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Static Electricity Precautions

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

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

Pre-Installation Inspection

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

Notice:

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

2. USB 2.0 Driver Limitations:
   2-1.The USB 2.0 driver only supports Windows XP and
   Windows 2000.
   2-2.If you connect a USB 2.0 hub to the root hub, plugging USB
   devices into this hub, the system might not successfully execute
   certain USB devices' connection because it could not recognize
   these devices.

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

Features and Checklist Translations

Liste de contrôle

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

Eléments standards

- Une carte mère
- Un câble plat pour lecteur de disquette (optionnel)
- Un câble plat pour lecteur IDE
- Un CD d'installation automatique pour le logiciel
- Un écran pour panneau arrière d'entrées/sorties
- Ce manuel utilisateur

Caractéristiques

Processeur	La carte mère utilise un Socket A AMD 462 broches supportant un bus frontal (FSB) de 400 MHz.
Chipset	Les chipsets SiS748 et SiS963L sont basés sur une architecture novatrice et dimensionnable avec une fiabilité et des performances prouvées. Quelques-unes des caractéristiques avancées du chipset sont: • Supporte les CPU AMD Athlon XP/Sempron /Athlon/Duron jusqu'à to 400 MHz FSB • Supporte la synchronisation Synchrone/Quasi-synchrone Hôte à DRAM • Supporte les SDRAM DDR **400**/333/266 • Soutient la Latence CAS SDRAM DDR aux options de 2, 2.5, & 3 horloges. • Conforme AGP v3.0 • Supporte l'Interface AGP 8X/4X • Bus de données 16 bits Bi-directionnel • Performances de 1 Go/s en mode 133MHz x 4 • Conforme aux Spécifications PCI 2.2 • Maîtrise de Liaison d'E/S Multiprocessus Intégrée avec Flux en Pipeline de Lecture • Supporte les schémas de Logiciel Amélioré et Automatique pour accéder aux registres PHY • Supporte Ultra DMA 133/100/66/33 • Compatible USB v2.0 et Interface de Contrôleur d'Hôte Avancé (EHCI) v1.0 Les caractéristiques clé supplémentaires incluent le support pour six ports USB, contrôleur Fast Ethernet MAC, interface AC'97, gestion d'alimentation avancée,

	contrôleur DMA et contrôleur de clavier intégrés.
Mémoire	• Support de module mémoire DDR SDRAM jusqu'à **400**/333/266 MHz • Peut recevoir trois logements sans mémoire tampon en 2.5V de 184 broches • Chaque logement supporte jusqu'à 1 Go avec une capacité maximum totale de 3 Go
Graphiques	La M848A inclut un logement AGP qui offre huit fois la bande passante des spécifications AGP d'origine. L'AGP 3.0 (8X AGP) offre une amélioration significative de performances accompagnée d'améliorations de fonctionnalités sur l'AGP2.0. Cette interface représente l'évolution naturelle de l'AGP existante pour répondre à une demande toujours croissante d'interfaces graphiques en environnements de station de travail et de bureau.
Audio	Le codec Audio AC'97 est conforme aux spécifications AC'97 2.2 répondant aux exigences PC2001 et supportant Sortie S/PDIF. Il possède aussi une mémoire tampon intégrée et PLL interne. Les fonctionnalités comprennent le support du commutateur analogique pour sortie arrière (partagée), la prise de ligne d'entrée (partagée), centre basse (partagée), et prise MIC à la sortie audio 6 canaux.
Options d'Extensions	La carte mère est livrée avec les options d'extensions suivantes: • Cinq logements PCI 32 bits • Un logement AGP (supporte la carte 1.5V AGP seulement) • Un logement Communications Network Riser (CNR) (Interface AC'97 seulement) • Deux connecteurs IDE supportant quatre canaux IDE et une interface de lecteur de disquette La M848A supporte la maîtrise de bus Ultra DMA avec des vitesses de transfert de 133/100/66/33 Mo/sec.
LAN Interne (optionnel)	Le VT6103L est un périphérique à Couche Physique pour Ethernet 10BASE-T et 100BASE-TX utilisant des câbles Non blindés de catégorie 5, Blindés de Type 1, et à Fibres Optiques. • Double Vitesse – 100/10 Mbps • Half et Full Duplex • Conforme à tous les Standards IEEE 802.3, 10Base-T et 100Base-Tx Applicables • Egaliseur Adaptatif

VI

E/S Intégrées	La carte mère possède un jeu complet de ports d'E/S et de connecteurs: • Deux ports PS/2 pour souris et clavier • Deux ports série (COM2 est optionnel) • Un port parallèle • Quatre ports USB • Un port LAN • Prises audio pour microphone, ligne d'entrée et ligne de sortie
Microprogram me BIOS	Cette carte mère utilise AMI BIOS qui permet aux utilisateurs de configurer de nombreuses fonctionnalités du système comprenant les suivantes : • Gestion d'alimentation • Alarmes de réveil • Paramètres de CPU • Synchronisation de CPU et de mémoire Le microprogramme peut aussi être utilisé pour définir les paramètres pour les vitesses d'horloges de différents processeurs.

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 (optional)
- Ein Bandkabel für IDE-Laufwerke
- Eine Auto-Installations-Support-CD
- I/O-Anschlussabdeckung für die Rückwand
- Dieses Benutzerhandbuch

Features

Prozessor	Das Motherboard verwendet einen AMD 462-Pin Sockel A, der einen 400 MHz Frontsidebus (FSB) unterstützt.
Chipsatz	Die Chipsätze SiS748 und SiS963L basieren auf einer innovativen und skalierbaren Architektur mit bewiesAener Zuverlässigkeit und Leistung. Einige der modernen Eigenschaften des Chipsatzes: • Unterstützt AMD Athlon XP/Sempron/Athlon/Duron CPUs bis zu 400 MHz FSB • Unterstützt synchrones/quasi-synchrones Host-to-DRAM-Timing • Unterstützt **400**/333/266 DDR SDRAM • Unterstützt DDR SDRAM CAS-Latenz (Optionen: 2, 2.5, & 3 Takte) • Entspricht AGP v3.0 • Unterstützt AGP 8X/4X-Interface • Bi-direktionaler 16 Bit Datenbus • Leistung von 1 GB/s im 133MHz x 4 Modus • Entspricht PCI 2.2 Spezifikation • Eingebautes Multithreaded I/O-Link-Mastering mit Read-Pipelined-Streaming • Unterstützt Enhanced Software- und Automatic-Schemen, um auf PHY-Verzeichnisse zuzugreifen • Unterstützt Ultra DMA 133/100/66/33 • Kompatibel mit USB v2.0 und Enhanced Host Controller Interface (EHCI) v1.0 Zusätzliche Schlüsseleigenschaften umfassen die Unterstützung für sechs USB-Anschlüsse, Fast Ethernet MAC Controller, AC'97-Interface, IEEE 1394 Host Controller *(ausgenommen Chipsatz SiS963L Southbridge),* erweiterte Energieverwaltung, integrierter

	DMA Controller und Tastatur Controller.
Speicher	• Unterstützt DDR bis zu **400**/333/266 MHz SDRAM-Speichermodul • Nimmt drei ungepufferte 2.5V 184-Pin Steckplätze auf • Jeder Steckplatz unterstützt bis zu 1 GB mit einer maximalen Gesamtkapazität von bis zu 3 GB
Grafik	Das M848A enthält einen AGP-Steckplatz mit der achtfachen Bandbreite der ursprünglichen AGP-Spezifikation. AGP 3.0 (8X AGP) bietet gegenüber AGP2.0 eine erhebliche Leistungssteigerung und verbesserte Features. Dieses Interface stellt die natürliche Weiterentwicklung des bestehenden AGP dar, um den stetig anwachsenden Anforderungen an die Grafikschnittstellen innerhalb der Workstations und Desktop-Umgebungen gerecht zu werden.
Audio	Der AC'97 Audio-Codec entspricht der AC'97 2.2-Spezifikation welche die PC2001-Anforderungen erfüllt und S/PDIF Ausgang unterstützt. Er verfügt über einen eingebauten Puffer und internes PLL. Weitere Eigenschaften umfassen einen Analog-Schalter für den Hinterausgang (geteilt), Line-In Anschluss (geteilt), Center/Bass (geteilt) und einen Mikrophonstecker für 6 Kanal Audioausgabe.
Erweiterungs-optionen	Das Motherboard bietet die folgenden Erweiterungsoptionen: • Fünf 32-bit PCI-Steckplätze • EinenAGP-Steckplatz (unterstützt nur 1.5V AGP Interface) • Einen Steckplatz für Communications Network Riser (CNR) (nur AC'97-Interface) • Zwei IDE-Stecker, die vier IDE-Kanäle und eine Schnittstelle für ein Floppydiskettenlaufwerk unterstützen Das M848A unterstützt Ultra DMA Bus-Mastering mit Übertragungsraten von 133/100/66/33 MB/s.

