



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, Mei Hu Road, Taipei, Taiwan 114, R.O.C.
No. 22, Alley 26, Lane 91, Sec. 1, Mei Hu Road, Taipei, Taiwan 114, R.O.C.
No. 20 & No. 2a, Free Trade Zone, Shatoupo, 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. **04106 2000 1325**

The company has been certified since **2000**



Date: 04.03.2004




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.26,Free Trade Zone,Shanzijiao,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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M935G Series, V3.1A
S651C/November 2004**

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Static Electricity Precautions

Components on this motherboard can be damaged by static electricity. Take the following precautions when unpacking the motherboard and installing it in a system.

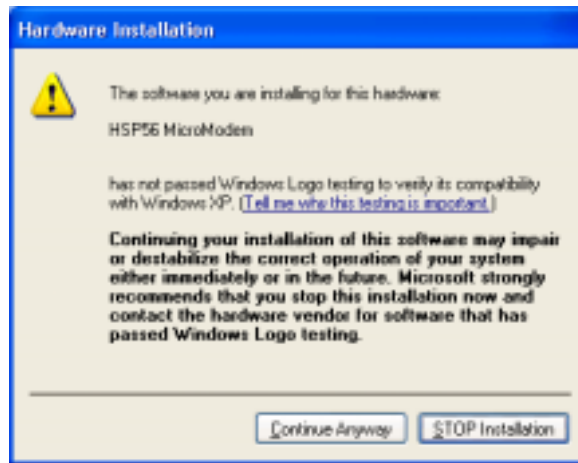
1. Keep the motherboard and other components in their original static-proof packaging until you are ready to install them.
2. During installation, wear a grounded wrist strap if possible. If you don't have a wrist strap, discharge static electricity by touching the bare metal of the system chassis.
3. Handle the motherboard carefully by the edges. Avoid touching the components unless it is absolutely necessary. During installation put the motherboard on top of the static-protection packaging it came in with the component side facing up.

Pre-Installation Inspection

1. Inspect the motherboard for damage to the components and headers on the board.
2. If you suspect that the motherboard has been damaged, do not connect power to the system. Contact your motherboard vendor and report the damage.

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 & 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-478 <ul style="list-style-type: none"> • Le Socket PGA 478 • Supporte le CPU Intel Pentium 4 series • Supporte un Bus Avant allant jusqu'à 533MHz 						
Chipset	<p>Ce chipset comporte SiS651C Northbridge et SiS962L Southbridge conformément à une architecture novatrice et dimensionnable avec une fiabilité et des performances prouvées. Voici une liste de l'organisation des chipset et de leurs caractéristiques respectives :</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>NB</th> <th>SB</th> <th>Fonction</th> </tr> </thead> <tbody> <tr> <td>SiS651C</td> <td>SiS962L</td> <td>FSB533MHz, Ultra DMA 133, DDR333, USB2.0</td> </tr> </tbody> </table>	NB	SB	Fonction	SiS651C	SiS962L	FSB533MHz, Ultra DMA 133, DDR333 , USB2.0
NB	SB	Fonction					
SiS651C	SiS962L	FSB533MHz, Ultra DMA 133, DDR333 , USB2.0					
Support de Mémoire	<ul style="list-style-type: none"> • Deux logements DIMM 184 broches pour modules mémoire DDR 333/266 • La mémoire maximum installée est 2Go 						
Logements d'Extension	<ul style="list-style-type: none"> • Un logement CNR • Un logement 4X AGP pour interface conforme AGP 2.0 • Deux logements PCI 32 bits pour interface de bus conforme PCI 2.2 						
AC'97 Audio Codec	<ul style="list-style-type: none"> • Conforme aux spécifications AC'97 2.3 • audio codec 6-canaux • 3 entrées stéréo de niveau de ligne analogique avec contrôle de volume 5 bits : ENTRÉE LIGNE, ENTRÉE CD • Gestion d'alimentation 						
Ports E/S Internes	<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 • Un port série • Un port parallèle • Un port VGA • Quatre ports USB2.0 de panneau arrière et deux ports USB2.0 supplémentaires (Prise USB interne JUSB1) 						

