
Setting Jumpers	Go to page 8
Installing Case Components	Go to page 10
Installing the Processor	Go to page 13
Installing Memory	Go to page 15
Installing a HDD/SATA Drive/CD-ROM Drive	Go to page 18
Installing an FDD	Go to page 20
Installing Add-on Cards	Go to page 21
Connecting Options	Go to page 22
Connecting Peripheral (I/O) Devices	Go to page 25

Installing the Motherboard in a Case

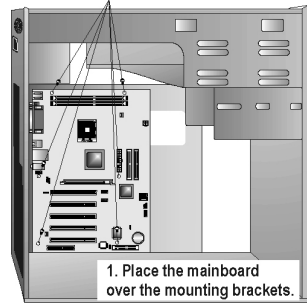
Refer to the following illustration and instructions for installing the motherboard in a case:

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.

Checking Jumper Settings

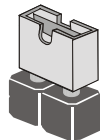
This section explains how to set jumpers for correct configuration of the motherboard.

Setting Jumpers

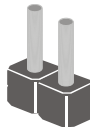
Use the motherboard jumpers to set system configuration options. Jumpers with more than one pin are numbered. When setting the jumpers, ensure that the jumper caps are placed on the correct pins.

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.

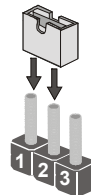
This illustration shows a 3-pin jumper. Pins 1 and 2 are SHORT.



Short

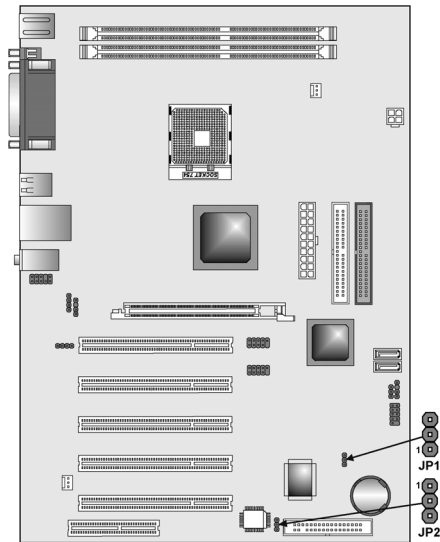


Open



Checking Jumper Settings

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



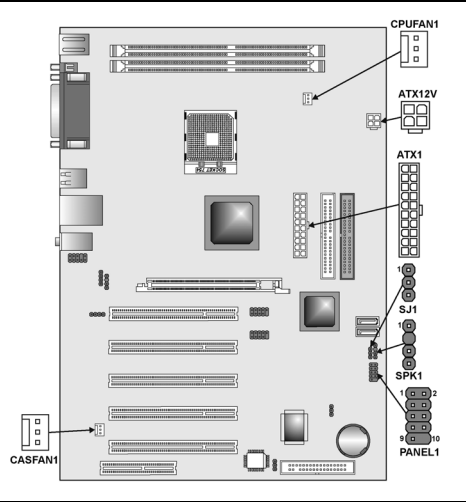
Jumper Settings

Jumper	Type	Description	Setting (default)
JP1	3-pin	Clear CMOS	1-2: Normal 2-3: <i>Clear CMOS</i> Before clearing the CMOS, make sure to turn the system off.
JP2	3-pin	BIOS Protect	1-2: Disable 2-3: <i>Enable</i>

Connecting Case Components

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

1. Connect the CPU cooling fan cable to **CPUFAN1**.
2. Connect the case cooling fan connector to **CASFAN1**.
3. Connect the case speaker cable to **SPK1**.
4. Connect the case switches and indicator to **PANEL1**. If there are 3 pins in the case LED cable, connect to **SJ1**.
5. Connect the standard power supply connector to **ATX1**.
6. Connect the auxiliary power supply connector to **ATX12V**.



CPUFAN1/ CASFAN1: FAN Power Connectors

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


SPK1: Internal speaker

Pin	Signal Name
1	Signal
2	Key
3	Ground
4	VCC

SJ1: Single color LED header

Pin	Signal Name	Function
1	ACPI LED	MSG LED (-) green
2	ACPI LED	MSG LED (-) green
3	SB5V	Power LED (+)

ACPI LED function:

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

ATX1: ATX 20-pin Power Connector

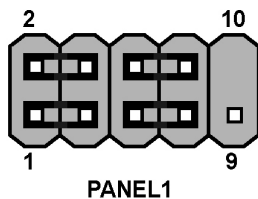
Pin	Signal Name	Pin	Signal Name
1	+3.3V	11	+3.3V
2	+3.3V	12	-12V
3	Ground	13	Ground
4	+5V	14	PS ON#
5	Ground	15	Ground
6	+5V	16	Ground
7	Ground	17	Ground
8	PWRGD	18	-5V
9	+5VSB	19	+5V
10	+12V	20	+5V

ATX12V: ATX 12V Power Connector

Pin	Signal Name
1	+12V
2	+12V
3	Ground
4	Ground

Front Panel Header

The front panel header (PANEL1) provides a standard set of switch and LED headers 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 (+)	2	FP PWR/SLP	MSG LED [dual color or single color (+)]
3	HD_LED_N	Hard disk active LED (-)	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	Key	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.

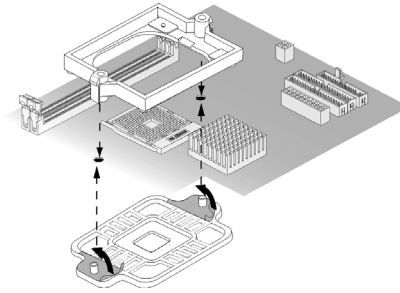
This motherboard has a Socket 754 processor socket. When choosing a processor, consider the performance requirements of the system. Performance is based on the processor design, the clock speed and system bus frequency of the processor, and the quantity of internal cache memory and external cache memory.

