

Preface

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Version 1.1

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Federal Communications Commission (FCC)

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

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

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

Declaration of Conformity

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

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

Canadian Department of Communications

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

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

About the Manual

The manual consists of the following:

Chapter 1 Introducing the Mainboard	Describes features of the mainboard, and provides a shipping checklist. Go to ⇒ page 1
Chapter 2 Installing the Mainboard	Describes installation of mainboard components. Go to ⇒ page 7
Chapter 3 Using BIOS	Provides information on using the BIOS Setup Utility. Go to ⇒ page 25
Chapter 4 Using the Mainboard Software	Describes the mainboard software. Go to ⇒ page 45

Features and Packing List Translations

Liste de contrôle

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

Éléments standards

- Une carte mère
- Un câble plat pour lecteur de disquette
- Un câble plat pour lecteur IDE
- Un CD d'installation automatique pour le logiciel
- Module de rétention
- Ce manuel utilisateur

Caractéristiques

Processeur	<p>La carte mère S845D1 utilise un Socket mPGA478 présentant les caractéristiques suivantes:</p> <ul style="list-style-type: none">• Reçoit un CPU Intel Pentium 4 478 broches• Supporte un bus système (FSB) de 400/533 MHz (amélioré)• Supporte une bande passante de bus de données de 3.2 Go/s
Chipset	<p>Les chipsets novateurs Intel i82845 (MCH) et 82801BA (ICH2) sont basés sur une architecture novatrice et dimensionnable avec une fiabilité et des performances prouvées. Quelques-unes des caractéristiques avancées des chipsets sont:</p> <ul style="list-style-type: none">• Contrôleur d'interface d'hôte supportant la fréquence de bus frontale (système) de 400 MHz• Supporte des dispositifs SDRAM DDR de 266 MHz• Supporte un maximum de 2 DIMM Double Face (équipée de 4 rangées) avec DDR266 sans mémoire tampon (avec ou sans ECC).• Supporte une bande passante de mémoire maximum de 2,1 Go/s avec DDR266.• Le contrôleur AGP est conforme AGP 2.0 et supporte le Protocole Fast Write 2x/4x (1.5V seulement)• Contrôleur PCI IDE supportant la gestion de bus PCI, modes PIO 0~4, et UDMA 33/66/100• Deux contrôleurs USB doublent la bande passante à 24 Mbps à travers quatre ports• AC 97 audio intégré supportant un contour sonore complet avec jusqu'à six canaux <p>Support de fonctions de touches supplémentaires pour une liaison AC 97 pour audio et modem, surveillance matérielle, et gestion d'alimentation ACPI/OnNow.</p>
Mémoire	<ul style="list-style-type: none">• Support de module mémoire DDR SDRAM jusqu'à 200/266/333 MHz (amélioré)• Peut recevoir deux logements sans mémoire tampon en 2.5V de 184 broches.

	<ul style="list-style-type: none"> Chaque logement supporte jusqu'à 1 Go avec une capacité maximum totale de 2 Go.
AGP	<p>Le S845D1 inclus un logement 4xAGP qui offre quatre fois la bande passante des spécifications AGP d'origine. La technologie AGP offre une connexion directe entre le sous-système graphique et le processeur de sorte que les graphiques n'ont pas à entrer en concurrence avec d'autres périphériques pour le temps d'utilisation du processeur sur le bus PCI.</p>
Audio	<ul style="list-style-type: none"> Conforme au codec AC'97 Support des haut-parleurs 4.1/5.1, audio positionnelle C3DX en mode haut-parleur 4/6 canaux DAC 6 canaux pour usage de canal AC3® 5.1 Interface audio numérique professionnelle supportant l'Entrée et Sortie SPDIF 24 bits (format 44.1K et 48K) Compatible avec legacy audio SBPRO™
USB 2.0 (optionnel)	<p>Le Contrôleur USB 2.0 VIA VT6202 PCI intégré est conforme aux Spécifications de Bus Série Universel Révision 2.0.</p> <p>Les connecteurs USB 1.1 et autres câbles pleine vitesse peuvent supporter la vitesse plus élevée de USB 2.0 sans modification.</p> <p>Le chipset a les caractéristiques USB avancées suivantes :</p> <ul style="list-style-type: none"> Fonction multi-PCI intégrée dans une puce unique comprenant deux Contrôleurs d'hôte UHCI pour transactions de données à vitesse faible/pleine et un contrôleur d'hôte EHCI pour transactions de données à haute vitesse Quatre ports en aval, chaque port offrant un support total pour les transferts à vitesses faible/pleine/haute Support de fonction d'éveil de périphérique YSB Support de fonction héritée Conforme aux Spécifications PCI Révision 2.2 Interface de Gestion d'Alimentation de Bus PCI conforme Révision 1.1 Alimentation multiple 3.3V/2.5V et suspension d'alimentation 3.3V pour fonction d'éveil
Options d'Extensions	<p>La carte mère est livrée avec les options d'extensions suivantes:</p> <ul style="list-style-type: none"> Six logements PCI 32 bits Un logement 4xAGP (supporte 1.5V seulement) Un logement Communications Network Riser (CNR) Deux connecteurs IDE supportant quatre canaux IDE et une interface de lecteur de disquette <p>La S845D1 supporte la gestion de bus Ultra DMA avec des vitesses de transfert de 33/66/100 Mo/sec.</p>
E/S Intégrée	<p>La carte mère possède un jeu complet de ports d'E/S et de connecteurs:</p> <ul style="list-style-type: none"> Deux ports PS/2 pour souris et clavier Deux ports série Un port parallèle Un port MIDI/jeu Deux ports USB Prises audio pour microphone, ligne d'entrée et ligne de sortie

Microprogramme BIOS	<p>Cette carte mère utilise Award BIOS qui permet aux utilisateurs de configurer de nombreuses caractéristiques du système comprenant les suivantes:</p> <ul style="list-style-type: none">• Gestion d'alimentation• Alarmes de réveil• Paramètres de CPU et synchronisation de mémoire• Synchronisation de CPU et de mémoire <p>Le microprogramme peut aussi être utilisé pour définir les paramètres pour les vitesses d'horloges de différents processeurs.</p>
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Certaines spécifications matérielles et éléments de logiciels peuvent être modifiés sans avertissement.

Checkliste

Vergleichen Sie den Packungsinhalt des Motherboards mit der folgenden Checkliste:

Standard Items

- Ein Motherboard
- Ein Bandkabel für Diskettenlaufwerke
- Ein Bandkabel für IDE-Laufwerke
- Eine Auto-Installations-Support-CD
- Ein Kühlkörperhalter
- Dieses Benutzerhandbuch

Features

Prozessor	<p>Das S845D1-Mainboard verwendet einen mPGA 478-Pin Sockel mit den folgenden Eigenschaften:</p> <ul style="list-style-type: none">• Nimmt Intel Pentium P4 478-Pin CPU auf• Unterstützt einen Systembus (FSB) mit 400/533 (erweitert) MHz• Unterstützt 3.2GB/s Datenbus-Bandbreite
Chipsatz	<p>Intels innovative i82845 (MCH) und 82801BA (ICH2) Chipsätze basieren auf einer innovativen und skalierbaren Architektur mit bewiesener Zuverlässigkeit und Leistung. Einige der modernen Eigenschaften des Chipsatzes:</p> <ul style="list-style-type: none">• Host Interface Controller unterstützt 400 MHz Frontside-(System-)Busfrequenz• Unterstützt 266 MHz DDR SDRAM-Geräte• Unterstützt maximal 2 doppelseitige DIMMs (4 Reihen bestückt) mit ungepufferten DDR266 (mit oder ohne ECC).• Unterstützt eine maximale Speicherbandbreite von 2.1 GB/s mit DDR266.• AGP-Controller entspricht AGP 2.0 und unterstützt 2x/4x Fast Write Protocol (nur 1.5V)• PCI IDE-Controller unterstützt PCI Bus-Mastering, PIO-Modi 0~4 und UDMA 33/66/100• Zwei USB-Controller verdoppeln die Bandbreite auf 24 Mbps über vier Schnittstellen• Integriertes AC' 97 Audio unterstützt Full Surround-Sound mit bis zu sechs Kanälen <p>Zusätzliche Schlüsseleigenschaften umfassen Unterstützung ein AC 97-Link für Audio und Modem, Hardwareüberwachung und ACPI/OnNow-Energieverwaltung.</p>
Speicher	<ul style="list-style-type: none">• Unterstützt DDR bis zu 200/266/333 (erweitert) MHz DDR SDRAM-Speichermodul• Verfügt über zwei ungepufferte 2.5V 184-Pin Steckplätze• Jeder Steckplatz unterstützt bis zu 1 GB mit einer Gesamtkapazität von 2 GB

AGP	Das S845D1 enthält einen 4xAGP-Steckplatz mit der vierfachen Bandbreite der ursprünglichen AGP-Spezifikation. AGP-Technologie bietet eine direkte Verbindung zwischen dem Grafiks subsystem und dem Prozessor, so dass die Grafik nicht mit anderen Geräten auf dem PCI-Bus um Prozessorzeit wetteifern muss.
Audio	<ul style="list-style-type: none"> • Entspricht AC'97 Codec • Unterstützt 4.1/5.1 Lautsprecher, C3DX Positionsaudio im 4/6-Kanal-Lautsprechermodus • 6-Kanal DAC für AC3® 5.1-Kanal • Professionelles Digitalaudio-Interface unterstützt 24-bit SPDIF IN und OUT (44.1K und 48K Format) • Kompatibel mit Legacy-Audio SBPRO™
USB 2.0 (optional)	<p>Der eingebaute VIA VT6202 PCI USB 2.0 Controller entspricht der Universal Serial Bus Spezifikation Revision 2.0.</p> <p>Die USB 1.1-Anschlüsse und andere Vollgeschwindigkeitskabel unterstützen die höhere Geschwindigkeit von USB 2.0 ohne Änderungen.</p> <p>Der Chipsatz verfügt über die folgenden erweiterten USB-Merkmale:</p> <ul style="list-style-type: none"> • Integrierte Multi-PCI-Funktion in einem einzigen Chip, mit zwei UHCI-Host-Controllern für Signalübertragung bei voller und niedriger Geschwindigkeit sowie einem EHCI-Host-Controller für Hochgeschwindigkeits-Signalübertragung • Vier Downstream-Ports von denen jeder die vollständige Unterstützung für Niedrig-/Voll-/Hochgeschwindigkeits-Datenraten bietet • Unterstützt YSB-Gerät Wake-up-Funktion • Unterstützt Legacy-Funktion • Entspricht PCI Spezifikation Revision 2.2 • Entspricht PCI Bus Power Management Interface Revision 1.1 • 3.3V/2.5V Mehrfach-Stromversorgung und 3.3V Stromsuspendierung für Wake-up-Funktion
Erweiterungsoptionen	<p>Das Mainboard bietet die folgenden Erweiterungsoptionen:</p> <ul style="list-style-type: none"> • Sechs 32-bit PCI-Steckplätze • Einen 4xAGP Steckplatz (unterstützt nur 1.5V) • Einen Communications Network Riser- (CNR) Steckplatz • Zwei IDE-Stecker, die vier IDE-Kanäle und eine Schnittstelle für ein Floppydiskettenlaufwerk unterstützen <p>Das S845D1 unterstützt Ultra DMA Bus-Mastering mit Übertragungsraten von 33/66/100 MB/s.</p>
Integrierte I/O	<p>Das Mainboard verfügt über einen kompletten Satz von I/O-Schnittstellen und Anschlüssen:</p> <ul style="list-style-type: none"> • Zwei PS/2-Schnittstellen für Maus und Tastatur • Zwei serielle Schnittstellen • Eine parallele Schnittstelle • Eine MIDI/Game-Schnittstelle • Zwei USB-Schnittstellen • Audiobuchsen für Mikrofon, Line-In und Line-Out

BIOS Firmware	<p>Dieses Mainboard setzt das Award BIOS ein, mit dem der Anwender viele Systemeigenschaften selbst konfigurieren kann, einschließlich der folgenden:</p> <ul style="list-style-type: none">• Energieverwaltung• Wake-up Alarm• CPU-Parameter und Speichertiming• CPU- und Speichertiming <p>Mit der Firmware können auch die Parameter für verschiedene Prozessortaktgeschwindigkeiten eingestellt werden.</p>
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Certaines spécifications matérielles et éléments de logiciels peuvent être modifiés sans avertissement.