	<ul style="list-style-type: none"> • Prises audio pour microphone, ligne d'entrée et ligne de sortie
LAN Ethernet intégré (optionnel)	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • Conforme aux Spécifications de Bus Série Universel Révision 2.0 • Conforme aux Spécifications d'Interface de Contrôleur d'Hôte Universel Révision 1.1 • Le périphérique multifonction PCI consiste en deux noyaux de Contrôleur d'Hôtes UHCI pour signalisation pleine/faible vitesse et un noyau de Contrôleur d'Hôtes EHCI pour signalisation haute vitesse • Le hub racine consiste en 4 ports de face en aval avec 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-478-Prozessoren <ul style="list-style-type: none"> • PGA Socket 478 • Unterstützung für Intel Pentium 4-CPU's • Unterstützung von bis zu 533 MHz Front-Side Bus 						
Chipsatz	<p>Dieser Chipsatz besteht aus einer SiS651C Northbridge und einer SiS962L Southbridge. Die Chipsatzarchitektur ist in einem innovativen und skalierbaren Design gehalten und verspricht sowohl Zuverlässigkeit als auch Leistungsstärke. Unten stehend finden Sie eine Liste mit den Chipsatzteilen und deren jeweiligen Funktionen:</p> <table border="1"> <thead> <tr> <th>NB</th> <th>SB</th> <th>Funktion</th> </tr> </thead> <tbody> <tr> <td>SiS651C</td> <td>SiS962L</td> <td>FSB533MHz, Ultra DMA 133, DDR333, USB2.0</td> </tr> </tbody> </table>	NB	SB	Funktion	SiS651C	SiS962L	FSB533MHz, Ultra DMA 133, DDR333 , USB2.0
NB	SB	Funktion					
SiS651C	SiS962L	FSB533MHz, Ultra DMA 133, DDR333 , USB2.0					
Speicherunterstützung	<ul style="list-style-type: none"> • Zwei 184-pin DIMM Steckplätze für DDR333/266 Speichermodule • Maximal auf 2GB Speicher erweiterbar 						
Erweiterungssteckplätze	<ul style="list-style-type: none"> • Ein CNR-Steckplatz • Ein 4X AGP-Steckplatz für AGP 2.0-kompatibles Interface • Zwei 32-Bit PCI-Steckplätze für PCI 2.2-kompatibles Businterface 						
AC'97 Audio Codec	<ul style="list-style-type: none"> • Entspricht AC'97 2.3 • 6-Kanal audio codec • 3 analoge Line-level Stereo-Eingänge mit 5-Bit-Lautstärkenkontrolle: LINE-IN, CD-IN • Energieverwaltung 						
Onboard-I/O-Ports	<p>Das Motherboard verfügt über einen kompletten Satz von I/O-Schnittstellen und Anschlüssen:</p> <ul style="list-style-type: none"> • Zwei PS/2-Steckplätze für Maus und Tastatur • Ein serieller Steckplatz • Ein paralleler Steckplatz • Ein VGA-Steckplatz • Vier USB2.0-Ports auf der Rückseite und zwei zusätzliche USB2.0-Ports (Onboard USB-Header JUSB1) • Audioanschlüsse für Mikrophon, line-in und line-out 						

Integriertes Ethernet LAN (optional)	<ul style="list-style-type: none"> • Unterstützt Betrieb mit 10/100 Mbps. sowie Halb-/Voll duplexbetrieb • Kompatibel mit IEEE 802.3/802.3u • Unterstützt IEEE 802.3u Clause 28 Auto Negotiation • Unterstützt Betrieb im Link Down-Energiesparmodus • Unterstützt Base Line Winder (BLW)- Kompensation • Adaptive Entzerrung
USB 2.0	<ul style="list-style-type: none"> • Entspricht Universal Serial Bus-Spezifikation, Revision 2.0 • Entspricht Universal Host Controller Interface -Spezifikation Revision 1.1 • PCI-Multifunktionsgerät besteht aus zwei UHCI Host Controller-Kernen für Signalübertragung bei voller und niedriger Geschwindigkeit sowie einem EHCI Host Controller-Kern für Hochgeschwindigkeits- Signalübertragung • 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 478 per Processori <ul style="list-style-type: none">• Il Socket 478 PGA• Supporta CPU Intel Pentium serie 4• Supporta fino a 533 MHz Front Side Bus						
Chipset	In accordo ad una architettura scabile e innovative sono presenti nel chipset il Northbridge SiS651C e Southbridge SiS962L . Segue una lista con i chipset e le rispettive funzioni: <table border="1"><thead><tr><th>NB</th><th>SB</th><th>Funzione</th></tr></thead><tbody><tr><td>SiS651C</td><td>SiS962L</td><td>FSB533MHz, Ultra DMA133, DDR333, USB2.0</td></tr></tbody></table>	NB	SB	Funzione	SiS651C	SiS962L	FSB533MHz, Ultra DMA133, DDR333 , USB2.0
NB	SB	Funzione					
SiS651C	SiS962L	FSB533MHz, Ultra DMA133, DDR333 , USB2.0					
Memory Support	<ul style="list-style-type: none">• Due slot DIMM a 184 pin per moduli di memoria DDR333/266• Quantità massima di memoria installabile, 2GB						
Slot di espansione	<ul style="list-style-type: none">• Una slot CNR• Una slot AGP 4X per interfaccia AGP 2.0 compatibile• Due slot PCI a 32 bit per interfaccia bus PCI 2.2						
AC'97 Audio Codec	<ul style="list-style-type: none">• Conforme con le specifiche AC' 97 2.3• 6-canale audio codec• 3 entrate analogiche con controllo del volume a 5 bit: LINE-IN, CD-IN• Gestione del riduzione del consumo energetico						
Onboard I/O Ports	La scheda madre è dotata da una serie completa di porte e connettori I/O: <ul style="list-style-type: none">• Due porte PS/2 per tastiera e mouse• Una porta seriale• Una porta VGA• Una porta parallela• Quattro porte USB2.0 nella parte posteriore e due porte extra USB2.0 (header USB JUSB1 integrato)• Jack audio per microfono, ingresso linea e uscita linea						
Built-In Ethernet LAN (optional)	<ul style="list-style-type: none">• Supporto delle operazioni 10/100Mbps half/full duplex• Conforme allo standard IEEE 802.3/802.3u• Supporto delle impostazioni per la negoziazione automatica IEEE 802.3u clausola 28• Supporto delle operazioni nella modalità Link Down Power						

	<p>Saving</p> <ul style="list-style-type: none"> • Supporto della compensazione Base Line Winder (BLW) • Equalizzazione adattabile
USB 2.0	<ul style="list-style-type: none"> • Conforme alle specifiche Universal Serial Bus 2.0 • Conforme alle specifiche Universal Host Controller Interface revisione 1.1 • Il dispositivo PCI multifunzione consiste di due schede di controllo UHCI per la trasmissione segnali pieno/basso e una scheda di controllo EHCI per la trasmissione segnali ad alta velocità. • Il 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