CPU Installation Procedure

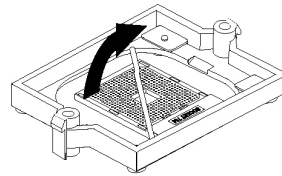
This motherboard is built with Socket 754 processor socket. When choosing a processor, consider the performance requirements of the system. Follow these instructions to install the Retention Module and CPU:

1. Position the backplate against the underside of the motherboard, secure the 2 screws firmly on the retention module.

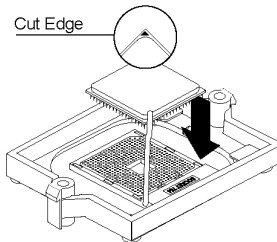
Note: Do not over tighten the screws.



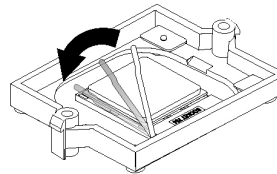
2. Install your CPU. Pull up the lever away from the socket and lift up to 90-degree angle.



3. Locate the CPU cut edge (the corner with the pinhole noticeably missing). Align and insert the CPU correctly.

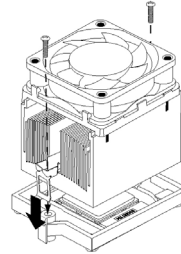


4. Press the lever down.

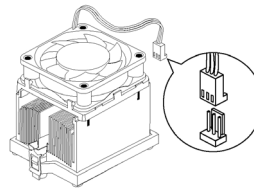


5. Apply thermal grease on top of the CPU.

- Put the CPU Fan down on the retention module and secure the 2 screws of the cooling fan into place.



- Connect the CPU Cooling Fan power cable to the CPUFAN1 connector. This completes the installation.



Installing Memory Modules

This motherboard accommodates two 184-pin 2.5V unbuffered Double Data Rate (DDR) SDRAM memory modules. It can support DDR200/DDR266/DDR333/DDR400 memory modules.

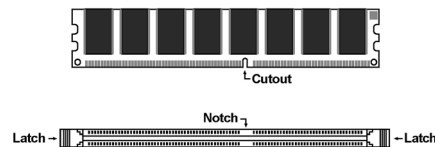
You must install at least one module in any of the two slots. Each module can be installed with 32 MB to 1 GB of memory; total memory capacity is 2GB.



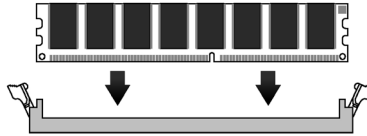
Do not remove any memory module from its antistatic packaging until you are ready to install it on the motherboard. Handle the modules only by their edges. Do not touch the components or metal parts. Always wear a grounding strap when you handle the modules.

Refer to the following to install the memory modules.

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



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

Table A: CPU FSB and Memory Frequency

CPU FSB	DDR Module support	DDR Type
800 MHz	DDR 400/333/266/200	PC3200/PC2700/PC2100/PC1600

Table B: Unbuffered DIMM Support for 754-pin

Number of DIMMs ⁵	DIMM 1 ^{4,1.5}	DIMM2 ²	DIMM3 ²	Maximum DRAM Speed	
				1T	2T ³
1	Single rank	Empty	Empty	DDR400	DDR400
1	Empty	Single rank	Empty	DDR400	DDR400
1	Empty	Empty	Single rank	DDR400	DDR400
1	Double rank	Empty	Empty	DDR400	DDR400
1	Empty	Double rank	Empty	DDR400	DDR400
1	Empty	Empty	Double rank	DDR400	DDR400
2	Single rank	Single rank	Empty	DDR400	DDR400
2	Single rank	Double rank	Empty	DDR400	DDR400
2	Single rank	Empty	Single rank	DDR400	DDR400
2	Single rank	Empty	Double rank	DDR400	DDR400
2	Double rank	Single rank	Empty	DDR400	DDR400
2	Double rank	Double rank	Empty	DDR333	DDR333
2	Double rank	Empty	Single rank	DDR400	DDR400
2	Double rank	Empty	Double rank	DDR333	DDR333
2	Empty	Single rank	Single rank	DDR333	DDR400
2	Empty	Single rank	Double rank	DDR200	DDR400
2	Empty	Double rank	Single rank	DDR200	DDR400
2	Empty	Double rank	Double rank	DDR200	DDR333
3	Single rank	Single rank	Single rank	DDR333	DDR400
3	Single rank	Single rank	Double rank	DDR200	DDR333
3	Single rank	Double rank	Single rank	DDR200	DDR333
3	Single rank	Double rank	Double rank	DDR200	DDR333 ⁴
3	Double rank	Single rank	Single rank	DDR333	DDR333
3	Double rank	Single rank	Double rank	DDR200	DDR333 ⁴
3	Double rank	Double rank	Single rank	DDR200	DDR333 ⁴
3	Double rank	Double rank	Double rank	DDR200	DDR333 ⁴

1. DIMM 1 connects to command/address pins MEMADDA [13:0], MEMBANKA [1:0], MEMRASA_L, MEMCASA_L, MEMWEA_L, MEMCKEA.
2. DIMM 2 and 3 connect to command/address pins MEMADDB [13:0], MEMBANKB [1:0], MEMRASB_L, MEMCASB_L, MEMWEB_L, MEMCKEB.
3. 2T timing is supported in CG and later silicon revisions. Refer to the AMD Athlon™ 64 Processor Power and Thermal Data Sheet, order #30430, for silicon revision determination.
4. The maximum allowable DRAM speed under these high load conditions may be reduced with certain DIMMs due to signal integrity degradation.
5. For Systems using a DIMM implementation, refer only to rows in this table where the entry for the column titled DIMM3 reads “empty”.

