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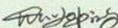
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SHENZHEN ENVIRONMENTAL MANAGEMENT SYSTEM CERTIFICATION CENTER

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Static Electricity Precautions

Static electricity could damage components on this motherboard. Take the following precautions while unpacking this motherboard 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 motherboard by its edges. Do not touch those components unless it is absolutely necessary. Put this motherboard on the top of static-protection package with component side facing up while installing.

Pre-Installation Inspection

1. Inspect this motherboard 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 motherboard vendor about those damages.

Notice:

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. Just click the "Continue Anyway" button and go ahead the installation.



Traduction des Caractéristiques & Liste de contrôle

Liste de contrôle

Le coffret de votre carte mère contient les éléments suivants:

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

Caractéristiques

Prise en charge du Processeur Socket-LGA775

- Prend en charge les derniers processeurs de la **Série Intel Pentium 4 / Celeron** avec la **Technologie Hyper-Threading**
- Supporte un Bus Avant allant jusqu'à **800 MHz**

La technologie "Hyper-Threading" permet au système d'exploitation de penser qu'il est connecté à deux processeurs, permettant d'exécuter deux threads en parallèle, à la fois sur des processeurs 'logiques' dans le même processeur physique.

Chipset

Ce chipset comporte **Intel 915P Northbridge** et **Intel I/O Controller Hub 6 (ICH6)** conformément à une architecture novatrice et dimensionnable avec une fiabilité et des performances prouvées.

- Prend en charge un PCI Express x16 pour Interface Graphique.
- Prend en charge les technologies DDR/DDR2 256-Mb, 512-Mb et 1-Gb pour x8 et x16 périphériques
- Conforme aux spécifications ATA 1.0a Série
- Contrôleur d'Hôte USB 2.0 intégré prenant en charge jusqu'à huit ports USB 2.0, un contrôleur LAN intégré prenant en charge 10/100Mb/s Ethernet; contrôleur IDE intégré prenant en charge Ultra ATA100/66/33
- Conforme à la spécification Azalia prenant en charge 8 Canaux de sorties audio
- Conforme aux spécifications PCI 2.3.

Support de Mémoire

- Deux sockets DIMM de 2,5V 184 broches pour module mémoire DDR SDRAM **DDR400/333**, et deux 240 broches, 1,8V pour **DDR2 533/400**
- Prend en charge les bus mémoire **DDR2 533/400** ou **DDR400/333**
- La mémoire maximum installée est 2Go

Remarque : *Vous ne pouvez utiliser DDR2 533/400 et DDR400/333 simultanément. Utilisez seulement les modules mémoire DDR2 533/400 ou DDR400/300!*

Logements d'Extension

- Un logement AGPro, un logement PCI Express x16, deux logements PCI Express x1
- Trois logements PCI 32 bits pour interface de bus conforme PCI 2.3

Canaux IDE internes

- Un canal IDE prenant en charge ATA-66, ATA-100

Motherboard User's Guide

- Prend en Charge les modes PIO (Entrée/Sortie Programmable) et DMA (Accès Direct à la Mémoire)
- Supporte maîtrise de bus Ultra DMA IDE avec vitesse de transfert de **100/66/33 Mo/sec**

RAID IDE

- Deux Canaux IDE *optionnels* prenant en charge la fonction RAID 0, 1, 0+1, 4 périphériques maximum
- Prend en Charge les modes PIO (Entrée/Sortie Programmable) et DMA (Accès Direct à la Mémoire)
- Supporte maîtrise de bus Ultra DMA IDE avec vitesse de transfert de **133/100/66 Mo/sec**

Remarque: Notre CD qui accompagne vous offre un programme d'installation RAID pour créer un pilote d'installation sur votre propre disquette. Ainsi, quand vous utilisez IDE RAID pour installer le Système d'exploitation, appuyez sur F6 pour utiliser votre propre disquette d'un pilote d'installation RAID.

ATA Série

- Quatre ATA Série connecteurs
- Vitesse de transfert supérieure au meilleur ATA (~150 Mo/s) avec extensibilité aux vitesses supérieures
- Comptage de broche faible pour l'hôte et les périphériques

Codec Audio Azalia

- Conforme à la spécification Azalia, prenant en charge 8 canaux DACs avec SNR 100dB
- Compatibilités: 192/96/48/44.1 KHz avec 24/20/16 bits
- Support de port d'E/S à 8 prises intelligentes
- Détection de prise étendue via RNM (resistors network method) pouvant être utilisée pour surveiller l'état de branchement de chaque prise
- Support de SORTIE & ENTRÉE S/PDIF numérique

Ports E/S Internes

La carte mère possède un jeu complet de ports d'E/S et de connecteurs:

- Deux ports PS/2 pour souris et clavier
- Un port série
- Un port parallèle
- Un port LAN (optionnel)
- Quatre ports USB2.0 de panneau arrière
- Prises audio pour microphone, ligne d'entrée et 8-ch ligne de sortie

LAN Ethernet intégré (optionnel)

- **LAN Gigabit Interne:**
 - Emetteur-récepteur intégré **10/100/1000**
 - Auto Négotiation avec capacité de page Suivante
 - Supporte le contrôle de flux en Full Duplex (IEEE 802.3x), et marquage VLAN IEEE 802.1Q
 - Entièrement conforme à IEEE 802.3, IEEE 802.3u, IEEE 802.3ab

• Onboard 10/100Mbps Ethernet LAN:

- Fonctionnement **10 Mb/s et 100 Mb/s**
- Fast Ethernet MAC intégré, puce physique, et émetteur-récepteur sur une seule puce
- Supporte l'auto-négociation N-way en 10Mb/s et 100Mb/s
- Supporte la gestion d'alimentation ACPI
- Contrôle de Flux en Full Duplex (IEEE 802.3x) et capacité Half/Full duplex

USB 2.0

- Conforme aux Spécifications de Bus Série Universel Révision 2.0
- Conforme aux Spécifications d'interface de Contrôleur d'Hôte Amélioré de Intel Révision 1.0
- Conforme aux Spécifications d'Interface de Contrôleur d'Hôte Universel Révision 1.1
- 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
- Le hub racine consiste en 4 ports de face en aval avec émetteur-récepteurs de couche physique intégrés partagés par le Contrôleur d'Hôte UHCI et EHCI, jusqu'à huit ports fonctionnels
- Support des Spécifications d'Interface de Gestion d'Alimentation de Bus PCI version 1.1
- Support hérité pour tous les ports face à l'aval.

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

Motherboard User's Guide

Funktionen & Checkliste

Checkliste

Die Verpackung Ihres Motherboards enthält folgende Teile:

- Motherboard
- Benutzerhandbuch
- Bandkabel für Floppylaufwerke (optional)
- Bandkabel für IDE-Laufwerke
- Software -CD

Ausstattung

Unterstützt Socket-LGA775-Prozessoren

- Unterstützt die neuesten **Intel Pentium 4 / Celeron** Prozessoren mit **Hyper-Threading Technologie**
- Unterstützung von bis zu **800 MHz** Front-Side Bus

“Hyper-Threading“-Technologie lässt das Betriebssystem glauben, es sei an zwei Prozessoren angeschlossen, was zwei parallele Threads auf separaten ‘logischen’ Prozessoren im selben physischen Prozessor erlaubt.

Chipsatz

Dieser Chipsatz besteht aus einer **Intel 915P Northbridge** und einer **Intel I/O Controller Hub 6 (ICH6)**. Die Chipsatzarchitektur ist in einem innovativen und skalierbaren Design gehalten und verspricht sowohl Zuverlässigkeit als auch Leistungsstärke.

- Unterstützt eine PCI Express x16 für Grafikschnittstelle
- Unterstützung von 256-Mb, 512-Mb und 1-Gb DDR/DDR2-Technologien für x8 und x16 Zubehör.
- Gemäß Serial ATA 1.0a Spezifikationen.
- Integrierter USB 2.0 Host-Kontroller, welcher bis zu acht USB 2.0 ; Steckvorrichtungen unterstützt, integrierter LAN Controller unterstützt 10/100Mb/S Ethernet; integrierter IDE Controller unterstützt Ultra ATA100/66/33
- Gemäß Azalia-Spezifikation, mit Unterstützung von 8 Audio-Output-Kanälen
- Gemäß Spezifikationen von PCI 2.3.

Speicherunterstützung

- Zwei 184-pin 2.5V DIMM Steckplätze für DDR SDRAM DDR**400**/333 Speicher Module und zwei 240-pin 1.8V für DDR2 **533**/400
- Unterstützt **DDR2 533/400** oder **DDR400/333** Speicherbus
- Maximal auf 2GB Speicher erweiterbar

Anmerkung: Sie können **DDR2 533/400** und **DDR400/333** nicht gleichzeitig verwenden. Sie können entweder **DDR2 533/400** oder **DDR400/ 300** Speichermodule verwenden!