Procesador	Soporte de Procesador Socket-478 <ul style="list-style-type: none"> • El PGA Socket 478 • Soporta CPU de Intel Pentium 4 • Soporta hasta Bus de Lado Frontal de 533 MHz 						
Chipset	<p>Hay SiS651C Northbridge y SiS962L Southbridge en este chipset en conformidad con una arquitectura innovadora y escalable con fiabilidad y rendimiento comprobados. He aquí una lista del arreglo del chipset y sus respectivas características:</p> <table border="1"> <thead> <tr> <th>NB</th> <th>SB</th> <th>Función</th> </tr> </thead> <tbody> <tr> <td>SiS651C</td> <td>SiS962L</td> <td>FSB533MHz, Ultra DMA133, DDR333, USB2.0</td> </tr> </tbody> </table>	NB	SB	Función	SiS651C	SiS962L	FSB533MHz, Ultra DMA133, DDR333 , USB2.0
NB	SB	Función					
SiS651C	SiS962L	FSB533MHz, Ultra DMA133, DDR333 , USB2.0					
Soporte de Memoria	<ul style="list-style-type: none"> • Dos ranuras 184-pin DIMM para módulos de memoria DDR333/266 • Memoria máxima instalada es 2GB 						
Ranuras de Expansión	<ul style="list-style-type: none"> • Una ranura CNR • Una ranura 4X AGP para la interfaz conforme con AGP 2.0 • Dos ranuras 32-bit PCI para la interfaz de bus conforme con PCI 2.2 						
AC'97 Audio Codec	<ul style="list-style-type: none"> • Conforme con la especificación AC'97 2.3 • 6-channel audio codec • 3 entradas de estéreo a nivel de línea analógica con control de volumen de 5-bit: LINE-IN, CD-IN • Administración de suministro 						
Puertos I/O Abordos	<p>La placa principal tiene un juego completo de puertos I/O y conectores:</p> <ul style="list-style-type: none"> • Dos puertos PS/2 para ratón y teclado • Un puerto serial • Un puerto paralelo • Un puerto VGA • Cuatro puertos UBS2.0 del panel trasero y dos puertos USB2.0 extras (JUSB1 de cabezal USB abordo) • Clavijas de sonido para micrófono, entrada y salida de línea 						

Ethernet LAN Incorporado (optativo)	<ul style="list-style-type: none"> • Soporta la operación de 10/100Mbps y de medio/full duplex • Conformidad IEEE 802.3/802.3u • Soporta la autonegociación de clásura 28 de IEEE 802.3u • Soporta operación bajo el modo Link Down Power Saving (Ahorro de Suministro de Vínculo) • Soporta compensación Base Line Winder (BLW) • Ecuilización Adaptiva
USB 2.0	<ul style="list-style-type: none"> • Conforme con la Especificación de Bus Serial Universal Revisión 2.0 • Conforme con la Especificación de Interfaz de Controlador Anfitrión Universal Revisión 1.1 • Dispositivo PCI multi-función se consiste de dos centros de Controlador Anfitrión UHCI para señalización de velocidad completa/baja y un centro de Controlador Anfitrión EHCI para señalización de alta velocidad • 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 puertos 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-478 <ul style="list-style-type: none">• Socket PGA 478• Suporta CPU Intel Pentium 4 series• Suporta até 533 MHz Front-Side Bus						
Chipset	Conta com SiS651C Northbridge e SiS962L Southbridge neste chipset, de acordo com uma arquitectura inovadora e escalável com um nível de confiança e desempenho comprovado. Aqui fica uma lista da organização do chipset e das respectivas características: <table border="1"><thead><tr><th>NB</th><th>SB</th><th>Função</th></tr></thead><tbody><tr><td>SiS651C</td><td>SiS962L</td><td>FSB533MHz, Ultra DMA133, DDR333, USB2.0</td></tr></tbody></table>	NB	SB	Função	SiS651C	SiS962L	FSB533MHz, Ultra DMA133, DDR333 , USB2.0
NB	SB	Função					
SiS651C	SiS962L	FSB533MHz, Ultra DMA133, DDR333 , USB2.0					
Suporte de memória	<ul style="list-style-type: none">• Dois sockets DIMM com 184 pinos para módulos de memória DDR333/266• A memória máxima instalada é de 2GB						
Slots de expansão	<ul style="list-style-type: none">• Um slot CNR• Um slot AGP 4X para uma interface compatível com AGP 2.0• Duas slots PCI de 32 bit para interface bus compatível com PCI 2.2						
AC'97 Audio Codec	<ul style="list-style-type: none">• Compatível com a especificação AC'97 2.3• CODEC 6 canais áudio• 3 entradas de linha estéreo e analógicas com controlo de volume de 5 bits: LINE-IN, CD-IN• Gestão de energia						
Portas I/O na placa	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• Uma porta série• Uma porta paralela• Uma porta VGA• Quatro portas USB2.0 de painel posterior e duas portas USB2.0 extra (onboard USB header JUSB1)• Jacks audio para microfone, line-in e line-out						
Ethernet LAN	<ul style="list-style-type: none">• Suporta o funcionamento 10/100Mbps em half/full duplex						

