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M848A Series, V2.1
S748/August 2003**

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Static Electricity Precautions

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

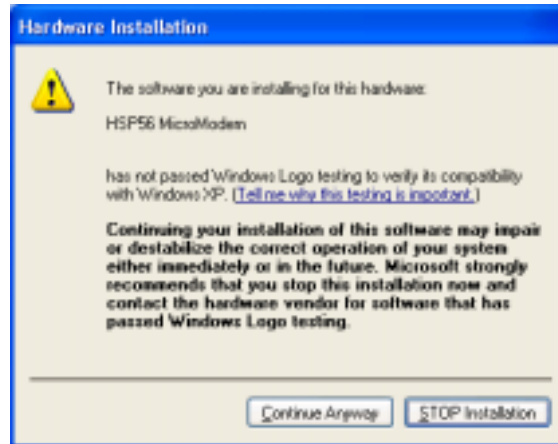
1. Don't take this mainboard and components out of their original static-proof package until you are ready to install them.
2. While installing, please wear a grounded wrist strap if possible. If you don't have a wrist strap, discharge static electricity by touching the bare metal of the system chassis.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

Pre-Installation Inspection

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

Notice:

1. Owing to Microsoft's certifying schedule is various to every supplier, we might have some drivers not certified yet by Microsoft. Therefore, it might happen under Windows XP that a dialogue box (shown as below) pop out warning you this software has not passed Windows Logo testing to verify its compatibility with Windows XP. Please rest assured that our RD department has already tested and verified these drivers. 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	<p>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:</p> <ul style="list-style-type: none">• Supporte les CPU AMD AthlonXP jusqu'à 400 MHz FSB• Supporte la synchronisation Synchrone/Quasi-synchrone Hôte à DRAM• Supporte les SDRAM DDR 266/333/400• 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 33/66/100/133• Compatible USB v2.0 et Interface de Contrôleur d'Hôte Avancé (EHCI) v1.0 <p>Les caractéristiques clé supplémentaires incluent le support pour six ports USB, contrôleur Fast Ethernet</p>

	MAC, interface AC97, gestion d'alimentation avancée, contrôleur DMA et contrôleur de clavier intégrés.
Mémoire	<ul style="list-style-type: none"> • Support de module mémoire DDR SDRAM jusqu'à 266/333/400 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	<p>La carte mère est livrée avec les options d'extensions suivantes:</p> <ul style="list-style-type: none"> • Cinq logements PCI 32 bits • Un logement AGP (supporte la carte 1.5V AGP seulement) • Un logement Communications Network Riser (CNR) (Interface AC97 seulement) • Deux connecteurs IDE supportant quatre canaux IDE et une interface de lecteur de disquette <p>La M848A supporte la maîtrise de bus Ultra DMA avec des vitesses de transfert de 33/66/100/133 Mo/sec.</p>

LAN Interne (optionnel)	<p>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.</p> <ul style="list-style-type: none"> • 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
E/S Intégrées	<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 (COM2 est optionnel) • Un port parallèle • Quatre ports USB • Un port LAN • Prises audio pour microphone, ligne d'entrée et ligne de sortie
Microprogramme BIOS	<p>Cette carte mère utilise AMI BIOS qui permet aux utilisateurs de configurer de nombreuses fonctionnalités du système comprenant les suivantes :</p> <ul style="list-style-type: none"> • Gestion d'alimentation • Alarmes de réveil • Paramètres de CPU • 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>



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 Mainboard verwendet einen AMD 462-Pin Sockel A, der einen 400 MHz Frontsidebus (FSB) unterstützt.
Chipsatz	<p>Die Chipsätze SiS748 und SiS963L 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">• Unterstützt AMD AthlonXP CPUs bis zu 400 MHz FSB• Unterstützt synchrones/quasi-synchrones Host-to-DRAM-Timing• Unterstützt 266/333/400 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 33/66/100/133• Kompatibel mit USB v2.0 und Enhanced Host Controller Interface (EHCI) v1.0 <p>Zusätzliche Schlüsseleigenschaften umfassen die Unterstützung für sechs USB-Anschlüsse, Fast Ethernet MAC Controller, AC 97-Interface, IEEE 1394 Host Controller (<i>ausgenommen Chipsatz SiS963L Southbridge</i>), erweiterte Energieverwaltung, integrierter DMA Controller und Tastatur Controller.</p>