Erweiterungssteckplätze

- Ein AGPro Steckplatz, ein PCI Express x16 Steckplatz, zwei PCI Express x1 Steckplätze
- Drei 32-Bit PCI-Steckplätze für PCI 2.3-kompatibles Businterface

Onboard IDE-Kanäle

- Ein IDE Channel unterstützt ATA-66, ATA-100
- Unterstützt die Modi PIO (Programmable Input/Output) und DMA (Direct Memory Access)

Motherboard User's Guide

- Unterstützung für IDE Ultra DMA-Busmastering mit Transferraten von **100/66/33 MB/Sek**

IDE RAID

- Zwei *optionale* IDE Channels unterstützen RAID 0, 1, 0+1 Funktion , maximal 4 Geräte
- Unterstützt die Modi PIO (Programmable Input/Output) und DMA (Direct Memory Access)
- Unterstützung für IDE Ultra DMA-Busmastering mit Transferraten von **133/100/66 MB/Sek**

Anmerkung: *Unser CD-Bundle stellt ein RAID-Installationsprogramm zur Verfügung, um einen Installations-Treiber auf Ihr Diskettenlaufwerk zu kopieren. Drücken Sie bitte deshalb die F-6-Taste, um ihr eignes Diskettenlaufwerk mit dem RAID-Installations-Treiber zu verwenden, während Sie IDE-RAID benutzen, um das Betriebssystem zu installieren.*

Serial ATA

- Vier Serial ATA Headers
- Datentransferrate übertrifft beste ATA-Werte (~150 MB/Sek.); höhere Transferaten möglich
- Low Pin Count (LPC) für Host und Geräte

Azalia Audio Codec

- Gemäß Azalia-Spezifikationen, mit Unterstützung von 8-Kanal-DACs mit SNR 100dB
- Kompatibilität: 192/96/48/44.1 KHz mit 24/20/16 bits
- Unterstützung von 8 Smart-I/O-Steckvorrichtungen
- Erweiterte Steckerauffindungsanzeige via RNM (Resistors Network Method), welche zur Überwachung des Einsteckstatus der einzelnen Stecker benutzt werden kann
- Digitale S/PDIF OUT & IN Unterstützung

Onboard-I/O-Ports

Das Motherboard verfügt über einen kompletten Satz von I/O-Schnittstellen und Anschlüssen:

- Zwei PS/2-Steckplätze für Maus und Tastatur
- Ein serieller Steckplatz
- Ein paralleler Steckplatz
- Ein LAN Steckplatz (optional)
- Vier USB2.0-Ports auf der Rückseite
- Audioanschlüsse für Mikrofon, line-in und 8-ch line-out

Integriertes Ethernet LAN (optional)

• Onboard Gigabit LAN:

- Integrierter **10/100/1000** Transceiver
- Selbstverhandlung mit "Next page"- (nächste Seite) Kapazität
- Unterstützt eine Full Duplex Flußkontrolle (IEEE 802.3x), und IEEE 802.1Q VLAN-Markierung
- In Übereinstimmung mit IEEE 802.3, IEEE 802.3u, IEEE 802.3ab

Motherboard User's Guide

• Onboard 10/100Mbps Ethernet LAN:

- **10 Mb/s und 100 Mb/s** Betrieb
- Integrierter Fast Ethernet MAC, physikalischer Chip und Transceiver in einem einzigen Chip
- Unterstützt 10Mb/s und 100Mb/s N-way Auto-Verhandlung
- Unterstützt ACPI Versorgungs-Betriebssystem
- Fließende Full Duplex Kontrolle (IEEE 802.3x) und halbe/Full duplex Kapazität

USB2.0

- Entspricht Universal Serial Bus-Spezifikation, Revision 2.0
- Entspricht Intels Enhanced Host Controller Interface-Spezifikation, Revision 1.0
- Entspricht Universal Host Controller Interface -Spezifikation Revision 1.1
- 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
- Der Haupt-Hub besteht aus 4 Downstream-Ausgangsstellen mit integrierten physischen Schicht-Transceivern, welche vom UHCI und EHCI Host-Kontroller geteilt werden, bis zu acht funktionelle Ausgangsstellen.
- Unterstützt PCI-Bus Power Management Interface , Spezifikation Release 1.1
- Legacy-Unterstützung für alle Downstream-Ports

Hinweis: Bestimmte Hardwarespezifikationen und Teile der softwareausstattung können ohne weitere Ankündigung abgeändert werden.

Traduzione Funzioni e Lista

Lista

L'imballo della scheda madre è composto da:

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

Caratteristiche

Dotata di **Socket LGA775 per Processori**

- Supporto dei più recenti processori **serie Intel Pentium 4 e Celeron** dotati di **Tecnologia Hyper-Threading**
- Supporta fino a **800 MHz** Front Side Bus

*La tecnologia **Hyper-Threading** permette al sistema operativo di essere dotato di due processori. Permettendovi di effettuare due operazioni in parallelo, entrambe su processori 'logici' separati all'interno dello stesso processore fisico.*

Chipset

In accordo ad una architettura scabile e innovative sono presenti nel chipset il **Northbridge Intel 915P** e **Intel I/O Controller Hub6 (ICH6)**.

- Supporto di una PCI Express x16 per l'interfaccia grafica
- Supporta tecnologie DDR/DDR2 da 256-Mb, 512-Mb e 1-Gb per dispositivi x8 e x16
- Conforme alle specifiche Serial ATA 1.0a
- Host Controller USB 2.0 integrato in grado di supportare sino a 8 porte USB 2.0 ; Controller LAN integrato con supporto di Ethernet 10/100 Mb/s Ethernet; controller IDE integrato con supporto di Ultra ATA 100/66/33
- Compatibile con le specifiche di Azalia in grado di supportare 8 canali di audio output
- Conforme alle specifiche PCI 2.3.

Memoria Supporta

- Due prese DIMM da 2,5 V a 184 pin per moduli memoria SDRAM DDR **400/333** e due prese a 1,8 V a 240 pin per DDR2 **533/400**
- Supporto di bus memoria **DDR2 533/400 o DDR400/333**
- Quantità massima di memoria installabile, 2GB

***Nota:** non è possibile utilizzare due moduli DDR2 533/400 e DDR400/333 contemporaneamente. Utilizzare solo moduli memoria DDR2 533/400 o DDR 400/300.*

Slot di espansione

- Uno slot AGPro, uno slot PCI Express x16 e due slot PCI Express x1
- Tre slots PCI a 32 bit per interfaccia bus PCI 2.3

Canali IDE Integrati

- Un canale IDE con supporto di ATA-66, ATA-100
- Supporto della modalità PIO (Programmable Input/Output) e DMA (Direct Memory Access)
- Supporto per le modalità Bus Mastering e Ultra DMA ATA **100/66/33 MB/sec**

Motherboard User's Guide

RAID IDE

- Due canali IDE *opzionali* con supporto di funzione RAID 0, 1, 0+1, massimo 4 dispositivi
- Supporto della modalità PIO (Programmable Input/Output) e DMA (Direct Memory Access)
- Supporto per le modalità Bus Mastering e Ultra DMA ATA **133/100/66 MB/sec**

Nota: *Sul CD compreso nella confezione è disponibile un programma di installazione RAID per creare un driver di installazione sul disco floppy in uso. Durante l'utilizzo di RAID IDE per installare il sistema operativo, è sufficiente premere F6 per utilizzare il disco floppy in uso di un driver di installazione RAID.*

ATA Seriale

- Quattro connettori Serial ATA
- Altissima velocità di trasferimento dati ATA (~150 MB/s) con la possibilità di scalabilità della velocità stessa verso valori più alti
- Pin Count ridotto sia per l'host sia per le periferiche

Codec Audio Azalia

- Compatibile con le Specifiche di Azalia, in grado di supportare 8 canali DACs con SNR 100dB
- Compatibili: 192/96/48/44.1 KHz a 24/20/16 bits
- Supporta 8 porte I/O Smart Jack
- Completo rilevamento jack via RNM (resistors network method) che può essere utilizzato per monitorare lo stato di connessione di ciascun jack
- Supporta digital S/PDIF OUT & IN

Onboard I/O Porte

La scheda madre è dotata da una serie completa di porte e connettori I/O:

- Due porte PS/2 per tastiera e mouse
- Una porta seriale
- Una porta parallela
- Una porta LAN (opzionale)
- Quattro porte USB2.0 su pannello posteriore
- Jack audio per microfono, ingresso linea e 8-ch uscita linea

Built-In Ethernet LAN (opzionale)

- **LAN Gigabit integrata:**
 - Transceiver 10/100/1000 Integrato
 - Negoziazione automatica con capacità Next page
 - Controllo flusso dati Full Duplex (IEEE 802.3x) e tagging VLAN IEEE 802.1Q
 - Supporto degli standard IEEE 802.3, IEEE 802.3u e IEEE 802.3ab
- **Onboard 10/100Mbps Ethernet LAN:**
 - Operazioni **10 Mb/s a 100 Mb/s**
 - Fast Ethernet MAC integrata, chip fisico e transceiver nello stesso chip
 - Supporto della negoziazione automatica N-way a 10Mb/s e 100Mb/s
 - Supporto di gestione del consumo energetico ACPI
 - Controllo di flusso Full Duplex (IEEE 802.3x) e Half/Full

USB 2.0

- Conforme alle specifiche Universal Serial Bus 2.0
- Conforme alle specifiche Intel Enhanced Host Controller revisione 1.0
- Conforme alle specifiche Universal Host Controller Interface revisione 1.1
- Il dispositivo PCI multifunzione consiste di due schede di controllo UHCI per la trasmissione segnali pieno/basso e una scheda di controllo EHCI per la trasmissione segnali ad alta velocità.
- Il root hub è composto in 4 porte in downstream facing con ricevitore physical layer integrato condiviso dall'Host Controller UHCI e EHCI sino a otto porte funzionali
- Supporto per interfaccia risparmio energia bus PCI specifiche release 1.1
- Supporto per tutte le porte downstream precedenti

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

Motherboard User's Guide

Traducción de Características & Lista

LISTA DE VERIFICACIÓN

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

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

Características

Soporte de Procesador Socket-LGA775

- Soporta los últimos procesadores **Intel Pentium 4 / Celeron Series** con la **Hyper-Threading** Technology
- Soporta hasta Bus de Lado Frontal de **800 MHz**

La tecnología "Hyper-Threading" habilita el sistema operativo en pensar que está conectado a dos procesadores, que permite dos hilos a correr en paralelo, ambos en procesadores 'lógicos' dentro del mismo procesador físico.