Lista di controllo

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

Articoli standard

- Una scheda madre
- Un cavo a nastro per il drive dischetti
- Un cavo a nastro IDE
- Un CD di supporto software auto-installante
- Modulo di ritenzione
- Il manuale dell'utente

Caratteristiche

Processore	<p>La scheda madre S845D1 è dotata di un socket mPGA478 che presenta le seguenti caratteristiche:</p> <ul style="list-style-type: none">• Possibilità di alloggiare la CPU Intel/P4 a 478 pin• Supporta un bus di sistema (FSB) 400/533 (enhanced) MHz• Supporta un'ampiezza di banda di trasmissione dati pari a 3.2GB/s
Chipset	<p>I chipset Intel i82845 (MCH) e 82801BA (ICH2) sono basati su un'architettura innovativa e facilmente espandibile dall'affidabilità e dalle prestazioni dimostrate. Ecco alcune delle caratteristiche dei chipset:</p> <ul style="list-style-type: none">• Il Controller host supporta una frequenza del bus di sistema pari a 400 MHz• Supporto per i banchi SDRAM DDR a 266 MHz• Supporto sino ad un massimo di due DIMM "DoubleSided" (4 slot utilizzati) con DDR266 unbuffered (con o senza ECC)• Supporto di una larghezza di banda massima di 2.1 GB/s con banchi SDRAM DDR a 266 MHz• Controller AGP conforme allo standard AGP 2.0 e in grado di supportare il protocollo Fast Write 2x/4x (solo a 1.5V)• Controller IDE/PCI in grado di supportare PCI bus mastering, modalità PIO 0~4 e UDMA 33/66/100• Presenza di due controller USB in grado di raddoppiare la larghezza di banda sino a 24 Mbps suddivisa su quattro porte• Scheda audio AC 97 integrata capace di fornire un sonoro con effetto Surround a 6 canali <p>Alcune ulteriori caratteristiche chiave includono il supporto per il collegamento AC 97 per audio e modem, per il monitoraggio hardware e per il Sistema Risparmio Energetico ACPI/OnNow.</p>
Memoria	<ul style="list-style-type: none">• Supporta DDR fino a 200/266/333 (enhanced) MHz moduli di memoria DDR SDRAM• È dotata di due slot 2.5V a 184 piedini senza memoria tampone• Ciascun slot supporta fino a 1 GB con capacità complessiva fino a 2 GB

AGP	La MB S845D1 possiede uno slot 4xAGP in grado di garantire una larghezza di banda 4 volte superiore rispetto a quella prevista dalle specifiche dello standard AGP originale. Questa tecnologia fornisce un collegamento diretto tra il sotto sistema grafico ed il processore, evitando così che la scheda non debba competere con altre per l'utilizzo del processore tramite il bus PCI.
AC' 97 Audio Codec	AC 97 Audio codec è compatibile con AC 97 2.1, e supporta 18-bit ADC (convertitore da analogico a digitale) e DAC (convertitore da digitale ad analogico) risoluzione equivalente a un canale full duplex a doppia trasmissione a 18 bit stereo con percentuali di campionamento indipendenti e variabili.
Audio	<ul style="list-style-type: none"> • Compatibile con il codec AC'97 • Supporto 4.1/5.1 Altoparlanti, audio "C3DX positional" nella modalità 4/6 altoparlanti • 6 canali DAC a scopo AC3@ 5.1ccanale • Interfaccia professionale digital audio con supporto 24-bit SPDIF IN e OUT (formato 44.1K e 48K) • Compatibile con audio precedente SBPRO™
USB 2.0 (opzionale)	<p>La scheda di controllo integrata VIA VT6202 PCI USB 2.0 è compatibile con le specifiche Universal Serial Bus revisione 2.0</p> <p>I connettori USB 1.1 e altri cavi a velocità completa possono supportare la maggiore velocità di USB 2.0 senza necessità di alcuna modifica.</p> <p>Il chipset è dotato delle seguenti funzioni USB avanzate:</p> <ul style="list-style-type: none"> • Funzione multi-PCI integrata in un chip singolo includendo due interfacce di controllo UHCI per le transazione dati a velocità piena/minima e un interfaccia di controllo EHCI per le transazioni dati ad alta velocità. • Quattro porte downstream, ciascuna porta fornisce pieno supporto per velocità bassa/piena/alta di trasferimento dati • Supporto per la funzione wake-up dispositivo YSB • Supporto per funzioni precedenti • Conforme specifiche PCI revisione 2.2 • Conforme revisione 1.1 interfaccia gestione alimentazione bus PCI • Alimentazione multitensione 3.3V/2.5V e sospensione alimentazione 3.3V per la funzione wake-up
Opzioni di espansione	<p>La scheda madre presenta le seguenti possibilità per l'espansione:</p> <ul style="list-style-type: none"> • Sei slot PCI a 32 bit • Uno slot AGP 4X (supporta solo 1.5V) • Due connettori IDE che supportano quattro canali IDE ed una interfaccia per il collegamento del lettore Floppy • Un chip LAN integrato (opzionale) ed una porta LAN presente sopra la porta USB <p>La scheda madre S845D1 supporta la gestione di canali Ultra DMA con transfert rate pari a 33/66/100 MB/sec.</p>

I/O integrati	<p>La scheda madre è dotata di un set completo di connettori e porte I/O:</p> <ul style="list-style-type: none">• Due porte PS/2 per mouse e tastiera• Due porte seriali• Una porta parallela• Una porta MIDI/gioco• Due porte USB• Jack audio per microfono e connettori ingresso/uscita Line
BIOS Firmware	<p>Questa scheda madre utilizza il BIOS Award che permette all'utente di configurare numerose caratteristiche del sistema tra cui le seguenti:</p> <ul style="list-style-type: none">• Risparmio energetico• Segnali Wake Up• Parametri della CPU e sincronizzazione memoria• Timing della memoria e della CPU <p>E' possibile inoltre impostare i parametri di velocità del clock del processore su diversi valori.</p>



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

Lista de Verificación

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

Ítems Estándares

- Una placa principal
- Un cable cinta del lector de diskette
- Un cable cinta de la unidad IDE
- Un CD de soporte en software de autoinstalación
- Módulo de retención
- Este manual del usuario

Características

Procesador	<p>El panel principal S845D1 usa un enchufe mPGA478 que tiene las siguientes características:</p> <ul style="list-style-type: none">• Acomoda la CPU Intel Pentium 4 478 pines• Soporta un bus de sistema (FSB) de 400/533 (mejorado) MHz• Soporta 3.2GB/s de amplitud de bus de datos
Chipset	<p>Los chipsets innovadores i82845 (MCH) y 82801BA (ICH2) de Intel se basan en una arquitectura innovadora y escalada con probada fidelidad y realización. Algunas de las características avanzadas del los chipsets son:</p> <ul style="list-style-type: none">• El controlador interface huesped soporta 400/533 MHz de frecuencia de bus (sistema) frontal• Soporta componentes 266 MHz DDR SDRAM• Soporta un máximo de 2 DIMMs dobles(4 filas pobladas) con DDR266 no reservados (w/ o w/saliente ECC)• Soporta un máximo de ancho de banda de memoria de 2.1 GB/s with DDR266.• El Controlador AGP es AGP 2.0 adaptable y soporta 2X/4X de protocolo de escritura rápida• El controlador PCI IDE soporta PCI maestro de bus, PIO modo 0~4, y UDMA 33/66/100• Dos controladores USB duplicando el ancho de banda hasta 24 Mbps a través de cuatro puertos• Audio AC 97 integrado soporta el completo efecto surround hasta en seis canales <p>Características importantes adicionales uncluyen el soporte para un enlace AC 97 para audio y modem, monitorización de hardware, y administración de potencia ACPI/OnNow.</p>
Memoria	<ul style="list-style-type: none">• Soporta DDR hasta 200/266/333 (mejorado) MHz DDR SDRAM módulo de memoria• Acomoda dos ranuras no reservadas 2.5V 184-pines• Cada ranura soporta hasta 1 GB con una capacidad máxima total de 2 GB
AGP	<p>El S845D1 incluye una ranura 4xAGP que provee cuatro veces el ancho de banda de la especificación AGP original. La tecnología AGP provee una conexión directa entre los sub sistemas de gráficos y el procesador para que los gráficos no tengan que competir por el tiempo del procesador con otros componentes en el bus PCI.</p>

Audio	<ul style="list-style-type: none"> • Conforme con AC'97 codec • Soporta altavoces 4.1/5.1, C3DX audio posicional en modo de altavoz 4/6 canales • 6 canales DAC para AC3@ 5.1canal objetivo • Interfaz de audio digital profesional soportando 24-bit SPDIF ENTRADA y SALIDA (formato 44.1K y 48K) • Compatible con audio antiguo SBPRO™
USB 2.0 (opcional)	<p>El controlador incorporado VIA VT6202 PCI USB 2.0 es conforme con la Especificación Bus Serie Universal Edición 2.0.</p> <p>Los conectores USB 1.1 y los otros cables de velocidad total pueden soportar velocidad más alta de USB 2.0 sin ningún cambio.</p> <p>El chipset tienen las siguientes características USB mejoradas:</p> <ul style="list-style-type: none"> • Función multi-PCI en un chip individual incluyendo dos Controladores de Receptor UHCI para velocidad baja/plena de transacciones de datos y un controlador de receptor EHCI para transacción de datos de alta velocidad • Cuatro puertos de corriente, cada Puerto provee apoyo total para índice de datos de velocidad baja/plena • Componente YSB apoyo de la función despertar • Apoyo de function antiagua • Especificación PCI Edición 2.2 adaptable • Bus PCI Interfaz de Administración de Energía Edición 1.1 adaptable • 3.3V/2.5V multi-suministro eléctrico y 3.3V suspension de energía para función despertar
Opciones de Expansión	<p>El panel principal viene con las siguientes opciones de expansión:</p> <ul style="list-style-type: none"> • Seis ranuras de 32 bits PCI • Una ranura 4xAGP (soporta solo 1.5V) • Una ranura Contrahuella de Red de Comunicaciones (CNR) • Dos conectores IDE que soportan cuatro canales IDE y una interfase de disquetera de disco flexible <p>El S845D1 soporta la dominación de bus Ultra DMA con velocidades de transferencia de 33/66/100 MB/seg.</p>
I/O Integrado	<p>El tablero principal tiene un set completo de puertos Entrada/Salida y Conectores:</p> <ul style="list-style-type: none"> • Dos puertos PS/2 para ratón y teclado • Dos puertos de serie • Un puerto paralelo • Un puerto MIDI de juego • Dos puertos USB • Audio jacks para micrófono, en línea y fuera de línea

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

チェックリスト

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

標準同封アイテム

- メインボード 1枚
- ディスクドライブ用リボンケーブル 1個
- IDEドライブ用リボンケーブル 1個
- 自動インストール機能対応ソフトウェアCD 1枚
- リテンションモジュール
- ユーザーマニュアル

製品特徴

プロセッサ	S845D1が搭載しているmPGA478には次の特徴があります： <ul style="list-style-type: none">• Intel Pentium 4 478ピンCPUをサポート• 400/533 (拡張) MHz のシステムバス (FSB) をサポート• 3.2 GB/秒 データバス帯域幅をサポート
チップセット	Intel社のi82845 (MCH) および82801BA (ICH2) チップセットは最新且つ拡張性ある構造を採用し、高い安定性及びパフォーマンスを兼ね備えたものです。以下の高機能が含まれます： <ul style="list-style-type: none">• ホストインターフェースコントローラが400 MHz フロントサイド (システム) バス周波数をサポート• 266 MHz DDR SDRAMデバイスをサポート• 非バッファDDR226 (ECCあり/なし) に対して最大2つの2面実装 (ダブルサイド) DIMM (4行搭載) をサポート• DDR226で最大メモリ帯域幅2.1 GB/秒まで対応• AGPコントローラはAGP 2.0に対応し、2x/4x高速書き込みプロトコル (1.5Vのみ) をサポート• PCI IDEコントローラがPCIバスマスタリング、PIOモード0~4、UDMA 33/66/100をサポート• 2つのUSBコントローラが4つのポートを通して帯域幅を24 Mbpsに倍増• 統合AC'97オーディオが最大6チャンネルの完全サラウンド効果をお届けします その他に、オーディオ及びモデム向けのAC 97リンク、ハードウェアのモニタ、及びAC PI/OnNow 電源管理に対応しています。
メモリ	<ul style="list-style-type: none">• 最大200/266/333 (拡張) MHz DDR SDRAMのDDRメモリモジュールに対応• 2つの非バッファ2.5V 184ピン仕様のスロットを収納• 各スロットが1 GBまで対応し、トータルで最大2 GBまでサポートし