Integriertes LAN (optional)	Das VT6103L ist ein Physical Layer-Gerät für Ethernet 10BASE-T und 100BASE-TX. Es verwendet Kategorie 5 Kabel ohne Abschirmung, Typ 1-Kabel mit Abschirmung und fiberoptische Kabel. • Duale Geschwindigkeit– 10/100 MB/Sek. • Halb-/Vollduplex • Entspricht allen geltenden IEEE 802.3, 10Base-T und 100Base-Tx-Standards • Einstellbarer Equalizer
Integrierte I/O	Das Motherboard verfügt über einen kompletten Satz von I/O-Schnittstellen und Anschlüssen: • Zwei PS/2-Schnittstellen für Maus und Tastatur • Zwei serielle Schnittstellen (COM2 ist optional) • Eine parallele Schnittstelle • Vier USB-Schnittstellen • Eine LAN-Schnittstelle • Audiobuchsen für Mikrofon, Line-in und Line-out
BIOS-Firmware	Dieses Motherboard setzt das AMI BIOS ein, mit dem der Anwender viele Systemeigenschaften selbst konfigurieren kann, einschließlich der folgenden: • Energieverwaltung • Wake-up-Alarm • CPU-Parameter • CPU und Speichertiming Mit der Firmware können auch die Parameter für verschiedene Prozessortaktgeschwindigkeiten eingestellt werden.

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

Lista di controllo

Comparate 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 (opzionale)
- Un cavo a nastro IDE
- Un CD di supporto software auto-installante
- Una protezione per il pannello posteriore di I/O
- Il manuale dell'utente

Caratteristiche

Processore	La scheda madre utilizza una piattaforma socket A a 462 pin proceddore che supporta un front side bus (FSB) a 400 Mhz.
Chipset	I chipset SiS748 e SiS963L sono basati su un'architettura innovativa e scalabile di provata affidabilità e di eccellenti prestazioni. Alcune delle caratteristiche avanzate del chipset sono: • Supporta CPU AMD Athlon XP/Sempron/ Athlon/Duron fino a 400 MHz FSB • Supporta l'host-t-DRAM timing sincrono/quasi-sincrono • Supporta **400**/333/266 DDR SDRAM • Supporta la latenza CAS SDRAM DDR con 2; 2,5 e 3 clock. • Conforme AGP v3.0 • Supporta l'interfaccia AGP 8X/4X • Bus di dati a 16 bit bidirezionale • Velocità di 1 GB/s in modalità 133MHz x 4 • Conforme alle specifiche PCI 2.2 • Bus di interconnessione Integrated Multi-threaded I/O Link (MuTIOL) con Read Pipelined Streaming • Supporta software avanzati e schemi di polling automatico per l'accesso a registri PHY • Supporta Ultra DMA 133/100/66/33 • Compatibile USB v2.0 e Enhanced Host Controller Interface (EHCI) v1.0 Altre caratteristiche fondamentali sono: supporto per sei porte USB, controller Fast Ethernet MAC, interfaccia AC'97, IEEE 1394 host controller *(tranne che per il chipset SiS963L Southbridge)*, gestione avanzata del risparmio energetico, controller DMA controller integrato

	e controller tastiera
Memoria	• Supporta un modulo di memoria SDRAM con DDR fino a **400**/333/266 Mhz • Presenta tre slot a 184 pin 2,5 V unbuffered • Ciascun slot supporta fino a 1 GB per una capacità totale massima di 3 GB
Grafica	La scheda M848A include uno slot AGP che fornisce otto volte la larghezza di banda delle specifiche AGP originarie. Lo standard AGP 3.0 (8X AGP) garantisce prestazioni significativamente superiori oltre ad altri miglioramenti rispetto allo standard AGP2.0. Questa interfaccia rappresenta la naturale evoluzione dell'AGP esistente ed è in grado di soddisfare le sempre maggiori aspettative del mercato nel campo delle interfacce grafiche, sia in ambiente workstation che in ambiente desktop
Audio	Il codec Audio AC'97 è conforme alla specifica AC'97 2.2 che soddisfa i requisiti PC2001 e supporta Uscita S/PDFI. Inoltre ha una memoria tampone interna e PLL interno. Le caratteristiche includono supporto per interruttore analogico sull'uscita posteriore (condivisa), il jack di ingresso linea (condiviso), centrale/bassi (condivisi), e jack MIC per fornire un'uscita a 6 canali audio.
Opzioni di espansione	La scheda madre presenta le seguenti opzioni di espansione: • cinque slot PCI 32 bit • Uno slot AGP (supporta solo l'interfaccia 1.5V AGP) • Una slot Communications e Network Riser (CNR) (solo interfaccia AC'97) • Due connettori IDE che supportano quattro canali IDE e un floppy disk. La scheda M848A supporta il bus mastering Ultra DMA con transfer rate 133/100/66/33 MB/sec.
LAN integrato (opzionale)	La scheda VT6103L è una periferica di livello fisico per Ethernet 10BASE-T e 100BASE-TX, che utilizza cavi di Classe 5 non schermati, cavi di Tipo 1 schermati e cavi in fibre ottiche. • Doppia velocità – 100/10 Mbps • Half e Full Duplex • Conforme a tutte le norme IEEE 802.3, 10Base-T e 100Base-Tx • Stabilizzatore adattivo

Inizializza I/O	La scheda madre è dotata da una serie completa di porte e connettori I/O: • Due porte PS/2 per tastiera e mouse • Due porte seriali (la porta COM2 è opzionale) • Una porta parallela • Quattro porte USB • Una porta LAN • Jack audio per microfono, ingresso linea e uscita linea
Firmware BIOS	Questa scheda madre adotto un BIOS AMI che permette agli utenti di configurare le caratteristiche principali del sistema, inclusi: • Gestione energia • Allarmi wake up • Parametri CPU • Temporizzazione CPU e memoria Il firmware può anche essere usato per impostare i parametri per diverse velocità di clock.

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

XIII

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 (optativo)
- Un cable cinta de la unidad IDE
- Un CD de soporte en software de autoinstalación
- Un protector del panel I/O trasero
- Este manual del usuario

Características

Procesador	La placa principal usa un AMD 462-pin Ranura A que soporta bus de lado frontal 400 MHz (FSB).
Chipset	Los chipsets SiS748 y SiS963L se basan de una arquitectura innovadora y escalable con la fiabilidad y rendimiento comprobados. Unas de las características avanzadas del chipset son: • Soporta Athlon XP/Sempron/Athlon/Duron CPU hasta 400 MHz FSB • Soporta Anfitrión Sincrónico/Casi-sincrónico para el cronometraje de DRAM • Soporta **400**/333/266 DDR SDRAM • Sostiene Latencia DDR SDRAM CAS en opciones de 2, 2.5, & 3 relojes. • Conforme con AGP v3.0 • Soporta la interfaz AGP 8X/4X • Bus de datos 16 bit bi-direccional • Rendimiento 1 GB/s en modo 133MHz x 4 • Conformidad de Especificación PCI 2.2 • Mastering de Vínculo I/O Mutilhilado Integrado con Read Pipelined Streaming • Soporta Software Reforzado y esquemas Automáticas para acceder a los registros PHY • Soporta Ultra DMA 133/100/66/33 • USB v2.0 compatible com Interfaz de Controlador de Anfitrión Reforzado (EHCI) v1.0 Características claves adicionales incluyen soporte para seis puertos USB, controlador Fast Ethernet MAC, Interfaz AC'97, controlador anfitrión IEEE 1394 *(excepto para el chipset SiS963L Southbridge)*, administración de energía avanzada, controlador DMA integrado y controlador de teclado.

