

# Preface

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Version 1.1a

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## Federal Communications Commission (FCC)

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

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

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

## Declaration of Conformity

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

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

## Canadian Department of Communications

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

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

## About the Manual

The manual consists of the following:

<b>Chapter 1</b> <b>Introducing the Motherboard</b>	Describes features of the motherboard, and provides a shipping checklist.  Go to ⇒ page 1
<b>Chapter 2</b> <b>Installing the Motherboard</b>	Describes installation of motherboard components.  Go to ⇒ page 16
<b>Chapter 3</b> <b>Using BIOS</b>	Provides information on using the BIOS Setup Utility.  Go to ⇒ page 37
<b>Chapter 4</b> <b>Using the Motherboard Software</b>	Describes the motherboard software.  Go to ⇒ page 61

## Features and Packing List Translations

### Liste de contrôle

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

#### Eléments standards

- Une carte mère
- Un câble plat pour lecteur de disquette
- Deux câbles IDE de flux
- Un CD de support logiciel à installation automatique
- Une protection d'E/S
- Ce manuel utilisateur

#### Eléments Optionnels

- Un support USB + 1394 PCI (*pour AF1 De luxe et AF1*)
- Un boîtier USB + 1394 (*pour AF1 De luxe et AF1*)
- Un support PCI USB (*pour AF1 Lite seulement*)
- Un support USB (*pour AF1 Lite seulement*)
- Deux câbles SATA
- Un câble d'alimentation SATA
- Un kit Top hat avec fascicule d'instructions
- Un EZ-Watcher

### Caractéristiques

<b>Processeur</b>	<p>La carte mère utilise un Socket A AMD 462 broches présentant les caractéristiques suivantes:</p> <ul style="list-style-type: none"><li>• Supporte un bus frontal (FSB) de 400/333/266/200 MHz</li><li>• Intègre les processeurs AMD Athlon XP/Sempron/Athlon/Duron</li></ul> <hr/> <p><b>Remarque :</b> Il est conseillé d'utiliser AMD Athlon XP ou CPU de niveau plus élevé pour assurer que la fonction "Diode Thermique" fonctionne correctement.</p>						
<b>Chipset</b>	<p>Le chipset sur cette carte mère comprend le chipset KT600 Northbridge combiné avec le chipset VT8237 Southbridge. Le tableau ci-dessous explique brièvement certaines des caractéristiques avancées du chipset.</p> <table border="1"><thead><tr><th><b>Chipset</b></th><th><b>Caractéristiques</b></th></tr></thead><tbody><tr><td><b>KT600 NB</b></td><td>Transfert DDR (Double Data Rate) 400/333/266/200 MHz sur adresse CPU Athlon XP/Sempron/Athlon/Duron et bus de données.</td></tr><tr><td></td><td>Contrôleur de Port Graphique Accéléré (AGP) complet qui prend en charge les modes de transfert 533 MHz 8x, 266 MHz 4x.</td></tr></tbody></table>	<b>Chipset</b>	<b>Caractéristiques</b>	<b>KT600 NB</b>	Transfert DDR (Double Data Rate) 400/333/266/200 MHz sur adresse CPU Athlon XP/Sempron/Athlon/Duron et bus de données.		Contrôleur de Port Graphique Accéléré (AGP) complet qui prend en charge les modes de transfert 533 MHz 8x, 266 MHz 4x.
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<b>Mémoire</b>	<ul style="list-style-type: none"> <li>• Support de module mémoire DDR SDRAM jusqu'à 400/333/266/200 MHz</li> <li>• Peut recevoir deux logements sans mémoire tampon en 2.5V de 184 broches.</li> <li>• Chaque logement supporte jusqu'à 1 Go avec une capacité maximum totale de 3 Go.</li> </ul>																		
<b>Graphique</b>	Cette carte mère comprend un logement AGP qui offre huit fois la bande passante des spécifications AGP d'origine. L'AGP 3.0 (8xAGP) offre une amélioration significative de performances accompagnée d'améliorations de fonctionnalités sur l'AGP2.0. Cette interface représente l'évolution naturelle de l'AGP existante pour répondre à une demande toujours croissante d'interfaces graphiques en environnements de station de travail et de bureau.																		
<b>Codec Audio AC'97</b>	La C-Media 9739A 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 2.1 permettant une connexion facile à partir du PC sur d'autres produits électroniques. Les fonctions supplémentaires comprennent le support de quatre entrées stéréo de niveau de ligne analogique.																		

<b>Options d'Extensions</b>	<p>La carte mère Photon AF1 series est livrée avec les options d'extensions suivantes:</p> <ul style="list-style-type: none"> <li>• Cinq logements PCI 32 bits</li> <li>• Un logement AGP</li> <li>• Trois connecteurs IDE supportant six canaux IDE et une interface de lecteur de disquette (Un connecteurs IDE optionnelle)</li> <li>• Quatre connecteurs SATA avec des vitesses de transfert allant jusqu'à 150 MB/s (Deux connecteurs SATA optionnelle)</li> </ul> <p>La carte mère supporte la maîtrise de bus Ultra DMA avec des vitesses de transfert de 33/66/100/133 Mo/sec.</p>
<b>LAN Interne</b>	<p>Cette carte mère supporte Gigabit LAN en intégrant le matériel 3Com® 3C940 qui est optimisé pour les clients PCI 32 bits. Elle est entièrement conforme à IEEE 802.3z et fournit à la carte mère une fonctionnement en triple vitesse Full/Half-Duplex de 10/100/1000 Mbps. Cette mémoire tampon de 128 Ko sur RAM à puce permet la mise en mémoire tampon efficace de cycles de Bus PCI et de données et élimine la nécessité d'une mémoire externe. Il incorpore la technologie Marvell Virtual Cable Tester™ (VCT) pour les diagnostics de câble avancés.</p>
<b>LAN Interne (pour la version AF1 Lite seulement)</b>	<p>La carte mère version « Lite » intègre le Contrôleur Ethernet PCI 3Com® 3C920 10/100 Mbps. Elle est entièrement compatible IEEE 802.3 et fonctionne comme un maître bus PCI pour transmettre et recevoir des transferts en paquets vers/dépuis le système hôte.</p>
<b>1394a FireWire - VT6307 (pour AF1 De luxe et AF1)</b>	<ul style="list-style-type: none"> <li>• Contrôleur d'hôte 2 ports IEEE 1394a faible alimentation offrant aux PC une vitesse élevée, une connectivité flexible à une gamme étendue de périphériques et d'électronique grand public</li> <li>• Conforme aux derniers standards IEEE 1394a avec plein support de 1394a P2000</li> <li>• Détecte les types de périphériques connectés et configure automatiquement les vitesses de données en 100, 200, ou 400 Mbps</li> <li>• Equipé avec une interface de bus PCI 32 bits présentant une gestion d'alimentation avancée, et prise en charge de Carbus</li> </ul>
<b>RAID ATA Série VIA VT6420 (pour la version AF1 De luxe seulement)</b>	<p>Cette carte mère intègre le contrôleur RAID IDE VIA VT6420 à haute performance, qui prend en charge RAID 0 et RAID 1 pour un équilibre de performances de disque dur et de protection de données.</p>
<b>E/S Intégrées</b>	<p>La carte mère possède un jeu complet de ports d'E/S et de connecteurs:</p> <ul style="list-style-type: none"> <li>• Deux ports PS/2 pour souris et clavier</li> <li>• Un port série</li> <li>• Un port parallèle</li> <li>• Quatre ports USB</li> <li>• Un port LAN</li> <li>• Une sortie coaxiale S/PDIF</li> </ul>

	<ul style="list-style-type: none"><li>• Une sortie optique S/PDIF</li><li>• Prises audio pour microphone, ligne d'entrée et ligne de sortie</li></ul>
<b>Microprogramme BIOS</b>	<p>Cette carte mère utilise Award BIOS qui permet aux utilisateurs de configurer de nombreuses caractéristiques du système comprenant les suivantes:</p> <ul style="list-style-type: none"><li>• Gestion d'alimentation</li><li>• Alarmes de réveil</li><li>• Paramètres de CPU</li><li>• Synchronisation de CPU et de mémoire</li></ul> <p>Le microprogramme peut aussi être utilisé pour définir les paramètres pour les vitesses d'horloges de différents processeurs.</p>



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

## Checkliste

Vergleichen Sie den Packungsinhalt des Motherboards mit der folgenden Checkliste:

### Standard Items

- Ein Motherboard
- Ein Bandkabel für Floppylaufwerke
- Zwei platzsparende IDE-Kabel
- Eine Software-CD
- Eine I/O-Abschirmung
- Dieses Handbuch

### Optionales Zubehör

- Ein USB + 1394 PCI-Klammer (*für AF1 Deluxe und AF1*)
- Ein USB + 1394-Gehäuse (*für AF1 Deluxe und AF1*)
- Eine USB PCI-Klammer (*nur für AF1 Lite*)
- Ein USB Gehäuse (*nur für AF1 Lite*)
- Zwei SATA-Kabel
- Ein SATA-Netzkabel
- Ein Top Hat Flash-Kit mit Kurzanleitung
- Ein EZ-Watcher

## Features

<b>Prozessor</b>	<p>Das Mainboard verwendet einen AMD 462-Pin Socket A mit den folgenden Eigenschaften:</p> <ul style="list-style-type: none"> <li>• Unterstützt 400/333/266/200 MHz Frontsidebus (FSB)</li> <li>• Nimmt AMD AthlonXP/Sempron/Athlon/Duron - Prozessoren auf</li> </ul> <hr/> <p><b>Hinweis:</b> Die Verwendung einer CPU vom Typ AMD Athlon XP oder höher wird empfohlen, damit die Funktion „Thermische Diode“ richtig funktioniert.</p>										
<b>Chipsatz</b>	<p>Der Chipsatz dieses Motherboards verfügt über die KT600 Northbridge, die mit der VT8237 Southbridge verbunden ist. In der untenstehenden Tabelle werden einige der fortschrittlichen Funktionen des Chipsatzes kurz vorgestellt:</p> <table border="1" data-bbox="587 1429 1184 1765"> <thead> <tr> <th data-bbox="587 1429 715 1460"><u>Chipsatz</u></th> <th data-bbox="721 1429 1184 1460"><u>Funktionen</u></th> </tr> </thead> <tbody> <tr> <td data-bbox="587 1469 715 1541"><b>KT600 NB</b></td> <td data-bbox="721 1469 1184 1541">400/333/266/200 MHz DDR (Double Data Rate)- Transfer über Athlon XP/Sempron/ Athlon/Duron CPU-Adresse und Datenbusse.</td> </tr> <tr> <td data-bbox="587 1550 715 1621"></td> <td data-bbox="721 1550 1184 1621">Volle Unterstützung für Accelerated Graphics Port (AGP)-Controller (Unterstützung der Transfermodu 533 MHz 8x, 266 MHz 4x.</td> </tr> <tr> <td data-bbox="587 1630 715 1680"></td> <td data-bbox="721 1630 1184 1680">Unterstützt 66MHz V-Link Host-Interface mit einer maximalen Bandbreite von 533 MB/Sek.</td> </tr> <tr> <td data-bbox="587 1688 715 1760"></td> <td data-bbox="721 1688 1184 1760">Unterstützt separate Spannungsversorgung für 2.5 Volt Interface to System Memory und 1.5 Volt Interface to AGP.</td> </tr> </tbody> </table>	<u>Chipsatz</u>	<u>Funktionen</u>	<b>KT600 NB</b>	400/333/266/200 MHz DDR (Double Data Rate)- Transfer über Athlon XP/Sempron/ Athlon/Duron CPU-Adresse und Datenbusse.		Volle Unterstützung für Accelerated Graphics Port (AGP)-Controller (Unterstützung der Transfermodu 533 MHz 8x, 266 MHz 4x.		Unterstützt 66MHz V-Link Host-Interface mit einer maximalen Bandbreite von 533 MB/Sek.		Unterstützt separate Spannungsversorgung für 2.5 Volt Interface to System Memory und 1.5 Volt Interface to AGP.
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<b>Speicher</b>	<ul style="list-style-type: none"> <li>• Unterstützt DDR bis zu 400/333/266/200MHz DDR SDRAM-Speichermodul</li> <li>• Nimmt zwei ungepufferte 2.5V 184-Pin Steckplätze auf</li> <li>• Jeder Steckplatz unterstützt bis zu 1 GB mit einer maximalen Gesamtkapazität von 3 GB.</li> </ul>														
<b>Graphic</b>	Dieses Motherboard enthält einen AGP-Steckplatz, der gegenüber der ursprünglichen AGP-Spezifikation über die achtfache Bandbreite verfügt. AGP 3.0 (8xAGP) bietet gegenüber AGP 2.0 eine erhebliche Leistungssteigerung und verbesserte Features. Dieses Interface stellt die natürliche Evolution des bestehenden AGP dar, um den stetig anwachsenden Anforderungen an die Grafikschnittstellen innerhalb der Workstations und Desktop-Umgebungen gerecht zu werden.														
<b>AC' 97 Audio Codec</b>	Der C-Media 9739A ist kompatibel mit der AC'97 2.3-Spezifikation und unterstützt mehrfache CODEC-Erweiterungen mit variablen, unabhängigen Samplingraten und integrierten 3D-Effekten. Er verfügt über eine gesetzlich geschützte Konverter-Technologie zur Erreichung eines hohen SNR von mehr als 90 dB. Der digitale Interface-Schaltkreis wird von einem 5 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.														
<b>Erweiterungs-Optionen</b>	<p>Das Photon AF1 -Motherboard bietet die folgenden Erweiterungsoptionen:</p> <ul style="list-style-type: none"> <li>• Fünf 32-Bit PCI-Steckplätze</li> <li>• Ein AGP-Steckplatz (unterstützt nur 1.5 Volt)</li> <li>• Drei IDE-Anschlüsse, die sechs IDE-Kanäle und eine Schnittstelle für ein Floppydiskettenlaufwerk unterstützen.(Ein IDE-Anschlüsse optional)</li> <li>• Vier SATA-Header mit einer Datentransferrate von bis zu 150 MB/Sek.(Zwei SATA-Header optional)</li> </ul> <p>Das Mainboard unterstützt Ultra DMA Bus-Mastering mit Übertragungsraten von 33/66/100/133 MB/Sek.</p>														
<b>Onboard LAN</b>	Dieses Mainboard unterstützt Gigabit LAN durch die Integration des 3Com® 3C940-Geräts, das für 32-Bit PCI-Client optimiert														

	<p>ist. Es ist voll kompatibel mit IEEE 802.3z und ermöglicht dem Mainboard Geschwindigkeiten mit 10/100/1000 MB/Sek. im Voll/Halb- bzw. Dreifach-Duplexbetrieb. Dieser 128 KB Onchip-RAM-Puffer ermöglicht effiziente PCI Bus-Zyklen und effizientes Datenpuffern. Außerdem macht es externen Speicher überflüssig und verfügt für fortschrittliche Kabeldiagnose über die Marvell Virtual Cable Tester™ (VCT)-Technologie.</p>
<p><b>Onboard LAN (nur für AF1 Lite- Mother- boards)</b></p>	<p>Dieses "Lite"-Motherboard verfügt über einen Onboard-3Com® 3C920 10/100MB/Sek. PCI Ethernet-Controller. Dieser ist vollständig kompatibel mit IEEE 802.3 und fungiert zum Senden/Empfangen von Datenpaketen zum/vom Host-System als PCI Bus-Master.</p>
<p><b>1394a FireWire -VT6307 (für AF1 Deluxe und AF1)</b></p>	<ul style="list-style-type: none"> <li>• Der Niedrigstrom 2-Port-EEE 1394a-Host-Controller bietet PC-Systemen hohe Geschwindigkeiten sowie flexible Verbindungen mit einer Vielzahl von Peripherie-Geräten und sonstiger Unterhaltungselektronik</li> <li>• Kompatibel mit den neuesten IEEE 1394a-Standard mit voller 1394a P2000-Unterstützung</li> <li>• Automatische Erkennung und Konfiguration angeschlossener Geräte auf Datengeschwindigkeiten von 100, 200 oder 400 MB/Sek.</li> <li>• Ausgerüstet mit einem 32-Bit PCI Bus-Interface mit erweiterter Energieverwaltung und Cardbus-Unterstützung</li> </ul>
<p><b>Serial ATA RAID VIA VT6420 (nur AF1 De- luxe- Motherboard)</b></p>	<p>Dieses Motherboard verfügt über einen hochleistungsfähigen VIA VT6420 IDE RAID-Controller. Dieser unterstützt RAID 0 und RAID 1 und ermöglicht dadurch sowohl starke Festplattenleistungen als auch Datenschutz.</p>
<p><b>Integrierte I/O</b></p>	<p>Das Mainboard verfügt über einen kompletten Satz von I/O-Schnittstellen und Anschlüssen:</p> <ul style="list-style-type: none"> <li>• Zwei PS/2-Schnittstellen für Maus und Tastatur</li> <li>• Eine serielle Schnittstelle</li> <li>• Eine parallele Schnittstelle</li> <li>• Vier USB-Schnittstellen</li> <li>• Eine parallele LAN</li> <li>• Ein koaxialer S/PDIF-Ausgang</li> <li>• Ein optischer S/PDIF-Ausgang</li> <li>• Audiobuchsen für Mikrophon, Line-in und Line-out</li> </ul>
<p><b>BIOS Firmware</b></p>	<p>Dieses Motherboard setzt das Award BIOS ein, mit dem der Anwender viele Systemeigenschaften selbst konfigurieren kann, einschließlich der folgenden:</p> <ul style="list-style-type: none"> <li>• Energieverwaltung</li> <li>• Wake-up Alarm</li> <li>• CPU-Parameter und Speichertiming</li> <li>• CPU- und Speichertiming</li> </ul> <p>Mit der Firmware können auch die Parameter für verschiedene Prozessortaktgeschwindigkeiten eingestellt werden.</p>