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

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

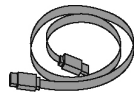
IDE devices have jumpers or switches that are used to set the IDE device as MASTER or SLAVE. Refer to the IDE device user's manual. When installing two IDE devices on one cable, ensure that one device is set to MASTER and the other device is set to SLAVE. The documentation of your IDE device explains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

About SATA Connectors

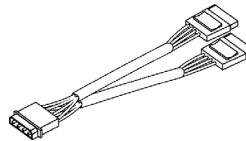
Your motherboard features two SATA connectors supporting a total of two drives. SATA refers to Serial ATA (Advanced Technology Attachment) is the standard interface for the IDE hard drives which are currently used in most PCs. These connectors are well designed and will only fit in one orientation. Locate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



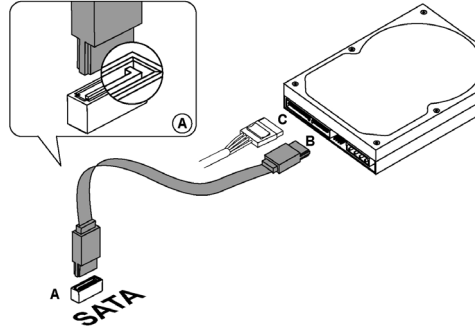
SATA cable (optional)



SATA power cable (optional)

Refer to the illustration below for proper installation:

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




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

Installing a Hard Disk Drive/CD-ROM

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

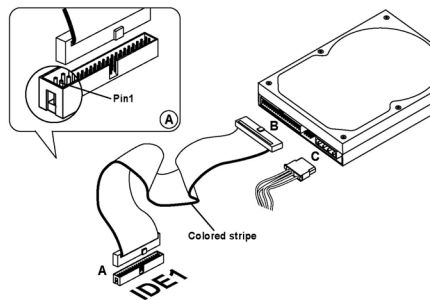
Your motherboard has a primary and secondary IDE channel interface (IDE1 and IDE2). An IDE ribbon cable supporting two IDE devices is bundled with the motherboard.

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

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

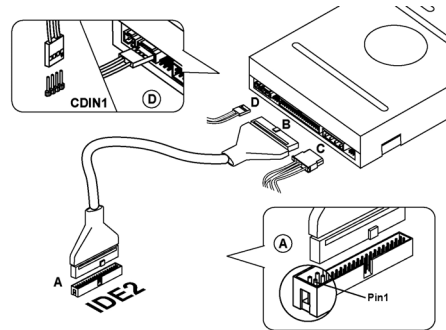
IDE1: Primary IDE Connector

The first hard drive should always be connected to IDE1.



IDE2: Secondary IDE

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



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

About UltraDMA

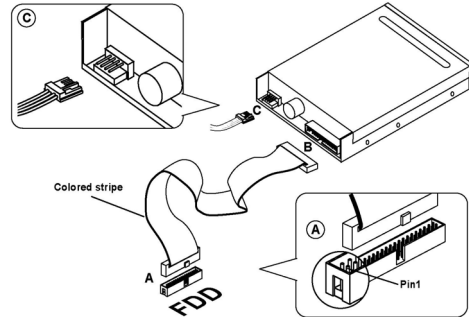
This motherboard supports UltraDMA 133/100/66. UDMA is a technology that accelerates the performance of devices in the IDE channel. To maximize performance, install IDE devices that support UDMA and use 80-pin IDE cables that support UDMA 133/100/66.


Installing a Floppy Diskette Drive

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

FDD1: Floppy Disk Connector

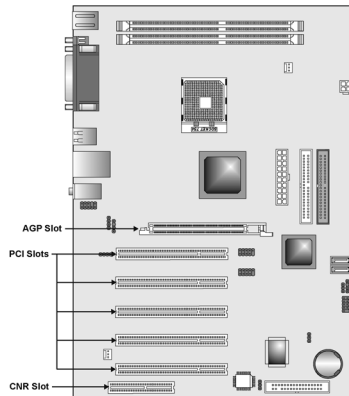
This connector supports the provided floppy drive ribbon cable. After connecting the single end to the onboard floppy connector, connect the remaining plugs on the other end to the floppy drives correspondingly.



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

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.

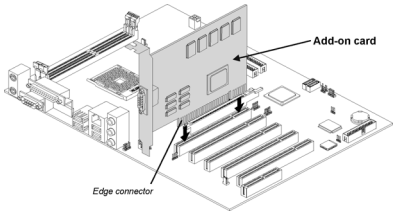


- PCI Slots** PCI slots are used to install expansion cards that have the 32-bit PCI interface.
- AGP Slot** The AGP slot is used to install 3D graphics adapter that supports the 8X AGP card which is also backward compatible with 4x AGP card. The slot is keyed to support only the latest 1.5-volt AGP cards.
- CNR Slot** This slot is used to insert CNR cards with Modem and Audio functionality.