AGP	S845D1には本来のAGP仕様の4倍の帯域幅を提供する4xAGPスロットが搭載されています。AGP技術はグラフィックサブシステムとプロセッサの間の直接通信を提供し、グラフィックがプロセッサ時間を取得のためにPCIバス上のその他のデバイスと競合することがなくなります。
オーディオ	<ul style="list-style-type: none"> • AC'97コーデックに準拠 • 4/6チャンネルスピーカーモードで4.1/5.1スピーカー、C3DXポジショナルオーディオをサポート • AC3® 5.1チャンネル用の6チャンネルDAC • プロフェッショナル デジタルオーディオ インターフェースが24ビットSPDIF IN及びOUTに対応 (44.1Kと48K形式) • レガシーオーディオSBPRO™ に準拠
USB 2.0 (オプション)	<p>内蔵VIA VT6202 PCI USB 2.0コントローラはユニバーサルシリアルバス仕様2.0に準拠。</p> <p>USB 1.1コネクタとその他のフルスピードケーブルは、そのままUSB 2.0の高速機能に対応することができます。</p> <p>チップセットには以下の拡張USB機能が搭載されています：</p> <ul style="list-style-type: none"> • 1つのチップで低速/フルデータ通信対応のUHCIホストコントローラ2つと高速データ通信対応のEHCIホストコントローラ1つを含む統合マルチPCI機能 • それぞれ低/フル/高速データレートに対応した4つのダウンストリームポート • YSBデバイスウェイクアップ機能対応 • レガシー機能対応 • PCI仕様2.2に準拠 • PCIバス電源管理インターフェース1.1に準拠 • ウェイクアップ機能用の3.3V/2.5Vマルチ電源と3.3V一時停止
拡張オプション	<p>メインボードには以下の拡張オプションが搭載されています：</p> <ul style="list-style-type: none"> • 32ビットPCIスロット x 6 • 4xAGPスロット x 1 (1.5V仕様のみ適用) • 通信ネットワークライザ (CNR) スロット x 1 • 4つのIDEチャンネルと1つのFDDインターフェースに対応したIDEコネクタ X 2 <p>S845D1は、33/66/100 MB/秒の転送速度でUltra DMAバスマスタリングに対応しています。</p>
統合の入出力ポート	<p>このメインボードにはフルセットのI/Oポートおよびコネクタが搭載されています：</p> <ul style="list-style-type: none"> • マウスおよびキーボード向けPS/2ポート x 2 • シリアルポート x 2 • パラレルポート x 2 • MIDI/ゲームポート x 1 • USBポート x 2 • マイクロフォン、Line In、Line Out向けのオーディオジャック

BIOS ファームウェア	メインボードは次のシステム機能を含めた設定をすることができるAward BIOSを採用しています： <ul style="list-style-type: none">● 電源管理● Wake-up警告● CPUパラメータ及びメモリのタイミング● CPU及びメモリのタイミング この他に、各種プロセッサクロック速度のパラメータを設定することができます。
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一部のハードウェア仕様及びソフトウェアアイテムは予告なく変更されることがあります。

품목 목록

다음 품목들이 메인보드 패키지에 모두 포함되어 있는지 확인해 보십시오:

표준 품목

- 메인 보드 1개
- 디스켓 드라이브 리본 케이블 1개
- IDE 드라이브 리본 케이블 1개
- 자동 설치 소프트웨어 지원 CD 1개
- 리텐션 모듈
- 본 사용자 설명서

기능

프로세서	S845D1 메인보드는 mPGA 478 핀 소켓을 사용하며 다음과 같은 특징을 지닌다: <ul style="list-style-type: none"> • Intel Pentium 4 478 핀 CPU 사용 • 400/533 (enhanced) MHz 시스템 버스 (FSB) 지원 • 3.2 GB/s 데이터 버스 대역폭 지원
칩셋	Intel의 혁신적인 i82845 (MCH) 및 82801BA (ICH2) 칩셋은 인정된 신뢰성과 성능을 지닌 혁신적이고 범용성을 지닌 아키텍처를 바탕으로 한다. 이 칩셋이 지닌 주요 고급 특징은 다음과 같다: <ul style="list-style-type: none"> • 호스트 인터페이스 컨트롤러는 400 MHz front side (system) bus 주파수를 지원 • 266 MHz DDR SDRAM 장치 지원 • 최대 2 개의 양면 DIMMs (4 줄) 지원 (unbuffered DDR266 (ECC 포함 또는 비포함)) • DDR266 과 함께 최대 메모리 대역폭 2.1 GB/s 지원 • AGP 컨트롤러는 AGP 2.0 호환, 2x/4x Fast Write 프로토콜 (1.5V 만) 지원 • PCI IDE 컨트롤러는 PCI bus mastering, PIO 모드 0~4 및 UDMA 33/66/100 지원 • 2개의 USB 컨트롤러가 4개의 포트를 통해 대역폭을 24 Mbps 까지 지원 • 최대 6 개 채널로 서라운드 사운드를 지원하는 통합 AC' 97 오디오 <p>추가적인 주요 기능으로 오디오와 모뎀을 위한 AC 97 링크와 하드웨어 모니터링 및 ACPI/OnNow 전원 관리 지원이 있다.</p>
메모리	<ul style="list-style-type: none"> • 최대 200/266/333 (enhanced) MHz DDR SDRAM 메모리 모듈의 DDR 지원 • 2개의 unbuffered 2.5V 184 핀 슬롯 사용 • 각 슬롯은 최대 1 GB 지원, 최대 총 용량은 2 GB
AGP	S845D1는 AGP 사양보다 4-배의 대역폭을 제공하는 4xAGP 슬롯이 포함되어 있다. AGP 기술은 그래픽 서브 시스템과 프로세서를 직접 연결함으로써 그래픽 프로세서 시간을 PCI 버스에 있는 다른 장치와 다룰 필요가 없다.

오디오	<ul style="list-style-type: none"> • AC' 97 codec 호환 • 4.1/5.1 스피커, 4/6 채널 스피커 모드의 C3DX 포지셔닝 오디오 • AC3@ 5.1채널을 위한6 채널 DAC • 24-bit SPDIF IN과 OUT (44.1K and 48K format) 을 지원하는 전문적인 디지털 오디오 인터페이스 • Legacy audio SBPRO™ 호환
USB 2.0 (선택 사항)	<p>내장 VIA VT6202 PCI USB 2.0 컨트롤러는 Universal Serial Bus 2.0 사양과 호환한다.</p> <p>USB 1.1 커넥터와 기타 전송 케이블은 다른 변경 없이 USB 2.0 의 고속을 지원할 수 있다.</p> <p>이 칩셋은 다음과 같은 고급의 USB 특징을 지닌 다:</p> <ul style="list-style-type: none"> • 2개의 UHCI 호스트 컨트롤러 (전속/저속 데이터 전송용) 과 1개의 EHCI 호스트 컨트롤러 (고속 데이터 전송용) 를 포함하는 단일 칩에 있는 통합된 multi-PCI 기능 • 4개의 다운스트림 포트, 각 포트는 저속/전속/고속 데이터 속도 지원을 제공한다. • YSB 장치 wake-up 기능 지원 • Legacy 기능 지원 • PCI 2.2 사양 호환 • PCI Bus 전원 관리 인터페이스 1.1 사양 호환 • 3.3V/2.5V multi-power supply 및 wake-up 기능을 위한 3.3V 중단 모드
확장 옵션	<p>이 메인보드에는 다음과 같은 확장 옵션이 있다:</p> <ul style="list-style-type: none"> • 32-bit PCI 슬롯 6 개 • 4xAGP 슬롯 (1.5V 만 지원) 1개 • Communications Network Riser (CNR) 슬롯 1개 • IDE 채널 4개와 플로피 디스크 드라이브 인터페이스 1 개를 지원하는 IDE 커넥터 2 개 <p>S845D1은 전송 속도 33/66/100 MB/sec의 Ultra DMA bus mastering 지원.</p>
통합 I/O	<p>이 메인보드에는 풀 셋트의 I/O 포트 및 커넥터가 있다:</p> <ul style="list-style-type: none"> • 마우스 및 키보드 용 PS/2 포트 2 개 • 시리얼 포트 2 개 • 패러럴 포트 1개 • MIDI/게임 포트 1개 • USB 포트 2개 • 마이크용 오디오 잭, line-in 과 line-out

BIOS Firmware	<p>이 메인보드는 Award BIOS 를 사용하여 사용자는 다음과 같은 시스템 기능을 구성할 수 있다:</p> <ul style="list-style-type: none">• 전원 관리• Wake-up 알람• CPU 파라미터 및 메모리 타이밍• CPU 및 메모리 타이밍 <p>Firmware는 다른 프로세서의 클럭 속도를 설정하는 데도 사용될 수 있다.</p>
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하드웨어 사양 및 소프트웨어 아이템은 사전 통보 없이 변경될 수 있음.

檢查表

請依下列檢查表，核對主機板包裝之內容：

標準項目

- 主機板一片
- 磁碟機排線一條
- IDE磁碟機排線一條
- 自動安裝CD一片
- 固定模組
- 本使用手冊

性能

處理器	S845D1主機板採用了具有下列功能之m PGA478針插槽： <ul style="list-style-type: none">• 支援 Intel Pentium 4 478-針處理器• 支援高達400/533 (增強) MHz之系統匯流排(FSB)• 支援高達3.2GB/s資料匯流排頻寬
晶片組	Intel公司新推出之i82845E (MCH) 及82801BA (ICH2) 晶片組採行了一種創新且具擴充性之架構，可提供您滿足之穩定性及效能。本晶片組的特點包含如下： <ul style="list-style-type: none">• 主介面控制器支援高達 400 MHz 之前側(系統)匯流排頻率• 支援266 MHz DDR SDRAM• 支援高達2個雙面DIMM (配置有4列)之無緩衝DDR266 (有/無ECC)• 支援高達4倍頻寬 2.1 GB/s DDR266• 本AGP 控制器符合 AGP 2.0規格，且支援 2x/4x 快速寫入協定(Fast Write Protocol) (僅適用1.5V規格)• PCI IDE 控制器支援 PCI 匯流排主控功能、PIO 模式 0~4、及 UDMA 33/66/100• 2個 USB 控制器將頻寬加大2倍，將24 Mbps分配給四個埠上• 整合AC 97 相容音效功能，支援高達6聲道之立體環場音效 其他重要功能包括：音效及數據機連接用的 AC 97 link、硬體監視功能、及ACPI/OnNow 電源管理功能。
記憶體	<ul style="list-style-type: none">• 支援DDR高達200/266/333 (增強)MHz 之DDR SDRAM記憶體模組• 配備有2個無緩衝2.5伏特184針插槽• 各插槽可支援高達1GB，合計可支援高達2GB
AGP	S845D1主機板配備有一個4xAGP插槽，能夠支援為舊型AGP規格4倍之頻寬。AGP技術，係使繪圖子系統與中央處理器直接連接，藉以使繪圖系統無需與PCI插槽上的設備，爭取處理器資源。
Audio	<ul style="list-style-type: none">• 相容於AC' 97音效解碼/編碼器• 支援4.1/4.5音響喇叭，C3DX 四/六聲道音效定位系統• 6聲道DAC 支援AC3® 5.1聲道需求• 專業數位音效介面支援24位元SPDIF 輸入與輸出(44.1K以及48K格式)• 相容於舊型音效SBPRO™

USB 2.0 (選購)	<p>內建之VIA VT6202 PCIUSB 2.0控制器相容於通用序列匯流排規格Revision 2.0</p> <p>USB 1.1 連結器和其他全速纜線不需更改即可支援較高速度之USB 2.0</p> <p>下列晶片組具備之USB先進功能:</p> <ul style="list-style-type: none"> • 內建單一晶片整合多PCI功能於一體，包含2個低/高速資料傳輸之UHCI主控制器和1個高速資料傳輸用之EHCI主控制器 • 4個下傳埠，每埠均可完全支援低/全/高速之資料傳輸速率 • 支援YSB裝置喚醒功能 • 支援舊型功能 • 相容於PCI規格Revision 2.2 • 相容於PCI匯流排電源管理介面Revision 1.1 • 具3.3V/2.5V之多種電源供應，3.3V待機電源可提供喚醒功能之用
擴充選項	<p>本主機板提供有如下擴充選項：</p> <ul style="list-style-type: none"> • 6個32位元PCI 插槽 • 1個 4xAGP 插槽 (僅適用1.5V規格) • 1個CNR 插槽 (Communications Network Riser) • 2個IDE連接器，可支援4個IDE通道及1個軟碟機介面 <p>S845D1主機板之Ultra DMA 匯流排主控功能可支援高達33/66/100 MB/秒之資料傳輸。</p>
已整合的輸出入介面	<p>本主機板完整地支援各種 I輸出入及連接器：</p> <ul style="list-style-type: none"> • 2個 PS/2 埠，分供滑鼠及鍵盤連接 • 1個串列埠 • 1個平行埠 • 1個樂器數位介面/遊戲搖桿埠 • 2個USB埠 • 麥克風、line-in及line-out音效端
BIOS 韌體	<p>本主機板使用了Award BIOS，使用者可藉此對包括下列之系統功能進行設定：</p> <ul style="list-style-type: none"> • 電源管理功能 • 喚醒警示功能 • CPU參數及記憶體頻率 • CPU及記憶體頻率 <p>本BIOS也可用以設定各種有關處理器時脈的參數。</p>