XIV

Memoria	• Soporta DDR hasta módulo de memoria **400**/333/266 MHz SDRAM • Acomoda tres ranuras 2.5V 184-pin sin buffer • Cada ranura soporta hasta 1 GB con una capacidad máxima total de 3 GB
Gráficas	El M848A incluye una ranura AGP que provee ocho veces la ancha de banda de la especificación de AGP original. El AGP 3.0 (8X AGP) ofrece un aumento significativo en rendimiento junto con mejoramientos de característica para AGP2.0. Esta interfaz representa la evolución natural del AGP existente para satisfacer las crecientes demandas enfocadas en las interfaces de gráficas dentro de los ambientes de estación de trabajo y sobremesas.
Sonido	El codec de sonido AC'97 es conforme con la especificación AC'97 2.2, que satisface los requisitos de PC2001 y soporta S/PDIF Out. También tiene un buffer incorporado y PLL interno. Las características incluyen soprte para el interruptor analógico para salida trasera (compartir), la clavija de entrada de línea (compartir), centro/bajo (compartir), y clavija MIC para exportar sonido de 6 canales.
Opciones de Expansión	La placa principla viene con las sigtes. opciones de expansión: • Cinco ranuras 32-bit PCI • Una ranura AGP (soporta interfaz 1.5V AGP solamente) • Una ranura de Communications Network Riser (CNR) (Intrefaz AC'97 solamente) • Dos conectores IDE que soportan cuatro canales IDE y una interfaz de unidad de disco floppy El M848A soporta mastering de bus Ultra DMA con índices de transferencia de 33/66/100/133 MB/seg.
LAN Abordo (optativo)	El VT6103L es un dispositivo de Capa Física para Ethernet 10BASE-T y 100BASE-TX con la categoría 5 no cubierto, Tipo 1 cubierto, y cables de Fibra Óptica. • Velocidad Dual – 100/10 Mbps • Duplex Medio y Completo • Satisface todas las normas IEEE 802.3, 10Base-T y 100Base-Tx • Ecualizador Adaptivo

I/O Integrado	La placa principal tiene un juego completo de puertos y conectores I/O:
	• Dos puertos PS/2 para ratón y teclado
	• Dos puertos serials (COM2 es optativo)
	• Un puerto paralelo
	• Cuatro puertos USB
	• Un puerto LAN
	• Clavijas de sonido para micrófono, entrada y salida de línea
Firmware de BIOS	Esta placa principal usa AMI BIOS que habilita los usuarios a configurar muchas características de sistema que incluyen las sigtes.:
	• Administración de energía
	• Alarmas despertadoras
	• Parámetros de CPU
	• CPU y cronometraje de memoria
	El firmware también se puede usar para configurar parámetros para diferentes velocidades de reloj.

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

Lista de verificação

A embalagem da sua placa principal contém os seguintes itens:
- ❑ A placa principal
- ❑ O Manual do Utilizador
- ❑ Um cabo para a unidade de disquetes (opcional)
- ❑ Um cabo para a unidade IDE
- ❑ CD de suporte para o software

Características

Processador	A placa principal usa um AMD 462-pin Socket A que suporta bus frontal 400 MHz (FSB).
Chipset	Os chipsets SiS748 e SiS963L são baseados em uma arquitetura inovativa e escalável com confiabilidade e performances comprovadas. Algumas das características avançadas dos chipsets são: • Suporta AMD Athlon XP/Sempron/Athlon/Duron CPU até400 MHz FSB • Suporta Host Síncrono/Quasi-síncrono em relação à Cronometragem do DRAM • Suporta **400**/333/266 DDR SDRAM • Sustém latência DDR SDRAM CAS nas opções de relógio 2, 2.5, & 3. • AGP v3.0 Complacente • Suporta AGP 8X/4X Interface • Bus de dados de 16 bit bi-direcional • 1 GB/s performance no modo 133MHz x 4 • Especificação complacente ao PCI 2.2 • I/O Link Mestre Interlaceado Integrado com Leitor Afunilado de Corrente • Suporta Softwares e esquemas automáticos para acessar registros PHY registers • Suporta Ultra DMA 133/100/66/33 • USB v2.0 e Enhanced Host Controller Interface (EHCI) v1.0 compatível Características chaves adicionais incluem suporte para seis portes USB, controlador Fast Ethernet MAC, AC'97 interface, controle de força avançado, controlador DMA integrado e controlador do teclado.
Suporte de memória	• Suporta DDR até módulo de memória **400**/333/266 MHz SDRAM • Possui três encaixes 2.5V 184-pin • Cada encaixe suporta até 1 GB com a capacidade máxima de 3 GB

XVII

Gráficos	A placa principal inclui um encaixe AGP que fornece uma banda oito vezes maior do que a especificação AGP original. O AGP 3.0 (8X AGP) oferece um aumento significante de performance assim com características de realce do AGP2.0. Este interface representa a evolução natural do AGP existente procurando satisfazer a demanda crescente dos gráficos interface dentro da estação de trabalaho e do ambiente desktop.
Audio	O AC'97 Audio codec é complacente com a especificação AC'97 2.2 que está de acordo com os requerimentos PC2001 suportanto o S/PDIF Out. Ele também tem um buffer embutido e PLL interno. As características incluem interruptor de suporte análogo (repartível) traseiro, tomada de entrada (repartível), centro/bass (repartível) e tomada MIC para saída de 6 canais de áudio.
Opções de Expansão	A placa principal vem com as seguintes opções de expansão: • Cinco encaixes 32-bit PCI • Um encaixe AGP (suporta apenas 1.5V AGP Interface) • Um encaixe para Communications Network Riser (CNR) (apenas AC'97 interface) • Dois conectores IDE que suporta quatro canais IDE e um interface de disquete • A placa principal suporta bus mestre Ultra DMA com taxa de transferência de 133/100/66/33 MB/seg.
Lan Onboard (opcional)	O VT6103L é um dispositivo de Camada Física para Ethernet 10BASE-T e 100BASE-TX usando a categoria 5 Desencapada, Tipo 1 Encapada, e cabos de Fibra Óptica. • Velocidade Dupla – 100/10 Mbps • Duples Completo ou Metade • Satisfaz todos os padrões IEEE 802.3, 10Base-T and 100Base-Tx Aplicáveis • Equalizador adaptativo
I/O Integrado	A placa principal possui um conjunto completo de portas e conectores I/O: • Duas portas PS/2 para o rato e teclado • Dois portes em série (COM2 é opcional) • Uma porta paralela • Quatro portes USB

XVIII

	• Um porte de LAN • Jacks audio para microfone, line-in e line-out
BIOS Firmware	Esta placa usa AMI BIOS que permite os usuários configurar várias características do sistea inclusive o seguinte: • Administração de Força • Alarmes para Acordar • Parâmetros do CPU • Cronometragem do CPU e memória O firmware também pode ser usado para configurar os parâmetros para diferentes velocidades do relógio do processador.

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

-
-
- IDE
-
- I/O
-

	AMD 462-pin Socket A 400 MHz (FSB)

	SiS748 SiS963L
	
	- 400 MHz FSB AMD Athlon XP/Sempron /Athlon/Duron CPU
	- / DRAM
	- **400**/333/266 DDR SDRAM
	- 2 2.5 3 DDR SDRAM CAS Latency
	- AGP v3.0
	- AGP 8X/4X
	- 16
	- 133MHz x 4 1GB/s
	- PCI 2.2
	- I/O
	- PHY
	- Ultra DMA 133/100/66/33
	- USB v2.0 (EHCI) v1.0
	  6- USB MAC
	  AC'97 DMA

XX

	• 400/333/266MHz DDR SDRAM • 3 2.5V 184 pin • 1 GB 3 GB
	M848A AGP AGP 8- AGP 3.0 (8X AGP) AGP2.0 AGP
	AC' 97 Audio AC' 97 2.2 PC2001 S/PDIF Out PLL / 6- MIC
	• 5 32 PCI • 1 AGP 1.5V AGP • 1 (CNR) AC' 97 • 2 IDE 4 IDE 1 M848A Ultra DMA 33/66/100/133 MB/sec
Onboard LAN	VT6103L 5 1 10BASE-T 100BASE- TX • – 10/100Mbps • • IEEE 802.3 10Base-T 100Base-Tx •
I/O	I/O • 2 PS/2 • 2 COM2 • 1 • 4 USB • 1 LAN •
BIOS	AMI BIOS

	- CPU - CPU

Chapter 1

Introduction

Thank you for choosing M848A motherboard. The motherboard is designed to fit the advanced AMD processors in the 462-pin package. Based on the ATX form factor featuring the SiS748 Northbridge and SiS963L Southbridge chipsets. The motherboard incorporates the SiS748 Northbridge and SiS963L Southbridge chipsets. The SiS748 Northbridge features an AGP 8X bridge and a DDR-400 Memory controller, supporting AMD Athlon XP/ Sempron /Athlon/Duron FSB up to 400 MHz. While the 963L Southbridge integrates the Universal Serial Bus 2.0 Host Controllers and Audio Controller with AC'97 interface.

The motherboard is designed to give customers a high quality, multimedia solution and state-of-the-art technology. It provides advanced set of I/O ports, such as dual channel IDE interfaces, a floppy controller, one high-speed serial port, an EPP/ECP capable bi-directional parallel port connector, four USB (Universal Serial Bus) connector, a PS/2 keyboard connector, mouse connector and audio jacks for microphone, line-in and line-out. One AGP slot and five PCI local bus slots provide expandability for add-on peripheral cards.