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

Follow these instructions to install an add-on card:

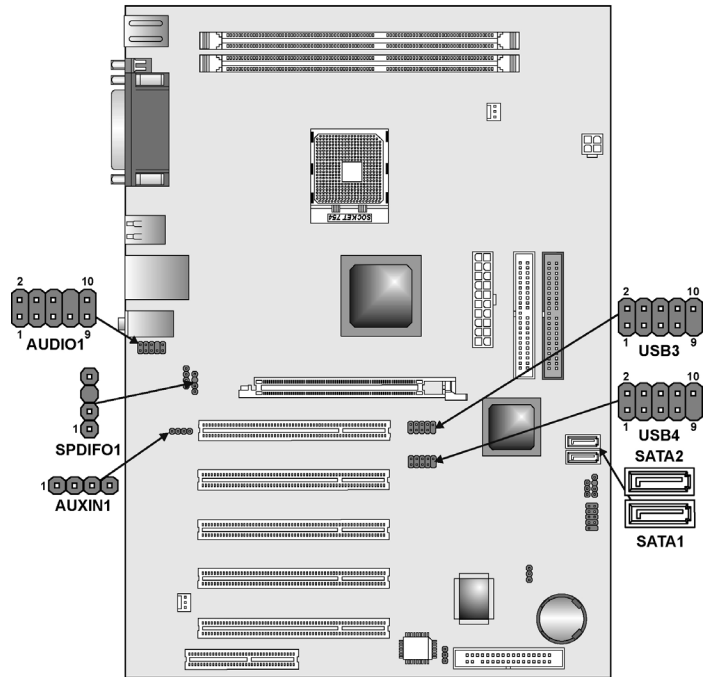
1. Remove a blanking plate from the system case corresponding to the slot you are going to use.
2. Install the edge connector of the add-on card into the expansion slot. Ensure that the edge connector is correctly seated in the slot.
3. Secure the metal bracket of the card to the system case with a screw.



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

Connecting Optional Devices

Refer to the following for information on connecting the 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

AUXIN1: Extra line-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

USB3/USB4: Front panel USB connectors

The motherboard has four USB ports installed on the rear edge I/O port array. Additionally, some computer cases have USB ports at the front of the case. If you have this kind of case, use auxiliary USB connectors USB3 or USB4 to connect the front-mounted ports to the motherboard.

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	NC	Not connected

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.

SPDIF01: SPDIF out header

This is an optional header that provides an S/PDIF (Sony/Philips Digital Interface) output to digital multimedia device through optical fiber or coaxial connector.

Pin	Signal Name
1	SPDIF Out
2	VCC
3	KEY
4	GND

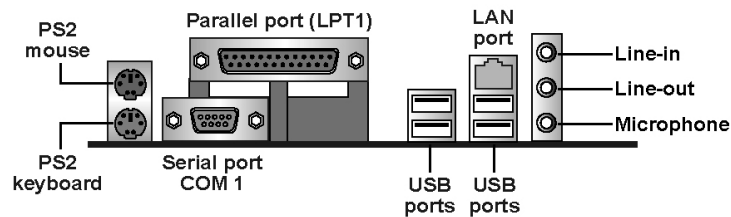
SATA1/SATA2: Serial ATA header

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:



PS/2 Mouse	Use the upper PS/2 port to connect a PS/2 pointing device.
PS/2 Keyboard	Use the lower PS/2 port to connect a PS/2 keyboard.
LPT1	Use LPT1 to connect printers or other parallel communications devices.
COM1	Use the COM ports to connect serial devices such as mice or fax/modems. COM1 is identified by the system as COM1/3.
USB Ports	Use the USB ports to connect USB devices.
LAN Port (optional)	Connect an RJ-45 jack to the LAN port to connect your computer to the Network.
Audio Ports	Use the three audio ports to connect audio devices. The first jack is for stereo line-in signal. The second jack is for stereo line-out signal. The third jack is for microphone.

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

Chapter 3

Using BIOS

About the Setup Utility

The computer uses the latest Award BIOS with support for Windows Plug and Play. The CMOS chip on the 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

Starting Setup

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

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

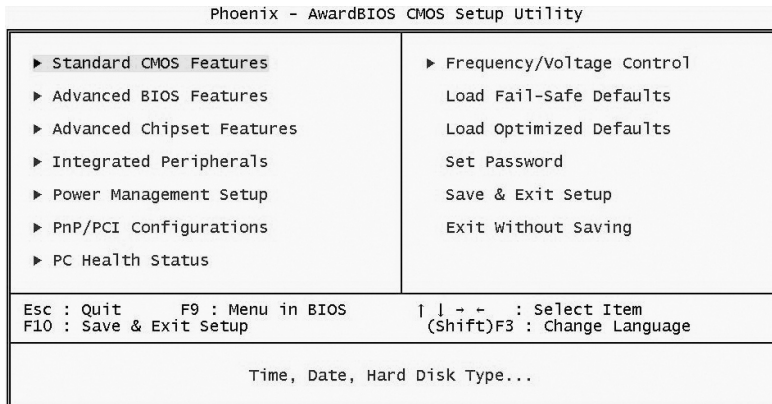
During POST, you can start the Setup program in one of two ways:

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

TO ENTER SETUP BEFORE BOOT PRESS DEL KEY

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

PRESS F1 TO CONTINUE, DEL TO ENTER SETUP



BIOS Navigation Keys

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>.
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, re-cord disk drive parameters and the video subsystem type, and select the type of errors that stop the BIOS POST.