有些硬體規格以及軟體物件將視狀況適當調整，不予另行通知。

校验表

将本主板的组件内容与以下校验表进行对照：

标准组件

- 一只主板
- 一条磁盘驱动器带状电缆
- 一条 IDE 驱动器带状电缆
- 一张自动安装软件支持光盘
- 保持模块
- 本用户手册

特性

处理器	S845D1 主板使用一个 mPGA478 插座，此插座具有以下特点： <ul style="list-style-type: none">• 支持 Intel Pentium 4 478-pin CPU• 支持的系统总线 (FSB) 为 400/533 (增强) MHz• 支持 3.2 GB/s 的数据总线宽度
芯片组	Intel 最新推出的 i82845 (MCH) 和 82801BA (ICH2) 芯片组是基于一种新型的、可扩展的架构，能提供已经证明的可靠性和高性能。此芯片组具有以下一些高级功能： <ul style="list-style-type: none">• 主机接口控制器支持 400 MHz 的前端 (系统) 总线频率• 支持 266 MHz DDR SDRAM 设备• 最多支持 2 个带有无缓冲 DDR266 (w/ 或 w/out ECC) 的双面 DIMM (4 列封装)• 支持具有 DDR266 的最大存储带宽 2,1 GB/s• AGP 控制器兼容 AGP 2.0, 支持 2x/4x Fast Write Protocol (仅 1.5V)• PCI IDE 控制器支持 PCI 总线控制、PIO 模式 0~4 和 UDMA 33/66/100• 2 个 USB 控制器，可以将四个端口的带宽增加一倍达到 24 Mbps• 集成 AC 97 环绕立体声音效果功能，最多可支持到 6 个通道 其它主要功能包括支持用于音频和调制解调器的 AC 97 连接、硬件监测和 ACPI/OnNow 电源管理。
内存	<ul style="list-style-type: none">• 支持 200/266/333 (增强) MHz DDR SDRAM 内存模块• 2 个非缓冲 2.5V 184 pin 插槽• 每个插槽支持 1 GB, 总共最大可支持 2 GB
AGP	S845D1 包括一个 4xAGP 插槽，可提供普通 AGP 规格 4 倍的带宽。技术能提供图像子系统和处理器之间的直接连接，这样图像就不需要与 PCI 总线上的其它设备争用处理器时间。
音频	<ul style="list-style-type: none">• 兼容 AC' 97 codec• 4/6 扬声器模式下支持 4.1/5.1 扬声器和 C3DX 位置音频• 用于 AC3 5.1 通道的 6 通道 DAC• 专业级音频接口，支持 24-位 SPDIF IN 和 OUT (44.1K 和 48K 格式)• 兼容传统音频 SBPRO

USB 2.0 (可选)	<p>内建的VIA VT6202 PCI USB 2.0 控制器与通用串行总线规格 2.0 兼容。</p> <p>USB 1.1 接口和其它全速电缆可支持更高速度的 USB2.0，不需要做任何修改。</p> <p>此芯片组还具备以下增强 USB 功能：</p> <ul style="list-style-type: none"> • 在单芯片中集成了多种 PCI 功能，包括2个用于低速/全速数据传输的 UHCI 主控器 和1 个用于高速数据传输的EHCI 主控器 • 4 个下行端口，每个端口都完全支持低速/全速数据传输速率 • 支持 YSB 设备唤醒功能 • 支持传统功能 • 符合 PCI 2.2 规格 • 符合 1.1 版本的 PCI 总线电源管理接口规格 • 3.3V/2.5V 多电源和用于唤醒功能的 3.3V 悬挂电源
扩展选项	<p>此主板提供如下扩展选项：</p> <ul style="list-style-type: none"> • 6 个 32 位 PCI 扩展插槽 • 1 个 4xAGP 插槽（只支持 1.5V） • 一个通信网络转接（CNR）插槽 • 2 个 IDE 接口，可支持 4 个 IDE 通道；1 个软驱接口 <p>S845D1 主板支持 Ultra DMA 总线控制，传输速率可达 33/66/100 MB/sec。</p>
集成 I/O	<p>此主板具有完整的 I/O 端口和插孔：</p> <ul style="list-style-type: none"> • 2 个 PS/2 端口用于连接鼠标和键盘 • 2 个串口 • 1 个并口 • 1 个 MIDI/游戏端口 • 2 个 USB 端口 • 麦克风、线入和线出声音插孔
BIOS	<p>此主板使用 Award BIOS，可以让用户自己配置以下系统功能：</p> <ul style="list-style-type: none"> • 电源管理 • 唤醒报警 • CPU 参数和记忆定时 • CPU 和记忆定时 <p>还可用于设置不同处理器时钟速度的参数。</p>



部分硬件规格和软件项目若有更改恕不另行通知。

TABLE OF CONTENTS

Preface	i
Features and Packing List Translations	iii
CHAPTER 1	1
Introducing the Mainboard	1
<i>Introduction</i>	1
<i>Checklist</i>	1
Standard Items	1
<i>Features</i>	2
<i>Choosing a Computer Case</i>	4
<i>Mainboard Components</i>	5
CHAPTER 2	7
Installing the Mainboard	7
<i>Safety Precautions</i>	7
<i>Quick Guide</i>	7
<i>Installing the Mainboard in a Case</i>	8
<i>Checking Jumper Settings</i>	8
Setting Jumpers	8
Checking Jumper Settings	9
Jumper Settings	9
<i>Connecting Case Components</i>	10
Front Panel Connector	12
<i>Installing Hardware</i>	13
Installing the Processor	13
Installing Memory Modules	16
Installing a Hard Disk Drive/CD-ROM	17
Installing a Floppy Diskette Drive	18
Installing Add-on Cards	19
Connecting Optional Devices	21
<i>Connecting I/O Devices</i>	23
External Connector Color Coding	24
CHAPTER 3	25
Using BIOS	25
<i>About the Setup Utility</i>	25
The Standard Configuration	25
Entering the Setup Utility	26
Updating the BIOS	26
<i>Using BIOS</i>	27
Standard CMOS Features	28
Advanced BIOS Features	30

Advanced Chipset Features	32
Integrated Peripherals	34
Power Management Setup	37
PNP/PCI Configurations.....	40
PC Health Status.....	41
Frequency/Voltage Control.....	42
Load Fail-Safe Defaults Option.....	43
Load Optimized Defaults Option.....	43
Set Supervisor/User Password.....	43
Save & Exit Setup Option	44
Exit Without Saving	44

CHAPTER 4 **45**

Using the Mainboard Software	45
<i>About the Software CD-ROM</i>	45
<i>Auto-installing under Windows 98/ME/2000/XP</i>	45
Running Setup	46
<i>Manual Installation</i>	48
<i>Utility Software Reference</i>	48

Chapter 1

Introducing the Mainboard

Introduction

Congratulations on purchasing the S845D1 mainboard. The S845D1 mainboard is an ATX mainboard that uses a 4-layer printed circuit board and measures 304.8 mm x 220 mm. The mainboard features a mPGA478 Socket that accommodates Intel Pentium 4 Willamette/ Northwood processors supporting system speeds up to 400/533 MHz and data bus bandwidths up to 3.2 GB/s.

The mainboard comes with a full set of I/O features conveniently integrated on the rear I/O panel, including support for PS/2 keyboard and mouse connectors, two USB ports, a LAN connector, two high-speed serial port, an EPP/ECP parallel port, audio jacks for microphone, line-in, line-out and CD-in and a game port, as well as supporting Plug and Play.

The S845D1 incorporates the Intel i82845 (MCH) and the Intel 82801BA (ICH2) chipsets, which supports 2.5V DDR DRAM, 2X/4X AGP (1.5V only), and the AC' 97 codec.

Checklist

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

Standard Items

- One mainboard
- One diskette drive ribbon cable
- One IDE drive ribbon cable
- Software support CD
- Retention Module
- This user's manual

Features

Processor	<p>The S845D1 mainboard uses a mPGA478 Socket that has the following features:</p> <ul style="list-style-type: none"> • Accommodates Intel Pentium 4 478-pins CPU • Supports a system bus (FSB) of 400/533 (enhanced) MHz • Supports 3.2 GB/s data bus bandwidth
Chipset	<p>Intel's innovative i82845 (MCH) and 82801BA (ICH2) chipsets are based on an innovative and scalable architecture with proven reliability and performance. A few of the advanced features of the chipsets are:</p> <ul style="list-style-type: none"> • Host interface controller supports 400 MHz frontside (system) bus frequency • Supports 266 MHz DDR SDRAM devices • Supports a max of 2 Double-Sided DIMMs (4 rows populated) with unbuffered DDR266 (w/ or w/out ECC). • Supports a maximum memory bandwidth of 2.1 GB/s with DDR266 • AGP controller is AGP 2.0 compliant and supports 2x/4x Fast Write Protocol (1.5V only) • PCI IDE controller supports PCI bus mastering, PIO modes 0~4, and UDMA 33/66/100 • Two USB controllers double the bandwidth to 24 Mbps across four ports • Integrated AC'97 audio that supports full surround sound with up to six channels <p>Additional key features include support for an AC 97 link for audio and modem, hardware monitoring, and ACPI/OnNow power management.</p>
Memory	<ul style="list-style-type: none"> • Supports DDR up to 200/266/333 (enhanced) MHz DDR SDRAM memory module • Accommodates two unbuffered 2.5V 184-pin slots • Each slot supports up to 1 GB with a total maximum capacity of 2 GB
AGP	<p>The S845D1 includes a 4xAGP slot that provides four times the bandwidth of the original AGP specification. AGP technology provides a direct connection between the graphics sub-system and the processor so that the graphics do not have to compete for processor time with other devices on the PCI bus.</p>
Audio	<ul style="list-style-type: none"> • Compliant with AC'97 codec • Supports 4.1/5.1 speakers, C3DX positional audio in 4/6 channel speaker mode • 6 channel DAC for AC3@ 5.1channel purpose • Professional digital audio interface supporting 24-bit SPDIF IN and OUT (44.1K and 48K format) • Compatible with legacy audio SBPRO™
USB 2.0 (optional)	<p>The built-in VIA VT6202 PCI USB 2.0 Controller is compliant with Universal Serial Bus Specification Revision 2.0.</p> <p>The USB 1.1 connectors and other full speed cables can support the higher speed of USB 2.0 without any changes.</p> <p>The chipset has the following advanced USB features:</p>

	<ul style="list-style-type: none"> • Integrated multi-PCI function in a single chip including two UHCI host Controllers for low/full speed data transactions and one EHCI host controller for high-speed data transactions • Four downstream ports, each port providing full support for low/full/high speed data rates • YSB device wake-up function support • Legacy function support • PCI Specification Revision 2.2 compliant • PCI Bus Power Management Interface Revision 1.1 compliant • 3.3V/2.5V multi-power supply and 3.3V suspend power for wake-up function
Expansion Options	<p>The mainboard comes with the following expansion options:</p> <ul style="list-style-type: none"> • Six 32-bit PCI slots • One 4xAGP slot (support 1.5V only) • One Communications Network Riser (CNR) slot • Two IDE connectors which support four IDE channels and a floppy disk drive interface <p>The S845D1 supports Ultra DMA bus mastering with transfer rates of 33/66/100 MB/sec.</p>
Integrated I/O	<p>The mainboard has a full set of I/O ports and connectors:</p> <ul style="list-style-type: none"> • Two PS/2 ports for mouse and keyboard • Two serial ports • One parallel port • One MIDI/game port • Two USB ports • Audio jacks for microphone, line-in and line-out
BIOS Firmware	<p>This mainboard uses Award BIOS that enables users to configure many system features including the following:</p> <ul style="list-style-type: none"> • Power management • Wake-up alarms • CPU parameters and memory timing • CPU and memory timing <p>The firmware can also be used to set parameters for different processor clock speeds.</p>



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

Choosing a Computer Case

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

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

This mainboard has an ATX form factor of 304.8 mm x 220 mm. Choose a case that accommodates this form factor.

