CERTIFICATE

The TÜV CERT Certification Body
for QM Systems of RWTÜV Systems GmbH

hereby certifies in accordance with TÜV CERT
procedure that

ELITEGROUP COMPUTER SYSTEMS CO., LTD.
ECS MANUFACTURING (SHENZHEN) CO., LTD.
ELITE TECHNOLOGY (SHENZHEN) CO., LTD.

2F, No. 240, Sec. 1, Nei Hu Road, Taipei, Taiwan 114, R.O.C.
No. 22, Alley 38, Lane 91, Sec. 1, Nei Hu Road, Taipei, Taiwan 114, R.O.C.
No. 20 & No. 26, Free Trade Zone, Shatoujiao, Shenzhen City, GuangDong Province, China

has established and applies a quality system for

Design, Manufacturing and Sales of Mainboards,
Personal Computers, Notebooks and Peripheral Cards

An audit was performed, Report No.   **2.5-1585/2000**

Proof has been furnished that the requirements according to

ISO 9001 : 2000 / EN ISO 9001 : 2000 / JIS Q 9001 : 2000 / ANSI/ASQC Q9001 : 2000

are fulfilled. The certificate is valid until **27 January 2007**

Certificate Registration No. **04100 2000 1325**

The company has been certified since **2000**

TGA-ZM-30-96-00

Essen, 04.03.2004

RWTÜV

The TÜV CERT Certification Body for QM Systems
of RWTÜV Systems GmbH

ISO14001
CERTIFICATE

Certificate NO.: 05-2001-065

We hereby certify that

ECS Manufacturing(Shenzhen) Co.,Ltd

by reason of its

Environmental Management System

has been awarded this certificate for
compliance with the standard

ISO14001 :1996

The Environmental Management System
applies in the following area:

The manufacture of Mother Board and Peripheral Card and interrelated
management activities of ECS Manufacturing(Shenzhen) Co.,Ltd.
which is located in No.20,Free Trade Zone,Shatuojiao,Shenzhen, P. R.China.

Date of issue: 30th Dec 2001
Date of expiry: 29th Dec 2004
Signed by:

SHENZHEN ENVIRONMENTAL MANAGEMENT SYSTEM CERTIFICATION CENTER

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Static Electricity Precautions

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

1. Don't take this 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

Le coffret de votre carte mère contient les éléments suivants :
❑ La carte mère
❑ Le Manuel utilisateur
❑ Un câble plat pour lecteur de disquette (optionnel)
❑ Une câble plat pour lecteur IDE
❑ CD de support de logiciels

Caractéristiques

Processeur	**Prise en charge du Processeur Socket-462** • Supporte le CPU AMD **Athlon XP/Sempron/Athlon/Duron** • Supporte un Bus Avant allant jusqu'à **400 MHz (M863AG)/** 333 MHz (M863G)
Chipset	Ce chipset comporte **SiS741/SiS 741GX Northbridge** et **SiS963L Southbridge** conformément à une architecture novatrice et dimensionnable avec une fiabilité et des performances prouvées. Cette série de carte mères a deux modèles M863AG et M863G :

Model	*Northbridge*	*Southbridge*	*Function*
*M863**AG***	*SiS 741*	*963L*	*CPU FSB: **400**MHz DDR**400***
M863G	*SiS 741 GX*	*963L*	*CPU FSB: 333MHz DDR333/266*

	• Supporte les CPU AMD Athlon XP, Sempron, Athlon et Duron CPU avec FSB jusqu'à **400(SiS741 NB seulement)** /333MHz, et Temporisation Hôte vers DRAM Synchrone/ Quasi-synchrone • Supporte le **400(SiS741 NB seulement)**/333/266 SDRAM DDR et contrôleur de mémoire unifiée de haute performance optimisant l'utilisation du bus DRAM • Supporte l'Interface AGP 8X/4X avec Fast Write Transaction • Moteur 3D 256 bits de haute performance et Moteur d'installation en triangle VLIW au format de virgule flottante en 32 bits intégré • Le lien Multiprocessus E/S intégré assure l'accès simultané de transfert de données en amont/aval avec une bande passante de 1.2Go/s. • Conforme aux spécifications PCI 2.2 • Maîtrise de lien Multiprocessus E/S intégré • Maîtrise de Liaison d'E/S Multiprocessus avec transaction Simultanée de Lecture/Ecriture
Support de Mémoire	• La carte mère peut recevoir deux sockets DIMM DDR 2.5V de 184 broches d'une capacité totale de mémoire système de 2 Go. • Supporte le bus mémoire DDR **400 (SiS741 NB seulement)**/333/266
AC'97 Audio Codec	• Conforme aux spécifications AC'97 2.2 • Conformité de Protocole de Liaison AC • Codec Full-duplex avec vitesse d'échantillonnage indépendante et variable • Tampon d'écouteur intégré • SNR 90db • Sortie Stéréo et Sortie Mono • 4Ch DAC • Coffret 48 LQFP et Coffret TSSOP 24 Brins

	• Conforme aux exigences PC99 de Microsoft • Support de gestion d'alimentation avancée
Logements d'Extension	• Deux slots PCI 32 bits • Un logement 8X AGP • Un logement CNR (Communications and Networking Riser)
IDE Interne	• Deux Connecteurs IDE • Prend en Charge les modes PIO (Entrée/Sortie Programmable) et DMA (Accès Direct à la Mémoire) • Supporte maîtrise de bus Ultra DMA IDE avec vitesse de transfert de **133**/100/66 Mo/sec
Ports E/S Internes	La carte mère possède un jeu complet de ports d'E/S et de connecteurs: • Deux ports PS/2 pour souris et clavier • Un port série • Un port parallèle • Un port VGA • ports USB**2.0** (quatre ports fond de panier, prises USB internes offrant deux ports supplémentaires • Six ports USB 2.0 (quatre ports fond de panier, connecteurs USB internes offrant deux ports supplémentaires) • Prises audio pour microphone, ligne d'entrée et ligne de sortie
Fast Ethernet LAN (optional)	• Supporte le fonctionnement en 10/100Mbps et le fonctionnement en half/full duplex • Conforme IEEE 802.3/802.3u • Supporte l'auto négociation IEEE 802.3u clause 28 • Supporte le fonctionnement en mode d'Economie d'Energie d'Interruption de Liaison • Supporte la compensation de Déviation de Ligne de Base (BLW) • Egalisation spéculative
USB 2.0	• Conforme aux Spécifications de Bus Série Universel Révision 2.0 • Conforme aux Spécifications d'interface de Contrôleur d'Hôte Amélioré de Intel Révision 0.95 • Conforme aux Spécifications d'Interface de Contrôleur d'Hôte Universel Révision 1.1 • Le périphérique multifonction PCI consiste en deux noyaux de Contrôleur d'Hôtes UHCI pour signalisation pleine/faible vitesse et un noyau de Contrôleur d'Hôtes EHCI pour signalisation haute vitesse • Le hub racine consiste en 4 ports de face en aval avec émetteurs-récepteurs de couche physique intégrés partagés par le Contrôleur d'Hôte UHCI et EHCI • Support des Spécifications d'Interface de Gestion d'Alimentation de Bus PCI version 1.1 • Support hérité pour tous les ports face à l'aval.