Integrada (opcional)	<ul style="list-style-type: none"> • Compatível com IEEE 802.3/802.3u • Suporta IEEE 802.3u, cláusula 28 com negociação automática • Suporta o funcionamento no modo Poupança de Energia com Ligação Inactiva • Suporta a compensação Base Line Winder (BLW) • Equalização adaptável
USB 2.0	<ul style="list-style-type: none"> • Compatível com Universal Serial Bus Revisão 2.0 da especificação • Compatível com controlador Universal Host Revisão 1.1 da especificação da Interface • O dispositivo PCI multi-funções consiste em dois núcleos de Controlador UHCI Host Controller para sinalização de velocidade total/baixa em um núcleo de Controlador EHCI Host para sinalização de alta velocidade • 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-478 处理器 <ul style="list-style-type: none">• PGA Socket 478• 支持 Intel Pentium 4 系列 CPU• 支持 533/400 MHz 前端总线						
芯片组	芯片组包含 SiS651C 北桥 和 SiS962L 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。以下是芯片组 和它们的功能： <table border="1" data-bbox="577 1012 1157 1099"><thead><tr><th>NB</th><th>SB</th><th>功能</th></tr></thead><tbody><tr><td>SiS651C</td><td>SiS962L</td><td>FSB533MHz, Ultra DMA133, DDR333, USB2.0</td></tr></tbody></table>	NB	SB	功能	SiS651C	SiS962L	FSB533MHz, Ultra DMA133, DDR333 , USB2.0
NB	SB	功能					
SiS651C	SiS962L	FSB533MHz, Ultra DMA133, DDR333 , USB2.0					
内存支持	<ul style="list-style-type: none">• 2 个用于 DDR333/266 内存条的 184-pin DIMM 插槽• 内存最多可达 2GB						
扩展槽	<ul style="list-style-type: none">• 1 个 CNR 槽• 1 个 4X AGP 插槽，用于 AGP 2.0 兼容接口• 2 个 32 位 PCI 插槽，用于 PCI 2.2 兼容总线接口						
AC'97 编解码器	<ul style="list-style-type: none">• 兼容 AC'97 2.3 规格• 6 声道音频编解码器• 3 路带 5 位音量控制的模拟线路电平立体声输入：LINE-IN, CD-IN• 电源管理						
集成 I/O 端口	此主板具有完整的 I/O 端口和插孔 <ul style="list-style-type: none">• 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• 4 个后面板 USB2.0 端口和 2 个扩展 USB2.0 端口（主板上的 USB 接头 USB1）• 麦克风、线入和线出声音插孔						
内建以太网 LAN	<ul style="list-style-type: none">• 支持 10/100Mbps 工作和半/全双工工作• 符合 IEEE 802.3/802.3u 标准						

(可选)	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 符合通用串行总线规格 2.0 版本 • 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-478** for **Intel Pentium 4 Prescott** processors with front-side bus (FSB) speeds up to **533 MHz**.

This motherboard integrates the **SiS651C** Northbridge along with **SiS962L** Southbridge chipsets that supports built-in **AC'97 Codec**, **2 DDR** modules up to 2GB system memory, and provides **Ultra DMA 133/100/66** function. These chipsets' function is detailed as the Chipset description in next section. This motherboard integrates a **Real256 3D Graphics Engine**, Video Accelerator and Advanced Hardware Acceleration **MPEG1/MPEG2 Video Decoder** for the Intel Pentium 4 series based PC systems. It has the external AGP slot with **AGP 4X/2X** capability, one **CNR** (Communications and Networking Riser) slot, and built-in **10BaseT/100BaseTX Network Interface** (optional). In addition, there is a full set of **I/O Ports** including PS/2 keyboard and mouse ports, one serial port, one VGA port, one parallel port, and one LAN port (optional), maximum six USB2.0 ports – four back-panel ports and onboard USB header JUSB1 providing two extra ports by connecting the Extended USB Module to the motherboard.

This motherboard is **Micro ATX size** and has power headers for an **ATX** power supply and measures 244 x 190mm.

Key Features

The key features of this motherboard include:

Socket-478 Processor

- ◆ Supports **Intel Pentium 4/ Prescott processor**
- ◆ Supports up to **533 MHz** Front-Side Bus

Chipset

There are **SiS651C Northbridge** and **SiS962L Southbridge** in this chipset in accordance with an innovative and scalable architecture with proven reliability and performance. Here is a list of the chipset arrangement and their respective features:

Northbridge	Southbridge	Function
SiS651C	SiS962L	CPU FSB: 533MHz, Ultra DMA133, DDR333 , USB2.0

Memory Support

- ◆ Two 184-pin DIMM sockets for DDR333/266 memory modules
- ◆ Maximum installed memory is 2GB

Expansion Slots

- ◆ One CNR slot
- ◆ One 4X AGP slot for AGP 2.0-compliant interface
- ◆ Two 32-bit PCI slots for PCI 2.2-compliant bus interface

Onboard IDE channels

- ◆ Primary and Secondary PCI IDE channels
- ◆ Support for PIO (programmable input/output) modes
- ◆ Support for Multiword DMA modes
- ◆ Support for Bus Mastering and UltraDMA **133/100/66**

Onboard VGA

- ◆ Supports AGP V2.0 Compliant
- ◆ Supports **AGP 4X** interface and Fast Write Transaction
- ◆ Embedded Real256 3D Graphics with maximum share memory 64MB

- ◆ Supports high performance 128-bit 2D Accelerator—Ultra-AGPII™ 2GB/s data read for all 2D engine functions

AC'97 Audio Codec

- ◆ Compliant with AC'97 2.3 specification
- ◆ 6-channel audio codec
- ◆ 3 analog line-level stereo inputs with 5-bit volume control: LINE-IN, CD-IN
- ◆ Power management

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

Onboard I/O Ports

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

- ◆ Two PS/2 ports for mouse and keyboard
- ◆ One serial port
- ◆ One parallel port
- ◆ One VGA port
- ◆ Four back-panel USB2.0 ports and extra two USB2.0 ports (onboard USB header JUSB1)
- ◆ Audio jacks for microphone, line-in and line-out
- ◆ One LAN port (optional)

Hardware Monitoring

- ◆ Built-in hardware monitoring for CPU & System temperatures, fan speeds and motherboard voltages.