Key Features

This motherboard has these key features:

Processor

The motherboard uses an AMD 462-pin Socket A that supports up to 400 MHz front side bus (FSB).

Chipset

The SiS748 and SiS963L chipsets are based on an innovative and scalable architecture with proven reliability and performance. A few of the chipset's advanced features are:

♦ Supports AMD Athlon XP/Sempron/Athlon/Duron CPU up to 400 MHz FSB
♦ Supports Synchronous/Quasi-synchronous Host to DRAM Timing
♦ Supports **400**/333/266 DDR SDRAM
♦ Sustains DDR SDRAM CAS Latency at options of 2, 2.5, & 3 clocks.
♦ AGP v3.0 Compliant
♦ Supports AGP 8X/4X Interface
♦ Bi-directional 16 bit data bus
♦ 1 GB/s performance in 133MHz x 4 mode
♦ PCI 2.2 Specification Compliance
♦ Integrated Multithreaded I/O Link Mastering with Read Pipelined Streaming
♦ Supports Enhanced Software and Automatic schemes to access PHY registers
♦ Supports Ultra DMA 33/66/100/133
♦ USB v2.0 and Enhanced Host Controller Interface (EHCI) v1.0 compatible

Additional key features include support for six USB ports, Fast Ethernet MAC controller, AC'97 interface, advanced power management, integrated DMA controller and keyboard controller.

Memory

♦ Supports DDR up to **400**/333/266 MHz SDRAM memory module

♦ Accommodates three unbuffered 2.5V 184-pin slots

♦ Each slot supports up to 1 GB with a total maximum capacity of 3 GB

Graphics

♦ The motherboard includes an AGP slot that provides eight times the bandwidth of the original AGP specification. The AGP 3.0 (8X AGP) offers a significant increase in performance along with feature enhancements to AGP2.0. This interface represents the natural evolution from the existing AGP to meet the ever-increasing demands placed on the graphic interfaces within the workstation and desktop environments.

AC'97 Audio Codec

♦ The AC'97 Audio codec is compliant with the AC'97 2.2 specification that meets the PC2001 requirements and supports S/PDIF Out. It also has a built-in buffer and internal PLL. Features include support for analog switch for rear-out (share), the line-in jack (share), center/bass (share), and MIC jack to output 6 channels audio.

Expansion Options

The motherboard comes with the following expansion options:

♦ Five 32-bit PCI slots

♦ One AGP slot (supports 1.5V AGP Interface only)

♦ A Communications Network Riser (CNR) slot (AC'97 interface only)

♦ Two IDE connectors support four IDE channels and a floppy disk drive interface

The motherboard supports Ultra DMA bus mastering with transfer rates of 133/100/66/33 MB/sec.

Onboard LAN (optional)

The VT6103L is a Physical Layer device for Ethernet 10BASE-T and 100BASE-TX using category 5 Unshielded, Type 1 Shielded, and Fiber Optic cables.

- ♦ Dual Speed – 100/10 Mbps
- ♦ Half And Full Duplex
- ♦ Meet All Applicable IEEE 802.3, 10Base-T and 100Base-Tx Standards
- ♦ Adaptive Equalizer

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

Two PS/2 ports for mouse and keyboard
Integrated I/O

- ♦
- ♦ Two serial ports (COM2 is optional)
- ♦ One parallel port
- ♦ Four USB ports
- ♦ One LAN port
- ♦ Audio jacks for microphone, line-in and line-out

BIOS Firmware

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

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

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

Dimensions

- ♦ ATX form factor of 305 x 190mm

Package Contents

Attention: This motherboard serial has two models, M848ALU (LAN, USB2.0) and M848AU (USB2.0). Please contact your local supplier for more information about your purchased model. Each model will support different specification listed as below:

Model	Specification
M848ALU	Onboard LAN PHY chip and USB 2.0 + RJ-45 LAN connector
M848AU	USB2.0 connector

Your motherboard package contains the following items:
- ❑ The motherboard
- ❑ The User's Manual
- ❑ One diskette drive ribbon cable (optional)
- ❑ One IDE drive ribbon cable
- ❑ Software support CD

Optional Accessories
You can purchase the following optional accessories for this motherboard.
- ❑ Extended USB module
- ❑ Card Reader (You can buy your own Card Reader from the third party, but please contact your local Card Reader vendor on any issues of the specification and compatibility.)

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

Chapter 2

Motherboard Installation

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

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

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

Motherboard Components

Identify major components on the motherboard via this diagram underneath.
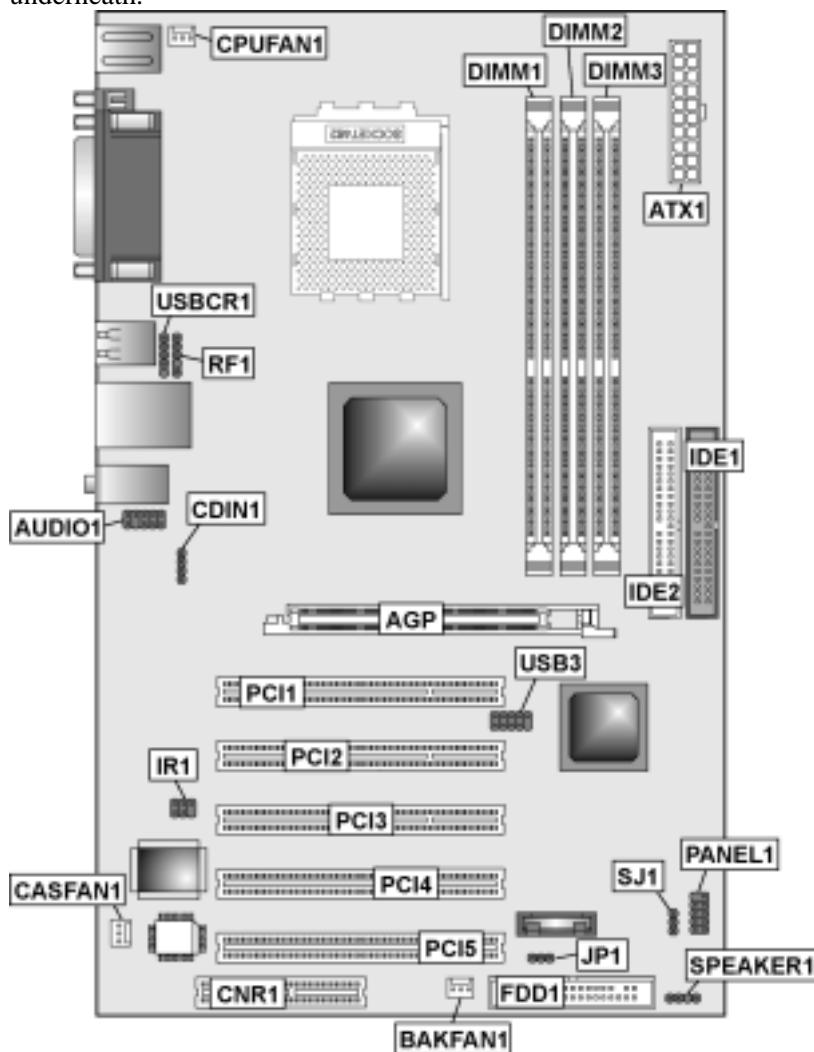
Note: Any jumpers on your motherboard that do not appear in this illustration are for testing only.

I/O Ports

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

(optional)
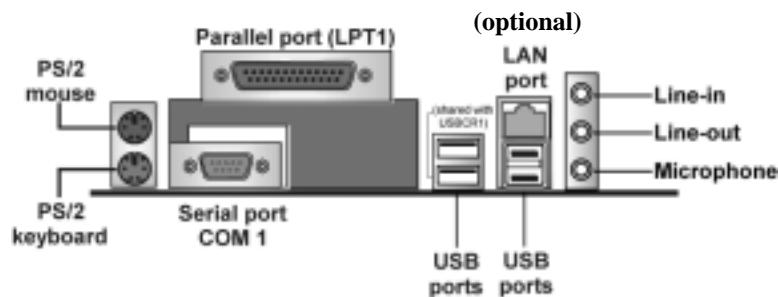
PS/2 Mouse	Use the upper PS/2 port to connect a PS/2 pointing device.
PS/2 Keyboard	Use the lower PS/2 port to connect a PS/2 keyboard.
Parallel Port (LPT1)	Use LPT1 to connect printers or other parallel communications devices.
COM1	Use the COM port to connect serial devices such as mice or fax/modems. COM1 is identified by the system as COM1/3.
LAN Port (optional)	Connect an RJ-45 jack to the LAN port to connect your computer to the Network.
USB Ports	Use the USB ports to connect USB devices. *Note: The lower USB port located near the Parallel port is shared with the USBCR1 connector.*
Audio Ports	Use the three audio ports to connect audio devices. The first jack is for stereo line-in signal. The second jack is for stereo line-out signal. The third jack is for microphone.