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

Checkliste

Die Verpackung Ihres Motherboards enthält folgende Teile:
❑ Motherboard
❑ Handbuch
❑ Bandkabel für Floppylaufwerke (optional)
❑ Bandkabel für IDE-Laufwerke
❑ Software-CD

Ausstattung

Prozessor	**Unterstütz Socket-462-Prozessoren** •Unterstützung für AMD **Athlon XP/Sempron/Athlon/Duron** prozessors •Unterstützung von bis zu **400** MHz Front-Side Bus (**M863AG**)/ 333 MHz (M863G)
Chipsatz	Dieser Chipsatz besteht aus einer **SiS741/SiS 741GX Northbridge** und einer **SiS963L Southbridge.** Die Chipsatzarchitektur ist in einem innovativen und skalierbaren Design gehalten und verspricht sowohl Zuverlässigkeit als auch Leistungsstärke. Diese Motherboardserie besteht aus zwei Modellen, M863AG und M863G:

	Model	*Northbridge*	*Southbridge*	*Function*
	*M863**AG***	*SiS 741*	*963L*	*CPU FSB: **400**MHz DDR**400***
	M863G	*SiS 741 GX*	*963L*	*CPU FSB: 333MHz DDR333/266*

	• Unterstützt AMD Athlon XP, Sempron, Athlon und Duron CPU mit FSB bis zu **400(nur für SiS741 NB)**/333MHz, und synchrones/quasisynchrones Host-to-DRAM Timing • Unterstützt **400(nur für SiS741 NB)**/333/266 SDRAM DDR und High Performance Unified Memory Controller zur Optimierung der DRAM Bus-Nutzung. • Unterstützt AGP 8X/4X-Interface mit Fast Write-Abwicklung • Eingebauter 256-Bit 3D Hochleistungsmotor und VLIW Dreieck-Startmotor mit 32-BitFlußpunktformat • Integriertes mehrfasiges I/O Bindeglied, welches den Zulauf der Datenübertragung stromaufwärts und stromabwärts mit einer 1.2GB/Sek-Bandbreite sicherstellt • Entspricht PCI 2.2 Spezifikation • Eingebautes Multithreaded I/O-Link-Mastering • Multithread I/O Link Mastering mit parallelem Read/Write-Betrieb
Speicherunterstützung	• Das Motherboard umfaßt zwei 184-polige, 2.5V-DDR-Steckplätze für insgesamt 2 GB Speicher. • Unterstützung für DDR bis zu **400(nur für SiS741 NB)**/333/266 Speicherbus
AC'97 Audio Codec	• Entspricht AC'97 2.2 • Entspricht AC-Link Protokoll • Vollduplex Codec mit unabhängiger und variabler Abtastrate • Eingebauter Kopfhörerpuffer • SNR 90db • Stereo- und Monoausgang • 4Ch DAC • 48 LQFP Package und 24-Lead TSSOP Package

VII

	• Entspricht Microsofts PC99-Spezifikationen • Unterstützung für Advanced Power Management
Erweiterungs steckplätze	• Zwei 32-Bit PCI-Steckplätze • Ein 8X AGP-Steckplatz • Ein CNR-Steckplatz (Communications & Networking Riser)
Onboard IDE	• Zwei IDE-Header • Unterstützt die Modi PIO (Programmable Input/Output) und DMA (Direct Memory Access) • Unterstützung für IDE Ultra DMA-Busmastering mit Transferraten von **133** 100/66 MB/Sek
Onboard I/O Ports	Das Motherboard verfügt über einen kompletten Satz von I/O-Schnittstellen und Anschlüssen: • Zwei PS/2-Steckplätze für Maus und Tastatur yboard • Ein serieller Steckplatz • Ein paralleler Steckplatz • Ein VGA Steckplatz • Sechs USB2.0-Ports (vier Ports auf der Rückseite; die Onboard-USB-Header für zwei zusätzliche Ports). • Audioanschlüsse für Mikrofon, line-in und line-out
Fast Ethernet LAN (optional)	• Unterstützt 10/100Mbps-Betrieb und halben/vollen Duplex-Betrieb • Übereinstimmend mit IEEE 802.3/802.3u • Unterstützt IEEE 802.3u Klausel 28 Selbstentscheidung • Unterstützt den Betrieb unter dem Modus "Link Down Power Saving" (Verbundener Sparbetrieb) • Unterstützt Base Line Winder (BLW) - Ausgleich • Anpassungsfähige Ausgleichung
USB 2.0	• Entspricht Universal Serial Bus-Spezifikation, Revision 2.0 • Entspricht Intels Enhanced Host Controller Interface-Spezifikation, Revision 0.95 • Entspricht Universal Host Controller Interface -Spezifikation Revision 1.1 • PCI-Multifunktionsgerät besteht aus zwei UHCI Host Controller-Kernen für Signalübertragung bei voller und niedriger Geschwindigkeit sowie einem EHCI Host Controller-Kern für Hochgeschwindigkeits- Signalübertragung • Root Hub besteht aus 4 Downstream-Ports mit integrierten Physical Layer-Überträgern für gemeinsame Nutzung durch UHCI und EHCI Host Controller • Unterstützt PCI-Bus Power Management Interface , Spezifikation Release 1.1 • Legacy-Unterstützung für alle Downstream-Ports

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

Lista

L'imballo della scheda madre é composto da:
- ❑ La scheda madre
- ❑ Il manuale
- ❑ Una piattina per il collegamento dei drive (opzionale)
- ❑ Una piattina IDE
- ❑ Il CD con il Software di supporto

Caratteristiche

Processor	**Dotata di Socket 462 per Processori** • Supporta CPU AMD **Athlon XP/Sempron/ Athlon/Duron** • Supporta fino a **400 MHz (M863AG)/** 333 MHz (M863G) Front Side Bus
Chipset	In accordo ad una archittettura scabile e innovative sono presenti nel chipset il **Northbridge SiS741/SiS 741GX e Southbridge SiS963L**. Di questa scheda madre sono stati sviluppati due modelli: M863AG e M863G: _(vedi tabella sotto)_ • Vengono supportate le CPU AMD Athlon XP, Sempron, Athlon e Duron con FSB fino a **400 (solo SiS741 NB)**/333MHz e Timing Sincrono/ Quasi-sincrono Host-to-DRAM. • Supporto **400(solo SiS741 NB)**/333/266 SDRAM DDR ed é presente un controller ad alte prestazioni in grado di ottimizzare l'utilizzazione del bus DRAM • Supporto dell'interfaccia AGP 8X/4X con Fast Write Transaction • Motore 3D a 256 bit con floating point VLIW triangle a 32 bit • Link I/O Multi-threaded integrato assicura la concorrenza dei trasferimenti upstream/downstream con una larghezza di banda pari a 1.2GB/s • Compatibile con le specifiche PCI 2.2 • Link mastering I/O multi-threaded integrato • I/O con Link Mastering Multithread con possibilità di transazione concorrente Read/Write
Memory Support	• La scheda madre è dotata di 2 socket DIMM DDR 184 pin, 2.5V per una capacità totale di memoria di sistema pari a 2 GB. • Supporta bus di memoria DDR **400 (solo SiS741 NB)**/333/266
AC'97 Audio Codec	• Conforme con le specifiche AC`97 2.2 • Conforme al Protocollo AC-Link • Codec Full-duplex con campionamento indipendente e variabile • Buffer Cuffie Interno • SNR 90db • Output Stereo e Mono Out • 4Ch DAC • Package 48 LQFP e TSSOP 24 Lead • Supporto degli standard Microsoft PC99 • Supporto per gestione energetica avanzata
Slot di espansione	• Due slot a 32-bit PCI • Una slot AGP 8X • Uno slot CNR (Communications and Networking Riser)

Tabella (parte della sezione Chipset):

Model	_Northbridge_	_Southbridge_	_Function_
_M863**AG**_	_SiS 741_	_963L_	_CPU FSB: **400**MHz DDR**400**_
_M863G_	_SiS 741 GX_	_963L_	_CPU FSB: 333MHz DDR333/266_