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

## Lista di controllo

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

### Articoli standard

- Una Scheda madre
- Un cavo per il collegamento di drive Floppy
- Due cavetti IDE per linea stream
- Un CD autoinstallante contenete il software di Supporto
- Un shield I/O
- Questo manuale dell'utente

### Periferiche Opzionali

- Un USB + 1394 PCI bracket (*per le versioni AF1 Deluxe e AF1*)
- Un housing USB + 1394 (*per le versioni AF1 Deluxe e AF1*)
- Un USB PCI bracket (*for AF1 Lite only*)
- Un housing USB (*for AF1 Lite only*)
- Due cavetti SATA
- Un cavetto di alimentazione SATA
- Un kit Top hat Flash completo di manuale
- Un EZ-Watcher

## Caratteristiche

<b>Processore</b>	<p>La scheda madre è dotata di un socket A AMD a 462 pin che presenta le seguenti caratteristiche:</p> <ul style="list-style-type: none"><li>• Supporta il bus di sistema 400/333/266/200 MHz frontside (FSB)</li><li>• Possibilità di alloggiare le CPU AMD Athlon XP/Sempron/Athlon/Duron</li></ul> <p><b>Note:</b> Si raccomanda l'uso di una CPU AMD Athlon XP o superiore per garantire il funzionamento corretto della funzione "Diodo termico".</p>								
<b>Chipset</b>	<p>Il chipset è composto dai chipset Northbridge KT600 e Southbridge VT8237. La tabella sottostante presenta una panoramica delle funzioni avanzate del chipset:</p> <table border="1"><thead><tr><th>Chipset</th><th>Funzioni</th></tr></thead><tbody><tr><td rowspan="5"><b>KT600 NB</b></td><td>Trasferimento dati a 400/333/266/200 MHz via DDR (Double Data Rate) per CPU Athlon XP/Sempron/Athlon/Duron e bus dati.</td></tr><tr><td>Controller AGP Full Featured (Accelerated Graphics Port) in grado di supportare il bus dati a 533 MHz 8x, 266 MHz 4x.</td></tr><tr><td>Supporto interfaccia Host 66 MHz V-Link con larghezza di banda sino a 533MB/sec.</td></tr><tr><td>Supporto separato dell'interfaccia a 2.5V per la memoria di sistema e l'interfaccia 1.5V per AGP.</td></tr><tr><td>Supporto della RAM sincrona double data DDR400, DDR333 e DDR266 MHz.</td></tr></tbody></table>	Chipset	Funzioni	<b>KT600 NB</b>	Trasferimento dati a 400/333/266/200 MHz via DDR (Double Data Rate) per CPU Athlon XP/Sempron/Athlon/Duron e bus dati.	Controller AGP Full Featured (Accelerated Graphics Port) in grado di supportare il bus dati a 533 MHz 8x, 266 MHz 4x.	Supporto interfaccia Host 66 MHz V-Link con larghezza di banda sino a 533MB/sec.	Supporto separato dell'interfaccia a 2.5V per la memoria di sistema e l'interfaccia 1.5V per AGP.	Supporto della RAM sincrona double data DDR400, DDR333 e DDR266 MHz.
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<b>Memory</b>	<ul style="list-style-type: none"> <li>• Supporto per i banchi SDRAM DDR a 400/333/266/200 MHz</li> <li>• Presenza di due slot a 184 pin unbuffered 2.5V</li> <li>• Ogni slot supporta sino ad un 1 GB con una capacità massima pari a 3 GB</li> </ul>												
<b>Graphic</b>	Questa scheda madre possiede uno slot AGP slot in grado di garantire una larghezza di banda otto volte superiore rispetto a quella prevista dalle specifiche dello standard AGP originale.. La tecnologia AGP 3.0 (8xAGP) offre un miglioramento marcato delle prestazioni assieme al miglioramento delle funzioni rispetto ad AGP 2.0. Questa interfaccia rappresenta l'evoluzione naturale dell'interfaccia AGP esistente per soddisfare le richieste sempre maggiori poste alle interfacce grafiche negli ambienti desktop e workstation.												
<b>AC' 97 Audio Codec</b>	Il C-Media 9739A è conforme alla specifiche AC 97 2.3 che supporta estensioni CODEC multiple con capacità di campionamento multiple e scalabili ed effetti 3D integrati. È dotato di una tecnologia di conversione integrata per ottenere un SNR di qualità elevata, maggiore di 90 dB. L'interfaccia digitale è alimentata da un alimentatore a 3.3/5V e supporta un SPDIF compatibile con le specifiche AC'97 2.1 con funzioni che facilitano il collegamento di strumenti elettronici al PC. Altre caratteristiche includono il supporto di quattro entrate LINE STEREO analogiche.												
<b>Opzioni di espansione</b>	<p>La Serie Schede Madri AF1 presenta le seguenti possibilità per l'espansione:</p> <ul style="list-style-type: none"> <li>• Cinque slot PCI da 32 bit</li> <li>• Uno slot AGP</li> <li>• Tre connettori IDE che supportano sei canali IDE ed una interfaccia per il collegamento del lettore Floppy (Uno connettori IDE connettori opzionale)</li> <li>• Quattro connettori SATA con velocità trasferimento dati fino a 150 MB/s (Due connettori SATA ara opzionale)</li> </ul> <p>La scheda madre supporta la gestione di canali Ultra DMA con transfert rate pari a 33/66/100/133 MB/sec.</p>												
<b>Lan Integrata</b>	Questa scheda madre supporta Gigabit LAN integrando 3Com 3C940 a un chipset che è ottimizzata per client PCI a 32 bit. È completamente compatibile IEEE 802.3z e fornisce alla scheda madre un funzionamento a velocità tripla10/100/1000												

	Mbps Full/Half-Duplex. Il buffer da 128 KB con chip per RAM assicura cicli bus PCI efficienti, garantisce il buffering dei dati ed elimina la necessità di installare una memoria esterna. Tecnologia Marvell Virtual Cable Tester™ (VCT) incorporata per diagnostica avanzata dei cavi.
<b>LAN integrate (per la versione AF1Lite)</b>	La versione "Lite" della scheda madre integra il controller Ethernet PCI 3Com® 3C920 10/100 Mbps. Il controller rispetta pienamente le specifiche IEEE 802.3 e può funzionare come bus master PCI per la trasmissione e la ricezione di pacchetti da e per il sistema host.
<b>1394a FireWire - VT6307 (per le versioni AF1 Deluxe e AF1)</b>	<ul style="list-style-type: none"> <li>• Controller host IEEE 1394a due porte e bassa potenza per fornire ai PC velocità elevate e permetterne il collegamento ad una vasta gamma di periferiche e componenti elettronici di tipo commerciale</li> <li>• Conforme con le recenti norme IEEE 1394 con supporto 1394a P2000 completo</li> <li>• Rilevamento delle periferiche connesse e configurazione automatica della velocità di trasmissione dati (100, 200 o 400 Mbps)</li> <li>• Interfaccia bus PCI da 32 bit con funzioni avanzate per il risparmio dell'energia e supporto per cardbus</li> </ul>
<b>RAID ATA Seriale VIA VT6420 (Solo per la versione AF1 Deluxe)</b>	Questa scheda madre integra il potente controller RAID IDE VIA VT6420, che supporta il formato RAID 0 e RAID 1 garantendo un ottimo bilanciamento tra le prestazioni del disco e la protezione dei dati.
<b>I/O integrati</b>	La scheda madre è dotata di un set completo di connettori e porte I/O: <ul style="list-style-type: none"> <li>• Due porte PS/2 per mouse e tastiera</li> <li>• Una porta seriale</li> <li>• Una porta parallela</li> <li>• Quattro porte USB</li> <li>• Una porta LAN</li> <li>• Una uscita coassiale S/PDIF</li> <li>• Una uscita ottica S/PDIF</li> <li>• Jack audio per microfono e connettori ingresso/uscita Line</li> </ul>
<b>BIOS</b>	Questa scheda madre utilizza il BIOS Award che permette all'utente di configurare numerose caratteristiche del sistema tra cui le seguenti: <ul style="list-style-type: none"> <li>• Risparmio energetico</li> <li>• Segnali Wake Up</li> <li>• Parametri della CPU e sincronizzazione memoria</li> <li>• Timing della memoria e della CPU</li> </ul> E' possibile inoltre impostare i parametri di velocità del clock del processore su diversi valori.



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

## Lista de Verificación

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

### Ítems Estándares

- Una placa principal
- Un cable de cinta del lector de disquete
- Dos cables IDE de stream line
- Un CD de soporte de software autoinstalable
- Una capa I/O
- Este manual del usuario

### Ítems Optativos

- Un USB + 1394 PCI brazo (para AF1 Deluxe y AF1)
- Una envoltura USB + 1394 (para AF1 Deluxe y AF1)
- Un brazo USB PCI (para AF1 Lite solamente)
- Una envoltura USB (para AF1 Lite solamente)
- Dos cables SATA
- Un cable de suministro SATA
- Un kit Top hat Flash con folleto de instrucción
- Un EZ-Watcher

## Características

<b>Procesador</b>	<p>El panel principal usa un AMD 462-pin Enchufe A que tiene las siguientes características:</p> <ul style="list-style-type: none"><li>• Permite 400/333/266/200 MHz bus de lado frontal (FSB)</li><li>• Adecua procesadores AMD Athlon XP/Sempron/Athlon/Duron</li></ul> <hr/> <p><b>Nota:</b> Se recomienda que usted use AMD Athlon XP u otra CPU de nivel superior para asegurarse de que la función "Diodo Termal" trabajará adecuadamente.</p>												
<b>Chipset</b>	<p>El chipset en esta placa principal incluye la KT600 Northbridge combinado con el chipset VT8237 Southbridge. La tabla abajo explica algunas de las características avanzadas del chipset:</p> <table border="1"><thead><tr><th>Chipset</th><th>Características</th></tr></thead><tbody><tr><td><b>KT600 NB</b></td><td>La transferencia 400/333/266/200 MHz DDR (Índice de Datos Doble/Double Data Rate) en la dirección y buses de datos Athlon XP/Sempron/Athlon/Duron CPU.</td></tr><tr><td></td><td>Controlador de Puerto de Gráficas Acelerado (AGP) caracterizado que soporta los modos de transferencias de 533 MHz 8x, 266 MHz 4x.</td></tr><tr><td></td><td>Soporta la interfaz 66 MHz V-Link Host con ancha de banda pico de 533MB/seg.</td></tr><tr><td></td><td>Soporta la interfaz con suministro de 2.5V para la memoria del sistema y la interfaz de 1.5V para el AGP por separado.</td></tr><tr><td></td><td>Soporta DRAM sincrónico de índice de datos doble en DDR400, DDR333 y DDR266MHz.</td></tr></tbody></table>	Chipset	Características	<b>KT600 NB</b>	La transferencia 400/333/266/200 MHz DDR (Índice de Datos Doble/Double Data Rate) en la dirección y buses de datos Athlon XP/Sempron/Athlon/Duron CPU.		Controlador de Puerto de Gráficas Acelerado (AGP) caracterizado que soporta los modos de transferencias de 533 MHz 8x, 266 MHz 4x.		Soporta la interfaz 66 MHz V-Link Host con ancha de banda pico de 533MB/seg.		Soporta la interfaz con suministro de 2.5V para la memoria del sistema y la interfaz de 1.5V para el AGP por separado.		Soporta DRAM sincrónico de índice de datos doble en DDR400, DDR333 y DDR266MHz.
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	Operación de duplex medio y completo de 1/10/100 MHz.												
<b>Memoria</b>	<ul style="list-style-type: none"> <li>• Permite DDR hasta 400/333/266/200 MHz DDR módulo de memoria SDRAM</li> <li>• Adecua dos ranuras no reservadas 2.5V 184-pin</li> <li>• Cada ranura permite hasta 1 GB con una capacidad máxima total de 3 GB</li> </ul>												
<b>Gráficas</b>	Esta placa principal incluye una ranura AGP que provee ocho tiempos de amplitud de la especificación original AGP. La AGP 3.0 (8xAGP) ofrece un aumento significativo en funcionamiento junto con características mejoradas para AGP2.0. Esta interfaz representa la evolución natural de la ya existente AGP para hacer frente a las demandas siempre en aumento centradas en las interfaces de gráficos dentro de estaciones de trabajo y ámbitos de computadoras.												
<b>El Codec AC' 97 Audio</b>	El C-Media 9739A se conforma con la especificación AC'97 2.3 y soporta múltiples extensiones CODEC con índice de muestreo variable y efectos 3D incorporados. Incorpora la tecnología de conversor propietaria para lograr un SNR alto, mayor que 90 dB. El circuito de interfaz digital opera de un suministro de 5V/3.3V y soporta una función de salida SPDIF conforme con AC'97 2.1 que permite la conexión fácil del PC a otros productos electrónicos. Otras características incluyen soporte para cuatro entradas estereofónicas a nivel de línea analógica.												
<b>Opciones de Expansión</b>	<p>El placa principal serie Photon AF1 viene con las siguientes opciones de expansión:</p> <ul style="list-style-type: none"> <li>• Cinco ranuras PCI de 32 bits</li> <li>• Una ranura 4xAGP</li> <li>• Tres conectores IDE que soportan seis canales IDE y un interfase de disquetera de disco flexible (Dos conectores SATA area opcional)</li> <li>• Cuatro conectores SATA con índice de transferencia de datos hasta 150MBs (Dos conectores SATA area opcional)</li> </ul> <p>El panel principal soporta la dominación de bus Ultra DMA con velocidades de transferencia de 33/66/100/133 MB/seg.</p>												

<b>LAN Incorporada</b>	Esta placa principal soporta Gigabit LAN con integrar el dispositivo 3Com 3C940-32 de chip singular está optimizado para los clientes de 32-bit PCI. Conformidad total con IEEE 802.3Z y provee la placa principal con la operación de velocidad triple de Full/Half-Duplex en 10/100/1000 Mbps. Un 128 KB en chip el buffer de RAM habilita ciclos de PCI Bus eficiente y buffer de datos y elimina la necesidad para la memoria externa. Incorpora la tecnología Marvell Virtual Cable Tester™ (VCT) para los diagnósticos de cable avanzados.
<b>LAN Abordo (para la versión AF1 Lite solamente)</b>	La placa principal de versión "Lite" integra el Controlador de Ethernet 3Com® 3C920 Mbps PCI. Conforme totalmente con IEEE 802.3 y opera como un máster de bus PCI para transmitir y recibir transferencias de paquete al/del sistema anfitrión.
<b>1394 FireWire - VT6307 (para AF1 Deluxe y AF1)</b>	<ul style="list-style-type: none"> <li>• Controlador anfitrión IEEE 1394 de 2 puertos de bajo suministro provee los sistemas de PC con alta velocidad, conectividad flexible a un amplio rango de periféricos y electrónicos de consumo</li> <li>• Conforme con las últimas normas IEEE 1394 con soporte completo 1394a P2000</li> <li>• Detecta los tipos de dispositivo y automáticamente configura las velocidades de datos en 100, 200, o 400 Mbps</li> <li>• Equipado con la interfaz de bus 32-bit PCI que se caracteriza por la administración de suministro avanzada, y soporte de bus de tarjeta</li> </ul>
<b>Serial ATA RAID VIA VT6420 (para la versión AF1 Deluxe solamente)</b>	Esta placa principal incorpora el controlador VIA VT6420 IDE RAID de alto rendimiento, que soporta el RAID 0 y RAID 1 para el equilibrio del rendimiento del disco rígido y la protección de datos.
<b>I/O Integrado</b>	<p>El tablero principal tiene un set completo de puertos de Entrada/Salida y conectores:</p> <ul style="list-style-type: none"> <li>• Dos puertos PS/2 para ratón y teclado</li> <li>• Un puerto de serie</li> <li>• Un puerto paralelo</li> <li>• Cuatro puertos USB</li> <li>• Un puerto LAN</li> <li>• Una salida S/PDIF coaxial</li> <li>• Una salida S/PDIF óptica</li> <li>• Enchufes de audio para micrófono, línea de entrada y línea de salida</li> </ul>

<b>BIOS Firmware</b>	<p>Este panel principal usa el Award BIOS que posibilita a los usuarios configurar muchas características de sistema incluidas las siguientes:</p> <ul style="list-style-type: none"><li>• Administración de potencia</li><li>• Alarmas despertadoras</li><li>• Parámetros y memoria de temporizador CPU</li><li>• Memoria de temporizador CPU</li></ul> <p>El firmware puede también ser usado para ajustar parámetros para velocidades diferentes de procesador de reloj.</p>
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Algunas especificaciones de hardware e ítems de software son sujetos a cambio sin previo aviso.