Phoenix - AwardBIOS CMOS Setup Utility		Item Help
Standard CMOS Features		
Date (mm:dd:yy)	Wed, Aug 27 2003	
Time (hh:mm:ss)	11 : 23 : 31	
► IDE Channel 0 Master		Menu Level ►
► IDE Channel 0 Slave		
► IDE Channel 1 Master		Change the day, month, year and century
► IDE Channel 1 Slave		
Drive A	[1.44M, 3.5 in.]	
Drive B	[None]	
Floppy 3 Mode Support	[Disabled]	
Video	[EGA/VGA]	
Halt on	[All Errors]	
Base Memory	640K	
Extended Memory	65472K	
Total Memory	1024K	

↑↓←→:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F3:Language F5:Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults

Date and Time

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

► IDE Devices (None)

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

Press <Enter> to display the IDE submenu:

Phoenix - AwardBIOS CMOS Setup Utility		Item Help
IDE Channel 0 Slave		
IDE HDD Auto-Detection	[Press Enter]	Menu Level >>
IDE Channel 0 Slave	[Auto]	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 (Auto)

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

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

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

Access Mode

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

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

Drive A/Drive B (1.44M, 3.5 in.)

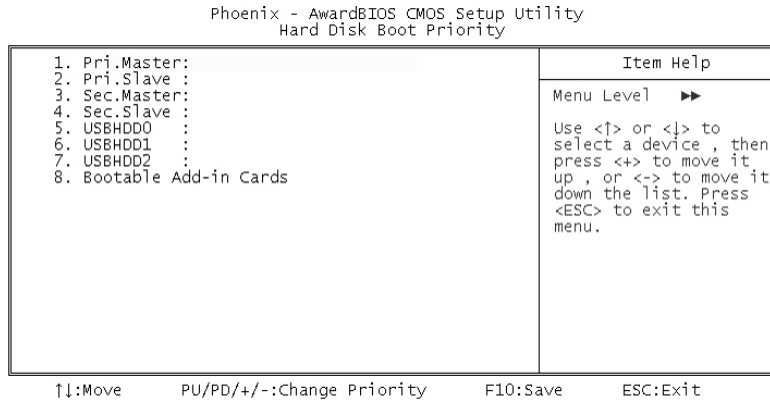
These items define the characteristics of any diskette drive attached to the system. You can connect one or two diskette drives.

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.

Hard Disk Boot Priority (Press Enter)

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



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.

External Cache (Enabled)

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

Quick Power On Self Test (Enabled)

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

First/Second/Third Boot Device (Floppy/HDD-0/CD-ROM)

Use these three items to select the priority and order of the devices that your system searches for an operating system at start-up time.

Boot Other Device (Enabled)

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

Swap Floppy Drive (Disabled)

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

Boot Up NumLock Status (On)

This item defines if the keyboard Num Lock key is active when your system is started.

Gate A20 Option (Fast)

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

ATA 66/100 IDE Cable Msg (Enabled)

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

Typematic Rate Setting (Disabled)

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

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

Security Option (Setup)

If you have installed password protection, this item defines if the password is required at system start up, or if it is only required when a user tries to enter the Setup Utility.

APIC Mode (Enabled)

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

OS Select For DRAM > 64 MB (Non-OS2)

This item is only required if you have installed more than 64 MB of memory and you are running the OS/2 operating system. Otherwise, leave this item at the default.

HDD S.M.A.R.T Capability (Disabled)

The S.M.A.R.T. (Self-Monitoring, Analysis, and Reporting Technology) system is a diagnostics technology that monitors and predicts device performance. S.M.A.R.T. software resides on both the disk drive and the host computer.

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

Report No FDD For WIN 95 (Yes)

Set this item to the default if you are running a system with no floppy drive and using Windows 95; this ensures compatibility with the Windows 95 logo certification.

Video BIOS Shadow (Enabled)

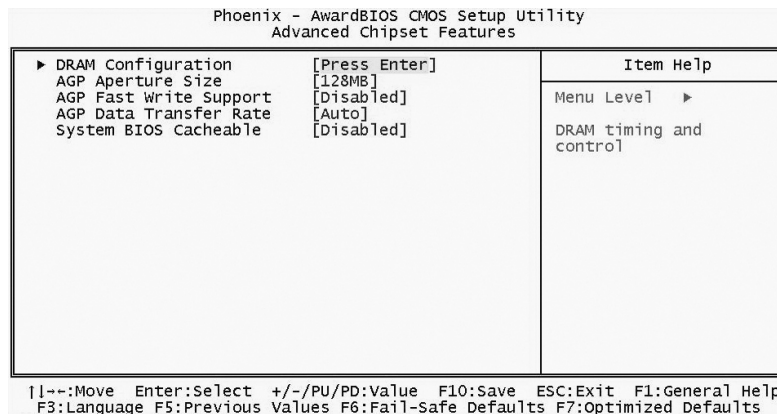
This function, when enabled allows VGA BIOS to be copied to the system DRAM for enhanced performance.

Small Logo (EPA) Show (Disabled)

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

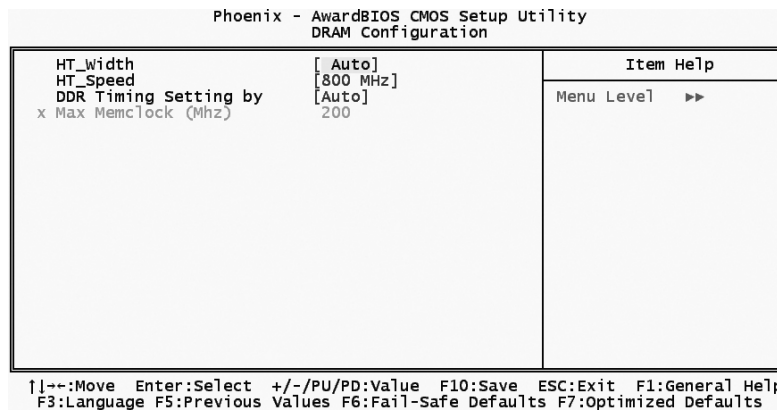
Advanced Chipset Setup

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



► DRAM Configuration

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



HT-Width (Auto)

This item shows HyperTransport™s bus size of Local Descriptor Table (LDT). The bus size is automatically calculated by the CPU. Therefore, We strongly recommend that you do not change this setting.