Onboard IDE	• Due connettori IDE • Supporto della modalità PIO (Programmable Input/Output) e DMA (Direct Memory Access) • Supporto per le modalità Bus Mastering e Ultra DMA ATA **133**/100/66 MB/sec
Onboard I/O Ports	La scheda madre è dotata da una serie completa di porte e connettori I/O: • Due porte PS/2 per tastiera e mouse • Una porta seriale • Una porta parallela • Una porta VGA • Sei porte USB2.0 (Quattro presenti nella parte posteriore, connettori USB integrati nella scheda madre per l'aggiunta di altre 2 porte • Jack audio per microfono, ingresso linea e uscita linea
Fast Ethernet LAN (opzionale)	• Operazioni 10/100Mbps e half/full duplex • Conforme allo standard IEEE 802.3/802.3u • Negoziazione automatica 28 clause IEEE 802.3u • Operazioni nella modalitá "Link Down Power Saving mode" • Supporto compensazione Base Line Winder (BLW) • Adaptive Equalization
USB 2.0	• Conforme alle specifiche Universal Serial Bus 2.0 • Conforme alle specifiche Intel Enhanced Host Controller revisione 0.95 • Conforme alle specifiche Universal Host Controller Interface revisione 1.1 • Il dispositivo PCI multifunzione consiste di due schede di controllo **UHCI** per la trasmissione segnali pieno/basso e una scheda di controllo **EHCI** per la trasmissione segnali ad alta velocità. • Il porto hub di base consiste di 4 porte downstream con ricetrasmittenti integrati nel layer fisico condivisi dalla scheda di controllo interfaccia **UHCI** e **EHCI** • Supporto per interfaccia risparmio energia bus PCI specifiche release 1.1 • Supporto per tutte le porte downstream precedenti

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

LiSTA DE VERIFICACIÓN

El paquete de su placa principal contiene los sigtes. ítems:
- ❑ La placa principal
- ❑ El Manual del Usuario
- ❑ Un cable cinta para el lector de disquete (optativo)
- ❑ Un cable cinta para el lector IDE
- ❑ CD de Software de soporte

Características

Processor	**Soporte de Procesador Socket-462**
	• Soporta CPU de AMD **Athlon XP/ Sempron/ Athlon/Duron**
	• Soporta hasta Bus de Lado Frontal de **400 MHz (M863AG)/** 333 MHz (M863G)
Chipset	Hay **SiS741/SiS 741GX Northbridge** y **SiS963L Southbridge** en este chipset en confomidad con una arquitectura innovadora y escalable con fiabilidad y rendimiento comprobados. La serie de esta placa principal tiene dos modelos, M863AG y M863G:

Model	Northbridge	Southbridge	Function
M863**AG**	SiS 741	963L	CPU FSB: **400**MHz DDR**400**
M863G	SiS 741 GX	963L	CPU FSB: 333MHz DDR333/266

	• Soporta las CPUs AMD Athlon XP, Sempron, Athlon y Duron con FSB hasta **400(SiS741 NB solamente)**/333 MHz, y Cronometraje de Anfitrión a DRMA Sincrónico/ Casi-sincrónico
	• Soporta **400(SiS741 NB solamente)**/333/266 SDRAM DDR y controlador de memoria unificado de alto rendimiento que optimiza la utilización de bus DRAM
	• Soporta Interfaz AGP 8X/4X con Transacción de Escritura Rápida
	• Motor 3D de 156-bit de alto rendimiento incorporado y motor de setup de triángulo VLIW de formato de punto flotante de 32-bit
	• Vínculo I/O multihilado integrado asegura la concurrencia de la transferencia de datos hacia arriba y abajo con un ancho de banda de 1.2GB/s
	• Especificación de conformidad PCI 2.2
	• Entrada/Salida multi-ensartada integrada y enlace maestro
	• Mastering de vínculo I/O multihilado con transacción Concurrente de Lectura/Escritura
Soporte de Memoria	• La placa principal acomoda dos 2.5V DDR de 184 pines, enchufes DIMM con una capacidad total de 2GB de memoria de sistema.
	• Soporta DDR hasta bus de memoria de **400 (solamente SiS741 NB)**/333/266
AC'97 Audio Codec	• Conforme con la especificación AC'97 2.2
	• Conformidad de Protocolo AC-Link
	• Codec de Full-duplex con índice de muestreo independiente y variable
	• Buffer de Audífono Incorporado
	• SNR 90db
	• Salidas de Estéreo y Modo
	• 4Ch DAC
	• Paquetes 48 LQFP y 24-Lead TSSOP
	• Satisface los requisitos PC99 de Microsoft

	• Soporte de administración de energía avanzada
Ranuras de Expansión	• Dos ranuras 32-bit PCI • Una ranura 8X AGP • Una ranura CNR (Communications and Networking Riser)t
IDE Abordos	• Dos conectores IDE • Soporta modos PIO (Entrada/Salida Programable/Programmable Input/Output) y modos DMA (Acceso de Memoria Directo/Direct Memory Access). • Soporta mastering de bus IDE Ultra DMA con índices de transferencia de **133**/100/66 /MB/sec
Puertos I/O Abordos	La placa principal tiene un juego completo de puertos I/O y conectores: • Dos puertos PS/2 para ratón y teclado • Un puerto serial • Un puerto paralelo • Un puerto VGA • Seis puertos USB **2.0** (cuatro puertos de panel trasero, cabezales USB abordos que proveen dos puertos extras) • Clavijas de sonido para micrófono, entrada y salida de línea
Ethernet LAN Rápido (optional)	• Soporta operación 10/100Mbps y operación de duplex medio/completo. • Conformidad IEEE 802.3/802.3u • Soporta auto-negociación IEEE 802.3u cláusula 28 • Soporta operación bajo el modo Link Down Power Saving (Vincular Ahorro de Suministro) • Soporta compensación Base Line Winder (BLW) • Ecualización Adaptiva.
USB 2.0	• Conforme con la Especificación de Bus Serial Universal Revisión 2.0 • Conforme con Controlador Anfitrión Reforzado de Intel Interface Specification Revision 0.95 • Conforme con la Especificación de Interfaz de Controlador Anfitrión Universal Revisión 1.1 • Dispositivo PCI multi-función se consiste de dos centros de Controlador Anfitrión UHCI para señalización de velocidad completa/baja y un centro de Controlador Anfitrión EHCI para señalización de alta velocidaa • Root hub consiste de 4 puertos que miran hacia abajo con transceptores de capa física integrado compartido por Controlador Anfitrión UHCI y EHCI • Soporta Especificación de Interfaz de Administración de Energía de BUS PCI versión 1.1 • Soporte de legado para todos los puetos que miran hacia abajo

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

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	**Suporte do Processador Socket-462** • Suporta AMD **Athlon XP/Sempron/Athlon/Duron** processadors • Suporta até **400 MHz (M863AG)/** 333 MHz (M863G) Front-Side
Chipset	Conta com **SiS741/SiS 741GX Northbridge** e **SiS963L Southbridge** neste chipset, de acordo com uma arquitectura inovadora e escalável com um nível de confiança e desempenho comprovado. Esta série de placa mãe possui dois modelos, M863AG e M863G:

Model	Northbridge	Southbridge	Function
M863**AG**	SiS 741	963L	CPU FSB: **400**MHz DDR**400**
M863G	SiS 741 GX	963L	CPU FSB: 333MHz DDR333/266