## チェックリスト

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

### 標準同封アイテム

- マザーボード 1つ
- ディスクドライブ用リボンケーブル 1つ
- ストリームラインIDEケーブル 2本
- ソフトウェアの自動インストールをサポートするCD 1枚
- I/O シールド 1つ
- 本書 1部

### オプション品

- USB+1394 PCI ブラケット 1つ (AF1 Deluxe および AF1用)
- USB + 1394 ハウジング 1つ (AF1 Deluxeおよび AF1用)
- USB PCI ブラケット 1つ (AF1 Lite 専用)
- USB ハウジング 1つ (AF1 Lite 専用)
- SATAコード 2本
- SATA電源線 1本
- Top hat Flash kit 1つ ( 説明書付き)
- EZ-Watcher 1つ

## 製品特徴

<b>プロセッサ</b>	<p>当メインボードはAMD462ピンソケットを搭載し、次の特長があります：</p> <ul style="list-style-type: none"> <li>● 400/333/266/200 MHz フロントサイドバス (FSB) をサポートします</li> <li>● AMD Athlon XP/Sempron/Athlon/Duronプロセッサ収納可能です</li> </ul> <hr/> <p><b>メモ：</b>“Thermal Diode” 機能を正しく作動させるために、AMD Athlon XPまたはそれ以上のCPUのご使用をお勧めします。</p>				
<b>チップセット</b>	<p>当マザーボードに搭載されているチップセットは、KT600 Northbridge と、 VT8237 Southbridgeの何れかとを備え、下表に示される先進な機能をお届けします。</p> <table border="1" data-bbox="600 1503 1200 1778"> <thead> <tr> <th data-bbox="600 1503 715 1570">チップセット名</th> <th data-bbox="715 1503 1200 1570">機能</th> </tr> </thead> <tbody> <tr> <td data-bbox="600 1570 715 1778"> <b>KT600 NB</b> </td> <td data-bbox="715 1570 1200 1778"> <p>Athlon XP/Sempron/Athlon/Duronプロセッサのアドレス機能とデータバスとの400/333/266/200 MHz DDR (Double Data Rate) 転送を実現。</p> <p>全機能のAGP ( Accelerated Graphics Port) コントローラーを搭載し、 533 MHz 8xや 266 MHz 4x の転送モードをサポート。</p> </td> </tr> </tbody> </table>	チップセット名	機能	<b>KT600 NB</b>	<p>Athlon XP/Sempron/Athlon/Duronプロセッサのアドレス機能とデータバスとの400/333/266/200 MHz DDR (Double Data Rate) 転送を実現。</p> <p>全機能のAGP ( Accelerated Graphics Port) コントローラーを搭載し、 533 MHz 8xや 266 MHz 4x の転送モードをサポート。</p>
チップセット名	機能				
<b>KT600 NB</b>	<p>Athlon XP/Sempron/Athlon/Duronプロセッサのアドレス機能とデータバスとの400/333/266/200 MHz DDR (Double Data Rate) 転送を実現。</p> <p>全機能のAGP ( Accelerated Graphics Port) コントローラーを搭載し、 533 MHz 8xや 266 MHz 4x の転送モードをサポート。</p>				

	<table border="1"> <tr> <td></td> <td>66 MHz V-Link ホストインターフェースをサポートし、ピーク帯域幅 533MB/秒。</td> </tr> <tr> <td></td> <td>システムメモリ用の2.5Vインターフェースと、AGP用の1.5Vインターフェースとを別々に備えてサポート。</td> </tr> <tr> <td></td> <td>DDR400と、DDR333と、DDR266とのDDR SDRAMをサポート。</td> </tr> <tr> <td><b>VT8237 SB</b></td> <td>16ビットの 66 MHz V-Link クライアントインターフェースをサポートし、トータル帯域幅 1066 MB/秒まで可能。</td> </tr> <tr> <td></td> <td>二重チャンネルシリアル ATA/HDDコントローラーを搭載。</td> </tr> <tr> <td></td> <td>ACPI (Advanced Configuration and Power Interface) と従来の (APM) 電源管理機能をサポート。</td> </tr> <tr> <td></td> <td>二重チャンネル UltraDMA-33/66/100/133 マスターモードのEIDEコントローラーを搭載。</td> </tr> <tr> <td></td> <td>内蔵しているUSB 2.0 コントローラーで、4つのルートハブと8つのポートを提供。</td> </tr> <tr> <td></td> <td>1/10/100 MHzの全/半二重動作が可能。</td> </tr> </table>		66 MHz V-Link ホストインターフェースをサポートし、ピーク帯域幅 533MB/秒。		システムメモリ用の2.5Vインターフェースと、AGP用の1.5Vインターフェースとを別々に備えてサポート。		DDR400と、DDR333と、DDR266とのDDR SDRAMをサポート。	<b>VT8237 SB</b>	16ビットの 66 MHz V-Link クライアントインターフェースをサポートし、トータル帯域幅 1066 MB/秒まで可能。		二重チャンネルシリアル ATA/HDDコントローラーを搭載。		ACPI (Advanced Configuration and Power Interface) と従来の (APM) 電源管理機能をサポート。		二重チャンネル UltraDMA-33/66/100/133 マスターモードのEIDEコントローラーを搭載。		内蔵しているUSB 2.0 コントローラーで、4つのルートハブと8つのポートを提供。		1/10/100 MHzの全/半二重動作が可能。
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メモリー	<ul style="list-style-type: none"> <li>400/333/266/200MHz DDR SDRAMまでのDDRメモリモジュールに対応</li> <li>2つの非バッファ2.5V184ピン仕様のスロットを収納</li> <li>各スロットが1 GBまで対応し、トータルで3 GBまでサポートします</li> </ul>																		
グラフィック	本マザーボードは、従来のAGP仕様の8倍のバンド幅を提供することができるAGPスロットが含まれています。AGP3.0 (8xAGP) は、ワークステーションやデスクトップ環境において、より優れたグラフィックインターフェースのニーズに対応するために誕生したもので、既存のAGP機能をさらに進化させ、AGP2.0よりパワーアップしたパフォーマンスおよび機能を提供します。																		
AC' 97 オーディオコーデック	C-Media 9739A オーディオコーデックはAC' 97 2.3 仕様に準拠したもので、様々なCODEC拡張機能をサポートしながら、独立の可変サンプリング率と共に3D効果機能をも内蔵しております。独自の変換技術を取り入れることにより、90dB超の高いSNRを実現しました。そのデジタル式インターフェース回路は、5V/3V電源サブライで動作し、かつAC' 97 2.1 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。																		

<b>拡張オプション</b>	<p>本メインボードには次の拡張オプションが搭載されています：</p> <ul style="list-style-type: none"> <li>• 5つ32ビットPCIスロット</li> <li>• 1つのAGPスロット(1.5Vのみ適用)</li> <li>• 4つのIDEチャンネルおよび1つのフロッピーディスクドライブインターフェースを、2つのIDEコネクタでサポート</li> <li>• 4つのSATAコネクタ、データ転送速度を150MB/秒までサポート、(2つのSATAコネクタをオプション品としてお求めるとができます)</li> </ul> <p>メインボードはUltra DMA バスマスタ機能、33/66/100/133 MB/秒の転送速度をサポートします。</p>
<b>オンボードLAN (オプション)</b>	<p>ギガバイトのLAN接続をサポートする、シングルチップの3Com 3C940-32 デバイスを導入しております。32ビットPCIクライアントに最適なネットワークアクセスパフォーマンスをもたらします。さらに、128 KBのオンチップRAM バッファを搭載しているため、外部メモリを使う必要性がなくなり、PCIのバスサイクルおよびデータバッファが負担が軽減されてより効率よく行われるようになったためです。さらに、Marvell Virtual Cable Tester™ (VCT) 技術を導入して、高度なケーブル診断を実現。</p>
<b>オンボード LAN (AF1 Lite板の 場合)</b>	<p>この“Lite”版のマザーボードには、3Com® 3C920 Mbps PCI イーサネットコントローラが統合されています。そのコントローラは、IEEE 802.3規格に完全に対応しており、PCIバスマスターとして機能の可能であるので、ホストシステムとのパケット転送/受信を管理することができます。</p>
<b>1394 FireWire - VT6307 (オプション)</b>	<ul style="list-style-type: none"> <li>• 低消費電力の2ポート IEEE 1394ホストコントローラを通じて、各種の周辺機器や家庭用電化製品をシステムに簡単に接続することができます</li> <li>• 最新のIEEE1394仕様に準拠して、1394a P2000を完全にサポートします</li> <li>• 接続した装置のタイプを自動的に認識して、データ転送率を適宜に100、200、400Mbpsのいずれかに設定します</li> <li>• 節電機能とCardBus機能を備えた32ビットPCIバスインターフェースを設けております</li> </ul>
<b>Serial ATA RAID VIA VT6420 (AF1 Deluxe 板の場合)</b>	<p>このマザーボードには、高性能のVIA VT6420 IDE RAID コントローラが統合されています。それにより、RAID 0 およびRAID 1がサポートされますので、ハードディスクの効率とデータの保全を両立することが可能になります。</p>
<b>統合された入出力 ポート</b>	<p>このメインボードにはフルセットのI/Oポートおよびコネクタが搭載されています。</p> <ul style="list-style-type: none"> <li>• 2つマウスおよびキーボード用のPS/2ポート</li> <li>• 1つシリアルポート</li> <li>• 1つパラレルポート</li> <li>• 4つUSBポート</li> <li>• 1つLANポート</li> <li>• 1つ同軸 S/PDIF 出力</li> <li>• 1つ光S/PDIF出力 1つ</li> </ul>

	<ul style="list-style-type: none"><li>• マイクロフォンやラインイン、ラインアウト向けのオーディオジャック</li></ul>
<b>BIOS ファームウェア</b>	<p>本メインボードは次のシステム機能を含めた設定をすることができるAward BIOSを採用しています：</p> <ul style="list-style-type: none"><li>• 電源管理</li><li>• Wake-up警告</li><li>• CPUパラメータ</li><li>• CPUおよびメモリのタイミング</li></ul> <p>その他に、各種プロセッサクロック速度のパラメータを設定することができます。</p>



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

## 품목 목록

다음 품목들이 메인보드 패키지에 모두 포함되어 있는지 확인해 보십시오:

### 표준 품목

- 마더보드 1 개
- 디스켓 드라이브 리본 케이블 1 개
- 스트림 라인 IDE 케이블 2 개
- 자동 설치 소프트웨어 지원 CD
- I/O 실드 1 개
- 사용 설명서

### 옵션 사항

- USB + 1394 PCI브래킷브래킷 (AF1 Deluxe 및 AF1 해당)
- USB + 1394 하우징 1 개 (AF1 Deluxe 및 AF1 해당)
- USB PCI 브래킷 1 개 (AF1 Lite 의 경우에만)
- USB하우징 1 개 (AF1 Lite 의 경우에만)
- SATA 케이블 2 개
- SATA 전원 케이블 1 개
- 설명서와 탐 핫 플래시 키트 1 개
- EZ-Watcher 1개

## 기능

<p><b>프로세서</b></p>	<p>이 메인보드는 AMD 462 핀 소켓 A 를 사용하며 다음과 같은 특징을 지닌다:</p> <ul style="list-style-type: none"> <li>• 400/333/266/200 MHz frontside bus (FSB) 지원</li> <li>• AMD Athlon XP/Sempron/Athlon/Duron 프로세서 사용</li> </ul> <p><b>Note:</b> “열 다이오드” 기능이 적절히 기능하도록 AMD Athlon XP 또는 그 이상의 CPU 사용을 권장 함.</p>				
<p><b>칩셋</b></p>	<p>본 마더보드에 있는 칩셋은KT600 Northbridge 와 VT8237 Southbridge 칩셋을 조합한다. 아래 표는 칩셋의 고급 기능을 간단히 설명한다.</p> <table border="1" data-bbox="598 1413 1200 1697"> <thead> <tr> <th data-bbox="598 1413 710 1451">칩셋</th> <th data-bbox="710 1413 1200 1451">특징</th> </tr> </thead> <tbody> <tr> <td data-bbox="598 1451 710 1697"> <p><b>KT600 NB</b></p> </td> <td data-bbox="710 1451 1200 1697"> <p>Athlon XP/Sempron/Athlon/Duron CPU 어드레스 및 데이터 버스에서400/333/266/200 MHz DDR (Double Data Rate) 전송.</p> <p>시그널링을 위해 533 MHz 8x, 266 MHz 4x, 및 133 MHz 2x 전송 모드를 지원하는 고급의 Accelerated Graphics Port (AGP) 컨트롤러.</p> <p>최고 대역폭 533MB/sec 의 66 MHz V-Link 호스트 인터페이스 지원.</p> </td> </tr> </tbody> </table>	칩셋	특징	<p><b>KT600 NB</b></p>	<p>Athlon XP/Sempron/Athlon/Duron CPU 어드레스 및 데이터 버스에서400/333/266/200 MHz DDR (Double Data Rate) 전송.</p> <p>시그널링을 위해 533 MHz 8x, 266 MHz 4x, 및 133 MHz 2x 전송 모드를 지원하는 고급의 Accelerated Graphics Port (AGP) 컨트롤러.</p> <p>최고 대역폭 533MB/sec 의 66 MHz V-Link 호스트 인터페이스 지원.</p>
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<b>메모리</b>	<ul style="list-style-type: none"> <li>• DDR 을 최대 400/333/266/200MHz DDR SDRAM 메모리 모듈 지원</li> <li>• 2개의 unbuffered 2.5V 184 핀 슬롯 사용</li> <li>• 총 최대 용량은 3GB 이며, 각 슬롯은 최대 1 GB 를 지원</li> </ul>																
<b>그래픽</b>	본 마더보드는 기존 AGP 사양의 8배의 대역폭을 제공하는 AGP 슬롯을 포함한다. AGP 3.0 (8xAGP) 는 AGP 2.0의 기능 강화로 탁월한 성능을 제공한다. 이 인터페이스는 기존 AGP의 자연적 진화로 워크 스테이션과 데스크탑 환경에서 필요로 하는 그래픽 인터페이스를 제공한다.																
<b>AC' 97 오디오 코덱</b>	C-Media 9739A 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 썬플라이로 작동되며, AC'97 2.1 부합 SPDIF 출력 기능을 지원하여 PC와 다른 전기 제품의 연결을 용이하게 한다. 그 밖에도 4 개의 아날로그 라인 레벨 스테레오 입력을 지원한다.																
<b>확장 옵션</b>	Photon AF1 시리즈 마더보드는 다음과 같은 풀 세트의 확장 옵션이 있다: <ul style="list-style-type: none"> <li>• 32-bit PCI 슬롯 5개</li> <li>• AGP 슬롯 1 개</li> <li>• 3개의 IDE 채널 및 플로피 디스크 드라이브 인터페이스를 지원하는 IDE 커넥터 6개(의 IDE 커넥터 1 개 선택사항)</li> <li>• 데이터 전송 속도 최대 150 MB/s의 SATA 커넥터 4 개</li> <li>• (의 SATA 커넥터 2 개 선택사항)</li> </ul> 메인보드는 전송 속도 33/66/100/133 MB/sec 의 Ultra DMA bus mastering 을 지원한다.																

<b>보드 내장 LAN</b>	<p>본 메인보드는 32 비트 PCI 클라이언트에 최적화 되어 있는 3Com® 3C940장치를 통합하는 Gigabit LAN을 지원한다. 이것은 IEEE 802.3z 와 호환하며 메인보드에 10/100/1000 Mbps Full/Half-Duplex 세 속도의 작업을 제공한다. 칩 RAM 버퍼의 128 KB는 효율적인 PCI 버스 사이클과 데이터 버퍼링을 가능하게 하며 외부 메모리의 필요성을 감소시킨다. 고급 케이블 진단을 위해 Marvell Virtual Cable Tester™ (VCT) 기술을 사용하였다.</p>
<b>보드내장 LAN (AF1 Lite 버전의 경우에만)</b>	<p>“ Lite” 버전 마더보드는 3Com® 3C920 10/100 Mbps PCI 이더넷 컨트롤러를 통합한다. 이것은 IEEE 802.3 에 전적으로 부합되며 패킷을 호스트 시스템에/으로 부터 전송 및 수신하는데 PCI 버스 마스터처럼 작동한다.</p>
<b>1394a 파이어 와이어 -VT6307 (AF1 Deluxe 및 AF1 해당)</b>	<ul style="list-style-type: none"> <li>• PC 시스템에 빠른 속도와 광범위한 주변기기 및 전자 장치의 연결성을 제공하는 저 전력 2 포트 IEEE 1394 호스트 컨트롤러</li> <li>• 최신 IEEE 1394 표준 부합, 1394a P2000 지원</li> <li>• 장치 타입 감지 및 데이터 속도를 100, 200, 또는 400 Mbps 로 자동 구성</li> <li>• 고급 전원 관리 기능이 있는 32 비트 PCI 버스 인터페이스, 카드버스 지원</li> </ul>
<b>시리얼 ATA RAID VIA VT6420 (AF1 Deluxe 버전의 경우에만)</b>	<p>본 마더보드는 고성능 VIA VT6420 IDE RAID 컨트롤러를 사용하며, 하드 디스크 성능 밸런스와 데이터 보호를 위해 RAID 0 과 RAID 1을 지원한다.</p>
<b>통합 I/O</b>	<p>본 마더보드는 풀 세트의 I/O 포트 및 커넥터가 있다:</p> <ul style="list-style-type: none"> <li>• 마우스와 키보드용 PS/2 포트 2 개</li> <li>• 시리얼 포트 1개</li> <li>• 패러럴 포트 1 개</li> <li>• USB 포트 4 개</li> <li>• LAN 포트 4 개</li> <li>• 동축 S/PDIF 출력 1 개</li> <li>• 광 S/PDIF 출력 1 개</li> <li>• 마이크 용 오디오 잭, 라인 입력과 라인 출력</li> </ul>
<b>BIOS 펌웨어</b>	<p>본 마더보드는 Award BIOS 를 사용하여 사용자는 다음과 같은 시스템 기능을 구성할 수 있다:</p> <ul style="list-style-type: none"> <li>• 전원 관리</li> <li>• 기상 알람</li> <li>• CPU 파라미터</li> <li>• CPU 및 메모리 타이밍</li> </ul> <p>펌웨어는 다른 프로세서 클럭 속도의 파라미터를 설정하는데도 사용될 수 있다.</p>