Mainboard Components

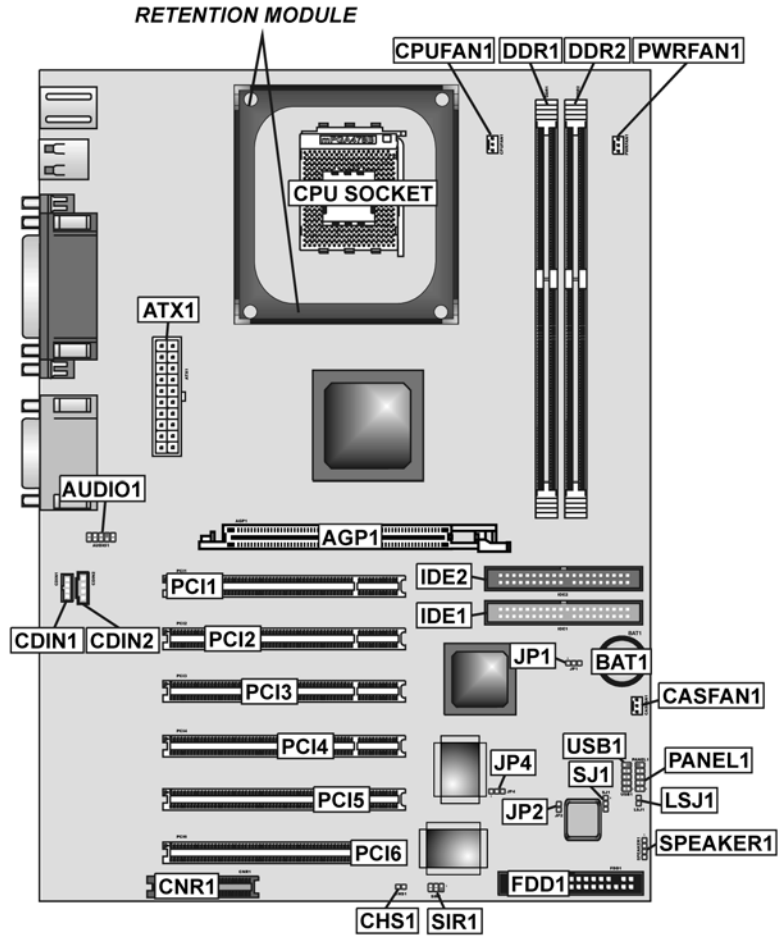


Table of Mainboard Components

Label	Component
AGP1	Accelerated Graphics Port (supports 1.5V 4x AGP card only)
ATX1	Standard 20-pin ATX power connector
AUDIO1	Mic/SpeakerOut header
BAT1	Three volt realtime clock battery
CASFAN1	Case fan connector
CDIN1	CD-in connector (Panasonic)
CDIN2	CD-in connector (Sony)
CHS1	Chassis Detect Intrusion
CPUFAN1	Cooling fan for CPU
CNR1	Communications Networking Riser slot
CPU Socket	CPU socket (mPGA478)
DIMM1 ~ DIMM2	Two 184-pin DDR sockets
FDD1	Floppy disk drive connector
IDE 1	Primary IDE channel
IDE 2	Secondary IDE channel
JP1	Clear CMOS jumper
JP2	BIOS protect jumper
JP4	Onboard USB jumper
LSJ1	Single color LED header (comply with OEM specs. only)
PANEL1	Front panel connectors for case switches and LEDs
PC11 ~ PC16	Six 32-bit add-on card slots
PWRFAN1	Power fan connector
SIR1	Serial IR port
SPEAKER1	Speaker connector
SJ1	Single color LED header
USB1	Front panel USB headers

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

Chapter 2

Installing the Mainboard

Safety Precautions

Follow these safety precautions when installing the mainboard:

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

Quick Guide

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

The following table provides a reference for installing specific components:

Locating Mainboard Components	Go to page 5
Installing the Mainboard in a Case	Go to page 8
Setting Jumpers	Go to page 8
Installing Case Components	Go to page 10
Installing the CPU	Go to page 13
Installing Memory	Go to page 16
Installing a HDD and CD-ROM Drive	Go to page 17
Installing a FDD	Go to page 18
Installing Add-on Cards	Go to page 19
Connecting Options	Go to page 21
Connecting Peripheral (I/O) Devices	Go to page 23

Installing the Mainboard in a Case

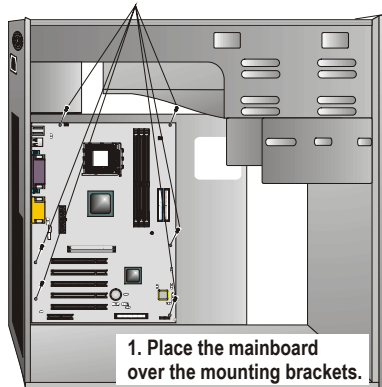
Refer to the following illustration and instructions for installing the mainboard in a case:

This illustration shows an example of a mainboard being installed in a tower-type case:

Note: Do not overtighten the screws as this can stress the mainboard.

Most system cases have mounting brackets installed in the case, which correspond to the holes in the mainboard. Place the mainboard over the mounting brackets and secure the mainboard onto the mounting brackets with screws.

2. Secure the mainboard with screws where appropriate.



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

Checking Jumper Settings

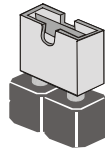
This section explains how to set jumpers for correct configuration of the mainboard.

Setting Jumpers

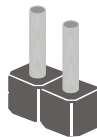
Use the mainboard jumpers to set system configuration options. Jumpers with more than one pin are numbered. When setting the jumpers, ensure that the jumper caps are placed on the correct pins.

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

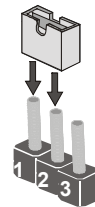
This illustration shows a 3-pin jumper. Pins 1 and 2 are **SHORT**.



Short

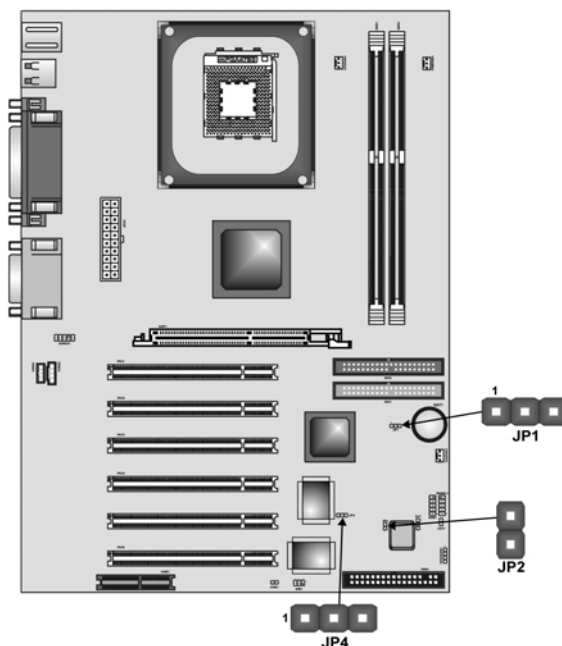


Open



Checking Jumper Settings

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



Jumper Settings

Jumper	Type	Description	Setting (default)
JP1	3-pin	Clear CMOS	1-2: <i>Normal</i> 2-3: <i>Clear</i>
JP2	2-pin	BIOS flash protection	Short: <i>Flash protect</i> <i>Open: Flash</i>
JP4	3-pin	Disable USB function	1-2: <i>Enabled</i> 2-3: <i>Disabled</i>

JP1 – 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.

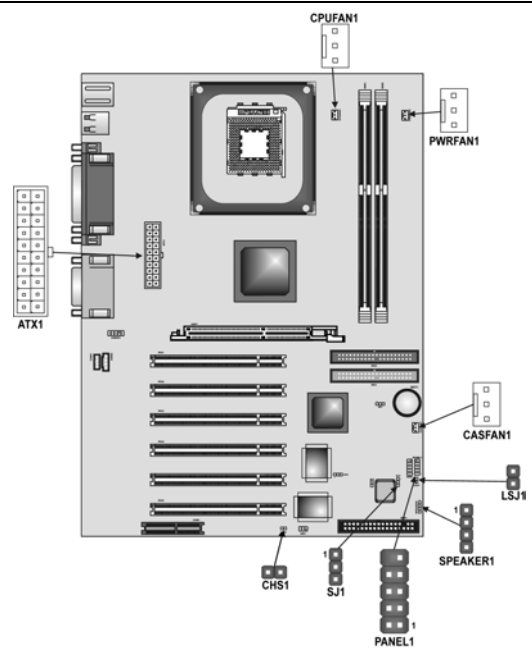
JP2 – Enables you to prevent the BIOS from being updated (flashed). Open the jumper if you are going to update your BIOS. After updating the BIOS, short the jumper to protect the BIOS from being flashed. For instructions on updating the BIOS refer to Chapter 3.

JP4 – Use this jumper to enable or disable the onboard USB function.

Connecting Case Components

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

1. Connect the case power supply connector to **ATX1**.
2. Connect the CPU cooling fan cable to **CPUFAN1**.
3. Connect the case cooling fan connector to **CASFAN1**.
4. Connect the auxiliary power supply cooling fan connector to **PWRFAN1**.
5. Connect the case speaker cable to **SPEAKER1**.
6. If your case has a case open alarm cable, connect it to **CHS1**.



7. Connect the case LED cable to **SJ1/LSJ1**.
8. Connect the case switches and indicator to **PANEL1**.

CPUFAN1/PWRFAN1/CASFAN1: FAN Power Connectors

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


ATX1: ATX 20-pin Power Connector

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

SJ1: Single-color LED header

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


ACPI LED function:

	S0	S1	S3	S4/S5
	Light	Blinking	Blinking	Dark

LSJ1: Single color LED header *(for OEM customers only)*

Pin	Signal Name
1	5VSB
2	SUSLED-Y

ACPI LED function:

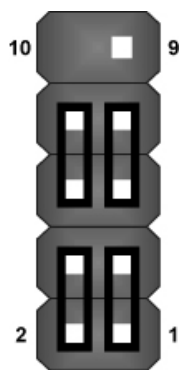
	S0	S1	S3	S4/S5
	Dark	Dark	Light	Dark

CHS1: Chassis Intrusion Detect

Pin 1-2	Function
Short	Case Open
Open	Case Close

Front Panel Connector

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



PANEL1

Pin	Function	Pin	Function
1	Hard disk LED (positive)	2	MSG LED [dual color or single color (+)]
3	Hard disk active LED (negative)	4	MSG LED [dual color or single color (-)]
5	Reset Switch	6	Power Switch
7	Reset Switch	8	Power Switch
9	Reserved	10	No pin

Hard Drive Activity LED

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

Power / Sleep / Message Waiting LED

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

Reset Switch

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

Power Switch

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

Installing Hardware

Installing the Processor

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

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

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

Before installing the Processor

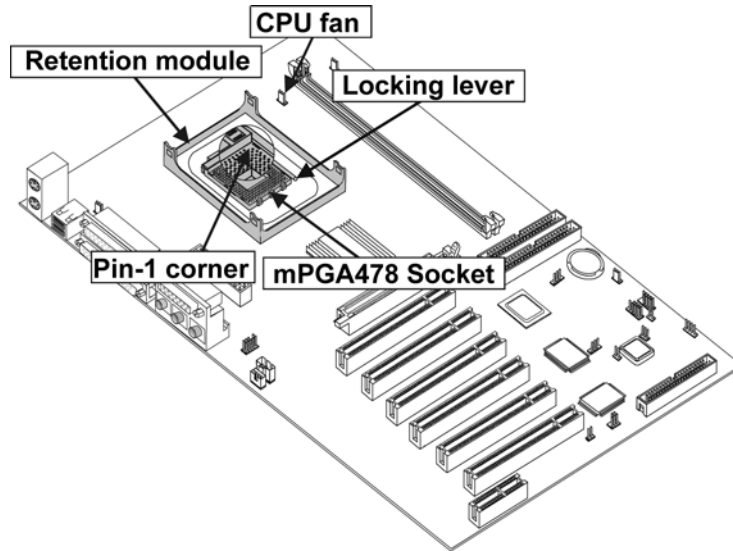
This mainboard automatically determines the CPU clock frequency and system bus frequency for the processor. You may be able to change these settings by making changes to jumpers on the mainboard, or changing the settings in the system Setup Utility. We strongly recommend that you do not overclock processors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

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

This mainboard has an mPGA478 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

The following illustration shows CPU installation components:

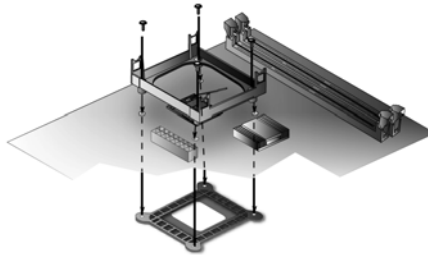


Note: The pin-1 corner is marked with an arrow ▼

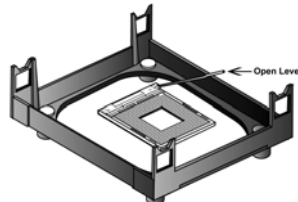
Follow these instructions to install the Retention Module and CPU:

1. Remove the existing retention module (if applicable).
2. Position the backplate against the underside of the mainboard, secure the 4 screws firmly on the retention module.

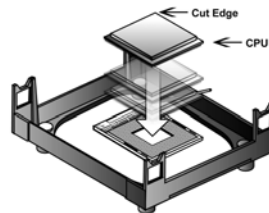
Note: Do not over tighten the screws.



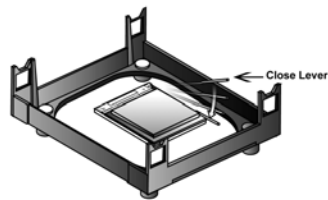
3. Install your CPU. Pull up the lever away from the socket and lift up to 90-degree angle.



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

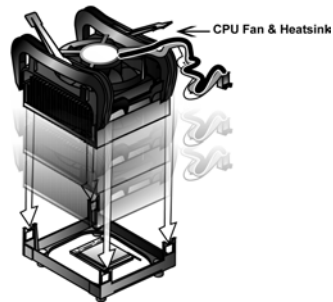


5. Press the lever down.



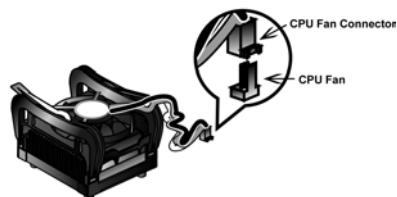
6. Apply thermal grease on top of the CPU.

7. Put the CPU Fan down on the retention module and snap the four retention legs of the cooling fan into place.



8. Flip the levers over to lock the heat sink in place.

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



Note: 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 mainboard accommodates 184-pin 2.5V unbuffered Double Data Rate (DDR) SDRAM memory modules. The memory chips must be standard or registered SDRAM (Synchronous Dynamic Random Access Memory).