	• Suporta AMD Athlon XP, Sempron, Athlon, Duron CPU com FSB até **400(apenas para SiS741 NB)**/333 MHz, e Síncrono / Quasi-síncrono Host-para-DRAM Timing • Suporta **400(apenas para SiS741 NB)**/333/266 SDRAM DDR e controlador de memória unificada de alta perfomrance optimizando o uso do DRAM bus • Suporta Interface c/ Transação de Escrita Rápida AGP 8X/4X • Engenho de alta performance embutido de 256-bit 3D e formato de ponto flutuante de 32-bit engenho de configuração triangular VLIW • Linque I/O Multi-entrelaçado assegurando a concurrência de correntes de transferência de dados para cima/para baixo com banda de 1.2GB/s • Especificação PCI 2.2 Compatível • Linque mestre multi-entrelaçado I/O • I/O link Mastering Interlaceado com transação Concurrente Read/Write
Suporte de memória	• A placa mãe acomoda dois pinos DDR 184, soquetes 2.5V DIMM com uma capacidade total de 2 GB de sistema de memória. • Suporta bus de memória DDR **400(apenas para SiS741 NB)**/333/266 memory bus
AC'97 Audio Codec	• Compatível com a especificação AC'97 2.2 • AC-Link Protocolo compatível • Full-duplex Codec com taxa de amostra variável e independente • Registrador de Fone de Ouvido Embutido • SNR 90db • Stereo Output e Mono Out • 4Ch DAC • Pacote 48 LQFP e 24-Lead TSSOP • De acordo com os requerimentos da Microsoft PC99 • Suporte de gerenciamento de força avançado
Slots de expansão	• Dois encaixes 32-bit PCI slots • Um slot AGP 8X

	• Um encaixe para CNR (Communications and Networking Riser)
IDE na placa	• Dois conectores IDE • Suporta modos PIO (Input/Output Programável) e DMA (Direct Memory Access) • Suporta IDE Ultra DMA bus mastering com razão de transferência de **133**/100/66 MB/sec
Portas I/O na placa	A placa principal possui um conjunto completo de portas e conectores I/O: • Duas portas PS/2 para o rato e teclado • Uma porta série • Uma porta paralela • Uma porta VGA • Seis portes USB2.0 (quatro portes traseiros, um conector USB na placa com dois portes extras) • Jacks audio para microfone, line-in e line-out
Fast Ethernet LAN (optional)	• Suporta operação 10/100Mbps e operação parcial/completa duplex • IEEE 802.3/802.3u complacente • Suporta IEEE 802.3u cláusula 28 auto negociação • Suporta operação sob o modo Link Down Power Saving • Suporta compensação Base Line Winder (BLW) • Equalização Adaptativa
USB 2.0	• Compatível com Universal Serial Bus Revisão 2.0 da especificação • Compatível com controlador Enhanced Host da Intel Revisão 0.95 da especificação da interface • Compatível com controlador Universal Host Revisão 1.1 da especificação da Interface • O dispositivo PCI muli-funções consiste em dois núcleos de **Controlador UHCI Host Controller** para sinalização de velocidade total/baixa em um núcleo de **Controlador EHCI Host** para sinalização de alta velocidade • O núcleo de raiz consiste em 4 portas de protecção a jusante com transreceptores de camadas físicas integrados partilhados pelos controladores Host **UHCI** e **EHCI** • Suporte de gestão de energia PCI-Bus Revisão 1.1 da especificação da interface • Suporte para todas as portas de protecção a jusante

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

检查单

您的主板包装含有以下项目：

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

功能

处理器	**支持 Socket-462 处理器** • 支持 AMD **Athlon XP/Sempron/Athlon/Duron** CPU • 支持**400 MHz (M863AG)/** 333 MHz (M863G) 前端总线
芯片组	芯片组包含**SiS741/SiS 741GX北桥** 和**SiS963L南桥**，它基于一种新型的、可扩展的架构，能提供已经证明的可靠性和高性能。此主板系列有两种型号，M863AG 和 M863G：

Model	Northbridge	Southbridge	Function
M863**AG**	SiS 741	963L	CPU FSB: **400**MHz DDR**400**
M863G	SiS 741 GX	963L	CPU FSB: 333MHz DDR333/266

	• 支持最高 FSB 为400 (只支持SiS741 NB) /333MHz 的 AMD Athlon XP, Sempron, Athlon 和 Duron CPU, 支持同步/准同步主机到 DRAM 定时 • 支持400 (只支持SiS741 NB)/333/266 DDR SDRAM和对 DRAM 总线利用率进行优化的高性能标准存储控制器 • 支持带有 Fast Write Transaction 的 AGP 8X/4X 接口 • 内建高性能 256 位 3D 引擎和 32 位浮点式 VLIW 三角设置引擎 • 集成多线程 I/O 连接，确保 1.2GB/s 带宽的并发上行/下行数据传输 • 符合 PCI 2.2 规格 • 集成多线程 I/O 连接 • 带读/写并发处理的多线程 I/O 连接主控
内存支持	• 此主板支持 2 条 DDR（184 pin, 2.5V）DIMM 内存，内存最大可支持到 2 GB。 • 支持 DDR **400 (只支持SiS741 NB)**/333/266 存储总线
AC'97 编解码器Code c	• 兼容 AC'97 2,2 规格 • 符合 AC-Link 协议 • 具有独立和可调采样速率的全双工编解码器

	• 内建耳机缓冲 • SNR 90db • 立体声输出和单声道输出 • 4 通道 DAC • 48 LQFP Package 和 24-Lead TSSOP Package • 符合 Microsoft PC99 标准 • 支持高级电源管理
扩展槽	• 2个 32 位 PCI 扩展插槽 • 1 个 8X AGP 插槽 • 一个通信网络转接 (CNR) 插槽
Onboard IDE	• 2 个 IDE 接口 • 支持 PIO (程控输入/输出) 和 DMA (直接存储器存取) 模式 • 支持 IDE Ultra DMA 总线控制，传输速率可达**133**/100/66 MB/sec
集成 I/O **端口**	此主板具有完整的 I/O 端口和插孔: • 2 个用于鼠标和键盘的 PS/2 端口 • 1 个串口 • 1 个并口 • 1 个 VGA 端口 • 6 个 USB2.0 端口(主板后面板带 4 个接口，板上 USB 接口提供其它 2 个端口) • 麦克风、线入和线出声音插孔
Fast Ethernet LAN (optional)	• 支持10/100Mbps 工作和半/全双工工作 • 符合 IEEE 802.3/802.3u 标准 • 支持IEEE 802.3u 第 28 项的自协商 • 支持链路故障节电模式下操作 • 支持基线漂移 (BLW) 补偿 • 自适应均衡
USB 2.0	• 符合通用串行总线规格 2.0 版本 • 符合 Intel 0.95 版本的增强主控器接口规格 • 符合 1.1 版本的通用主控器接口规格 • PCI 多功能设备由 2 个用于全速/低速传输数据的 UHCI 主控器和1个用于高速传输数据的EHCI主控器组成 • Root集线器包括4个下行端口，带有与UHCI和EHCI主控制器共用的集成物理层收发器。 • 支持 1.1版本的 PCI 总线电源管理接口规格支持

	• 所有传统下行端口

部分硬件规格和软件项目若有更改恕不另行通知。

Chapter 1

Introduction

This motherboard has a **Socket-A** support for the **AMD Athlon XP/Sempron/Athlon/Duron** processors. The Socket-A processor's front-side bus speed is **400 MHz (for M863AG)/** 333 MHz (for M863G**)**.

This motherboard has the **SiS741/SiS 741GX** Northbridge and **SiS963L** Southbridge that supports the **AC' 97 audio codec**, the **Ultra DMA 133**/100/66 function, and the built-in **USB 2.0** providing higher bandwidth. It implements **Universal Serial Bus Specification Revision 2.0** and is compliant with **UHCI 1.1** and **EHCI 0.95**.

It has two 32-bit **PCI** slots, one **8X AGP** slot, one **CNR** (Communications and Networking Riser) slot, and supports the onboard **10BaseT/100BaseTX Network** interface (optional). In addition, this motherboard has a full set of I/O ports including two PS/2 ports for mouse and keyboard, one serial port, one VGA port, one parallel port and maximum six **USB2.0** ports– four back-panel ports and one onboard USB connector USB2 providing two extra ports by connecting the Extended USB Module to the motherboard.