Speicher	<ul style="list-style-type: none"> • Unterstützt DDR bis zu 266/333/400 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 (8xAGP) 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 Mikrofonstecker für 6 Kanal Audioausgabe.
Erweiterungsoptionen	<p>Das Mainboard bietet die folgenden Erweiterungsoptionen:</p> <ul style="list-style-type: none"> • Fünf 32-bit PCI-Steckplätze • EinenAGP-Steckplatz (unterstützt nur 1.5V AGP Interface) • Einen Steckplatz für Communications Network Riser (CNR) (nur AC97-Interface) • Zwei IDE-Stecker, die vier IDE-Kanäle und eine Schnittstelle für ein Floppydiskettenlaufwerk unterstützen <p>Das M848A unterstützt Ultra DMA Bus-Mastering mit Übertragungsraten von 33/66/100/133 MB/s.</p>
Integriertes LAN (optional)	<p>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.</p> <ul style="list-style-type: none"> • Duale Geschwindigkeit– 10/100 MB/Sek. • Halb-/Voll duplex • Entspricht allen geltenden IEEE 802.3, 10Base-T und 100Base-Tx-Standards • Einstellbarer Equalizer

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 (COM2 ist optional) • Eine parallele Schnittstelle • Vier USB-Schnittstellen • Eine LAN-Schnittstelle • Audiobuchsen für Mikrofon, Line-in und Line-out
BIOS-Firmware	<p>Dieses Mainboard setzt das AMI 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 • CPU und Speichertiming <p>Mit der Firmware können auch die Parameter für verschiedene Prozessortaktgeschwindigkeiten eingestellt werden.</p>



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

Lista di controllo

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

Articoli standard

- Una scheda madre
- Un cavo 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 AMD che supporta un front side bus (FSB) a 400 Mhz.
Chipset	<p>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:</p> <ul style="list-style-type: none">• Supporta CPU AMD AthlonXP fino a 400 MHz FSB• Supporta l'host-t-DRAM timing sincrono/quasi-sincrono• Supporta 266/333/400 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 33/66/100/133• Compatibile USB v2.0 e Enhanced Host Controller Interface (EHCI) v1.0 <p>Altre caratteristiche fondamentali sono: supporto per sei porte USB, controller Fast Ethernet MAC, interfaccia AC97, IEEE 1394 host controller (<i>tranne che per il chipset SiS963L Southbridge</i>), gestione avanzata del risparmio energetico, controller DMA controller integrato e controller tastiera</p>

Memoria	<ul style="list-style-type: none"> • Supporta un modulo di memoria SDRAM con DDR fino a 266/333/400 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	<p>La scheda M848A include uno slot AGP che fornisce otto volte la larghezza di banda delle specifiche AGP originarie. Lo standard AGP 3.0 (8xAGP) 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</p>
Audio	<p>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.</p>
Opzioni di espansione	<p>La scheda madre presenta le seguenti opzioni di espansione:</p> <ul style="list-style-type: none"> • cinque slot PCI 32 bit • Uno slot AGP (supporta solo l'interfaccia 1.5V AGP) • Una slot Communications e Network Riser (CNR) (solo interfaccia AC97) • Due connettori IDE che supportano quattro canali IDE e un floppy disk. <p>La scheda M848A supporta il bus mastering Ultra DMA con transfer rate 33/66/100/133 MB/sec.</p>
LAN integrato (opzionale)	<p>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.</p> <ul style="list-style-type: none"> • 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	<p>La scheda madre è dotata da una serie completa di porte e connettori I/O:</p> <ul style="list-style-type: none"> • 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	<p>Questa scheda madre adotta un BIOS AMI che permette agli utenti di configurare le caratteristiche principali del sistema, inclusi:</p> <ul style="list-style-type: none"> • Gestione energia • Allarmi wake up • Parametri CPU • Temporizzazione CPU e memoria <p>Il firmware può anche essere usato per impostare i parametri per diverse velocità di clock.</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 siguiente 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	<p>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:</p> <ul style="list-style-type: none">• Soporta AthlonXP CPU hasta 400 MHz FSB• Soporta Anfitrión Sincrónico/Casi-sincrónico para el cronometraje de DRAM• Soporta 266/333/400 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 33/66/100/133• USB v2.0 compatible con Interfaz de Controlador de Anfitrión Reforzado (EHCI) v1.0 <p>Características claves adicionales incluyen soporte para seis puertos USB, controlador Fast Ethernet MAC, Interfaz AC97, controlador anfitrión IEEE 1394 (<i>excepto para el chipset SiS963L Southbridge</i>), administración de energía avanzada, controlador DMA integrado y controlador de teclado.</p>