Chipset

Hay **Intel 915P Northbridge** y **Intel I/O Controller Hub6 (ICH6)** en este chipset en conformidad con una arquitectura innovadora y escalable con fiabilidad y rendimiento comprobados.

- Soporta un PCI Express x16 para la Interfaz de Gráficas
- Soporta las tecnologías 256-Mb, 512-Mb y 1-Gb DDR/DDR2 para los dispositivos x8 y x16.
- Conforme con la espec. Serial ATA 1.0a
- Controlador Anfitrión USB 2.0 Integrado soporta hasta ocho puertos USB 2.0; controlador LAN integrado que soporta Ethernet de 10/100Mb/s; controlador IDE integrado soporta Ultra ATA100/66/33
- Conforme con la especificación Azalia que soporta 8 canales de salidas de sonido.
- Conforme con la espec. PCI 2.3.

Soporte de Memoria

- Dos zócalos DIMM de 184-pin 2.5V para los módulos de memoria DDR SDRAM **DDR400/333**, y dos 240-pin 1.8V para DDR2 **533/400**
- Soporta el bus de memoria **DDR2 533/400** o **DDR400/333**
- Memoria máxima instalada es 2GB

***Nota:** No puede usar DDR2 533/400 y DDR400/333 simultáneamente. ¡Sólo use los módulos de memoria DDR2 533/400 o DDR400/300!*

Ranuras de Expansión

- Una ranura AGPro, una ranura PCI Express x16, dos ranuras PCI Express x1
- Tres ranuras 32-bit PCI para la interfaz de bus conforme con PCI 2.3

Canales IDE abordo

- Un Canal IDE que soporta ATA-66, ATA-100
- Soporta modos PIO (Entrada/Salida Programmable/Programmable Input/

- Output) y modos DMA (Acceso de Memoria Directo/Direct Memory Access).
- Soporta mastering de bus IDE Ultra DMA con índices de transferencia de **100/66/33 MB/seg**

IDE RAID

- Dos Canales IDE *optativos* que soporta la función RAID 0, 1, 0+1, máximo 4 dispositivos
- Soporta modos PIO (Entrada/Salida Programable/Programmable Input/Output) y modos DMA (Acceso de Memoria Directo/Direct Memory Access).
- Soporta mastering de bus IDE Ultra DMA con índices de transferencia de **133/100/66 MB/seg**

Nota: Nuestro CD embalado le proveerá un programa de instalación RAID que produce un driver de instalación en su propio disco floppy. Por consiguiente, mientras usa el IDE RAID para instalar el Sistema Operativo, favor pulse F6 para usar su propio disco floppy de un driver de instalación RAID.

ATA Serial

- Cuatro conectores Serial ATA
- Índice de transferencia que excede el mejor ATA (~150 MB/s) con escalabilidad a índices superiores
- Cuenta de pin baja para ambos anfitrión y dispositivos

Codec de Audio Azalia

- Conforme con la especificación Azalia, que soporta 8 DACs de canal con SNR 100dB
- Compatibilidades: 192/96/48/44.1 KHz con 24/20/16 bits
- 8 soportes de puerto I/O Smart Jack
- Detección de clavija extensiva vía RNM (resistors network method/método de red de resistores) que se puede usar para monitorear el estado de conexión de cada clavija
- Soporte de S/PDIF OUT & IN Digital

Puertos I/O Abordos

La placa principal tiene un juego completo de puertos I/O y conectores:

- Dos puertos PS/2 para ratón y teclado
- Un puerto serial
- Un puerto paralelo
- Un puerto LAN (optativo)
- Cuatro puertos USB2.0 en el panel trasero
- Clavijas de sonido para micrófono, entrada y 8-ch salida de línea

Ethernet LAN Incorporado (optativo)

- **Gigabit LAN Abordo:**
 - Transreceptor **10/100/1000** integrado
 - Auto-Negociación con capacidad Next page (Próxima página)
 - Soporta control de flujo Full Duplex (IEEE 802.3x), y marcación IEEE 802.1Q VLAN
 - Conformidad total con IEEE 802.3, IEEE 802.3u, IEEE 802.3ab

Motherboard User's Guide

- **Onboard 10/100Mbps Ethernet LAN:**

- Operación **10 Mb/s y 100 Mb/s**
- Fast Ethernet MAC integrado, chip físico, y transceptor en un solo chip
- Soporta N-way auto-negociación 10Mb/s y 100Mb/s
- Soporta administración de suministro ACPI
- Control de Flujo Full Duplex (IEEE 802.3x) y capacidad Medio/Full duplex

USB2.0

- Conforme con la Especificación de Bus Serial Universal Revisión 2.0
- Conforme con Controlador Anfitrión Reforzado de Intel Interface Specification Revision 1.0
- Conforme con la Especificación de Interfaz de Controlador Anfitrión Universal Revisión 1.1
- 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
- El Hub de raíz consiste de 4 puertos downstream con transreceptores de capa física integrados compartidos por el Controlador Anfitrión UHCI y EHCI, hasta ocho puertos funcionales
- Soporta Especificación de Interfaz de Administración de Energía de BUS PCI versión 1.1
- Soporte de legado para todos los puertos que miran hacia abajo

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

Tradução da Lista & Características

Lista de verificação

A embalagem da sua placa principal contém os seguintes itens:

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

Características

Suporte do Processador Socket-LGA775

- Suporta os processadores mais recentes **Intel Pentium 4 / Celeron Series** com **Tecnologia Hiper-Ligação**
- Suporta até **800 MHz** Front-Side Bus

*Tecnologia **Hyper-Threading** que permite o sistema operador a pensar que ele está conectado em dois processadores, fazendo com que duas tranças operem em paralelo, ambas em dois processadores "lógicos"separados dentro do mesmo processador físico.*

Chipset

Conta com **Intel I915P Northbridge** e **Intel I/O Controller Hub6 (ICH6)** neste chipset, de acordo com uma arquitectura inovadora e escalável com um nível de confiança e desempenho comprovado.

- Suporta um PCI Express x16 para Interface de Gráficos
- Suporta 256-Mb, 512-Mb e tecnologias 1-Gb DDR/DDR2 para aparelhos x8 e x16
- Compatível com Série ATA 1.0a
- Controlador Host 2.0 USB integrado suportando até oito portas USB 2.0 ;controlador LAN integrado suportando 10/100Mb/s Ethernet; controlador IDE integrado suporta Ultra ATA100/66/33
- Cumpre com a especificação Azalia suportando 8 Canais de saídas áudio
- Em conformidade com a especificação PCI 2.3

Suporte de memória

- Duas fichas DIMM 2.5V com 184 pinos para módulos de memória DDR SDRAM **DDR400/333**,e dois 1.8V com pinos 240 para **DDR2 533/400**
- Suporta **DDR2 533/400** ou bus de memória **DDR400/333**
- A memória máxima instalada é de 2GB

***Nota:** Não pode utilizar **DDR2 533/400** e **DDR400/333** simultaneamente. Use somente módulos de memória **DDR2 533/400** ou **DDR400/300** !*

Slots de expansão

- Uma ranhura AGPro, um PCI Express x16 ranhuras, dois PCI Express x1 ranhura
- Três slots PCI de 32 bit para interface bus compatível com PCI 2.3

Canais IDE na placa

- Um Canal IDE suportando ATA-66, ATA-100
- Suporta modos PIO (Input/Output Programável) e DMA (Direct Memory Access)

Motherboard User's Guide

- Suporta IDE Ultra DMA bus mastering com razão de transferência de **100/66/33 MB/seg**

IDE RAID

- Dois Canais IDE *opcionais* suportando uma função RAID 0, 1, 0+1, no máximo 4 aparelhos
- Suporta modos PIO (Input/Output Programável) e DMA (Direct Memory Access)
- Suporta IDE Ultra DMA bus mastering com razão de transferência de **133/100/66 MB/seg**

Nota: O nosso CD integrado fornecer-lhe-á um programa de instalação RAID para poder efectuar a instalação do driver no seu próprio disco flexível. Por essa razão, enquanto estiver a usar o IDE RAID para instalar o Sistema Operativo, pressione a tecla F6 para poder usar o seu próprio disco flexível de um driver de instalação RAID.

Série ATA

- Quatro conectores Série ATA
- Razão de transferência excedendo o melhor ATA (~150 MB/s) com escalabilidade para razões mais altas
- Contagem baixa de pin para ambos os dispositivos e host

Codec Áudio Azalia

- Cumpre com a especificação Azalia , suportando 8 canais DACs com SNR 100 dB
- Compatibilidades: 192/96/48/44.1 KHz com 24/20/16 bits
- Suporte de porta 8 Smart Jack I/O
- Detecção de ficha extensiva via RNM (método em rede de resistências) que pode ser usado para monitorizar o estado de ligação de cada ficha
- S/PDIF OUT digital & suporte IN

Portas I/O na placa

A placa principal possui um conjunto completo de portas e conectores I/O:

- Duas portas PS/2 para o rato e teclado
- Uma porta série
- Uma porta paralela
- Uma porta LAN (opcional)
- Quatro portas USB2.0 no painel traseiro
- Jacks audio para microfone, line-in e line-out 8-ch

Ethernet LAN Integrada (opcional)

- **LAN Onboard Gigabit:**
 - Transreceptor integrado **10/100/1000**
 - Auto-Negociação com capacidade Next page (Próxima página)
 - Suporta controle de fluxo Full Duplex (IEEE 802.3x), e alongamento IEEE 802.1Q VLAN
 - Totalmente complacente com IEEE 802.3, IEEE 802.3u, IEEE 802.3ab

- **Onboard 10/100Mbps Ethernet LAN:**
 - Operação **10 Mb/s e 100 Mb/s**
 - Fast Ethernet MAC integrado, chip físico e transceptor em um único chip
 - Suporta auto-negociação N-way de 10Mb/s e 100Mb/s
 - Suporta gerenciamento de força ACPI
 - Controle de Fluxo Duplex Completo (IEEE 802.3x) e capacidade duplex Half/Full (Parcial/Total)

USB 2.0

- Compatível com Universal Serial Bus Revisão 2.0 da especificação
- Compatível com controlador Enhanced Host da Intel Revisão 1.0 da especificação da interface
- Compatível com controlador Universal Host Revisão 1.1 da especificação da Interface
- O dispositivo PCI multi-funções consiste em dois núcleos de Controlador UHCI Host Controller para sinalização de velocidade total/baixa em um núcleo de Controlador EHCI Host para sinalização de alta velocidade
- A root hub consiste em 4 tomadas frontais e partes a jusante com transmissores físicos e integrados com camadas, compartilhados pelo Controlador Host UHCI e EHCI, até oito tomadas funcionais
- Suporte de gestão de energia PCI-Bus Revisão 1.1 da especificação da interface
- Suporte para todas as portas de protecção a jusante

Nota: As especificações de alguns artigos de hardware e software encontram-se sujeitos a alterações sem aviso prévio.

