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## Static Electricity Precautions

Static electricity could damage components on this mainboard. Take the following precautions while unpacking this mainboard and installing it in a system.

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

## Pre-Installation Inspection

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

## Notice:

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



## 2. USB 2.0 Driver Limitations:

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

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

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

## Features & Checklist Translations

### Liste de contrôle

Le coffret de votre carte mère contient les éléments suivants :

- La carte mère
- Le Manuel utilisateur
- Un câble plat pour lecteur de disquette (optionnel)
- Une câble plat pour lecteur IDE
- CD de support de logiciels

### Features

<b>Processeur</b>	<p><b>Prise en charge du Processeur Socket-478</b></p> <ul style="list-style-type: none"> <li>• Supporte le CPU Intel Pentium 4 series avec la Technologie <b>Hyper Threading</b></li> <li>• Supporte un Bus Avant allant jusqu'à <b>800/533 MHz</b></li> </ul>						
<b>Chipset</b>	<p>Ce chipset comporte <b>VIA PT800 Northbridge</b> et <b>VIA 8237 Southbridge</b> conformément à une architecture novatrice et dimensionnable avec une fiabilité et des performances prouvées. Voici une liste de l'organisation des chipset et de leurs caractéristiques respectives :</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 25%;">NB</th> <th style="width: 25%;">SB</th> <th style="width: 50%;">Fonction</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;"><b>PT800</b></td> <td style="text-align: center;"><b>8237</b></td> <td>CPU FSB: <b>800/533MHz</b> DDR<b>400</b>, Huit USB2.0 ports, Deux ATA Série connecteurs</td> </tr> </tbody> </table> <ul style="list-style-type: none"> <li>• Définit des Solutions Hautement Intégrées pour les Conceptions de PC de Bureau à Hautes Performances--Northbridge Hautes performances avec Bus Frontal 800/533 MHz pour Pentium 4 plus bus externe AGP 8x.</li> <li>• Offre des performances supérieures entre le CPU, DRAM, V-Link bus et le bus du contrôleur graphique AGP8X avec opération en pipeline, en rafale, et simultanée.</li> <li>• Contrôleur de Port Graphique Accéléré (AGP) Complet –Conforme AGP v3.0 avec mode de transfert 8x.</li> <li>• Contrôleur DRAM DDR Hautes Performances Avancé –Prend en charge les DRAM synchrones à double vitesse de transfert DDR400, DDR333, DDR266, et DDR200.</li> <li>• Contrôleur d'Hôte 8-bit V-Link à Bande passante élevée de 533 Mo/sec – File d'attente de transaction particulière configurable pour accès d'Hôte vers Client V-Link.</li> <li>• Prise en charge de Gestion d'Energie Avancée – Conforme ACPI 1.0B et Gestion d'Alimentation de Bus PCI 1.1.</li> <li>• Transit de données PCI vers mémoire système jusqu'à 132 Mo/sec (données envoyées au north bridge via Interface V-Link haute vitesse)</li> <li>• Conforme PCI-2.2, interface PCI 3.3V 32 bits avec entrée à tolérance 5V</li> <li>• Prend en charge cinq logements PCI d'arbitrage et de décodage pour toutes les fonctions intégrées et bus LPC.</li> <li>• Contrôleur ATA/RAID Série Double Canal —Conforme aux Spécifications ATA Série Révision 1.0</li> </ul>	NB	SB	Fonction	<b>PT800</b>	<b>8237</b>	CPU FSB: <b>800/533MHz</b> DDR <b>400</b> , Huit USB2.0 ports, Deux ATA Série connecteurs
NB	SB	Fonction					
<b>PT800</b>	<b>8237</b>	CPU FSB: <b>800/533MHz</b> DDR <b>400</b> , Huit USB2.0 ports, Deux ATA Série connecteurs					
<b>Support de Mémoire</b>	<ul style="list-style-type: none"> <li>• Deux logements DIMM 184 broches pour modules mémoire</li> <li>• Supporte le bus mémoire DDR<b>400</b>/MHz</li> <li>• La mémoire maximum installée est 2Go</li> </ul>						

<b>AC97 Audio Codec</b>	<ul style="list-style-type: none"> <li>• 6 canaux et conforme aux Spéc. Intel® AC'97 (REV. 2.3), respectant les exigences de Microsoft® PC2001</li> <li>• Gestion d'alimentation avancée et capacités d'économie d'énergie.</li> <li>• Fonction de ligne d'entrée stéréo partagée avec la sortie Contour.</li> <li>• Entrée de CD Audio analogique pseudo différentielle de haute qualité.</li> <li>• Support d'Entrée/Sortie S/PDIF : Entrée S/PDIF est dotée du support des fonctionnalités d'interruption, auto-verrouillage, anti-bruit, et anti-distorsion.</li> <li>• Technologie logicielle complémentaire de valeur. Supporte la plupart des standards de l'industrie de son 3D PC et support de fonction de karaoké unique qui comprend l'écho microphone, décalage de touche, et annulation vocale.</li> </ul>
<b>Logements d'Extension</b>	<ul style="list-style-type: none"> <li>• Quatre slots PCI 32 bits</li> <li>• Un logement 8x/4xAGP</li> <li>• Un logement CNR (Communications and Networking Riser)</li> </ul>
<b>IDE Interne</b>	<ul style="list-style-type: none"> <li>• Deux Connecteurs IDE</li> <li>• Prend en Charge les modes PIO (Entrée/Sortie Programmable) et DMA (Accès Direct à la Mémoire)</li> <li>• Supporte maîtrise de bus Ultra DMA IDE avec vitesse de transfert de 33/66/100/133 Mo/sec</li> </ul>
<b>ATA Série</b>	<ul style="list-style-type: none"> <li>• Deux ATA Série connecteurs</li> <li>• Vitesse de transfert supérieure au meilleur ATA (~150 Mo/s) avec extensibilité aux vitesses supérieures</li> <li>• Comptage de broche faible pour l'hôte et les périphériques</li> </ul>
<b>Ports E/S Internes</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>• Huit ports USB 2.0 (quatre ports fond de panier, connecteurs USB internes USB2/USB3 offrant quatre ports supplémentaires)</li> <li>• Prises audio pour microphone, ligne d'entrée et ligne de sortie</li> </ul>
<b>LAN Fast Ethernet (optionnel)</b>	<ul style="list-style-type: none"> <li>• <b>Solution de Couche Physique 100Base-TX/10Base-T</b></li> <li>• Double Vitesse – 100/10 Mbps</li> <li>• Interface MII vers Contrôleur Ethernet/Configuration &amp; Etat</li> <li>• Négociation automatique : 10/100, Full/Half Duplex</li> <li>• Conforme à tous les Standards IEEE802.3, 10Base-T et 100Base-TX Applicables</li> </ul>
<b>USB 2.0</b>	<ul style="list-style-type: none"> <li>• Conforme aux Spécifications de Bus Série Universel Révision 2.0</li> <li>• Conforme aux Spécifications d'interface de Contrôleur d'Hôte Amélioré de Intel Révision 0.95</li> <li>• Conforme aux Spécifications d'Interface de Contrôleur d'Hôte Universel Révision 1.1</li> <li>• Le périphérique multifonction PCI consiste en deux noyaux de Contrôleur d'Hôtes UHCI pour signalisation pleine/faible vitesse et un noyau de Contrôleur d'Hôtes EHCI pour signalisation haute vitesse</li> <li>• Le hub racine consiste en 4 ports de face en aval avec émetteurs-récepteurs de couche physique intégrés partagés par le Contrôleur d'Hôte UHCI et EHCI</li> <li>• Support des Spécifications d'Interface de Gestion d'Alimentation de Bus PCI version 1.1</li> <li>• Support hérité pour tous les ports face à l'aval.</li> </ul>

## Checkliste

Die Verpackung Ihres Mainboards enthält folgende Teile:

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

## Ausstattung

<b>Prozessor</b>	<b>Unterstütz Socket-478-Prozessoren</b> <ul style="list-style-type: none"><li>• Unterstützung für Intel Pentium 4-CPU's mit "Hyper-Threading"-Technologie</li><li>• Unterstützung von bis zu <b>800/533 MHz</b> Front-Side Bus</li></ul>						
<b>Chipsatz</b>	<p>Dieser Chipsatz besteht aus einer <b>VIA PT800 Northbridge</b> und einer <b>VIA 8237 Southbridge</b>. Die Chipsatzarchitektur ist in einem innovativen und skalierbaren Design gehalten und verspricht sowohl Zuverlässigkeit als auch Leistungsstärke. Unten stehend finden Sie eine Liste mit den Chipsatzteilen und deren jeweiligen Funktionen:</p> <table border="1"><thead><tr><th>NB</th><th>SB</th><th>Funktion</th></tr></thead><tbody><tr><td><b>PT800</b></td><td><b>8237</b></td><td>CPU FSB: <b>800/533MHz</b> DDR<b>400</b>, Acht USB2.0 ports, Zwei <b>Serial ATA</b> Headers</td></tr></tbody></table> <ul style="list-style-type: none"><li>• Höchst integrierte Lösung für PC Desktop-Designs—Hochleistungsfähige Northbridge mit 800/533 MHz Front Side Bus für Pentium 4 sowie externem AGP 8x-Bus.</li><li>• Beste Übertragungsleistungen zwischen CPU, DRAM, V-Link-Bus und AGP8X-Grafikcontroller mit Pipeline-, Burst- und Parallelbetrieb.</li><li>• Voll funktionaler Accelerated Graphics Port (AGP)-Controller –AGP v3.0 ist kompatibel mit dem 8x-Datentransfermodus.</li><li>• Moderner, hochleistungsfähiger DDR DRAM-Controller –Unterstützung für DDR400, DDR333, DDR266 und DDR200 Double-Data-Rate Synchronous DRAM.</li><li>• 8-Bit V-Link Host Controller mit hoher Bandbreite: 533 MB/Sek. – Konfigurierbare Outstanding Transaction Queue für Host-to-V-Link Client-Zugriffe.</li><li>• Unterstützung für Advanced System Power Management – kompatibel mit ACPI 1.0B und PCI Bus Power Management 1.1.</li><li>• PCI-to-System Memory Data Streaming mit bis zu 132MB/Sek. (Daten werden über das Hochgeschwindigkeits V-Link-Interface zur Northbridge gesendet)</li><li>• Kompatibel mit PCI-2.2. 32-Bit 3.3 Volt PCI-Interface mit 5 Volt-toleranten Eingängen</li><li>• Unterstützt fünf PCI-Steckplätze mit Vermittlung und Dekodierung für alle integrierten Funktionen sowie den LPC-Bus</li><li>• Dualkanal-Serial ATA/RAID-Controller—Entspricht der Serial ATA-Spezifikationsrevision 1.0</li></ul>	NB	SB	Funktion	<b>PT800</b>	<b>8237</b>	CPU FSB: <b>800/533MHz</b> DDR <b>400</b> , Acht USB2.0 ports, Zwei <b>Serial ATA</b> Headers
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<b>PT800</b>	<b>8237</b>	CPU FSB: <b>800/533MHz</b> DDR <b>400</b> , Acht USB2.0 ports, Zwei <b>Serial ATA</b> Headers					