Onboard Flash ROM

- ◆ Supports Plug and Play configuration of peripheral devices and expansion cards

USB 2.0

- ◆ Compliant with Universal Serial Bus Specification Revision 2.0
- ◆ Compliant with Universal Host Controller Interface Specification Revision 1.1
- ◆ PCI multi-function device consists of two **UHCI Host Controller** cores for full-/low-speed signaling and one **EHCI Host Controller** core for high-speed signaling
- ◆ Root hub consists 4 downstream facing ports with integrated physical layer transceivers shared by **UHCI** and **EHCI** Host Controller
- ◆ Support PCI-Bus Power Management Interface Specification release 1.1
- ◆ Legacy support for all downstream facing ports

Dimensions

- ◆ Micro ATX form factor 244 x 190mm

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
- 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 (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.)

Chapter 2

Motherboard Installation

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

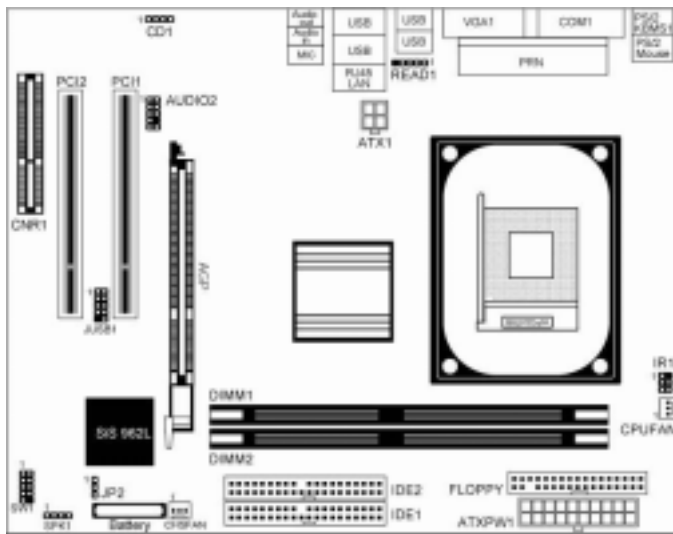
- ❑ Identify the motherboard components
- ❑ Install a CPU
- ❑ Install one or more system memory modules
- ❑ Verify that all jumpers or switches are set correctly
- ❑ Install the motherboard in a system chassis (case)
- ❑ Connect any extension brackets or cables to headers on the motherboard
- ❑ Install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

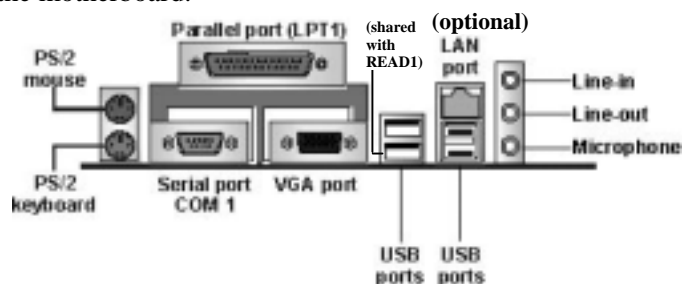
Use the diagram below to identify the major components on the motherboard.



Note: Any jumpers on your motherboard not appearing in the illustration above are for testing only.

I/O Ports

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



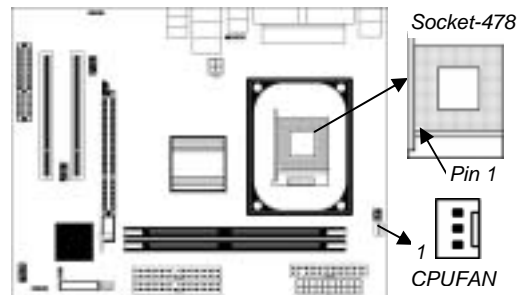
PS/2 Mouse	Use the upper PS/2 port to connect a PS/2 pointing device.
PS/2 Keyboard	Use the lower PS/2 port to connect a PS/2 keyboard.
LPT1	Use LPT1 to connect printers or other parallel communications devices.
COM1	Use the COM port to connect serial devices such as mice or fax/modems. COM1 is identified by the system as COM1.
VGA	Use the VGA port to connect VGA devices.
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. <i>Note: The lower USB port located beside the VGA port is shared with the READ1 header.</i>
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 478 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:



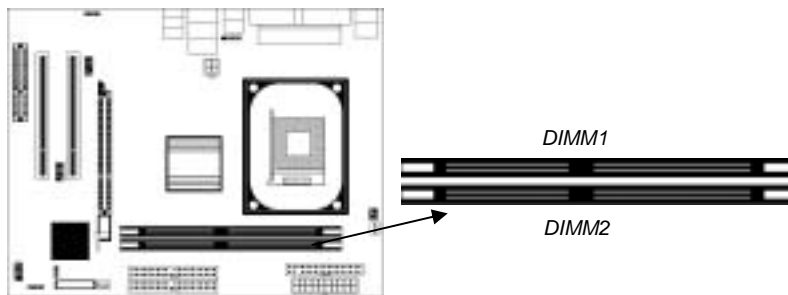
1. Unhook the locking lever of the CPU socket. Pull the locking lever away from the socket and raising it to the upright position.
2. Match the pin1 corner (the beveled edge) on the CPU with the pin1 corner on the socket (shown as the above illustration). Insert the CPU into the socket. Do not use force.
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 (CPUFAN) 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 333 MHz DDR SDRAM.