Motherboard User's Guide

功能和检查单翻译

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

支持 LGA775 Socket 处理器

- 支持带有最新/多线程技术的 Intel Pentium 4/ Celeron 系列处理器
- 支持 800 MHz 前端总线

“多线程”技术可以让操作系统认为自己连接了两个处理器，允许两个线程并行运行，每个线程位于同一处理器中的单独“逻辑”处理器中。

芯片组

芯片组包含 Intel 915P 北桥 和 Intel I/O Controller Hub6 (ICH6)，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。

- 支持 1 个用于图形接口的 PCI Express x16。
- 支持用于 x8 和 x16 设备的 256-Mb、512-Mb 和 1-Gb DDR/DDR2 技术。
- 符合串行 ATA 1.0a 规格。
- 集成 USB 2.0 主控器，最多支持 8 个 USB 2.0 端口，集成支持 10/100Mb/s 以太网的 LAN 控制器，集成 IDE 控制器，支持 Ultra ATA100/66/33。
- 符合 Azalia 规格，支持 8 声道音频输出。
- 符合 PCI 2.3 规格。

内存支持

- 2 个用于 DDR SDRAM DDR400/333 内存条的 184-pin 2.5V DIMM 插槽，2 个用于 DDR2 533/400 内存条的 240-pin 1.8V 插槽
- 支持 DDR2 533/400 或 DDR400/333 存储总线
- 内存最多可达 2GB

注意：您不能同时使用 DDR2 533/400 和 DDR400/333 内存。您只能使用 DDR2 533/400 或 DDR400/300 内存条！

扩展槽

- 1 个 AGPro 插槽，1 个 PCI Express x16 插槽，2 个 PCI Express x1 插槽
- 3 个 32 位 PCI 插槽，用于 PCI 2.3 兼容总线接口

Onboard IDE 通道

- 1 个支持 ATA-66/ATA-100 的 IDE 通道
- 支持 PIO（程控输入/输出）和 DMA（直接存储器存取）模式
- 支持 IDE Ultra DMA 总线控制，传输速率可达 100/66/33 MB/sec

IDE RAID

- 2 个可逆的 IDE 通道，支持 RAID 0, 1, 0+1 功能，最多 4 个设备
- 支持 PIO (程控输入/输出) 和 DMA (直接存储器存取) 模式
- 支持 IDE Ultra DMA 总线控制，传输速率可达 133/100/66 MB/sec

注意：我们为您提供的 CD 带有一个 RAID 安装程序，您可以在自己的光盘上制作安装驱动程序。这样，当您使用 IDE RAID 安装操作系统时，请按住 F6 使用带有 RAID 安装驱动程序的软盘。

Serial ATA

- 4 个 Serial ATA 接口
- 传输速率超过 ATA (~150 MB/s)，可扩展到更高速率
- 主机和设备管脚数量少

Azalia 音频编解码器

- 符合 Azalia 规格，支持 SNR 100dB 的 8 通道 DAC
- 兼容性：192/96/48/44.1 KHz，24/20/16 位
- 支持 8 个智能插孔 I/O 端口
- 通过 RNM (电阻网络方法) 的全面插孔检测，用于监视每个插孔的插入状态
- 支持数字量 S/PDIF OUT & IN

集成 I/O 端口

此主板具有完整的 I/O 端口和插孔：

- 2 个用于连接鼠标和键盘的 PS/2 端口
- 1 个串口
- 1 个并口
- 1 个 LAN (可选)
- 4 个后面板 USB2.0 端口
- 麦克风、线入和 8 通道线出声音插孔

快速以太网 LAN (可选)

- 板上集成千兆 LAN：
 - 集成 10/100/1000 收发器
 - 带续页能力的自协商
 - 支持全双工数据流控制 (IEEE 802.3x) 和 IEEE 802.1Q VLAN 标记
 - 完全符合 IEEE 802.3、IEEE 802.3u、IEEE 802.3ab
- 板上集成 10/100Mbps Ethernet LAN：
 - 10 Mb/s 和 100 Mb/s 工作
 - 单芯片集成了快速以太网 MAC、物理芯片和收发器
 - 支持 10Mb/s 和 100Mb/s N 路自协商
 - 支持 ACPI 电源管理
 - 全双工数据流控制 (IEEE 802.3x) 和半双工/全双工功能

Motherboard User's Guide

USB 2.0

- 符合通用串行总线规格 2.0 版本
- 符合 Intel 1.0 版本的增强主控器接口规格
- 符合 1.1 版本的通用主控器接口规格
- 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 1 个用于高速传输数据的 EHCI 主控器组成
- Root 集线器包括 4 个下行端口，带有与 UHCI 和 EHCI 主控制器共用的集成物理层收发器，最多 8 个功能端口。
- 支持 1.1 版本的 PCI 总线电源管理接口规格
- 支持所有传统下行端口

说明：某些硬件规格和软件项目若有更改恕不另行通知。

Chapter 1 Introduction

This motherboard has a **LGA775 socket** for latest **Intel Pentium 4/Celeron** processors with **Hyper-Threading Technology** and Front-Side Bus (FSB) speeds up to **800 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 motherboard integrates the **Intel 915P** Northbridge along with **Intel I/O Controller Hub 6 (ICH6)** that supports the **Serial ATA** 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 1.0**.

It supports 8-channel **Azalia Audio Codec** and provides one **IDE Ultra DMA 100/66** channel. It coporates one IDE RAID controller supporting two IDE Ultra DMA 133/100/66 channel for RAID 0, 1, 0+1 function. It has one **AGPro slot**, one **PCI Express x16** slot, two **PCI Express x1** slots and three 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, one LAN port (optional), six audio jacks for micropone, line-in and 8-ch line-out, four back-panel USB 2.0 ports and onboard USB headers USB3/USB4 providing four extra ports by connecting the extended USB module to the motherboard.

It features the **Gigabit Ethernet** interface that provides up to ten times the throughput (**10/100/1000 Mb/s** operation) and faster transfer rate (**1 Gigabit/s**) than conventional Ethernet connection. It improves system availability, data security, user bandwidth and network manageability.

It is an **ATX** motherboard and has power connectors for an ATX power supply.

Motherboard User's Guide



915P chipset can only support 256-Mb, 512-Mb and 1-Gb DDR technologies for x8 and x16 device, NOT support 128-Mb DDR technology. That is, 256 MB Double Side Memory Module & 128 MB Single Side Memory Module are NOT support.

Key Features

The key features of this motherboard include:

LGA775 Socket Processor Support

- ◆ Supports the latest **Intel Pentium 4/Celeron Series** processors with **Hyper-Threading Technology**
- ◆ Supports up to **800 MHz** Front-Side Bus

***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.*

Chipset

There are **Intel 915P Northbridge** and **Intel I/O Controller Hub 6 (ICH6)** in the chipsets in accordance with an innovative and scalable architecture with proven reliability and performance.

- ◆ Supports one PCI Express x16 for Graphics Interface
- ◆ Supports 256-Mb, 512-Mb and 1-Gb DDR/DDR2 technologies for x8 and x16 devices
- ◆ Compliant with Serial ATA 1.0a specification.
- ◆ Integrated USB 2.0 Host Controller supporting up to eight USB 2.0 ports; integrated LAN controller supporting 10/100Mb/s Ethernet; integrated IDE controller supports Ultra ATA100/66/33
- ◆ Compliant with Azalia specification supporting 8 Channels of audio outputs
- ◆ Compliant with PCI 2.3 specification

Memory Support

- ◆ Two 184-pin 2.5V DIMM sockets for DDR SDRAM DDR400/333 memory modules, and two 240-pin 1.8V for DDR2 533/400
- ◆ Supports **DDR2 533/400 or DDR400/333** memory bus
- ◆ Maximum installed memory is 2GB

Note: You can not use DDR2 533/400 and DDR400/333 simultaneously. Only use either DDR2 533/400 or DDR400/300 memory modules!

Expansion Slots

- ◆ One AGPro slot, one PCI Express x16 slot, two PCI Express x1 slots
- ◆ Three 32-bit PCI slots for PCI 2.3-compliant bus interface

Onboard IDE channels

- ◆ One IDE Channel supporting ATA-66, ATA-100
- ◆ Supports PIO (Programmable Input/Output) and DMA (Direct Memory Access) modes
- ◆ Supports IDE Ultra DMA bus mastering with transfer rates of 100/66/33 MB/sec

IDE RAID

- ◆ Two *optional* IDE Channels supporting RAID 0,1,0+1 function , maximum 4 devices
- ◆ Supports PIO (Programmable Input/Output) and DMA (Direct Memory Access) modes
- ◆ Supports IDE Ultra DMA bus mastering with transfer rates of 133/100/66 MB/sec

Note: Our bundled CD will provide you with a RAID installation program to make an installation driver in your own floppy disk. Therefore, while you are using IDE RAID to install the Operating System, please push down F6 to use your own floppy disk of a RAID installation driver.