<b>Speicherunterstützung</b>	<ul style="list-style-type: none"> <li>• Zwei 184-pin DIMM Steckplätze für DDR Speichermodule</li> <li>• Unterstützung für DDR400/333MHz Speicherbus</li> <li>• Maximal auf 2GB Speicher erweiterbar</li> </ul>
<b>AC97 Audio Codec</b>	<ul style="list-style-type: none"> <li>• 6-Kanäle und gemäß Spezifikationen von Intel® AC'97 (REV. 2.3) , entspricht den Anforderungen von Microsoft® PC2001</li> <li>• Fortgeschrittene Betriebsstromzufuhr und stromsparend.</li> <li>• Stereo Line-in Funktion, geteilt mit Surround-Out.</li> <li>• Analoges CD Audio Input, pseudo-differential, von hoher Qualität.</li> <li>• S/PDIF Input/Output Unterstützung: S/PDIF-In kennzeichnet sich durch eine Unterbrechungs-Unterstützung, Selbstblockierung, Anti-Geräusche, und Anti-Störungs Funktionsfähigkeit.</li> <li>• Zusätzliche wertvolle Software-Technologie: Unterstützt die meisten PC 3D-Sound Industrienormen und die einzigartige Karaoke-Funktion, welche sich durch das Mikrofon-Echo, Tastatur-Umschaltung und Stoppen mittels Stimme hervorhebt.</li> </ul>
<b>Erweiterungssteckplätze</b>	<ul style="list-style-type: none"> <li>• Vier 32-Bit PCI-Steckplätze</li> <li>• Ein 8x/4x AGP-Steckplatz</li> <li>• Ein CNR-Steckplatz (Communications &amp; Networking Riser)</li> </ul>
<b>Onboard IDE</b>	<ul style="list-style-type: none"> <li>• Zwei IDE-Header</li> <li>• Unterstützt die Modi PIO (Programmable Input/Output) und DMA (Direct Memory Access)</li> <li>• Unterstützung für IDE Ultra DMA-Busmastering mit Transferraten von 33/66/100/133 MB/Sek</li> </ul>
<b>Serial ATA</b>	<ul style="list-style-type: none"> <li>• Zwei Serial ATA Headers</li> <li>• Datentransferrate übertrifft beste ATA-Werte (~150 MB/Sek.); höhere Transferraten möglich</li> <li>• Low Pin Count (LPC) für Host und Geräte</li> </ul>
<b>Onboard I/O Ports</b>	<ul style="list-style-type: none"> <li>• Das Mainboard verfügt über einen kompletten Satz von I/O-Schnittstellen und Anschlüssen:</li> <li>• Zwei PS/2-Steckplätze für Maus und Tastatur yboard</li> <li>• Ein serieller Steckplatz</li> <li>• Ein paralleler Steckplatz</li> <li>• Acht USB2.0-Ports (vier Ports auf der Rückseite; die Onboard-USB-Header USB2/USB3 bieten vier zusätzliche USB-Ports).</li> <li>• Audioanschlüsse für Mikrofon, line-in und line-out</li> </ul>
<b>Fast Ethernet LAN (optional)</b>	<ul style="list-style-type: none"> <li>• 100Base-TX/10Base-T Physical Layer-Lösung</li> <li>• Duale Geschwindigkeit – 100/10 MB/Sek.</li> <li>• MII-Interface für Ethernet Controller/Konfiguration &amp; Status</li> <li>• Auto-Negotiation: 10/100 MB/Sek., Voll/Halfduplex</li> <li>• Entspricht allen anwendbaren Standards: IEEE802.3, 10Base-T und 100Base-TX</li> </ul>
<b>USB 2.0</b>	<ul style="list-style-type: none"> <li>• Entspricht Universal Serial Bus-Spezifikation, Revision 2.0</li> <li>• Entspricht Intels Enhanced Host Controller Interface-Spezifikation, Revision 0.95</li> <li>• Entspricht Universal Host Controller Interface -Spezifikation Revision 1.1</li> <li>• PCI-Multifunktionsgerät besteht aus zwei UHCI Host Controller-Kernen für Signalübertragung bei voller und niedriger Geschwindigkeit sowie einem EHCI Host Controller-Kern für Hochgeschwindigkeits- Signalübertragung</li> </ul>

	<ul style="list-style-type: none"><li>• Root Hub besteht aus 4 Downstream-Ports mit integrierten Physical Layer-Überträgern für gemeinsame Nutzung durch UHCI und EHCI Host Controller</li><li>• Unterstützt PCI-Bus Power Management Interface , Spezifikation Release 1.1</li><li>• Legacy-Unterstützung für alle Downstream-Ports</li></ul>
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## Lista

L'imballo della scheda madre é composto da:

- La scheda madre
- Il manuale
- Una piattina per il collegamento dei drive (opzionale)
- Una piattina IDE
- Il CD con il Software di supporto

## Caratteristiche

<b>Processor</b>	<b>Dotata di Socket 478 per Processori</b> <ul style="list-style-type: none"><li>• Supporta CPU Intel Pentium serie 4 con tecnologia Hyper Threading</li><li>• Supporta fino a <b>800/533 MHz</b> Front Side Bus</li></ul>						
<b>Chipset</b>	<p>In accordo ad una architettura scabile e innovative sono presenti nel chipset il <b>Northbridge VIA PT800 e Southbridge VIA 8237</b>. Segue una lista con i chipset e le rispettive funzioni :</p> <table border="1"><thead><tr><th>NB</th><th>SB</th><th>Funzione</th></tr></thead><tbody><tr><td><b>PT800</b></td><td><b>8237</b></td><td>CPU FSB: <b>800/533MHz</b> DDR<b>400</b>, Otto USB2.0 porte, Due connettori <b>Serial ATA</b></td></tr></tbody></table> <ul style="list-style-type: none"><li>• Utilizzo di architetture altamente integrate per l'utilizzo in PC Desktop dalle alte prestazioni -- Northbridge molto performante con Front Side Bus per Pentium 4 di 800/533 MHz affiancato ad un bus esterno AGP 8x.</li><li>• Fornisce velocità elevate nel trasferimento dati tra CPU, DRAM, bus V-Link e controller grafico AGP8X tramite utilizzo di funzioni di pipelined, burst ed operazioni simultanee.</li><li>• Controller Accelerated Graphics Port (AGP) dalle alte prestazioni— pienamente compatibile con la lo standard AGP v3.0 in grado di supportare la modalità di trasferimento 8x.</li><li>• Controller avanzato DRAM DDR dalle alte prestazioni –In grado di supportare i banchi di memoria DRAM a doppia velocità DDR400, DDR333, DDR266 e DDR200.</li><li>• Host Controller V Link a 8 bit in grado di fornire una velocità di trasmissione pari a 533 MB/sec – con lista di attesa completamente configurabile "Host a Client V Link".</li><li>• Supporto Advanced System Power Management – Compatibile con gli standard ACPI 1.0B e PCI Bus Power Management 1.1.</li><li>• Velocità di Trasmissione Data da PCI a memoria di sistema fino a 132Mbyte/sec (dati spediti al north bridge tramite interfaccia ad alta velocità V Link)</li><li>• Supporto Stardard PCI 2.2, Interfaccia PCI 3.3V a 32 bit con tolleranza in input di 5V</li><li>• Supporto di cinque slot PCI con arbitrato e decoding per tutte le funzioni integrate ed il bus LPC.</li><li>• Controller seriale ATA/RAID a Doppio Canale— Compatibile con le specifiche "Serial ATA Specification Revision 1.0"</li></ul>	NB	SB	Funzione	<b>PT800</b>	<b>8237</b>	CPU FSB: <b>800/533MHz</b> DDR <b>400</b> , Otto USB2.0 porte, Due connettori <b>Serial ATA</b>
NB	SB	Funzione					
<b>PT800</b>	<b>8237</b>	CPU FSB: <b>800/533MHz</b> DDR <b>400</b> , Otto USB2.0 porte, Due connettori <b>Serial ATA</b>					
<b>Memory Support</b>	<ul style="list-style-type: none"><li>• Due slot DIMM a 184 pin per moduli di memoria DDR</li><li>• Supporta bus di memoria DDR<b>400/333</b> MHz</li><li>• Quantità massima di memoria installabile, 2GB</li></ul>						

<b>AC97 Audio Codec</b>	<ul style="list-style-type: none"> <li>• 6 canali, conforme alle specifiche Intel® AC'97 (REV. 2.3) ed i requisiti Microsoft® PC2001</li> <li>• Gestione avanzata del risparmio energetico ed "Advanced power management".</li> <li>• Funzione Stereo Line IN condivisa con Surround out.</li> <li>• Input Audio CD pseudo differenziale ad alta qualità.</li> <li>• Input/Output S/PDIF: S/PDIF In è dotato delle funzioni interrupt, auto-lock, anti-noise ed anti-distortion.</li> <li>• Tecnologie software aggiuntive : Supporto della maggior parte degli standard industriali 3D sound PC ed una funzione karaoke dotata di microphone echo, key shifting e vocal cancellation.</li> </ul>
<b>Slot di espansione</b>	<ul style="list-style-type: none"> <li>• Quattro slot a 32-bit PCI</li> <li>• Una slot AGP 8x/4x</li> <li>• Uno slot CNR (Communications and Networking Riser)</li> </ul>
<b>Onboard IDE</b>	<ul style="list-style-type: none"> <li>• Due connettori IDE</li> <li>• Supporto della modalità PIO (Programmable Input/Output) e DMA (Direct Memory Access)</li> <li>• Supporto per le modalità Bus Mastering e Ultra DMA ATA 33/66/100/133 MB/sec</li> </ul>
<b>ATA Seriale</b>	<ul style="list-style-type: none"> <li>• Due connettori Serial ATA</li> <li>• Altissima velocità di trasferimento dati ATA (~150 MB/s) con la possibilità di scalabilità della velocità stessa verso valori più alti</li> <li>• Pin Count ridotto sia per l'host sia per le periferiche</li> </ul>
<b>Onboard I/O Ports</b>	<p>La scheda madre è dotata da una serie completa di porte e connettori I/O:</p> <ul style="list-style-type: none"> <li>• Due porte PS/2 per tastiera e mouse</li> <li>• Una porta seriale</li> <li>• Una porta parallela</li> <li>• Otto porte USB2.0 (Quattro presenti nella parte posteriore, connettori USB integrati nella scheda madre per l'aggiunta di altre 4 porte USB2/USB3</li> <li>• Jack audio per microfono, ingresso linea e uscita linea</li> </ul>
<b>Fast Ethernet LAN (opzionale)</b>	<ul style="list-style-type: none"> <li>• <b>Architettura 100Base TX/10Base T</b></li> <li>• Doppia velocità – 100/10 Mbps</li> <li>• Interfaccia MII per Controllo Ethernet /Configurazione &amp; Stato</li> <li>• Negoziazione Automatica: 10/100, Full/Half Duplex</li> <li>• Supporto di tutti gli standard esistenti IEEE802.3, 10Base-T e 100Base-TX</li> </ul>
<b>USB 2.0</b>	<ul style="list-style-type: none"> <li>• Conforme alle specifiche Universal Serial Bus 2.0</li> <li>• Conforme alle specifiche Intel Enhanced Host Controller revisione 0.95</li> <li>• Conforme alle specifiche Universal Host Controller Interface revisione 1.1</li> <li>• Il dispositivo PCI multifunzione consiste di due schede di controllo <b>UHCI</b> per la trasmissione segnali pieno/basso e una scheda di controllo <b>EHCI</b> per la trasmissione segnali ad alta velocità.</li> <li>• Il porto hub di base consiste di 4 porte downstream con ricetrasmittenti integrati nel layer fisico condivisi dalla scheda di controllo interfaccia <b>UHCI</b> e <b>EHCI</b></li> <li>• Supporto per interfaccia risparmio energia bus PCI specifiche release 1.1</li> <li>• Supporto per tutte le porte downstream precedenti</li> </ul>