DDR provides 2.1 GB/s, 2.7 GB/s data transfer rate depending on whether the bus is 266 MHz or 333 MHz.

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



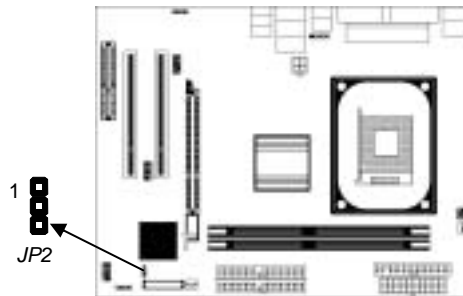
Installation Procedure

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



Jumper JP2: Clear CMOS Memory

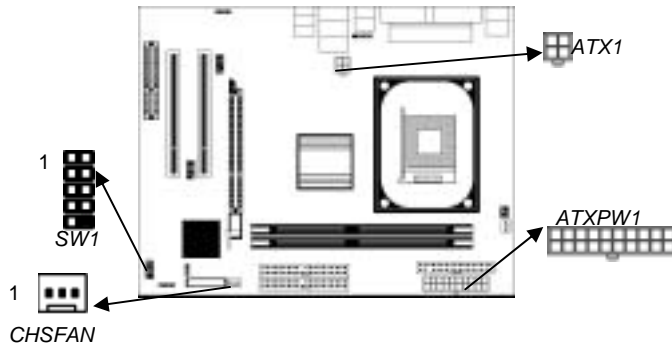
This jumper can clear the contents of the CMOS memory. You may need to clear the CMOS memory if the settings in the Setup Utility are incorrect and prevent your motherboard from operating. To clear the CMOS memory, disconnect all the power cables from the motherboard and then move the jumper cap into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

Function	Jumper Setting
Clear CMOS	Short Pins 1-2
Normal Mode	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. Ensure your case has an I/O cover plate that matches the ports on this motherboard.

Install the motherboard in a case. Follow the instructions provided by the case manufacturer using the hardware and internal mounting points on the chassis.



Connect the power header from the power supply to the **ATXPW1** header on the motherboard. **ATX1** is the CPU Vcore power connector.

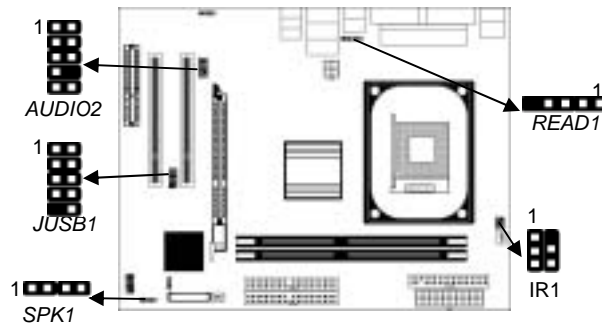
If there is a cooling fan installed in the system chassis, connect the cable from the cooling fan to the **CHSFAN** fan power connector on the motherboard.

Connect the case switches and indicator LEDs to the **SW1** header.

Pin	Signal	Pin	Signal
1	HDD_LED_P(+)	2	FP PWR/ SLP (+)
3	HDD_LED_N(-)	4	FP PWR/ SLP (-)
5	RST_SW_N (-)	6	PW_SW_P (+)
7	RST_SW_P (+)	8	PW_SW_N (-)
9	RSVD_DNU	10	KEY

Connecting Optional Devices

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



SPK1: Speaker Header

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

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

AUDIO2: Front Panel Audio Header

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

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

JUSB1: Front Panel USB Header

The motherboard has USB ports installed on the rear edge I/O port array. Additionally, some computer cases have USB ports at the front of the case. If you have this kind of case, use auxiliary USB header JUSB1 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 JUSB1 header on the motherboard.
2. Plug the bracket cable onto the JUSB1 header.
3. Remove a slot cover from one of the expansion slots on the system chassis. Install an extension bracket in the opening. Secure the extension bracket to the chassis with a screw.

READ1: USB Card Reader Header (optional)

This header 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	VCC	2	USB-
3	USB+	4	GND
5	KEY		

-
- !** The READ1 is shared with one of the USB ports of the I/O back panel. The USB port is located beside the VGA port connector. See “I/O Ports” for more information.
-

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

IR1: Infrared Header

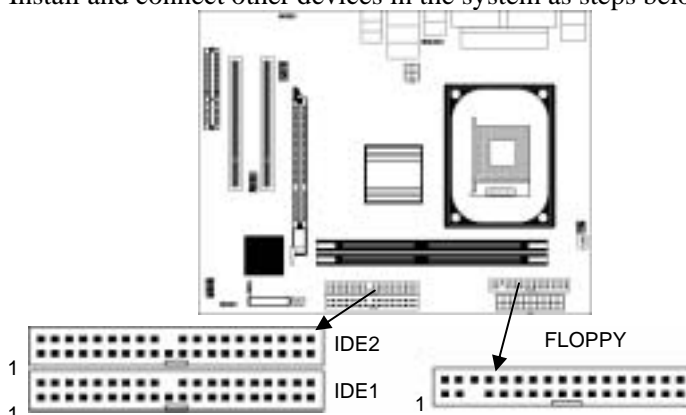
The infrared port allows the wireless exchange of information between your computer and similarly equipped devices such as printers, laptops, Personal Digital Assistants (PDAs), and other computers.

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

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

Install Other Devices

Install and connect other devices in the system as 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 header **FLOPPY**.