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

## 檢查表

請依下列檢查表，核對主機板包裝之內容：

### 標準項目

- 1個主基板
- 1條軟碟排線
- 2條串流IDE連接線
- 1片軟體自動安裝支援光碟
- 1片 I/O屏蔽板
- 本說明書

### 選購配件

- 1片USB + 1394 PCI機座 (適用於AFI Deluxe及 AFI)
- 1片USB + 1394 機座 (適用於AFI Deluxe及 AFI)
- 1片 USB PCI 固定架 (僅適用於 AFI Lite)
- 1片 USB固定架 (僅適用於 AFI Lite)
- 2條SATA連接線
- 1條SATA電源線
- 1組 Top hat Flash kit (BIOS快閃記憶體組) ，隨附說明手冊
- 1組 EZ-Watcher

## 性能

<b>處理器</b>	本主機板採用了具有下列功能之AMD 462針Socket A： <ul style="list-style-type: none"><li>• 支援高達400/333/266/200 MHz之系統匯流排(FSB)</li><li>• 支援AMD Athlon XP/Sempron/Athlon/Duron處理器</li></ul> <b>註解：</b> 建議使用AMD Athlon XP或更高等級之CPU，以確保過熱保護電路 (Thermal Diode) 之功能運作正常。												
<b>晶片組</b>	本主機板係以KT600 北橋晶片組搭配 VT8237 南橋晶片組，具有如下表所述之先進晶片組功能： <table border="1" data-bbox="600 1346 1193 1720"><thead><tr><th data-bbox="600 1346 708 1384">晶片組</th><th data-bbox="708 1346 1193 1384">功能</th></tr></thead><tbody><tr><td data-bbox="600 1384 708 1740"><b>KT600 NB</b></td><td data-bbox="708 1384 1193 1473">為Athlon XP/Sempron/Athlon/Duron CPU 定址功能及資料匯流排提供400/333/266/200 MHz DDR (Double Data Rate)傳輸速率.</td></tr><tr><td data-bbox="600 1473 708 1541"></td><td data-bbox="708 1473 1193 1541">提供全功能的繪圖加速埠 (AGP)控制器，能夠支援 533 MHz 8x、266 MHz 4x傳輸模式.</td></tr><tr><td data-bbox="600 1541 708 1608"></td><td data-bbox="708 1541 1193 1608">支援66 MHz V-Link主機介面，最大頻寬可達 533MB/秒.</td></tr><tr><td data-bbox="600 1608 708 1675"></td><td data-bbox="708 1608 1193 1675">提供系統記憶體用2.5V介面、及AGP用1.5V介面之支援.</td></tr><tr><td data-bbox="600 1675 708 1740"></td><td data-bbox="708 1675 1193 1740">支援DDR400、DDR333、及DDR266MHz DDR SDRAM (同步雙倍資料傳輸動態隨機存取記憶體).</td></tr></tbody></table>	晶片組	功能	<b>KT600 NB</b>	為Athlon XP/Sempron/Athlon/Duron CPU 定址功能及資料匯流排提供400/333/266/200 MHz DDR (Double Data Rate)傳輸速率.		提供全功能的繪圖加速埠 (AGP)控制器，能夠支援 533 MHz 8x、266 MHz 4x傳輸模式.		支援66 MHz V-Link主機介面，最大頻寬可達 533MB/秒.		提供系統記憶體用2.5V介面、及AGP用1.5V介面之支援.		支援DDR400、DDR333、及DDR266MHz DDR SDRAM (同步雙倍資料傳輸動態隨機存取記憶體).
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	具有1/10/100 MHz全/半雙工功能。												
<b>記憶體</b>	<ul style="list-style-type: none"> <li>• 支援DDR高達400/333/266/200MHz之DDR型SDRAM記憶體</li> <li>• 配備有2無緩衝2.5V184針插槽</li> <li>• 各插槽支援1GB，共可支援3 GB之記憶體</li> </ul>												
<b>繪圖卡</b>	本主機板配備有一個AGP插槽，能夠支援為舊型AGP規格8倍之頻寬。相較於AGP 2.0，AGP 3.0(8xAGP) 能夠提供商的性能以及功能。本介面係順應工作站與個人電腦環境中對圖形介面不斷升高之要求，由既有之AGP規格所發展出來的成果。												
<b>AC' 97 音訊編解碼器</b>	配備之C-Media 9739A音效解碼/編碼器採用了AC' 97 2.3 規格，且支援多CODEC擴充子集，具有獨立的可變取樣率及內建的3D效果功能。本編解碼器具有一專屬的轉換技術，能夠得到更高的SNR(實際高達90dB)。該數位介面電路可使用5V/3.3V的電源，支援符合AC' 97 2.1規格的SPDIF輸出功能，能夠使其他電子產品更容易地與連接電腦連接。再者，也提供4種類比線級立體音效輸入。												
<b>擴充選項</b>	<p>Photon AF1系列主機板提供有如下擴充選項：</p> <ul style="list-style-type: none"> <li>• 5個32位元PCI 插槽</li> <li>• 1個 4xAGP 插槽</li> <li>• 3個IDE連接器，可支援6個IDE通道及1個軟碟機介面。(1個IDE通道 選項)</li> <li>• 4個SATA連接器，具有高達150MB/秒的資料傳輸率。(2個SATA連接器 選項)</li> </ul> <p>本主機板之Ultra DMA 匯流排主控功能可支援高達33/66/100 /133 MB/秒之資料傳輸。</p>												
<b>內建LAN控制器</b>	本主機板為支援Gigbit LAN，採用了 3Com的3C940單晶網路晶片，能夠為32位元PCI客戶端提供最佳化的網路效能。該晶片完全與IEEE 802.3z相容，能夠提供10/100/1000Mbps全/半雙工三倍速傳輸率。由於已內含128KRAM緩衝器，因此無需使用外部記憶體，便可提升PCI匯流排的處理速度及資料緩衝效能。此外，尚採用了Marvell Virtual Cable Tester™ (VCT) 技術，提供高性能的網路連線診斷功能。												
<b>機載 LAN (僅適用於 AF1 Lite版)</b>	Lite版主機板整合有3Com® 3C920 10/100Mbps PCI 乙太網路控制器。此控制器完全與 IEEE 802.3 規格相容，且能夠發揮 PCI 匯流排主控功能，接對與主機系統間的封包傳輸進行收發的控												

	制。
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<b>1394a FireWire - VT6307</b> <b>(適用於AF1 Deluxe及 AF1)</b>	<ul style="list-style-type: none"> <li>藉由低耗電雙埠IEEE1394a主控制器，週邊設備及家電設備能夠以更有彈性的方式且輕易地連接至電腦上</li> <li>相容於最新的 IEEE 1394a 規格，且全面支援 1394a P2000 標準</li> <li>自動辨識出連接設備的型式，並設定最佳的資料傳送速率 ( 100, 200, 或 400 Mbps)</li> <li>搭載一具有電源管理及CardBusr功能的32位元 PC匯流排介面</li> </ul>
<b>Serial ATA RAID VIA VT6420</b> <b>(僅適用於 AF1 Deluxe版)</b>	此主機板整合有高效能的VIA VT6420 IDE RAID控制器，能夠支援 RAID 0 及 RAID 1，能夠在提升硬碟效能的同時，兼顧到對資料的保護。
<b>已整合的輸出入功能</b>	本主機板完整地支援各種輸出入及連接器： <ul style="list-style-type: none"> <li>2個 PS/2 埠，分供滑鼠及鍵盤連接</li> <li>1個串列埠</li> <li>1個平行埠</li> <li>4個USB埠</li> <li>1個LAN埠</li> <li>1個同軸 S/PDIF輸出端子</li> <li>1個光學 S/PDIF 輸出端子</li> <li>麥克風、line-in及line-out音效端</li> </ul>
<b>BIOS韌體</b>	本主機板使用了Award BIOS，使用者可藉此對包括下列之系統功能進行設定： <ul style="list-style-type: none"> <li>電源管理功能</li> <li>喚醒警示功能</li> <li>CPU參數</li> <li>CPU及記憶體時序</li> </ul> 本BIOS也可用以設定各種有關處理器時脈的參數。



有些硬體規格以及軟體物件將視狀況適當調整，不予另行通知。

## 校验表

将本主板的组件内容与以下校验表进行对照：

### 标准组件

- 1 块主板
- 1 根磁盘驱动器扁平电缆
- 2 条流线型 IDE 电缆
- 1 张自动安装软件支持 CD
- 1 个 I/O 屏蔽罩
- 此用户手册

### 可选项目

- 1 个 USB + 1394 PCI外套（用于 *AFI Deluxe*和 *AFI*）
- 1 个 USB + 1394 外套（用于 *AFI Deluxe*和 *AFI*）
- 1 个 USB PCI 支架（仅用于 *AFI Lite*）
- 1 个 USB 支架（仅用于 *AFI Lite*）
- 2 条 SATA 电缆
- 1 条 SATA 电源线
- 1 份 Top hat Flash 套件说明手册
- 1 个 EZ-Watcher

## 特性

<b>处理器</b>	主板使用一个 AMD 462-pin Socket A 插座，此插座具有以下特点： <ul style="list-style-type: none"><li>• 支持400/333/266/200 MHz 前端总线 (FSB)</li><li>• 支持 AMD Athlon XP/Sempron/Duron/Athlon 处理器</li></ul> <b>说明：</b> 建议您使用 AMD Athlon XP 或更高频率的处理器，以确保能够正常使用“Thermal Diode”功能。				
<b>芯片组</b>	此主板含有KT600 北桥芯片组和 VT8237 南桥芯片组。下表中简要介绍了芯片组的先进功能。 <table border="1" data-bbox="600 1442 1204 1816"><thead><tr><th data-bbox="600 1442 708 1480">芯片组</th><th data-bbox="716 1442 1204 1480">功能</th></tr></thead><tbody><tr><td data-bbox="600 1491 708 1816"><b>KT600 NB</b></td><td data-bbox="716 1491 1204 1816">Athlon XP/Sempron/Athlon/Duron CPU 地址和数据总线上400/333/266/200 MHz DDR MHz DDR（双数据传输速率）传输。 完整的加速图形端口（AGP）控制器，支持 533 MHz 8x、266 MHz 4x 传输模式。 支持峰值带宽为 533MB/sec 的 66MHz V-Link Host 接口。 支持（单独驱动）到系统内存的 2.5V 接口和到 AGP 的 1.5V 接口。 支持 DDR400、DDR333 和 DDR266MHz双数据速率同步 DRAM。</td></tr></tbody></table>	芯片组	功能	<b>KT600 NB</b>	Athlon XP/Sempron/Athlon/Duron CPU 地址和数据总线上400/333/266/200 MHz DDR MHz DDR（双数据传输速率）传输。 完整的加速图形端口（AGP）控制器，支持 533 MHz 8x、266 MHz 4x 传输模式。 支持峰值带宽为 533MB/sec 的 66MHz V-Link Host 接口。 支持（单独驱动）到系统内存的 2.5V 接口和到 AGP 的 1.5V 接口。 支持 DDR400、DDR333 和 DDR266MHz双数据速率同步 DRAM。
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<b>内存</b>	<ul style="list-style-type: none"> <li>• 支持400/333/266/200 MHz DDR SDRAM 内存条</li> <li>• 提供 2 个非缓冲 2.5V 184 pin 插槽</li> <li>• 每个插槽支持 1 GB, 总共最大可支持3 GB</li> </ul>												
<b>图形</b>	此主板含一个 AGP 插槽, 可提供普通 AGP 规格 8 倍的带宽。AGP 3.0 (8xAGP) 在增强了 AGP2.0 功能的同时极大地提高了性能。此接口反映了 AGP 的发展规律, 它进一步满足了在工作站和桌面环境中对图形接口的不断增长的要求。												
<b>AC' 97 音频编码器</b>	C-Media 9739A 符合 AC' 97 2.3 规格, 支持多个具有独立可调采样速率和内建 3D 音效的编解码器。它与专有的转换器技术相结合, 能够获得大于 90 dB 的 SNR (信噪比)。数字接口电路可以在 5V/3.3V 电源下工作, 并支持符合 AC' 97 2.1 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。												
<b>扩展 选项</b>	Photon AF1 系列主板提供如下扩展选项: <ul style="list-style-type: none"> <li>• 5 个 32 位 PCI 扩展插槽</li> <li>• 1 个 AGP 插槽 (只支持 1.5V)</li> <li>• 3 个 IDE 接口, 可支持 6 个 IDE 通道; (可选1 个接口)</li> <li>• 4 个数据传输速率可达 150 MB/s 的 SATA 接口 (2 个SATA 接口)</li> </ul> 主板支持 Ultra DMA 总线控制, 传输速率可达 33/66/100/133 MB/sec。												
<b>Onboard LAN</b>	该主板支持千兆局域网, 集成了为 32 位 PCI 客户进行了优化的 3Com® 3C940 设备。它完全符合 IEEE 802.3z 标准, 为主板提供 10/100/1000 Mbps 的全双工/半双工三速运行。芯片带 128 KB RAM 缓冲, 能够提供高效的 PCI 总线循环和数据缓冲, 减少了对额外内存的占用。结合 Marvell Virtual Cable Tester™ (VCT) 技术, 可提供先进的电缆诊断功能。												
<b>Onboard LAN (仅对于 AF1 Lite 版本)</b>	此 “Lite” 版本的主板集成了 3Com® 3C920 10/100 Mbps PCI 以太网控制器。它完全符合 IEEE 802.3, 作为一个 PCI 总线主控器工作, 用于发送和接收主机系统的数据包。												

<b>1394a FireWire - VT6307</b> (用于 <i>AF1 Deluxe</i> 和 <i>AF1</i> )	<ul style="list-style-type: none"> <li>• 低功耗 2 端口 IEEE 1394a 主控器，能够为 PC 系统到各种外设和消费电子产品提供高速灵活的连接</li> <li>• 符合最新的 IEEE 1394a 标准，全面支持 1394a P2000</li> <li>• 能够检测连接设备的类型，并自动将数据速率配置为 100、200 或 400 Mbps</li> <li>• 带支持高级电源管理的 32 位 PCI 总线接口，支持插件总线</li> </ul>
<b>串行 ATA RAID VIA VT6420</b> (仅对于 <i>AF1 Deluxe</i> 版本)	此主板使用了高性能 VIA VT6420 IDE RAID 控制器，支持 RAID 0 和 RAID 1，保证硬盘性能的同时实现数据保护。
<b>集成 I/O</b>	此主板具有完整的 I/O 端口和插孔： <ul style="list-style-type: none"> <li>• 2 个用于连接鼠标和键盘的 PS/2 端口</li> <li>• 1 个串口</li> <li>• 1 个并口</li> <li>• 4 个 USB 端口</li> <li>• 1 个 LAN 端口</li> <li>• 1 个同轴 S/PDIF 输出</li> <li>• 1 个光 S/PDIF 输出</li> <li>• 麦克风、线入和线出声音插孔</li> </ul>
<b>BIOS</b>	此主板使用 Award BIOS，可以让用户自己配置以下系统功能： <ul style="list-style-type: none"> <li>• 电源管理</li> <li>• 唤醒报警</li> <li>• CPU 参数</li> <li>• CPU 和记忆定时</li> </ul> 还可用于设置不同处理器时钟速度的参数。



部分硬件规格和软件项目若有更改恕不另行通知。

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## Chapter 1

# Introducing the Motherboard

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### Introduction

Thank you for choosing the ECS Photon motherboard. The AF1 Series is the next generation of high performance main board for AMD CPUs. The AF1 Series adopt VIA's newest KT600 chipset to bring the last in technology to AMD platform. This main board support AMD Athlon XP/ Sempron / Athlon / Duron CPUs for superior performance, and offers full compatibility DRAM Module for DDR400/333/266/200 MHz.

ECS Photon AF1 Series provide end user with server level PCB, which offering overclocking ability and rock- solid reliability. GigaLAN function supported, 6 channel sound and SPDIF out for the enhanced audio performance. With full support for AGP 8X, USB2.0 ports and high-speed 1394 ports, 4 serial ATA channel, which support RAID 0 and RAID 1.

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

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

#### Notice to user:

This manual is provided to accommodate the AF1 series motherboard. To identify the type of motherboard you have, please refer below:

- **AF1 Deluxe motherboard: Adopt VIA KT600, VT8237, VT6420, VT6307 & 3COM 3C940** with SATA RAID 0 & RAID 1 (4 SATA ports), GigaLAN and IEEE 1394 function.
- **AF1 motherboard: Adopt VIA KT600, VT8237, VT6307 & 3COM 3C940** with SATA RAID 0 & RAID 1 (2 SATA ports), GigaLAN and IEEE 1394 function.
- **AF1 Lite motherboard: Adopt VIA KT600, VT8237 & 3COM 3C920** with SATA RAID 0 & RAID 1 and 10/100 Mbps LAN function.

---

## **Checklist**

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

### **Standard Items**

- One motherboard
- One diskette drive ribbon cable
- Two stream line IDE cable
- One auto-install software support CD
- One I/O shield
- This user's manual

### **Optional Items**

- One USB + 1394 PCI bracket (*for AF1 Deluxe and AF1*)
- One USB + 1394 housing (*for AF1 Deluxe and AF1*)
- One USB PCI bracket (*for AF1 Lite only*)
- One USB housing (*for AF1Lite only*)
- Two SATA cable
- One SATA power cable
- One Top hat Flash kit with instruction booklet
- One EZ-Watcher

---

## Features

### Photon Power

#### *Device plug with USB-like ease!*



Supports 2-ports S-ATA running at 150 MB/s. Fully compatible with soon-to-be-released serial ATA HDD, CDROM and other cutting edge devices.