## LISTA DE VERIFICACIÓN

El paquete de su placa principal contiene los sigtes. ítems:

- La placa principal
- El Manual del Usuario
- Un cable cinta para el lector de disquete (optativo)
- Un cable cinta para el lector IDE
- CD de Software de soporte

### Características

<b>Processor</b>	<b>Soporte de Procesador Socket-478</b> <ul style="list-style-type: none"> <li>• Soporta CPU de Intel Pentium 4 con la Tecnología Hyper Threading</li> <li>• Soporta hasta Bus de Lado Frontal de <b>800/533 MHz</b></li> </ul>						
<b>Chipset</b>	<p>Hay <b>VIA PT800 Northbridge</b> y <b>VIA 8237 Southbridge</b> en este chipset en conformidad con una arquitectura innovadora y escalable con fiabilidad y rendimiento comprobados. He aquí una lista del arreglo del chipset y sus respectivas características:</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 25%;">NB</th> <th style="width: 25%;">SB</th> <th style="width: 50%;">Función</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;"><b>PT800</b></td> <td style="text-align: center;"><b>8237</b></td> <td>CPU FSB: <b>800/533MHz</b> DDR<b>400</b>, Ocho puertos USB2.0, Dos conectores <b>Serial ATA</b></td> </tr> </tbody> </table> <ul style="list-style-type: none"> <li>• Define Soluciones Altamente Integradas para los Diseños de PC Escritorio de Rendimiento -- Northbridge de alto rendimiento con Bus de Lado Frontal para el bus externo Pentium 4 plus AGP 8x.</li> <li>• Provee rendimiento superior entre la CPU, DRAM, bus de V-Link y el bus de controlador de gráficas AGP8X con operación alineada, burst y concurrente.</li> <li>• Controlador del Puerto de Gráficas Aceleradas (AGP) completo --AGP v3.0 conforme con el modo de transferencia 8x.</li> <li>• Controlador DDR DRAM de Alto Rendimiento Avanzado --Soporta DRAM sincrónico de doble índice de datos de DDR400, DDR333, DDR266, y DDR200.</li> <li>• Ancha de banda alta de Controlador Anfitrión V-Link en 533 MB/ seg --Fila de transacción sobresaliente configurable para Anfitrión a accesos de Cliente V-Link.</li> <li>• Apoyo de Manejo de energía adelantada -- Conforme con ACPI 1.0B y PCI Bus Power Management 1.1.</li> <li>• PCI para datos de la memoria del sistema que corren hasta 132 Mb/por segundo (datos enviados a north bridge mediante Interfaz de alta velocidad V-Link)</li> <li>• Conformidad PCI-2.2, interfaz PCI 32-bit 3.3V con entradas tolerantes de 5V</li> <li>• Soporta cinco ranuras PCI de arbitración y decodificación para todas las funciones integradas y bus LPC.</li> <li>• Controlador ATA/RAID Serial de Canal Dual--Conformidad con la Especificación ATA Serial Revisión 1.0</li> </ul>	NB	SB	Función	<b>PT800</b>	<b>8237</b>	CPU FSB: <b>800/533MHz</b> DDR <b>400</b> , Ocho puertos USB2.0, Dos conectores <b>Serial ATA</b>
NB	SB	Función					
<b>PT800</b>	<b>8237</b>	CPU FSB: <b>800/533MHz</b> DDR <b>400</b> , Ocho puertos USB2.0, Dos conectores <b>Serial ATA</b>					
<b>Soporte de Memoria</b>	<ul style="list-style-type: none"> <li>• Dos ranuras 184-pin DIMM para módulos de memoria DDR</li> <li>• Soporta DDR<b>400/333</b> MHz</li> <li>• Memoria máxima instalada es 2GB</li> </ul>						

<b>AC97 Audio Codec</b>	<ul style="list-style-type: none"> <li>• 6-canales y conforme con la Espec. Intel® AC'97 (REV. 2.3), satisface los requisitos de Microsoft® PC2001</li> <li>• Capacidades de administración de alimentación avanzada y ahorro de energía.</li> <li>• Función Stereo Line-in compartida con Surround out.</li> <li>• Salida CD Audio seudo-diferencial analógica de alta calidad.</li> <li>• Soporta S/PDIF Input/Output: S/PDIF In se caracteriza con el soporte de interrupción, auto-bloqueo, anti-ruido, y anti-distorción.</li> <li>• Tecnología de software adicional valiosa: Soporta la mayoría de las normas industriales de PC 3D sound y la función única de karaoke que se caracteriza por el eco de micrófono, cambio a teclados y cancelación a voz.</li> </ul>
<b>Ranuras de Expansión</b>	<ul style="list-style-type: none"> <li>• Cuatro ranuras 32-bit PCI</li> <li>• Una ranura 8x/4x AGP</li> <li>• Una ranura CNR (Communications and Networking Riser)</li> </ul>
<b>IDE Abordos</b>	<ul style="list-style-type: none"> <li>• Dos conectores IDE</li> <li>• Soporta modos PIO (Entrada/Salida Programable/Programmable Input/Output) y modos DMA (Acceso de Memoria Directo/Direct Memory Access).</li> <li>• Soporta mastering de bus IDE Ultra DMA con índices de transferencia de 33/66/100/133 MB/sec</li> </ul>
<b>ATA Serial</b>	<ul style="list-style-type: none"> <li>• Dos conectores Serial ATA</li> <li>• Índice de transferencia que excede el mejor ATA (~150 MB/s) con escalabilidad a índices superiores</li> <li>• Cuenta de pin baja para ambos anfitrión y dispositivos</li> </ul>
<b>Puertos I/O Abordos</b>	<ul style="list-style-type: none"> <li>• La placa principal tiene un juego completo de puertos I/O y conectores:</li> <li>• Dos puertos PS/2 para ratón y teclado</li> <li>• Un puerto serial</li> <li>• Un puerto paralelo</li> <li>• Ocho puertos USB2.0 (cuatro puertos de panel trasero, conectores USB abordo USB2/USB3 que provee cuatro puertos extras</li> <li>• Clavijas de sonido para micrófono, entrada y salida de línea</li> </ul>
<b>Ethernet LAN Rápido (optional)</b>	<ul style="list-style-type: none"> <li>• <b>Solución de Capa Física 100Base-TX/10Base-T</b></li> <li>• Velocidad Dual – 100/10 Mbps</li> <li>• Interfaz MII a Controlador Ethernet/Configuración &amp; Estado</li> <li>• Autonegociación: 10/100, Duplex Completo/Medio</li> <li>• Satisface Todas las Normas Aplicables IEEE802.3, 10Base-T y 100Base-TX</li> </ul>
<b>USB 2.0</b>	<ul style="list-style-type: none"> <li>• Conforme con la Especificación de Bus Serial Universal Revisión 2.0</li> <li>• Conforme con Controlador Anfitrión Reforzado de Intel Interface Specification Revision 0.95</li> <li>• Conforme con la Especificación de Interfaz de Controlador Anfitrión Universal Revisión 1.1</li> <li>• Dispositivo PCI multi-función se consiste de dos centros de Controlador Anfitrión UHCI para señalización de velocidad completa/baja y un centro de Controlador Anfitrión EHCI para señalización de alta velocidad</li> <li>• Root hub consiste de 4 puertos que miran hacia abajo con transceptores de capa física integrado compartido por Controlador Anfitrión UHCI y EHCI</li> <li>• Soporta Especificación de Interfaz de Administración de Energía de BUS PCI versión 1.1</li> <li>• Soporte de legado para todos los puertos que miran hacia abajo</li> </ul>

## Lista de verificação

A embalagem da sua placa principal contém os seguintes itens:

- A placa principal
- O Manual do Utilizador
- Um cabo para a unidade de disquetes (opcional)
- Um cabo para a unidade IDE
- CD de suporte para o software

## Características

<b>Processador</b>	<b>Suporte do Processador Socket-478</b> <ul style="list-style-type: none"><li>• Suporta CPU série <b>Intel Pentium 4</b> com Tecnologia <b>Hyper Threading</b></li><li>• Suporta até <b>800/533 MHz</b> Front-Side Bus</li></ul>						
<b>Chipset</b>	<p>Conta com <b>VIA PT800 Northbridge</b> e <b>VIA 8237 Southbridge</b> neste chipset, de acordo com uma arquitectura inovadora e escalável com um nível de confiança e desempenho comprovado. Aqui fica uma lista da organização do chipset e das respectivas características:</p> <table border="1"><thead><tr><th>NB</th><th>SB</th><th>Função</th></tr></thead><tbody><tr><td><b>PT800</b></td><td><b>8237</b></td><td>CPU FSB: <b>800/533MHz</b> DDR<b>400</b>, Oito USB2.0 portes, Dois conectores <b>Série ATA</b></td></tr></tbody></table> <ul style="list-style-type: none"><li>• Define Soluções Altamente Integradas para Performance de Designs de PC Desktop—Alta performance Northbridge com 800/533 MHz Bus Frontal para Pentium 4 mais bus externo AGP 8x.</li><li>• Fornece performance superior entre o CPU, DRAM, bus V-Link e bus controlador de gráfico AGP8X com afunilador e operação corrente.</li><li>• Controlador de Porte de Gráfico Acelerado com Características Completas (AGP) --AGP v3.0 complacente com o modo de transferência 8x.</li><li>• Controlador de Alta Performance DDR DRAM Avançado –Suporta DDR400, DDR333, DDR266, e DDR200 razão-de-dados-duplos síncrono DRAM.</li><li>• Banda Alta de 533 MB/ seg 8-bit V-Link Host Controlador –Transação superior configurável para Host para V-Link Client acessos.</li><li>• Suporte de Gerenciamento de Força do Sistema Avançado – ACPI 1.0B e PCI Bus Power Gerente 1.1 complacente.</li><li>• PCI para corrente do sistema de memória de dados até 132Mbyte/seg (dados enviados à ponte norte via interface V-Link de alta velocidade)</li><li>• PCI-2.2 complacente , 32-bit 3.3V PCI interface com inputs tolerantes 5V</li><li>• Suporta cinco encaixes PCI de arbitração e decodificação para todas as funções integradas e LPC bus.</li><li>• Controlador do Canal Duplo Serial ATA/RAID—Compatível com a Revisão de Especificação em Série ATA 1.0</li></ul>	NB	SB	Função	<b>PT800</b>	<b>8237</b>	CPU FSB: <b>800/533MHz</b> DDR <b>400</b> , Oito USB2.0 portes, Dois conectores <b>Série ATA</b>
NB	SB	Função					
<b>PT800</b>	<b>8237</b>	CPU FSB: <b>800/533MHz</b> DDR <b>400</b> , Oito USB2.0 portes, Dois conectores <b>Série ATA</b>					
<b>Suporte de memória</b>	<ul style="list-style-type: none"><li>• Dois sockets DIMM com 184 pinos para módulos de memória DDR</li><li>• Suporta bus de memória DDR<b>400/333</b> MHz</li><li>• A memória máxima instalada é de 2GB</li></ul>						
<b>AC97 Audio Codec</b>	<ul style="list-style-type: none"><li>• 6- canais e complacente com Especificação Intel® AC'97 (REV. 2.3) , de acordo com os requerimentos da Microsoft® PC2001</li><li>• Gerenciamento de força avançada e capacidade de economia de energia.</li><li>• Função Stereo Line-in compatível com a saída do Surround.</li></ul>						