IDE Devices

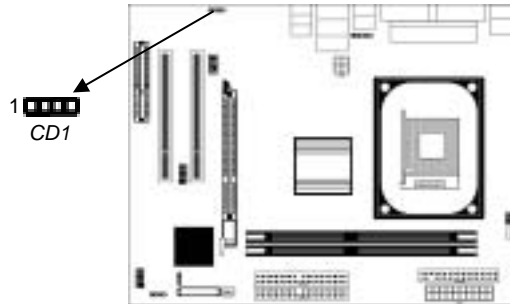
IDE devices include hard disk drives, high-density diskette drives, and CD-ROM or DVD-ROM drives, among others.

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 header **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 header **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.

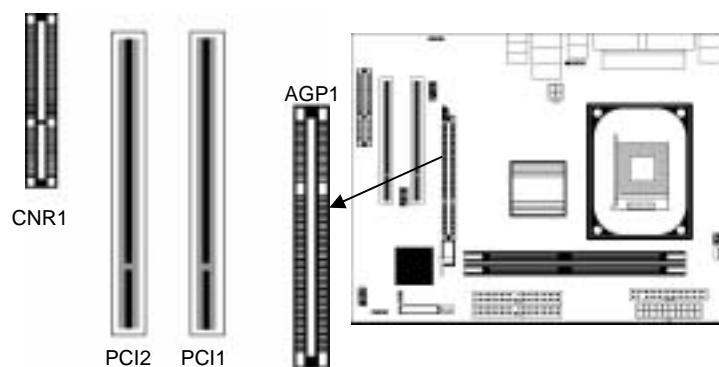


When you first start up your system, the BIOS should automatically detect your CD-ROM/DVD drive. If it doesn't, enter the Setup Utility and configure the CD-ROM/DVD drive that you have installed. On the motherboard, locate the 4-pin header **CD1**.

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 one 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.

Chapter 3

BIOS Setup Utility

Introduction

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

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

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

Running the Setup Utility

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.

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

▶Standard CMOS Setup ▶Advanced Setup ▶Features Setup ▶Power Management Setup ▶PCI / Plug and Play Setup ▶BIOS Security Features	▶CPU PnP Setup ▶Hardware Monitor Load Optimal Defaults Save Changes and Exit Discard Changes and Exit
↑↓←→ : 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 “+” and “-“ keys to cycle through alternative values of that item. The other options on the main menu page lead to dialog boxes requiring your answer Yes or No by hitting the “**Ok**” or “**Cancel**” 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 displays a table of items defining basic information about your system.

CMOS SETUP UTILITY - Copyright (C) 1985-2003, American Megatrends, Inc.		
Standard CMOS Setup		
System Time	00:00:12	Help Item Use [Enter], [TAB] or [SHIFT-TAB] to select a field. Use [+] or [-] to configure system Time.
System Date	Mon 04/05/2004	
▶ Primary IDE Master	Not Detected	
▶ Primary IDE Slave	Not Detected	
▶ Secondary IDE Master	Not Detected	
▶ Secondary IDE Slave	Not Detected	
Floppy Drive A	1.44 MB 31/2"	
Floppy Drive B	Disabled	
↑↓←→ : Move Enter: Select +/-: Value F10: Save Esc: Exit F1: General Help F9: Optimized Defaults		

Date & Time	Use these items to set the system date and time
Primary IDE Master	Use these items to configure devices connected to the Primary and Secondary IDE channels.
Primary IDE Slave	To configure an IDE hard disk drive, choose <i>Auto</i> . If the <i>Auto</i> setting fails to find a hard disk drive, set it to <i>User</i> , and then fill in the hard disk characteristics (Size, Cyls, etc.) manually. If you have a CD-ROM drive, select the setting <i>CDROM</i> . If you have an ATAPI device with removable media (e.g. a ZIP drive or an LS-120) select <i>Floptical</i> .
Secondary IDE Master	
Secondary IDE Slave	
Floppy Drive A/B	These items set up size and capacity of the floppy diskette drive(s) installed in the system.

Graphic Win Size	This item defines the size of aperture if you use a graphic adapter.
DRAM CAS# Latency	This item determines the operation of DRAM 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.
Performance Mode Select	You can enable this item to achieve a better performance; however, it is necessary to use a better DDR SDRAM going with this function.
MA 1T/2T Select	This item adjusts timing 1T/2T latency. We recommend you to leave this item at the default value.
Hyper Threading Function	You can set "Disabled" or "Enabled" to control HT CPU support in O.S. Set "Enabled" to test HT CPU function.
Auto Detect DIMM/PCI Clk	When this item is enabled, BIOS will disable the clock signal of free DIMM/PCI slots.
Spread Spectrum	If you enable spread spectrum, it can significantly reduce the EMI(Electro-Magnetic 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 Port1 Address	3F8/IRQ4		
OnBoard IR Port	Disabled		
Parallel Port Address	378		
Parallel Port Mode	ECP		
ECP Mode DMA Channel	DMA3		
Parallel Port IRQ	IRQ7		
OnBoard PCI IDE Controller	Both		
Audio Device	Enabled		
Modem Device	Auto		
Ethernet Device	Enabled		
OnBoard USB Function	Enabled		
USB Function for DOS	Disabled		
↑↓↔ : Move Enter: Select +/-: Value F10: Save Esc: Exit F1: General Help F9: Optimized Defaults			

OnBoard Floppy Controller	Use this item to enable or disable the onboard floppy disk drive interface.
Serial Port1 Address	Use this item to enable or disable the onboard COM1/2 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.
Parallel Port Mode	Use this item to set the parallel port mode. You can select SPP (Standard Parallel Port), ECP (Extended Capabilities Port), EPP (Enhanced Parallel Port), or ECP + EPP.