Installing the Processor

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

CPU Installation Procedure
Follow these instructions to install the CPU:

CPUFAN1

Pin 1

Socket-462
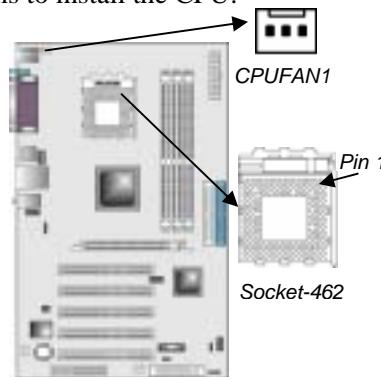
1. Unhook the locking lever of the CPU socket. Pull the locking lever away from the socket and raising it to the upright position.
2. Match the pin1 corner marked as the beveled edge on the CPU with the pin1 corner on the socket. Insert the CPU into the socket. Do not use force.
3. Push the locking lever down and hook it under the latch on the edge of socket.
4. Apply thermal grease to the top of the CPU.
5. Install the cooling fan/heatsink unit onto the CPU, and secure them all onto the socket base.
6. Plug the CPU fan power cable into the CPU fan connector (CPUFAN1) on the motherboard.

Installing Memory Modules

This motherboard accommodates three 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). You can install 3 unbuffered DIMM DDR 266/333 or 2 unbuffered DIMM DDR 400. Each module can be installed with 32 MB to 1 GB of memory; total memory capacity is 3 GB.

Note: DDR SDRAM uses additional power and ground lines and requires 184-pin DIMM modules rather than the 168-pin DIMMs used by SDRAM.

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

DIMM1   **DIMM3**

DIMM2
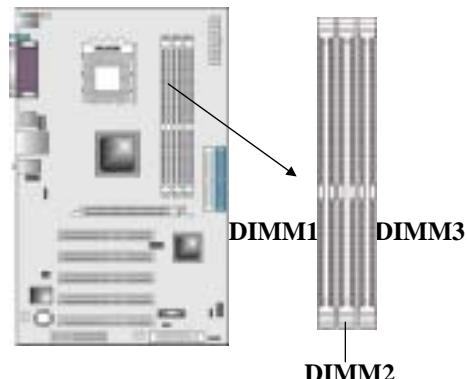
Installation Procedure

These modules can be installed with up to 3 GB system memory. Refer to the following steps to install the memory module.

1. Push down the latches on both sides of the DIMM socket.
2. Align the memory module with the socket. There is a notch on the DIMM socket that you can install the DIMM module in the correct direction. Match the

cutout on the DIMM module with the notch on the DIMM socket.

3. Install the DIMM module into the socket and press it firmly down until it is seated correctly. The socket latches are levered upwards and latch on to the edges of the DIMM.

4. Install any remaining DIMM modules.

DDR SDRAM memory module table:

DDR 266	3 DIMMs
DDR 333	3 DIMMs
DDR 400	2 DIMMs

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

Jumper Settings

Using a jumper cap to connect two pins is SHORT, removing it from these pins, OPEN.
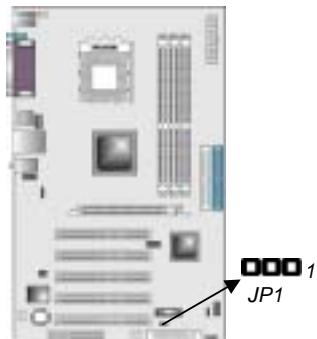
JP1: Clear CMOS Jumper
Use this jumper to clear the contents of the CMOS memory. You may need to clear the CMOS memory if the settings in the Setup Utility are incorrect and prevent your motherboard from operating. To clear the CMOS memory, disconnect all the power cables from the motherboard and then move the jumper cap into the CLEAR setting for a few seconds.

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

Install the Motherboard

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

Install the motherboard in a case. Follow the instructions of the case manufacturer to use the hardware and internal mounting points on the chassis.
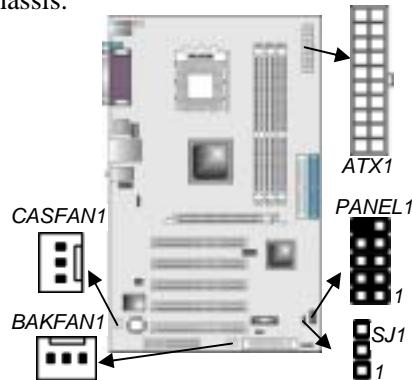
Connect the standard power supply connector to **ATX1**.
Connect the power cooling fan cable to **BAKFAN1** (optional).
Connect the chase cooling fan connector to **CASFAN1.**
Connect the case LED cable to the optional Single color LED header **SJ1**.

Pin	Signal
1	ACPI LED
2	ACPI LED
3	SB5V

ACPI LED function:

SJ1	S0	S1	S3	S4/S5
	Light	Blinking	Blinking	Dark

Front Panel Connector

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

PANEL1
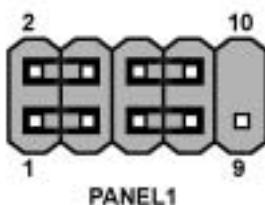
Pin	Signal	Pin	Signal
1	HD_LED_P	2	SUS LED
3	HD_LED_N	4	SUS LED
5	RST_SW_N	6	PWR_SW_P
7	RST_SW_P	8	PWR_SW_N
9	RSVD	10	NC

Connecting Optional Devices

Refer to the following for information on connecting the motherboard's optional devices:
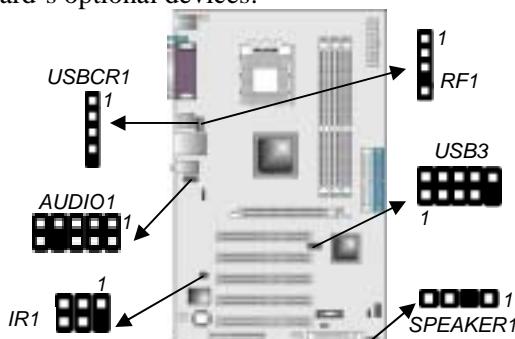
SPEAKER1: Speaker Connector

Connect the cable from the PC speaker to the **SPEAKER1** connector on the motherboard.

Pin	Signal	Pin	Signal
1	SIGNAL	2	KEY
3	GROUND	4	VCC

AUDIO1: Front Panel Audio Connector

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

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

USB3: Front panel USB connectors

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

Pin	Signal	Pin	Signal
1	VREG_FP_USBPWR0	2	VREG_FP_USBPWR0
3	USB_FP_P0-	4	USB_FP_P1-
5	USB_FP_P0+	6	USB_FP_P1+
7	GND	8	GND
9	KEY	10	NOT ASSIGNED

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.

USBCR1: USB Card Reader Connector (optional)

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

Pin	Signal	Pin	Signal
1	USBVCC2	2	USB2-
3	USB2+	4	GND
5	KEY		

> 🛇 The USBCR1 is shared with one of the USB ports of the I/O back panel. The USB port is located near the Parallel port connector. See "I/O Ports" for more information.

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

IR1: Infrared port (optional)

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	Pin	Signal
1	NOT ASSIGNED	2	KEY
3	+5V	4	GND
5	IRTX	6	IRRX

RF1: RF Wireless Mouse header

If you have a wireless mouse, connect the RF mouse cable to this header.

Pin	Signal	Pin	Signal
1	VCC	2	PMDAT
3	PMCLK	4	KEY
5	GND		

Install Other Devices

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

IDE2   IDE1

FDD1
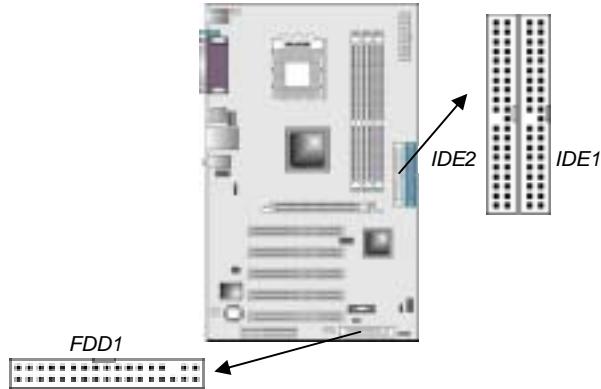
Floppy Disk Drive

The motherboard ships with a floppy disk drive cable that can support one or two drives. Drives can be 3.5" or 5.25" wide, with capacities of 360K, 720K, 1.2MB, 1.44MB, or 2.88MB.
Install your drives and connect power from the system power supply. Use the cable provided to connect the drives to the floppy disk drive connector **FDD1**.