	<ul style="list-style-type: none"> <li>• Input de CD Áudio análogo pseudo diferencial de alta qualidade.</li> <li>• S/PDIF Input/Output suporta : S/PDIF In é caracterizado com suporte com funcionalidade de anti-distorção, anti-ruído, auto-trava, e intermompimento.</li> <li>• Tecnologia add-on software valiosa: Suporta a maioria dos padrões industriais de som de PC 3D e função única de karaoke caracterizado com suporte para microfone eco, troca de tom e cancelamento vocal.</li> </ul>
<b>Slots de expansão</b>	<ul style="list-style-type: none"> <li>• Quatro encaixes 32-bit PCI slots</li> <li>• Um slot AGP 8x /4x</li> <li>• Um encaixe para CNR (Communications and Networking Riser)</li> </ul>
<b>IDE na placa</b>	<ul style="list-style-type: none"> <li>• Dois conectores IDE</li> <li>• Suporta modos PIO (Input/Output Programável) e DMA (Direct Memory Access)</li> <li>• Suporta IDE Ultra DMA bus mastering com razão de transferência de 33/66/100/133 MB/sec</li> </ul>
<b>Série ATA</b>	<ul style="list-style-type: none"> <li>• Dois conectores Série ATA</li> <li>• Razão de transferência excedendo o melhor ATA (~150 MB/s) com escalabilidade para razões mais altas</li> <li>• Contagem baixa de pin para ambos os dispositivos e host</li> </ul>
<b>Portas I/O na placa</b>	<p>A placa principal possui um conjunto completo de portas e conectores I/O:</p> <ul style="list-style-type: none"> <li>• Duas portas PS/2 para o rato e teclado</li> <li>• Uma porta série</li> <li>• Uma porta paralela</li> <li>• Oito portas USB2.0 (quatro portas traseiras, conectores USB embutidos USB2/USB3 fornecendo quatro portas extras</li> <li>• Jacks audio para microfone, line-in e line-out</li> </ul>
<b>Fast Ethernet LAN (optional)</b>	<ul style="list-style-type: none"> <li>• <b>100Base-TX/10Base-T Solução de Camadas Físicas</b></li> <li>• Velocidade Dupla – 100/10 Mbps</li> <li>• MII Interface para Controlador Ethernet /Configuração &amp; Status</li> <li>• Auto Negociação: 10/100, Full/Half Duplex</li> <li>• Satisfaz todos os Padrões IEEE802.3, 10Base-T e 100Base-TX Aplicáveis</li> </ul>
<b>USB 2.0</b>	<ul style="list-style-type: none"> <li>• Compatível com Universal Serial Bus Revisão 2.0 da especificação</li> <li>• Compatível com controlador Enhanced Host da Intel Revisão 0.95 da especificação da interface</li> <li>• Compatível com controlador Universal Host Revisão 1.1 da especificação da Interface</li> <li>• O dispositivo PCI multi-funções consiste em dois núcleos de <b>Controlador UHCI Host Controller</b> para sinalização de velocidade total/baixa em um núcleo de <b>Controlador EHCI Host</b> para sinalização de alta velocidade</li> <li>• O núcleo de raiz consiste em 4 portas de protecção a jusante com transreceptores de camadas físicas integrados partilhados pelos controladores Host <b>UHCI</b> e <b>EHCI</b></li> <li>• Suporte de gestão de energia PCI-Bus Revisão 1.1 da especificação da interface</li> <li>• Suporte para todas as portas de protecção a jusante</li> </ul>

## 检查单

您的主板包装含有以下项目：

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

## 功能

处理器	<p><b>支持 Socket-478 处理器</b></p> <ul style="list-style-type: none"> <li>• 支持带有/多线程技术的 Intel Pentium 4 系列 CPU</li> <li>• 支持 <b>800/533 MHz</b> 前端总线</li> </ul>						
芯片组	<p>芯片组包含 <b>VIA PT800 北桥</b>和 <b>VIA 8237 南桥</b>，它基于一种新型的、可扩展的架构，能提供已经证明的可靠性和高性能。以下是芯片组和它们的功能:</p> <table border="1" data-bbox="517 887 1177 999"> <thead> <tr> <th>NB</th> <th>SB</th> <th>功能</th> </tr> </thead> <tbody> <tr> <td>PT800</td> <td>8237</td> <td>CPU FSB: 800/533MHz DDR400, 8 个 USB2.0 端口, 2 个 <b>Serial ATA</b> 接口</td> </tr> </tbody> </table> <ul style="list-style-type: none"> <li>• 根据 PC 台式设计方案定义了高度整合的解决方案 - 高性能北桥（具有用于 Pentium 4 的 800/533 MHz 前端总线及 AGP 8x 外部总线）</li> <li>• 通过流水线、猝发和并发操作提供 CPU、DRAM、V-Link 总线和 AGP8X 图形控制器总线之间的超强性能。</li> <li>• 完整的加速图形端口 (AGP) 控制器 --8x 传输模式，兼容 AGP v3.0</li> <li>• 增强高性能 DDR DRAM 控制器 - 支持 DDR400、DDR333、DDR266 和 DDR200 双数据速率同步 DRAM.</li> <li>• 高带宽 533 MB/ sec 8 位 V-Link 主控制器 - 对主机到 V-Link 客户的访问可配置未完成事务处理队列</li> <li>• 支持高级电源管理 - 符合 ACPI 1.0B 和 PCI 总线电源管理 1.1。</li> <li>• PCI 到系统内存数据传输速率可到 132 MB/sec（数据通过高速 V-Link 接口发送到北桥）</li> <li>• 符合 PCI-2.2 标准，带 5V 输入的 32 位 3.3V PCI 接口</li> <li>• 支持 5 个 PCI 插槽，用于所有整合功能和 LPC 总线的仲裁和解码</li> <li>• 双通道串行 ATA/RAID 控制器—符合串行 ATA 规格 1.0</li> </ul>	NB	SB	功能	PT800	8237	CPU FSB: 800/533MHz DDR400, 8 个 USB2.0 端口, 2 个 <b>Serial ATA</b> 接口
NB	SB	功能					
PT800	8237	CPU FSB: 800/533MHz DDR400, 8 个 USB2.0 端口, 2 个 <b>Serial ATA</b> 接口					
内存支持	<ul style="list-style-type: none"> <li>• 2 个用于 DDR 内存条的 184-pin DIMM 插槽</li> <li>• 支持 <b>DDR400/333 MHz</b> 存储总线</li> <li>• 内存最多可达 2GB</li> </ul>						

<b>AC97 编解码器 Codec</b>	<ul style="list-style-type: none"> <li>• 6 通道，符合 Intel® AC' 97 (REV. 2.3) 规格，满足 Microsoft® PC2001 要求</li> <li>• 高级电源管理和节电功能。</li> <li>• 共享环绕输出的立体声线入功能。</li> <li>• 高质量伪差分模拟 CD 音频输入。</li> <li>• 支持 S/PDIF 输入/输出：S/PDIF In 支持中断、自锁、抗噪和抗失真功能。</li> <li>• 增值软件技术。支持大部分 PC 3D 立体声行业标准和卡拉 OK 功能，支持话筒回声消除、键移动和声音消除功能。</li> </ul>
<b>扩展槽</b>	<ul style="list-style-type: none"> <li>• 4 个 32 位 PCI 扩展插槽</li> <li>• 1 个 8X/4X AGP 插槽</li> <li>• 一个通信网络转接 (CNR) 插槽</li> </ul>
<b>Onboard IDE</b>	<ul style="list-style-type: none"> <li>• 2 个 IDE 接口</li> <li>• 支持 PIO (程控输入/输出) 和 DMA (直接存储器存取) 模式</li> <li>• 支持 IDE Ultra DMA 总线控制，传输速率可达 33/66/100/133 MB/sec</li> </ul>
<b>Serial ATA</b>	<ul style="list-style-type: none"> <li>• 2 个 Serial ATA 接口</li> <li>• 传输速率超过 ATA (~150 MB/s)，可扩展到更高速率</li> <li>• 主机和设备管脚数量少</li> </ul>
<b>集成 I/O 端口</b>	<p>此主板具有完整的 I/O 端口和插孔：</p> <ul style="list-style-type: none"> <li>• 2 个用于鼠标和键盘的 PS/2 端口</li> <li>• 1 个串口</li> <li>• 1 个并口</li> <li>• 8 个 USB2.0 端口（主板后面板带 4 个接口，板上 USB 接口 USB2/USB3 提供其它 4 个端口）</li> <li>• 麦克风、线入和线出声音插孔</li> </ul>
<b>Fast Ethernet LAN (optional)</b>	<ul style="list-style-type: none"> <li>• <b>100Base-TX/10Base-T 物理层解决方案</b></li> <li>• 双速 - 100/10 Mbps</li> <li>• 到以太网控制器的 MII 接口/配置 &amp; 状态</li> <li>• 自动协商：10/100，全双工/半双工</li> <li>• 符合所有相应的 IEEE 802.3、10Base-T 和 100Base-Tx 标准</li> </ul>
<b>USB 2.0</b>	<ul style="list-style-type: none"> <li>• 符合通用串行总线规格 2.0 版本</li> <li>• 符合 Intel 0.95 版本的增强主控器接口规格</li> <li>• 符合 1.1 版本的通用主控器接口规格</li> <li>• PCI 多功能设备由 2 个用于全速/低速传输数据的 UHCI 主控器和</li> <li>• 1 个用于高速传输数据的 EHCI 主控器组成</li> <li>• Root 集线器包括 4 个下行端口，带有与 UHCI 和 EHCI 主控器共用的集成物理层收发器。</li> <li>• 支持 1.1 版本的 PCI 总线电源管理接口规格</li> <li>• 支持所有传统下行端口</li> </ul>



## Chapter 1

### Introduction

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This mainboard has a **Socket-478** supporting **Intel Pentium 4/Hyper Threading Technology** processors with Front-Side Bus (FSB) speeds up to **800/533 MHz**. Hyper Threading Technology, designed to take advantage of the multitasking features in Windows XP, gives you the power to do more things at once.