#### *Play complex 3D games without compromise!*



AGP 8X AGP 3.0 interface and backward compatibility with AGP 4X. Fully supports cutting edge nVidia Geforce FX 5900 and ATI Radeon 9900 pro AGP 8X GPU.

#### *One-key boot device selection!*



F11 Hot key to boot from different devices. Users do not need to enter time-consuming BIOS setup screen to select the boot device.

#### *Uncompromising DVD audio quality!*



Onboard 6-CH C-media 9739A Audio Chip supports uncompromising DVD audio quality, bringing a more vivid sound experience. Users can also choose SPDIF output by using an extended cable from RCA or optical coaxial jack.

#### *The best aluminum capacitors empowering!*



Featured highest quality V-chip capacitor provides better stability, efficient signal transmission, explosion-proof, and ventilation. This is the best design to support high-end graphics cards.

#### *6-layer PCB!*



Featured highest quality V-chip capacitor provides better stability, efficient signal transmission, explosion-proof, and ventilation. This is the best design to support high-end graphics cards.

### Photon Guardian

#### *Auto restart after power loss!*



This convenient function keeps PC power always on.

### ***PC protection toolkit!***



This amazing software not only provides users with convenient and instant restoration of your computer, but also restores within seconds important data back to the preferred state at a specific point in time. Pro Magic also combines several other functions including anti-virus, backup, uninstall software and multi-booting to satisfy all your system protection needs.

### ***A 'time machine' to protect and restore files!***



Specially designed for file protection, security and management this DPU or data processing utility insures the safety of important data through complete file restoration, eliminating file damage even in case of improper operation. User can freely edit original files after a set restore time point. The DPU can even restore even deleted files.

### ***Become your own BIOS 'doctor!'***



A handy external dual BIOS recovery system using Top Hat tool. With this ECS patented kit, you can cure all BIOS ills.

### ***PC 'health' monitor!***



AP hardware monitors system health, delivering a quick reading of CPU and system temperature, CPU FAN speed, CPU type, memory size and on-board voltages. It will show a warning message when potential problems occur.

### ***Memory module alert!***



Memory Anti-Burn LED indicator provides users a second chance warning when inserting or removing a memory module.

### ***Dr. LED!***



Fuzzy logic design for diagnosing PCI slots health!

### ***Know your AGP!***



Fuzzy logic design for diagnosing PCI slots health!

## Photon Link

### ***Add peripherals and consumer electronics devices!***



Dual IEEE 1394 slot supports transfer rates up to 400Mb/s. IEEE 1394 is the most popular interface for PC peripherals and consumer electronics including digital video, CD-RW, DVD, music synthesizers...

### ***Smart LAN!***



Detect the status of LAN network link and report the quality of LAN cable.

### ***All the USB 2.0 connectivity you'll ever need!***



Eight high-speed USB 2.0 ports delivering a 480 Mb/s transfer rate mean no worries about port availability. And USB is the most common interface for linking multiple devices.

### ***More port options!***



Bundled cable with a 1394 port and 2 USB ports can be swapped with rear side PCI bracket or front side 3.5-inch external bay – An easy, user-friendly way to plug-in or remove digital devices.

### ***Industrial-strength LAN power!***



Features the outstanding commercial quality 3COM LAN, supporting a high transfer rate up to 1 Gigabit. Link your PC to the network in the fastest, most stable way.

### ***Double digital audio!***



Featured coaxial & optical SPDIF outputs.

### ***SATA RAID!***



Provides RAID0, RAID1 modes.

### ***Auto-negotiate your 10/100M LAN!***



Features the outstanding commercial quality 3COM LAN, supporting 10Mbps & 100Mbps N-way auto-negotiation networking.

## Photon Genius

### ***Color-coding for easy connections!***



Color-coded pin headers and slots make it easy to match plug plugs with cables without checking the silk screen for installation instructions.

### ***Customize your start-up screen!***



Want to individualize your PC? My Picture boots the PC with the photo of your choice, requiring just one touch to import a picture through a convenient Windows-based application.

### ***Flash BIOS from Windows!***



It's easy to flash your BIOS using this user-friendly Windows application.

### ***Rounded corners for strength and safety!***



Rounded corners make the PCB plate stronger and this smart design element prevents user injury from hard PCB corners.

### ***Cool operations, cool appearance!***



Improved airflow cable makes your system run at a lower temperature and look great too.

### ***Eliminate data highway roadblocks!***



Golden flush memory sockets make the DDR eliminate data highway quality issues and support increased overclocking.

### ***Ultra sound quality!***



OS-con quality capacitor implanted on a yellow PCI slot accommodates special audio and video-related cards. This slot can provide ultra signal quality for outstanding audio and video card performance.

### ***Dust proof auto shutter!***



A dust-proof auto shutter for optical connector.

### ***Clear & Clean!***



Elegant PCB appearance stands out the key insertions and reduces distraction during installation.

## Specifications

<b>Processor</b>	<p>The motherboard uses an AMD 462-pin Socket A that has the following features:</p> <ul style="list-style-type: none"> <li>• Supports 400/333/266/200 MHz frontside bus (FSB)</li> <li>• Accommodates AMD Athlon XP/Sempron/Athlon/Duron processors</li> </ul> <p><b>Note:</b> It is recommended that you use AMD Athlon XP or higher level CPU to make sure that the “Thermal Diode” function will work properly.</p>						
<b>Chipset</b>	<p>The chipset on this motherboard includes the KT600 Northbridge combine with VT8237 Southbridge chipset. The table below briefly explains some of the chipset’s advanced features.</p> <table border="1" data-bbox="600 808 1187 1480"> <thead> <tr> <th data-bbox="600 808 703 842"><b>Chipset</b></th> <th data-bbox="707 808 1187 842"><b>Features</b></th> </tr> </thead> <tbody> <tr> <td data-bbox="600 846 703 1171"><b>KT600 NB</b></td> <td data-bbox="707 846 1187 1171"> <p>400/333/266/200 MHz DDR (Double Data Rate) transfer on Athlon XP/Sempron/Athlon/Duron CPU address and data buses.</p> <p>Full Featured Accelerated Graphics Port (AGP) Controller which support 533 MHz 8x, 266 MHz 4x mode.</p> <p>Supports 66 MHz V-Link Host interface with peak bandwidth of 533MB/sec.</p> <p>Supports separately powered 2.5V interface to system memory and 1.5V interface to AGP.</p> <p>Supports DDR400, DDR333 and DDR 266 MHz double data rate synchronous DRAM.</p> </td> </tr> <tr> <td data-bbox="600 1176 703 1480"><b>VT8237 SB</b></td> <td data-bbox="707 1176 1187 1480"> <p>Supports 16-bit 66 MHz V-Link Client interface with total bandwidth of 1066 MB/sec.</p> <p>Dual channel Serial ATA/HDD controller.</p> <p>Supports both ACPI (Advanced Configuration and Power Interface) and legacy (APM) power management.</p> <p>Dual channel UltraDMA-33/66/100/133 master mode EIDE controller.</p> <p>Integrated USB 2.0 Controller with four root hubs and eight function ports.</p> <p>1/10/100 MHz full and half duplex operation.</p> </td> </tr> </tbody> </table>	<b>Chipset</b>	<b>Features</b>	<b>KT600 NB</b>	<p>400/333/266/200 MHz DDR (Double Data Rate) transfer on Athlon XP/Sempron/Athlon/Duron CPU address and data buses.</p> <p>Full Featured Accelerated Graphics Port (AGP) Controller which support 533 MHz 8x, 266 MHz 4x mode.</p> <p>Supports 66 MHz V-Link Host interface with peak bandwidth of 533MB/sec.</p> <p>Supports separately powered 2.5V interface to system memory and 1.5V interface to AGP.</p> <p>Supports DDR400, DDR333 and DDR 266 MHz double data rate synchronous DRAM.</p>	<b>VT8237 SB</b>	<p>Supports 16-bit 66 MHz V-Link Client interface with total bandwidth of 1066 MB/sec.</p> <p>Dual channel Serial ATA/HDD controller.</p> <p>Supports both ACPI (Advanced Configuration and Power Interface) and legacy (APM) power management.</p> <p>Dual channel UltraDMA-33/66/100/133 master mode EIDE controller.</p> <p>Integrated USB 2.0 Controller with four root hubs and eight function ports.</p> <p>1/10/100 MHz full and half duplex operation.</p>
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<b>Memory</b>	<ul style="list-style-type: none"> <li>• Supports DDR up to 400/333/266/200 MHz DDR SDRAM memory module</li> <li>• Accommodates three unbuffered 2.5V 184-pin slots</li> <li>• Each slot supports up to 1 GB with a total maximum capacity of 3 GB</li> </ul>						
<b>Graphics</b>	<p>This motherboard includes an AGP slot that provides eight times the bandwidth of the original AGP specification. The AGP 3.0 (8x AGP) offers a significant increase in performance along with feature enhancements to AGP2.0. This interface 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.</p>						

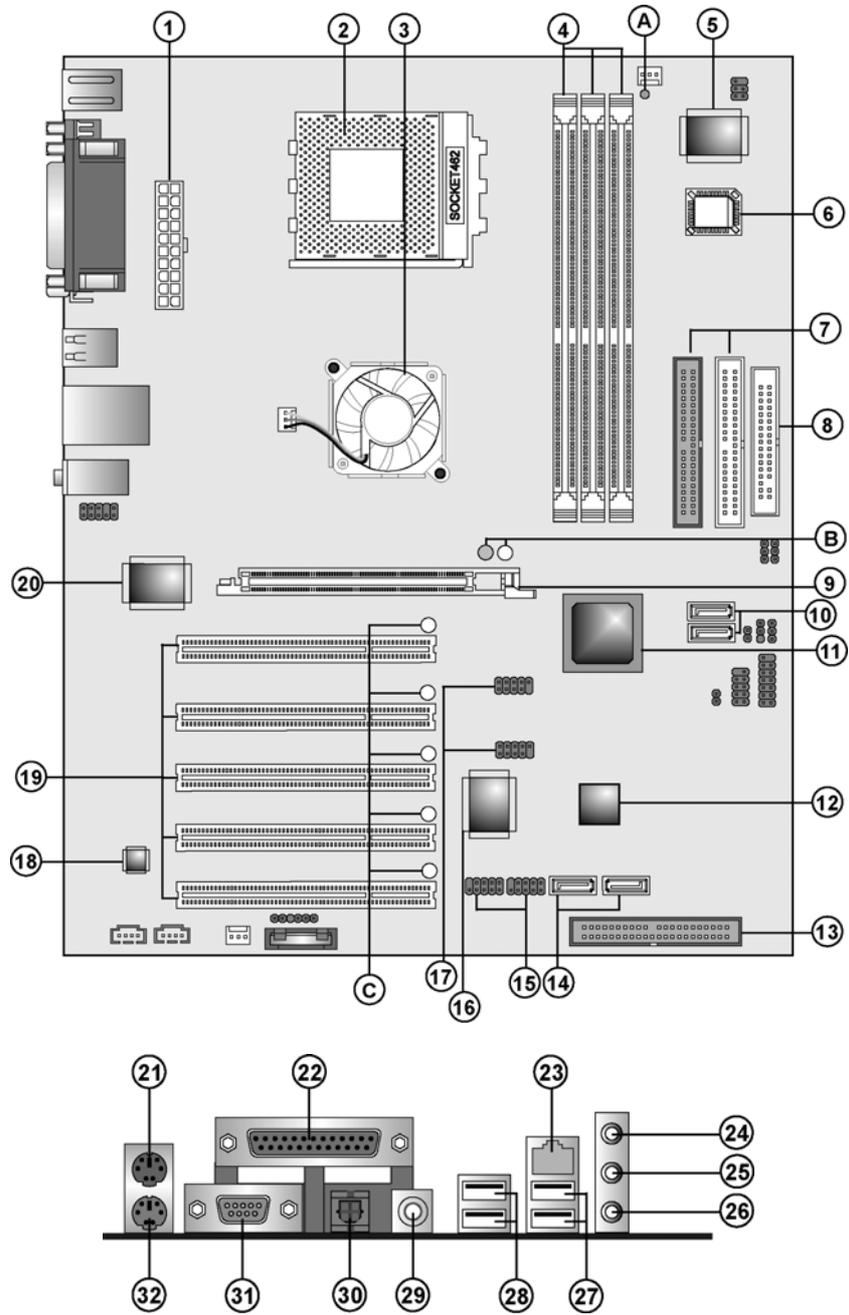
<b>AC' 97 Audio Codec</b>	The C-Media 9739A is compliant with the AC'97 2.3 specification and supports multiple CODEC extensions with independent variable sampling rates and built-in 3D effects. It incorporates proprietary converter technology to achieve a high SNR, greater than 90 dB. The digital interface circuitry operates from a 5V/3.3V power supply and supports an AC'97 2.1 compliant SPDIF out function which allows easy connection from the PC to other electronic products. Further features include support for four analog line-level stereo inputs.
<b>Expansion Options</b>	The Photon AF1 series motherboard comes with the following expansion options: <ul style="list-style-type: none"> <li>• Five 32-bit PCI slots</li> <li>• One AGP slot</li> <li>• Three IDE connectors which support 6 IDE channel interface (One IDE connector is optional)</li> <li>• Four SATA connectors with data transfer rate up to 150 MB/sec (Two SATA connectors are optional)</li> </ul> This motherboard supports Ultra DMA bus mastering with transfer rates of 33/66/100/133 MB/sec.
<b>Onboard LAN</b>	The motherboard supports Gigabit LAN by integrating the 3Com® 3C940 device which is optimized for 32-bit PCI clients. It is fully compliant with IEEE 802.3 and provides the motherboard with 10/100/1000 Mbps Full/Half-Duplex triple speed operation. This 128 KB on chip RAM buffer enables efficient PCI Bus cycles and data buffering and eliminates the need for external memory. It incorporated the Marvell Virtual Cable Tester™ (VCT) technology for advanced cable diagnostics.
<b>Onboard LAN (for AF1 Lite version only)</b>	The "Lite" version motherboard integrates the 3Com® 3C920 10/100 Mbps PCI Ethernet Controller. It is fully compliant with IEEE 802.3 and operates as a PCI bus master for transmit and receive packet transfers to/from the host system.
<b>1394a FireWire - VT6307 (for AF1 Deluxe and AF1 version)</b>	<ul style="list-style-type: none"> <li>• Low power 2-port IEEE 1394a host controller providing PC systems with high speed, flexible connectivity to a wide range of peripherals and consumer electronics</li> <li>• Compliant with the latest IEEE 1394a standards with full 1394a P2000 support</li> <li>• Detect connected device types and automatically configure data speeds to 100, 200, or 400 Mbps</li> <li>• Equipped with 32-bit PCI bus interface that features advanced power management, and cardbus support</li> </ul>
<b>Serial ATA RAID VIA VT6420 (for AF1 Deluxe version only)</b>	This motherboard incorporates the high performance VIA VT6420 IDE RAID controller, which supports RAID 0 and RAID 1 for a balance of hard disk performance and data protection.

<b>Integrated I/O</b>	<p>The motherboard has a full set of I/O ports and connectors:</p> <ul style="list-style-type: none"> <li>• Two PS/2 ports for mouse and keyboard</li> <li>• One serial port</li> <li>• One parallel port</li> <li>• Four USB ports</li> <li>• One LAN port</li> <li>• One coaxial S/PDIF out</li> <li>• One optical S/PDIF out</li> <li>• Audio jacks for microphone, line-in and line-out</li> </ul>
<b>BIOS Firmware</b>	<p>This motherboard uses Award BIOS that enables users to configure many system features including the following:</p> <ul style="list-style-type: none"> <li>• Power management</li> <li>• Wake-up alarms</li> <li>• CPU parameters</li> <li>• CPU and memory timing</li> </ul> <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.

## Motherboard Components



## Table of Motherboard Components

<b>1.</b>	ATX 20-pin power connector	<b>17.</b>	USB 2.0 headers
<b>2.</b>	CPU socket	<b>18.</b>	C-Media 9739A controller
<b>3.</b>	Northbridge controller	<b>19.</b>	PCI slots
<b>4.</b>	DDR DIMM sockets	<b>20.</b>	3COM 3C940 Gigabit LAN controller <i>(for AF1 Deluxe/ AF1 motherboard)</i> 3COM 3C920 10/100M LAN controller <i>(for AF1 Lite motherboard only)</i>
<b>5.</b>	Super I/O (ITE 8705F) controller	<b>21.</b>	PS/2 Mouse
<b>6.</b>	Flash ROM	<b>22.</b>	Parallel port
<b>7.</b>	IDE connectors	<b>23.</b>	RJ-45 port
<b>8.</b>	Floppy disk connector	<b>24.</b>	Line In jack
<b>9.</b>	AGP slot	<b>25.</b>	Line Out jack
<b>10.</b>	Serial ATA connectors	<b>26.</b>	Microphone jack
<b>11.</b>	Southbridge controller	<b>27.</b>	USB 2.0 ports 1 and 2
<b>12.</b>	VIA VT6420 Serial ATA controller	<b>28.</b>	USB 2.0 ports 3 and 4
<b>13.</b>	IDE connector <i>(for AF1 Deluxe only)</i>	<b>29.</b>	Coaxial S/PDIF output port
<b>14.</b>	Serial ATA connectors <i>(for AF1 Deluxe only)</i>	<b>30.</b>	Optical S/PDIF output port
<b>15.</b>	IEEE 1394A headers <i>(for AF1 Deluxe and AF1)</i>	<b>31.</b>	Serial port
<b>16.</b>	VIA VT6307 1394 controller	<b>32.</b>	Keyboard port

<b>A.</b>	Anti-Burn LED indicator
<b>B.</b>	AGP AI indicator
<b>C.</b>	PCI LED indicator

---

## Component Specifications

**1 ATX 20-pin power connector**

This 20-pin connector connects to an ATX +12V power supply. The power supply must have at least 1A on the +5V standby lead (+5VSB).