IDE Devices

IDE devices include hard disk drives, high-density diskette drives, and CD-ROM or DVD-ROM drives, among others.
The motherboard ships with an IDE cable that can support one or two IDE devices. If you connect two devices to a single cable, you must configure one of the drives as Master and one of the drives as Slave. The documentation of the IDE device will tell you how to configure the device as a Master or Slave device. The Master device connects to the end of the cable.
Install the device(s) and connect power from the system power supply. Use the cable provided to connect the device(s) to the Primary IDE channel connector **IDE1** on the motherboard.

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

Internal Sound Connections

If you have installed a CD-ROM drive or DVD-ROM drive, you can connect the drive audio cable to the onboard sound system.
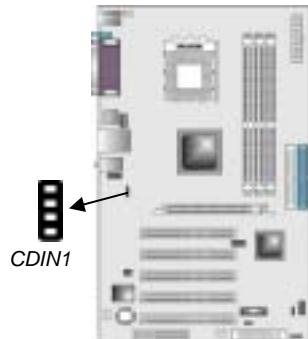
CDIN1

When you first start up your system, the BIOS should automatically detect your CD-ROM/DVD drive. If it doesn't, enter the Setup Utility and configure the CD-ROM/DVD drive that you have installed. On the motherboard, locate the 4-pin connector **CDIN1**.

Expansion Slots

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

AGP

PCI1
PCI2
PCI3
PCI4
PCI5
CNR
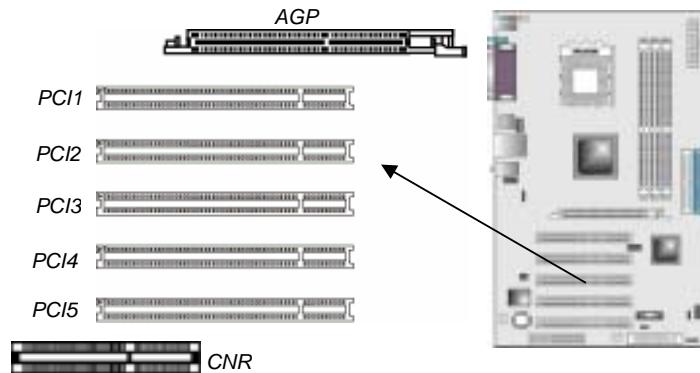
Follow the steps below to install an AGP/CNR/PCI expansion card.
1. Locate the AGP or PCI slots on the motherboard.
2. Remove the slot cover for this slot from the system chassis.
3. Insert the expansion card edge connector into the slot and press it firmly down into it so that it is fully inserted.
4. Secure the expansion card bracket to the system chassis with a screw.

PCI (Peripheral Components Interconnect) Slots
PCI slots are used to install expansion cards that have the 32-bit PCI interface.

AGP (Accelerated Graphics Port) Slot
The AGP slot is used to install 3D graphics adapter that supports the 8X AGP card which is also backward compatible with 4x AGP card. The slot is keyed to support only the latest 1.5-volt AGP cards.

CNR (Communications Network Riser) Slots
This slot is used to insert CNR cards with Modem and Audio functionality.

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

Chapter 3

Using BIOS

About The Setup Utility

The computer uses the latest AMI BIOS with support for Windows Plug and Play. The CMOS chip on the motherboard contains the ROM setup instructions for configuring the motherboard BIOS. The BIOS (Basic Input and Output System) Setup Utility displays the system's configuration status and provides you with options to set system parameters. The parameters are stored in battery-backed-up CMOS RAM that saves this information when the power is turned off. When the system is turned back on, the system is configured with the values you stored in CMOS.

The BIOS Setup Utility enables you to configure:

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

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

This chapter provides explanations for Setup Utility options.

The Standard Configuration

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

This Setup Utility should be used:

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

- when changing the password or making other changes to the Security Setup

Running the Setup Utility

Each time your computer starts, before the operating system loads, a message appears on the screen that prompts you to "*Hit <DEL> if you want to run SETUP*". When you see this message, press the **Delete** key and the Main menu page of the Setup Utility appears on your monitor.

```
        AMIBIOS HIFLEX SETUP UTILITY - VERSION 1.54SIS
         (C)2001 American Megatrends, Inc. All Rights Reserved

                      Standard CMOS Setup
                      Advanced CMOS Setup
                     Advanced Chipset Setup
                     Power Management Setup
                    PCI / Plug and Play Setup
                        Peripheral Setup
                     Hardware Monitor Setup
                     Auto-Detect Hard Disks
                      Change User Password
                    Change Supervisor Password
               Auto Configuration with Optimal Settings
               Auto Configuration with Fail Safe Settings
                      Save Settings and Exit
                       Exit Without Saving

       Standard CMOS setup for changing time, date, hard disk type, etc.
            ESC:Exit  ↑↓:Sel  F2/F3:Color  F10:Save & Exit
```

BIOS Navigation Keys

You can use the cursor arrow keys to highlight any of the options on the main menu page. Press **Enter** to select the highlighted option. To exit the setup utility, press the **Escape** key. To cycle through the Setup Utility's optional color schemes press down the **F2/F3**.

Some of the options on the main menu page lead to tables of items with installed values. In these pages, use the cursor arrow keys to highlight the items, and then use the **PgUp** and **PgDn** keys to cycle through the alternate values for each item. Other options on the main menu page lead to dialog boxes that require you to answer Yes or No by hitting the Y or N keys.

If you have already made changes to the setup utility, press **F10** to save those changes and exit the utility. Press **F5** to reset the

changes to the original values. Press **F6** to install the setup utility with a set of high-performance values.

Standard CMOS Setup

The Standard CMOS setup is used to modify basic system configuration data, such as date, time floppy and hard disk drive types, video type and keyboard.

```
              AMIBIOS SETUP - STANDARD CMOS SETUP
           (C)2001 American Megatrends, Inc. All Rights Reserved

Date (mm/dd/yyyy): Fri ███ 13,2002              Base Memory: 0 KB
Time (hh/mm/ss) : 11:08:31                       Extd Memory: 0 MB

Floppy Drive A:    Not Installed
Floppy Drive B:    Not Installed
                                                 LBA  Blk  PIO  32Bit
            Type       Size    Cyln  Head WPcom Sec Mode Mode Mode Mode
Pri Master: Not Installed
Pri Slave : Not Installed
Sec Master: Not Installed
Sec Slave : Not Installed

Boot Sector Virus Protection    Disabled

Month:  Jan - Dec                                ESC:Exit  ↑↓:Sel
  Day:   01 - 31                                 PgUp/PgDn:Modify
 Year: 1980 - 2099                               F1:Help F2/F3:Color
```

Date & Time
Use these items to set the system date and time.

Floppy Drive A/Floppy Drive B
Use these items to set the size and capacity of the floppy diskette drive(s) installed in the system.

Pri Master/Pri Slave/Sec Master/Sec Slave
Use these items to configure devices connected to the Primary and Secondary IDE channels. To configure an IDE hard disk drive, choose *Auto*. If the *Auto* setting fails to find a hard disk drive, set it to *User*, and then fill in the hard disk characteristics (Size, Cyls, etc.) manually. If you have a CD-ROM drive, select the setting *CDROM*. If you have an ATAPI device with removable media (e.g. a ZIP drive or an LS-120) select *Floptical*.

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Advanced CMOS Setup

The Advanced CMOS setup is used to control advanced system information such as hardware access and boot settings.

```
              AMIBIOS SETUP - ADVANCED CMOS SETUP
           (C)2001 American Megatrends, Inc. All Rights Reserved

Quick Boot                          Enabled      Available Options:
Pri Master ARMD Emulated as         Auto           Disabled
Pri Slave ARMD Emulated as          Auto         ▶ Enabled
Sec Master ARMD Emulated as         Auto
Sec Slave ARMD Emulated as          Auto
1st Boot Device                     Floppy
2nd Boot Device                     CD/DVD
3rd Boot Device                     IDE-0
Try Other Boot Devices              Yes
Initial Display Mode                BIOS
Display Mode at Add-On ROM Init      Force BIOS
Floppy Access Control               Read-Write
Hard Disk Access Control            Read-Write
S.M.A.R.T. for Hard Disks           Disabled
BootUp Num-Lock                     On
Floppy Drive Seek                   Disabled
PS/2 Mouse Support                  Enabled
Primary Display                     VGA/EGA     ESC:Exit  ↑↓:Sel
Password Check                      Setup       PgUp/PgDn:Modify
Boot To OS/2                        No       ▼  F1:Help F2/F3:Color
```

Quick Boot (Enabled)
If you enable this item, the system starts up more quickly be elimination some of the power on test routines.