HT-Speed (800 MHz)

This item shows the bus frequency of Local Descriptor Table. Its default is set

as 800 MHz.

DDR Timing Setting by (Auto)

This item allows you to adjust DRAM timing automatically or manually. We recommend that you leave this item at the default value, the BIOS will automatically set the DDR timing parameters.

- **Max Memclock (Mhz) 200:** When DDR Timing Setting by is set to Manual, use this item to set the DRAM frequency.

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

AGP Aperture Size (128MB)

This item defines the size of the aperture if you use an AGP graphics adapter. It 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 Fast Write Support (Disabled)

This item controls the AGP bus Fast Write capability. Fast Write allows the AGP device to act like a PCI device. This allows it to skip the main memory and directly access the data that improves the AGP read performance.

AGP Data Transfer Rate (Auto)

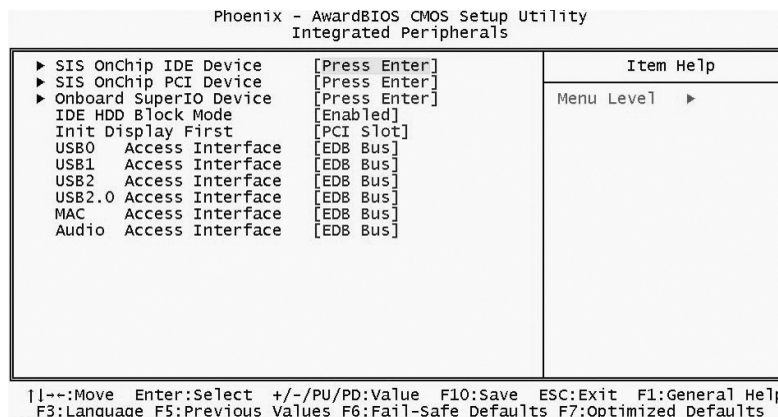
Determines the data transfer rate of AGP data at either 4X or 2X depending on your Advanced Graphics Card.

System BIOS Cacheable (Disabled)

This item is only valid when the system BIOS is shadowed. It enables or disables the caching of the system BIOS ROM at **F0000h-FFFFFh** via the L2 cache.

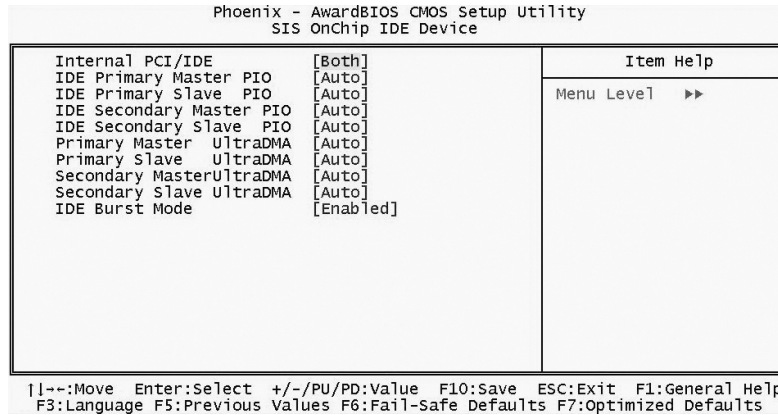
Integrated Peripherals

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



► SIS OnChip IDE Device

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



Internal PCI/IDE (Both)

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

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 UltraDMA (Auto)

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

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

IDE Burst Mode (Enabled)

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

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

► **SIS OnChip PCI Device**

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

Phoenix - AwardBIOS CMOS Setup Utility		Item Help
SIS OnChip PCI Device		
SIS USB Controller	[Enabled]	
USB Ports Number	[6 Ports]	
USB 2.0 Supports	[Enabled]	Menu Level >>
USB Legacy Support	[Enabled]	
USB Mouse Support	[Disabled]	
SIS AC'97 AUDIO	[Enabled]	
SIS S/W Modem	[Enabled]	
Onboard Lan	[Enabled]	
Onboard Lan Boot ROM	[Disabled]	
SIS Serial ATA Controller	[Enabled]	
SIS Serial ATA Mode	[IDE]	

{}--:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
 F3:Language F5:Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults

SIS USB Controller (Enabled)

This item enables the USB controller. Leave this at the default "Enabled" if you want to connect USB devices to your computer.

USB Ports Number (6 Ports)

This item enables you to determine the number of USB ports.

USB 2.0 Support (Enabled)

Enable this item if your system supports USB 2.0

USB Legacy Support (Enabled)

Use this item to enable or disable support for legacy USB devices. Setting to Auto allows the system to detect the presence of USB devices at startup. If detected, the USB controller legacy mode is enabled. If no USB device is detected, the legacy USB support is disabled.

USB Mouse Support (Disabled)

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

SIS AC'97 AUDIO (Enabled)

This option allows you to control the onboard AC'97 audio. Disable this item if you are going to install a PCI audio add-on card.

SIS S/W Modem (Enabled)

This option allows you to control the onboard S/W modem. Disable this item if you are going to install an external modem.

Onboard LAN (Enabled)

This option allows you to control the onboard LAN.

Onboard LAN Boot ROM (Disabled)

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

SIS Serial ATA Controller (Enabled)

This option allows you to control the onboard Serial ATA controller.