Memoria	<ul style="list-style-type: none"> • Soporta DDR hasta módulo de memoria 266/333/400 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	<p>El M848A incluye una ranura AGP que provee ocho veces la ancha de banda de la especificación de AGP original. El AGP 3.0 (8xAGP) 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.</p>
Sonido	<p>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 soporte 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.</p>
Opciones de Expansión	<p>La placa principal viene con las siguientes opciones de expansión:</p> <ul style="list-style-type: none"> • Cinco ranuras 32-bit PCI • Una ranura AGP (soporta interfaz 1.5V AGP solamente) • Una ranura de Communications Network Riser (CNR) (Interfaz AC97 solamente) • Dos conectores IDE que soportan cuatro canales IDE y una interfaz de unidad de disco floppy <p>El M848A soporta mastering de bus Ultra DMA con índices de transferencia de 33/66/100/133 MB/seg.</p>
LAN Abordo (optativo)	<p>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.</p> <ul style="list-style-type: none"> • Velocidad Dual – 100/10 Mbps • Duplex Medio y Completo • Satisface todas las normas IEEE 802.3, 10Base-T y 100Base-Tx • Ecuilizador Adaptivo

I/O Integrado	<p>La placa principal tiene un juego completo de puertos y conectores I/O:</p> <ul style="list-style-type: none"> • 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	<p>Esta placa principal usa AMI BIOS que habilita los usuarios a configurar muchas características de sistema que incluyen las sigtes.:</p> <ul style="list-style-type: none"> • Administración de energía • Alarmas despertadoras • Parámetros de CPU • CPU y cronometraje de memoria <p>El firmware también se puede usar para configurar parámetros para diferentes velocidades de reloj.</p>



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	<p>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:</p> <ul style="list-style-type: none">• Suporta AMD AthlonXP CPU até 400 MHz FSB• Suporta Host Síncrono/Quasi-síncrono em relação à Cronometragem do DRAM• Suporta 266/333/400 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 33/66/100/133• USB v2.0 e Enhanced Host Controller Interface (EHCI) v1.0 compatível <p>Características chaves adicionais incluem suporte para seis portas USB, controlador Fast Ethernet MAC, AC97 interface, controle de força avançado, controlador DMA integrado e controlador do teclado.</p>
Suporte de memória	<ul style="list-style-type: none">• Suporta DDR até módulo de memória 266/333/400 MHz SDRAM• Possui três encaixes 2.5V 184-pin• Cada encaixe suporta até 1 GB com a capacidade máxima de 3 GB

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 significativo 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 trabalho 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 suportando 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: <ul style="list-style-type: none"> • Cinco encaixes 32-bit PCI • Um encaixe AGP (suporta apenas 1.5V AGP Interface) • Um encaixe para Communications Network Riser (CNR) (apenas AC97 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 33/66/100/133 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. <ul style="list-style-type: none"> • Velocidade Dupla – 100/10 Mbps • Duplex 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: <ul style="list-style-type: none"> • Duas portas PS/2 para o rato e teclado • Dois portas em série (COM2 é opcional) • Uma porta paralela • Quatro portas USB

	<ul style="list-style-type: none">• Um porte de LAN• Jacks audio para microfone, line-in e line-out
BIOS Firmware	<p>Esta placa usa AMI BIOS que permite os usuários configurar várias características do sistema inclusive o seguinte:</p> <ul style="list-style-type: none">• Administração de Força• Alarmes para Acordar• Parâmetros do CPU• Cronometragem do CPU e memória <p>O firmware também pode ser usado para configurar os parâmetros para diferentes velocidades do relógio do processador.</p>