**2 CPU socket**

Socket 462 surface mount, Zero Insertion Force socket for the AMD K7 Athlon XP/Sempron/Athlon/Duron Processors.

**3 Northbridge Controller**

The VIA KT600 host system controller supports AGP 4X and 8X mode, 400/333/266/200MHz Front Side Bus and DDR 400/333/266/200 MHz DRAM Module

**4 DDR DIMM Sockets**

These three 184-pin DIMM sockets support up to 3 GB system memory using unbuffered non-ECC PC3200/2700/2100 DDR DIMMs.

**5 Super I/O (ITE 8705F) Controller**

This Super I/O provides the commonly used functionality. The chipset supports a high performance floppy disk controller, a multi-mode parallel port, one serial port, a game port, the mouse and keyboard interface.

**6 Flash ROM**

This 4Mb ROM contains the programmable BIOS program.

**7 IDE connectors**

Two IDE connectors support Ultra 133/100/66, PIO mode 4 IDE devices, which support up to 4 IDE devices.

**8 Floppy Disk connector**

This connector supports the provided floppy drive ribbon cable. One side of the connector is slotted to prevent incorrect insertion of the floppy disk cable.

**9 AGP slot**

This Accelerated Graphics Port (AGP) slot supports 1.5V AGP 8X and 3.3V AGP 4X mode graphics cards for 3D graphical applications.

**10 Serial ATA connectors**

These two 7 pins connectors support the thin cables for Serial ATA devices.

**11 Southbridge controller**

The VIA® VT8237 integrated peripheral controller supports various I/O functions including two Serial ATA ports, 2-channel ATA/133 bus master IDE controller, up to eight USB 2.0 ports, LPC Super I/O interface, AC'97 interface and PCI 2.2 interface.

**12 VIA® VT6420 Serial ATA controller**

This motherboard incorporates the high performance VIA VT6420 IDE RAID controller, which supports RAID 0 and RAID 1 for a balance of hard disk performance and data protection.

**13 IDE connector**

This IDE connector is for AF1 Deluxe motherboard only.

**14 Serial ATA connectors**

These two Serial ATA connectors are for AF1 Deluxe motherboard only.

**15 IEEE 1394a headers**

These headers are use for connecting IEEE 1394a interface.

**16 VIA® VT6307 1394a controller**

The VIA® VT6307 1394a controller provides high-speed and flexible PC connectivity to a wide range of peripherals and devices compliant to IEEE 1394a standards. The IEEE 1394a interface allows up to 400Mbps transfer rates through simple, low-cost, high bandwidth asynchronous (real-time) data interfacing between computers, peripherals, and consumer electronic devices such as VCRs, printers, camcorders, digital cameras and TVs.

**17 USB 2.0 headers**

These headers comply with USB 2.0 specification that supports up to 480 Mbps connection speed.

**18 C-Media 9739A controller**

The C-Media 9739A controller is an AC'97 2.1 compliant audio CODEC for PC multimedia systems.

**19 PCI slots**

These five 32-bit PCI 2.2 expansion slots support bus master PCI cards like SCSI or LAN cards with 133MB/s maximum throughput.

**20 Gigabit LAN controller (for AF1 Deluxe and AF1 motherboard)**

The 3Com® 3C940 Gigabit LAN delivers transfer rates up to 10/100/1000 Mbps Ethernet connections. Ideal for handling large amounts of data such video, audio and voice.

**10/100M LAN controller (for AF1 Lite motherboard)**

The 3Com® 3C920 Mbps PCI Ethernet Controller delivers transfer rates up to 10/100 Mbps Ethernet connections.

**21 PS/2 Mouse**

This 6-pin connector is for connecting PS/2 mouse.

**22 Parallel port**

This 25-pin port connects a parallel printer, a scanner, or other devices.

**23 RJ-45 port**

Connect an RJ-45 jack to the LAN port to connect your computer to the Network.

**24 Line In Jack**

This jack connects a tape player or other audio sources. In 6-channel mode, the function of this jack becomes Rear Speaker Out.

**25 *Line Out Jack***

This jack connects a headphone or a speaker. In 6-channel mode, the function of this jack becomes Front Speaker Out.

**26 *Microphone Jack***

This jack connects a microphone. In 6-channel mode, the function of this jack becomes Bass/Center Speaker Out.

**27 *USB 2.0 ports 3 and 4***

These Universal Serial Bus (USB) ports are available for connecting USB 2.0 devices.

**28 *USB 2.0 ports 1 and 2***

These Universal Serial Bus (USB) ports are available for connecting USB 2.0 devices.

**29 *Coaxial S/PDIF output port***

This jack connects to external digital audio output devices.

**30 *Optical S/PDIF output port***

This jack connects to external digital audio output devices.

**31 *Serial port***

This 9-pin COM1 port is for pointing devices or other serial devices.

**32 *Keyboard Port***

This 6-pin connector is for connecting PS/2 keyboard.

**A. *Anti-Burn LED Indicator***

When this LED is light up, do not remove the memory module from your DIMM slot or else your memory module will be damaged.

**B. *AGP AI Indicator***

These two LEDs indicate which type of graphics card you have installed.  
*4X – Yellow LED; 8X – Blue LED*

**C. *PCI LED Indicator***

The blinking PCI LED indicates the PCI slot activity. These LEDs will stop blinking when add card has been installed.  
*Blinking – no add card installed or add card was not properly installed.*

## Chapter 2

# Installing the Motherboard

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### Safety Precautions

Follow these safety precautions when installing the motherboard:

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

---

### Quick Guide

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

The following table provides a reference for installing specific components:

<b>Choosing a Computer Case</b>	Go to page 16
<b>Installing the Motherboard in a Case</b>	Go to page 16
<b>Setting Jumpers</b>	Go to page 17
<b>Installing Case Components</b>	Go to page 19
<b>Installing the CPU</b>	Go to page 22
<b>Installing Memory</b>	Go to page 25
<b>Installing an HDD/SATA Hard Drive/CD-ROM Drive</b>	Go to page 27
<b>Installing an FDD</b>	Go to page 30
<b>Installing Add-on Cards</b>	Go to page 31
<b>Connecting Options</b>	Go to page 32

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## Choosing a Computer Case

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

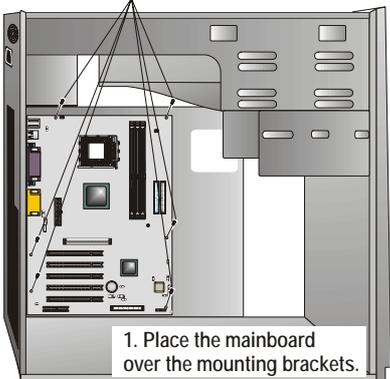
Most cases have a choice of I/O templates in the rear panel. Make sure that the I/O template in the case matches the I/O ports installed on the rear edge of the motherboard.

This motherboard has an ATX form factor of 305 mm x 191 mm. Choose a case that accommodates this form factor.

---

## Installing the Motherboard in a Case

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

<p>This illustration shows an example of a motherboard being installed in a tower-type case:</p> <p><b>Note:</b> Do not overtighten the screws as this can stress the motherboard.</p> <p>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.</p>	<p>2. Secure the mainboard with screws where appropriate.</p>  <p>1. Place the mainboard over the mounting brackets.</p>
---	--

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

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## Checking Jumper Settings

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

### Setting Jumpers

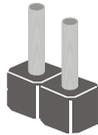
Use the motherboard jumpers to set system configuration options. Jumpers with more than one pin are numbered. When setting the jumpers, ensure that the jumper caps are placed on the correct pins.

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

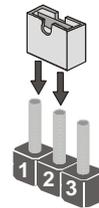
This illustration shows a 3-pin jumper. Pins 1 and 2 are **SHORT**.



Short

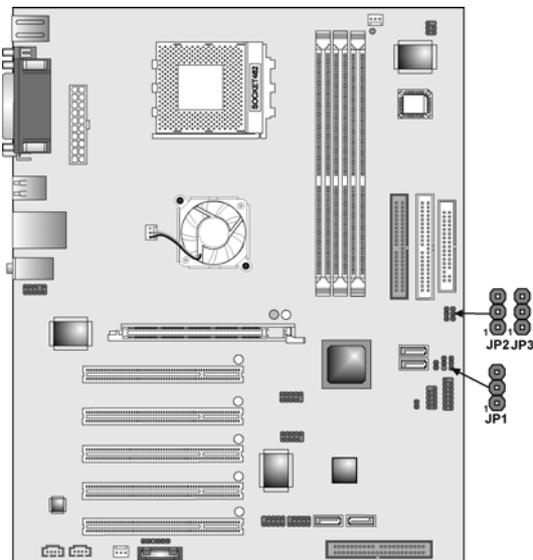


Open

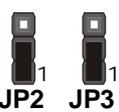


## Checking Jumper Settings

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



## Jumper Settings

Jumper	Type	Description	Setting (default)
JP1	3-pin	Clear CMOS	1-2: Normal 2-3: Clear CMOS  JP1
JP2 & JP3	3-pin	CPU Frequency select jumper	See table on following page for settings.  JP2 JP3

### JP1 – Clear CMOS Jumper

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

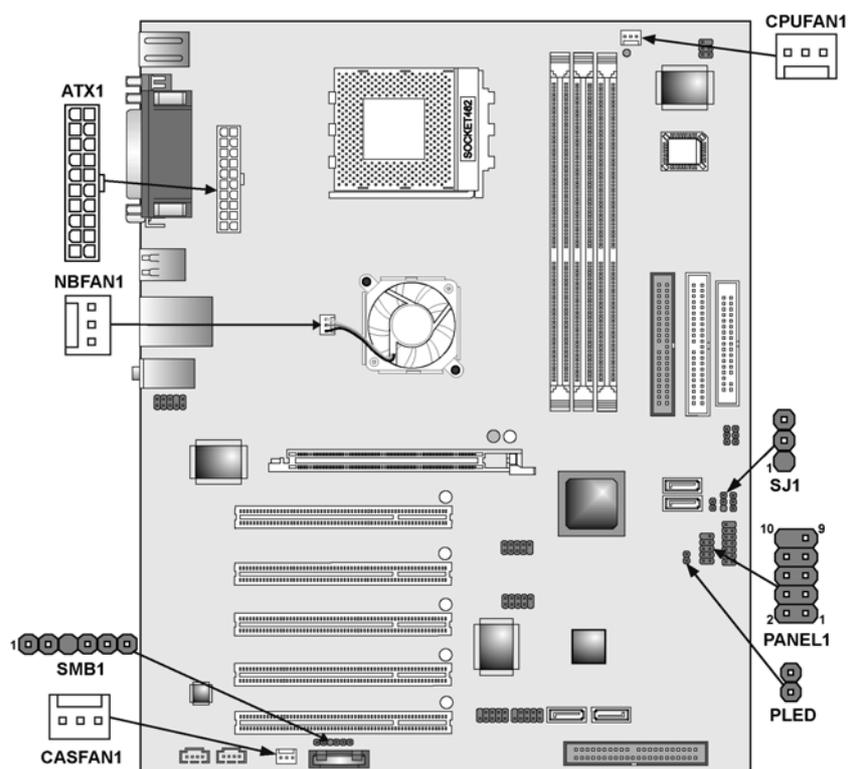
### JP2 & JP3 – CPU Frequency Select Jumper

This jumper enables you to set the CPU frequency.

JP2	JP3	CPU Frequency
Short 1-2	Short 1-2	100MHz
Short 2-3	Short 1-2	133MHz
Short 2-3	Short 2-3	166 MHz
Short 1-2	Short 2-3	200 MHz

## Connecting Case Components

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



### ATX1: ATX 20-pin Power Connector

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

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

### **CPUFAN1/CASFAN1/NBFAN1: FAN Power Connectors**

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

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

The Northbridge cooling fan is connected to **NBFAN1**.

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

### **SPK1: Internal speaker**

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

Pin	Signal Name
1	VCC
2	NC
3	NC
4	Signal

### **SMB1: SMBUS connector**

This connector allows you to connect SMBus (System Management Bus) devices. SMBus devices communicate via the SMBus with an SMBus host and/or other SMBus devices.

### **P\_LED: Power LED Indicator**

If there is another power-on indicator LED installed in the system chassis, connect the LED to the **PLED** header.

Pin	Signal Name
1	5VSB
2	GND

### **SJ1: Single-color LED header**

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

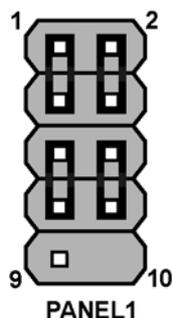
Pin	Signal Name
1	ACPI LED
2	ACPI LED
3	5VSB

### **ACPI LED function:**

<b>SJ1</b> 	S0	S1	S3	S4/S5
	Light	Blinking	Blinking	Dark

## Front Panel Connector

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



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

### **Hard Drive Activity LED**

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

### **Power / Sleep / Message Waiting LED**

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

### **Reset Switch**

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

### **Power Switch**

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

---

## Installing Hardware

### Installing the Processor

**Caution:** When installing a CPU heatsink and cooling fan make sure that you DO NOT scratch the motherboard or any of the surface-mount resistors with the clip of the cooling fan. If the clip of the cooling fan scrapes across the motherboard, you may cause serious damage to the motherboard or its components.

On most motherboards, there are small surface-mount resistors near the processor socket, which may be damaged if the cooling fan is carelessly installed.

Avoid using cooling fans with sharp edges on the fan casing and the clips. Also, install the cooling fan in a well-lit work area so that you can clearly see the motherboard and processor socket.

### Before installing the Processor

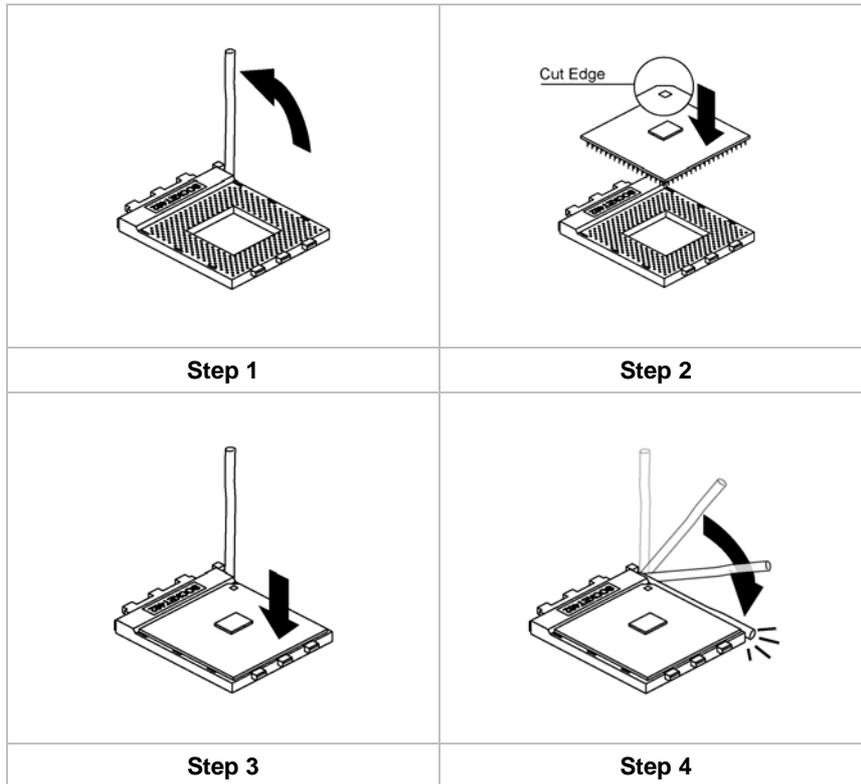
This motherboard automatically determines the CPU clock frequency and system bus frequency for the processor. You may be able to change these settings by making changes to jumpers on the motherboard, or changing the settings in the system Setup Utility. We strongly recommend that you do not overclock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

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

This motherboard has a Socket 462 processor socket. When choosing a processor, consider the performance requirements of the system. Performance is based on the processor design, the clock speed and system bus frequency of the processor, and the quantity of internal cache memory and external cache memory.

## CPU Installation Procedure

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

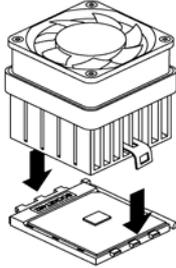
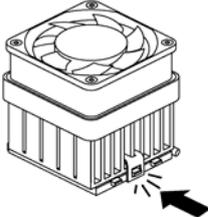
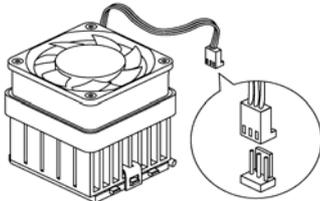


Orient the CPU so the odd corner matches the odd corner of the socket. With the lever in an upright position, gently place the CPU on the socket; make sure that all pins line up with the socket holes. When pins are aligned, the CPU should seat itself in the socket. Apply very light pressure to ensure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

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

## Installing CPU Fan and Fan Connector

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

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

## Installing Memory Modules

This motherboard accommodates three 184-pin 2.5V unbuffered Double Data Rate (DDR) SDRAM memory modules. It can support DDR266/DDR333/DDR400 memory modules and allow up to 6.4 GB/s data transfer rate.