ECP Mode DMA Channel	Use this item to assign a DMA channel to the parallel port.
Parallel Port IRQ	Use this item to assign IRQ to the parallel port.
OnBoard PCI IDE Controller	Use this item to enable or disable either or both of the onboard Primary and Secondary IDE channels.
Audio Device	This item enables or disables the AC'97 audio chip.
Modem Device	This item enables or disables the MC'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 some parameters for 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	Enabled	
Suspend Time Out	Disabled	
Resume On RTC Alarm	Disabled	
Keyboard Power On	Disabled	
LAN/Ring Power On	Disabled	
↑↓↔ : Move Enter: Select +/-: Value F10: Save Esc: Exit F1: General Help F9: Optimized Defaults		

ACPI Aware O/S	This item supports ACPI (Advanced Configuration and Power management Interface). Use this item to enable or disable the ACPI feature.
Power Management	Use this item to enable or disable a power management scheme. If you enable power management, you can use the items below to set the power management operation. Both APM and ACPI are supported.
Suspend Time Out	This item sets up the timeout for Suspend mode in minutes. If the time selected passes without any system activity, the computer will enter power-saving Suspend mode.
Resume On RTC Alarm	The system can be turned off with a software command. If you enable this item, the system can automatically resume at a fixed time based on the system's RTC (realtime clock). Use the items below this one to set the date and time of the wake-up alarm. You must use an ATX power supply in order to use this feature.
Keyboard Power On	If you enable this item, system can automatically resume by pressing any keys, power keys or hot keys on the keyboard or

	typing in the password. You must use an ATX power supply in order to use this feature.
LAN/Ring Power On	Your system can enter the software power down. If you enable this item, the system can automatically resume if there is traffic on the network adapter.

PCI / Plug and Play Setup Page

This page sets up some parameters for devices installed on the PCI bus and devices that use 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	
↑↓↔ : Move Enter: Select +/-: Value F10: Save Esc: Exit F1: General Help F9: Optimized Defaults		

Primary Graphics Adapter	This item indicates if the primary graphics adapter uses the PCI or the AGP bus. The default PCI setting still lets the onboard display work and allows the use of a second display card installed in a 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	
Security Settings Supervisor Password : Not Installed Change Supervisor Password Press Enter	Help Item Install or Change the password.
↑↓←→ : Move Enter: Select +/-: Value F10: Save Esc: Exit F1: General Help F9: Optimized Defaults	

Supervisor Password	This item indicates whether a supervisor password has been set. If the password has been installed, <i>Installed</i> displays. If not, <i>Not Installed</i> 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 lets you manually configure the motherboard for the CPU. The system will automatically detect the kind of installed CPU and make the appropriate adjustments to the items on this page.

CMOS SETUP UTILITY - Copyright (C) 1985-2003, American Megatrends, Inc.		
CPU PnP Setup		
Manufacturer :	Intel	Help Item
Ratio Status :	Locked	
CPU Frequency Setting :	133 MHz	
DRAM Frequency :	166 MHz	
Auto Detect CPU and DRAM Freq:	Enabled	
↑↓↔ : Move Enter: Select +/-: Value F10: Save Esc: Exit F1: General Help F9: Optimized Defaults		

Manufacturer/ Ratio Status	These items show the brand, the Locked/ Unlocked ratio status.
CPU Frequency Setting	This item shows the frequency of the CPU installed in your system.
DRAM Frequency	This item shows the frequency of the DRAM in your system.
Auto Detect CPU and DRAM Freq.	When this item is enabled, it automatically detects and shows the frequency of the CPU and DRAM memory installed in your system; when disabled, it can adjust the frequency of the CPU and 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.		Help Item
Hardware Monitor		
*** System Hardware Monitor***		
Vcore	:1.536V	
Vivdd	:1.536V	
Vcc5V	:5.026V	
+12Vin	:11.648V	
CHASSIS FAN Speed	:0 RPM	
CPU FAN Speed	:4560RPM	
SYSTEM Temperature	:36°C/96°F	
CPU Temperature	:46°C/114°F	
↑↓↔ : Move Enter: Select +/-: Value F10: Save Esc: Exit F1: General Help F9: Optimized Defaults		

CHASSIS/CPU FAN Speed	This item indicates CPU and Chassis cooling fan speeds in RPM.
System/CPU Temperature	These items display CPU and system temperature measurement.

Load Optimal Defaults

This option opens a dialog box to ask if you are sure to install optimized defaults or not. You select <Ok>, and then <Enter>, the Setup Utility loads all default values; or select <Cancel>, 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, select <Ok> Y to save and exit, or select <Cancel> to return to the main menu.

Discard Changes and Exit

Highlight this item and press <Enter> to discard any changes that you have made in the Setup Utility and exit the Setup Utility. When the Discard Changes and Exit dialog box appears, select <Ok> to discard changes and exit, or select <Cancel> to return to the main menu.

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

Chapter 4

Software & Applications

Introduction

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

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

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

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

Installing Support Software

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



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

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

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

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

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

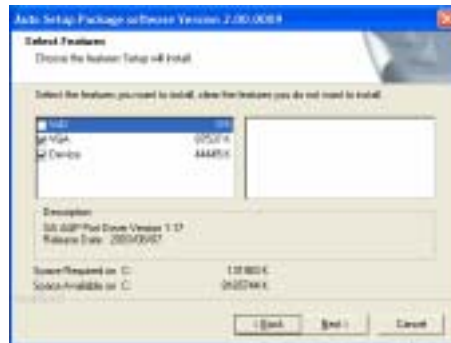
Auto-Installing under Windows 2000/XP

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.