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

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（可选）
- 一条 IDE 驱动器带状电缆
- 一张自动安装软件支持光盘
- 一个后面板 I/O 防护罩
- 本用户手册

特性

处理器	主板使用一个 AMD 462-pin Socket A 插座，支持 400 MHz 前端总线 (FSB)。
芯片组	<p>SiS748 和 SiS963L 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：</p> <ul style="list-style-type: none">• 支持 400 MHz FSB 的 AMD AthlonXP CPU• 支持同步/准同步主机到 DRAM 定时• 支持 266/333/400 DDR SDRAM• 支持选项为 2、2.5 和 3 倍时钟的 DDR SDRAM CAS Latency• AGP v3.0 兼容• 支持 AGP 8X/4X 接口• 双向 16 位数据总线• 在 133MHz x 4 模式下带宽达 1GB/s• 符合 PCI 2.2 规格• 对读流水线信号流进行集成多线程 I/O 连接主控• 支持增强软件和自动机制以访问 PHY 寄存器• 支持 Ultra DMA 33/66/100/133• 兼容 USB v2.0 和增强主控器接口 (EHCI) v1.0 <p>它主要功能包括支持 6-个 USB 端口、高速以太网 MAC 控制器、AC97 接口、高级电源管理、集成 DMA 控制器和键盘控制器。</p>

内存	<ul style="list-style-type: none"> • 支持 266/333/400MHz DDR SDRAM 内存条 • 它有 3 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 3 GB
图形	M848A 包括一个 AGP 插槽，可提供普通 AGP 规格 8-倍的带宽。AGP 3.0 (8xAGP) 在增强了 AGP2.0 功能的同时极大地提高了性能。此接口反映了 AGP 的发展规律，它进一步满足了在工作站和桌面环境中对图形接口的不断增长的要求。
音频	AC' 97 Audio 编解码器兼容 AC 97 2.2 规格，符合 PC2001 标准，支持 S/PDIF Out。它还带有集成缓存和内部 PLL。它支持用于后置输出的 模拟开关（共享）、线入插孔（共享）、中置/低音（共享）和输出 6-路音频的 MIC 插孔。
扩展 选项	<p>此主板提供如下扩展选项：</p> <ul style="list-style-type: none"> • 5 个 32 位 PCI 扩展插槽 • 1 个 AGP 插槽（只支持 1.5V AGP 接口） • 1 个通信网络转接（CNR）插槽（仅对于 AC97 接口） • 2 个 IDE 接口，可支持 4 个 IDE 通道；1 个软驱接口 <p>M848A 支持 Ultra DMA 总线控制，传输速率可达 33/66/100/133 MB/sec。</p>
Onboard LAN (可选)	<p>VT6103L 是一种物理层设备，可用于使用 5 类 非屏蔽线、1 类屏蔽线和光缆的以太网 10BASE-T 和 100BASE-TX。</p> <ul style="list-style-type: none"> • 双速 - 100/10 Mbps • 半双工和全双工 • 符合所有相应的 IEEE 802.3、10Base-T 和 100Base-Tx 标准 • 自适应均衡器
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 个用于连接鼠标和键盘的 PS/2 端口 • 2 个串口（COM2 可选） • 1 个并口 • 4 个 USB 端口 • 1 个 LAN 端口 • 麦克风、线入和线出声音插孔
BIOS	此主板使用 AMI BIOS，可以让用户自己配置以下系统功

	<p>能：</p> <ul style="list-style-type: none">• 电源管理• 唤醒报警• CPU 参数• 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>
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部分硬件规格和软件项目若有更改恕不另行通知。

Chapter 1

Introduction

Thank you for choosing M848A mainboard. The mainboard 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 mainboard 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 S2K 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 mainboard 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 mainboard has these key features:

Processor

The mainboard uses an AMD 462-pin Socket A that supports 400 MHz frontside 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 AthlonXP CPU up to 400 MHz FSB
- ◆ Supports Synchronous/Quasi-synchronous Host to DRAM Timing
- ◆ Supports 266/333/400 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, AC97 interface, advanced power management, integrated DMA controller and keyboard controller.