Serial ATA

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

Azalia Audio Codec

- ◆ Compliant with Azalia specification, supporting 8 channel DACs with SNR 100dB
- ◆ Compatibilities: 192/96/48/44.1 KHz with 24/20/16 bits
- ◆ 8 Smart Jack I/O port support
- ◆ Extensive jack detection via RNM (resistors network method) that can be used to monitor the plugging status of each jack
- ◆ Digital S/PDIF OUT & IN support

Onboard I/O Ports

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

- ◆ Two PS/2 ports for mouse and keyboard
- ◆ One serial port
- ◆ One parallel port
- ◆ One LAN port (optional)
- ◆ Four back-panel USB2.0 ports
- ◆ Audio jacks for microphone, line-in and 8-ch line-out

Fast Ethernet LAN (optional)

- ◆ **Onboard Gigabit LAN:**
 - Integrated **10/100/1000** transceiver
 - Auto-Negotiation with Next page capability
 - Supports Full Duplex flow control (IEEE 802.3x), and IEEE 802.1Q VLAN tagging
 - Fully compliant with IEEE 802.3, IEEE 802.3u, IEEE 802.3ab
- ◆ **Onboard 10/100Mbps Ethernet LAN:**
 - 10 Mb/s and 100 Mb/s** operation

- Integrated Fast Ethernet MAC, physical chip, and transceiver onto a single chip
- Supports 10Mb/s and 100Mb/s N-way auto-negotiation
- Support ACPI power management
- Full Duplex Flow Control (IEEE 802.3x) and Half/Full duplex capability

USB 2.0

- ◆ Compliant with Universal Serial Bus Specification Revision 2.0
- ◆ Compliant with Intel's Enhanced Host Controller Interface Specification Revision 1.0
- ◆ 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, up to eight functional ports
- ◆ Support PCI-Bus Power Management Interface Specification release 1.1
- ◆ Legacy support for all downstream facing ports

BIOS Firmware

This motherboard 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

- ◆ **Adobe Acrobat Reader** is the software to help users read PDF files.
- ◆ **ShowShifter** provides you with various options to create an ultimate home media center for your PC that you can use it to record and playback TV, enjoy your entertainment over a network, look at digital photos as a slide show on your TV or PC monitor, and so on
- ◆ **WinDVD creator Plus** is a storyboard interface making the entire DVD-making process as easy as moving pictures around on your screen.
- ◆ **WinDVD** provides the automatic WinDVD software installation.

Dimensions

- ◆ ATX form factor of 305 x 244 mm



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

Package Contents

Your motherboard package ships with the following items:

- The motherboard
- The User's Guide
- 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 motherboard.

- ❑ The Extended USB module
- ❑ The CNR v.90 56K Fax/Modem card
- ❑ The Serial ATA cable
- ❑ The Serial ATA power cable

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.*

Chapter 2 Motherboard Installation

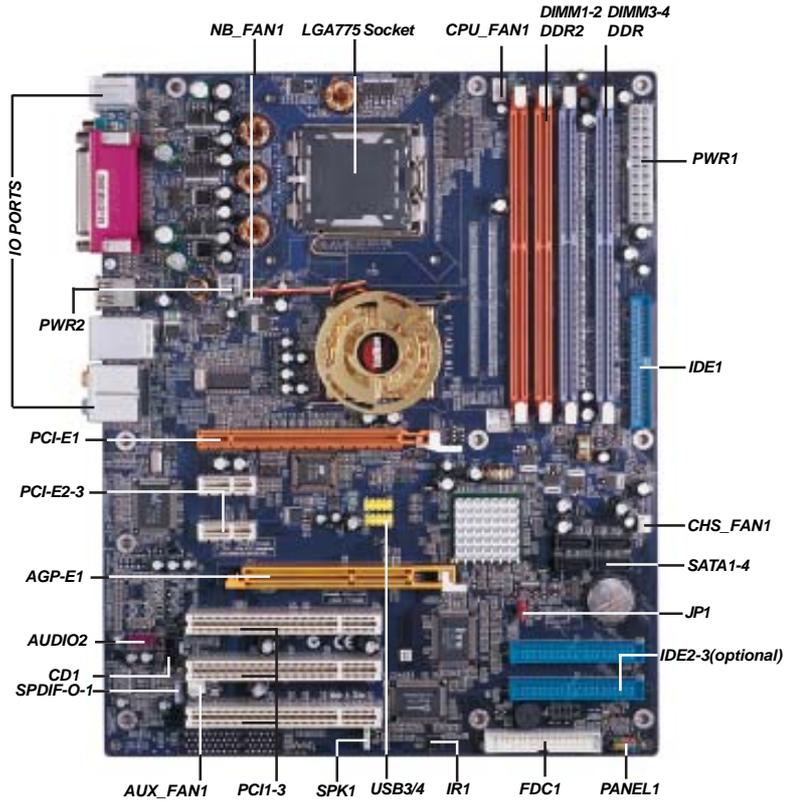
To install this motherboard in a system, please follow these instructions in this chapter:

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

Note:

1. Before installing this motherboard, make sure jumper JP1 is under Normal setting. See this chapter for information about locating JP1 and the setting options.
2. Never connect power to the system during installation; otherwise, it may damage the motherboard.

Motherboard Components

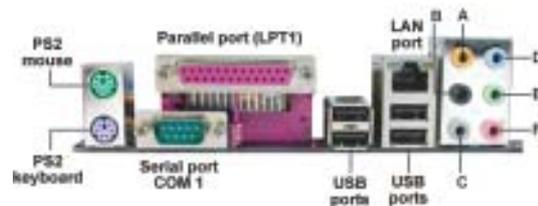


Motherboard User's Guide

LABEL	COMPONENTS
CPU_FAN1	CPU Fan connector
DIMM1--2	Two 240-pin DDR2 SDRAM sockets
DIMM3-4	Two 184-pin DDR SDRAM sockets
PWR1	Standard 24-Pin ATX Power connector
IDE1	IDE connector
CHS_FAN1	Chasis cooling fan connector
SATA1-4	Serial ATA connectors
JP1	Clear CMOS jumper
IDE2/3	IDE RAID connectors (optional)
PWR2	Standard 4-Pin ATX Power connector
PANEL1	Front Panel Switch/LED header
FDC1	Floppy Disk Drive connector
IR1	Infrared header
USB3/4	Front Panel USB headers
SPK1	Speaker header
PCI 1-3	32-bit PCI slots
AUX_FAN1	Auxiliary cooling fan connector
SPDIF-O-1	SPDIF out header
CD1	Analog Audio Input header
AUDIO2	Front Panel Audio header
AGP-E1	AGPro slot *See page 25 for details
PCI-E2-3	PCI Express x1 slots
PCI-E1	PCI Express x16 graphics card slot
NB_FAN1	Northbridge cooling fan connector

I/O Ports

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



Chapter 2: Motherboard Installation

PS/2 Mouse	Use the upper PS/2 port to connect a PS/2 pointing device.						
PS/2 Keyboard	Use the lower PS/2 port to connect a PS/2 keyboard.						
Parallel Port (LPT1)	Use the Parallel port to connect printers or other parallel communications devices.						
Serial Port COM1	Use the COM port to connect serial devices such as mice or fax/modems. COM1 is identified by the system as COM1.						
LAN Port (optional)	Connect an RJ-45 jack to the LAN port to connect your computer to the Network.						
USB Ports	Use the USB ports to connect USB devices.						
Audio Ports	<p>Use the audio jacks to connect audio devices. The D port is for stereo line-in signal, while the F port is for microphone in signal. In 8-channel mode, audio ports are respectively referred to the following list for specific port function definition:</p> <table border="1" style="margin-left: 20px;"> <tr> <td>A: Center & Woofer</td> <td>D: Line-in</td> </tr> <tr> <td>B: Back Surround</td> <td>E: Front Out</td> </tr> <tr> <td>C: Side Surround</td> <td>F: Mic_in Rear</td> </tr> </table> <p>In addition, each of B, C, and E ports can provide users with both right and left channels. Users please refer to the following note for specific port function definition.</p>	A: Center & Woofer	D: Line-in	B: Back Surround	E: Front Out	C: Side Surround	F: Mic_in Rear
A: Center & Woofer	D: Line-in						
B: Back Surround	E: Front Out						
C: Side Surround	F: Mic_in Rear						

Note1: The above port definition can be changed to audio input or audio output by changing the driver utility setting.

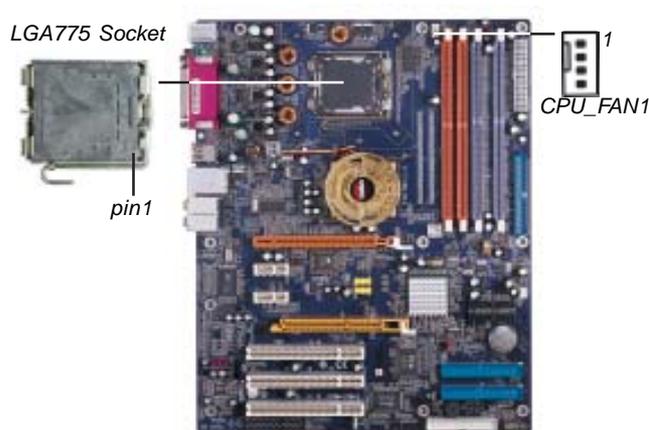
Note2: You can access the path: [Sound/ALC880/Audio User's Guide](#) in our bundled CD, or please visit our website: [Http://www.pcchips.com](http://www.pcchips.com) for more detailed information about audio devices.