This motherboard is a **Micro ATX size** motherboard and has power connectors for an ATX power supply.

Note*: M863**AG** with SiS**741**NB and SiS963L SB supports FSB **400**MHz and DDR**400**; M863G with SiS741 GX NB and SiS963L SB, FSB333MHz and DDR333/266.*

Key Features

This motherboard has these key features:

Socket-A Processor Support

♦ Supports AMD **Athlon XP/Sempron/Athlon/Duron** processors

♦ Supports Front-Side Bus **400 MHz (for M863AG)/** 333 MHz (for M863G)

Chipset

There are **SiS741/SiS 741GX Northbridge** and **SiS963L Southbridge** in this chipset in accordance with an innovative and scalable architecture with proven reliability and performance. This motherboard series has two models, M863AG and M863G:

Model	Northbridge	Southbridge	Function
M863**AG**	SiS 741	963L	CPU FSB: **400**MHz DDR**400**
M863G	SiS 741 GX	963L	CPU FSB: 333MHz DDR333/266

♦ Supports AMD **Athlon XP/Sempron/Athlon/Duron** CPU with FSB up to **400(only for SiS741 NB)**/333 MHz, and Synchronous/ Quasi-synchronous Host-to-DRAM Timing

♦ Supports **400(only for SiS741 NB)**/333/266 DDR SDRAM and high performance unified memory controller optimizing the DRAM bus utilization

♦ Supports AGP 8X/4X Interface w/ Fast Write Transaction

♦ Built-in a high performance 256-bit 3D engine and 32-bit floating point format VLIW triangle setup engine

♦ Integrated Multi-threaded I/O link ensures concurrency of upstream/down stream data transfer with 1.2GB/s bandwidth

♦ PCI 2.2 Specification Compliance

♦ Integrated Multithreaded IO Link Mastering

♦ Multithread I/O link Mastering with Read/Write Concurrent transaction

Memory Support

- ♦ The motherboard accommodates 2 DDR 184 pin, 2.5V DIMM sockets with a total capacity of 2 GB system memory.
- ♦ Supports DDR **400(only for SiS741 NB)/**333/266 memory bus

AC'97 Audio Codec

- ♦ Compliant with AC'97 2.2 specification
- ♦ AC-Link Protocol compliance
- ♦ Full-duplex Codec with independent and variable sampling rate
- ♦ Earphone Buffer Built-In
- ♦ SNR 90db
- ♦ Stereo Output and Mono Out
- ♦ 4Ch DAC
- ♦ 48 LQFP Package and 24-Lead TSSOP Package
- ♦ Meet Microsoft's PC99 requirements
- ♦ Advanced power management support

Expansion Options

The motherboard comes with the following expansion options:

- ♦ Two 32-bit PCI slots
- ♦ One 8X AGP slot
- ♦ One CNR (Communications and Networking Riser) slot

Onboard IDE

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

Onboard I/O Ports

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

- ♦ Two PS/2 ports for mouse and keyboard
- ♦ One serial port

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- One parallel port
- One VGA port
- Six USB2.0 ports (four back-panel ports, one onboard USB connector USB2 providing two extra ports)
- 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 and memory timing
- CPU and memory timing

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

Built-in Ethernet LAN (optional)

- Supports 10/100Mbps operation and half/full duplex operation
- IEEE 802.3/802.3u compliant
- Supports IEEE 802.3u clause 28 auto negotiation
- Supports operation under Link Down Power Saving mode
- Supports Base Line Winder (BLW) compensation
- Adaptive Equalization

USB 2.0

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

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- ♦ Support PCI-Bus Power Management Interface Specification release 1.1
- ♦ Legacy support for all downstream facing ports

Dimensions
- ♦ Micro ATX form factor of 244 x 200 mm

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

Package Contents

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

Optional Accessories
You can purchase the following optional accessories for this motherboard.
- ❑ Extended USB module
- ❑ CNR v.90 56K Fax/Modem card
- ❑ Card Reader

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

Chapter 2

Motherboard Installation

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

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

Note:
1. Before installing this motherboard, make sure jumper JP2 is under Normal setting. See this chapter for information about locating JP2 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.
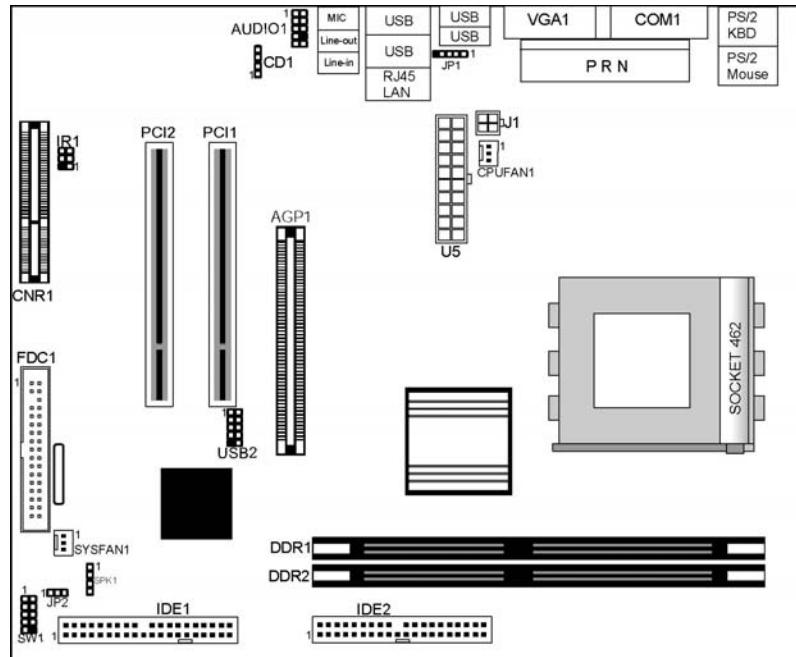
I/O Ports

The illustration below shows a side view of the built-in I/O ports on the motherboard.
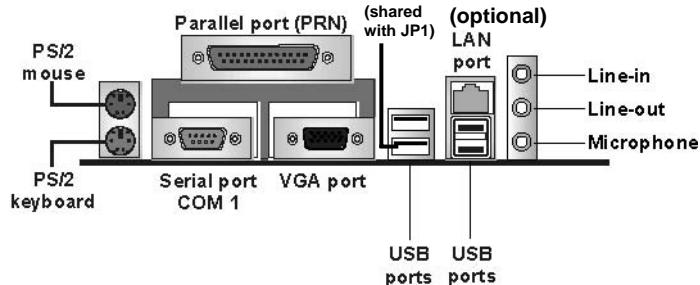
PS/2 Mouse	Use the upper PS/2 port to connect a PS/2 pointing device.
PS/2 Keyboard	Use the lower PS/2 port to connect a PS/2 keyboard.
Parallel Port (PRN)	Use the Parallel port to connect printers or other parallel communications devices.
COM1	Use the COM port to connect serial devices such as mice or fax/modems. COM1 is identified by the system as COM1.
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 beside the VGA port is shared with the JP1 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

Pin1

Socket-462
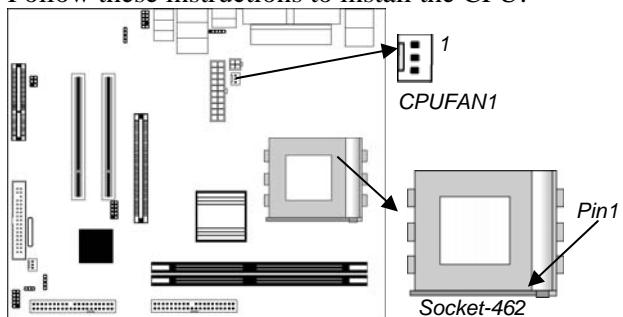
1. Unhook the locking lever of the CPU socket. Pull the locking lever away from the socket and raising it to the upright position.
2. Match the pin1 corner marked as the beveled edge on the CPU with the pin1 corner on the socket. Insert the CPU into the socket. Do not use force.
3. Push the locking lever 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 two 184-pin 2.5V unbuffered Double Data Rate SDRAM (DDR SDRAM) Dual Inline Memory Module (DIMM) sockets, and supports up to 2.0 GB of **400/**333/266 MHz DDR SDRAM.