Memory

- ◆ Supports DDR up to 266/333/400 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 mainboard 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 mainboard 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 (AC97 interface only)
- ◆ Two IDE connectors support four IDE channels and a floppy disk drive interface

The mainboard supports Ultra DMA bus mastering with transfer rates of 33/66/100/133 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

Integrated I/O

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

- ◆ Two PS/2 ports for mouse and keyboard
- ◆ 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 mainboard 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.

Bundled Software

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

Dimensions

- ◆ ATX form factor of 305 x 190mm

Package Contents

Attention: This mainboard 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 mainboard package contains the following items:

- The mainboard
- 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 mainboard.

- 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

Mainboard Installation

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

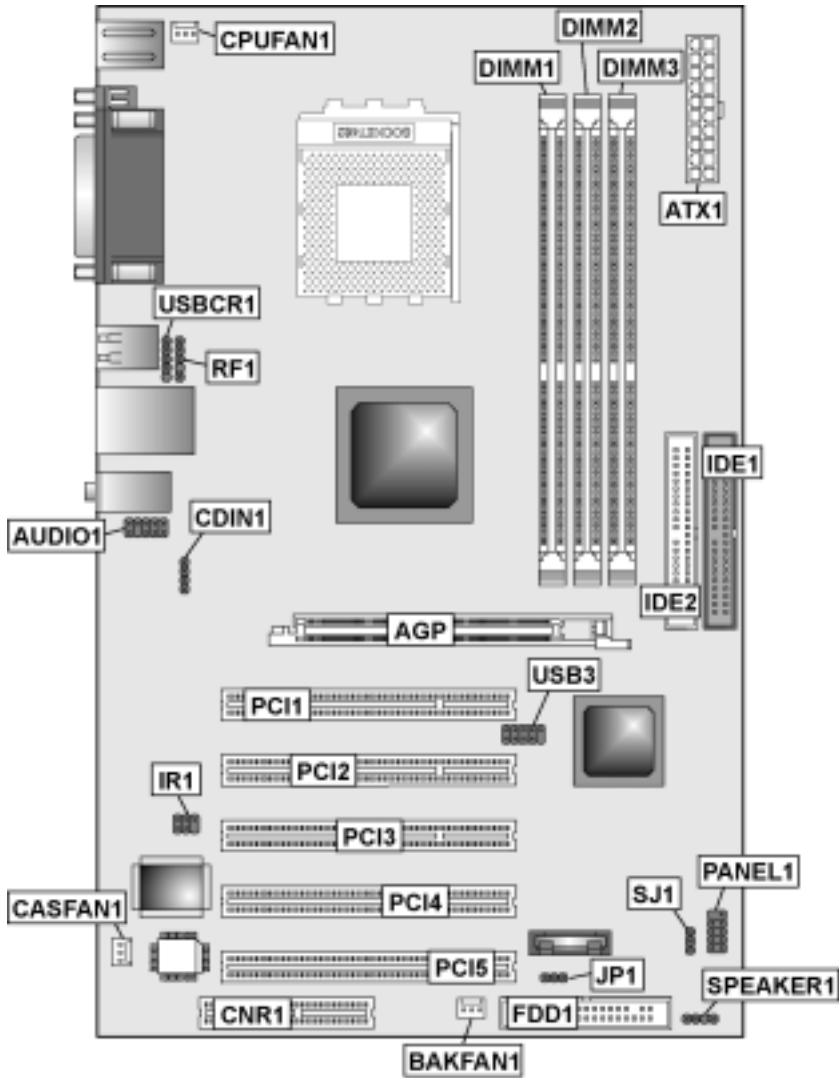
- ❑ Identify the mainboard components
- ❑ Install a CPU
- ❑ Install one or more system memory modules
- ❑ Make sure all jumpers and switches are set correctly
- ❑ Install this mainboard in a system chassis (case)
- ❑ Connect any extension brackets or cables to connectors on the mainboard
- ❑ Install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

Note:

1. Before installing this mainboard, 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 mainboard.

Mainboard Components

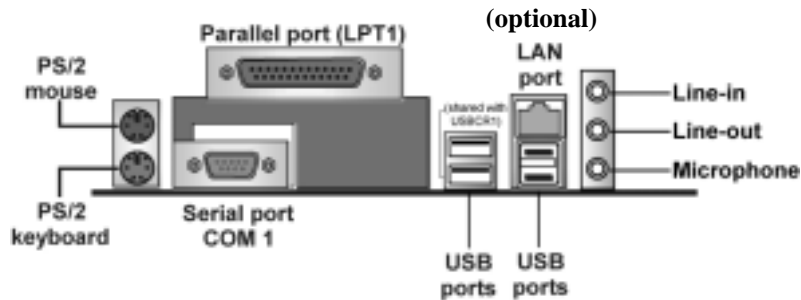
Identify major components on the mainboard via this diagram underneath.



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

I/O Ports

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



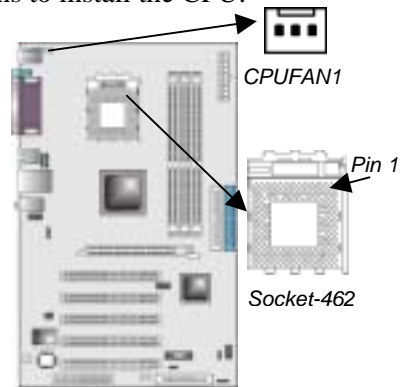
- PS/2 Mouse** Use the upper PS/2 port to connect a PS/2 pointing device.
- PS/2 Keyboard** Use the lower PS/2 port to connect a PS/2 keyboard.
- Parallel Port (LPT1)** Use LPT1 to connect printers or other parallel communications devices.
- COM1** Use the COM port to connect serial devices such as mice 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 USB C1 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 mainboard 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:



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 mainboard.

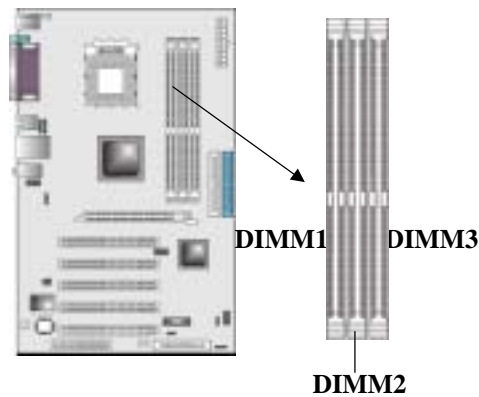
Installing Memory Modules

This mainboard 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: Double Data Rate SDRAM (DDR SDRAM) doubles the rate to 1.6 GBps and 2.1 GBps. 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 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

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.

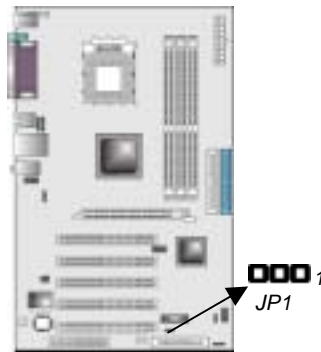
DDR SDRAM memory module table:

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 mainboard.

Jumper Settings

Using a jumper cap to connect two pins is **SHORT**, removing it from these pins, **OPEN**.



JP1: Clear CMOS Jumper

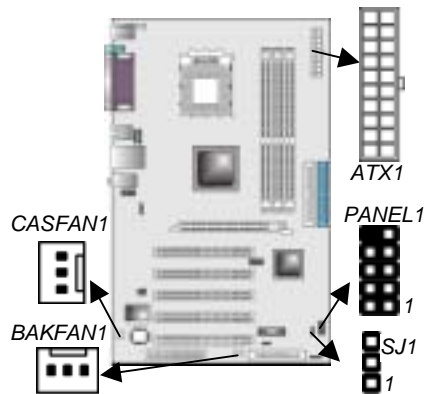
Use this jumper to clear the contents of the CMOS memory. You may need to clear the CMOS memory if the settings in the Setup Utility are incorrect and prevent your mainboard from operating. To clear the CMOS memory, disconnect all the power cables from the mainboard and then move the jumper cap into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

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

Install the Mainboard

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


Install the mainboard in a case. Follow the 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**.