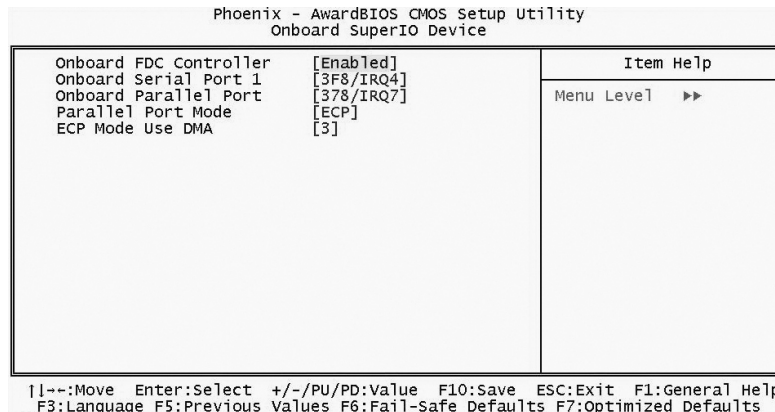
SIS Serial ATA Mode (IDE)

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

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

► **Onboard SuperIO Device**

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



Onboard FDC Controller (Enabled)

This option enables the onboard floppy disk drive controller.

Onboard Serial Port 1 (3F8/IRQ4)

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

Onboard Parallel Port (378/IRQ7)

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

Parallel Port Mode (ECP)

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

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

ECP Mode Use DMA (3)

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

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

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. It also improves the speed of access to IDE devices.

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.

USB0/USB1/USB2 ACCESS INTERFACE (EDB Bus)

This option determines whether the USB0/USB1/USB2 access interface is the embedded bus or the PCI bus.

USB2.0 ACCESS INTERFACE (EDB BUS)

This option determines whether the USB2.0 access interface is the embedded bus or a PCI bus.

MAC ACCESS INTERFACE (EDB BUS)

This option determines whether the MAC access interface is the embedded bus or a PCI bus.

Audio ACCESS INTERFACE (EDB BUS)

This option determines whether the audio access interface is the embedded bus or a PCI bus.

Power Management Setup

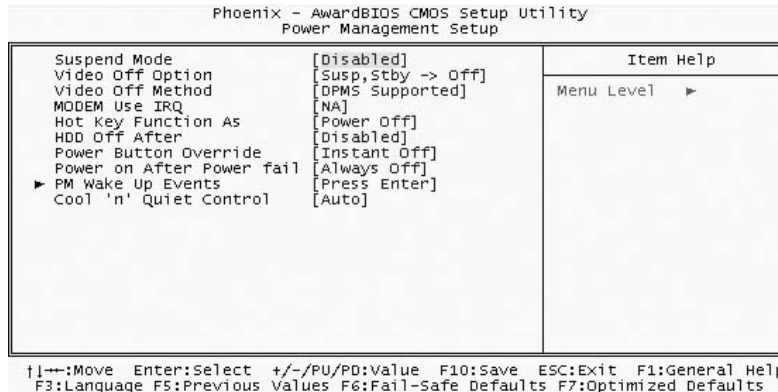
The Power Management Setup Menu option is used to change the values of the chipset registers for system power management.

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.



Suspend Mode (Disabled)

After the selected period of system inactivity, all devices except the CPU shut off.

Video Off Option (Susp, Stby --> Off)

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

Video Off Method (DPMS Supported)

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 (NA)

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.

Hot Key Function As (Power Off)

This option allows you to set the Hot Key functionality to one of the following states: Disable (turn off Hot Key functionality), Power Off, Suspend.

HDD Off After (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.

Power Button Override (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 resume 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.

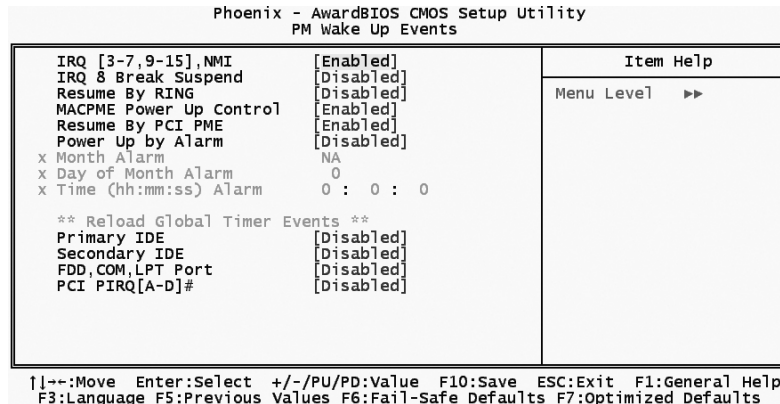
Power on After Power Fail (Always Off)

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

► **PM Wake Up Events**

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

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



IRQ [3-7, 9-15], NMI (Enabled)

This option determines whether any activity for IRQ 3-7/9-15 will cause the system to wake from a power saving mode.

IRQ 8 Break Suspend

Determines whether the system will monitor IRQ 8 activity and wake the system from a power saving mode when IRQ 8 is activated.

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.

MACPME Power Up Control (Enabled)

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

Resume by PCI PME (Enabled)

This item specifies whether the system will be awakened from power saving modes when activity or input signal of the specified hardware peripheral or component is detected.

Power Up by Alarm (Disabled)

When set to Enabled, the following three fields become available: Month Alarm, Day of Month Alarm, and Time Alarm Upon arrival of the alarm time, it will instruct the system to wake up. When set to 0 (zero) for the day of the month, the alarm will power on your system every day at the specified time.

Primary/Secondary IDE (Disabled)

When these items are enabled, the system will restart the power-saving timeout counters when any activity is detected on any of the drives or devices on the primary or secondary IDE channels.