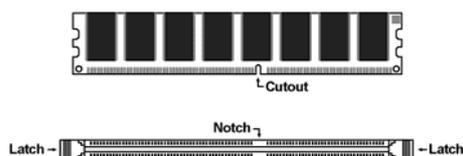
The motherboard accommodates three memory modules. You must install at least one module in any of the three slots. Each module can be installed with 32 MB to 1 GB of memory; total memory capacity is 3GB.



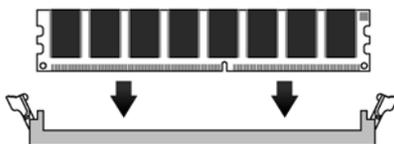
Do not remove any memory module from its antistatic packaging until you are ready to install it on the motherboard. Handle the modules only by their edges. Do not touch the components or metal parts. Always wear a grounding strap when you handle the modules.

Refer to the following to install the memory modules.

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



2. Push the latches on each side of the DIMM slot down.
3. Align the memory module with the slot. The DIMM slots are keyed with notches and the DIMMs are keyed with cutouts so that they can only be installed correctly.



4. Check that the cutouts on the DIMM module edge connector match the notches in the DIMM slot.
5. Install the DIMM module into the slot and press it firmly down until it seats correctly. The slot latches are levered upwards and latch on to the edges of the DIMM.



6. Install any remaining DIMM modules.

**DDR SDRAM memory module table:**

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

---

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

---

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

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

Size	Vendor	Module Name
<b>128MB</b>	<b>SAMSUNG</b>	M368L1713DTM-CC4
	<b>Micron</b>	MT8VDDT1664AG-403B2
	<b>NANYA</b>	NT128D64SH4B1G-5
<b>256MB</b>	<b>SAMSUNG</b>	M368L3223DTM-CC4
	<b>NANYA</b>	NT256D64S88B1G-5
	<b>Micron</b>	MT16VDDT3264AG-403B2
	<b>Infineon</b>	HYS64D32300GU-5-B
<b>512MB</b>	<b>SAMSUNG</b>	M368L6423DTM-CC4
	<b>NANYA</b>	NT512D64S8HB1G-5
	<b>Micron</b>	MT16VDDT6464AG-40BC4
	<b>NANYA</b>	NT512D64S8HB1G-5T

## 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.

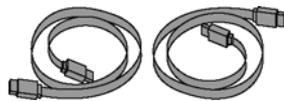
IDE devices have jumpers or switches that are used to set the IDE device as MASTER or SLAVE. Refer to the IDE device user's manual. When installing two IDE devices on one cable, ensure that one device is set to MASTER and the other device is set to SLAVE. The documentation of your IDE device explains 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 32) 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.



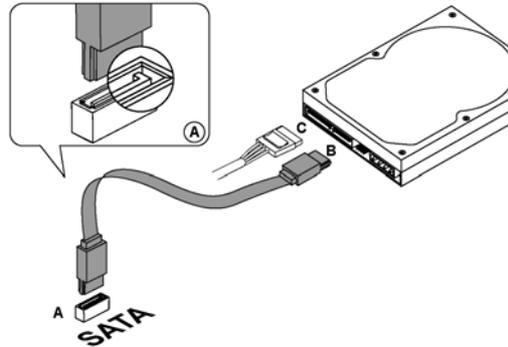
**SATA cable**



**SATA power cable**

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.




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

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## 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.

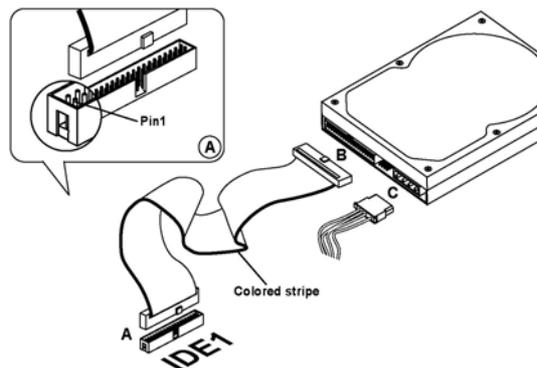
Your motherboard has a primary and secondary IDE channel interface (IDE1 and IDE2). An IDE ribbon cable supporting two IDE devices is bundled with the motherboard.

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.

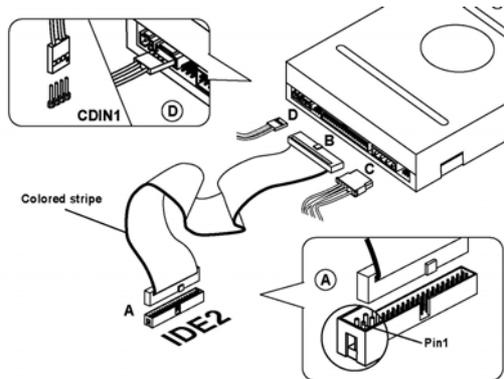
### IDE1: Primary IDE Connector

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.

#### CDIN1

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

### About UltraDMA

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

## Installing a Floppy Diskette Drive

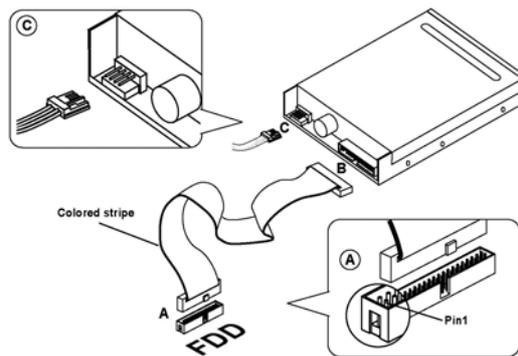
The motherboard has a floppy diskette drive (FDD) interface and ships with a diskette drive ribbon cable that supports one or two floppy diskette drives. You can install a 5.25-inch drive and a 3.5-inch drive with various capacities. The floppy diskette drive cable has one type of connector for a 5.25-inch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



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

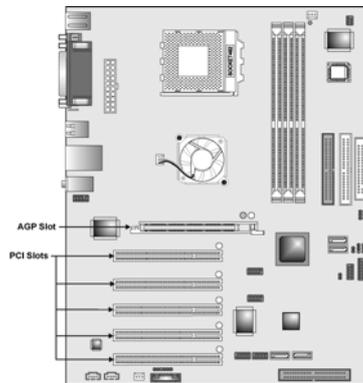
### FDD1: Floppy Disk Connector

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



## Installing Add-on Cards

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



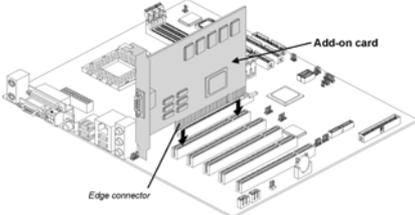
- PCI Slots** PCI slots are used to install expansion cards that have the 32-bit PCI interface.
- AGP Slot** The AGP slot is used to install graphics adapter that supports the 1.5V 8x AGP card which is also backward compatible with 4x AGP card. The slot is keyed to support only the latest 1.5-volt AGP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

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

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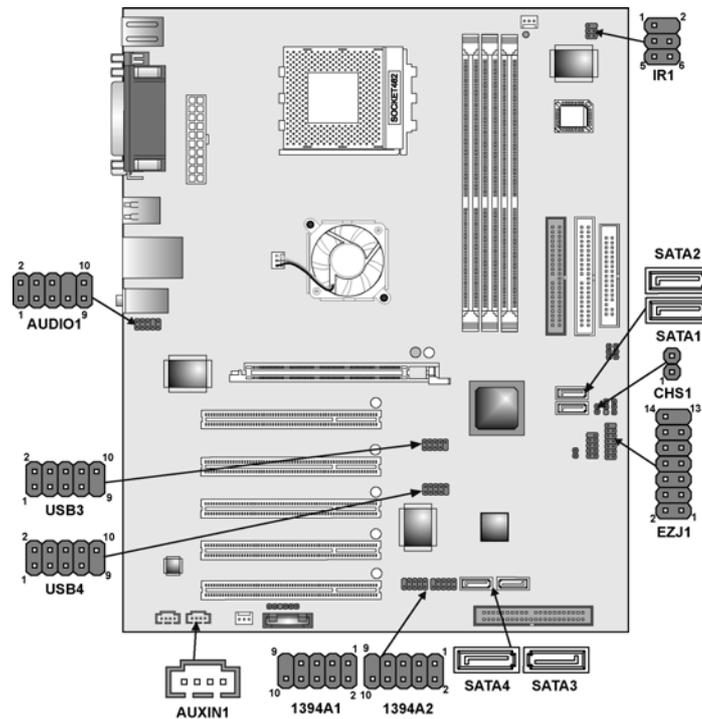
Follow these instructions to install an add-on card:

- |   |  |
|---|--|
| 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

## 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	USB_FP_OC0	Overcurrent signal

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

## AUXIN1: Auxiliary-in connector

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

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

## EZJ1: EZ-Watcher interface header

This connector is for use with EZ-Watcher interface only. The EZ-Watcher allows you to adjust the CPU frequency according to your desire.

Pin	Signal Name	Pin	Signal Name
1	PCDAT	2	PCREQ
3	SCI#	4	PCIRST#
5	GND	6	VCC
7	GND	8	VCC
9	GND	10	VCC

11	HDDN	12	CDROM
13	Key	14	RSVD

### 1394A1/1394A2: IEEE 1394a header

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

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

### CHS1: Chassis Intrusion Detect (optional)

This connector allows the user to detect unauthorized intrusion to the case. It will alert the user with a warning message when the case is turned on.

Pin	Signal Name	Function
1	Intruder	Case open detecting signal
2	GND	Ground

### SATA1/SATA2: Serial ATA connector

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	-	-

#### Serial ATA and Parallel ATA Configurations

<b>Enhanced mode</b>	<ul style="list-style-type: none"> <li>New OS that support switch to native OS (WinXP or Windows .Net Server) can set Serial ATA and Parallel ATA to enhanced mode</li> <li>Comprehend both legacy OS (MS-DOS, Windows 98/Me/NT 4.0) and/or native OS (Windows 2000/XP)</li> <li>Maximum 6 ATA devices (4 for Parallel ATA and 2 for Serial ATA)</li> </ul>
<b>Compatible mode</b>	<ul style="list-style-type: none"> <li>Older OS doesn't support switch to native OS (DOS, Win2K, Win98/ME) should set Serial ATA and Parallel ATA to compatible mode</li> <li>Maximum 4 ATA devices</li> <li>Combine mode and Non-Combine mode*</li> </ul>

**\*Serial ATA Combined and Non-Combined mode**

Mode	Option 1	Option 2	Option 3
<b>Combined</b>	<ul style="list-style-type: none"> <li>Serial ATA devices</li> <li>Parallel ATA devices</li> <li>Maximum of 2 each</li> </ul>	X	X
<b>Non-Combined</b>	X	<ul style="list-style-type: none"> <li>Parallel ATA devices only</li> <li>Maximum of 4</li> </ul>	<ul style="list-style-type: none"> <li>Serial ATA devices only</li> <li>Maximum of 2</li> </ul>

**Serial ATA RAID connectors controlled by VT8237/VT6420**

VIA VT8237/VT6420 supports striping (RAID 0) and mirroring (RAID 1), separately.

With striping, identical drives can read and write data in parallel to increase performance. Mirroring increases read performance through load balancing and elevator sorting while creating a complete backup of your files.

It offers RAID 1 mirroring (for two drives) to protect data. Should a drive that is part of a mirrored array fail, VIA VT8237/VT6420 uses the mirrored drive (which contains identical data) to assume all data handling. When a new replacement drive is later installed, VIA VT8237/VT6420 rebuilds data to the new drive from the mirrored drive to restore fault tolerance.

<b>RAID 0 (Striping)</b>	<b>RAID 1 (Mirroring)</b>
Configures multiple drives so that sectors of data are interleaved within an array. When a disk member fails, it affects the entire array. Performance is better than a single drive since the workload is balanced between array members. This array mode is designed for high performance systems. Identical drives are recommended for performance as well as data storage efficiency. The disk array data capacity is equal to the number of drive members times the smallest member capacity.	Configures an array of 2 drives to write duplicate data and read in parallel. It performs reads using advanced data handling techniques that distribute the workload in a more efficient manner than using a single drive. When a read request is made, it selects the drive positioned closest to the requested data, and then looks to the idle drive to perform the next read access.

VIA VT8237/VT6420 striped arrays can double the sustained data transfer rate of SATA/150 drives. VIA VT8237/VT6420 fully supports SATA / 150 specification of up to 150 MB/sec per drive, depending on individual drive specifications.

### SATA3/SATA4: Serial ATA connector

These two connectors are the belong VIA VT6420.The controller is a hybrid solution that combines two independent SATA ports and one Ultra ATA port for support of up to two Serial ATA (Serial ATA RAID) and two Ultra ATA (Ultra ATA RAID) drives. Serial/Ultra ATA RAID function supports striping (RAID 0) and mirroring (RAID 1). *Please note that the function supports **hard disk drives** only.*

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

## 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



## BIOS Navigation Keys

The BIOS navigation keys are listed below:

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

## Updating the BIOS

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

1. If your motherboard has a BIOS protection jumper, change the setting to allow BIOS flashing.
2. If your motherboard has an item called Firmware Write Protect in Advanced BIOS features, disable it. (Firmware Write Protect prevents BIOS from being overwritten.)
3. Create a bootable system disk. (Refer to Windows online help for information on creating a bootable system disk.)
4. Download the Flash Utility and new BIOS file from the manufacturer's Web site. Copy these files to the system diskette you created in Step 3.
5. Turn off your computer and insert the system diskette in your computer's diskette drive. (You might need to run the Setup Utility and change the boot priority items on the Advanced BIOS Features Setup page, to force your computer to boot from the floppy diskette drive first.)
6. At the A:\ prompt, type the Flash Utility program name and press <Enter>. You see a screen similar to the following:

FLASH MEMORY WRITER V7.33	
(C) Award Software 1999 All Rights Reserved	
For (MOTHERBOARD NAME)	DATE: 10/26/2000
Flash Type	
File Name to Program :	<input type="text"/>
Error Message	

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

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

## Using BIOS

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

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

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

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

## Standard CMOS Features

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

Phoenix – AwardBIOS CMOS Setup Utility  
Standard CMOS Features

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

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

### Date and Time

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

ever you make changes to the Windows Date and Time Properties utility.

► **IDE Devices (None)**

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

Press <Enter> to display the IDE submenu:

Phoenix – AwardBIOS CMOS Setup Utility  
IDE Primary Master

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

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

**IDE HDD Auto-Detection**

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

---

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

---

**IDE Primary/Secondary Master/Slave**

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

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

---

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

---

**Access Mode**

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

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

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

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

### Floppy 3 Mode Support (Disabled)

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

### Video (EGA/VGA)

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

### Halt On (But keyboard)

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

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

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

## Advanced BIOS Setup

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

Phoenix – AwardBIOS CMOS Setup Utility  
Advanced BIOS Setup

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

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

### Quick Power On Self Test (Enabled)

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

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

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

### **Boot Other Device (Enabled)**

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

### **Boot Up NumLock Status (On)**

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

### **Gate A20 Option (Fast)**

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

### **ATA 66/100 IDE Cable Msg (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 or disable the APIC (Advanced Programmable Interrupt Controller) mode. APIC provides symmetric multi-processing (SMP) for systems, allowing support for up to 60 processors.

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

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

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

### Video BIOS Shadow (Enabled)

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

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

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

## Advanced Chipset Setup

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

Phoenix – AwardBIOS CMOS Setup Utility  
Advanced Chipset Setup

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

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

### System BIOS/Video RAM Cacheable (Disabled)

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

### BIOS Write Protect (Disabled)

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





**AGP Aperture Size (128 MB)**

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

**AGP Mode (4X)**

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

**AGP Fast Write (Disabled)**

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

**AGP 3.0 Calibration Cycle (Enabled)**

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

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

► **CPU & PCI Bus Control**

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

Phoenix – AwardBIOS CMOS Setup Utility  
CPU & PCI Bridge Control

Vlink 8X Support	[Enabled]	Item Help
PCI Delay Transaction	[Disabled]	Menu Level ►

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

**Vlink 8X Support (Enabled)**

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

### **PCI Delay Transaction (Disabled)**

The chipset has an embedded 32-bit posted write buffer to support delay transactions cycles. Select enabled to support compliance with PCI specification version. 2.1.

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

## **Integrated Peripherals**

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

Phoenix – AwardBIOS CMOS Setup Utility  
Integrated Peripherals

▶ OnChip IDE Device	[Press Enter]	Item Help
▶ OnChip PCI Device	[Press Enter]	
▶ Super I/O Device	[Press Enter]	Menu Level ▶
Init Display First	[PCI Slot]	
Onboard 1394 Device	[Enabled]	
Onboard LAN Device	[Enabled]	
Onboard LAN Boot ROM	[Disabled]	
Onboard SATA Device	[Enabled]	
Onchip SATA Device	[Enabled]	

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

### **Init Display First (PCI Slot)**

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

### **Onboard 1394 Device (Enabled)**

Enable this item if you plan to use the 1394 device.

### **Onboard LAN Device (Enabled)**

Enables and disables the onboard LAN chip.

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

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

### **Onboard SATA Device (Enabled)**

Enable this item if you plan to use the SATA device.

### **OnChip SATA Device (Enabled)**

Enable this item if you plan to use the Serial ATA RAID VIA VT6420 device.