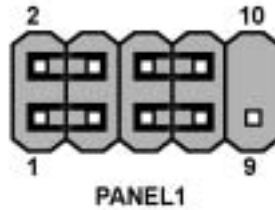
Pin	Signal
1	ACPI LED
2	ACPI LED
3	SB5V

ACPI LED function:

 SJ1 1	S0	S1	S3	S4/S5
	Light	Blinking	Blinking	Dark

Front Panel Connector

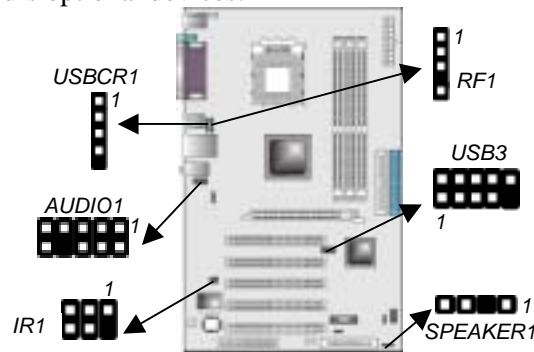
The front panel connector (PANEL1) provides a standard set of switch and LED connectors commonly found on ATX or micro-ATX cases. Refer to the table below for information:



Pin	Signal	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 mainboard's optional devices:



SPEAKER1: Speaker Connector

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

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 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 connector USB3 to connect the front-mounted ports to the mainboard.

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

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

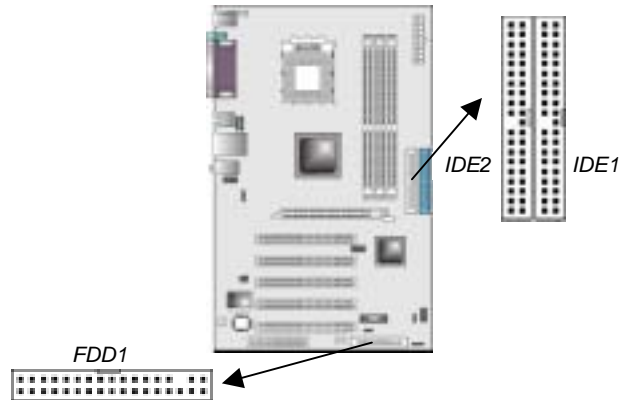
RF1: RF Wireless Mouse header

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.



Floppy Disk Drive

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

Install your drives and connect power from the system power supply. Use the cable provided to connect the drives to the floppy disk drive connector **FDD1**.

IDE Devices

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

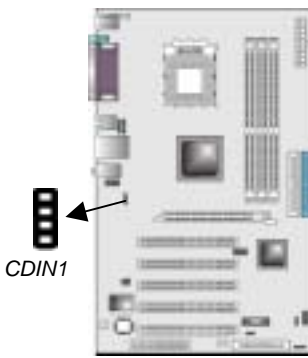
The mainboard ships with an IDE cable that can support one or two IDE devices. If you connect two devices to a single cable, you must configure one of the drives as Master and one of the drives as Slave. The documentation of the IDE device will tell you how to configure the device as a Master or Slave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

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

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

Internal Sound Connections

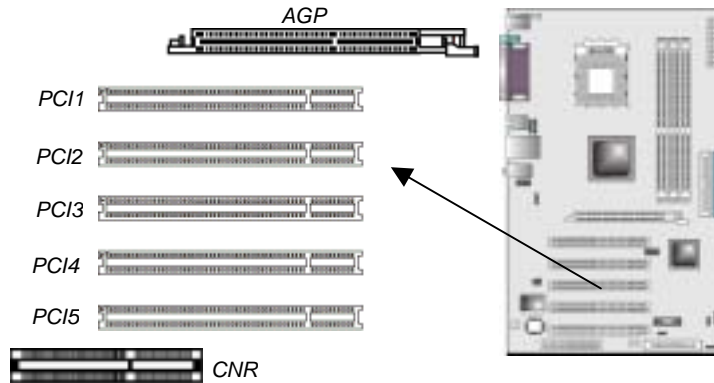
If you have installed a CD-ROM drive or DVD-ROM drive, you can connect the drive audio cable to the onboard sound system.