DDR SDRAM is a type of SDRAM that supports data transfers on both edges of each clock cycle (the rising and falling edges), effectively doubling the memory chip's data throughput. DDR DIMMs can synchronously work with 166 MHz or 200 MHz memory bus.

DDR SDRAM provides 2.1 GB/s, 2.7 GB/s or 3.2GB/s data transfer rate when the bus is 133 MHz, 166 MHz or 200 MHz, respectively.

DDR SDRAM uses additional power and ground lines and requires 184-pin 2.5V unbuffered DIMM module.

DDR1

DDR2
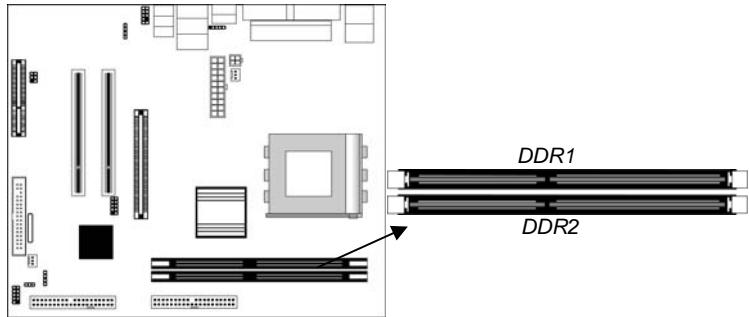
Memory Module Installation Procedure

These modules can be installed with up to 2 GB system memory.
Following these 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.

Jumper Settings

Using a jumper cap to connect two pins is SHORT, removing it from these pins, OPEN.
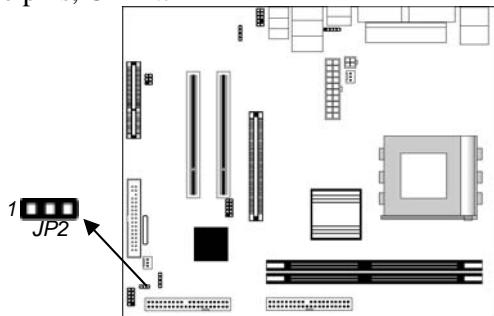
JP2: Clear CMOS Jumper

This jumper is to clear the contents of CMOS memory. You may need to clear the CMOS memory if the settings in the Setup Utility are incorrect that prevents 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
Clear CMOS	Short Pins 1-2
Normal	Short Pins 2-3

Install the Motherboard

Install the motherboard in a system chassis (case). The board is a Micro ATX size motherboard. You can install this motherboard in an ATX case. Make sure your case has an I/O cover plate matching the ports on this motherboard.
Install the motherboard in a case. Follow the case manufacturer's instructions to use the hardware and internal mounting points on the chassis.
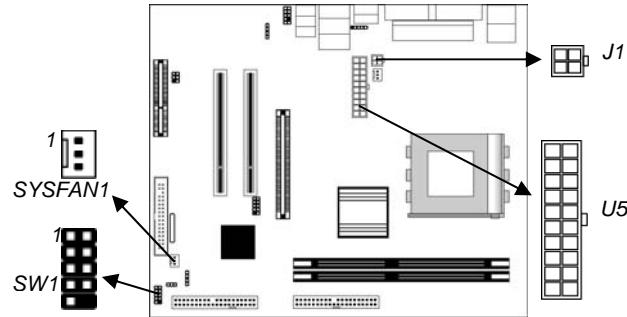
Connect the power connector from the power supply to the **U5** connector on the motherboard. **J1** is the CPU Vcore power connector.

If there is a cooling fan installed in the system chassis, connect the cable from the cooling fan to the **SYSFAN1** fan power connector on the motherboard.

Connect the case switches and indicator LEDs to the **SW1** connector. Here is a list of the PANEL1 pin assignments.

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

Connecting Optional Devices

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

12
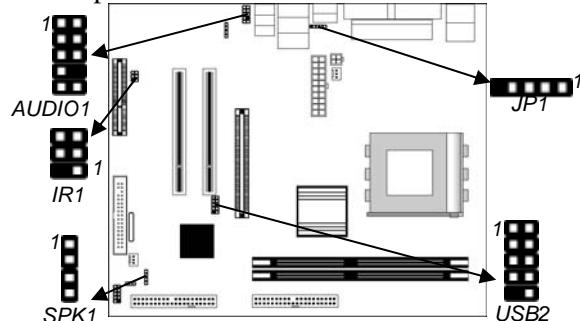
SPK1: Speaker Connector

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

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

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

USB2: Front panel USB Connector

The motherboard has USB ports installed on the rear edge I/O port array. Additionally, some computer cases have USB ports at the front of the case. If you have this kind of case, use auxiliary USB connectors USB2/USB3 to connect the front-mounted ports to the motherboard.

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

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

JP1: USB Card Reader Connector (optional)

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

Pin	Signal	Pin	Signal
1	Vcc5V	2	USB-
3	USB+	4	GND
5	KEY		

The JP1 is shared with the lower USB port located beside the VGA port of the I/O back panel. Please 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
The infrared port allows the wireless exchange of information between your computer and similarly equipped devices such as printers, laptops, Personal Digital Assistants (PDAs), and other computers.

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

1. Locate the infrared port **IR1** connector on the motherboard.
2. If you are adding an infrared port, connect the ribbon cable from the port to the IR1 connector and then secure the port to an appropriate place in your system chassis.

Install Other Devices

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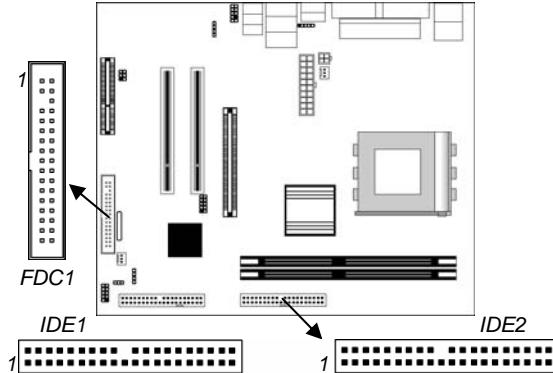
Floppy Disk Drive

The motherboard ships with a floppy disk drive cable that can
support one or two drives. Drives can be 3.5" or 5.25" wide, with
capacities of 360K, 720K, 1.2MB, 1.44MB, or 2.88MB.
Install your drives and connect power from the system power
supply. Use the cable provided to connect the drives to the floppy
disk drive connector **FDC1**.

IDE Devices

IDE devices include hard disk drives, high-density diskette drives,
and CD-ROM or DVD-ROM drives, among others.
The motherboard ships with an IDE cable that can support one or
two IDE devices. 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.
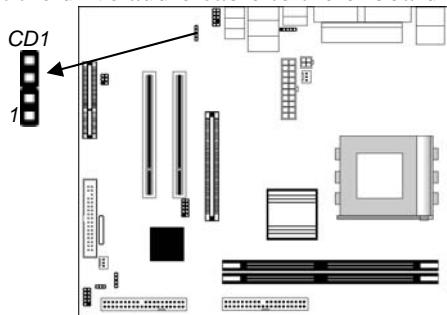
When you first start up your system, the BIOS should automatically detect your CD-ROM/DVD drive. If it doesn't, enter the Setup Utility and configure the CD-ROM/DVD drive that you have installed. On the motherboard, locate the 4-pin connector **CD1**.