Installing the Processor

This motherboard has a **LGA775** socket for the latest **Intel Pentium 4/Celeron** processors. 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:



- A. Unload the cap
- Use thumb & forefinger to hold the lifting tab of the cap.
 - Lift the cap up and remove the cap completely from the socket.
- B. Open the load plate
- Use thumb & forefinger to hold the hook of the lever, pushing down and pulling aside unlock it.
 - Lift up the lever.
 - Use thumb to open the load plate.



Chapter 2: Motherboard Installation

Be careful not to touch the contacts.

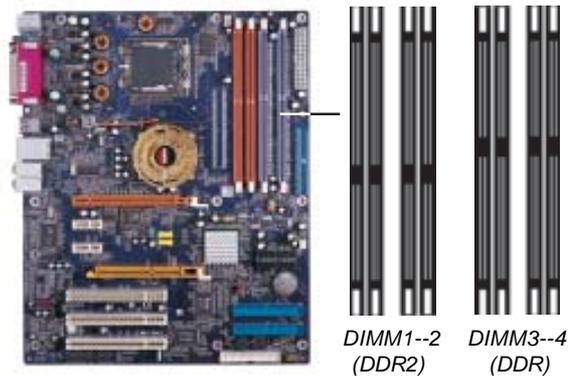
- C. Install the CPU on the socket
- Orientate CPU package to the socket. Make sure you match triangle marker to pin 1 location.
- D. Close the load plate
- Slightly push down the load plate onto the tongue side, and hook the lever.
 - CPU is locked completely.
- E. Apply thermal grease on top of the CPU.
- F. Fasten the cooling fan supporting base onto the CPU socket on the motherboard.
- G. Make sure the CPU fan is plugged to the CPU fan connector. Please refer to the CPU cooling fan user's manual for more detail installation procedure.



Note: To achieve better airflow rates and heat dissipation, we suggest that you use a high quality fan with 3800 rpm at least. 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.

Installing Memory Modules

This motherboard accommodates four memory modules, which are two 184-pin 2.5V DIMM3-4 sockets (Dual Inline Memory Module) for unbuffered DDR **400**/333 memory modules (Double Data Rate SDRAM) and the other two 240-pin 1.8V DIMM1-2 sockets (Dual Inline Memory Module) for unbuffered DDR2 **533**/400 memory modules (Double Data Rate 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. You must install at least one module in any of the four slots. Each module can be installed with 256 MB to 1 GB of memory; total memory capacity is 2 GB.



Note1: Please be noted you can **NOT** use DIMM1-2(DDR2 533/400) and DIMM3-4(DDR 400/333) simultaneously. Only use either DDR2(533/400) or DDR(400/333) memory modules!

Note2: 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.

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**.



JP1: Clear CMOS Jumper

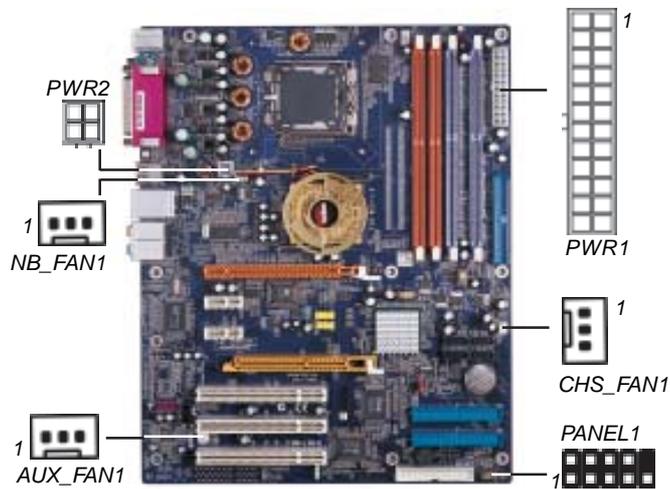
Use this jumper to clear the contents of the CMOS memory. You may need to clear the CMOS memory if the settings in the Setup Utility are incorrect and prevent your motherboard from operating. To clear the CMOS memory, disconnect all the power cables from the motherboard and then move the jumper cap into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

Function	Jumper Setting
<i>Normal</i>	<i>Short Pins 1-2</i>
<i>CMOS Clear</i>	<i>Short Pins 2-3</i>

Install the Motherboard

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

Install the motherboard 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 **PWR1** connector on the motherboard. The **PWR2** is a +12V connector for CPU Vcore power.

If there is a cooling fan installed in the system chassis, connect the cable from the cooling fan to the **CHS_FAN1** fan power connector on the motherboard.

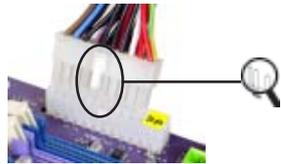
Connect the Northbridge cooling fan connector to **NB_FAN1**.
Connect the auxiliary power supply cooling fan connector to **AUX_FAN1**.

Motherboard User's Guide

Connect the case switches and indicator LEDs to the **PANEL1** header. Please refer to the following list of the PANEL1 pin assignments.

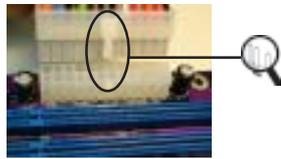
Pin	Signal	Pin	Signal
1	HD_LED_P(+)	2	FP PWR/SLP(+)
3	HD_LED_N(-)	4	FP PWR/SLP(-)
5	RESET_SW_N(-)	6	POWER_SW_P(+)
7	RESET_SW_P(+)	8	POWER_SW_N(-)
9	RSVD_DNU	10	KEY

Connecting 20/24-pin power cable



20-pin power cable

Users please note that when installing 20-pin power cable, from the aspect as the picture shows, the latch of power cable falls on the left side of the PWR1 connector latch.



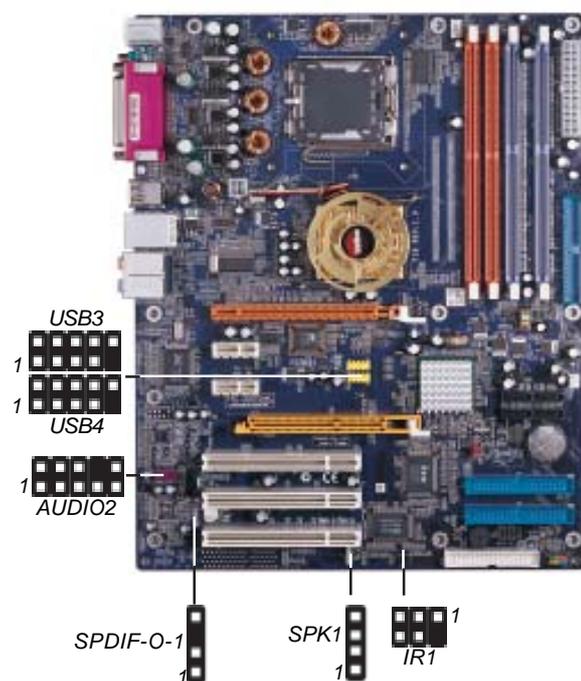
24-pin power cable

Users please note that when installing 24-pin power cable, the latches of power cable and the PWR1 connector match perfectly.

Note: Users please note that the 20-pin and 24-pin power cables can both be connected to the PWR1 connector. While connecting the 20-pin power cable, just align the 20-pin power cable with the pin 1 of the PWR1 connector. However, using 20-pin power cable may cause the system the unbootable or unstable problem because of insufficient electricity.

Connecting Optional Devices

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



AUDIO2: Front Panel Audio Header

This header 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

USB3/USB4: Front Panel USB Header

The motherboard 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 headers USB3/USB4 to connect the front-mounted ports to the motherboard.

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 USB3/USB4 header on the motherboard.
2. Plug the bracket cable onto the USB3/USB4 header.
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.

SPDIF-O-1: SPDIF Out Header

S/PDIF (Sony/Philips Digital Interface) is a standard audio transfer file format and allows the transfer of digital audio signals from one device to another without having to be converted first to an analog format. Via a specific audio cable, you can connect the SPDIF-O-1 header (S/PDIF output) on the motherboard to the S/PDIF digital input on the external speakers or AC Decode devices.

Pin	Signal	Pin	Signal
1	SPDIF	2	+5VA
3	KEY	4	GND

SPK1: Speaker Header

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

<i>Pin</i>	<i>Signal</i>	<i>Pin</i>	<i>Signal</i>
1	SPKR	2	NC
3	GND	4	+5V

IR1: Infrared Header

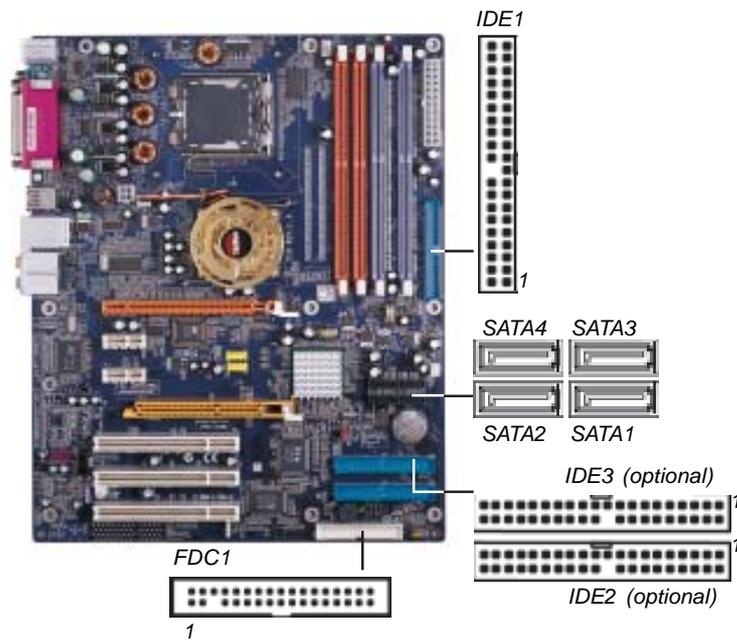
The infrared port allows the wireless exchange of information between your computer and similarly equipped devices such as printers, laptops, Personal Digital Assistants (PDAs), and other computers.