Pri/Sec Master ARMD Emulated as (Auto)
Pri/Sec Slave ARMD Emulated as (Auto)
These four options ensure that, if you have an ARMD attached as a master or slave device, it can properly detected by the system.

1st Boot Device/2nd Boot Device/3rd Boot Device (Floppy/CD/DVD/IDE-0)
Use these items to determine the device order the computer uses to look for an operating system to load at start-up time.

Try Other Boot Devices (Yes)
If you enable this item, the system will also search for other boot devices if it fails to find an operating system from the first two locations.

Initial Display Mode (BIOS)
This option specifies the initial display mode when the system boots.

Display Mode at Add-On ROM Init (Force BIOS)
This option allows OEM logo to show during boot-up.

Floppy Access Control (Read-Write)
This option specifies the read/write access that is set when booting from a floppy drive.

Hard Disk Access Control (Read-Write)
This option specifies the read/write access that is set when booting from a hard disk drive.

S.M.A.R.T for Hard Disks (Disabled)
Set this option to Enabled to permit the BIOS to use the SMART (System Management and Reporting Technologies) protocol for reporting server system information over a network. Enabling this feature allows you to back up your data when your hard disk is about to fail. If a password has been set for the supervisor, this item will not be visible for the user.

BootUp Num-Lock (On)
Set this option to Off to turn the Num Lock key off when the computer is booted you can use the arrow keys in both the numeric keypad and the keyboard.

Floppy Drive Seek (Disabled)
When enabled, the BIOS will attempt to initialize the floppy drive. If it cannot detect one, it will flash an error message. When set to disabled, the BIOS will skip the floppy drive check which can speed up the booting process by several seconds.

PS/2 Mouse Support (Enabled)
Set this option to Enabled to enable the BIOS support for a PS/2-type mouse. The BIOS will allocate IRQ12 for the PS/2 mouse.

Primary Display (VGA/EGA)
This option configures the type of monitor attached to the computer.

Password Check (Setup)
This option enables password checking every time the system boots or when you run the BIOS Setup. If you choose Always, a user password prompt appears every time the computer is turned on. If you choose Setup, the password prompt appears if the BIOS is executed.

Boot To OS/2 (No)
Set this option to Enabled if running an OS/2 operating system and using more than 64 MB of system memory on the motherboard.

Internal Cache (Write Back)
This option sets the type of caching algorithm used by the L1 internal cache memory on the CPU.

External Cache (Write Back)
This option sets the type of caching algorithm used by the L1 external cache memory on the CPU.

System BIOS Cacheable (Enabled)
When set to Enabled, the contents of the F0000h system memory segment can be read from or written to cache memory. If parts of the BIOS ROM are frequently used, these parts are copied to cache memory for faster execution.

Advanced Chipset Setup

The Advanced Chipset Setup option is used to change the values of the chipset registers. These registers control most of the system options in the computer. You should leave the items on this page at their default values, if you change the values incorrectly, you may introduce fatal errors or recurring instability into your system.

```
         AMIBIOS SETUP - ADVANCED CHIPSET SETUP
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Detect CPU Frequency          Auto          Available Options:
CPU Frequency                 133 MHz       ▶ Auto
AUTO Detect DRAM Frequency    Enabled         Manual
CPU/DRAM Clock Ratio          [1:1]
DRAM Frequency                03 MHz
Auto Detect DIMM/PCI Clk      Enabled
Clock Spread Spectrum Enable  Enabled
On Board LAN                  Enabled
LAN Boot ROM Support          Disabled
BIOS Write Protect            Disabled
Fast Synchronizer             Disabled
DRAM Timing Configuration     Normal Mode
Graphic Win Size              128M
IO APIC Support               Enabled
DDR CAS Latency               SPD
AGP Fast Write                Disabled

                                            ESC:Exit  ↑↓:Sel
                                            PgUp/PgDn:Modify
                                            F1:Help F2/F3:Color
```

Detect CPU Frequency (Auto)
This item will automatically detect the CPU Bus Frequency.

Current Frequency (133 MHz)
This item displays the CPU current frequency.

Auto Detect DRAM Frequency (Enabled)
When set to enable, the BIOS automatically detects the reasonable speed for memory to maintain the system stability.

CPU/DRAM Clock Ratio ([1:1])
Enables you to set the CPU and DRAM clock.

DRAM Frequency (133 MHz)
This item displays the memory (DRAM) frequency. This is a display-only item. You cannot make changes to this field.

Auto Detect DIMM/PCI Clk (Enabled)
When this item is enabled, BIOS will disable the clock signal of free DIMM and PCI slots.

Clock Spread Spectrum Enable (Enabled)
The Clock Spread Spectrum significantly reduces the EMI (Electro Magnetic Interference) generated by the system.

On Board LAN (Enabled)
Enables and disables the onboard LAN.

LAN Boot ROM Support (Disabled)
Use this item to enable and disable the booting from the onboard LAN with a remote boot ROM installed.

BIOS Write Protect (Disabled)
This option protects the BIOS from accidental corruption by unauthorized users or computer viruses. When enabled, the BIOS' data cannot be changed when attempting to update the BIOS with a Flash utility. To successfully update the BIOS, you'll need to disable this BIOS Write Protect function.

Fast Synchronizer (Disabled)
This option enables you to adjust the timing between CPU and DRAM to enhance performance.

DRAM Timing Configuration (Normal Mode)
The DRAM timing is controlled by the DRAM Timing Registers. The Timings programmed into this register are dependent on the system design. Slower rates may be required in certain system designs to support loose layouts or slower memory.

Graphic Win Size (128M)
This setting controls just how much system RAM can be allocated to AGP for video purposes.

IO APIC Support (Enable)
This item allows you to enable or disable the APIC (Advanced Programmable Interrupt Controller) mode. APIC provides

symmetric multi-processing (SMP) for systems, allowing support for up to 60 processors.

DDR CAS to Latency (SPD)
This item determines the operation of the DDR memory CAS (column address strobe). We recommend that you leave this item at the default value.

AGP Fast Write (Disabled)
Enabling this item increases the graphic performance considerably. Make sure that the graphics card supports this option; otherwise problems may be encountered with older cards which do not support this feature. If you proceed to set this to enable, it may cause the system to crash.

Power Management Setup

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

Power Switch Type (On/Off)
This option specifies how the power button is used. In the Suspend mode, the hard disk motor is spindled down, the monitor is shut down, and the processor clock is stopped.

ACPI Aware O/S (Yes)
Set this option to Yes to enable Advanced Configuration and
Power Interface (ACPI) BIOS for an ACPI-aware operating system.

ACPI Standby State (S1)
This item allows you to select the standby type under ACPI
operating system.

Power Management (Enabled)
Set this option to Enabled to enable the chipset power management
and APM (Advanced Power Management) features.

Suspend Time Out (Disabled)
This option defines the length of time that the system while in
Standby mode, it must be inactive before it enters Suspend mode.

Hard Disk Time Out (Disabled)
This option specifies the length of period of hard disk drive
inactivity. When this time period expires, the computer enters the
power-conserving state specified in the Hard Disk Power Down
Mode option.

RTC Alarm Resume From Soft Off (Disabled)
This option enable or disable the RTC alarm to wake up the system
from Soft Off.

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

Resume on PME (Enabled)
This option allows you to enable or disable the Resume on PME
function.
Resume on MAC PME (Enabled)
This option allows you to enable or disable the Resume on MAC
PME function.

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

Restore on AC/Power Loss (Power Off)
This sets the power state after a shutdown due to an unexpected
interrupt of AC power.