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

Expansion Slots

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



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

1. Locate the AGP or PCI slots on the mainboard.
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 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

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 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.



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.



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*.

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: Disabled Enabled
Pri Master ARMD Emulated as	Auto	
Pri Slave ARMD Emulated as	Auto	
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	UGA/EGA	
Password Check	Setup	
Boot To BS/2	No	ESC:Exit F4:Sel PgUp/PgDn:Modify F1:Help F2/F3:Color

Quick Boot (Enabled)

If you enable this item, the system starts up more quickly by elimination of 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 be 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 mainboard.

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 (C)2001 American Megatrends, Inc. All Rights Reserved		
Detect CPU Frequency	Auto	Available Options: ▶ Auto Manual
CPU Frequency	133 MHz	
AUTO Detect DRAM Frequency	Enabled	
CPU/DRAM Clock Ratio	[1:1]	
DRAM Frequency	83 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	

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.

AMIBIOS SETUP - POWER MANAGEMENT SETUP		
(C)2001 American Megatrends, Inc. All Rights Reserved		
Power Switch Type	On/Off	Available Options:
ACPI Aware E/S	Yes	► On/Off
ACPI Standby State	S1	Suspend
Power Management	Enabled	
Suspend Time Out	Disabled	
Hard Disk Time Out	Disabled	
RTC Alarm Resume From Soft Off	Disabled	
RTC Alarm Date	Every Day	
RTC Alarm Hour	12	
RTC Alarm Minute	30	
RTC Alarm Second	00	
Resume on PME	Enabled	
Resume On Mac PME	Enabled	
Wake on Ring/Lan	Disabled	
Keyboard PowerOn Function	Disabled	
USB Device Lead To Power On	Disabled	
Resume on PS2 Mouse	Disabled	
PS2 MOUSE Wake Select Mode	Bottom	
Restore on AC/Power Loss	Power Off	
		ESC:Exit F4:Sel PgUp/PgDn:Modify F1:Help F2/F3:Color

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		
(C)2001 American Megatrends, Inc. All Rights Reserved		
Plug and Play Aware O/S	No	Available Options: a No Yes
Primary Graphics Adapter	PCI	
Allocate IRQ to PCI UGA	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	
IRQ10	PCI/PnP	
IRQ11	PCI/PnP	
		ESC:Exit F4:Sel PgUp/PgDn:Modify 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 mainboard 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.

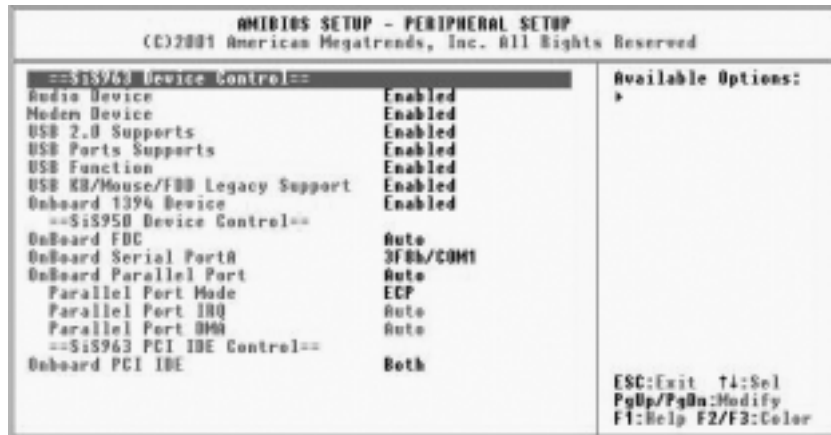
IRQ (PCI/ PnP)

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 mainboard.

USB Function (Enabled)

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

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 mainboard.

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 mainboard.

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 mainboard.



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 mainboard.

Chapter 4

Software & Applications

Introduction

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

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

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

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

Installing Support Software

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



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

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

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

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

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

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

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

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



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



3. The support software will automatically install.

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

Installing under Windows NT or Manual Installation

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

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

Bundled Software Installation

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

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