This mainboard integrates the **VIA PT800** Northbridge along with **VIA8237** Southbridge chipsets that supports the **Serial ATA** — a new interface for high-performance and mainstream desktop PCs; the built-in **USB 2.0** providing higher bandwidth, implementing **Universal Serial Bus Specification Revision 2.0** and is compliant with **UHCI 1.1** and **EHCI 0.95**.

This mainboard supports **AC 97 Audio Codec** and provides **Ultra DMA 33/66/100/133** function. It has one **8x AGP**, one **CNR** (Communications and Networking Riser) and four 32-bit **PCI** slots. There is a full set of I/O ports including two PS/2 ports for mouse and keyboard, one serial port, one parallel port and maximum eight USB2.0 ports – four back-panel ports and onboard USB connectors. **USB3/USB2** providing four extra ports by connecting the Extended USB Module to the mainboard.

This mainboard is a **Full ATX** mainboard and has power connectors for an ATX power supply.

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**Note:** You must initiate the HT CPU function through BIOS setup. It is strongly recommended you refer to Page 35 for relative details.

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## Key Features

This mainboard has these key features:

### Socket-478 Processor

- ◆ Supports **Intel Pentium 4 series** CPU with **Hyper Threading** Technology
- ◆ Supports up to **800/533 MHz** Front-Side Bus

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***Hyper-Threading** technology enables the operating system into thinking it's hooked up to two processors, allowing two threads to be run in parallel, both on separate 'logical' processors within the same physical processor.*

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### Chipset

There are **VIA PT800 Northbridge** and **VIA 8237 Southbridge** in the chipsets in accordance with an innovative and scalable architecture with proven reliability and performance. Here is a list of the chipset arrangement and their respective features:

NB	SB	Function
<b>PT800</b>	<b>8237</b>	CPU FSB: <b>800/533MHz</b> DDR <b>400</b> , maximum eight USB2.0 ports, two <b>Serial</b> <b>ATA</b> connectors

- ◆ Defines Highly Integrated Solutions for Performance PC Desktop Designs--High performance Northbridge with 800/533 MHz Front Side Bus for Pentium 4 plus AGP 8x external bus.
- ◆ Provide superior performance between the CPU, DRAM, V-Link bus and AGP8X graphics controller bus with pipelined, burst, and concurrent operation.
- ◆ Full Featured Accelerated Graphics Port (AGP) Controller --AGP v3.0 compliant with 8x transfer mode.
- ◆ Advanced High-Performance DDR DRAM Controller -- Supports DDR400, DDR333, DDR266, and DDR200 double-data-rate synchronous DRAM.

- ◆ High Bandwidth 533 MB/ sec 8-bit V-Link Host Controller --Configurable outstanding transaction queue for Host to V-Link Client accesses.
- ◆ Advanced System Power Management Support – ACPI 1.0B and PCI Bus Power Management 1.1 compliant.
- ◆ PCI to system memory data streaming up to 132Mbyte/sec (data sent to north bridge via high speed V-Link interface)
- ◆ PCI-2.2 compliant, 32-bit 3.3V PCI interface with 5V tolerant inputs
- ◆ Support five PCI slots of arbitration and decoding for all integrated functions and LPC bus.
- ◆ Dual Channel Serial ATA/RAID Controller—Complies with Serial ATA Specification Revision 1.0

#### **Memory Support**

- ◆ Two 184-pin DIMM sockets for DDR SDRAM memory modules
- ◆ Supports DDR400/333memory bus
- ◆ Maximum installed memory is 2GB

#### **AC97 Audio Codec**

- ◆ 6- channel and compliant with Intel® AC'97 (REV. 2.3) Spec, meeting with Microsoft® PC2001 requirements
- ◆ Advanced power management and power saving capabilities.
- ◆ Stereo Line-in function shared with Surround out.
- ◆ High quality pseudo-differential analog CD Audio input.
- ◆ S/PDIF Input support: S/PDIF In is featured with interrupt, auto-lock, anti-noise, and anti-distortion functionalities support.
- ◆ Valuable add-on software technology: Support most industry standards of PC 3D sound and unique karaoke function support featured with microphone echo, key shifting, and vocal cancellation.

## **Expansion Options**

The mainboard comes with the following expansion options:

- ◆ Four 32-bit PCI slots
- ◆ One 8x/4xAGP slot
- ◆ One Communications Network Riser (CNR) slot

## **Onboard IDE**

- ◆ Two IDE Connectors
- ◆ Supports PIO (Programmable Input/Output) and DMA (Direct Memory Access) modes
- ◆ Supports IDE Ultra DMA bus mastering with transfer rates of 33/66/100/**133** MB/sec

## **Serial ATA**

- ◆ Two Serial ATA Connectors
- ◆ Transfer rate exceeding best ATA (~150 MB/s) with scalability to higher rates
- ◆ Low pin count for both host and devices

## **Onboard I/O Ports**

The mainboard has a full set of I/O ports and connectors:

- ◆ Two PS/2 ports for mouse and keyboard
- ◆ One serial port
- ◆ One parallel port
- ◆ Eight USB2.0 ports (four back-panel ports, onboard USB connectors USB2/USB3 providing four extra ports)
- ◆ Audio jacks for microphone, line-in and line-out

## **Fast Ethernet LAN (optional)**

- ◆ **100Base-TX/10Base-T Physical Layer Solution**
- ◆ Dual Speed – 100/10 Mbps
- ◆ MII Interface to Ethernet Controller/Configuration & Status
- ◆ Auto Negotiation: 10/100, Full/Half Duplex

- ◆ Meet All Applicable IEEE802.3, 10Base-T and 100Base-TX Standards

### **USB 2.0**

- ◆ Compliant with Universal Serial Bus Specification Revision 2.0
- ◆ Compliant with Intel's Enhanced Host Controller Interface Specification Revision 0.95
- ◆ Compliant with Universal Host Controller Interface Specification Revision 1.1
- ◆ PCI multi-function device consists of two **UHCI Host Controller** cores for full-/low-speed signaling and one **EHCI Host Controller** core for high-speed signaling
- ◆ Root hub consists 4 downstream facing ports with integrated physical layer transceivers shared by **UHCI** and **EHCI** Host Controller
- ◆ Support PCI-Bus Power Management Interface Specification release 1.1
- ◆ Legacy support for all downstream facing ports

### **BIOS Firmware**

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

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

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

### **Bundled Software**

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

### **Dimensions**

- ◆ Full ATX form factor of 305 x 190mm

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

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## Package Contents

Your mainboard package contains the following items:

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

## Optional Accessories

You can purchase the following optional accessories for this mainboard.

- The Extended USB module
- The CNR v.90 56K Fax/Modem card
- The Card Reader
- The Serial ATA cable (optional)

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**Note:** *You can purchase your own optional accessories from the third party, but please contact your local vendor on any issues of the specification and compatibility.*

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## Chapter 2

### Mainboard Installation

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

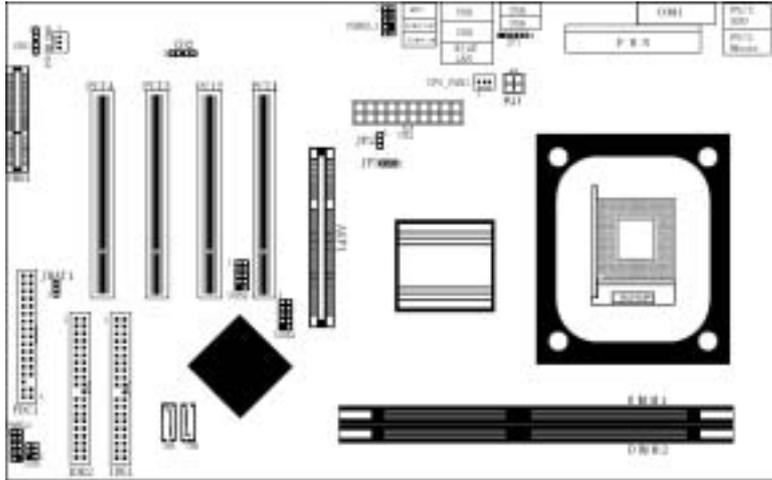
- ❑ Identify the mainboard components
- ❑ Install a CPU
- ❑ Install one or more system memory modules
- ❑ Make sure all jumpers and switches are set correctly
- ❑ Install this mainboard in a system chassis (case)
- ❑ Connect any extension brackets or cables to connectors on the mainboard
- ❑ Install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

**Note:**

1. Before installing this mainboard, make sure jumper JBAT1 is under Normal setting. See this chapter for information about locating JBAT1 and the setting options.
2. Never connect power to the system during installation; otherwise, it may damage the mainboard.

## Mainboard Components

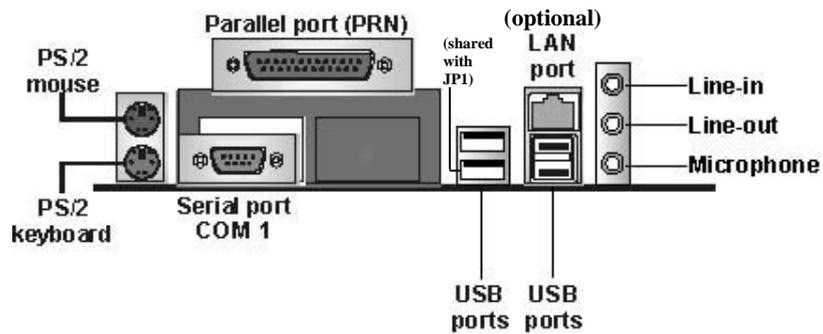
Identify major components on the mainboard via this diagram underneath.



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

## I/O Ports

The illustration below shows a side view of the built-in I/O ports on the mainboard.



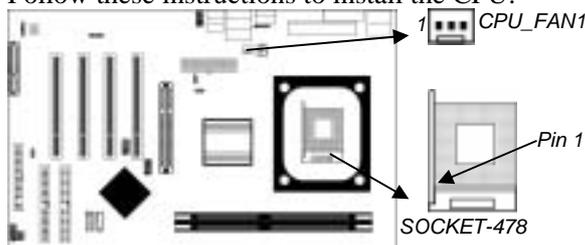
<b>PS/2 Mouse</b>	Use the upper PS/2 port to connect a PS/2 pointing device.
<b>PS/2 Keyboard</b>	Use the lower PS/2 port to connect a PS/2 keyboard.
<b>Parallel Port (PRN)</b>	Use the Parallel port to connect printers or other parallel communications devices.
<b>COM1</b>	Use the COM port to connect serial devices such as mice or fax/modems. COM1 is identified by the system as COM1.
<b>LAN Port (optional)</b>	Connect an RJ-45 jack to the LAN port to connect your computer to the Network.
<b>USB Ports</b>	Use the USB ports to connect USB devices. <i>Note: The lower USB port located near the Parallel port is shared with the JP1 connector.</i>
<b>Audio Ports</b>	Use the three audio ports to connect audio devices. The first jack is for stereo Line-In signal. The second jack is for stereo Line-Out signal. The third jack is for Microphone.