The mainboard can accommodate two memory modules. You must install at least one module in any of the two slots. Each module can be installed with 64 MB to 512 MB of memory with a total capacity of 2GB. It also offers enhanced support for DDR333 memory modules. You can install DDR333 memory module that can run up at 166 MHz memory bus. But there is no guarantee that this will work properly with the mainboard.



Do not remove any memory module from its antistatic packaging until you are ready to install it on the mainboard. 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.

Installation Procedure

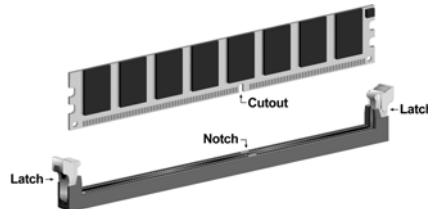
Refer to the following to install the memory modules.

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

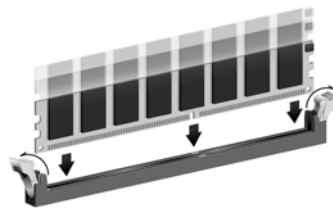


2. Push the latches on each side of the DIMM slot down.

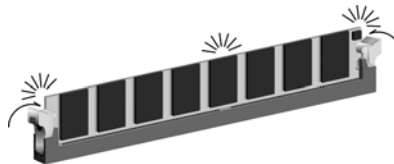
3. Align the memory module with the slot. The DIMM slots are keyed with notches and the DIMMs are keyed with cutouts so that they can only be installed correctly.



4. Check that the cutouts on the DIMM module edge connector match the notches in the DIMM slot.



5. Install the DIMM module into the slot and press it firmly down until it seats correctly. The slot latches are levered upwards and latch on to the edges of the DIMM.



6. Install any remaining DIMM modules.

Installing a Hard Disk Drive/CD-ROM

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

About IDE Devices

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

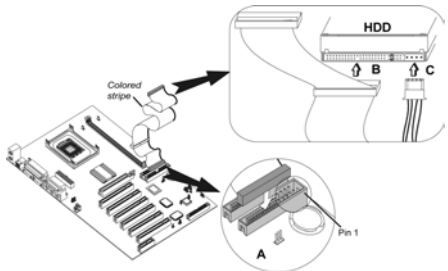
If you want to install more than two IDE devices, get a second IDE cable and you can add two more devices to the secondary IDE channel.

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

About UltraDMA

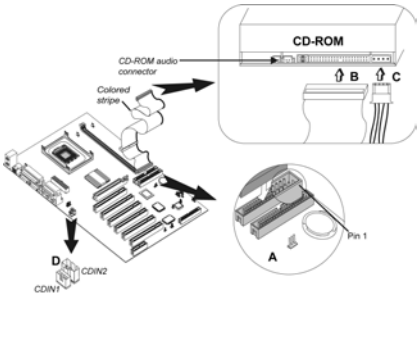
This mainboard supports UltraDMA 66/100. UDMA is a technology that accelerates the performance of devices in the IDE channel. To maximize performance, install IDE devices that support UDMA and use 80-pin IDE cables that support UDMA 66/100.

Installing a Hard Disk Drive

<p>1. Install the hard disk drive into the drive cage in your system case.</p> <p>2. Plug the IDE cable into IDE1 (A):</p> <p>Note: Ribbon cable connectors are usually keyed so that they can only be installed correctly on the device connector. If the connector is not keyed, make sure that you match the pin-1 side of the cable connector with the pin-1 side of the device connector. Each connector has the pin-1 side clearly marked. The pin-1 side of each ribbon cable is always marked with a colored stripe on the cable.</p>	
<p>3. Plug an IDE cable connector into the hard disk drive IDE connector (B). It doesn't matter which connector on the cable you use.</p>	
<p>4. Plug a power cable from the case power supply into the power connector on the hard disk drive (C).</p>	

When you first start up your system, the BIOS should automatically detect your hard disk drive. If it doesn't, enter the Setup Utility and use the IDE Hard Disk Auto Detect feature to configure the hard disk drive that you have installed. See IDE HDD Auto-Detection on page 29 for more information.

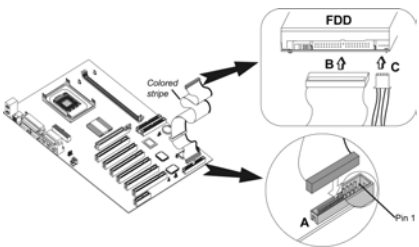
Installing a CD-ROM/DVD Drive

1. Install the CD-ROM/DVD drive into the drive cage in your system case.	
<p>2. Plug the IDE cable into IDE1 (A). If you have already installed an HDD, use the other connector on the IDE cable.</p> <p>Note: Ribbon cable connectors are usually keyed so that they can only be installed correctly on the device connector. If the connector is not keyed, make sure that you match the pin-1 side of the cable connector with the pin-1 side of the device connector. Each connector has the pin-1 side clearly marked. The pin-1 side of each ribbon cable is always marked with a colored stripe on the cable.</p>	
3. Plug an IDE cable connector into the CD-ROM/DVD drive IDE connector (B). It doesn't matter which connector on the cable you use.	
4. Plug a power cable from the case power supply into the power connector on the CD-ROM/DVD drive (C).	
5. Use the audio cable provided with the CD-ROM/DVD drive to connect to the mainboard CD-in connector CDIN1 or CDIN2 (D).	

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. See IDE Primary/Secondary Master/Slave (Auto) on page 29 for more information.

Installing a Floppy Diskette Drive

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

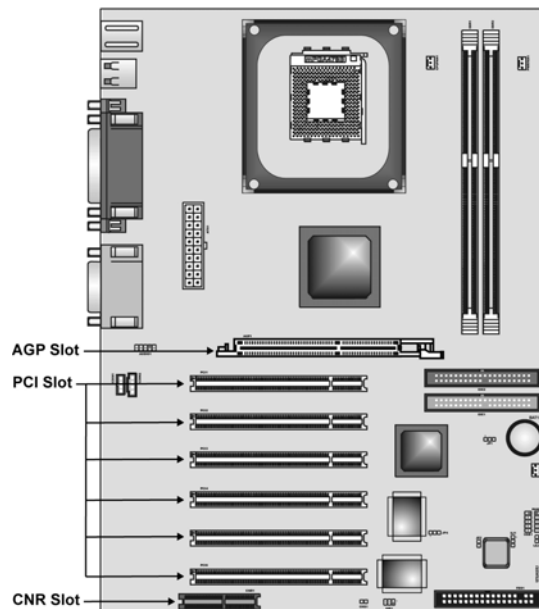
1. Install the FDD into the drive cage in your system case.	
<p>2. Plug the FDD cable into FLOPPY1 (A):</p> <p>Note: Ribbon cable connectors are usually keyed so that they can only be installed correctly on the device connector. If the connector is not keyed, make sure that you match the pin-1 side of the cable connector with the pin-1 side of the device connector. Each connector has the pin-1 side clearly marked. The pin-1 side of each ribbon cable is always marked with a colored stripe on the cable.</p>	
3. Plug the correct connector on the FDD cable for the 5.25-inch or 3.5-inch drive into the FDD connector (B).	

4. Plug a power cable from the case power supply into the power connector on the FDD (C).

When you first start up your system, go immediately to the Setup Utility to configure the floppy diskette drives that you have installed. See Standard CMOS Features on page 28 for more information.

Installing Add-on Cards

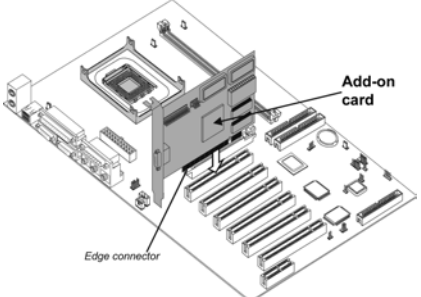
This mainboard has six 32-bit PCI (Peripheral Components Interconnect) expansion slots, one 4xAGP slot, and one Communications and Networking Riser (CNR) slot.



- PCI Slots** PCI slots are use to install expansion cards that have the 32-bit PCI interface.
-
- Note:** When VT6202 USB 2.0 is present on the mainboard, the PCI 6 will be automatically set to Slave PCI.
-
- 4xAGP Slot** The 4xAGP slot is used to install a graphics adapter that supports the 4xAGP specification and has a 4xAGP edge connector. The 4x AGP slot supports 1.5V 4x AGP and 2x AGP cards only.
-
- Note:** The above layout is for reference only. The AGP slot may be different from your mainboard. Please refer to actual shipment.
-
- CNR Slot** This slot is use to insert CNR cards with Modem and Audio functionality.

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

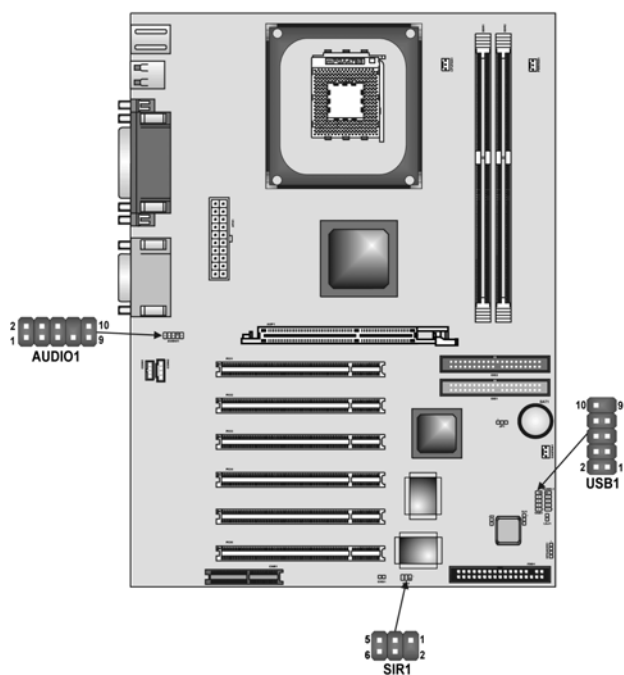
Follow these instructions to install an add-on card:

1. Remove a blanking plate from the system case corresponding to the slot you are going to use.	
2. Install the edge connector of the add-on card into the expansion slot. Ensure that the edge connector is correctly seated in the slot.	 <p>The diagram illustrates the installation of an add-on card into a motherboard's expansion slot. It shows a perspective view of the motherboard with several expansion slots. An add-on card is shown being inserted into one of the slots. A label 'Add-on card' points to the card, and another label 'Edge connector' points to the gold-plated contacts on the card's edge that are seated in the slot. A metal bracket is also visible on the side of the card, which is used to secure it to the system case.</p>
3. Secure the metal bracket of the card to the system case with a screw.	

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

Connecting Optional Devices

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



AUDIO1: Front Panel Audio header

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

Pin	Signal Name	Function
1	AUD_MIC	Front Panel Microphone input signal
2	AUD_GND	Ground used by Analog Audio Circuits
3	AUD_MIC_BIAS	Microphone Power
4	AUD_VCC	Filtered +5 V used by Analog Audio Circuits
5	AUD_FPOUT_R	Right Channel Audio signal to Front Panel
6	AUD_RET_R	Right Channel Audio signal to Return from Front Panel
7	HP_ON	Reserved for future use to control Headphone Amplifier
8	KEY	No Pin
9	AUD_FPOUT_L	Left Channel Audio signal to Front Panel

10	AUD_RET_L	Left Channel Audio signal Return from Front Panel
----	-----------	---

USB1: Front panel USB connectors

The mainboard has four USB ports installed on the rear edge I/O port array. Additionally, some computer cases have USB ports at the front of the case. If you have this kind of case, use auxiliary USB connectors USB1 to connect the front-mounted ports to the mainboard.

Pin	Signal Name	Function
1	VREG_FP_USBPWR0	Front Panel USB Power
2	VREG_FP_USBPWR0	Front Panel USB Power
3	USB_FP_P0-	USB Port 0 Negative Signal
4	USB_FP_P1-	USB Port 1 Negative Signal
5	USB_FP_P0+	USB Port 0 Positive Signal
6	USB_FP_P1+	USB Port 1 Positive Signal
7	GND	Ground
8	GND	Ground
9	KEY	No pin
10	USB_FP_OC0	Overcurrent signal

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

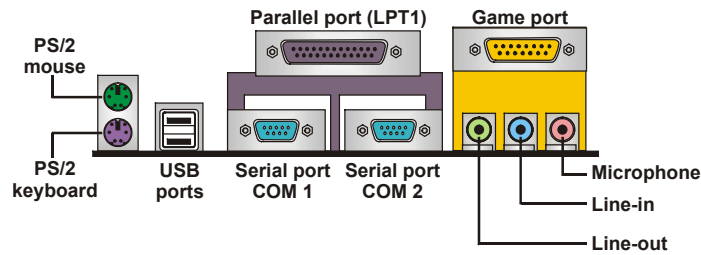
SIR1: Serial infrared port

The mainboard supports a Serial Infrared (SIR1) data port. Infrared ports allow 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 Name	Function
1	Not assigned	Not assigned
2	KEY	No pin
3	+5V	IR Power
4	GND	Ground
5	IRTX	IrDA serial output
6	IRRX	IrDA serial input

Connecting I/O Devices

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



- | | |
|----------------------|--|
| PS/2 Mouse | Use the upper PS/2 port to connect a PS/2 pointing device. |
| PS/2 Keyboard | Use the lower PS/2 port to connect a PS/2 keyboard. |
| USB Ports | Use the USB ports to connect USB devices. |
| LPT1 | Use LPT1 to connect printers or other parallel communications devices. |
| COM1/2 | Use the COM ports to connect serial devices such as mice or fax/modems. COM1 is identified by the system as COM1/3. COM2 is identified by the system as COM2/4. |
| Game Port | Use the game port to connect a joystick or a MIDI device. |
| Audio Ports | Use the three audio ports to connect audio devices. The left side jack is for a stereo line-out signal. The middle jack is for a stereo line-in signal. The right side jack is for a microphone. |
| PS/2 Mouse | Use the upper PS/2 port to connect a PS/2 pointing device. |

External Connector Color Coding

Many connectors now use standard colors as shown in the table below.