PCI / Plug and Play Setup

This section describes configuring the PCI bus system. PCI
(Peripheral Component Interconnect) is a system, which allows I/O
devices to operate at speeds nearing CPU's when they
communicate with own special components.
All the options describes in this section are important and technical
and it is strongly recommended that only experienced users should
make any changes to the default settings.

```
            AMIBIOS SETUP - PCI / PLUG AND PLAY SETUP
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 Plug and Play Aware O/S          No          Available Options:
 Primary Graphics Adapter         PCI          ▶ No
 Allocate IRQ to PCI VGA          Yes            Yes
 PCI IDE BusMaster                Enabled
 OffBoard PCI IDE Card            Auto
 OffBoard PCI IDE Primary IRQ     Disabled
 OffBoard PCI IDE Secondary IRQ   Disabled
 DMA Channel 0                    PnP
 DMA Channel 1                    PnP
 DMA Channel 3                    PnP
 DMA Channel 5                    PnP
 DMA Channel 6                    PnP
 DMA Channel 7                    PnP
 IRQ3                             PCI/PnP
 IRQ4                             PCI/PnP
 IRQ5                             PCI/PnP
 IRQ7                             PCI/PnP
 IRQ9                             PCI/PnP     ESC:Exit  ↑↓:Sel
 IRQ10                            PCI/PnP     PgUp/PgDn:Modify
 IRQ11                            PCI/PnP  ▼  F1:Help F2/F3:Color
```

Plug and Play Aware O/S (No)
Enable this item if you are using an O/S that supports Plug and
Play such as Windows 95/98/ME.

Primary Graphics Adapter (PCI)
If you are going to use an AGP graphics card, set this item to AGP.
Your system will attempt to initialize the AGP card first. But if you
have PCI graphics card then leave this item to its default setting.

Allocate IRQ to PCI VGA (Yes)
This option will be used to allocate IRQ for PCI VGA card. In
general, some of PCI VGA cards need IRQ support.

PCI IDE BusMaster (Enabled)
Set this option to Enabled to specify that the IDE controller on the
PCI bus has bus mastering capability.

OffBoard PCI IDE Card (Auto)
This option specifies if an offboard PCI IDE controller adapter
card is used in the computer. You must also specify the PCI
expansion slot on the motherboard where the offboard PCI IDE
controller card is installed. If an offboard PCI IDE controller is
used, the onboard IDE controller is automatically disabled.

OffBoard PCI IDE Primary IRQ (Disabled)
This option specifies the PCI interrupt used by the primary IDE
channel on the offboard PCI IDE controller.

OffBoard PCI IDE Secondary IRQ (Disabled)
This option specifies the PCI interrupt used by the secondary IDE
channel on the offboard PCI IDE controller.

DMA Channel 0/1/3/5/6/7 (PnP)
This option allows you to specify the bus type used by each DMA
channel.

IRQ (PCI/ PnP)
This option specifies the bus that the specified IRQ line is used on.
They allow you to reserve IRQs for legacy ISA adapter cards and

determine if the BIOS should remove an IRQ from the pool of available IRQs passed to devices that are configurable by the system BIOS. The available IRQ pool is determined by reading the ESCD NVRAM. If more IRQs must be removed from the pool, the end user can use these options to reserve the IRQ by assigning an ISA/EISA setting to it. Onboard I/O is configured by the BIOS. All IRQs used by onboard I/O are configured as PCI/PnP. IRQ12 only appears if the PS/2 Mouse Support option in Advanced Setup is set to Disabled. IRQ14 and 15 will not be available if the onboard PCI IDE is enabled.

Peripheral Setup

The Peripheral Setup menu describes I/O resources assignment for all of the on-board peripheral devices.
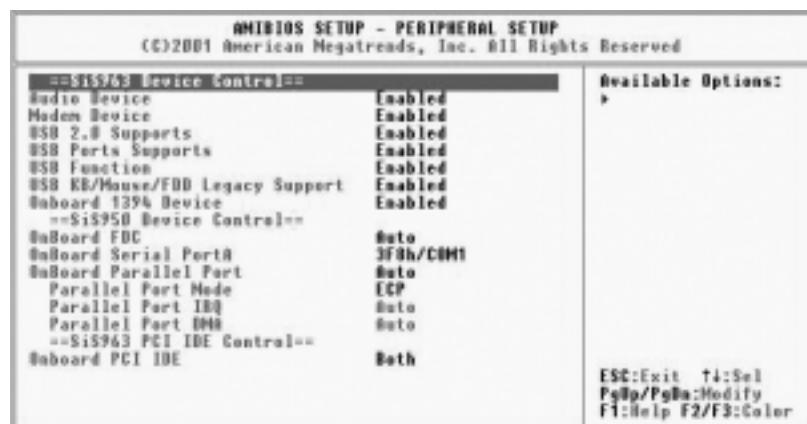
Audio Device (Enabled)
This item enables or disables the onboard AC'97 audio chip.

Modem Device (Enabled)
This item enables or disables the onboard AC'97 modem chip.

USB 2.0 Supports (Enabled)
This item enables or disables the onboard USB 2.0.

USB Ports Supports (Enabled)
Enable this item if you plan to use the USB ports on this
motherboard.

USB Function (Enabled)
Enable this item if you plan to use the USB ports on this
motherboard.

USB KB/Mouse/FDD Legacy Support (Enabled)
Set this item to enable to support for older keyboard, mouse and
legacy devices if the USB option is set to enable.

Optional BIOS item:

Onboard 1394 Device (Enabled)
Enable this item if you plan to use the onboard 1394 device.

OnBoard FDC (Auto)
Set this option to Enabled to enable the floppy drive controller on
the motherboard.

OnBoard Serial PortA (3F8h/COM1)
This option specifies the base I/O port address of serial port A.

Optional BIOS items:

OnBoard Serial PortB (2F8h/COM2)
This option specifies the base I/O port address of serial port B.

Serial Port2 Mode (Normal)
Use this item to allocate the resources of the second serial port.
Under Normal, the resources are allocated to the onboard serial
port. Under ASKIR or IrDA, the resources are allocated to the
onboard IR port.

OnBoard Parallel Port (Auto)
This option specifies the base I/O port address for the parallel port
on the motherboard.

Parallel Port Mode (ECP)
This option specifies the parallel port mode.

Parallel Port IRQ (Auto)
Use this item to assign either IRQ 5 or 7 to the parallel port.

Parallel Port DMA (Auto)
Use this item to assign a DMA channel to the parallel port. The options are 0, 1 and 3.

Onboard PCI IDE (Both)
Use this item to enable or disable either or both of the onboard Primary and Secondary IDE channels.

Hardware Monitor Page

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

CPU Vcore Voltage (1.488 V)
This item allows you to adjust the processor's core voltage to give it a small boost.

DDR Memory Voltage (1.792 V)
This item allows you to adjust the DDR memory voltage.

CPU Fan Speed (4560 RPM)
This item indicates the cooling fan speed in RPM.

CPU Temperature (36°C/96°F)
This item displays the current CPU temperature.

Change 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.

Auto Configuration with Optimal Settings

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

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

Auto Configuration with Fail Safe Settings

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>.

Save Settings and Exit

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

Exit Without Saving

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

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

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

Chapter 4

Software & Applications

Introduction

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

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

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

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

Installing Support Software

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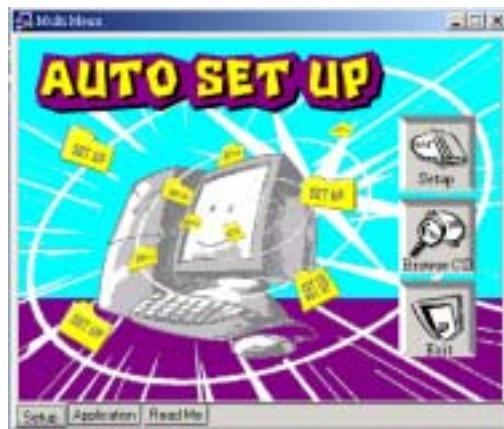
The **Setup** button runs the software auto-installing program as explained in next section.

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

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

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

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

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

1. The installation program loads and displays the following screen. Click the **Next** button.
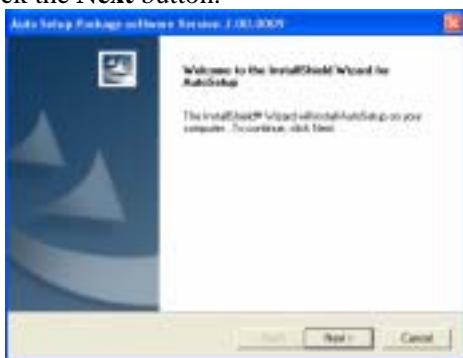
2. Select the items that you want to setup by clicking on it (the default options are recommended). Click the **Next** button to proceed.

3. The support software will automatically install.

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

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Installing under Windows NT or Manual Installation

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

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

Bundled Software Installation

All bundled software available on the CD-ROM is for users' convenience. You can install bundled software as follows:
1. Click the **Application** button while the Auto Setup screen pops out after inserting the support CD-ROM.
2. A software menu appears. Click the software you want to install.
3. Follow onscreen instructions to install the software program step by step until finished.