## ► SuperIO Device

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

Phoenix – AwardBIOS CMOS Setup Utility  
SuperIO Device

Onboard FDC Controller	[Enabled]	Item Help
Onboard Serial Port 1	[3F8/IRQ4]	
IR Port	[2F8/IRQ3]	Menu Level ►►
UART Mode Select	[IrDA]	
UR2 Duplex Mode	[Half]	
Onboard Parallel Port	[378/IRQ7]	
Parallel Port Mode	[ECP]	
ECP Mode Use DMA	[3]	

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

### **Onboard FDC Controller (Enabled)**

This option enables the onboard floppy disk drive controller.

### **Onboard Serial Port 1 (3F8/IRQ4)**

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

### **IR Port (2F8/IRQ3)**

This option is used to assign the I/O address for the infrared port.

### **UART Mode Select (IrDA)**

This option becomes visible if you have enabled serial port 2. Here you can select the appropriate modes for your infrared device/s. If you don't have any infrared devices, leave this option at its default setting.

### **UR2 Duplex Mode (Half)**

This option becomes visible if you have enabled serial port 2. The Duplex Mode is the transition mode of the IR port. Full duplex allows two-way simultaneous transmission, while half duplex only allows one direction at a time. Set this to full duplex for the best performance.

### **Onboard 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.

### **Parallel Port Mode (ECP)**

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

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

### **ECP Mode Use DMA (3)**

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

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

## **Power Management Setup**

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

### **Power Management Timeouts**

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

### **Wake Up Calls**

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

Phoenix – AwardBIOS CMOS Setup Utility  
Power Management Setup

		Item Help
ACPI Suspend Type	[S3]	
HDD Power Down	[Disable]	
Suspend Mode	[Disable]	
Video Off Option	[Suspend --> Off]	
Video Off Method	[DPMS Support]	
MODEM Use IRQ	[3]	
Soft-Off by PWRBTN	[Instant-Off]	
PWRON After PWR-Fail	[Off]	
▶ IRQ/Event Activity Detect	[Press Enter]	
		Menu Level ▶

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

### **ACPI Suspend Type (S3)**

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

### **HDD Power Down (Disable)**

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

### **Suspend Mode (Disable)**

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

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

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

### **Video Off Method (DPMS Support)**

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

### **MODEM Use IRQ (3)**

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

### **Soft-Off by PWRBTN (Instant-Off)**

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

### **Power On After Power Fail (Off)**

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



**HDD & FDD (ON)**

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

**PCI Master (OFF)**

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

**Resume By PCI PME (Enabled)**

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

**Resume by Ring (Disabled)**

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

**RTC Alarm Resume (Disabled)**

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

**►► IRQs Activity Monitoring**

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

Phoenix – AwardBIOS CMOS Setup Utility  
IRQs Activity Monitoring

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

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

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

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

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



### PCI/VGA Palette Snoop (Disabled)

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

### Assign IRQ for USB (Enabled)

Names the interrupt request (IRQ) line assigned to the USB on your system. Activity of the selected IRQ always awakens the system.

## PC Health Status

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

Phoenix – AwardBIOS CMOS Setup Utility  
PC Health Status

Shutdown Temperature	[Disabled]	Item Help
CPU Vcore		Menu Level ▶
+ 2.5V		
+ 3.3V		
+ 5.0V		
+ 12V		
Voltage Battery		
Current System Temp		
Current CPU Temp		
CPU FAN Speed		
CAS FAN Speed		
Smart FAN Control	[Enabled]	
Fan High Temp	[60]	
Fan High Voltage	[63]	
Fan Low Temp	[52]	
Fan Low Temp	[50]	
Case Open Warning	[Enabled]	

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

### Shutdown Temperature (Disabled)

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

### System Component Characteristics

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

### Smart Fan Control (Enabled)

This item allows you to enable/disable the control of the system fan speed by changing the fan voltage.

### Fan High/Low Temp

The system fan will switch to faster/slower speed if the temperature is above/below the level. Fan high Temp must be greater than Fan low temp.

### Fan High/Low Voltage

Select the fan voltage for faster/slower fan speed operation.

### Case Open Warning (Disabled)

Enables or disables the alert warning message when the case has been opened.

## Frequency/Voltage Control

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

Phoenix – AwardBIOS CMOS Setup Utility  
Frequency/Voltage Control

AGP Voltage Regulator	[Normal]	Item Help
Auto Detect PCI Clk	[Enabled]	
Spread Spectrum	[Enabled]	Menu Level ►
CPU Clock	[100]	
CPU Voltage Adjust	[Normal]	
DIMM Voltage Adjust	[2.55]	

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

### AGP Voltage Regulator

This item regulates the voltage delivered to the AGP.

### 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 (100)

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

### CPU Voltage Adjust (Normal)

This item allows you to control the voltage delivered to the CPU core. It is not recommended that you change the default setting. But expert overclockers can very well fine-tune the voltage to aid in speed and stability of an over-clocked processor.

### DIMM Voltage Adjust (Normal)

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 Supervisor/User Password

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

### ENTER PASSWORD

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

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

### PASSWORD DISABLED

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

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

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

## **Save & Exit Setup**

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

## **Exit Without Saving**

Highlight this item and press <Enter> to discard any changes that you have made in the Setup Utility and exit the Setup Utility. When the Exit Without Saving dialog box appears, press <Y> to discard changes and exit, or press <N> to return to the main menu.

---

**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

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### About the Software CD-ROM

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

---

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

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

---

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

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

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

---

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

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

## Application Tab

Lists the software utilities that are available on the CD.

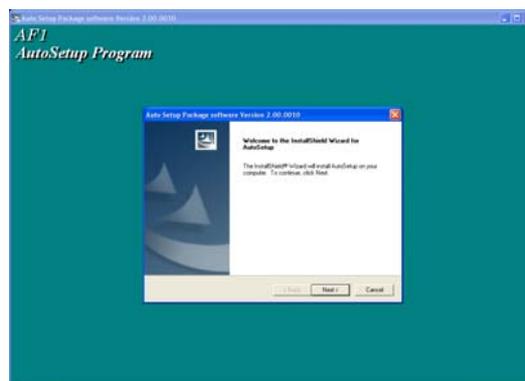
## Read Me Tab

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

## Running Setup

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

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



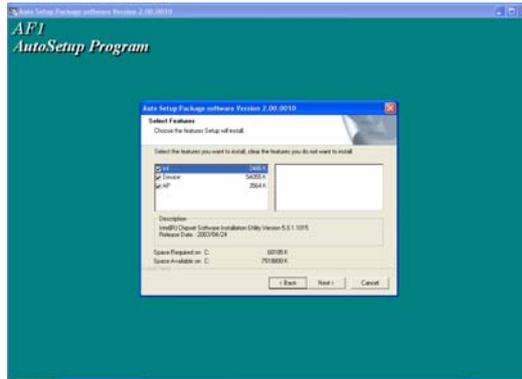
---

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

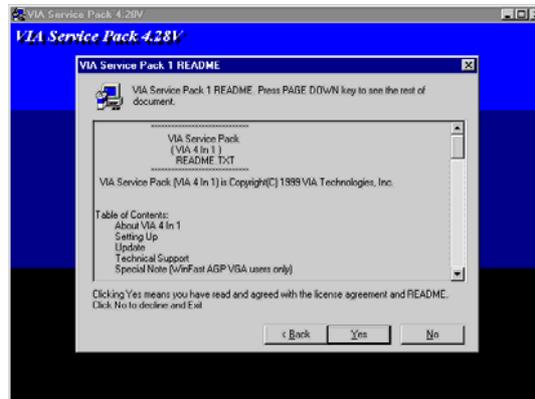
---

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

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



3. Check the box next to the items you want to install. The default options are recommended.
4. Click **Next** run the Installation Wizard. An item installation screen appears:



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

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

---

## Manual Installation

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

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

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

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## Utility Software Reference

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

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

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### AWARD Flash Memory Utility

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

### WinFlash Utility

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

UTILITY\WINFLASH 1.51

### PC-CILLIN 2002

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

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

### **MediaRing Talk – Telephony Software**

Go to \UTILITY\MEDIARING TALK and run MRTALK-SETUP72. EXE to install the MediaRing Talk voice modem software for the built-in modem.

### **Super Voice – Fax/Modem Software**

To install the Super Voice voice, fax, data communication application for use with the built-in fax/modem, go the directory \UTILITY\SUPER\_VOICE, then run PICSHELL.EXE to install the application software.

### **PageABC**

The PageABC application software enables you to create your very own home page. To install the PageABC, go to the directory \UTILITYPageABC, and then run SETUP.EXE to install the application software.

### **WinDVD Creator Plus**

WinDVD Creator Plus is designed for people who want to make their own DVDs but who don't want to learn complicated programs. By taking you through 4 DVD-making steps, WinDVD Creator Plus walks you through capturing video, editing it, adding titles, transitions, effects, music, DVD menus and finally burning the finished product. User also can direct-burn to DVD when DVD burner is available.

### **WinDVD**

WinDVD is the world's most popular DVD player and supports over 30 new features and enhancements such as improved picture quality, easier-to-use Time-Stretching, MP3 playback, and Video Desktop – which lets you watch movies under your desktop icons while you work or check email.

### **WinRIP**

WinRip lets you record, store, organize, and enjoy you music collection - on your PC, CD player, and portable player. Organize your music in the Music Gallery and create your own playlists. You can switch between simple Player mode or full-featured Jukebox mode.

### **Pro Magic**

This amazing software not only provides users with convenient and instant restoration of your computer, but also restores within seconds important data back to the preferred state at a specific point in time. Pro Magic also combines several other functions including anti-virus, backup, uninstall software and multi-booting to satisfy all your system protection needs.

## **DPU (Data Process Utility)**

Specially designed for file protection, security and management this DPU or data processing utility insures the safety of important data through complete file restoration, eliminating file damage even in case of improper operation. User can freely edit original files after a set restore time point. The DPU can even restore even deleted files.

## **ECS Elite Castle 3D Desktop**

Transform your 2D desktop into a more exciting intuitive and useful 3D Windows interface. You can easily organize files, folders and applications as well as enhancing the overall Windows enjoyment using built-in 3D games, cool picture walls, dynamic web content and amazing worlds to explore.

This concludes Chapter 4.

## VIA VT8237/VT6420 SATA RAID Setup guide

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### VIA RAID configurations

The motherboard includes a high performance IDE RAID controller integrated in the VIA VT8237/VT6420 Southbridge chipset. It supports RAID 0 and RAID 1 with two independent Serial ATA channels.

**RAID 0** (called data striping) optimizes two identical hard disk drives to read and write data in parallel, interleaved stacks. Two hard disks perform the same work as a single drive but at a sustained data transfer rate, double that of a single disk alone, thus improving data access and storage.

**RAID 1** (called data mirroring) copies and maintains an identical image of data from one drive to a second drive. If one drive fails, the disk array management software directs all applications to the surviving drive as it contains a complete copy of the data in the other drive. This RAID configuration provides data protection and increases fault tolerance to the entire system.

### Install the Serial ATA (SATA) hard disks

The VIA VT8237/VT6420 Southbridge chipset supports Serial ATA hard disk drives. For optimal performance, install identical drives of the same model and capacity when creating a RAID set.

- If you are creating a RAID 0 (striping) array of performance, use two new drives.
- If you are creating a RAID 1 (mirroring) array for protection, you can use two new drives or use an existing drive and a new drive (the new drive must be of the same size or larger than the existing drive). If you use two drives of different sizes, the smaller capacity hard disk will be the base storage size. For example, one hard disk has an 80GB storage capacity and the other hard disk has 60GB storage capacity, the maximum storage capacity for the RAID 1 set is 60GB.

Follow these steps to install the SATA hard disks for RAID configuration.

- 
- Before setting up your new RAID array, verify the status of your hard disks. Make sure the Master/Slave jumpers are configured properly.
  - Both the data and power SATA cables are new cables. You cannot use older 40-pin 80-conductor IDE or regular IDE power cables with Serial ATA drives. Installing Serial ATA (SATA) hard disks require the use of new Serial ATA cable (4-conductor) which supports the Serial ATA protocol and a Serial ATA power cable.
  - Either end of the Serial ATA data cable can be connected to the SATA hard disk or the SATA connector on the motherboard.
-

1. Install the Serial ATA hard disks into the drive bays.
2. Connect one end of the Serial ATA cable to the motherboard's primary Serial ATA connector (SATA1).
3. Connect the other end of Serial ATA cable to the master Serial ATA hard disk.
4. Connect one end of the second Serial ATA cable to the motherboard's secondary Serial ATA connector (SATA2).
5. Connect the other end of Serial ATA cable to the secondary Serial ATA hard disk.
6. Connect the Serial ATA power cable to the power connector on each drive.
7. Proceed to section "Entering VIA Tech RAID BIOS Utility" for the next procedure.

## Entering VIA Tech RAID BIOS Utility

1. Boot-up your computer
2. During POST, press <TAB> to enter VIA RAID configuration utility. The following menu options will appear.

---

**Note:** The RAID BIOS information on the setup screen shown is for reference only. What you see on your screen may not be exactly the same as shown.

---



On the upper-right side of the screen is the message and legend box. The keys on the legend box allow you to navigate through the setup menu options. The message describes the function of each menu item. The following lists the keys found in the legend box with their corresponding functions.

F1	View Array
↑, ↓	Move to the next item
Enter	Confirm the selection
ESC	Exit

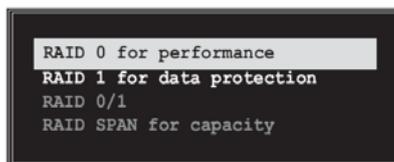
## Create Array

1. In the VIA RAID BIOS utility main menu, select **Create Array** then press the <Enter> key. The main menu items on the upper-left corner of the screen are replaced with create array menu options.



## RAID 0 for performance

1. Select the second option item **Array Mode**, then press the <Enter> key. The RAID system setting pop-up menu appears.



2. Select **RAID 0 for performance** from the menu and press <Enter>. From this point, you may choose to auto-configure the RAID array by selecting Auto Setup for Performance or manually configure the RAID array for striped sets. If you want to manually configure the RAID array continue with next step, otherwise, proceed to step #5.
3. Select **Select Disk Drives**, then press <Enter>. Use arrow keys to select disk drive/s, then press <Enter> to mark selected drive. An asterisk is placed before the selected drive.
4. Select **Block Size**, then press <Enter> to set array block size. Lists of valid array block sizes are displayed on a pop-up menu.



**Tip:** For server systems, it is recommended to use a lower array block size. For multimedia computer systems used mainly for audio and video editing, a higher array block size is recommended for optimum performance.

Use arrow keys to move selection bar on items and press <Enter> to select.

5. Select Start Create Process and press <Enter> to setup hard disk for RAID system. The following confirmation appears:

➤ The same confirmation message appears when the **Auto Setup for Performance** option is selected.

```
The data on the selected disks will
be destroyed. Continue? Press Y/N
```

Press “Y” to confirm or “N” to return to the configuration options.

## RAID 1 for data protection

1. Select the second option item Array Mode, then press the <Enter> key. The RAID system setting pop-up menu appears.

```
RAID 0 for performance
RAID 1 for data protection
RAID 0/1
RAID SPAN for capacity
```

2. Select RAID 1 for data protection from the menu and press <Enter>. Select next task from pop-up menu. The task Create only creates the mirrored set without creating a backup. Create and duplicate creates both mirrored set and backup.

```
Create only
Create and duplicate
```

3. Select task and press <Enter>. The screen returns to Create Array menu items. From this point, you may choose to auto-configure the RAID array by selecting Auto Setup for Data Security or manually configure the RAID array for mirrored sets. If you want to manually configure the RAID array continue with next step, otherwise, proceed to step #5.
4. Select Select Disk Drives, then press <Enter>. Use arrow keys to select disk drive/s, then press <Enter> to mark selected drive. (An asterisk is placed before a selected drive.)
5. Select Start Create Process and press <Enter> to setup hard disk for RAID system. The following confirmation message appears:

➤ The same confirmation message appears when the **Auto Setup for Performance** option is selected.

```
The data on the selected disks will
be destroyed. Continue? Press Y/N
```

Press “Y” to confirm or “N” to return to the configuration options.

## Delete Array

1. In the VIA RAID BIOS utility main menu, select **Delete Array** then press the <Enter> key. The focus is directed to the list of channel used for IDE RAID arrays.
2. Press the <Enter> key to select a RAID array to delete. The following confirmation message appears.

```
The selected array will be destroyed.
Are you sure? Continue? Press Y/N
```

Press “Y” to confirm or “N” to return to the configuration options.

## Select Boot Array

1. In the VIA RAID BIOS utility main menu, select **Select Boot Array** then press the <Enter> key. The focus is directed to the list of channel used for IDE RAID arrays.
2. Press the <Enter> key to select a RAID array for boot. The Status of the selected array will change to Boot. Press <ESC> key to go return to menu items. Follow the same procedure to deselect the boot array.

```
ESC : Exit
```

Channel	Drive Name	Array Name	Mode	Size(GB)	Status
[ ] Channel Master	XXXXXXXX		XXXXXX	xxx.xx	Red
[ ] Channel Slave	XXXXXXXX		XXXXXX	xxx.xx	Red
Channel Master	No Drive				
Channel Slave	No Drive				

## Serial Number View

1. In the VIA RAID BIOS utility main menu, select Serial Number View then press the <Enter> key. The focus is directed to the list of channel used for IDE RAID arrays. Move the selection bar on each item and the serial number is displayed at the bottom of the screen. This option is useful for identifying same model disks.