<i>Pin</i>	<i>Signal</i>	<i>Pin</i>	<i>Signal</i>
1	NC	2	KEY
3	+5V	4	GND
5	IRTX	6	IRRX

1. Locate the infrared port-**IR1** header on the motherboard.
2. If you are adding an infrared port, connect the ribbon cable from the port to the IR1 header 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 motherboard 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 motherboard ships with an IDE cable that can support one or two IDE devices. **IDE1** can support up to 2 IDE devices, data transporting in ATA-66/100 mode.

IDE2 and **IDE3 (optional)** can be used to set up a disk array configuration, RAID 0,1,0+1 function, compatible with ATA-66/100/133 specification and supporting up to 4 IDE drives.

This motherboard has 3 IDE channel interfaces. You may also set up the IDE hard disks with the SATA hard disks on the SATA RAID connectors to create a multi-RAID configuration.

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 MB/s**. 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 motherboard.

Motherboard User's Guide

On the motherboard, locate the Serial ATA connectors **SATA1-4**, 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.

Analog Audio Input Header

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

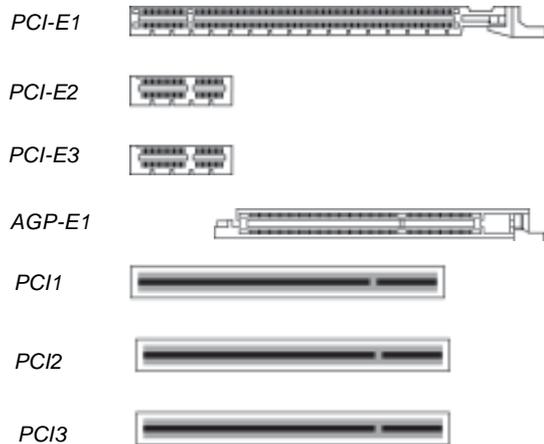
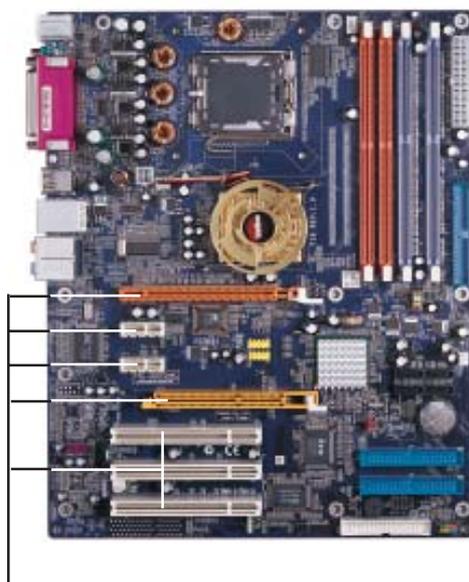


When you first start up your system, the BIOS should automatically detect your CD-ROM/DVD drive. If it doesn't, enter the Setup Utility and configure the CD-ROM/DVD drive that you have installed. On the motherboard, locate the 4-pin header **CD1**.

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

Expansion Slots

This motherboard has one AGPro, one PCI-Express x16, two PCI-Express x1 and three 32-bit PCI slots.



Motherboard User's Guide

Follow the steps below to install an AGPro/PCI/PCI Express expansion card.

1. Locate the AGPro, PCI and PCI Express slots on the motherboard.
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.



AGPro Slot (AGP-E1)

The AGPro slot is used to install AGP graphics card that emulates the AGP function. In order to get better performance and compatibility on our special design AGPro slot, we recommend you should use one of the AGP graphics cards that have been tested by our company. Please refer to the “VGA Card Support List for AGPro Slot” on page 27.

PCI-E1 Slot(PCI-Express x16)/PCI-E2/E3(PCI-Express x1) Slots

The PCI Express slots are used to install external PCI Express graphics cards.

PCI1-3 Slots

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

VGA Card Support List for AGPro Slot:

VENDER	AGP 4X/8X	CHIPSET	MANUFACTURE		
ATI	4X	ATI Radeon 8500	ATI RADEON 8500 DDR		
		ATI Radeon 9000 PRO	Gigabyte GV-R9000 PRO		
	8x	ATI Radeon 9200	ECS R9200LE / 64M		
		ATI Radeon 9200	ECS R9200LE / 128M		
		ATI Radeon 9500	Power Color ATI 9500		
		ATI Radeon 9700 PRO	Power Color ATI 9700Pro		
		ATI Radeon 9800 PRO	MIC Radeon9800Pro/128M		
ATI Radeon 9800 XT	ECS 9800XT				
NVIDIA	4X	TNT2 M64	Win Fast S325		
		GeForce 256	Creative CT6940		
		GeForce 256 DDR	ASUS V6800		
		GeForce 2 GTS	Gigabyte GA-66032D		
		GeForce 2 GTS	ELSA GLADIAC GTS DDR PRO/64M		
		GeForce 2 MX	ASUS AGP-V7100		
		GeForce 2 MX	ELSA Gladiac MX		
		GeForce 2 MX	Triplex Mohock		
		GeForce 2 Ultra	WINFAST GeForce 2 Ultra		
		GeForce 2 MX200	Triplex-MX2200		
		GeForce 2 MX400	ELSA GLADIAC 511		
		GeForce 3	ELSA GLADIAC 920		
		GeForce 3	ASUS V8200		
		GeForce 3 Ti500	ASUS V8200		
		GeForce 4 MX420	WINFAST A170TH SDR		
		GeForce 4 MX440	ASUS V8170DDR		
	GeForce 4 Ti4200	WINFAST A250TD/64M			
	GeForce 4 Ti4400	ELSA 725DVI			
	GeForce 4 Ti4600	ELSA 925ViVo			
	8X	GeForce 4 Ti4200	ASUS V9280TD		
		GeForce 4 MX440	ASUS V9180VS		
		GeForce 4 MX4000	WinFast A180B		
		GeForce FX5200	ASUS V9520 Magic		
		GeForce FX5600	ELSA FX 732		
		GeForce FX5700	ELSA FX 736		
		GeForce FX5800	Triplex FX5800TD		
		GeForce FX5900Ultra	MSI FX5900Ultra		
		GeForce FX5950Ultra	ELSA FX938Ultra		
		SIS	8X	Xabre 200	ECS AG200E4-D32
				Xabre 200	ECS AG200T8_D64
Xabre 400				ECS AG400T8_D64	
Xabre 400				ECS-MM AG400T8_D64	

Note: Please visit our website for the updated AGP graphics card support list : [Http://www.pcchips.com/support/FAQ](http://www.pcchips.com/support/FAQ)

Dual Monitor

In order to enable “Dual Monitor” Function, users must have “**Two Monitors**”, “**Two Graphics Devices**” (AGP graphics cards for AGPro slot, PCI Express graphics cards for PCI-Express slots, PCI interface expansion cards for PCI slots) and Windows 2000 or Windows XP that supports the Dual Monitor Function.

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 motherboard, 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 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.

<i>CMOS SETUP UTILITY – Copyright (C) 1985-2004, American Megatrends, Inc</i>	
<i>■Standard CMOS Setup ■Advanced Setup ■Features Setup ■Power Management Setup ■PCI / Plug and Play Setup ■BIOS Security Features</i>	<i>■CPU PnP Setup ■Hardware Monitor Load Best Performance Settings Load Optimal Defaults Save Changes and Exit Discard Changes and Exit</i>
<i>←→ : Move +/-: Value Enter: Select F1: General Help Esc: Exit F8: Best Performance Settings F9: Optimized Settings F10: Save</i>	
<i>Standards COMOS setup for changing time, date, hard disk type, etc. V02.56 (C) 1985-2004, American Megatrends, Inc.</i>	

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. Press +/- to modify the selected field's values.

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 + and - keys to cycle through alternative values of that item. The other options on the main menu page lead to dialog boxes requiring your answer OK or Cancel by selecting **[OK]** or **[Cancel]**.

If you have already changed the setup utility, press **F10** to save those changes and exit the utility. Press **F1** to display a screen describing all key functions. Press **F9** to install the setup utility with a set of default values. Press **F8** to install the setup utility with a set of high-performance values.

BootUp Num-Lock

This item determines if the Num Lock key is active or inactive at system start-up time.

Configure DRAM Timing by

This item allows you to enable or disable the DRAM timing defined by the Serial Presence Detect electrical.

Hyper Threading Technology

You can set “Disabled” or “Enabled” to control HT CPU support in O.S. Set “Enabled” to test HT CPU function.

Max CUPID Value Limit

When this item is enabled, you can use Prescott CPU and LGA-775 CPU and there will be a normal NT4.0 installation; otherwise, the automatically restarting will occur while installing.

Memory Voltage

This item determines the DDR voltage adjustment.

PCI-E Voltage

This item determines the PCI Express voltage adjustment.

Auto Detect DIMM/PCI Clk

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

Spread Spectrum

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

AGP Aperture Size

This item defines the size of aperture if you use a graphics adapter.