## Installing the Processor

This mainboard has a Socket 478 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

Follow these instructions to install the CPU:



1. Unhook the locking lever of the CPU socket. Pull the locking lever away from the socket and raising it to the upright position.

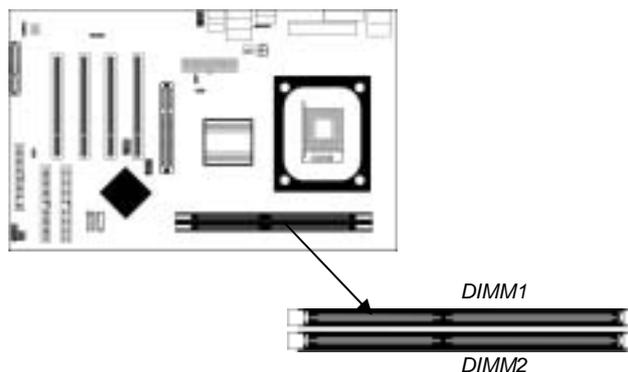
2. Match the pin1 corner marked as the beveled edge on the CPU with the pin1 corner on the socket. Insert the CPU into the socket. Do not use force.
3. Push the locking lever down and hook it under the latch on the edge of socket.
4. Apply thermal grease to the top of the CPU.
5. Install the cooling fan/heatsink unit onto the CPU, and secure them all onto the socket base.
6. Plug the CPU fan power cable into the CPU fan connector (CPU\_FAN1) on the mainboard.

## Installing Memory Modules

This mainboard accommodates two 184-pin 2.5V unbuffered Double Data Rate SDRAM (DDR SDRAM) Dual Inline Memory Module (DIMM) sockets, and supports up to 2.0 GB of **400/333 MHz** DDR SDRAM.

DDR SDRAM is a type of SDRAM that supports data transfers on both edges of each clock cycle (the rising and falling edges), effectively doubling the memory chip's data throughput. DDR DIMMs can synchronously work with 100 MHz or 133 MHz memory bus.

DDR SDRAM provides 1.6 GB/s or 2.1 GB/s data transfer rate depending on whether the bus is 100 MHz or 133 MHz. DDR SDRAM uses additional power and ground lines and requires 184-pin 2.5V unbuffered DIMM module.



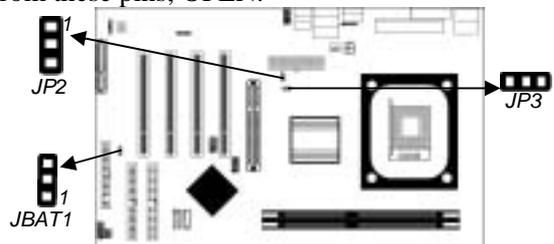
### Memory Module Installation Procedure

These modules can be installed with up to 2 GB system memory. Refer to the following to install the memory module.

1. Push down the latches on both sides of the DIMM socket.
2. Align the memory module with the socket. There is a notch on the DIMM socket that you can install the DIMM module in the correct direction. Match the cutout on the DIMM module with the notch on the DIMM socket.
3. Install the DIMM module into the socket and press it firmly down until it is seated correctly. The socket latches are levered upwards and latch on to the edges of the DIMM.
4. Install any remaining DIMM modules.

### Jumper Settings

Connecting two pins with a jumper cap is SHORT; removing a jumper cap from these pins, OPEN.



#### JBAT1: 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 mainboard from operating. To clear the CMOS memory, disconnect all the power cables from the mainboard and then move the jumper cap into the CLEAR setting for a few seconds.

Function	Jumper Setting
Normal	Short Pins 1-2
Clear CMOS	Short Pins 2-3

### JP2, JP3: CPU Clock

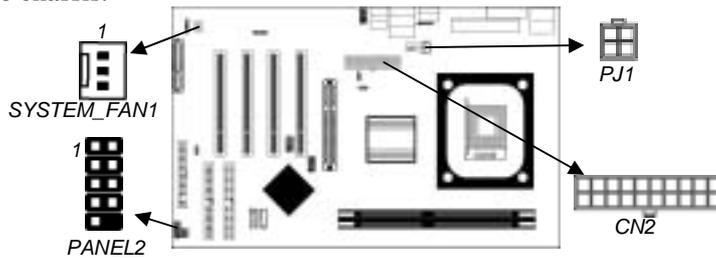
Use this jumper to enable the selection of the CPU frequency.

CPU Clock	JP2	JP3
100M	Short Pins 2-3	Short Pins 2-3
133M	Short Pins 1-2	Short Pins 2-3
200M	Short Pins 2-3	Short Pins 1-2

### Install the Mainboard

Install the mainboard in a system chassis (case). The board is an ATX size mainboard. You can install this mainboard in an ATX case. Make sure your case has an I/O cover plate matching the ports on this mainboard.

Install the mainboard in a case. Follow the case manufacturer's instructions to use the hardware and internal mounting points on the chassis.



Connect the power connector from the power supply to the **CN2** connector on the mainboard. **PJ1** is the CPU Vcore power connector.

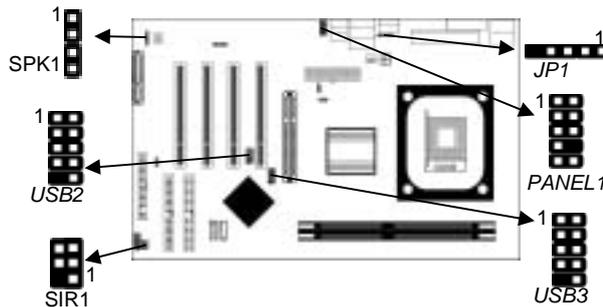
If there is a cooling fan installed in the system chassis, connect the cable from the cooling fan to the **SYSTEM\_FAN1** fan power connector on the mainboard.

Connect the case switches and indicator LEDs to the **PANEL2** connector. Here is a list of the **PANEL2** pin assignments.

Pin	Signal	Pin	Signal
1	HD_LED_P	2	FP PWR/SLP
3	HD_LED_N	4	FP PWR/SLP
5	RESET_SW_N	6	POWER_SW_P
7	RESET_SW_P	8	POWER_SW_N
9	RSVD_DNU	10	KEY

## Connecting Optional Devices

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



### SPK1: Speaker Connector

Connect the cable from the PC speaker to the SPK1 header on the mainboard.

Pin	Signal	Pin	Signal
1	SPKR	2	NC
3	GND	4	+5V

### PANEL1: Front Panel Audio Connector

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

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

### USB2/USB3: Front panel USB Connector

The mainboard has 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 USB2/USB3 to connect the front-mounted ports to the mainboard.

Pin	Signal	Pin	Signal
1	VERG_FP_USBPWR0	2	VERG_FP_USBPWR0
3	USB_FP_P0-	4	USB_FP_P1-
5	USB_FP_P0+	6	USB_FP_P1+
7	GROUND	8	GROUND
9	KEY	10	USB_FP_OC0

1. Locate the USB2/3 connector on the mainboard.
2. Plug the bracket cable onto the USB2/3 connector.
3. Remove a slot cover from one of the expansion slots on the system chassis. Install an extension bracket in the opening. Secure the extension bracket to the chassis with a screw.

#### **JP1: USB Card Reader Connector (optional)**

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

Pin	Signal	Pin	Signal
1	VCC	2	USB-
3	USB+	4	GND
5	KEY		

---

**!** *The JP1 is shared with one of the USB ports of the I/O back panel. The USB port is located near the Parallel port connector. See "I/O Ports" for more information.*

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**!** *Please check the pin assignment of the cable and the USB header on the mainboard. Make sure the pin assignment will match before plugging in. Any incorrect usage may cause unexpected damage to the system. The vendor won't be responsible for any incidental or consequential damage arising from the usage or misuse of the purchased product.*

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### SIR1: Infrared Port

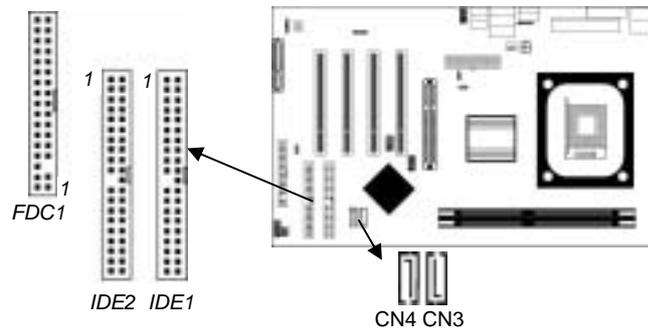
The infrared port allows the wireless exchange of information between your computer and similarly equipped devices such as printers, laptops, Personal Digital Assistants (PDAs), and other computers.

Pin	Signal	Pin	Signal
1	NC	2	KEY
3	+5V	4	GND
5	IRTX	6	IRRX

1. Locate the infrared port **SIR1** connector on the mainboard.
2. If you are adding an infrared port, connect the ribbon cable from the port to the SIR1 connector and then secure the port to an appropriate place in your system chassis.

### Install Other Devices

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



### Floppy Disk Drive

The mainboard ships with a floppy disk drive cable that can support one or two drives. Drives can be 3.5" or 5.25" wide, with capacities of 360K, 720K, 1.2MB, 1.44MB, or 2.88MB.

Install your drives and connect power from the system power supply. Use the cable provided to connect the drives to the floppy disk drive connector **FDC1**.

### **IDE Devices**

IDE devices include hard disk drives, high-density diskette drives, and CD-ROM or DVD-ROM drives, among others.

The mainboard ships with an IDE cable that can support one or two IDE devices. If you connect two devices to a single cable, you must configure one of the drives as Master and one of the drives as Slave. The documentation of the IDE device will tell you how to configure the device as a Master or Slave device. The Master device connects to the end of the cable.

Install the device(s) and connect power from the system power supply. Use the cable provided to connect the device(s) to the Primary IDE channel connector **IDE1** on the mainboard.

If you want to install more IDE devices, you can purchase a second IDE cable and connect one or two devices to the Secondary IDE channel connector **IDE2** on the mainboard. If you have two devices on the cable, one must be Master and one must be Slave.