Connector	Color
Audio line-in	Light blue
Audio line-out	Lime
Digital monitor/flat panel	White
IEEE 1394	Grey
Microphone	Pink
MIDI/game	Gold
Parallel	Burgundy
PS/2-compatible keyboard	Purple
PS/2-compatible mouse	Green
Serial	Teal or Turquoise
Speaker out/subwoofer	Orange
Right-to-left speaker	Brown
USB	Black
SCSI, network, telephone, modem	None

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

Chapter 3

Using BIOS

About the Setup Utility

The computer uses the latest Award BIOS with support for Windows Plug and Play. The CMOS chip on the mainboard contains the ROM setup instructions for configuring the mainboard BIOS.

The BIOS (Basic Input and Output System) Setup Utility displays the system's configuration status and provides you with options to set system parameters. The parameters are stored in battery-backed-up CMOS RAM that saves this information when the power is turned off. When the system is turned back on, the system is configured with the values you stored in CMOS.

The BIOS Setup Utility enables you to configure:

- Hard drives, diskette drives, and peripherals
- Video display type and display options
- Password protection from unauthorized use
- Power management features

The settings made in the Setup Utility affect how the computer performs. Before using the Setup Utility, ensure that you understand the Setup Utility options.

This chapter provides explanations for Setup Utility options.

The Standard Configuration

A standard configuration has already been set in the Setup Utility. However, we recommend that you read this chapter in case you need to make any changes in the future.


This Setup Utility should be used:

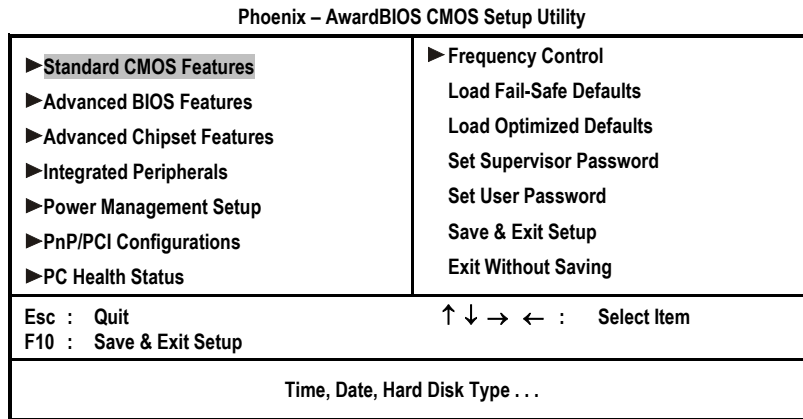
- when changing the system configuration
- when a configuration error is detected and you are prompted to make changes to the Setup Utility
- when trying to resolve IRQ conflicts
- when making changes to the Power Management configuration
- when changing the password or making other changes to the Security Setup

Entering the Setup Utility

When you power on the system, BIOS enters the Power-On Self Test (POST) routines. POST is a series of built-in diagnostics performed by the BIOS. After the POST routines are completed, the following message appears:

Press DEL to enter SETUP

Pressing the delete key  accesses the BIOS Setup Utility:



BIOS Navigation Keys

The BIOS navigation keys are listed below:

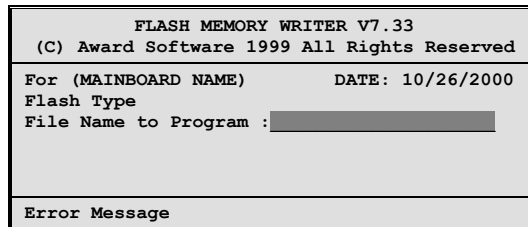
Key	Function
Esc	Exits the current menu
←↑↓→	Scrolls through the items on a menu
+/-/PU/PD	Modifies the selected field's values
F10	Saves the current configuration and exits setup
F1	Displays a screen that describes all key functions
F5	Loads previously saved values to CMOS
F6	Loads a minimum configuration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

Updating the BIOS

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

1. If your mainboard has a BIOS protection jumper, change the setting to allow BIOS flashing.

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



7. Type the filename of the new BIOS in the "File Name to Program" text box. Follow the onscreen directions to update the mainboard BIOS.
8. When the installation is complete, remove the floppy diskette from the diskette drive and restart your computer. If your mainboard has a Flash BIOS jumper, reset the jumper to protect the newly installed BIOS from being overwritten.

Using BIOS

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

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

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

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

Standard CMOS Features

This option displays basic information about your system.

Phoenix – AwardBIOS CMOS Setup Utility Standard CMOS Features

Date (mm:dd:yy)	Tue, July 11 2001	Item Help
Time (hh:mm:ss)	12 : 8 : 59	
▶ IDE Primary Master		Menu Level ▶
▶ IDE Primary Slave		Change the day, month, year and century.
▶ IDE Secondary Master		
▶ IDE Secondary Slave		
Drive A	[1.44M, 3.5 in.]	
Drive B	[None]	
Floppy 3 Mode Support	[Disabled]	
Video	[EGA/VGA]	
Halt On	[All Errors]	
Base Memory	640K	
Extended Memory	31744K	
Total Memory	32768K	

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

Date and Time

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

▶ IDE Devices (None)

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

Press <Enter> to display the IDE submenu:

Phoenix – AwardBIOS CMOS Setup Utility IDE Primary Master

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

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

IDE HDD Auto-Detection

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

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

IDE Primary/Secondary Master/Slave (Auto)

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

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

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

Access Mode

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

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

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

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

Floppy 3 Mode Support (Disabled)

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

Video (EGA/VGA)

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

Halt On (All Errors)

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

Base Memory, Extended Memory, and Total Memory

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

Advanced BIOS Features

This option defines advanced information about your system.

Phoenix – AwardBIOS CMOS Setup Utility
Advanced BIOS Features

		Item Help
CPU L1 & L2 Cache	[Enabled]	Menu Level ▶ Allows you to choose the VIRUS warning feature for IDE Hard Disk boot sector protection. If this function is enabled and someone attempts to write data into this area, BIOS will show a warning message on screen and alarm beep
Quick Power On Self Test	[Enabled]	
First Boot Device	[Floppy]	
Second Boot Device	[HDD-0]	
Third Boot Device	[CD-ROM]	
Boot Other Device	[Enabled]	
Swap Floppy Drive	[Disabled]	
Boot Up Floppy Seek	[Enabled]	
Boot Up NumLock Status	[On]	
Gate A20 Option	[Fast]	
Typematic Rate Setting	[Disabled]	
x Typematic Rate (Chars/Sec)	6	
x Typematic Delay (Msec)	250	
Security Option	[Setup]	
APIC Mode	[Enable]	
OS Select For DRAM > 64MB	[Non-OS2]	
HDD S.M.A.R.T Capability	[Disabled]	

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

CPU L1 & L2 Cache (Enabled)

All processors that can be installed in this mainboard use internal level 1 (L1) and external level 2 (L2) cache memory to improve performance. Leave this item at the default value for better performance.

Quick Power On Self Test (Enabled)

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

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

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

Boot Other Device (Enabled)

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

Swap Floppy Drive (Disabled)

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

Boot Up Floppy Seek (Enabled)

If this item is enabled, it checks the size of the floppy disk drives at start-up time. You don't need to enable this item unless you have a legacy diskette

drive with 360K capacity.

Boot Up NumLock Status (On)

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

Gate A20 Option (Fast)

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

Typematic Rate Setting (Disabled)

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

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

Security Option (Setup)

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

APIC Mode (Enable)

This option enables/disables APIC (Advanced Programmable Interrupt Controller) functionality. The APIC is an Intel chip that provides symmetric multiprocessing (SMP) for its Pentium systems.

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

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

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

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

Report No FDD For WIN 95 (Yes)

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

Small Logo (EPA) Show (Disabled)

Enables or disables the display of the EPA logo during boot.

Firmware Write Protect (Disabled)

Enables or disables the BIOS from being overwritten.

Advanced Chipset Features

These items define critical timing parameters of the mainboard. You should leave the items on this page at their default values unless you are very familiar with the technical specifications of your system hardware. If you change the values incorrectly, you may introduce fatal errors or recurring instability into your system.

Phoenix – AwardBIOS CMOS Setup Utility Advanced Chipset Features

		Item Help
DRAM Timing Selectable	[Manual]	
CAS Latency Time	[2.5]	
Active to Precharge Delay	[7]	Menu Level ►
DRAM RAS# to CAS# Delay	[3]	
DRAM RAS# Precharge	[3]	
DRAM Data Integrity Mode	[Non-ECC]	
Memory Frequency For	[Auto]	
System BIOS Cacheable	[Disabled]	
Video RAM Cacheable	[Disabled]	
Memory Hole At 15M-16M	[Disabled]	
Delayed Transaction	[Enabled]	
AGP Aperture Size (MB)	[128]	
Delay Prior to Thermal	[16 Min]	

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

DRAM Timing Selectable (Manual)

The value in this field depends on performance parameters of the installed memory chips (DRAM). Do not change the value from the factory setting unless you install new memory that has a different performance rating than the original DRAMs.

CAS Latency Time: (2.5)

When synchronous DRAM is installed, the number of clock cycles of CAS latency depends on the DRAM timing. Do not reset this field from the default value specified by the system designer.

Active to Precharge Delay (7)

The precharge time is the number of cycles it takes for DRAM to accumulate its charge before refresh.

DRAM RAS# to CAS# Delay (3)

This field lets you insert a timing delay between the CAS and RAS strobe signals, used when DRAM is written to, read from, or refreshed. Disabled gives faster performance; and Enabled gives more stable performance.

DRAM RAS# Precharge (3)

Select the number of CPU clocks allocated for the Row Address Strobe (RAS#) signal to accumulate its charge before the DRAM is refreshed. If insufficient time is allowed, refresh may be incomplete and data lost.

DRAM Data Integrity Mode (Non-ECC)

Select Parity or ECC (error-correcting code), according to the type of installed DRAM.

Memory Frequency For (Auto)

This item sets the main memory frequency. When you use an external graphics card, you can adjust this to enable the best performance for your system.

System BIOS Cacheable (Disabled)

This item allows the system to be cached in memory for faster execution. Enable this item for better performance.

Video RAM Cacheable (Disabled)

These items allow the video BIOS and RAM to be cached in memory for faster execution. Enable these items for better performance.

Memory Hole At 15M-16M (Disabled)

You can reserve this area of system memory for ISA adapter ROM. When this area is reserved, it cannot be cached. The user information of peripherals that need to use this area of system memory usually discusses their memory requirements.

Delayed Transaction (Enabled)

The chipset has an embedded 32-bit posted write buffer to support delayed transaction cycles. Enable this item to support compliance with PCI specification version 2.1.

AGP Aperture Size (128 MB)

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

Delay Prior to Thermal (16 Min)

Enables you to set the delay time before the CPU enters auto thermal mode.

Integrated Peripherals

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

Phoenix – AwardBIOS CMOS Setup Utility Integrated Peripherals

			Item Help
On-Chip Primary	PCI IDE	[Enabled]	
IDE Primary Master	PIO	[Auto]	
IDE Primary Slave	PIO	[Auto]	
IDE Primary Master	UDMA	[Auto]	
IDE Primary Slave	UDMA	[Auto]	
On-Chip Secondary	PCI IDE	[Enabled]	
IDE Secondary Master	PIO	[Auto]	
IDE Secondary Slave	PIO	[Auto]	
IDE Secondary Master	UDMA	[Auto]	
IDE Secondary Slave	UDMA	[Auto]	
USB Controller		[Enabled]	
USB Keyboard Support		[Disabled]	
USB Mouse Support		[Disabled]	
AC97 Audio		[Auto]	
AC97 Modem		[Auto]	
Init Display First		[PCI Slot]	
IDE HDD Block Mode		[Enabled]	
POWER ON Function		[Hot KEY]	

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

On-Chip Primary/Secondary PCI IDE (Enabled)

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

IDE Primary/Secondary Master/Slave PIO (Auto)

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

IDE Primary/Secondary Master/Slave UDMA (Auto)

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

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

USB Controller (Enabled)

Enable this item if you plan to use the Universal Serial Bus ports on this mainboard.