FDD, COM, LPT Port (Disabled)

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

PCI PIRQ[A-D]# (Disabled)

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

Cool 'n' Quiet Control (Auto)

This item enables you to adjust the frequency of CPU. When you set to "Auto" status, it will automatically save CPU's power and electricity.

PNP/PCI Configurations

The 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]	Menu Level ▶ 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
F3:Language 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
VCC CORE Voltage	Menu Level ▶
VCC 2.5V	
CPU Temperature	
SYSTEM Temperature	
CPUFAN1 Speed	
CASFAN1 Speed	

↑↓←→:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F3:Language F5:Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults

Shutdown Temperature

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

System Component Characteristics

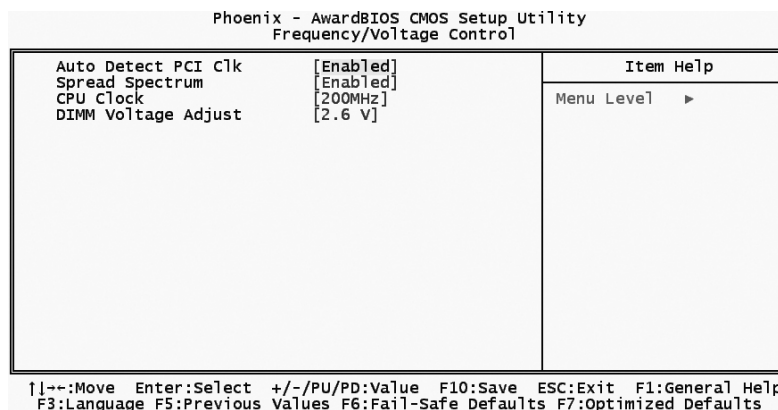
These items allow end users and technicians to monitor data provided by the

BIOS on this motherboard. You cannot make changes to these fields.

- VCC CORE Voltage
- VCC 2.5V
- CPU Temperature
- SYSTEM Temperature
- CPUFAN1 Speed
- CASFAN1 Speed

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.



Auto Detect PCI Clk (Enabled)

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

Spread Spectrum (Enabled)

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

CPU Clock (Default)

Use the CPU Clock to set the frontside bus frequency for the installed processor (usually 133 MHz, 100 MHz or 66 MHz).

DIMM Voltage Adjust (Enabled)

This item adjusts the voltage delivered to the DIMM memory.

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 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.

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

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

Using the Motherboard Software

About the Software CD-ROM

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

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

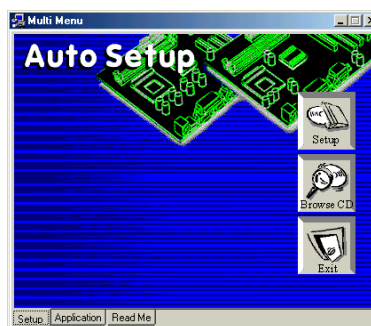
Before installing any software, always inspect the folder for files named README.TXT, INSTALL.TXT, or something similar. These files may contain important information that is not included in this manual.

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

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

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

The support software CD-ROM disc loads automatically under Windows 98/ME/2000/XP. When you insert the CD-ROM disc in the CD-ROM drive, the autorun feature will automatically bring up the install screen. The screen has three buttons on it, Setup, Browse CD and Exit.



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

Setup Tab

Setup	Click the Setup button to run the software installation program. Select from the menu which software you want to install.
Browse CD	<p>The Browse CD 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>
Exit	The Exit button closes the Auto Setup window.

Application Tab

Lists the software utilities that are available on the CD.

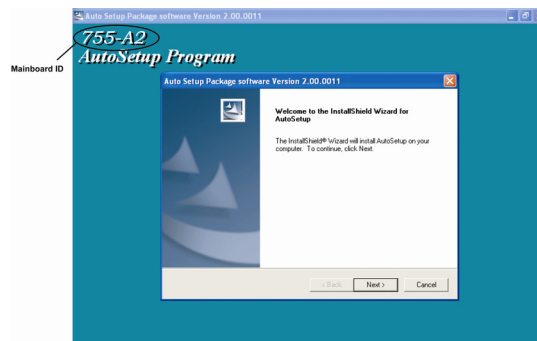
Read Me Tab

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

Running Setup

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

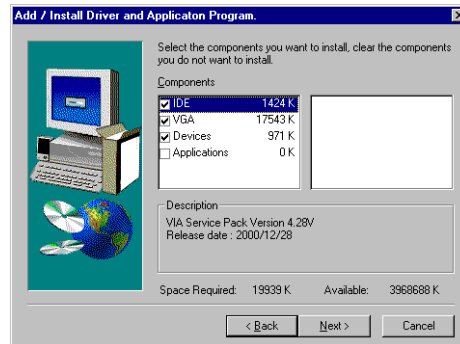
1. Click **Setup**. The installation program begins:



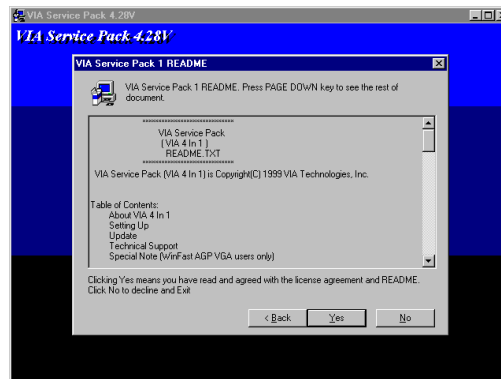
Note: The following screens are examples only. The screens and driver lists will be different according to the motherboard you are installing.

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.

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

AWARD Flash Memory Utility

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

WinFlash Utility

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

PC-CILLIN

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.