### **Serial ATA Devices**

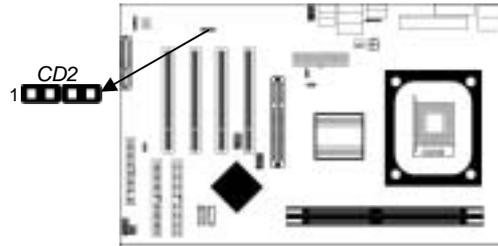
The **Serial ATA (Advanced Technology Attachment)** is the standard interface for the IDE hard drives, which is designed to overcome the design limitations while enabling the storage interface to scale with the growing media rate demands of PC platforms. It provides you a faster transfer rate of **150 Mbytes/second**. If you have installed a Serial ATA hard drive, you can connect the Serial ATA cables to the Serial ATA hard drive or the connector on the mainboard.

On the mainboard, locate the Serial ATA connectors **CN3/CN4**, which support new Serial ATA devices for the highest data transfer rates, 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.

### Internal Sound Connections

If you have installed a CD-ROM drive or DVD-ROM drive, you can connect the drive audio cable to the onboard sound system.

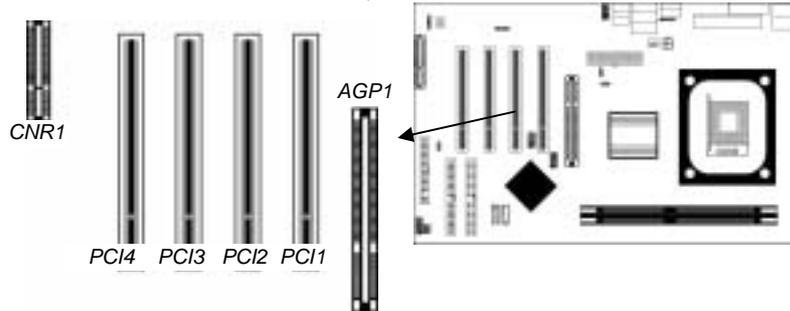


When you first start up your system, the BIOS should automatically detect your CD-ROM/DVD drive. If it doesn't, enter the Setup Utility and configure the CD-ROM/DVD drive that you have installed. On the mainboard, locate the 4-pin connector **CD2**.

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

## Expansion Slots

This mainboard has one AGP, one CNR and four 32-bit PCI slots.



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

1. Locate the AGP, CNR or PCI slots on the mainboard.
2. Remove the blanking plate of the slot from the system chassis.
3. Install the edge connector of the expansion card into the slot.  
Ensure the edge connector is correctly seated in the slot.
4. Secure the metal bracket of the card to the system chassis with a screw.

### **8x/4x AGP Slot**

You can install a graphics adapter that supports the 8x/4xAGP specification and has a 8x/4x AGP edge connector in the AGP slot.

### **CNR Slot**

You can install the CNR (Communications and Networking Riser) cards in this slot, including LAN, Modem, and Audio functions.

### **PCI Slots**

You can install the 32-bit PCI interface expansion cards in the slots.

## Chapter 3

# BIOS Setup Utility

---

### Introduction

The BIOS Setup Utility records settings and information of your computer, such as date and time, the type of hardware installed, and various configuration settings. Your computer applies the information to initialize all the components when booting up and basic functions of coordination between system components.

If the Setup Utility configuration is incorrect, it may cause the system to malfunction. It can even stop your computer booting properly. If it happens, you can use the clear CMOS jumper to clear the CMOS memory which has stored the configuration information; or you can hold down the **Page Up** key while rebooting your computer. Holding down the **Page Up** key also clears the setup information.

You can run the setup utility and manually change the configuration. You might need to do this to configure some hardware installed in or connected to the mainboard, such as the CPU, system memory, disk drives, etc.

## Running the Setup Utility

Every time you start your computer, a message appears on the screen before the operating system loading that prompts you to “Hit <DEL> if you want to run SETUP”. Whenever you see this message, press the **Delete** key, and the Main menu page of the Setup Utility appears on your monitor.

AMIBIOS SIMPLE SETUP UTILITY – VERSION 1.21.12  
(C) 2000 American Megatrends, Inc. All Rights Reserved

Standard CMOS Setup	Features Setup
Advanced Setup	CPU PnP Setup
Power Management Setup	Hardware Monitor
PCI / Plug and Play Setup	Change Password
Load Optimal Settings	Exit
Load Best Performance Settings	
Esc : Quit    ↑ ↓ ← →: Select Item (Shift)F2 : Change Color    F5 : Old Values F6 : Optimal values    F7 : Best performance values    F10 : Save&Exit	
Standards CMOS setup for changing time, date, hard disk type, etc.	

You can use cursor arrow keys to highlight anyone of options on the main menu page. Press **Enter** to select the highlighted option. Press the **Escape** key to leave the setup utility. Hold down the **Shift** key and press **F2** to cycle through the Setup Utility’s optional color schemes.

Some options on the main menu page lead to tables of items with installed values that you can use cursor arrow keys to highlight one item, and press **PgUp** and **PgDn** keys to cycle through alternative values of that item. The other options on the main menu page lead to dialog boxes requiring your answer Yes or No by hitting the **Y** or **N** keys.

If you have already changed the setup utility, press **F10** to save those changes and exit the utility. Press **F5** to reset the changes to the original values. Press **F6** to install the setup utility with a set of default values. Press **F7** to install the setup utility with a set of high-performance values.

## Standard CMOS Setup Page

This page displays a table of items defining basic information about your system.

AMIBIOS SETUP – STANDARD CMOS SETUP										
(C) 2000 American Megatrends, Inc. All Rights Reserved										
Date (mm/dd/yy) : Thu Dec 18, 2003										
Time (hh/mm/ss) : 15:10:49										
	Type	Size	Cyln	Head	WPcom	Sec	LBA Mode	Blk Mode	PIO Mode	32Bit Mode
Pri Master	: Auto									On
Pri Slave	: Auto									On
Sec Master	: Auto									On
Sec Slave	: Auto									On
Floppy Drive A : 1.44 MB 3 1/2										
Floppy Drive B : Not Installed										
Month : Jan – Dec							ESC : Exit			
Day : 01 – 31							↑↓ : Select Item			
Year : 1901 – 2099							PU/PD/+/- : Modify			
							(Shift)F2 : Color			
							F3 : Detect All HDD			

<b>Date &amp; Time</b>	These items set up system date and time.
<b>IDE Pri Master</b>	These items configure devices connected to the Primary and Secondary IDE channels. To configure an IDE hard disk drive, choose <i>Auto</i> . If the <i>Auto</i> setting fails to find a hard disk drive, set it to <i>User</i> , and then fill in the hard disk characteristics (Size, Cyls, etc.) manually. If you have a CD-ROM drive, select the setting <i>CDROM</i> . If you have an ATAPI device with removable media (e.g. a ZIP drive or an LS-120), select <i>Floptical</i> .
<b>Pri Slave</b>	
<b>Sec Master</b>	
<b>Sec Slave</b>	
<b>Floppy Drive A</b>	These items set up size and capacity of the floppy diskette drive(s) installed in the system.
<b>Floppy Drive B</b>	

## Advanced Setup Page

This page sets up more advanced information about your system. Handle this page with caution. Any changes can affect the operation of your computer.

AMBIOS SETUP – ADVANCED SETUP			
(C) 2000 American Megatrends, Inc. All Rights Reserved			
Quick Boot	Enabled	Auto Detect DIMM/PCI Clk	Enabled
1 <sup>st</sup> Boot Device	IDE-0	Clk Gen Spread Spectrum	Disabled
2 <sup>nd</sup> Boot Device	Floppy		
3 <sup>rd</sup> Boot Device	CD/DVD-0		
Try Other Boot Devices	Yes		
S.M.A.R.T. for Hard Disks	Disabled		
BootUp Num-Lock	On		
Floppy Drive Swap	Disabled		
Floppy Drive Seek	Disabled		
Password Check	Setup		
Boot To OS/2	No	ESC : Quit	↑↓←→ : Select Item
L2 Cache	Enabled	F1 : Help	PU/PD/+/- : Modify
System BIOS Cacheable	Enabled	F5 : Old Values (Shift)	F2 : Color
DRAM Timing by SPD	Disabled	F6 : Load BIOS Defaults	
DRAM CAS# Latency	2.5	F7 : Load Setup Defaults	
DRAM Bank Interleave	Disabled		
AGP Comp. Driving	Auto		
Manual AGP Comp. Driving	CB		
AGP Aperture Size	64MB		
Hyper Threading Function	Disabled		

<b>Quick Boot</b>	If you enable this item, the system starts up more quickly by elimination of some of the power on test routines.
<b>1<sup>st</sup> Boot Device</b>	Use these items to determine the device order the computer uses to look for an operating system to load at start-up time.
<b>2<sup>nd</sup> Boot Device</b>	
<b>3<sup>rd</sup> Boot Device</b>	
<b>Try Other Boot Device</b>	If you enable this item, the system will also search for other boot devices if it fails to find an operating system from the first two locations.
<b>S.M.A.R.T. for Hard Disks</b>	Enable this item if any IDE hard disks support the S.M.A.R.T. (Self-Monitoring, Analysis and Reporting Technology) feature.

<b>BootUp Num-Lock</b>	This item determines if the Num Lock key is active or inactive at system start-up time.
<b>Floppy Drive Swap</b>	If you have two diskette drives installed and you enable this item, drive A becomes drive B and drive B becomes drive A.
<b>Floppy Drive Seek</b>	If you enable this item, your system will check all floppy disk drives at start up. Disable this item unless you are using an old 360KB drive.
<b>Password Check</b>	If you have entered a password for the system, use this item to determine, if the password is required to enter the Setup Utility ( <i>Setup</i> ) or required both at start-up and to enter the Setup Utility ( <i>Always</i> ).
<b>Boot To OS/2&gt; 64MB</b>	Enable this item if you are booting the OS/2 operating system and you have more than 64MB of system memory installed.
<b>L2 Cache</b>	Leave these items enabled since all the processors that can be installed on this board have internal L2 cache memory.
<b>System BIOS Cacheable</b>	If you enable this item, a segment of the system BIOS will be copied to main memory for faster execution.
<b>DRAM Timing By SPD</b>	This item allows you to enable or disable the DRAM timing defined by the Serial Presence Detect electrical.
<b>DRAM CAS# Latency</b>	This item determines the operation of SDRAM memory CAS (column address strobe). It is recommended that you leave this item at the default value. The 2T setting requires faster memory that specifically supports this mode.

<b>DRAM Bank Interleave</b>	Enable this item to increase SDRAM memory speed. When enabled, separate memory banks are set for odd and even addresses and the next byte of memory can be accessed while the current byte is being refreshed.
<b>AGP Comp. Driving</b>	Use this item to signal driving current on AGP cards to auto or manual. Some AGP cards need stronger than normal driving current in order to operate. We recommend that you set this item to the default.
<b>Manual AGP Comp. Driving</b>	When AGP Driving is set to Manual, use this item to set the AGP current driving value.
<b>AGP Aperture Size</b>	This item defines an AGP for the graphics. Leave this item at the default value 64MB.
<b>Hyper Threading Function</b>	If your P4 CPU is not HT CPU, this item will be hidden. If your P4 CPU is HT CPU, BIOS will show this item. You can set "Disabled" or "Enabled" to control HT CPU support in O.S. Set "Enabled" to test HT CPU function.
<b>Auto detect DIMM/PCI Clock</b>	When this item is enabled, BIOS will disable the clock signal of free DIMM/PCI slots.
<b>Clk Gen Spread Spectrum</b>	Use this item to set the system bus spread spectrum for the installed processor.