CD1

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

Expansion Slots

This motherboard has one AGP, one CNR and two 32-bit PCI slots.
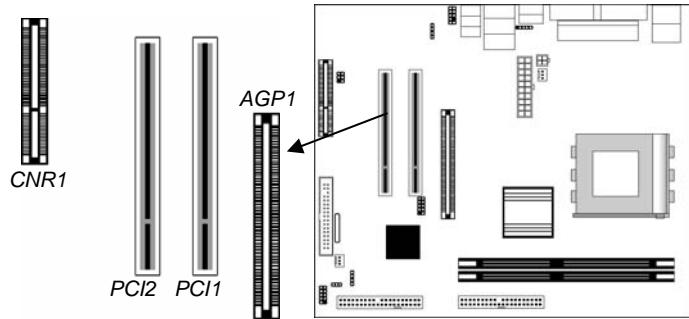
Follow the steps below to install an AGP/CNR/PCI expansion card.

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

8X AGP Slot

You can install a graphics adapter that supports the 8X AGP specification and has an 8X AGP edge connector in the AGP slot.

CNR Slot

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

PCI Slots

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

Chapter 3

BIOS Setup Utility

Introduction

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

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

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

Running the Setup Utility

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

```
┌────────────────────────────────────────────────────────────────┐
│     CMOS SETUP UTILITY – Copyright (C) 1985-2003, American Megatrends, Inc.     │
├────────────────────────────────────────────────────────────────┤
│ ►Standard CMOS Setup              ►CPU PnP Setup                │
│ ►Advanced Setup                   ►Hardware Monitor             │
│ ►Features Setup                    Load Optimal Defaults        │
│ ►Power Management Setup             Save Changes and Exit       │
│ ►PCI / Plug and Play Setup          Discard Changes and Exit    │
│ ►BIOS Security Features                                         │
├────────────────────────────────────────────────────────────────┤
│    ↑ ↓ ← →: Move   Enter: Select  +/-/: Value  F10: Save  Esc: Exit │
│    F1: General Help            F9: Optimized Defaults           │
├────────────────────────────────────────────────────────────────┤
│   Standards COMOS setup for changing time, date, hard disk type, etc. │
│         V02.54  (C) 1985-2003, American Megatrends, Inc.        │
└────────────────────────────────────────────────────────────────┘
```

You can use cursor arrow keys to highlight anyone of options on the main menu page. Press **Enter** to select the highlighted option. Press the **Escape** key to leave the setup utility. Press **+/-/** to modify the selected field's values.

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

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

Standard CMOS Setup Page

This page helps you set up basic information such as the date and time, the IDE devices, and the diskette drives.

CMOS SETUP UTILITY – Copyright (C) 1985-2003, American Megatrends, Inc.
Standard CMOS Setup

		Help Item
System Time:	00:00:24	
System Date:	Mon 12/15/2003	User [Enter], [TAB] or [SHIFT-TAB] to select a field.
►Primary IDE Master : Not Detected		Use [+] or [-] to configure system time.
►Primary IDE Slave : Not Detected		
►Secondary IDE Master : Not Detected		
►Secondary IDE Slave : CD/DVD ROM		
Floppy Drive A : 1.44 MB 3 1/2		
Floppy Drive B : Disabled		

Date & Time	Use these items to set up system date and time
IDE Primary Master/Slave Secondary Master/Slave	These items 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*.
Floppy Drive A Floppy Drive B	Use these items to set up size and capacity of the floppy diskette drive(s) installed in the system.

Advanced Setup Page

This page sets up more advanced information about your system. Be more careful to this page. Any changes can affect the operation of your computer.

CMOS SETUP UTILITY – Copyright (C) 1985-2003, American Megatrends, Inc. Advanced Setup		
Share Memory Size	32MB	Help Item
Quick Boot	Enabled	
1st Boot Device	IDE:PM-ST320410A	Allows BIOS to
2nd Boot Device	SS-Pioneer DVD-RO	skip certain tests
3rd Boot Device	1st Floppy Drive	while booting. This
Try Other Boot Device	Yes	will decrease the
Bootup Num-Lock	On	time needed to
Boot To OS/2 > 64MB	No	boot the system.
Graphic Win Size	64MB	
DRAM CAS Latency	Auto	
Auto Detect DIMM/PCI Clk	Enabled	
Spread Spectrum	Disabled	

Share Memory Size	This item lets you allocate a portion of the main memory for the onboard VGA display application with five options of 4/8/16/32/64 MB.
Quick Boot	If you enable this item, the system starts up more quickly be elimination some of the power on test routines.
1st Boot Device **2nd Boot Device** **3rd Boot Device**	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 Device	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.
BootUp Num-Lock	This item determines if the Num Lock key is active or inactive at system start-up time.
Boot to OS/2 > 64MB	Enable this item if you are booting the OS/2 operating system and you have more than 64MB of system memory installed.

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Graphic Win Size	This item defines the size of aperture if you use a graphic adapter.
SDRAM CAS# Latency	This item determines the operation of SDRAM memory CAS (column address strobe). It is recommended that you leave this item at the default value. The 2T setting requires faster memory that specifically supports this mode.
Auto detect DIMM/PCI Clock	When this item is enabled, BIOS will disable the clock signal of free DIMM/PCI slots.
Spread Spectrum	If you enable spread spectrum, it can significantly reduce the EMI(Electro-Magnetic Interference) generated by the system.

Features Setup Page

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

CMOS SETUP UTILITY – Copyright (C) 1985-2003, American Megatrends, Inc.
Features Setup

OnBoard Floppy Controller	Enabled	**Help Item**
Serial Port Address	3F8/IRQ4	
OnBoard IR Port	Disabled	Allows BIOS to
Parallel Port Address	Disabled	Enable or Disable
OnBoard PCI IDE Controller	Both	Floppy Controller.
Audio Device	Enabled	
Modem Device	Auto	
Ethernet Device	Enabled	
OnBoard USB Function	Enabled	
USB Function for DOS	Disabled	

OnBoard Floppy Controller	Use this item to enable or disable the onboard floppy disk drive interface.
Serial Port Address	Use this item to enable or disable the onboard COM1/2 serial port, and to assign a port address.

OnBoard IR Port	Use this item to enable or disable the onboard infrared port, and to assign a port address.
Parallel Port Address	Use this item to enable or disable the onboard Parallel port, and to assign a port address.
OnBoard PCI IDE Controller	Use this item to enable or disable either or both of the onboard Primary and Secondary IDE channels.
Audio Device	This item enables or disables the AC'97 audio chip.
Modem Device	This item enables or disables the AC'97 modem chip.
Ethernet Device	This item enables or disables the onboard Ethernet LAN.
OnBoard USB Function	Enable this item if you plan to use the USB ports on this motherboard.
USB Function For DOS	Enable this item if you plan to use the USB ports on this motherboard in a DOS environment.

Power Management Setup Page

This page sets up some parameters of system power management operation.

CMOS SETUP UTILITY – Copyright (C) 1985-2003, American Megatrends, Inc.		
Power Management Setup		
ACPI Aware O/S	Yes	Help Item
Power Management/APM	Enabled	
Suspend Mode	S1	Yes / No
Suspend Time Out	Disabled	ACPI support for
Resume On RTC Alarm	Disabled	Operating System.
Keyboard Power On	Disabled	Yes: If OS
LAN/Ring Power On	Disabled	supports ACPI.
		No: If OS does not
		support ACPI.