USB Keyboard Support (Disabled)

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

and Play.

USB Mouse Support (Disabled)

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

AC97 Audio (Auto)

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

AC97 Modem (Auto)

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

Init Display First (PCI Slot)

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

IDE HDD Block Mode (Enabled)

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

POWER ON Function (Hot KEY)

Enables you to set power on parameters. The default setting enables you to use a hot key to turn on the system.

KB Power ON Password (Enter)

When the POWER ON Function is set to Password, use this item to set the password.

Hot Key Power ON (Ctrl-F12)

When the POWER ON Function is set to Hot KEY, use this item to set the hot key combination that turns on the system.

Onboard FDC Controller (Enabled)

This option enables the onboard floppy disk drive controller.

Onboard Serial Port 1 (3F8/IRQ4)

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

Onboard Serial Port 2 (2F8/IRQ3)

This option is used to assign the I/O address and interrupt request (IRQ) for the onboard serial port 2 (COM2).

UART Mode Select (Normal)

This field is available if the Onboard Serial Port 2 field is set to any option but Disabled. UART Mode Select enables you to select the infrared communication protocol-Normal (default), IrDA, or ASKIR. IrDA is an infrared communication protocol with a maximum baud rate up to 115.2K bps. ASKIR

is Sharp's infrared communication protocol with a maximum baud rate up to 57.6K bps.

UR2 Duplex Mode (Half)

This field is available when UART 2 Mode is set to either ASKIR or IrDA. This item enables you to determine the infrared function of the onboard infrared chip. The options are Full and Half (default).

Full-duplex means that you can transmit and send information simultaneously. Half-duplex is the transmission of data in both directions, but only one direction at a time.

Onboard Parallel Port (378/IRQ7)

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

Parallel Port Mode (ECP)

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

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

ECP Mode Use DMA (3)

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

Game Port Address (201)

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

Midi Port Address (330)

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

Midi Port IRQ (10)

This item sets the interrupt request for the Midi function.

Power Management Setup

This option lets you control system power management. The system has various power-saving modes including powering down the hard disk, turning off the video, suspending to RAM, and software power down that allows the system to be automatically resumed by certain events.

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

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

Phoenix – AwardBIOS CMOS Setup Utility
Power Management Setup

ACPI Function	[Enabled]	↑ ↓	Item Help
ACPI Suspend Type	[S1(POS)]		Menu Level ▶
Power Management	[User Define]		
Video Off Method	[DPMS]		
Video Off In Suspend	[Yes]		
Suspend Type	[Stop Grant]		
MODEM Use IRQ	[3]		
Suspend Mode	Disable		
HDD Power Down	Disable		
Soft-Off by PWR-BTTN	[Instant-Off]		
Wake-Up by PCI card	[Enabled]		
Power On by Ring	[Disabled]		
Wake Up On LAN	[Disabled]		
x USB KB Wake-Up From S3	Disabled		
Resume by Alarm	[Disabled]		
x Date (of Month) Alarm	0		
x Time (hh:mm:ss) Alarm	0 0 0		
** Reload Global Timer Events **			

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

ACPI Function (Enabled)

This mainboard supports ACPI (Advanced Configuration and Power management Interface). Use this item to enable or disable the ACPI feature.

Note: ACPI is a power management specification that makes hardware status information available to the operating system. ACPI enables a PC to turn its peripherals on and off for improved power management. It also allows the PC to be turned on and off by external devices, so that mouse or keyboard activity wakes up the computer.

ACPI Suspend Type (S1(POS))

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.

Power Management (User Define)

This item acts like a master switch for the power-saving modes and hard disk timeouts. If this item is set to Max Saving, power-saving modes occur after a short timeout. If this item is set to Min Saving, power-saving modes occur after a longer timeout. If the item is set to User Define, you can insert your own timeouts for the power-saving modes.

Video Off Method (DPMS)

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

Video Off In Suspend (Yes)

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

Suspend Type (Stop Grant)

If this item is set to the default Stop Grant, the CPU will go into Idle Mode during power saving mode.

MODEM Use IRQ (3)

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

Suspend Mode (Disable)

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

HDD Power Down (Disable)

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

Soft-Off by PWR-BTTN (Instant-Off)

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

Wake-Up by PCI Card (Enabled)

When this item is enabled, the system power will be turned on if there is any PCI card activity.

Power On by Ring (Disabled)

If this item is enabled, it allows the system to resume from a software power down or a power-saving mode whenever there is an incoming call to an installed fax/modem. You have to connect the fax/modem to the mainboard.

USB KB Wake-Up S3 (Disabled)

If you are using a USB keyboard, and the ACPI suspend type is set to S3, you can enable this item to allow a keystroke to wake up the system from power saving mode.

Resume by Alarm (Disabled)

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

**** Reload Global Timer Events ****

Global Timer (power management) events are I/O events whose occurrence can prevent the system from entering a power saving mode or can awaken the system from such a mode. In effect, the system remains alert for anything that occurs to a device that is configured as Enabled, even when the system is in a power-down mode.

Primary/Secondary IDE 1/0 (Disabled)

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

FDD, COM, LPT Port (Disabled)

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

PCI PIRQ[A-D]# (Disabled)

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

PWRON After PWR-Fail (Off)

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

PNP/PCI Configurations

These options configure how PnP (Plug and Play) and PCI expansion cards operate in your system. Both the ISA and PCI buses on the Mainboard use system IRQs (Interrupt ReQuests) and DMAs (Direct Memory Access). You must set up the IRQ and DMA assignments correctly through the PnP/PCI Configurations Setup utility for the mainboard to work properly. Selecting PnP/PCI Configurations on the main program screen displays this menu:

Phoenix – AwardBIOS CMOS Setup Utility
PnP/PCI Configurations

		Item Help
Reset Configuration Data	[Disabled]	Menu Level ► Default is Disabled. Select Enabled to reset Extended System Configuration Data (ESCD) when you exit Setup if you have installed a new add- on and the system reconfiguration has caused such a serious conflict that the OS cannot boot
Resources Controlled by	[Auto(ESCD)] Press Enter	
x IRQ Resources		
PCI/VGA Palette Snoop	[Disabled]	
Assign IRQ For USB	[Enabled]	
INT Pin 1 Assignment	[Auto]	
INT Pin 2 Assignment	[Auto]	
INT Pin 3 Assignment	[Auto]	
INT Pin 4 Assignment	[Auto]	
INT Pin 5 Assignment	[Auto]	
INT Pin 6 Assignment	[Auto]	
INT Pin 7 Assignment	[Auto]	
INT Pin 8 Assignment	[Auto]	

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

Reset Configuration Data (Disabled)

If you enable this item and restart the system, any Plug and Play configuration data stored in the BIOS Setup is cleared from memory.

Resources Controlled By (Auto(ESCD))

You should leave this item at the default Auto(ESCD). Under this setting, the system dynamically allocates resources to Plug and Play devices as they are required.

If you cannot get a legacy ISA (Industry Standard Architecture) expansion card to work properly, you might be able to solve the problem by changing this item to Manual, and then opening up the IRQ Resources and Memory Resources submenus.

In the IRQ Resources submenu, if you assign an IRQ to Legacy ISA, then that Interrupt Request Line is reserved for a legacy ISA expansion card. Press <Esc> to close the IRQ Resources submenu.

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

PCI/VGA Palette Snoop (Disabled)

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

Assign IRQ For USB (Enabled)

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

INT Pin1~8 Assignment (Auto)

Names the interrupt request (IRQ) line assigned to a device connected to the PCI interface on your system.

PC Health Status

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

Phoenix – AwardBIOS CMOS Setup Utility
PC Health Status

Shutdown Temperature [Disabled] CPU Vcore 1.80 V 3.30 V 5.00 V 12.0 V Voltage Battery Current System Temp Current CPU Temp CPU FAN Speed Chassis FAN Speed Power FAN Speed Chassis has been Chassis Open Warning Close [Disabled]	Item Help Menu Level ►
--	---------------------------

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

Shutdown Temperature

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

System Component Characteristics

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

- CPU Vcore (CPU core voltage)
- Voltage Battery (battery voltage)
- Current System Temp (degrees Fahrenheit and Celsius)
- Current CPU Temp (degrees Fahrenheit and Celsius)
- CPU fan speed (in RPMs)
- Chassis FAN Speed (in RPMs)

- Power FAN Speed (in RPMs)

Chassis Open Warning

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

Frequency/Voltage Control

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

Phoenix – AwardBIOS CMOS Setup Utility Frequency/Voltage Control

CPU Clock Ratio	[By Key in]	Item Help
Auto Detect PCI Clk/DIMM Clk	[Enabled]	
Spread Spectrum	[Enabled]	
CPU Host/AGPClk/PCI Clock	[Default]	Menu Level ▶

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

CPU Clock Ratio

Enables you to set the CPU clock. The CPU clock ratio times the CPU Host/PCI Clock should equal the core speed of the installed processor.

Example:

CPU Clock Ratio	8
CPU Host/PCI Clock	$\times 100$
Installed CPU clock speed	800 MHz

Auto Detect PCI Clk/DIMM Clk (Enabled)

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

Spread Spectrum (Enabled)

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

CPU Host/AGPClk/PCI Clock (Default)

Use the CPU Host Clock to set the frontside bus frequency for the installed processor.

Load Fail-Safe Defaults Option

This option opens a dialog box that lets you install fail-safe defaults for all appropriate items in the Setup Utility:

Press <Y> and then <Enter> to install the defaults. Press <N> and then <Enter> to not install the defaults. The fail-safe defaults place no great demands on the system and are generally stable. If your system is not functioning correctly, try installing the fail-safe defaults as a first step in getting your system working properly again. If you only want to install fail-safe defaults for a specific option, select and display that option, and then press <F6>.

Load Optimized Defaults Option

This option opens a dialog box that lets you install optimized defaults for all appropriate items in the Setup Utility. Press <Y> and then <Enter> to install the defaults. Press <N> and then <Enter> to not install the defaults. The optimized defaults place demands on the system that may be greater than the performance level of the components, such as the CPU and the memory. You can cause fatal errors or instability if you install the optimized defaults when your hardware does not support them. If you only want to install setup defaults for a specific option, select and display that option, and then press <F7>.

Set Supervisor/User Password

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

ENTER PASSWORD

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

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

PASSWORD DISABLED

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

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

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

is enabled.

Save & Exit Setup Option

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

Exit Without Saving

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

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

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

Chapter 4

Using the Mainboard Software

About the Software CD-ROM

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

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

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

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

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

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

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



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

Setup Tab

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

Application Tab

Lists the software utilities that are available on the CD.

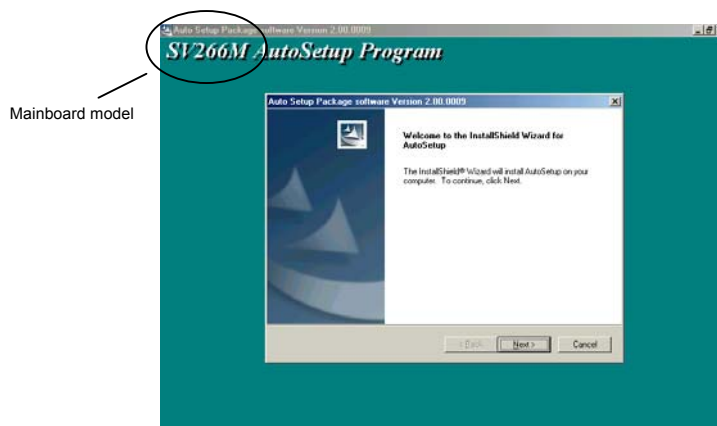
Read Me Tab

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

Running Setup

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

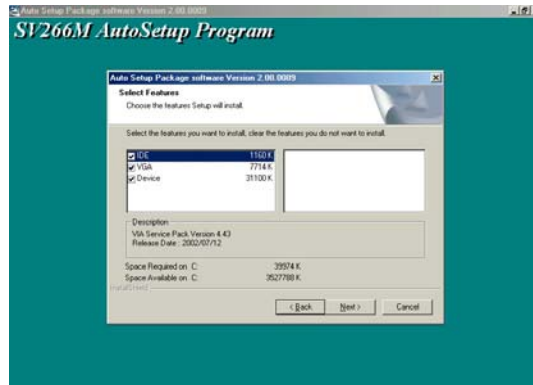
1. Click **Setup**. The installation program begins:



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

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

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



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



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

Manual Installation

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

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

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

Utility Software Reference

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

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

AWARD Flash Memory Utility

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

WinFlash Utility

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

UTILITY\WINFLASH 1.51

PC-CILLIN 2002

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

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

MediaRing Talk – Telephony Software

To install the MediaRing Talk voice modem software for the built-in modem, go to the directory \UTILITY\MEDIARING TALK, then run MRTALK-SETUP72.EXE to install the application software.

Super Voice – Fax/Modem Software

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

PageABC

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

This concludes Chapter 4.