## Power Management Setup Page

This page sets some parameters for system power management operation.

AMBIOS SETUP – POWER MANAGEMENT SETUP (C) 2000 American Megatrends, Inc. All Rights Reserved		
ACPI Aware O/S	Yes	
Power Management	Enabled	
Suspend Time Out (Minute)	Disabled	
Resume On RTC Alarm	Disabled	
RTC Alarm Date	15	
RTC Alarm Hour	12	
RTC Alarm Minute	30	
RTC Alarm Second	30	
LAN/Ring Power On	Disabled	ESC : Quit      ↑↓←→ : Select Item
Keyboard Power On	Disabled	F1 : Help      PU/PD/+/- : Modify
Wake-Up Key	Any key	F5 : Old Values (Shift) F2 : Color
Wake-Up Password	N/A	F6 : Load BIOS Defaults
		F7 : Load Setup Defaults

---

**ACPI Aware O/S** This item supports ACPI (Advanced Configuration and Power management Interface). Use this item to enable or disable the ACPI feature.

---

**Power Management** Use this item to enable or disable a power management scheme. If you enable power management, you can use the items below to set the power management operation. Both APM and ACPI are supported.

---

**Suspend Time Out (Minute)** This item sets up the timeout for Suspend mode in minutes. If the time selected passes without any system activity, the computer will enter power-saving Suspend mode.

---

**Resume On RTC Alarm / Date / Hour / Minute / Second** The system can be turned off with a software command. If you enable this item, the system can automatically resume at a fixed time based on the system's RTC (realtime clock). Use the items below this one to set the date and time of the wake-up alarm. You must use an ATX power supply in order to use this feature.

---

<b>LAN/Ring Power On</b>	Your system can enter the software power down. If you enable this item, the system can automatically resume if there is traffic on the network adapter.
<b>Keyboard Power On Wake-Up Key Wake-Up Password</b>	If you enable this item, system can automatically resume by pressing hot keys on the keyboard or typing in the password. You must enable the Keyboard Power On jumper and use an ATX power supply in order to use this feature.

### PCI / Plug and Play Setup Page

This page sets up some parameters for devices installed on the PCI bus and those utilizing the system plug and play capability.

AMIBIOS SETUP - PCI / PLUG AND PLAY SETUP (C) 2000 American Megatrends, Inc. All Rights Reserved	
Primary Graphics Adapter	AGP
Allocate IRQ to PCI VGA	Yes
PCI IDE BusMaster	Disabled
ESC : Quit      ↑↓←→ : Select Item F1 : Help      PU/PD/+/- : Modify F5 : Old Values (Shift)F2 : Color F6 : Load BIOS Defaults F7 : Load Setup Defaults	

<b>Primary Graphics Adapter</b>	This item indicates if the primary graphics adapter uses the PCI or the AGP bus. The default AGP setting still lets the onboard display work and allows the use of a second display card installed in an AGP slot.
<b>Allocate IRQ to PCI VGA</b>	If this item is enabled, an IRQ will be assigned to the PCI VGA graphics system. You set this value to No to free up an IRQ.
<b>PCI IDE BusMaster</b>	This item enables or disables the DMA under DOS mode. We recommend you to leave this item at the default value.

## Load Optimal Settings

If you select this item and press **Enter** a dialog box appears. If you press **Y**, and then **Enter**, the Setup Utility loads a set of fail-safe default values. These default values are not very demanding and they should allow your system to function with most kinds of hardware and memory chips.

*Note: It is highly recommend that users enter this option to load optimal values for accessing the best performance.*

## Load Best Performance Settings

If you select this item and press **Enter** a dialog box appears. If you press **Y**, and then **Enter**, the Setup Utility loads a set of best-performance default values. These default values are quite demanding and your system might not function properly if you are using slower memory chips or other low-performance components.

## Features Setup Page

This page sets up some parameters for peripheral devices connected to the system.

AMIBIOS SETUP – FEATURES SETUP (C) 2000 American Megatrends, Inc. All Rights Reserved		
OnBoard FDC	Enabled	
OnBoard Serial PortA	3F8h/COM1	
OnBoard IR Port	Disabled	
OnBoard Parallel Port	378h	
Parallel Port Mode	ECP	
Parallel Port IRQ	7	
Parallel Port DMA	3	
OnBoard PATA-IDE	Enabled	ESC : Quit    ↑↓←→ : Select Item
OnBoard SATA-IDE	Enabled	
Audio Device	Enabled	F1 : Help    PU/PD/+/- : Modify
Modem Device	Auto	F5 : Old Values (Shift)F2 : Color
Ethernet Device	Enabled	F6 : Load BIOS Defaults
Onboard USB Function	Enabled	F7 : Load Setup Defaults
USB Function For DOS	Disabled	
ThumbDrive Support for DOS	Disabled	

---

**OnBoard FDC** Use this item to enable or disable the onboard floppy disk drive interface.

---

<b>OnBoard Serial PortA</b>	Use this item to enable or disable the onboard COM1/2 serial port, and to assign a port address.
<b>OnBoard IR Port</b>	Use this item to enable or disable the onboard infrared port, and to assign a port address.
<b>Parallel Port Mode</b>	Use this item to set the parallel port mode. You can select SPP (Standard Parallel Port), ECP (Extended Capabilities Port), EPP (Enhanced Parallel Port), or ECP + EPP.
<b>Parallel Port IRQ</b>	Use this item to assign IRQ to the parallel port.
<b>Parallel Port DMA</b>	Use this item to assign a DMA channel to the parallel port.
<b>OnBoard PATA-IDE</b>	Use this item to enable or disable the onboard PATA-IDE channel.
<b>OnBoard SATA-IDE</b>	Use this item to enable or disable the onboard SATA-IDE channel.
<b>Audio Device</b>	This item enables or disables the AC'97 audio chip.
<b>Modem Device</b>	This item enables or disables the MC'97 modem chip.
<b>Ethernet Device</b>	This item enables or disables the onboard Ethernet LAN.
<b>Onboard USB Function</b>	Enable this item if you plan to use the USB ports on this mainboard.
<b>USB Function For DOS</b>	Enable this item if you plan to use the USB ports on this mainboard in a DOS environment.
<b>ThumbDrive Support For DOS</b>	Enable this item to make a small portion of memory storage device for the USB ports.

## CPU PnP Setup Page

This page helps you manually configure the CPU of this mainboard. The system will automatically detect the type of installed CPU and make the appropriate adjustments to these items on this page.

AMBIOS SETUP – CPU PnP SETUP	
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CPU Ratio	8.0x
CPU Over-clocking Func.	Disabled
CPU Frequency	166 MHz
CPU Over-clocking Freq.	N/A
DRAM Frequency	Auto
ESC : Quit      ↑↓←→ : Select Item F1 : Help      PU/PD/+/- : Modify F5 : Old Values (Shift)F2 : Color F6 : Load Optimal values F7 : Load Best performance values	

<b>CPU Ratio/ Frequency</b>	These items show the ratio and frequency of the CPU installed in your system.
<b>CPU Over- clocking Func./ Freq.</b>	This item decides the CPU over-clocking function/frequency installed in your system. If the over-clocking fails, please turn off the system power. And then, hold the PageUp key (similar to the Clear CMOS function) and turn on the power, the BIOS will recover the safe default.
<b>DRAM Frequency</b>	This item shows the frequency of the DRAM in your system.

## Hardware Monitor Page

This page sets up some parameters for the hardware monitoring function of this mainboard.

AMIBIOS SETUP – HARDWARE MONITOR (C) 2000 American Megatrends, Inc. All Rights Reserved		
*** System Hardware ***		
Vcore	1.632V	
Vcc 2.5V	2.496V	
Vcc 3.3V	3.392V	
Vcc 5V	4.972V	
SB5V	5.026V	
VBAT	3.488V	ESC : Quit      ↑↓←→ : Select Item
SYSTEM Fan Speed	0 RPM	F1 : Help      PU/PD/+/- : Modify
CPU Fan Speed	1288 RPM	F5 : Old Values (Shift)F2 : Color
Power Temperature	36°C/96°F	F6 : Load BIOS Defaults
SYSTEM Temperature	45°C/113°F	F7 : Load Setup Defaults
CPU Temperature	40°C/104°F	

---

<b>CPU / System Temperature</b>	These items display CPU and system temperature measurement.
<b>FAN &amp; Voltage Measurements</b>	These items indicate cooling fan speeds in RPM and the various system voltage measurements.

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## Change Password

If you highlight this item and press Enter, a dialog box appears that you can enter a Supervisor password. You can enter no more than six letters or numbers. Press Enter after you have typed in the password. There will be the second dialog box asking you to retype the password for confirmation. Press Enter after you have retyped it correctly. Then, the password is required for the access to the Setup Utility or for it at start-up, depending on the setting of the Password Check item in Advanced Setup.

## Exit

Highlight this item and press Enter to save the changes that you have made in the Setup Utility configuration and exit the program. When the Save and Exit dialog box appears, press Y to save and exit, or press N to exit without saving.

## Chapter 4

# **Software & Applications**

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### Introduction

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

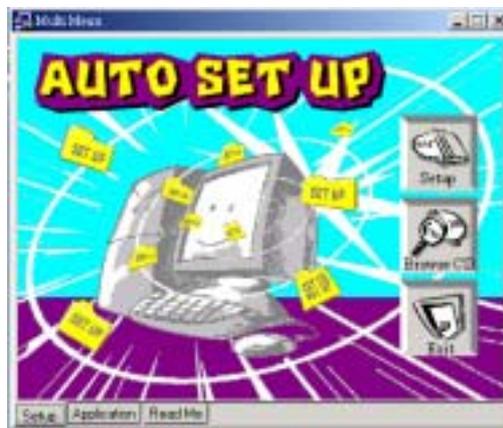
The support CD-ROM contains all useful software, necessary drivers and utility programs to properly run our products. More program information is available in a README file, located in the same directory as the software.

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

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

## Installing Support Software

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



The **Setup** button runs the software auto-installing program as explained in next section.

The **Browse CD** button is a standard Windows command that you can check the contents of the disc with the Windows 98 file browsing interface.

The **Exit** button closes the Auto Setup window. To run the program again, reinsert the CD-ROM disc in the drive; or click the CD-ROM driver from the Windows Explorer, and click the Setup icon.

The **Application** button brings up a software menu. It shows the bundled software that this mainboard supports.

The **ReadMe** brings you to the Install Path where you can find out path names of software driver.

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

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

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



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



3. The support software will automatically install.

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

### **Installing under Windows NT or Manual Installation**

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

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

### **Bundled Software Installation**

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

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