ACPI Aware O/S	This item supports ACPI (Advanced Configuration and Power management Interface). Use this item to enable or disable the ACPI feature.
Power Management	Use this item to enable or disable a power management scheme. If you enable power management, you can use the items below to set the power management operation. Both APM and ACPI are supported.
Suspend Mode	This item selects the status S1(Stop Clock) or S3(Suspend to RAM) when the system enters the power-saving Suspend mode.
Suspend Time Out	This sets the timeout for Suspend mode in minutes. If the time selected passes without any system activity, the computer will enter power-saving Suspend mode.
Resume On RTC Alarm / Date / Hour / Minute / Second	The system can be turned off with a software command. If you enable this item, the system can automatically resume at a fixed time based on the system's RTC (realtime clock). Use the items below this one to set the date and time of the wake-up alarm. You must use an ATX power supply in order to use this feature.
LAN/Ring Power On	The system can be turned off with a software command. If you enable this item, the system can automatically resume if there is an incoming call on the Modem. You must use an ATX power supply in order to use this feature.
Keyboard Power On Wake-Up Key Wake-Up Password	If you enable this item, system can automatically resume by pressing hot keys on the keyboard or typing in the password. You must enable the Keyboard Power On jumper and use an ATX power supply in order to use this feature.

PCI / Plug and Play Setup Page

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

CMOS SETUP UTILITY – Copyright (C) 1985-2003, American Megatrends, Inc.		
PCI / Plug and Play Setup		
Primary Graphics Adapter PCI		Help Item
Allocate IRQ to PCI VGA Yes PCI IDE BusMaster Disabled		Select which graphics controller to use as the primary boot device.

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

BIOS Security Features Setup Page

This page helps you install or change a password.

CMOS SETUP UTILITY – Copyright (C) 1985-2003, American Megatrends, Inc.	
BIOS Security Features Setup	
Security Settings	Help Item
Supervisor Password : Not Installed Change Supervisor Password Press Enter	Install or Change the password.

Supervisor Password	This item indicates whether a supervisor password has been set. If the password has been installed, *Installed* displays. If not, *Not Installed* displays.
Change Supervisor Password	You can select this option and press <Enter> to access the sub menu. You can use the sub menu to change the supervisor password.

CPU PnP Setup Page

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

```
CMOS SETUP UTILITY – Copyright (C) 1985-2003, American Megatrends, Inc.
                         CPU PnP Setup
┌─────────────────────────────────────────────┬──────────────────┐
│ Processor                    Enabled         │   Help Item      │
│ Type : AMD Athlon (tm)                       │                  │
│ CPU Frequency                100             │      Options     │
│ Auto Detect DRAM Clock       Enabled         │  100             │
│   DRAM Frequency             200 MHz         │  133             │
│                                              │  166             │
│                                              │                  │
│                                              │                  │
│                                              │                  │
│                                              │                  │
│                                              │                  │
└─────────────────────────────────────────────┴──────────────────┘
```
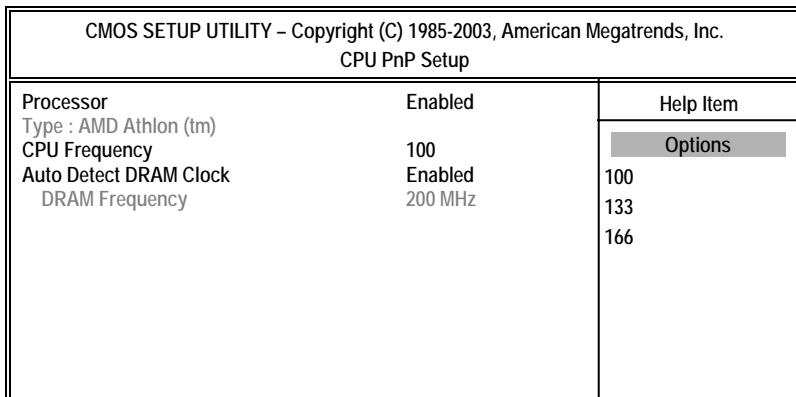
Processor Type	This item shows the type of the CPU installed in your system.
CPU Frequency	This item shows frequency of the CPU installed in your system.
Auto Detect DRAM Clock DRAM Frequency	When this item is enabled, it automatically detects and shows clock and frequency of the DRAM memory installed in your system; when disabled, it can adjust clock and frequency of the DRAM memory.

Hardware Monitor Page

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

CMOS SETUP UTILITY – Copyright (C) 1985-2003, American Megatrends, Inc.	
Hardware Monitor Setup	
*** System Hardware Monitor***	Help Item
Vcore 1.824V	
Vcc2.5V 2.496V	
Vddq 1.504V	
Vcc5V 5.134V	
SB3V 3.488V	
CPU Fan Speed 5273 RPM	
SYSTEM Fan Speed 0 RPM	
CPU Temperature 53°C/127°F	
SYSTEM Temperature 34°C/93°F	

CPU/NB/System Temperature	These items display CPU, NB and system temperature measurement.
FAN & Voltage Measurements	These items indicate cooling fan speeds in RPM and the various system voltage measurements.

Load Optimal Defaults

This option opens a dialog box to ask if you are sure to install optimized defaults or not. You press <Y>, and then <Enter>, the Setup Utility loads all default values; or press <N>, and then <Enter>, the Setup Utility does not load default values.

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

Save Changes and Exit

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

Discard Changes and Exit

Highlight this item and press <Enter> to discard any changes that you have made in the Setup Utility and exit the Setup Utility. When the Discard Changes and Exit dialog box appears, 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 "Discard Changes and Exit" item and press <Y> to discard any changes you have made.*

Chapter 4

Software & Applications

Introduction

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

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

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

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

Installing Support Software

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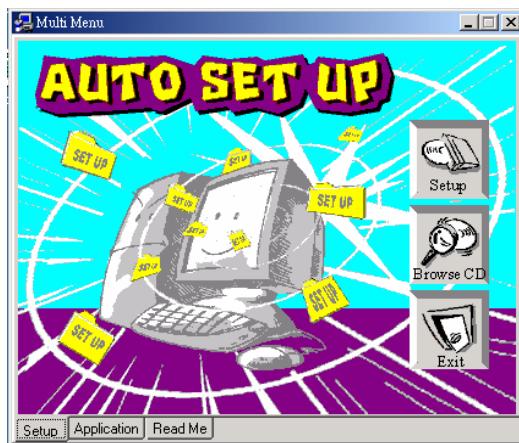
The **Setup** button runs the software auto-installing program as explained in next section.

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

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

The **Application** button brings up a software menu. It shows the bundled software that this 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.
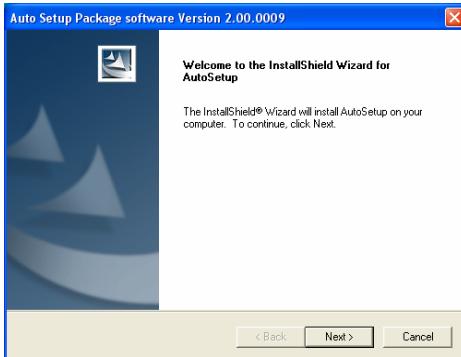
2. Select the items that you want to setup by clicking on it (the default options are recommended). Click the **Next** button to proceed.
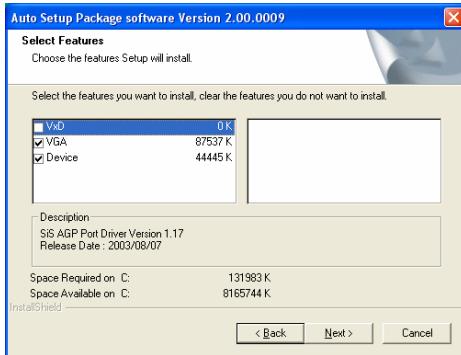
3. The support software will automatically install.

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.

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.