Features Setup Page

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

<i>CMOS SETUP UTILITY – Copyright (C) 1985-2004, American Megatrends, Inc.</i>		
<i>Features Setup</i>		
		<i>Help Item</i>
<i>OnBoard Floppy Controller</i>	<i>Enabled</i>	
<i>Serial Port1 Address</i>	<i>3F8/IRQ4</i>	
<i>Onboard IR Port</i>	<i>Disabled</i>	<i>Allows BIOS to Enable or Disable Floppy Controller.</i>
<i>Parallel Port Address</i>	<i>378</i>	
<i>Parallel Port Mode</i>	<i>ECP</i>	
<i>ECP Mode DMA Channel</i>	<i>DMA3</i>	
<i>Parallel Port IRQ</i>	<i>IRQ7</i>	
<i>OnBoard PCI IDE Controller</i>	<i>Both</i>	
<i>ATA/IDE Configuration</i>	<i>Enhanced</i>	
<i>Onboard IDE RAID Controller</i>	<i>RAID</i>	
<i>Ethernet Device</i>	<i>Enabled</i>	
<i>Audio Device</i>	<i>Enabled</i>	
<i>Onboard USB Function</i>	<i>Enabled</i>	
<i>USB Function For DOS</i>	<i>Disabled</i>	

*←→ : Move Enter: Select +/-: Value F10: Save Esc: Exit
F1: General Help F9: Optimized Defaults*

OnBoard Floppy Controller

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

Serial Port1 Address

Use this item to enable or disable the onboard COM1 serial port, and to assign a port address.

Onboard IR Port

Use this item to enable or disable the onboard IR port function.

Parallel Port Address

Use this item to enable or disable the onboard Parallel port, and to assign a port address.

Parallel Port Mode (ECP)

Use this item to select the parallel port mode. You can select Normal (Standard Parallel Port), ECP (Extended Capabilities

Port), EPP (Enhanced Parallel Port), or BPP (Bi-Directional Parallel Port).

ECP Mode DMA Channel

Use this item to assign the DMA Channel under ECP Mode function.

Parallel Port IRQ

Use this item to assign IRQ to the parallel port.

OnBoard PCI IDE Controller

Use this item to enable or disable either or both of the onboard Primary and Secondary IDE channels.

ATA/IDE Configuration

The ATA/IDE option can be configured as either “Enhanced (default)” or “Compatible” in the BIOS configuration. Windows* 98SE and Windows* Me operating systems do not support Enhanced mode IDE/Serial ATA resources for more than four devices. If the ATA/IDE option is set to Enhanced mode, the operating installation will not be able to recognize the drive, and the installation will fail. Before installing 98SE or Me, the ATA/IDE configuration must be changed from Enhanced to Compatible mode

Onboard IDE RAID Controller

ITE8212 RAID ROM provides two modes, RAID Mode and ATA/ATAPI mode. You can use this item to select one of these two modes.

Note A: If you use IDE HDD to install your Operating System, you must manually change RAID ROM to “IDE Mode”, or Onboard IDE RAID Controller 133 ATA RAID to “ATA/ATAPI Mode”.

Note B: If you use IDE CD-ROM to install your Operating System, you must manually change Onboard IDE RAID Controller 133 ATA RAID to “ATA/ATAPI Mode”.

Ethernet Device

Use this item to enable or disable the onboard Ethernet.

Audio Device

Use this item to enable or disable the onboard audio.

Onboard USB Function

Enable this item if you plan to use the USB ports on this motherboard.

USB Function For DOS

Enable this item if you plan to use the USB ports on this motherboard in a DOS environment.

Power Management Setup Page

This page sets some parameters for system power management operation.

<i>CMOS SETUP UTILITY – Copyright (C) 1985-2004, American Megatrends, Inc.</i>		
<i>Power Management Setup</i>		
<i>ACPI Aware O/S</i>	<i>Yes</i>	<i>Help Item</i>
<i>Power Management</i>	<i>Enabled</i>	
<i>Suspend Mode</i>	<i>S1(POS)</i>	<i>Yes / No</i>
<i>Suspend Time Out</i>	<i>Disabled</i>	<i>ACPI support for</i>
<i>LAN/Ring Power On</i>	<i>Disabled</i>	<i>Operating System.</i>
<i>Resume on RTC Alarm</i>	<i>Disabled</i>	<i>Yes: If OS supports</i>
<i>Keyboard Power On</i>	<i>Disabled</i>	<i>ACPI.</i>
<i>Password</i>	<i>Press Enter</i>	<i>No: If OS does not</i>
		<i>support ACPI.</i>

*↑↓←→ : Move Enter: Select +/-: Value F10: Save Esc: Exit
F1: General Help F9: Optimized 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 this item below to

set the power management operation. Both APM and ACPI are supported.

Suspend Mode

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

Suspend Time Out

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.

LAN/Ring Power On

The system can be turned off with a software command. If you enable this item, the system can automatically resume if there is an incoming call on the Modem/Ring, or traffic on the network adapter. You must use an ATX power supply in order to use this feature.

Resume on RTC Alarm

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.

Keyboard Power On

If you enable this item, the system can automatically resume by pressing any keys, power key, or typing in the password on the keyboard. You must use an ATX power supply in order to use this feature.

Password

When Keyboard Power On is set to "Password", this item is available and users can enter the password.

CPU PnP Setup Page

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

<i>CMOS SETUP UTILITY - Copyright (C) 1985-2004, American Megatrends, Inc.</i>		
<i>CPU PnP Setup</i>		
<i>Manufacturer:</i>	<i>Intel</i>	<i>Help Item</i>
<i>Ratio Status</i>	<i>Locked</i>	
<i>Ratio Actual Value:</i>	<i>14</i>	
<i>Ratio CMOS Setting:</i>	<i>14</i>	
<i>DRAM Frequency</i>	<i>Auto</i>	
<i>CPU Frequency</i>	<i>200MHz</i>	
<i>CPU Over-clocking Func.</i>	<i>Disabled</i>	
<i>↑↓←→ : Move Enter: Select +/-: Value F10: Save Esc: Exit</i>		
<i>F1: General Help F9: Optimized Defaults</i>		

Manufacturer/Ratio Status/ Ratio Actual Value

These items show the brand, the Locked/ Unlocked ratio status, and the actual ratio of the CPU installed in your system.

Ratio CMOS Setting

This item selects the ratio of the CPU installed in your system.

DRAM Frequency

This item shows the frequency of the DRAM in your system.

CPU Frequency

This item shows the frequency of the CPU installed in your system.

CPU Over-clocking Func.

This item decides the CPU over-clocking function 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.

Hardware Monitor Page

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

CMOS SETUP UTILITY - Copyright (C) 1985-2004, American Megatrends, Inc. Hardware Monitor Setup	
-- System Hardware Monitor --	Help Item
Vcore	: 1.363 V
Vlvd	: 1.677 V
VCC3V	: 3.241 V
Vdimm	: 1.806 V
CPU FAN Speed	: 2463 RPM
NB FAN Speed	: 5192 RPM
Chassis FAN Speed	: 0 RPM
CPU Temperature	: 47°C/116°F
System Temperature	: 45°C/113°F
← → : Move Enter: Select +/-: Value F10: Save Esc: Exit F1: General Help F9: Optimized Defaults	

CPU/System Temperature

These items display CPU and system temperature measurement.

FANs & Voltage Measurements

These items indicate cooling fan speeds in RPM and the various system voltage measurements.

Load Best Performance Settings

If you select this item and press **Enter** a dialog box appears. If you select **[OK]**, and then press **Enter**, the Setup Utility loads a set of best performance default values. These default values are quite demanding and **your system might malfunction or be unstable** if you are using slower memory chips or other low-performance components.

Load Optimal Defaults

If you select this item and press **Enter** a dialog box appears. If you select **[OK]**, and then press **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.

Save Changes and Exit

Highlight this item and press <Enter> to save the changes that you have made in the Setup Utility configuration. When the Save Changes and Exit dialog box appears, select **[OK]** to save and exit, or **[Cancel]** to return to the main menu.

Discard Changes and Exit

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 Discard Changes and Exit dialog box appears, select **[OK]** to discard changes and exit, or **[Cancel]** to return to the main menu.

Note: *If you have made settings that you do not want to save, use the "Discard Changes and Exit" item and select **[OK]** to discard any changes you have made.*

Chapter 4 Software & Applications

Introduction

This chapter describes the contents of the support CD-ROM that comes with the motherboard 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 2000/XP, it will automatically install all the drivers and utilities for your motherboard; 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.

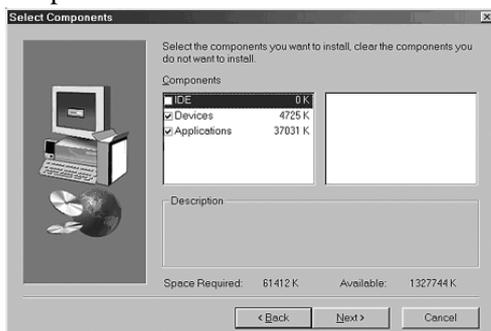
Auto-Installing under Windows 2000/XP

If you are under Windows 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.

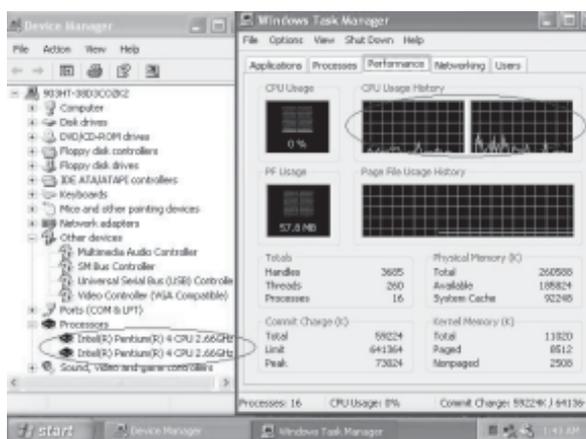
Bundled Software Installation

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.

Hyper-Threading CPU

While you are in Windows Task Manager, please push down ctrl+Alt Del keys. A dual CPU appears in the CPU Usage History&Device Manager under WinXP.



Note: Hyper-Threading Function only works under WINXP Operating System; therefore, disable it under other Operating System.